Full wwPDB X-ray Structure Validation Report (i)

Nov 11, 2026 – 01:01 pm GMT

PDB ID	:	32DI / pdb_000032di
Title	:	RAD52 N-terminal domain in complex with fragment Z369737780
Authors	:	Bocquet, N.; Powell, A.J.; Barker, I.A.
Deposited on	:	2026-07-06
Resolution	:	2.10 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 (i) 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 (i)) were used in the production of this report:

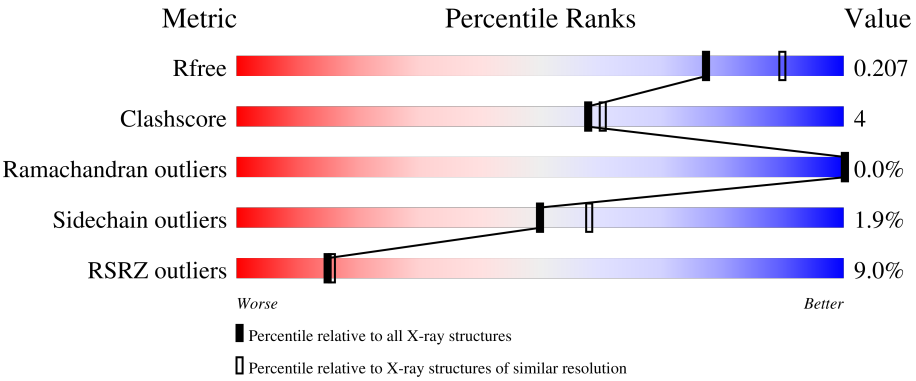
MolProbity	:	4-5-2 with Phenix2.2
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	2.2
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.51

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 2.10 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	6658 (2.10-2.10)
Clashscore	190562	7164 (2.10-2.10)
Ramachandran outliers	187476	7099 (2.10-2.10)
Sidechain outliers	187428	7100 (2.10-2.10)
RSRZ outliers	180081	6662 (2.10-2.10)

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	215	8% 76% 10% 13%
1	B	215	9% 80% 6% • 13%
1	C	215	6% 77% 9% • 13%
1	D	215	9% 80% 7% 13%
1	E	215	6% 81% 6% • 12%

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Mol	Chain	Length	Quality of chain
1	F	215	8% 80% 6% 13%
1	G	215	6% 75% 11% 13%
1	H	215	11% 78% 8% 12%
1	I	215	11% 77% 8% 13%
1	J	215	12% 76% 10% 13%
1	K	215	15% 73% 12% 13%
1	L	215	6% 79% 8% 13%
1	M	215	7% 77% 10% 12%
1	N	215	6% 77% 8% 13%
1	O	215	7% 77% 8% 13%
1	P	215	9% 79% 7% 13%
1	Q	215	7% 79% 8% 13%
1	R	215	5% 78% 8% 13%
1	S	215	6% 80% 7% 13%
1	T	215	8% 79% 8% 13%
1	U	215	5% 78% 7% 13%
1	V	215	7% 80% 6% 13%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	EDO	C	305	-	-	X	-
3	EDO	G	301	-	-	X	-
3	EDO	H	303	-	-	X	-
3	EDO	I	301	-	-	X	-
3	EDO	K	305	-	-	X	-
3	EDO	T	304	-	-	X	-
3	EDO	V	301	-	-	X	-

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 35430 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 DNA repair protein RAD52 homolog.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	186	Total	C	N	O	S	0	2	0
			1479	922	270	279	8			
1	B	187	Total	C	N	O	S	0	2	0
			1488	929	269	282	8			
1	C	188	Total	C	N	O	S	0	2	0
			1492	929	271	283	9			
1	D	188	Total	C	N	O	S	0	1	0
			1481	922	269	281	9			
1	E	189	Total	C	N	O	S	0	0	0
			1481	924	268	280	9			
1	F	187	Total	C	N	O	S	0	1	0
			1479	922	270	279	8			
1	G	187	Total	C	N	O	S	0	2	0
			1484	923	272	281	8			
1	H	189	Total	C	N	O	S	0	2	0
			1500	934	274	283	9			
1	I	187	Total	C	N	O	S	0	0	0
			1462	912	265	277	8			
1	J	187	Total	C	N	O	S	0	2	0
			1487	926	272	281	8			
1	K	187	Total	C	N	O	S	0	2	0
			1482	923	269	281	9			
1	L	187	Total	C	N	O	S	0	2	0
			1487	926	272	281	8			
1	M	189	Total	C	N	O	S	0	2	0
			1500	934	274	283	9			
1	N	187	Total	C	N	O	S	0	3	0
			1492	929	273	282	8			
1	O	187	Total	C	N	O	S	0	2	0
			1488	929	269	282	8			
1	P	188	Total	C	N	O	S	0	2	0
			1492	929	273	282	8			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Q	188	Total	C	N	O	S	0	2	0
			1493	932	270	283	8			
1	R	187	Total	C	N	O	S	0	1	0
			1476	920	268	280	8			
1	S	188	Total	C	N	O	S	0	0	0
			1473	919	267	279	8			
1	T	188	Total	C	N	O	S	0	2	0
			1493	932	270	283	8			
1	U	188	Total	C	N	O	S	0	1	0
			1484	925	271	280	8			
1	V	187	Total	C	N	O	S	0	1	0
			1479	922	270	279	8			

There are 110 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	GLY	-	expression tag	UNP P43351
A	-1	SER	-	expression tag	UNP P43351
A	0	HIS	-	expression tag	UNP P43351
A	102	ALA	LYS	engineered mutation	UNP P43351
A	133	ALA	LYS	engineered mutation	UNP P43351
B	-2	GLY	-	expression tag	UNP P43351
B	-1	SER	-	expression tag	UNP P43351
B	0	HIS	-	expression tag	UNP P43351
B	102	ALA	LYS	engineered mutation	UNP P43351
B	133	ALA	LYS	engineered mutation	UNP P43351
C	-2	GLY	-	expression tag	UNP P43351
C	-1	SER	-	expression tag	UNP P43351
C	0	HIS	-	expression tag	UNP P43351
C	102	ALA	LYS	engineered mutation	UNP P43351
C	133	ALA	LYS	engineered mutation	UNP P43351
D	-2	GLY	-	expression tag	UNP P43351
D	-1	SER	-	expression tag	UNP P43351
D	0	HIS	-	expression tag	UNP P43351
D	102	ALA	LYS	engineered mutation	UNP P43351
D	133	ALA	LYS	engineered mutation	UNP P43351
E	-2	GLY	-	expression tag	UNP P43351
E	-1	SER	-	expression tag	UNP P43351
E	0	HIS	-	expression tag	UNP P43351
E	102	ALA	LYS	engineered mutation	UNP P43351
E	133	ALA	LYS	engineered mutation	UNP P43351
F	-2	GLY	-	expression tag	UNP P43351
F	-1	SER	-	expression tag	UNP P43351

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Chain	Residue	Modelled	Actual	Comment	Reference
F	0	HIS	-	expression tag	UNP P43351
F	102	ALA	LYS	engineered mutation	UNP P43351
F	133	ALA	LYS	engineered mutation	UNP P43351
G	-2	GLY	-	expression tag	UNP P43351
G	-1	SER	-	expression tag	UNP P43351
G	0	HIS	-	expression tag	UNP P43351
G	102	ALA	LYS	engineered mutation	UNP P43351
G	133	ALA	LYS	engineered mutation	UNP P43351
H	-2	GLY	-	expression tag	UNP P43351
H	-1	SER	-	expression tag	UNP P43351
H	0	HIS	-	expression tag	UNP P43351
H	102	ALA	LYS	engineered mutation	UNP P43351
H	133	ALA	LYS	engineered mutation	UNP P43351
I	-2	GLY	-	expression tag	UNP P43351
I	-1	SER	-	expression tag	UNP P43351
I	0	HIS	-	expression tag	UNP P43351
I	102	ALA	LYS	engineered mutation	UNP P43351
I	133	ALA	LYS	engineered mutation	UNP P43351
J	-2	GLY	-	expression tag	UNP P43351
J	-1	SER	-	expression tag	UNP P43351
J	0	HIS	-	expression tag	UNP P43351
J	102	ALA	LYS	engineered mutation	UNP P43351
J	133	ALA	LYS	engineered mutation	UNP P43351
K	-2	GLY	-	expression tag	UNP P43351
K	-1	SER	-	expression tag	UNP P43351
K	0	HIS	-	expression tag	UNP P43351
K	102	ALA	LYS	engineered mutation	UNP P43351
K	133	ALA	LYS	engineered mutation	UNP P43351
L	-2	GLY	-	expression tag	UNP P43351
L	-1	SER	-	expression tag	UNP P43351
L	0	HIS	-	expression tag	UNP P43351
L	102	ALA	LYS	engineered mutation	UNP P43351
L	133	ALA	LYS	engineered mutation	UNP P43351
M	-2	GLY	-	expression tag	UNP P43351
M	-1	SER	-	expression tag	UNP P43351
M	0	HIS	-	expression tag	UNP P43351
M	102	ALA	LYS	engineered mutation	UNP P43351
M	133	ALA	LYS	engineered mutation	UNP P43351
N	-2	GLY	-	expression tag	UNP P43351
N	-1	SER	-	expression tag	UNP P43351
N	0	HIS	-	expression tag	UNP P43351
N	102	ALA	LYS	engineered mutation	UNP P43351

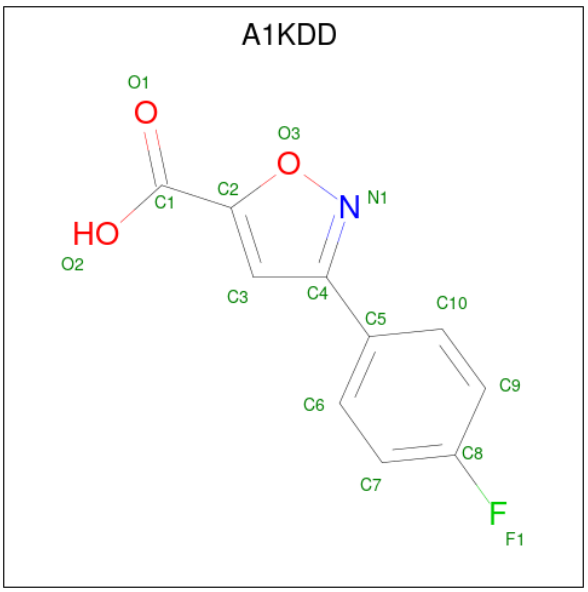
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Chain	Residue	Modelled	Actual	Comment	Reference
N	133	ALA	LYS	engineered mutation	UNP P43351
O	-2	GLY	-	expression tag	UNP P43351
O	-1	SER	-	expression tag	UNP P43351
O	0	HIS	-	expression tag	UNP P43351
O	102	ALA	LYS	engineered mutation	UNP P43351
O	133	ALA	LYS	engineered mutation	UNP P43351
P	-2	GLY	-	expression tag	UNP P43351
P	-1	SER	-	expression tag	UNP P43351
P	0	HIS	-	expression tag	UNP P43351
P	102	ALA	LYS	engineered mutation	UNP P43351
P	133	ALA	LYS	engineered mutation	UNP P43351
Q	-2	GLY	-	expression tag	UNP P43351
Q	-1	SER	-	expression tag	UNP P43351
Q	0	HIS	-	expression tag	UNP P43351
Q	102	ALA	LYS	engineered mutation	UNP P43351
Q	133	ALA	LYS	engineered mutation	UNP P43351
R	-2	GLY	-	expression tag	UNP P43351
R	-1	SER	-	expression tag	UNP P43351
R	0	HIS	-	expression tag	UNP P43351
R	102	ALA	LYS	engineered mutation	UNP P43351
R	133	ALA	LYS	engineered mutation	UNP P43351
S	-2	GLY	-	expression tag	UNP P43351
S	-1	SER	-	expression tag	UNP P43351
S	0	HIS	-	expression tag	UNP P43351
S	102	ALA	LYS	engineered mutation	UNP P43351
S	133	ALA	LYS	engineered mutation	UNP P43351
T	-2	GLY	-	expression tag	UNP P43351
T	-1	SER	-	expression tag	UNP P43351
T	0	HIS	-	expression tag	UNP P43351
T	102	ALA	LYS	engineered mutation	UNP P43351
T	133	ALA	LYS	engineered mutation	UNP P43351
U	-2	GLY	-	expression tag	UNP P43351
U	-1	SER	-	expression tag	UNP P43351
U	0	HIS	-	expression tag	UNP P43351
U	102	ALA	LYS	engineered mutation	UNP P43351
U	133	ALA	LYS	engineered mutation	UNP P43351
V	-2	GLY	-	expression tag	UNP P43351
V	-1	SER	-	expression tag	UNP P43351
V	0	HIS	-	expression tag	UNP P43351
V	102	ALA	LYS	engineered mutation	UNP P43351
V	133	ALA	LYS	engineered mutation	UNP P43351

- Molecule 2 is 3-(4-fluorophenyl)-1,2-oxazole-5-carboxylic acid (CCD ID: A1KDD) (formula:

$C_{10}H_6FNO_3$) (labeled as "Ligand of Interest" by depositor).



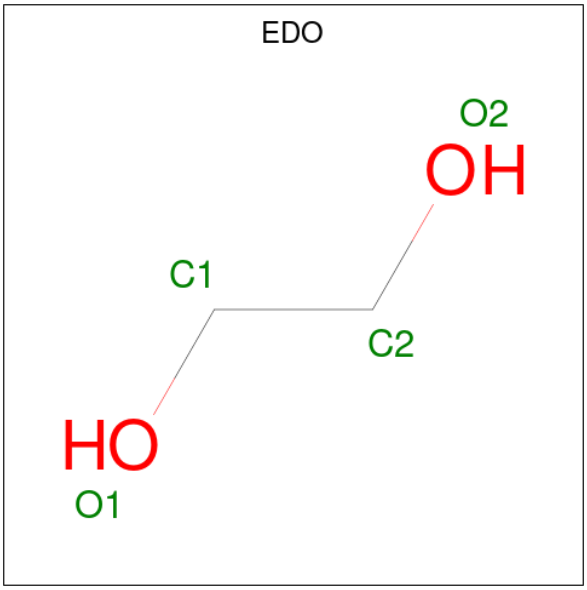
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	B	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	C	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	D	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	E	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	F	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	H	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	H	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	K	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	K	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	L	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	L	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	M	1	Total	C	F	N	O	0	0
			15	10	1	1	3		

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	N	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	O	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	O	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	P	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	R	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	R	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	S	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	S	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	T	1	Total	C	F	N	O	0	0
			15	10	1	1	3		
2	U	1	Total	C	F	N	O	0	0
			15	10	1	1	3		

- Molecule 3 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			4	2	2		
3	A	1	Total	C	O	0	0
			4	2	2		
3	A	1	Total	C	O	0	0
			4	2	2		
3	A	1	Total	C	O	0	0
			4	2	2		
3	A	1	Total	C	O	0	0
			4	2	2		
3	B	1	Total	C	O	0	0
			4	2	2		
3	B	1	Total	C	O	0	0
			4	2	2		
3	B	1	Total	C	O	0	0
			4	2	2		
3	B	1	Total	C	O	0	0
			4	2	2		
3	B	1	Total	C	O	0	0
			4	2	2		
3	C	1	Total	C	O	0	0
			4	2	2		
3	C	1	Total	C	O	0	0
			4	2	2		
3	C	1	Total	C	O	0	0
			4	2	2		
3	C	1	Total	C	O	0	0
			4	2	2		
3	D	1	Total	C	O	0	0
			4	2	2		
3	D	1	Total	C	O	0	0
			4	2	2		
3	D	1	Total	C	O	0	0
			4	2	2		
3	D	1	Total	C	O	0	0
			4	2	2		
3	E	1	Total	C	O	0	0
			4	2	2		
3	E	1	Total	C	O	0	0
			4	2	2		
3	E	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	E	1	Total	C	O	0	0
			4	2	2		
3	F	1	Total	C	O	0	0
			4	2	2		
3	F	1	Total	C	O	0	0
			4	2	2		
3	F	1	Total	C	O	0	0
			4	2	2		
3	G	1	Total	C	O	0	0
			4	2	2		
3	G	1	Total	C	O	0	0
			4	2	2		
3	H	1	Total	C	O	0	0
			4	2	2		
3	H	1	Total	C	O	0	0
			4	2	2		
3	I	1	Total	C	O	0	0
			4	2	2		
3	I	1	Total	C	O	0	0
			4	2	2		
3	I	1	Total	C	O	0	0
			4	2	2		
3	I	1	Total	C	O	0	0
			4	2	2		
3	J	1	Total	C	O	0	0
			4	2	2		
3	J	1	Total	C	O	0	0
			4	2	2		
3	K	1	Total	C	O	0	0
			4	2	2		
3	K	1	Total	C	O	0	0
			4	2	2		
3	K	1	Total	C	O	0	0
			4	2	2		
3	L	1	Total	C	O	0	0
			4	2	2		
3	L	1	Total	C	O	0	0
			4	2	2		
3	L	1	Total	C	O	0	0
			4	2	2		
3	M	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	M	1	Total	C	O	0	0
			4	2	2		
3	M	1	Total	C	O	0	0
			4	2	2		
3	M	1	Total	C	O	0	0
			4	2	2		
3	N	1	Total	C	O	0	0
			4	2	2		
3	N	1	Total	C	O	0	0
			4	2	2		
3	N	1	Total	C	O	0	0
			4	2	2		
3	O	1	Total	C	O	0	0
			4	2	2		
3	O	1	Total	C	O	0	0
			4	2	2		
3	O	1	Total	C	O	0	0
			4	2	2		
3	O	1	Total	C	O	0	0
			4	2	2		
3	P	1	Total	C	O	0	0
			4	2	2		
3	Q	1	Total	C	O	0	0
			4	2	2		
3	Q	1	Total	C	O	0	0
			4	2	2		
3	Q	1	Total	C	O	0	0
			4	2	2		
3	Q	1	Total	C	O	0	0
			4	2	2		
3	Q	1	Total	C	O	0	0
			4	2	2		
3	R	1	Total	C	O	0	0
			4	2	2		
3	R	1	Total	C	O	0	0
			4	2	2		
3	R	1	Total	C	O	0	0
			4	2	2		
3	R	1	Total	C	O	0	0
			4	2	2		
3	S	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	S	1	Total C O 4 2 2	0	0
3	S	1	Total C O 4 2 2	0	0
3	S	1	Total C O 4 2 2	0	0
3	T	1	Total C O 4 2 2	0	0
3	T	1	Total C O 4 2 2	0	0
3	T	1	Total C O 4 2 2	0	0
3	U	1	Total C O 4 2 2	0	0
3	U	1	Total C O 4 2 2	0	0
3	U	1	Total C O 4 2 2	0	0
3	U	1	Total C O 4 2 2	0	0
3	V	1	Total C O 4 2 2	0	0
3	V	1	Total C O 4 2 2	0	0
3	V	1	Total C O 4 2 2	0	0

- Molecule 4 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Cl 1 1	0	0
4	B	2	Total Cl 2 2	0	0
4	C	2	Total Cl 2 2	0	0
4	D	1	Total Cl 1 1	0	0
4	E	1	Total Cl 1 1	0	0
4	F	1	Total Cl 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	G	2	Total Cl 2 2	0	0
4	H	1	Total Cl 1 1	0	0
4	L	1	Total Cl 1 1	0	0
4	N	1	Total Cl 1 1	0	0
4	O	1	Total Cl 1 1	0	0
4	P	1	Total Cl 1 1	0	0
4	Q	1	Total Cl 1 1	0	0
4	R	1	Total Cl 1 1	0	0
4	S	1	Total Cl 1 1	0	0
4	T	1	Total Cl 1 1	0	0
4	V	1	Total Cl 1 1	0	0

- Molecule 5 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total Mg 1 1	0	0
5	C	1	Total Mg 1 1	0	0
5	K	1	Total Mg 1 1	0	0
5	O	1	Total Mg 1 1	0	0
5	P	1	Total Mg 1 1	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	90	Total O 90 90	0	0

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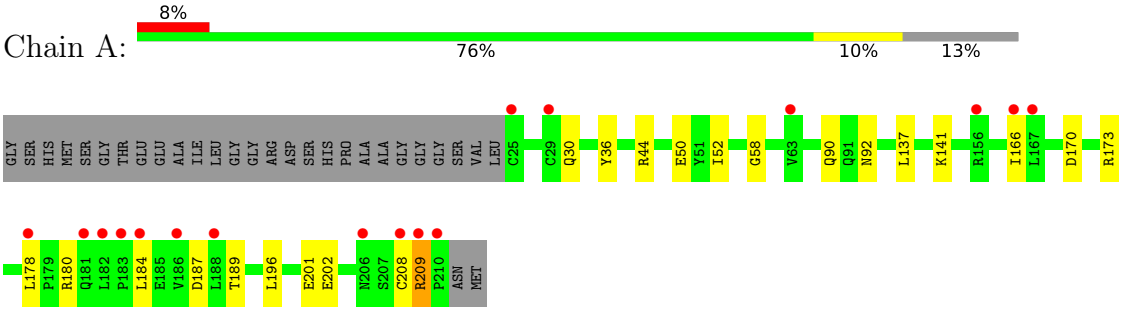
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	B	109	Total O 109 109	0	0
6	C	126	Total O 126 126	0	0
6	D	103	Total O 103 103	0	0
6	E	84	Total O 84 84	0	0
6	F	104	Total O 104 104	0	0
6	G	65	Total O 65 65	0	0
6	H	73	Total O 73 73	0	0
6	I	49	Total O 49 49	0	0
6	J	42	Total O 42 42	0	0
6	K	68	Total O 68 68	0	0
6	L	111	Total O 111 111	0	0
6	M	103	Total O 103 103	0	0
6	N	96	Total O 96 96	0	0
6	O	105	Total O 105 105	0	0
6	P	112	Total O 112 112	0	0
6	Q	118	Total O 118 118	0	0
6	R	122	Total O 122 122	0	0
6	S	85	Total O 85 85	0	0
6	T	88	Total O 88 88	0	0
6	U	115	Total O 115 115	0	0
6	V	112	Total O 112 112	0	0

3 Residue-property plots (i)

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

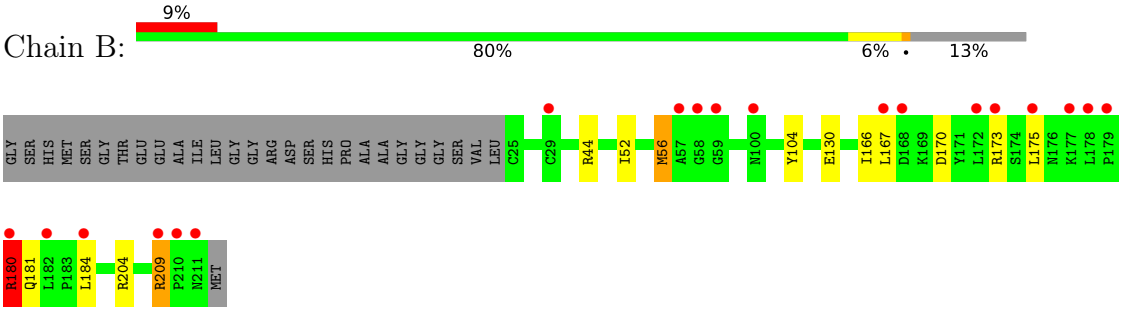
• Molecule 1: DNA repair protein RAD52 homolog

Chain A:



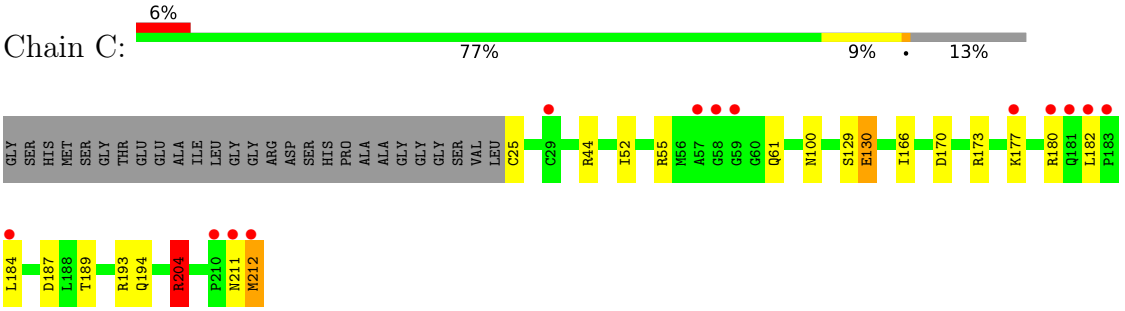
• Molecule 1: DNA repair protein RAD52 homolog

Chain B:



• Molecule 1: DNA repair protein RAD52 homolog

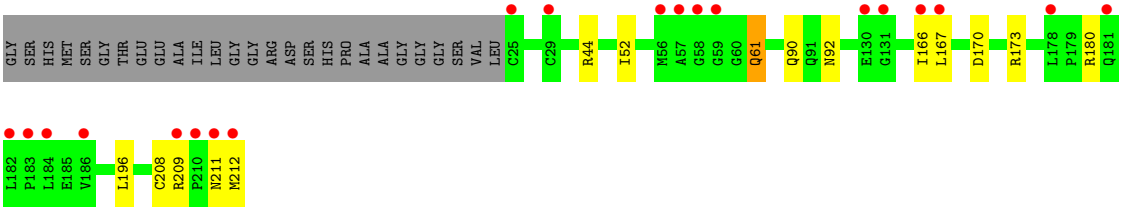
Chain C:



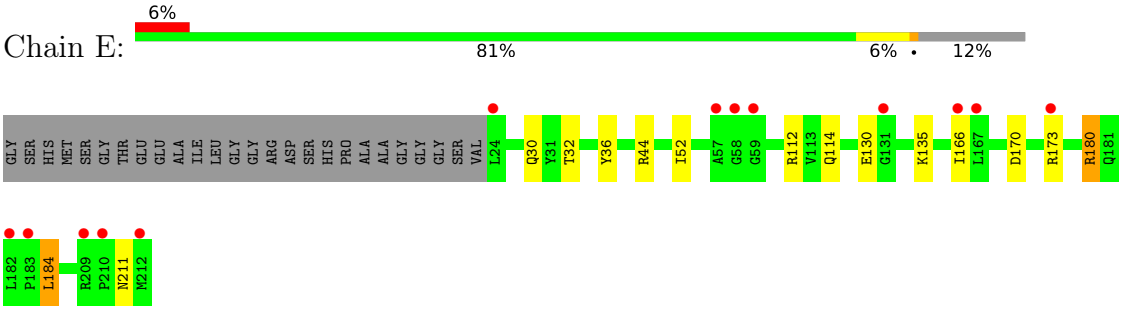
• Molecule 1: DNA repair protein RAD52 homolog

Chain D:

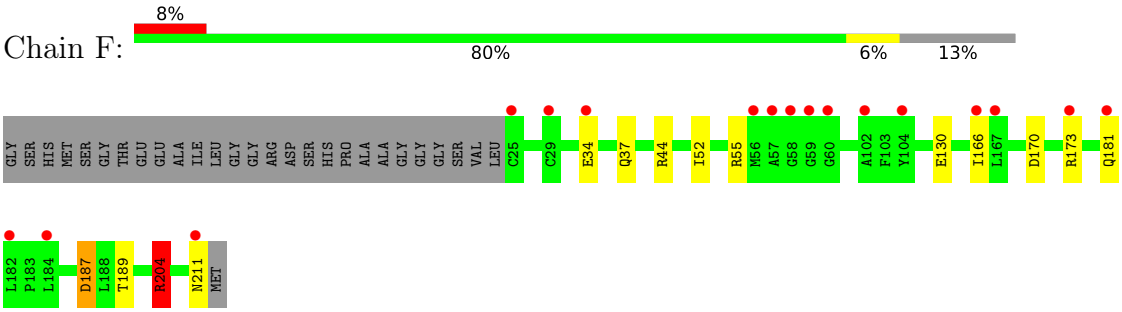




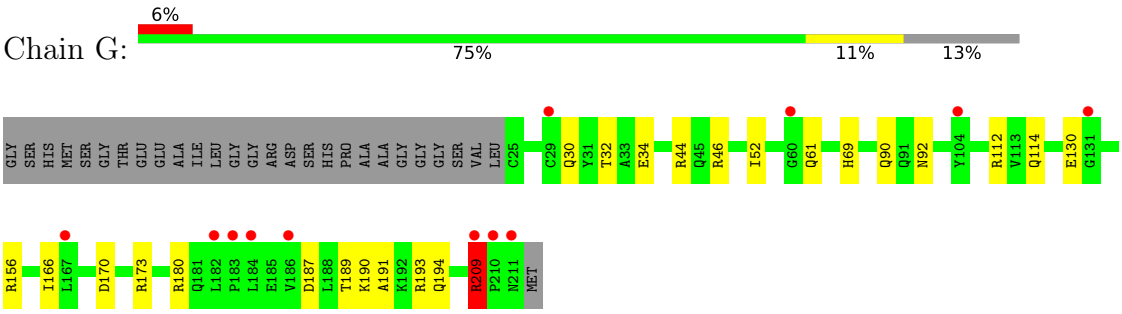
• Molecule 1: DNA repair protein RAD52 homolog



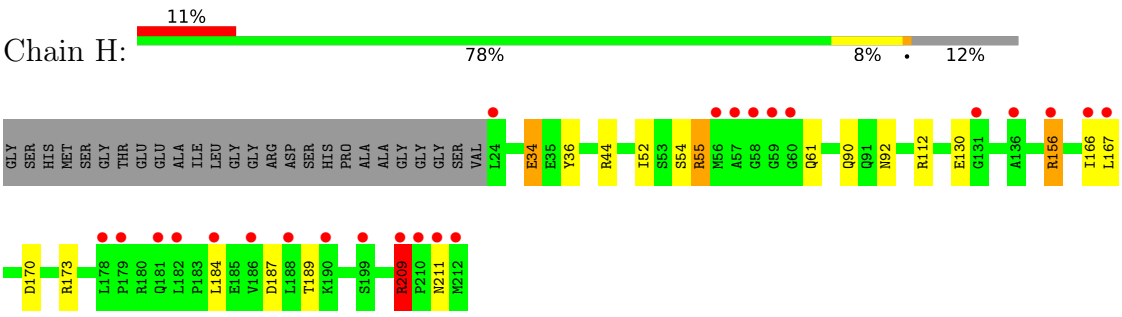
• Molecule 1: DNA repair protein RAD52 homolog



• Molecule 1: DNA repair protein RAD52 homolog

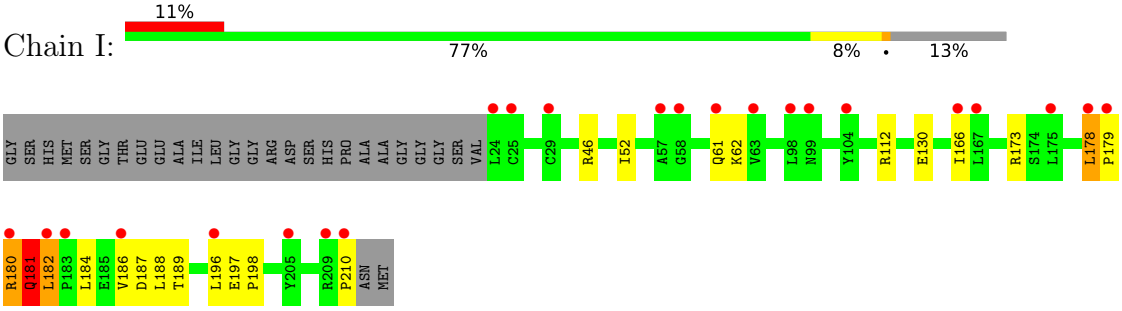


• Molecule 1: DNA repair protein RAD52 homolog



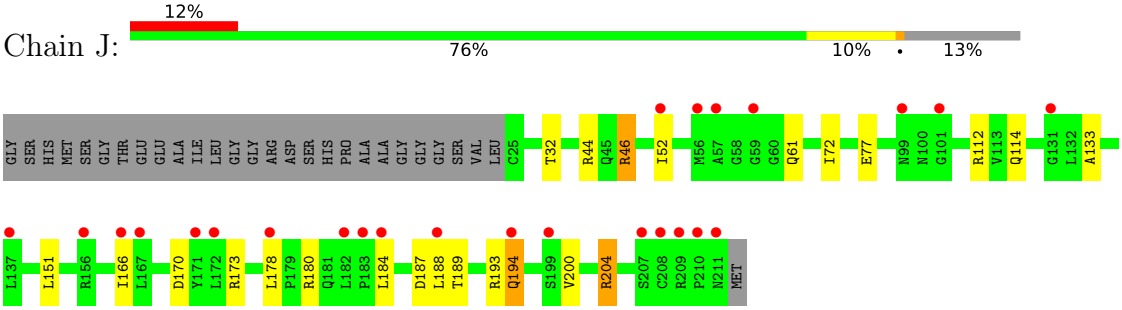
• Molecule 1: DNA repair protein RAD52 homolog

Chain I:



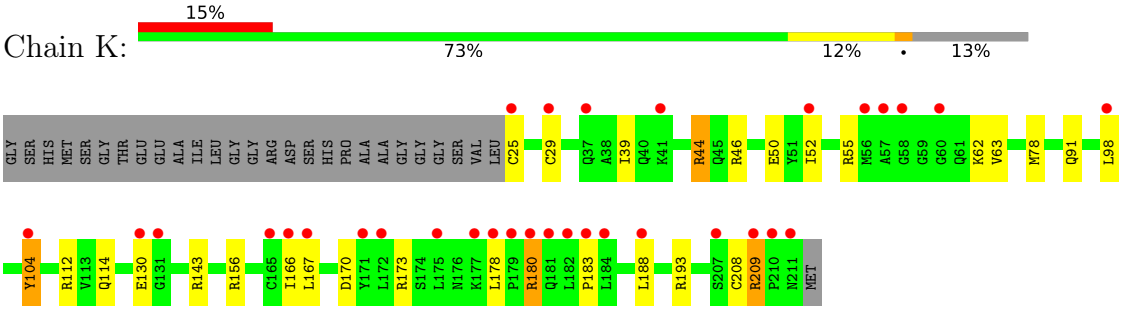
• Molecule 1: DNA repair protein RAD52 homolog

Chain J:



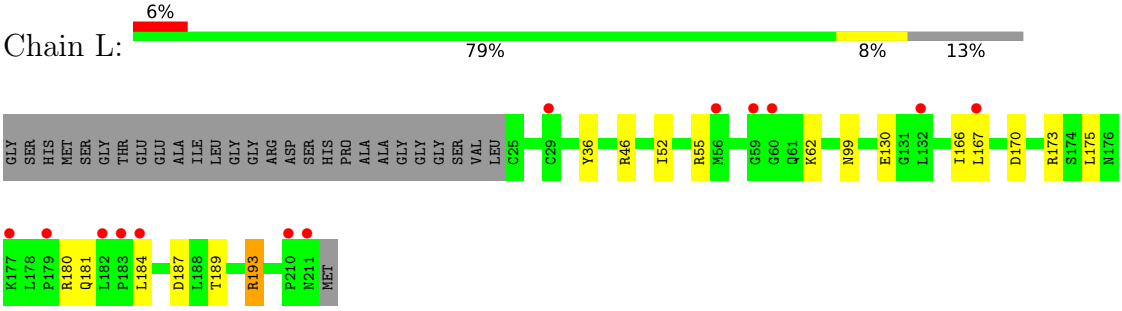
• Molecule 1: DNA repair protein RAD52 homolog

Chain K:



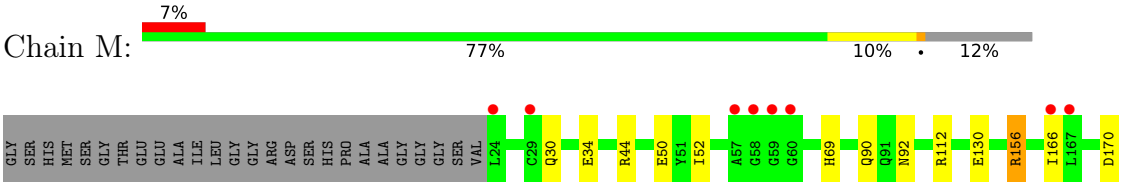
• Molecule 1: DNA repair protein RAD52 homolog

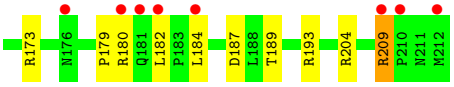
Chain L:



• Molecule 1: DNA repair protein RAD52 homolog

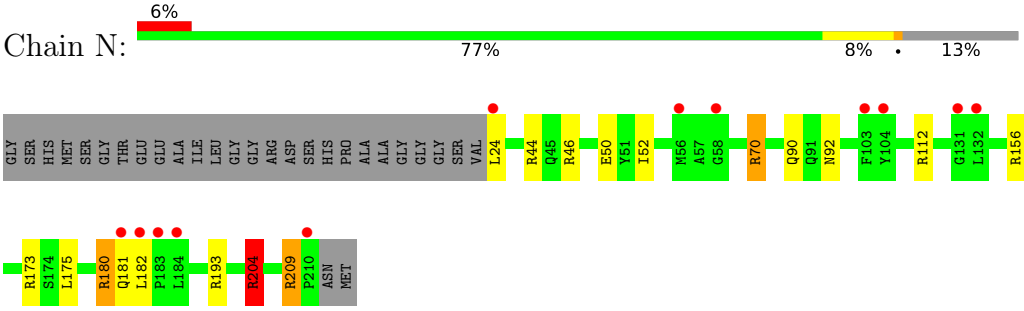
Chain M:





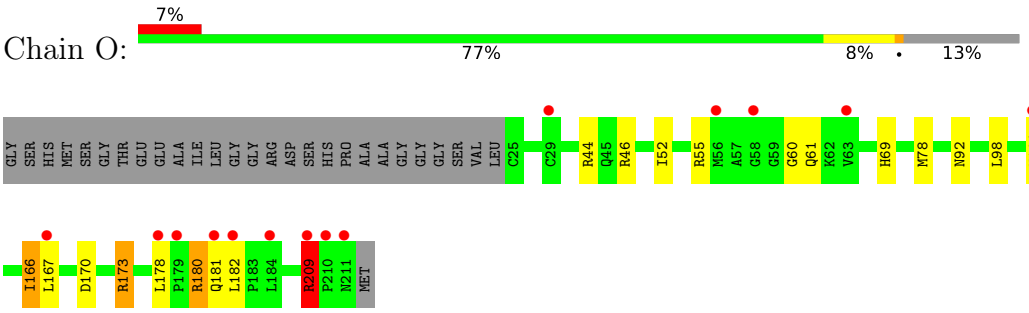
• Molecule 1: DNA repair protein RAD52 homolog

Chain N:



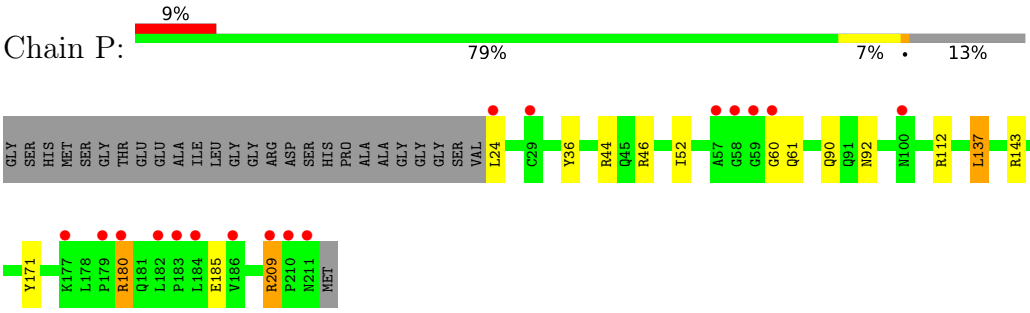
• Molecule 1: DNA repair protein RAD52 homolog

Chain O:



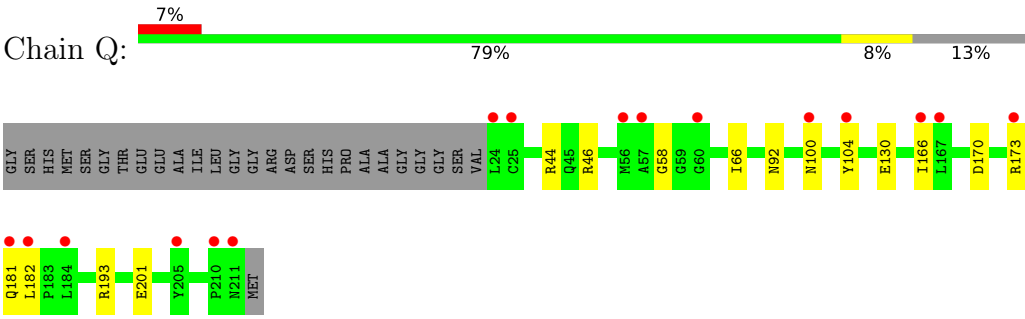
• Molecule 1: DNA repair protein RAD52 homolog

Chain P:



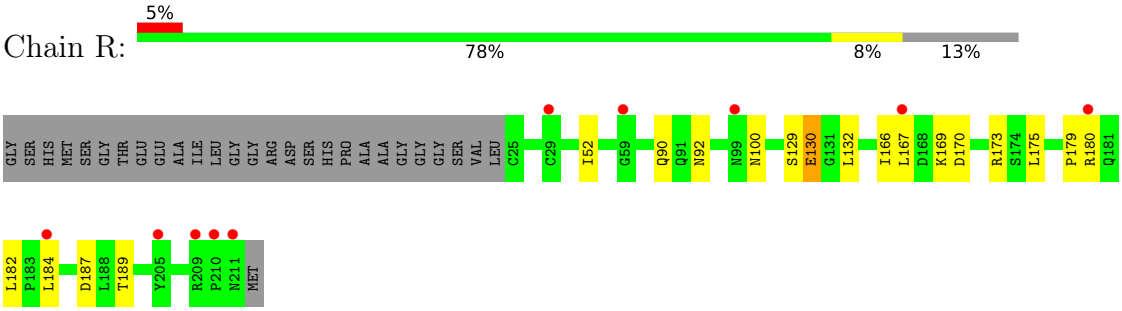
• Molecule 1: DNA repair protein RAD52 homolog

Chain Q:



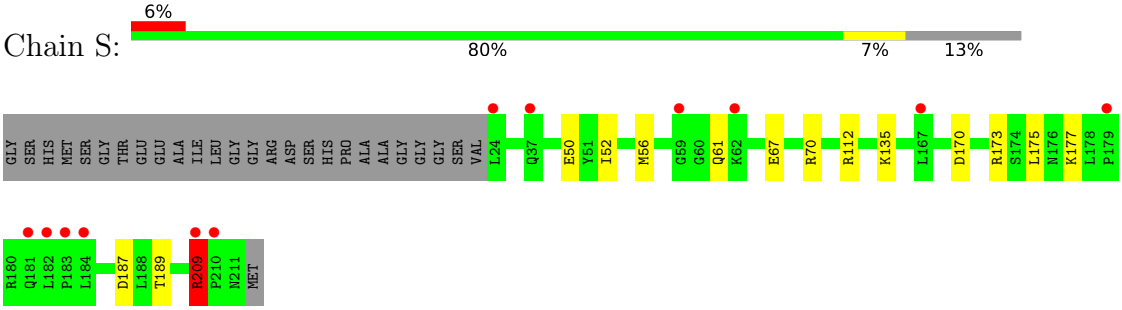
• Molecule 1: DNA repair protein RAD52 homolog

Chain R:



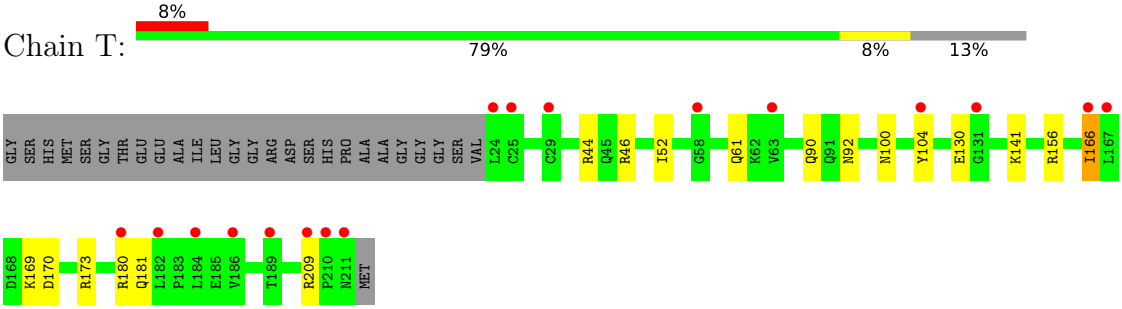
• Molecule 1: DNA repair protein RAD52 homolog

Chain S:



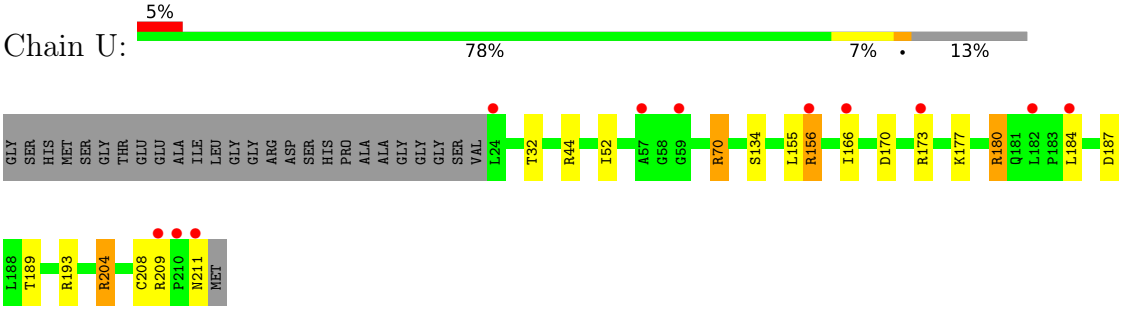
• Molecule 1: DNA repair protein RAD52 homolog

Chain T:



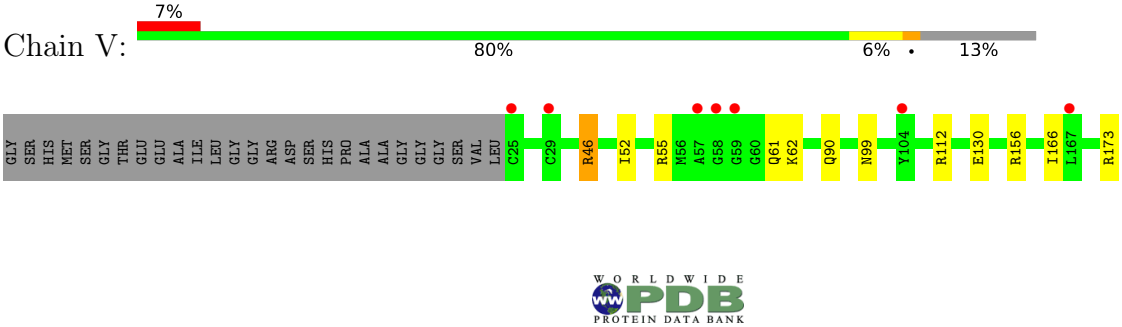
• Molecule 1: DNA repair protein RAD52 homolog

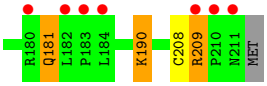
Chain U:



• Molecule 1: DNA repair protein RAD52 homolog

Chain V:




R180
Q181
L182
P183
L184
K190
C208
R209
P210
N211
MET

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	145.00Å 147.25Å 251.17Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	79.91 – 2.10 79.91 – 2.10	Depositor EDS
% Data completeness (in resolution range)	100.0 (79.91-2.10) 100.0 (79.91-2.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.04 (at 1.88Å)	Xtriage
Refinement program	REFMAC 5.8.0419	Depositor
R, R_{free}	0.173 , 0.199 0.184 , 0.207	Depositor DCC
R_{free} test set	21408 reflections (4.94%)	wwPDB-VP
Wilson B-factor (Å^2)	36.3	Xtriage
Anisotropy	0.021	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.37 , 67.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.012 for k,h,-l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	35430	wwPDB-VP
Average B, all atoms (Å^2)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.40% 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: EDO, CL, A1KDD, MG

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	0.78	2/1504 (0.1%)	1.09	6/2024 (0.3%)
1	B	0.73	0/1514	1.10	7/2039 (0.3%)
1	C	0.72	1/1517 (0.1%)	1.10	8/2042 (0.4%)
1	D	0.72	0/1506	1.07	6/2027 (0.3%)
1	E	0.70	0/1506	1.03	3/2027 (0.1%)
1	F	0.73	0/1504	1.07	6/2024 (0.3%)
1	G	0.70	0/1509	1.01	3/2031 (0.1%)
1	H	0.66	0/1525	1.01	1/2052 (0.0%)
1	I	0.65	0/1487	1.13	6/2002 (0.3%)
1	J	0.66	0/1512	1.06	2/2035 (0.1%)
1	K	0.74	1/1507 (0.1%)	1.20	9/2029 (0.4%)
1	L	0.71	0/1512	1.07	4/2035 (0.2%)
1	M	0.76	1/1525 (0.1%)	1.28	8/2052 (0.4%)
1	N	0.68	0/1517	1.02	5/2042 (0.2%)
1	O	0.80	1/1514 (0.1%)	1.08	4/2039 (0.2%)
1	P	0.82	3/1517 (0.2%)	1.07	3/2042 (0.1%)
1	Q	0.73	0/1519	1.04	1/2046 (0.0%)
1	R	0.74	1/1501 (0.1%)	1.22	6/2021 (0.3%)
1	S	0.70	0/1498	1.03	3/2017 (0.1%)
1	T	0.68	1/1519 (0.1%)	1.01	2/2046 (0.1%)
1	U	0.75	2/1509 (0.1%)	1.07	3/2031 (0.1%)
1	V	0.74	1/1504 (0.1%)	1.10	8/2024 (0.4%)
All	All	0.72	14/33226 (0.0%)	1.09	104/44727 (0.2%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	3
1	C	0	2
1	D	0	5
1	E	0	1
1	F	0	3
1	G	0	6
1	H	0	4
1	I	0	3
1	J	0	2
1	K	0	5
1	L	0	4
1	M	0	3
1	N	0	7
1	O	0	5
1	P	0	6
1	Q	0	3
1	S	0	2
1	T	0	3
1	U	0	9
1	V	0	5
All	All	0	83

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	208	CYS	C-N	13.32	1.53	1.33
1	P	61	GLN	C-N	12.28	1.50	1.33
1	O	60	GLY	C-N	11.95	1.49	1.33
1	M	179	PRO	C-N	8.33	1.44	1.33
1	V	208	CYS	C-N	8.13	1.48	1.33
1	K	208	CYS	C-N	-7.76	1.21	1.33
1	A	209	ARG	C-N	7.67	1.46	1.34
1	R	179	PRO	C-N	-7.54	1.23	1.33
1	U	209	ARG	C-N	-7.41	1.24	1.33
1	U	208	CYS	C-N	6.95	1.53	1.33
1	P	60	GLY	C-N	-6.22	1.24	1.33
1	C	193	ARG	C-N	5.45	1.41	1.33
1	T	156	ARG	NE-CZ	5.19	1.38	1.33
1	P	112	ARG	NE-CZ	5.03	1.38	1.33

All (104) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M	179	PRO	O-C-N	-21.66	98.10	123.01
1	M	179	PRO	CA-C-N	17.66	145.78	120.71
1	M	179	PRO	C-N-CA	17.66	145.78	120.71
1	R	179	PRO	CA-C-N	16.98	145.34	121.05
1	R	179	PRO	C-N-CA	16.98	145.34	121.05
1	R	179	PRO	O-C-N	-14.07	105.84	123.00
1	I	184	LEU	N-CA-C	12.31	128.28	111.54
1	D	61	GLN	O-C-N	11.38	135.69	122.94
1	I	181	GLN	CB-CA-C	-11.33	87.87	110.42
1	K	208	CYS	CA-C-N	10.60	136.34	121.61
1	K	208	CYS	C-N-CA	10.60	136.34	121.61
1	A	208	CYS	O-C-N	10.51	134.83	122.85
1	K	63	VAL	N-CA-C	10.48	124.80	108.87
1	O	61	GLN	O-C-N	-10.41	110.04	122.95
1	A	208	CYS	CA-C-N	-10.29	104.58	121.03
1	A	208	CYS	C-N-CA	-10.29	104.58	121.03
1	K	63	VAL	N-CA-CB	-10.20	96.48	110.56
1	P	61	GLN	O-C-N	9.19	133.65	123.27
1	O	61	GLN	CA-C-N	8.34	132.63	120.95
1	O	61	GLN	C-N-CA	8.34	132.63	120.95
1	C	180	ARG	CA-CB-CG	8.30	130.69	114.10
1	L	181	GLN	CB-CA-C	8.09	123.29	110.19
1	B	181	GLN	CB-CA-C	8.08	123.69	109.72
1	I	184	LEU	N-CA-CB	-8.04	99.86	111.84
1	N	70	ARG	NE-CZ-NH1	-7.93	113.57	121.50
1	I	182	LEU	N-CA-CB	-7.88	96.82	111.24
1	V	181	GLN	N-CA-CB	-7.85	96.98	110.17
1	U	44	ARG	CG-CD-NE	-7.69	95.08	112.00
1	V	181	GLN	CB-CA-C	7.54	122.81	110.22
1	A	209	ARG	O-C-N	-7.44	113.71	121.60
1	L	181	GLN	N-CA-CB	-7.30	98.53	110.42
1	S	56	MET	CG-SD-CE	7.20	116.75	100.90
1	T	44	ARG	CG-CD-NE	-7.13	96.31	112.00
1	D	61	GLN	CA-C-N	-7.12	112.14	122.19
1	D	61	GLN	C-N-CA	-7.12	112.14	122.19
1	B	44	ARG	CG-CD-NE	-6.94	96.73	112.00
1	B	56	MET	CG-SD-CE	-6.89	85.75	100.90
1	I	179	PRO	N-CA-C	-6.84	101.67	113.70
1	B	181	GLN	N-CA-CB	-6.81	99.88	110.57
1	R	130	GLU	CB-CG-CD	6.76	124.09	112.60
1	C	44	ARG	CG-CD-NE	-6.69	97.29	112.00
1	T	44	ARG	CB-CA-C	-6.62	96.48	110.31
1	J	44	ARG	CB-CA-C	-6.56	96.60	110.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	N	204	ARG	NH1-CZ-NH2	6.55	127.81	119.30
1	Q	201	GLU	CB-CG-CD	-6.55	101.47	112.60
1	V	208	CYS	CA-C-N	-6.50	108.22	121.48
1	V	208	CYS	C-N-CA	-6.50	108.22	121.48
1	M	180	ARG	CA-C-N	-6.44	113.06	122.65
1	M	180	ARG	C-N-CA	-6.44	113.06	122.65
1	U	44	ARG	CB-CA-C	-6.41	96.92	110.31
1	N	204	ARG	CD-NE-CZ	6.39	133.35	124.40
1	V	46	ARG	CA-CB-CG	6.36	126.82	114.10
1	K	44	ARG	CB-CA-C	-6.33	97.07	110.31
1	C	204	ARG	CD-NE-CZ	6.26	133.17	124.40
1	L	130	GLU	CB-CG-CD	6.24	123.22	112.60
1	B	44	ARG	CB-CA-C	-6.18	97.39	110.31
1	A	180	ARG	CG-CD-NE	6.16	125.55	112.00
1	F	130	GLU	CB-CG-CD	6.09	122.96	112.60
1	C	130	GLU	CB-CG-CD	6.09	122.95	112.60
1	V	130	GLU	CB-CG-CD	6.06	122.90	112.60
1	P	171	TYR	CA-C-O	-6.02	114.50	120.70
1	C	44	ARG	CB-CA-C	-5.99	97.79	110.31
1	F	204	ARG	CD-NE-CZ	5.99	132.78	124.40
1	D	208	CYS	N-CA-C	5.91	119.89	109.96
1	K	156	ARG	CD-NE-CZ	5.84	132.57	124.40
1	G	130	GLU	CB-CG-CD	5.83	122.51	112.60
1	S	177	LYS	CD-CE-NZ	5.83	130.54	111.90
1	F	181	GLN	N-CA-C	5.77	118.94	109.76
1	N	204	ARG	NE-CZ-NH1	-5.74	115.76	121.50
1	M	204	ARG	NE-CZ-NH2	5.74	124.36	119.20
1	D	208	CYS	CA-C-N	5.72	135.77	121.80
1	D	208	CYS	C-N-CA	5.72	135.77	121.80
1	F	204	ARG	NH1-CZ-NH2	5.72	126.74	119.30
1	R	180	ARG	CA-C-N	-5.72	114.58	122.30
1	R	180	ARG	C-N-CA	-5.72	114.58	122.30
1	H	130	GLU	CB-CG-CD	5.64	122.19	112.60
1	N	70	ARG	NE-CZ-NH2	5.64	124.27	119.20
1	C	180	ARG	CB-CG-CD	5.62	124.21	111.30
1	M	130	GLU	CB-CG-CD	5.60	122.11	112.60
1	S	177	LYS	CB-CG-CD	5.58	124.12	111.30
1	V	190	LYS	CB-CG-CD	5.54	124.04	111.30
1	L	167	LEU	N-CA-CB	-5.53	102.31	110.49
1	V	209	ARG	O-C-N	-5.52	115.35	121.53
1	U	70	ARG	NE-CZ-NH1	-5.42	116.08	121.50
1	I	130	GLU	CB-CG-CD	5.41	121.80	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	K	104	TYR	CA-CB-CG	5.39	123.60	113.90
1	G	190	LYS	CA-C-O	-5.35	114.43	120.32
1	A	202	GLU	CG-CD-OE1	-5.31	106.19	118.40
1	B	180	ARG	CA-C-N	-5.30	115.69	123.00
1	B	180	ARG	C-N-CA	-5.30	115.69	123.00
1	O	69	HIS	CB-CG-CD2	-5.29	124.33	131.20
1	P	171	TYR	O-C-N	5.27	127.78	122.09
1	K	209	ARG	CA-C-N	-5.26	114.82	120.03
1	K	209	ARG	C-N-CA	-5.26	114.82	120.03
1	F	204	ARG	NE-CZ-NH1	-5.25	116.25	121.50
1	M	69	HIS	CB-CG-CD2	-5.19	124.45	131.20
1	E	130	GLU	CB-CG-CD	5.17	121.39	112.60
1	E	135	LYS	CB-CG-CD	5.16	123.16	111.30
1	E	184	LEU	CB-CG-CD1	5.15	126.16	110.70
1	C	177	LYS	CB-CG-CD	5.13	123.10	111.30
1	G	191	ALA	CA-C-O	-5.07	116.03	121.45
1	J	204	ARG	NH1-CZ-NH2	5.05	125.86	119.30
1	F	187	ASP	CA-CB-CG	5.04	117.64	112.60
1	C	204	ARG	NH1-CZ-NH2	5.00	125.81	119.30

There are no chirality outliers.

All (83) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	209	ARG	Sidechain
1	A	44	ARG	Sidechain
1	B	180	ARG	Sidechain
1	B	204	ARG	Sidechain
1	B	209	ARG	Sidechain
1	C	204	ARG	Sidechain
1	C	55	ARG	Sidechain
1	D	180	ARG	Sidechain
1	D	209	ARG	Mainchain,Sidechain
1	D	44	ARG	Sidechain
1	D	61	GLN	Mainchain
1	E	44	ARG	Sidechain
1	F	204	ARG	Sidechain
1	F	44	ARG	Sidechain
1	F	55	ARG	Sidechain
1	G	156[A]	ARG	Sidechain
1	G	180	ARG	Sidechain
1	G	193	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	G	209	ARG	Sidechain
1	G	44	ARG	Sidechain
1	G	46	ARG	Sidechain
1	H	156[A]	ARG	Sidechain
1	H	209	ARG	Sidechain
1	H	44	ARG	Sidechain
1	H	55	ARG	Sidechain
1	I	173	ARG	Sidechain
1	I	180	ARG	Sidechain
1	I	46	ARG	Sidechain
1	J	180	ARG	Sidechain
1	J	46	ARG	Sidechain
1	K	180	ARG	Sidechain
1	K	209	ARG	Mainchain,Sidechain
1	K	46	ARG	Sidechain
1	K	55	ARG	Sidechain
1	L	180	ARG	Peptide
1	L	193	ARG	Sidechain
1	L	46	ARG	Sidechain
1	L	55	ARG	Sidechain
1	M	156[A]	ARG	Sidechain
1	M	209	ARG	Sidechain
1	M	44	ARG	Sidechain
1	N	180	ARG	Sidechain
1	N	193	ARG	Sidechain
1	N	204	ARG	Sidechain
1	N	209	ARG	Sidechain
1	N	44	ARG	Sidechain
1	N	46	ARG	Sidechain
1	N	70	ARG	Sidechain
1	O	180	ARG	Sidechain
1	O	209	ARG	Sidechain
1	O	44	ARG	Sidechain
1	O	46	ARG	Sidechain
1	O	55	ARG	Sidechain
1	P	143	ARG	Sidechain
1	P	156[A]	ARG	Sidechain
1	P	180	ARG	Sidechain
1	P	209	ARG	Sidechain
1	P	44	ARG	Sidechain
1	P	46	ARG	Sidechain
1	Q	193	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	Q	44	ARG	Sidechain
1	Q	46	ARG	Sidechain
1	S	209	ARG	Sidechain
1	S	70	ARG	Sidechain
1	T	180	ARG	Sidechain
1	T	209	ARG	Sidechain
1	T	46	ARG	Sidechain
1	U	155	LEU	Mainchain
1	U	156[A]	ARG	Mainchain,Sidechain
1	U	156[B]	ARG	Mainchain
1	U	180	ARG	Sidechain
1	U	193	ARG	Sidechain
1	U	204	ARG	Sidechain
1	U	70	ARG	Sidechain
1	V	156[A]	ARG	Sidechain
1	V	173	ARG	Sidechain
1	V	209	ARG	Mainchain
1	V	46	ARG	Sidechain
1	V	55	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	1479	0	1454	18	0
1	B	1488	0	1456	9	0
1	C	1492	0	1462	17	0
1	D	1481	0	1448	10	0
1	E	1481	0	1454	18	0
1	F	1479	0	1455	16	0
1	G	1484	0	1451	19	0
1	H	1500	0	1471	25	0
1	I	1462	0	1430	22	0
1	J	1487	0	1460	19	0
1	K	1482	0	1451	35	0
1	L	1487	0	1460	7	0
1	M	1500	0	1471	15	0
1	N	1492	0	1461	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	O	1488	0	1456	13	0
1	P	1492	0	1462	8	0
1	Q	1493	0	1458	16	0
1	R	1476	0	1447	13	0
1	S	1473	0	1445	8	0
1	T	1493	0	1458	16	0
1	U	1484	0	1457	8	0
1	V	1479	0	1455	11	0
2	A	15	0	0	0	0
2	B	15	0	0	0	0
2	C	15	0	0	0	0
2	D	15	0	0	0	0
2	E	15	0	0	0	0
2	F	15	0	0	0	0
2	H	30	0	0	0	0
2	K	30	0	0	0	0
2	L	30	0	0	0	0
2	M	15	0	0	0	0
2	N	15	0	0	0	0
2	O	30	0	0	0	0
2	P	15	0	0	0	0
2	R	30	0	0	0	0
2	S	30	0	0	0	0
2	T	15	0	0	0	0
2	U	15	0	0	0	0
3	A	24	0	36	5	0
3	B	20	0	30	0	0
3	C	16	0	24	4	0
3	D	16	0	24	0	0
3	E	16	0	24	3	0
3	F	12	0	18	0	0
3	G	8	0	12	5	0
3	H	8	0	12	7	0
3	I	16	0	24	8	0
3	J	8	0	12	0	0
3	K	12	0	18	9	0
3	L	12	0	18	0	0
3	M	16	0	24	5	0
3	N	12	0	18	3	0
3	O	16	0	24	1	0
3	P	4	0	6	0	0
3	Q	20	0	30	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	R	16	0	24	2	0
3	S	16	0	24	2	0
3	T	12	0	18	5	0
3	U	16	0	24	0	0
3	V	12	0	18	8	0
4	A	1	0	0	0	0
4	B	2	0	0	0	0
4	C	2	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
4	G	2	0	0	0	0
4	H	1	0	0	0	0
4	L	1	0	0	0	0
4	N	1	0	0	0	0
4	O	1	0	0	0	0
4	P	1	0	0	0	0
4	Q	1	0	0	0	0
4	R	1	0	0	0	0
4	S	1	0	0	0	0
4	T	1	0	0	0	0
4	V	1	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
5	K	1	0	0	0	0
5	O	1	0	0	0	0
5	P	1	0	0	0	0
6	A	90	0	0	3	0
6	B	109	0	0	2	0
6	C	126	0	0	2	0
6	D	103	0	0	3	0
6	E	84	0	0	1	0
6	F	104	0	0	5	0
6	G	65	0	0	0	0
6	H	73	0	0	2	0
6	I	49	0	0	0	0
6	J	42	0	0	1	0
6	K	68	0	0	4	0
6	L	111	0	0	2	0
6	M	103	0	0	1	0
6	N	96	0	0	2	0
6	O	105	0	0	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	P	112	0	0	2	0
6	Q	118	0	0	4	0
6	R	122	0	0	2	0
6	S	85	0	0	0	0
6	T	88	0	0	1	0
6	U	115	0	0	2	0
6	V	112	0	0	3	0
All	All	35430	0	32484	294	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 (294) 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:Q:58:GLY:HA3	6:Q:417:HOH:O	1.40	1.20
1:Q:66:ILE:HG13	1:Q:166:ILE:HD11	1.26	1.07
1:T:130:GLU:H	3:T:304:EDO:H21	1.21	1.03
1:K:112:ARG:HE	3:K:305:EDO:C2	1.74	1.00
1:Q:66:ILE:CG1	1:Q:166:ILE:HD11	1.90	1.00
1:J:112:ARG:HH12	1:J:114:GLN:HE21	1.16	0.93
1:R:90:GLN:HE21	1:R:92[B]:ASN:HD21	1.13	0.93
1:K:112:ARG:HE	3:K:305:EDO:H21	1.33	0.91
1:T:90:GLN:NE2	1:T:92[B]:ASN:HD21	1.68	0.91
1:Q:66:ILE:HG13	1:Q:166:ILE:CD1	2.01	0.91
1:T:90:GLN:HE21	1:T:92[B]:ASN:HD21	0.93	0.90
1:T:130:GLU:H	3:T:304:EDO:C2	1.83	0.90
1:G:112:ARG:HH22	1:G:114:GLN:HE21	1.18	0.89
1:K:78:MET:HE3	1:K:78:MET:HA	1.54	0.89
1:K:112:ARG:HH22	1:K:114:GLN:HE21	1.17	0.89
1:I:180:ARG:O	1:I:181:GLN:HG3	1.74	0.88
1:K:112:ARG:NE	3:K:305:EDO:H21	1.88	0.88
1:T:90:GLN:HE21	1:T:92[B]:ASN:ND2	1.71	0.87
1:J:200:VAL:HG21	1:K:78:MET:HE1	1.57	0.87
1:D:167:LEU:CD1	6:D:406:HOH:O	2.24	0.86
1:H:112:ARG:HE	3:H:303:EDO:C1	1.90	0.84
1:E:112:ARG:HH22	1:E:114:GLN:HE21	1.22	0.83
1:V:112:ARG:HE	3:V:301:EDO:C1	1.93	0.82
1:H:90:GLN:HE21	1:H:92[B]:ASN:HD21	1.27	0.81
1:A:30:GLN:OE1	1:K:25:CYS:HA	1.82	0.80
1:O:52:ILE:HD12	1:O:166:ILE:HD11	1.65	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:T:130:GLU:N	3:T:304:EDO:H21	1.97	0.79
1:I:112:ARG:HD2	3:I:301:EDO:C1	2.14	0.78
1:M:52:ILE:HD12	1:M:166:ILE:HD11	1.67	0.77
1:T:104[B]:TYR:CD1	1:T:130:GLU:HG2	2.20	0.77
1:R:52:ILE:HD12	1:R:166:ILE:HD11	1.68	0.76
1:N:112:ARG:HH11	3:N:302:EDO:H21	1.48	0.76
1:M:112:ARG:HE	3:M:303:EDO:C2	1.99	0.75
1:K:104:TYR:CD1	1:K:130:GLU:HG2	2.22	0.75
1:T:52:ILE:HD12	1:T:166:ILE:HD11	1.67	0.75
1:O:104[A]:TYR:CD1	1:O:130:GLU:HG2	2.21	0.75
1:G:112:ARG:HE	3:G:301:EDO:C2	2.00	0.74
1:Q:104[A]:TYR:CD1	1:Q:130:GLU:HG2	2.22	0.74
1:U:52:ILE:HD12	1:U:166:ILE:HD11	1.68	0.74
1:A:141:LYS:HE3	3:A:305:EDO:H21	1.69	0.74
1:I:186:VAL:HG13	1:J:46:ARG:NH1	2.03	0.74
1:K:98:LEU:HD23	1:R:100:ASN:O	1.87	0.73
1:B:52:ILE:HD12	1:B:166:ILE:HD11	1.69	0.73
1:B:104[A]:TYR:CD1	1:B:130:GLU:HG2	2.24	0.73
1:C:100:ASN:O	1:O:98:LEU:HD23	1.88	0.72
1:N:24:LEU:N	6:N:401:HOH:O	2.22	0.72
6:D:449:HOH:O	1:E:30:GLN:HG3	1.90	0.72
1:F:204:ARG:HD2	1:H:36:TYR:OH	1.89	0.72
1:R:90:GLN:NE2	1:R:92[B]:ASN:HD21	1.88	0.71
1:P:90:GLN:HE21	1:P:92[B]:ASN:HD21	1.37	0.71
1:A:36:TYR:OH	1:J:204:ARG:HD2	1.91	0.71
1:I:180:ARG:O	1:I:181:GLN:CG	2.39	0.70
1:D:90:GLN:HE21	1:D:92[B]:ASN:HD21	1.40	0.70
1:C:130:GLU:H	3:C:305:EDO:C2	2.04	0.70
1:R:130:GLU:H	3:R:304:EDO:H21	1.57	0.70
1:E:211:ASN:HD21	1:G:34:GLU:H	1.37	0.70
1:C:129:SER:HA	3:C:305:EDO:H21	1.74	0.69
1:I:112:ARG:HD2	3:I:301:EDO:H11	1.75	0.69
1:E:112:ARG:HE	3:E:303:EDO:C1	2.06	0.68
1:Q:104[A]:TYR:HD1	1:Q:130:GLU:HG2	1.58	0.67
1:I:112:ARG:HD2	3:I:301:EDO:H12	1.74	0.67
1:I:112:ARG:CD	3:I:301:EDO:H11	2.24	0.67
1:N:90:GLN:HE21	1:N:92[B]:ASN:HD21	1.41	0.67
1:B:104[A]:TYR:HD1	1:B:130:GLU:HG2	1.60	0.67
1:N:90:GLN:HE21	1:N:92[B]:ASN:ND2	1.93	0.67
1:R:90:GLN:HE21	1:R:92[B]:ASN:ND2	1.89	0.66
1:B:104[A]:TYR:HE1	1:B:130:GLU:OE2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:183:PRO:HA	6:K:423:HOH:O	1.95	0.66
1:Q:104[A]:TYR:HE1	1:Q:130:GLU:OE2	1.78	0.66
1:C:204:ARG:HD2	1:E:36:TYR:OH	1.96	0.65
1:H:90:GLN:HE21	1:H:92[B]:ASN:ND2	1.93	0.65
1:S:67:GLU:OE2	1:T:169:LYS:NZ	2.30	0.65
1:A:50:GLU:OE2	1:K:193:ARG:NH1	2.30	0.65
1:C:130:GLU:H	3:C:305:EDO:H22	1.61	0.64
1:P:90:GLN:NE2	1:P:92[B]:ASN:HD21	1.95	0.64
1:Q:66:ILE:CD1	1:Q:166:ILE:HD11	2.27	0.64
1:K:104:TYR:HD1	1:K:130:GLU:HG2	1.61	0.64
1:O:104[A]:TYR:HD1	1:O:130:GLU:HG2	1.63	0.63
1:K:39:ILE:HG12	1:K:78:MET:HE2	1.80	0.63
1:B:167:LEU:HD12	6:B:423:HOH:O	1.98	0.63
1:A:30:GLN:OE1	1:K:25:CYS:CA	2.46	0.62
1:F:173[B]:ARG:NH2	6:F:402:HOH:O	2.31	0.62
1:K:104:TYR:HE1	1:K:130:GLU:OE2	1.83	0.62
1:D:211:ASN:HD21	1:F:34:GLU:H	1.48	0.61
1:C:25:CYS:N	6:C:402:HOH:O	2.32	0.61
1:K:143:ARG:HH12	3:K:304:EDO:H11	1.66	0.61
1:O:104[A]:TYR:HE1	1:O:130:GLU:OE2	1.84	0.61
1:F:211:ASN:OD1	1:H:34:GLU:HG3	2.01	0.61
1:I:196:LEU:HD23	1:I:197:GLU:N	2.16	0.60
1:M:34:GLU:HG3	6:V:451:HOH:O	2.01	0.60
1:N:90:GLN:NE2	1:N:92[B]:ASN:HD21	2.00	0.60
1:A:141:LYS:CE	3:A:305:EDO:H21	2.32	0.59
1:P:24:LEU:N	6:P:402:HOH:O	2.35	0.59
1:S:112:ARG:HE	3:S:302:EDO:C1	2.16	0.59
1:L:99:ASN:HB2	6:L:490:HOH:O	2.00	0.59
1:P:90:GLN:HE21	1:P:92[B]:ASN:ND2	2.00	0.59
1:T:130:GLU:O	3:T:304:EDO:H22	2.03	0.59
1:N:90:GLN:HE21	1:N:92[B]:ASN:CG	2.11	0.59
1:D:90:GLN:HE21	1:D:92[B]:ASN:ND2	2.01	0.59
1:H:112:ARG:NE	3:H:303:EDO:C1	2.64	0.59
1:I:112:ARG:CD	3:I:301:EDO:C1	2.81	0.58
1:K:112:ARG:HE	3:K:305:EDO:H22	1.63	0.58
1:T:104[B]:TYR:CE1	1:T:130:GLU:OE2	2.57	0.58
1:T:104[B]:TYR:HD1	1:T:130:GLU:HG2	1.67	0.58
1:A:58:GLY:HA2	6:A:413:HOH:O	2.04	0.58
1:O:112:ARG:HE	3:O:304:EDO:C2	2.17	0.58
1:I:178:LEU:C	1:I:180:ARG:H	2.12	0.58
1:O:104[A]:TYR:CE1	1:O:130:GLU:OE2	2.57	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Q:104[A]:TYR:CE1	1:Q:130:GLU:OE2	2.57	0.57
3:N:304:EDO:H11	1:O:92[B]:ASN:ND2	2.19	0.57
1:A:90:GLN:NE2	1:A:92[B]:ASN:OD1	2.38	0.57
1:B:104[A]:TYR:CE1	1:B:130:GLU:OE2	2.57	0.57
1:K:78:MET:HE3	1:K:78:MET:CA	2.29	0.57
1:I:210:PRO:HG3	6:K:452:HOH:O	2.03	0.56
1:S:112:ARG:HE	3:S:302:EDO:H12	1.70	0.56
1:K:104:TYR:CE1	1:K:130:GLU:OE2	2.58	0.56
1:Q:181:GLN:HG3	1:Q:182:LEU:N	2.18	0.56
1:E:211:ASN:ND2	1:G:34:GLU:H	2.03	0.56
1:H:90:GLN:NE2	1:H:92[B]:ASN:HD21	2.00	0.56
1:K:112:ARG:NE	3:K:305:EDO:C2	2.52	0.55
1:A:90:GLN:CD	1:A:92[B]:ASN:HD21	2.13	0.55
1:D:167:LEU:HD12	6:D:406:HOH:O	2.00	0.55
1:C:130:GLU:H	3:C:305:EDO:H21	1.71	0.55
1:V:99:ASN:HB2	6:V:491:HOH:O	2.05	0.55
1:O:182:LEU:H	1:O:182:LEU:HD23	1.72	0.54
6:T:470:HOH:O	1:U:177:LYS:HE3	2.08	0.54
1:H:112:ARG:NE	3:H:303:EDO:H12	2.23	0.53
1:U:134:SER:HA	6:U:703:HOH:O	2.08	0.53
1:A:141:LYS:HE3	3:A:305:EDO:C2	2.36	0.53
1:J:112:ARG:HH12	1:J:114:GLN:NE2	1.98	0.53
1:F:204:ARG:CD	1:H:36:TYR:CZ	2.91	0.53
1:I:112:ARG:NE	3:I:301:EDO:C1	2.72	0.53
1:N:204:ARG:HD2	1:P:36:TYR:OH	2.09	0.52
1:T:141:LYS:HE3	3:T:304:EDO:H12	1.92	0.52
1:H:112:ARG:NH2	3:H:303:EDO:H12	2.25	0.52
1:I:112:ARG:NE	3:I:301:EDO:H11	2.24	0.52
1:V:112:ARG:HE	3:V:301:EDO:H11	1.73	0.52
1:F:173[B]:ARG:NH2	6:F:406:HOH:O	2.43	0.52
1:H:112:ARG:HH21	3:H:303:EDO:H12	1.74	0.52
1:I:52:ILE:HD12	1:I:166:ILE:HD11	1.90	0.52
1:I:180:ARG:C	1:I:181:GLN:HG3	2.34	0.52
1:D:211:ASN:O	1:D:212:MET:C	2.53	0.52
1:K:112:ARG:CZ	3:K:305:EDO:H21	2.40	0.51
1:N:156[B]:ARG:NH2	6:N:406:HOH:O	2.43	0.51
1:S:135:LYS:N	1:T:104[B]:TYR:OH	2.43	0.51
1:K:183:PRO:CA	6:K:423:HOH:O	2.56	0.51
3:A:302:EDO:H22	6:A:487:HOH:O	2.10	0.51
3:A:306:EDO:H22	6:A:484:HOH:O	2.11	0.50
1:P:185:GLU:OE1	1:Q:177:LYS:NZ	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:112:ARG:HH21	3:H:303:EDO:C1	2.23	0.50
1:D:90:GLN:NE2	1:D:92[B]:ASN:HD21	2.09	0.50
1:J:77:GLU:OE1	1:K:44:ARG:HD3	2.11	0.50
1:P:137:LEU:HD22	6:P:412:HOH:O	2.12	0.50
1:M:90:GLN:NE2	1:M:92[B]:ASN:OD1	2.34	0.50
1:V:90:GLN:HA	3:V:302:EDO:H12	1.93	0.50
1:I:112:ARG:HE	3:I:301:EDO:C1	2.23	0.50
6:L:426:HOH:O	1:M:30:GLN:HG3	2.12	0.50
1:E:211:ASN:HD22	1:G:32:THR:HB	1.76	0.49
1:A:36:TYR:CZ	1:J:204:ARG:HD2	2.47	0.49
1:C:194:GLN:OE1	1:C:194:GLN:N	2.45	0.49
1:L:170:ASP:OD1	1:L:173:ARG:NH2	2.45	0.49
1:G:112:ARG:NE	3:G:301:EDO:C2	2.75	0.49
1:K:183:PRO:HB3	6:K:423:HOH:O	2.13	0.49
1:I:178:LEU:HA	1:I:178:LEU:HD23	1.62	0.49
1:Q:170:ASP:OD1	1:Q:173:ARG:NH2	2.45	0.48
1:O:170:ASP:OD1	1:O:173:ARG:NH2	2.46	0.48
1:O:178:LEU:O	6:O:401:HOH:O	2.20	0.48
1:Q:66:ILE:CD1	1:Q:166:ILE:CD1	2.91	0.48
1:J:72:ILE:HD11	1:J:151:LEU:HD21	1.94	0.48
1:F:204:ARG:HD2	1:H:36:TYR:CZ	2.49	0.48
1:V:112:ARG:NE	3:V:301:EDO:C1	2.70	0.48
1:J:188:LEU:CD1	1:K:178:LEU:HD11	2.44	0.48
1:U:170:ASP:OD1	1:U:173:ARG:NH2	2.47	0.48
1:K:170:ASP:OD1	1:K:173:ARG:NH2	2.47	0.47
1:F:204:ARG:HD3	1:H:36:TYR:CZ	2.49	0.47
1:A:178:LEU:HD11	1:K:188:LEU:HD12	1.97	0.47
1:M:90:GLN:HE21	1:M:92[B]:ASN:CG	2.20	0.47
1:C:212:MET:HE3	1:C:212:MET:HB2	1.77	0.47
1:A:201:GLU:HG2	6:C:506:HOH:O	2.14	0.47
1:G:112:ARG:HH11	3:G:301:EDO:C2	2.27	0.47
1:I:188:LEU:CD1	1:J:178:LEU:HD11	2.46	0.46
1:Q:92[A]:ASN:CG	3:Q:301:EDO:H11	2.40	0.46
1:Q:100:ASN:HB3	6:Q:496:HOH:O	2.14	0.46
1:G:170:ASP:OD1	1:G:173:ARG:NH2	2.47	0.46
1:D:52:ILE:HD12	1:D:166:ILE:CD1	2.45	0.46
1:C:204:ARG:CD	1:E:36:TYR:OH	2.64	0.46
1:C:211:ASN:ND2	1:E:32:THR:HG21	2.30	0.46
1:G:112:ARG:HH11	3:G:301:EDO:H21	1.80	0.46
1:J:133:ALA:N	6:J:405:HOH:O	2.46	0.46
1:E:52:ILE:HD12	1:E:166:ILE:CD1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:112:ARG:HH22	1:G:114:GLN:NE2	2.00	0.46
1:J:170:ASP:OD1	1:J:173:ARG:NH2	2.47	0.46
1:P:52:ILE:HD12	1:P:166:ILE:CD1	2.46	0.46
1:G:52:ILE:HD12	1:G:166:ILE:CD1	2.46	0.46
1:H:52:ILE:HD12	1:H:166:ILE:HD11	1.98	0.46
1:K:112:ARG:HH22	1:K:114:GLN:NE2	1.99	0.46
1:V:52:ILE:HD12	1:V:166:ILE:CD1	2.46	0.46
1:A:137:LEU:HD21	6:B:505:HOH:O	2.16	0.45
1:F:204:ARG:CD	1:H:36:TYR:OH	2.62	0.45
1:J:200:VAL:HG21	1:K:78:MET:CE	2.38	0.45
1:C:204:ARG:CD	1:E:36:TYR:CZ	3.00	0.45
1:C:211:ASN:HD22	1:E:32:THR:HG21	1.82	0.45
1:M:92[B]:ASN:OD1	3:M:301:EDO:H22	2.16	0.45
1:M:112:ARG:HH11	3:M:303:EDO:C2	2.30	0.45
1:R:167:LEU:HD12	6:R:440:HOH:O	2.17	0.45
1:F:187:ASP:OD1	1:F:189:THR:HG23	2.17	0.45
1:S:170:ASP:OD1	1:S:173:ARG:NH2	2.48	0.45
1:K:52:ILE:HD12	1:K:166:ILE:CD1	2.46	0.45
1:A:170:ASP:OD1	1:A:173:ARG:NH2	2.48	0.45
1:F:170:ASP:OD1	1:F:173[A]:ARG:NH2	2.48	0.45
6:F:471:HOH:O	1:G:30:GLN:HG3	2.16	0.44
1:E:170:ASP:OD1	1:E:173:ARG:NH2	2.49	0.44
1:A:52:ILE:HD12	1:A:166:ILE:CD1	2.48	0.44
1:D:170:ASP:OD1	1:D:173:ARG:NH2	2.47	0.44
1:G:209:ARG:H	1:G:209:ARG:HG3	1.28	0.44
1:V:112:ARG:HE	3:V:301:EDO:H12	1.79	0.44
1:M:92[B]:ASN:CG	3:M:301:EDO:H22	2.42	0.44
1:I:178:LEU:C	1:I:180:ARG:N	2.74	0.44
1:M:193:ARG:NH1	1:N:50:GLU:OE2	2.48	0.44
1:R:170:ASP:OD1	1:R:173:ARG:NH2	2.47	0.44
1:L:52:ILE:HD12	1:L:166:ILE:CD1	2.48	0.44
1:M:170:ASP:OD1	1:M:173:ARG:NH2	2.48	0.44
1:U:211:ASN:ND2	6:U:704:HOH:O	2.51	0.44
1:B:170:ASP:OD1	1:B:173:ARG:NH2	2.48	0.43
1:F:173[B]:ARG:NH1	6:F:402:HOH:O	2.51	0.43
1:G:112:ARG:NH1	3:G:301:EDO:H21	2.33	0.43
1:V:112:ARG:HH21	3:V:301:EDO:H12	1.83	0.43
1:C:187:ASP:OD1	1:C:189:THR:HG23	2.18	0.43
1:D:211:ASN:ND2	1:F:34:GLU:HB2	2.33	0.43
1:E:211:ASN:HD21	1:G:34:GLU:N	2.12	0.43
1:J:187:ASP:OD1	1:J:189:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:S:209:ARG:HD2	1:U:32:THR:HA	2.00	0.43
1:V:112:ARG:NE	3:V:301:EDO:H12	2.32	0.43
1:J:52:ILE:HD12	1:J:166:ILE:CD1	2.48	0.43
1:L:52:ILE:HG13	1:L:175:LEU:HD21	2.01	0.43
1:L:193:ARG:HD2	1:M:50:GLU:OE1	2.18	0.43
1:R:129:SER:HA	3:R:304:EDO:H22	2.01	0.43
1:R:169:LYS:HE2	6:R:488:HOH:O	2.17	0.43
1:E:112:ARG:NE	3:E:303:EDO:C1	2.80	0.43
1:K:91:GLN:O	3:K:304:EDO:H12	2.18	0.43
1:H:170:ASP:OD1	1:H:173:ARG:NH2	2.48	0.43
1:J:188:LEU:HD13	1:K:178:LEU:HD11	2.01	0.43
1:L:36:TYR:OH	1:U:204:ARG:HD2	2.19	0.43
1:C:204:ARG:HD3	1:E:36:TYR:CZ	2.54	0.43
1:L:187:ASP:OD1	1:L:189:THR:HG23	2.19	0.43
1:H:52:ILE:CD1	1:H:166:ILE:HD11	2.49	0.42
3:Q:302:EDO:H11	6:Q:456:HOH:O	2.20	0.42
1:H:156[B]:ARG:HH21	1:H:167:LEU:HD11	1.85	0.42
1:H:187:ASP:OD1	1:H:189:THR:HG23	2.19	0.42
1:T:104[B]:TYR:HE1	1:T:130:GLU:OE2	2.01	0.42
1:A:30:GLN:OE1	1:K:29[A]:CYS:SG	2.77	0.42
1:C:52:ILE:HD12	1:C:166:ILE:CD1	2.50	0.42
1:C:170:ASP:OD1	1:C:173:ARG:NH2	2.47	0.42
1:G:90:GLN:HE21	1:G:92[B]:ASN:HD21	1.68	0.42
1:O:209:ARG:H	1:O:209:ARG:HG3	1.65	0.42
1:V:112:ARG:HH21	3:V:301:EDO:C1	2.32	0.42
1:A:187:ASP:OD1	1:A:189:THR:HG23	2.20	0.42
1:J:193:ARG:NH1	1:K:50:GLU:OE2	2.53	0.42
1:E:180:ARG:NH2	6:E:406:HOH:O	2.52	0.42
1:F:37:GLN:NE2	6:F:407:HOH:O	2.52	0.42
1:H:112:ARG:CZ	3:H:303:EDO:H12	2.50	0.42
1:I:196:LEU:HD22	1:I:198:PRO:HG3	2.02	0.42
1:T:170:ASP:OD1	1:T:173:ARG:NH2	2.47	0.42
1:U:187:ASP:OD1	1:U:189:THR:HG23	2.20	0.42
1:I:187:ASP:OD1	1:I:189:THR:HG23	2.20	0.42
1:N:52:ILE:HG13	1:N:175:LEU:HD21	2.02	0.42
1:S:187:ASP:OD1	1:S:189:THR:HG23	2.20	0.41
1:N:204:ARG:NH2	1:O:78:MET:O	2.47	0.41
1:M:112:ARG:NE	3:M:303:EDO:C2	2.75	0.41
1:E:112:ARG:HH11	3:E:303:EDO:C1	2.34	0.41
1:H:209:ARG:HD2	1:J:32:THR:HA	2.02	0.41
1:N:170:ASP:OD1	1:N:173:ARG:NH2	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:V:181:GLN:HA	6:V:453:HOH:O	2.20	0.41
1:H:209:ARG:H	1:H:209:ARG:HG3	1.53	0.41
1:J:194:GLN:HE21	1:J:194:GLN:HB2	1.64	0.41
1:M:187:ASP:OD1	1:M:189:THR:HG22	2.20	0.41
1:B:56:MET:HE3	1:B:56:MET:HB3	1.79	0.41
1:K:143:ARG:HH12	3:K:304:EDO:C1	2.33	0.41
1:N:112:ARG:NH1	3:N:302:EDO:H21	2.25	0.41
1:R:52:ILE:HG13	1:R:175:LEU:HD21	2.03	0.41
1:R:182:LEU:HD23	1:R:182:LEU:HA	1.88	0.41
1:R:187:ASP:OD1	1:R:189:THR:HG23	2.20	0.41
1:G:187:ASP:OD1	1:G:189:THR:HG23	2.20	0.41
1:I:178:LEU:HD21	1:I:180:ARG:HH21	1.86	0.41
1:F:52:ILE:CD1	1:F:166:ILE:HD11	2.51	0.40
1:H:211:ASN:ND2	6:H:404:HOH:O	2.54	0.40
1:M:156[B]:ARG:NH1	6:M:404:HOH:O	2.47	0.40
1:N:52:ILE:HD12	1:N:166:ILE:CD1	2.50	0.40
1:G:69:HIS:HD2	6:H:460:HOH:O	2.03	0.40
1:Q:178:LEU:O	6:Q:402:HOH:O	2.22	0.40
1:S:52:ILE:HG13	1:S:175:LEU:HD21	2.02	0.40
1:F:204:ARG:HD3	1:H:36:TYR:CE1	2.57	0.40
1:G:90:GLN:HE21	1:G:92[B]:ASN:ND2	2.20	0.40
1:B:52:ILE:HG13	1:B:175:LEU:HD21	2.03	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	186/215 (86%)	186 (100%)	0	0	100	100
1	B	187/215 (87%)	186 (100%)	1 (0%)	0	100	100
1	C	188/215 (87%)	188 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	D	187/215 (87%)	186 (100%)	1 (0%)	0	100	100
1	E	187/215 (87%)	187 (100%)	0	0	100	100
1	F	186/215 (86%)	186 (100%)	0	0	100	100
1	G	187/215 (87%)	184 (98%)	3 (2%)	0	100	100
1	H	189/215 (88%)	188 (100%)	1 (0%)	0	100	100
1	I	185/215 (86%)	182 (98%)	2 (1%)	1 (0%)	24	22
1	J	187/215 (87%)	187 (100%)	0	0	100	100
1	K	187/215 (87%)	186 (100%)	1 (0%)	0	100	100
1	L	187/215 (87%)	187 (100%)	0	0	100	100
1	M	189/215 (88%)	189 (100%)	0	0	100	100
1	N	188/215 (87%)	188 (100%)	0	0	100	100
1	O	187/215 (87%)	187 (100%)	0	0	100	100
1	P	188/215 (87%)	188 (100%)	0	0	100	100
1	Q	188/215 (87%)	187 (100%)	1 (0%)	0	100	100
1	R	186/215 (86%)	186 (100%)	0	0	100	100
1	S	186/215 (86%)	186 (100%)	0	0	100	100
1	T	188/215 (87%)	188 (100%)	0	0	100	100
1	U	187/215 (87%)	187 (100%)	0	0	100	100
1	V	186/215 (86%)	185 (100%)	1 (0%)	0	100	100
All	All	4116/4730 (87%)	4104 (100%)	11 (0%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	I	181	GLN

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	155/172 (90%)	153 (99%)	2 (1%)	61	69
1	B	156/172 (91%)	153 (98%)	3 (2%)	50	58
1	C	157/172 (91%)	153 (98%)	4 (2%)	42	48
1	D	155/172 (90%)	154 (99%)	1 (1%)	78	86
1	E	155/172 (90%)	153 (99%)	2 (1%)	61	69
1	F	155/172 (90%)	155 (100%)	0	100	100
1	G	155/172 (90%)	152 (98%)	3 (2%)	50	58
1	H	157/172 (91%)	151 (96%)	6 (4%)	29	32
1	I	152/172 (88%)	148 (97%)	4 (3%)	40	46
1	J	156/172 (91%)	153 (98%)	3 (2%)	50	58
1	K	156/172 (91%)	153 (98%)	3 (2%)	50	58
1	L	156/172 (91%)	154 (99%)	2 (1%)	61	69
1	M	157/172 (91%)	154 (98%)	3 (2%)	50	58
1	N	156/172 (91%)	151 (97%)	5 (3%)	34	38
1	O	156/172 (91%)	150 (96%)	6 (4%)	29	32
1	P	156/172 (91%)	153 (98%)	3 (2%)	50	58
1	Q	156/172 (91%)	155 (99%)	1 (1%)	78	86
1	R	155/172 (90%)	153 (99%)	2 (1%)	61	69
1	S	154/172 (90%)	151 (98%)	3 (2%)	50	58
1	T	156/172 (91%)	152 (97%)	4 (3%)	40	46
1	U	155/172 (90%)	151 (97%)	4 (3%)	40	46
1	V	155/172 (90%)	152 (98%)	3 (2%)	50	58
All	All	3421/3784 (90%)	3354 (98%)	67 (2%)	50	56

All (67) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	184	LEU
1	A	196	LEU
1	B	180	ARG
1	B	184	LEU
1	B	209	ARG
1	C	61	GLN
1	C	182	LEU
1	C	184	LEU

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Mol	Chain	Res	Type
1	C	212	MET
1	D	196	LEU
1	E	180	ARG
1	E	184	LEU
1	G	61	GLN
1	G	194	GLN
1	G	209	ARG
1	H	34	GLU
1	H	54	SER
1	H	55	ARG
1	H	61	GLN
1	H	184	LEU
1	H	209	ARG
1	I	61	GLN
1	I	62	LYS
1	I	178	LEU
1	I	182	LEU
1	J	61	GLN
1	J	184	LEU
1	J	194	GLN
1	K	62	LYS
1	K	167	LEU
1	K	180	ARG
1	L	62	LYS
1	L	184	LEU
1	M	182	LEU
1	M	184	LEU
1	M	209	ARG
1	N	167	LEU
1	N	180	ARG
1	N	181	GLN
1	N	182	LEU
1	N	209	ARG
1	O	166	ILE
1	O	167	LEU
1	O	173	ARG
1	O	180	ARG
1	O	181	GLN
1	O	209	ARG
1	P	137	LEU
1	P	180	ARG
1	P	209	ARG

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Mol	Chain	Res	Type
1	Q	180	ARG
1	R	132	LEU
1	R	184	LEU
1	S	50	GLU
1	S	61	GLN
1	S	209	ARG
1	T	61	GLN
1	T	100	ASN
1	T	166	ILE
1	T	181	GLN
1	U	156[A]	ARG
1	U	156[B]	ARG
1	U	180	ARG
1	U	184	LEU
1	V	61	GLN
1	V	62	LYS
1	V	190	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	45	GLN
1	A	90	GLN
1	B	28	GLN
1	B	30	GLN
1	B	90	GLN
1	C	37	GLN
1	C	61	GLN
1	C	90	GLN
1	C	211	ASN
1	D	30	GLN
1	D	90	GLN
1	D	211	ASN
1	E	114	GLN
1	E	211	ASN
1	F	30	GLN
1	F	37	GLN
1	F	45	GLN
1	F	69	HIS
1	F	92	ASN
1	F	181	GLN
1	G	30	GLN

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Mol	Chain	Res	Type
1	G	45	GLN
1	G	90	GLN
1	G	114	GLN
1	G	211	ASN
1	H	30	GLN
1	H	90	GLN
1	I	45	GLN
1	I	61	GLN
1	I	100	ASN
1	J	30	GLN
1	J	90	GLN
1	J	114	GLN
1	J	194	GLN
1	K	30	GLN
1	K	90	GLN
1	K	114	GLN
1	K	206	ASN
1	L	45	GLN
1	L	90	GLN
1	L	206	ASN
1	L	211	ASN
1	M	30	GLN
1	M	45	GLN
1	M	69	HIS
1	M	90	GLN
1	N	30	GLN
1	N	45	GLN
1	N	90	GLN
1	O	30	GLN
1	O	69	HIS
1	O	90	GLN
1	P	90	GLN
1	Q	90	GLN
1	Q	100	ASN
1	Q	211	ASN
1	R	90	GLN
1	R	211	ASN
1	S	28	GLN
1	S	37	GLN
1	S	181	GLN
1	S	211	ASN
1	T	45	GLN

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Mol	Chain	Res	Type
1	T	61	GLN
1	T	100	ASN
1	T	211	ASN
1	V	206	ASN

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)

Of 125 ligands modelled in this entry, 25 are monoatomic - leaving 100 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	EDO	F	302	-	3,3,3	0.42	0	2,2,2	0.68	0
3	EDO	B	305	-	3,3,3	0.37	0	2,2,2	0.89	0
3	EDO	S	303	-	3,3,3	0.38	0	2,2,2	0.18	0
3	EDO	O	305	-	3,3,3	0.29	0	2,2,2	0.41	0
3	EDO	E	305	-	3,3,3	0.34	0	2,2,2	0.37	0
3	EDO	B	304	-	3,3,3	0.25	0	2,2,2	0.30	0
3	EDO	E	301	-	3,3,3	0.21	0	2,2,2	0.19	0
3	EDO	C	303	-	3,3,3	0.36	0	2,2,2	0.19	0
2	A1KDD	N	301	-	16,16,16	0.73	0	21,22,22	0.74	0
2	A1KDD	F	301	-	16,16,16	0.96	2 (12%)	21,22,22	0.87	2 (9%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	EDO	L	303	-	3,3,3	0.26	0	2,2,2	0.28	0
3	EDO	T	304	-	3,3,3	0.21	0	2,2,2	0.60	0
3	EDO	I	303	-	3,3,3	0.20	0	2,2,2	0.27	0
3	EDO	U	305	-	3,3,3	0.25	0	2,2,2	0.08	0
3	EDO	L	304	-	3,3,3	0.32	0	2,2,2	0.48	0
3	EDO	D	304	-	3,3,3	0.35	0	2,2,2	0.94	0
3	EDO	J	301	-	3,3,3	1.41	0	2,2,2	1.07	0
3	EDO	A	305	-	3,3,3	0.24	0	2,2,2	0.85	0
3	EDO	I	304	-	3,3,3	0.28	0	2,2,2	0.41	0
3	EDO	K	305	-	3,3,3	0.46	0	2,2,2	1.01	0
3	EDO	O	304	-	3,3,3	0.33	0	2,2,2	0.49	0
3	EDO	C	305	-	3,3,3	0.47	0	2,2,2	0.77	0
3	EDO	A	302	-	3,3,3	0.84	0	2,2,2	0.95	0
3	EDO	B	306	-	3,3,3	0.73	0	2,2,2	0.61	0
2	A1KDD	H	301	-	16,16,16	0.83	0	21,22,22	0.64	0
2	A1KDD	B	302	-	16,16,16	0.85	0	21,22,22	0.59	0
2	A1KDD	D	302	-	16,16,16	0.78	1 (6%)	21,22,22	0.49	0
3	EDO	P	302	-	3,3,3	0.28	0	2,2,2	0.37	0
3	EDO	R	305	-	3,3,3	0.80	0	2,2,2	0.47	0
3	EDO	M	301	-	3,3,3	0.34	0	2,2,2	0.65	0
3	EDO	S	304	-	3,3,3	0.35	0	2,2,2	0.38	0
2	A1KDD	L	301	-	16,16,16	0.73	0	21,22,22	0.51	0
3	EDO	R	304	-	3,3,3	0.17	0	2,2,2	0.84	0
3	EDO	N	302	-	3,3,3	0.22	0	2,2,2	0.26	0
3	EDO	T	303	-	3,3,3	0.45	0	2,2,2	0.54	0
3	EDO	C	301	-	3,3,3	0.15	0	2,2,2	0.36	0
2	A1KDD	L	305	-	16,16,16	0.91	1 (6%)	21,22,22	0.95	0
3	EDO	A	304	-	3,3,3	0.55	0	2,2,2	0.52	0
2	A1KDD	O	302	-	16,16,16	0.85	1 (6%)	21,22,22	0.38	0
3	EDO	I	301	-	3,3,3	0.10	0	2,2,2	0.69	0
3	EDO	A	306	-	3,3,3	0.10	0	2,2,2	0.31	0
3	EDO	M	304	-	3,3,3	0.45	0	2,2,2	0.53	0
3	EDO	E	304	-	3,3,3	0.61	0	2,2,2	0.34	0
2	A1KDD	T	301	-	16,16,16	0.96	1 (6%)	21,22,22	0.38	0
3	EDO	N	304	-	3,3,3	0.18	0	2,2,2	0.48	0
3	EDO	O	303	-	3,3,3	0.25	0	2,2,2	0.27	0
3	EDO	D	305	-	3,3,3	0.46	0	2,2,2	0.34	0
2	A1KDD	R	301	-	16,16,16	0.75	0	21,22,22	0.68	0
3	EDO	S	305	-	3,3,3	0.08	0	2,2,2	0.34	0
3	EDO	Q	305	-	3,3,3	0.15	0	2,2,2	0.26	0
3	EDO	U	304	-	3,3,3	0.29	0	2,2,2	0.23	0
3	EDO	Q	304	-	3,3,3	0.35	0	2,2,2	0.04	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
3	EDO	Q	302	-	3,3,3	0.27	0	2,2,2	0.35	0
3	EDO	H	303	-	3,3,3	0.57	0	2,2,2	0.64	0
2	A1KDD	R	302	-	16,16,16	0.78	0	21,22,22	0.55	0
3	EDO	R	303	-	3,3,3	0.51	0	2,2,2	0.32	0
3	EDO	U	303	-	3,3,3	1.73	1 (33%)	2,2,2	1.66	0
3	EDO	I	302	-	3,3,3	0.06	0	2,2,2	0.20	0
2	A1KDD	P	301	-	16,16,16	0.68	0	21,22,22	0.87	2 (9%)
3	EDO	L	302	-	3,3,3	0.28	0	2,2,2	0.20	0
3	EDO	O	306	-	3,3,3	0.39	0	2,2,2	0.04	0
3	EDO	V	303	-	3,3,3	0.39	0	2,2,2	0.75	0
3	EDO	V	302	-	3,3,3	0.63	0	2,2,2	0.85	0
3	EDO	J	302	-	3,3,3	0.27	0	2,2,2	0.42	0
2	A1KDD	C	302	-	16,16,16	0.73	0	21,22,22	0.68	0
3	EDO	E	303	-	3,3,3	0.81	0	2,2,2	0.45	0
3	EDO	G	302	-	3,3,3	0.23	0	2,2,2	0.22	0
3	EDO	H	304	-	3,3,3	0.66	0	2,2,2	0.60	0
3	EDO	C	304	-	3,3,3	0.27	0	2,2,2	0.52	0
3	EDO	K	304	-	3,3,3	0.24	0	2,2,2	0.34	0
2	A1KDD	E	302	-	16,16,16	0.92	1 (6%)	21,22,22	0.67	0
2	A1KDD	M	302	-	16,16,16	0.65	0	21,22,22	0.94	1 (4%)
3	EDO	D	303	-	3,3,3	0.16	0	2,2,2	0.30	0
3	EDO	Q	303	-	3,3,3	0.51	0	2,2,2	0.41	0
2	A1KDD	H	302	-	16,16,16	0.83	0	21,22,22	0.58	0
3	EDO	F	304	-	3,3,3	0.37	0	2,2,2	0.70	0
3	EDO	A	303	-	3,3,3	0.40	0	2,2,2	0.37	0
3	EDO	R	306	-	3,3,3	0.23	0	2,2,2	0.37	0
3	EDO	V	301	-	3,3,3	0.70	0	2,2,2	0.68	0
2	A1KDD	K	302	-	16,16,16	0.79	0	21,22,22	0.50	0
3	EDO	B	301	-	3,3,3	0.27	0	2,2,2	0.74	0
3	EDO	D	301	-	3,3,3	0.33	0	2,2,2	0.78	0
3	EDO	M	303	-	3,3,3	0.77	0	2,2,2	0.53	0
3	EDO	U	302	-	3,3,3	0.33	0	2,2,2	0.44	0
2	A1KDD	K	301	-	16,16,16	0.73	0	21,22,22	0.39	0
3	EDO	S	302	-	3,3,3	0.20	0	2,2,2	0.71	0
2	A1KDD	U	301	-	16,16,16	0.80	1 (6%)	21,22,22	0.42	0
3	EDO	N	303	-	3,3,3	0.28	0	2,2,2	0.64	0
2	A1KDD	O	301	-	16,16,16	0.83	0	21,22,22	0.49	0
2	A1KDD	A	301	-	16,16,16	0.93	1 (6%)	21,22,22	0.61	0
3	EDO	B	303	-	3,3,3	0.39	0	2,2,2	0.74	0
3	EDO	Q	301	-	3,3,3	0.46	0	2,2,2	0.18	0
3	EDO	A	307	-	3,3,3	0.22	0	2,2,2	0.16	0
3	EDO	F	303	-	3,3,3	0.20	0	2,2,2	0.22	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	A1KDD	S	306	-	16,16,16	0.77	0	21,22,22	0.55	0
3	EDO	K	303	-	3,3,3	0.33	0	2,2,2	0.49	0
3	EDO	T	302	-	3,3,3	0.36	0	2,2,2	0.20	0
3	EDO	G	301	-	3,3,3	0.66	0	2,2,2	0.31	0
3	EDO	M	305	-	3,3,3	0.21	0	2,2,2	0.22	0
2	A1KDD	S	301	-	16,16,16	0.98	1 (6%)	21,22,22	0.90	2 (9%)

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	EDO	F	302	-	-	1/1/1/1	-
3	EDO	B	305	-	-	1/1/1/1	-
3	EDO	S	303	-	-	1/1/1/1	-
3	EDO	O	305	-	-	1/1/1/1	-
3	EDO	E	305	-	-	1/1/1/1	-
3	EDO	B	304	-	-	1/1/1/1	-
3	EDO	E	301	-	-	0/1/1/1	-
3	EDO	C	303	-	-	1/1/1/1	-
2	A1KDD	N	301	-	-	6/8/8/8	0/2/2/2
2	A1KDD	F	301	-	-	0/8/8/8	0/2/2/2
3	EDO	L	303	-	-	0/1/1/1	-
3	EDO	T	304	-	-	1/1/1/1	-
3	EDO	I	303	-	-	0/1/1/1	-
3	EDO	U	305	-	-	1/1/1/1	-
3	EDO	L	304	-	-	1/1/1/1	-
3	EDO	D	304	-	-	0/1/1/1	-
3	EDO	J	301	-	-	0/1/1/1	-
3	EDO	A	305	-	-	1/1/1/1	-
3	EDO	I	304	-	-	1/1/1/1	-
3	EDO	K	305	-	-	1/1/1/1	-
3	EDO	O	304	-	-	0/1/1/1	-
3	EDO	C	305	-	-	1/1/1/1	-
3	EDO	A	302	-	-	0/1/1/1	-
3	EDO	B	306	-	-	0/1/1/1	-
2	A1KDD	H	301	-	-	8/8/8/8	0/2/2/2
2	A1KDD	B	302	-	-	0/8/8/8	0/2/2/2
2	A1KDD	D	302	-	-	0/8/8/8	0/2/2/2
3	EDO	P	302	-	-	1/1/1/1	-
3	EDO	R	305	-	-	1/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	EDO	M	301	-	-	1/1/1/1	-
3	EDO	S	304	-	-	1/1/1/1	-
2	A1KDD	L	301	-	-	5/8/8/8	0/2/2/2
3	EDO	R	304	-	-	0/1/1/1	-
3	EDO	N	302	-	-	0/1/1/1	-
3	EDO	T	303	-	-	1/1/1/1	-
3	EDO	C	301	-	-	1/1/1/1	-
2	A1KDD	L	305	-	-	6/8/8/8	0/2/2/2
3	EDO	A	304	-	-	1/1/1/1	-
2	A1KDD	O	302	-	-	8/8/8/8	0/2/2/2
3	EDO	I	301	-	-	1/1/1/1	-
3	EDO	A	306	-	-	1/1/1/1	-
3	EDO	M	304	-	-	0/1/1/1	-
3	EDO	E	304	-	-	1/1/1/1	-
2	A1KDD	T	301	-	-	2/8/8/8	0/2/2/2
3	EDO	N	304	-	-	1/1/1/1	-
3	EDO	O	303	-	-	1/1/1/1	-
3	EDO	D	305	-	-	1/1/1/1	-
2	A1KDD	R	301	-	-	2/8/8/8	0/2/2/2
3	EDO	S	305	-	-	1/1/1/1	-
3	EDO	Q	305	-	-	1/1/1/1	-
3	EDO	U	304	-	-	1/1/1/1	-
3	EDO	Q	304	-	-	1/1/1/1	-
3	EDO	Q	302	-	-	1/1/1/1	-
3	EDO	H	303	-	-	1/1/1/1	-
2	A1KDD	R	302	-	-	8/8/8/8	0/2/2/2
3	EDO	R	303	-	-	1/1/1/1	-
3	EDO	U	303	-	-	0/1/1/1	-
3	EDO	I	302	-	-	0/1/1/1	-
2	A1KDD	P	301	-	-	0/8/8/8	0/2/2/2
3	EDO	L	302	-	-	1/1/1/1	-
3	EDO	O	306	-	-	1/1/1/1	-
3	EDO	V	303	-	-	1/1/1/1	-
3	EDO	V	302	-	-	1/1/1/1	-
3	EDO	J	302	-	-	1/1/1/1	-
2	A1KDD	C	302	-	-	1/8/8/8	0/2/2/2
3	EDO	E	303	-	-	1/1/1/1	-
3	EDO	G	302	-	-	1/1/1/1	-
3	EDO	H	304	-	-	1/1/1/1	-
3	EDO	C	304	-	-	1/1/1/1	-
3	EDO	K	304	-	-	1/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	A1KDD	E	302	-	-	2/8/8/8	0/2/2/2
2	A1KDD	M	302	-	-	0/8/8/8	0/2/2/2
3	EDO	D	303	-	-	0/1/1/1	-
3	EDO	Q	303	-	-	1/1/1/1	-
2	A1KDD	H	302	-	-	2/8/8/8	0/2/2/2
3	EDO	F	304	-	-	1/1/1/1	-
3	EDO	A	303	-	-	1/1/1/1	-
3	EDO	R	306	-	-	1/1/1/1	-
3	EDO	V	301	-	-	1/1/1/1	-
2	A1KDD	K	302	-	-	4/8/8/8	0/2/2/2
3	EDO	B	301	-	-	1/1/1/1	-
3	EDO	D	301	-	-	1/1/1/1	-
3	EDO	M	303	-	-	1/1/1/1	-
3	EDO	U	302	-	-	0/1/1/1	-
2	A1KDD	K	301	-	-	2/8/8/8	0/2/2/2
3	EDO	S	302	-	-	1/1/1/1	-
2	A1KDD	U	301	-	-	1/8/8/8	0/2/2/2
3	EDO	N	303	-	-	1/1/1/1	-
2	A1KDD	O	301	-	-	1/8/8/8	0/2/2/2
2	A1KDD	A	301	-	-	1/8/8/8	0/2/2/2
3	EDO	B	303	-	-	1/1/1/1	-
3	EDO	Q	301	-	-	1/1/1/1	-
3	EDO	A	307	-	-	1/1/1/1	-
3	EDO	F	303	-	-	1/1/1/1	-
2	A1KDD	S	306	-	-	0/8/8/8	0/2/2/2
3	EDO	K	303	-	-	1/1/1/1	-
3	EDO	T	302	-	-	1/1/1/1	-
3	EDO	G	301	-	-	1/1/1/1	-
3	EDO	M	305	-	-	1/1/1/1	-
2	A1KDD	S	301	-	-	0/8/8/8	0/2/2/2

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	T	301	A1KDD	O1-C1	2.73	1.29	1.22
2	S	301	A1KDD	O1-C1	2.52	1.29	1.22
3	U	303	EDO	O1-C1	2.34	1.54	1.42
2	F	301	A1KDD	O1-C1	2.34	1.28	1.22
2	E	302	A1KDD	O1-C1	2.25	1.28	1.22
2	O	302	A1KDD	O1-C1	2.25	1.28	1.22
2	A	301	A1KDD	O1-C1	2.19	1.28	1.22

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	302	A1KDD	O1-C1	2.18	1.28	1.22
2	L	305	A1KDD	C2-C1	2.16	1.54	1.48
2	F	301	A1KDD	C2-C1	2.14	1.53	1.48
2	U	301	A1KDD	O1-C1	2.12	1.28	1.22

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	P	301	A1KDD	O2-C1-C2	2.76	121.08	114.20
2	F	301	A1KDD	C3-C2-C1	2.30	137.20	132.57
2	S	301	A1KDD	C10-C5-C4	-2.12	118.44	120.88
2	S	301	A1KDD	C6-C5-C4	2.11	123.30	120.88
2	F	301	A1KDD	C5-C4-C3	2.06	131.74	128.70
2	M	302	A1KDD	C2-C3-C4	-2.04	104.15	105.06
2	P	301	A1KDD	O1-C1-C2	-2.01	115.16	120.48

There are no chirality outliers.

All (121) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	E	302	A1KDD	O1-C1-C2-O3
2	H	301	A1KDD	O1-C1-C2-C3
2	H	301	A1KDD	O1-C1-C2-O3
2	H	301	A1KDD	O2-C1-C2-O3
2	H	302	A1KDD	O1-C1-C2-O3
2	H	302	A1KDD	O2-C1-C2-O3
2	K	301	A1KDD	O1-C1-C2-O3
2	K	301	A1KDD	O2-C1-C2-O3
2	L	301	A1KDD	O1-C1-C2-O3
2	L	301	A1KDD	O2-C1-C2-O3
2	L	305	A1KDD	O1-C1-C2-O3
2	L	305	A1KDD	O2-C1-C2-O3
2	N	301	A1KDD	O1-C1-C2-O3
2	O	302	A1KDD	O1-C1-C2-O3
2	O	302	A1KDD	O2-C1-C2-O3
2	R	302	A1KDD	O1-C1-C2-O3
2	R	302	A1KDD	O2-C1-C2-O3
2	T	301	A1KDD	O1-C1-C2-O3
2	T	301	A1KDD	O2-C1-C2-O3
3	B	301	EDO	O1-C1-C2-O2
3	S	305	EDO	O1-C1-C2-O2
2	K	302	A1KDD	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
3	A	304	EDO	O1-C1-C2-O2
3	A	306	EDO	O1-C1-C2-O2
3	B	304	EDO	O1-C1-C2-O2
3	C	304	EDO	O1-C1-C2-O2
3	F	303	EDO	O1-C1-C2-O2
3	G	302	EDO	O1-C1-C2-O2
3	H	304	EDO	O1-C1-C2-O2
3	I	304	EDO	O1-C1-C2-O2
3	O	303	EDO	O1-C1-C2-O2
3	P	302	EDO	O1-C1-C2-O2
3	Q	301	EDO	O1-C1-C2-O2
3	Q	305	EDO	O1-C1-C2-O2
3	R	306	EDO	O1-C1-C2-O2
3	S	303	EDO	O1-C1-C2-O2
3	T	304	EDO	O1-C1-C2-O2
3	U	304	EDO	O1-C1-C2-O2
3	U	305	EDO	O1-C1-C2-O2
3	V	303	EDO	O1-C1-C2-O2
2	K	302	A1KDD	N1-C4-C5-C6
2	K	302	A1KDD	N1-C4-C5-C10
2	K	302	A1KDD	C3-C4-C5-C10
3	A	303	EDO	O1-C1-C2-O2
3	V	301	EDO	O1-C1-C2-O2
2	H	301	A1KDD	O2-C1-C2-C3
2	L	301	A1KDD	N1-C4-C5-C6
2	L	305	A1KDD	N1-C4-C5-C6
2	N	301	A1KDD	N1-C4-C5-C6
2	N	301	A1KDD	N1-C4-C5-C10
2	R	302	A1KDD	N1-C4-C5-C6
2	R	302	A1KDD	N1-C4-C5-C10
3	A	305	EDO	O1-C1-C2-O2
3	C	305	EDO	O1-C1-C2-O2
3	E	303	EDO	O1-C1-C2-O2
3	E	305	EDO	O1-C1-C2-O2
3	I	301	EDO	O1-C1-C2-O2
3	J	302	EDO	O1-C1-C2-O2
3	L	302	EDO	O1-C1-C2-O2
3	M	305	EDO	O1-C1-C2-O2
3	S	302	EDO	O1-C1-C2-O2
3	T	302	EDO	O1-C1-C2-O2
2	R	302	A1KDD	C3-C4-C5-C6
2	C	302	A1KDD	O1-C1-C2-O3

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Mol	Chain	Res	Type	Atoms
2	O	301	A1KDD	O1-C1-C2-O3
2	R	301	A1KDD	O1-C1-C2-O3
3	B	303	EDO	O1-C1-C2-O2
3	K	305	EDO	O1-C1-C2-O2
3	O	306	EDO	O1-C1-C2-O2
2	N	301	A1KDD	O2-C1-C2-O3
2	H	301	A1KDD	C3-C4-C5-C6
2	O	302	A1KDD	C3-C4-C5-C6
2	H	301	A1KDD	N1-C4-C5-C6
2	H	301	A1KDD	N1-C4-C5-C10
2	L	301	A1KDD	N1-C4-C5-C10
2	L	305	A1KDD	N1-C4-C5-C10
2	O	302	A1KDD	N1-C4-C5-C6
2	O	302	A1KDD	N1-C4-C5-C10
2	O	302	A1KDD	C3-C4-C5-C10
2	R	302	A1KDD	C3-C4-C5-C10
3	C	301	EDO	O1-C1-C2-O2
3	C	303	EDO	O1-C1-C2-O2
3	D	301	EDO	O1-C1-C2-O2
3	H	303	EDO	O1-C1-C2-O2
3	K	303	EDO	O1-C1-C2-O2
3	M	301	EDO	O1-C1-C2-O2
3	M	303	EDO	O1-C1-C2-O2
3	N	303	EDO	O1-C1-C2-O2
3	R	303	EDO	O1-C1-C2-O2
3	S	304	EDO	O1-C1-C2-O2
2	H	301	A1KDD	C3-C4-C5-C10
2	L	301	A1KDD	C3-C4-C5-C6
2	O	302	A1KDD	O1-C1-C2-C3
2	O	302	A1KDD	O2-C1-C2-C3
2	R	302	A1KDD	O1-C1-C2-C3
2	R	302	A1KDD	O2-C1-C2-C3
3	E	304	EDO	O1-C1-C2-O2
3	G	301	EDO	O1-C1-C2-O2
3	R	305	EDO	O1-C1-C2-O2
3	V	302	EDO	O1-C1-C2-O2
2	N	301	A1KDD	C3-C4-C5-C10
2	N	301	A1KDD	C3-C4-C5-C6
3	D	305	EDO	O1-C1-C2-O2
3	K	304	EDO	O1-C1-C2-O2
3	T	303	EDO	O1-C1-C2-O2
3	B	305	EDO	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
3	F	302	EDO	O1-C1-C2-O2
3	L	304	EDO	O1-C1-C2-O2
3	N	304	EDO	O1-C1-C2-O2
3	O	305	EDO	O1-C1-C2-O2
3	Q	303	EDO	O1-C1-C2-O2
2	A	301	A1KDD	O1-C1-C2-O3
2	U	301	A1KDD	O1-C1-C2-O3
2	E	302	A1KDD	O1-C1-C2-C3
2	L	305	A1KDD	O1-C1-C2-C3
2	L	305	A1KDD	O2-C1-C2-C3
2	R	301	A1KDD	N1-C4-C5-C6
3	A	307	EDO	O1-C1-C2-O2
3	F	304	EDO	O1-C1-C2-O2
3	Q	302	EDO	O1-C1-C2-O2
3	Q	304	EDO	O1-C1-C2-O2

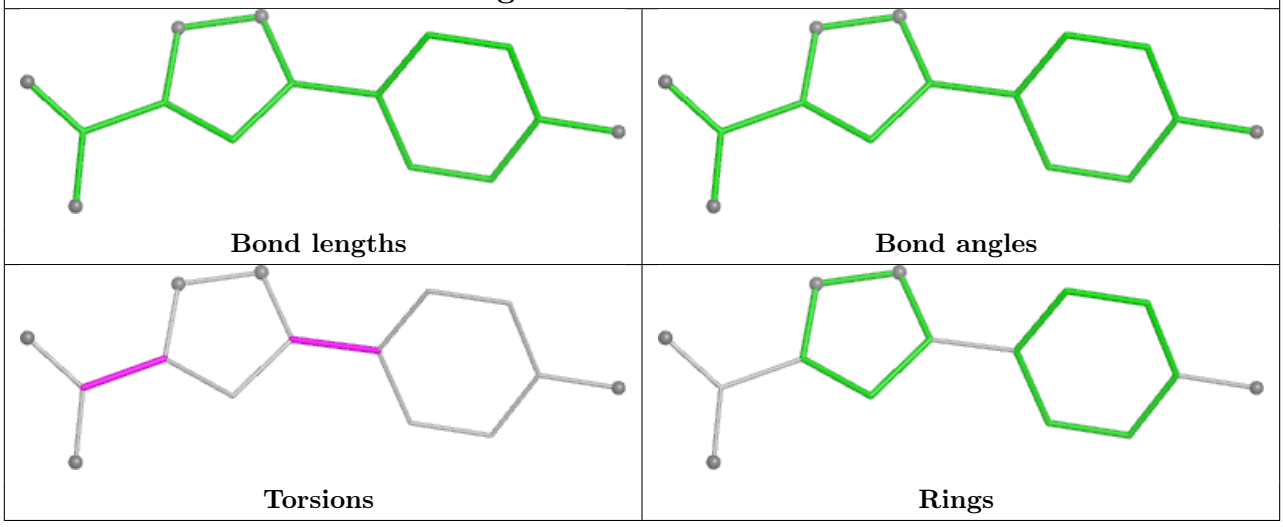
There are no ring outliers.

22 monomers are involved in 69 short contacts:

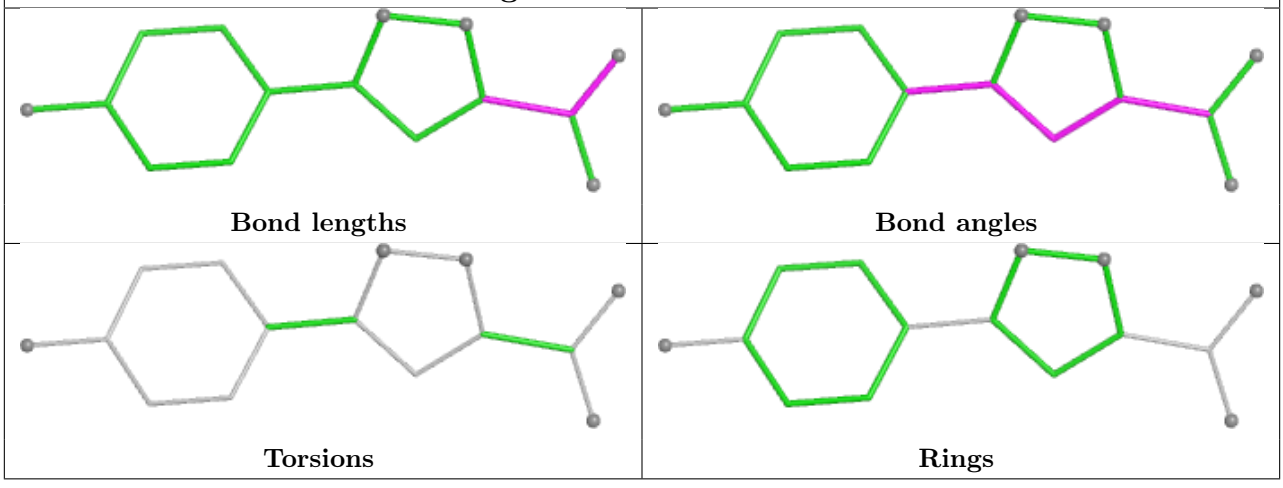
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	T	304	EDO	5	0
3	A	305	EDO	3	0
3	K	305	EDO	6	0
3	O	304	EDO	1	0
3	C	305	EDO	4	0
3	A	302	EDO	1	0
3	M	301	EDO	2	0
3	R	304	EDO	2	0
3	N	302	EDO	2	0
3	I	301	EDO	8	0
3	A	306	EDO	1	0
3	N	304	EDO	1	0
3	Q	302	EDO	1	0
3	H	303	EDO	7	0
3	V	302	EDO	1	0
3	E	303	EDO	3	0
3	K	304	EDO	3	0
3	V	301	EDO	7	0
3	M	303	EDO	3	0
3	S	302	EDO	2	0
3	Q	301	EDO	1	0
3	G	301	EDO	5	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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.

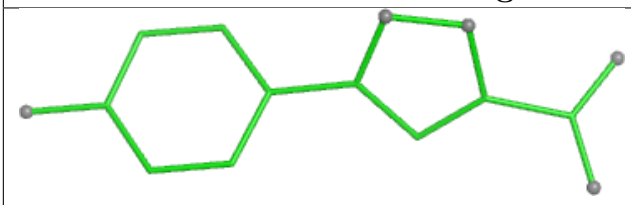
Ligand A1KDD N 301



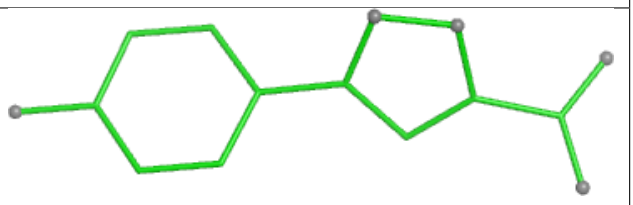
Ligand A1KDD F 301



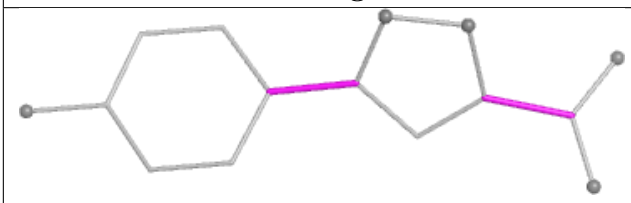
Ligand A1KDD H 301



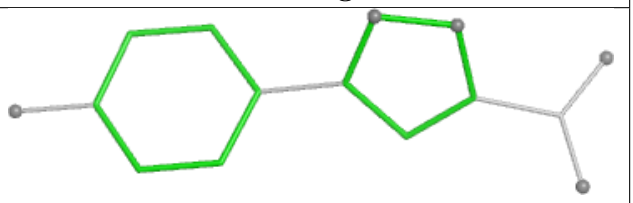
Bond lengths



Bond angles

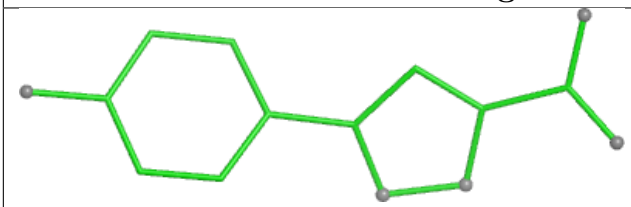


Torsions

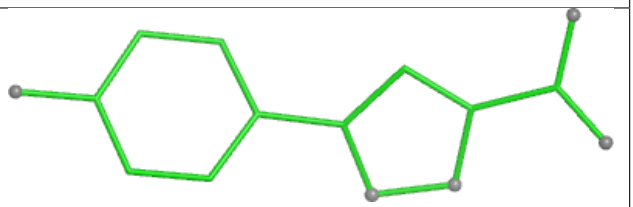


Rings

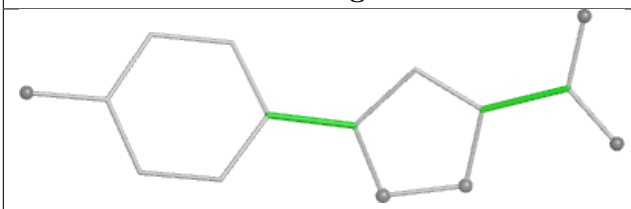
Ligand A1KDD B 302



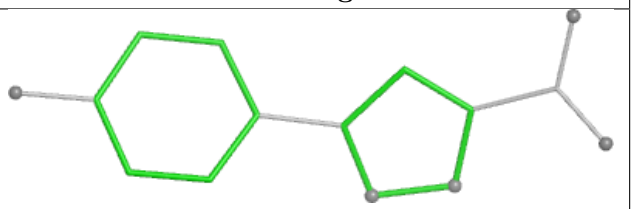
Bond lengths



Bond angles

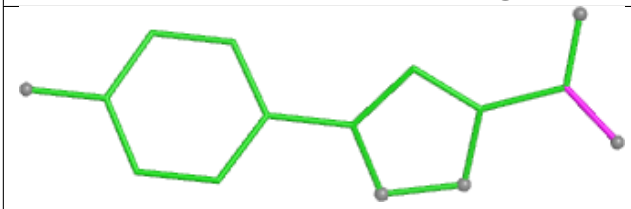


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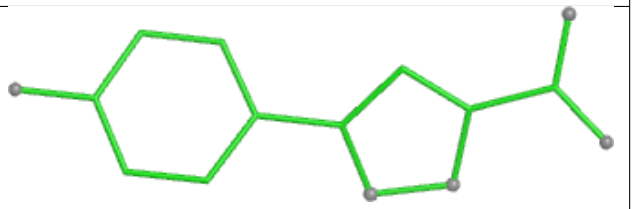


Rings

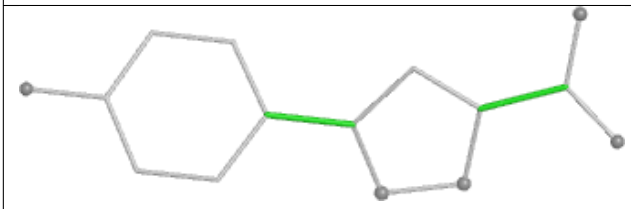
Ligand A1KDD D 302



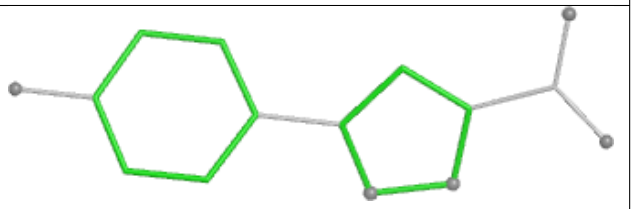
Bond lengths



Bond angles

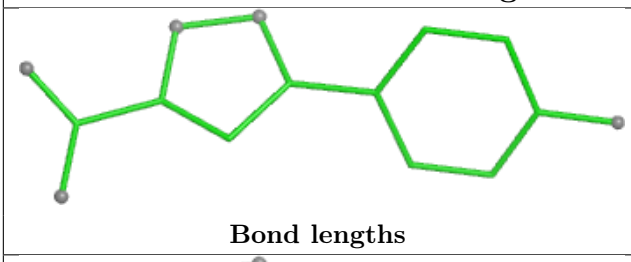


Torsions

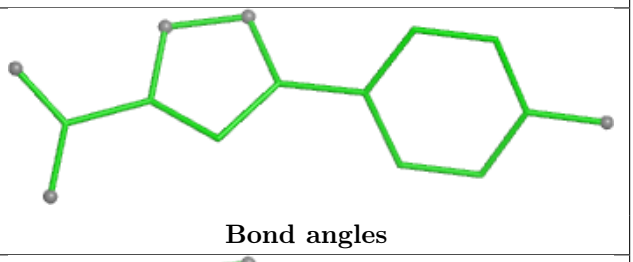


Rings

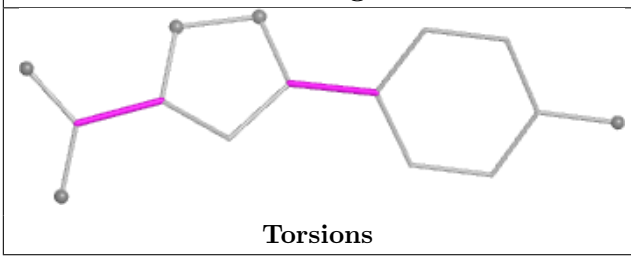
Ligand A1KDD L 301



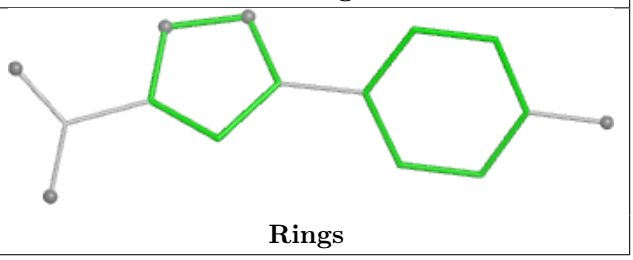
Bond lengths



Bond angles

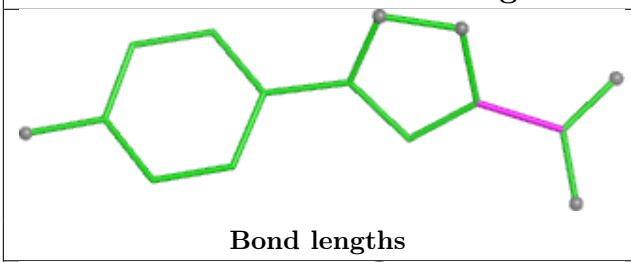


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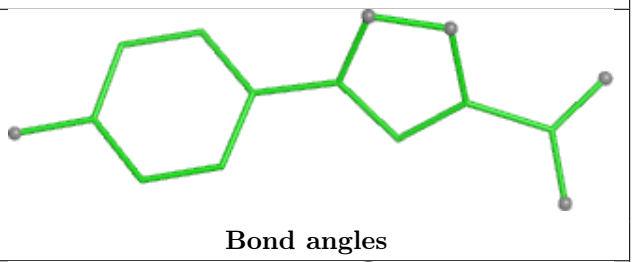


Rings

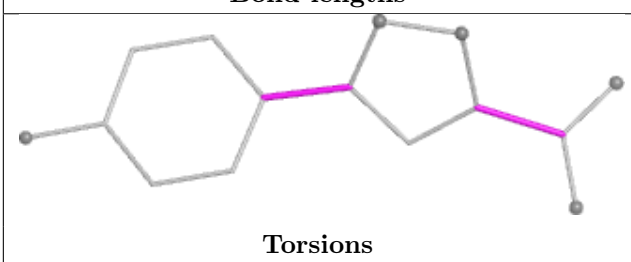
Ligand A1KDD L 305



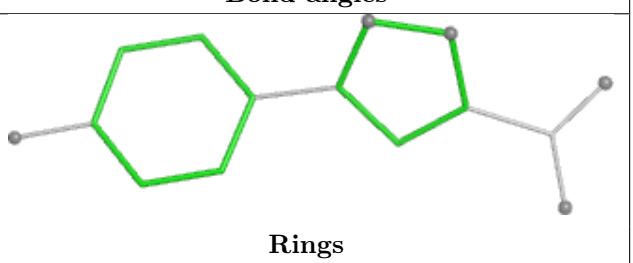
Bond lengths



Bond angles

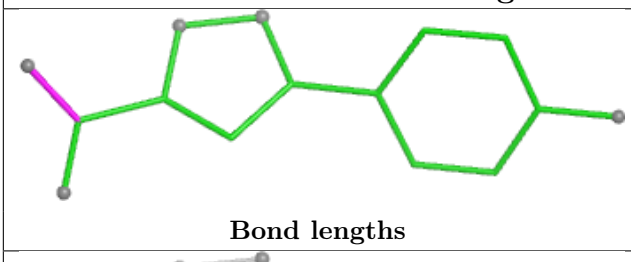


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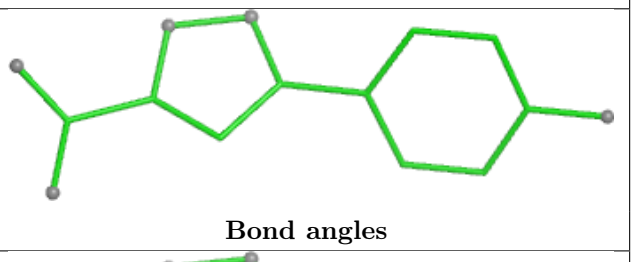


Rings

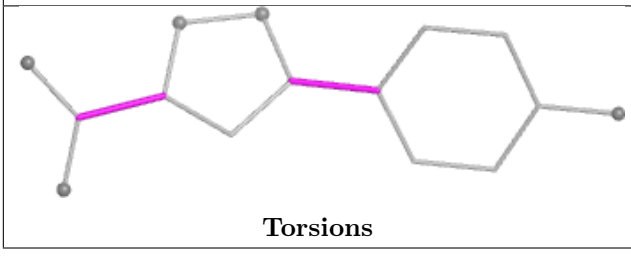
Ligand A1KDD O 302



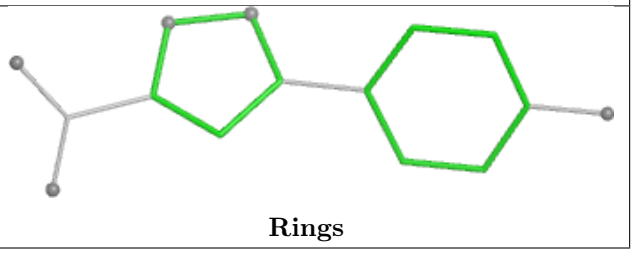
Bond lengths



Bond angles

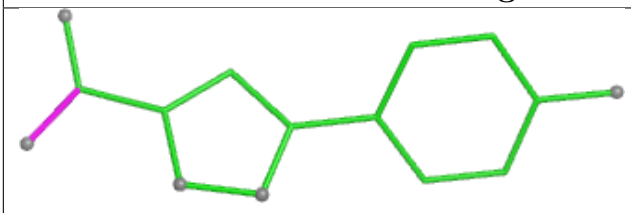


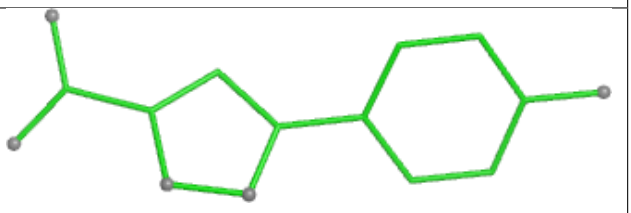
Torsions

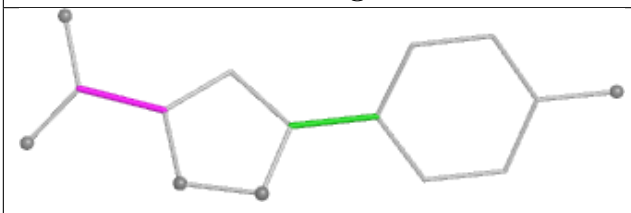


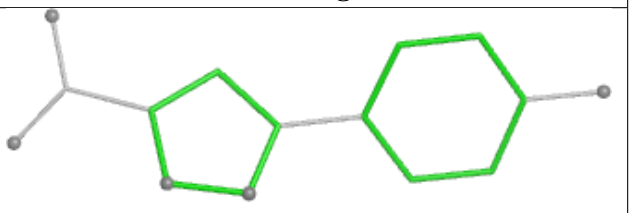
Rings

Ligand A1KDD T 301

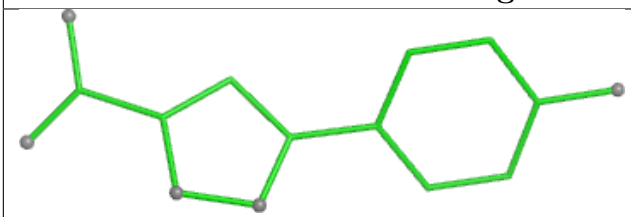

Bond lengths

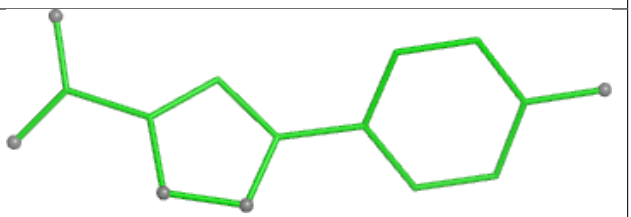

Bond angles

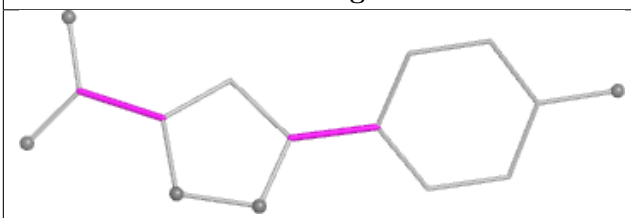

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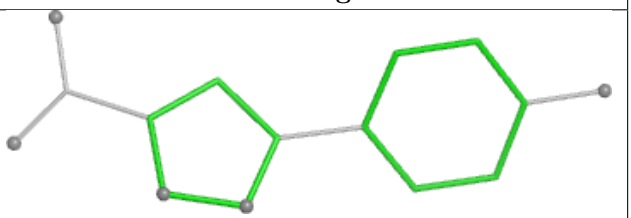

Rings

Ligand A1KDD R 301

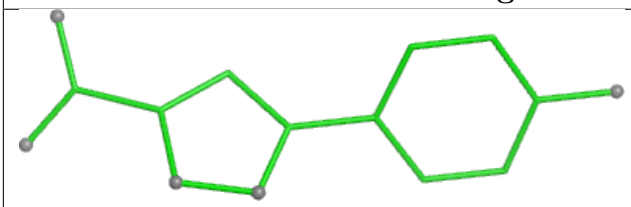

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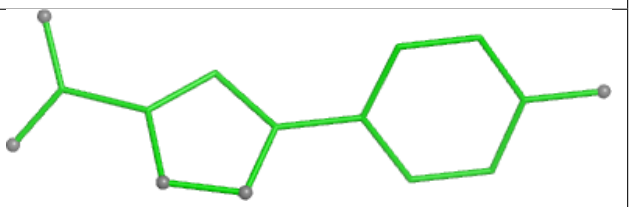

Bond angles

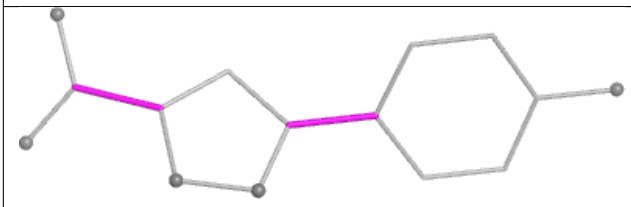

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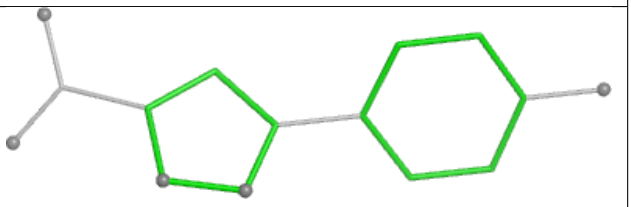

Rings

Ligand A1KDD R 302

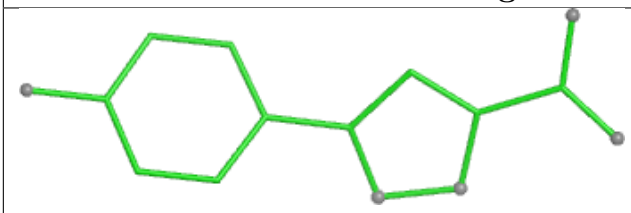

Bond lengths


Bond angles

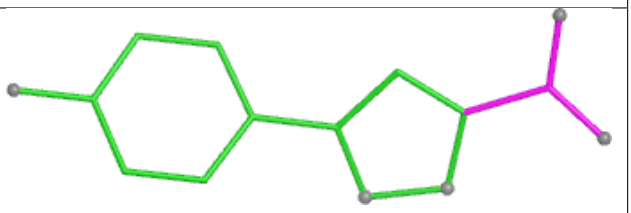

Torsions


Rings

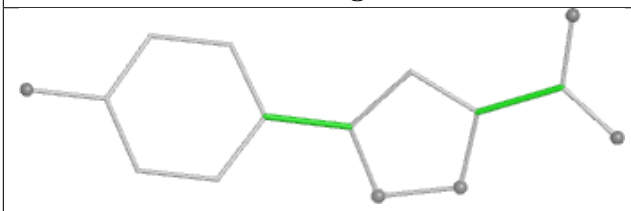
Ligand A1KDD P 301



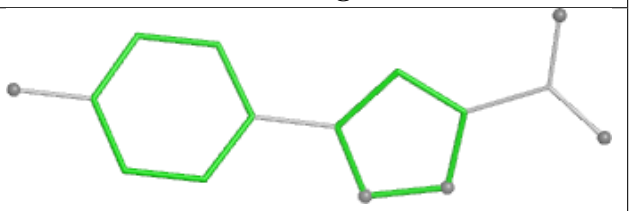
Bond lengths



Bond angles

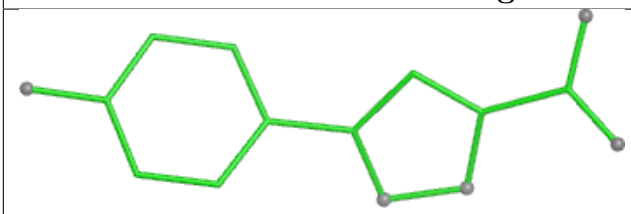


Torsions

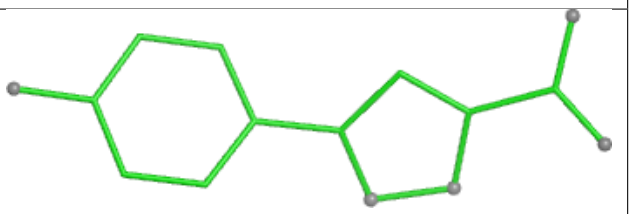


Rings

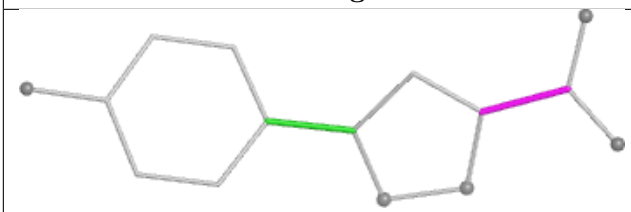
Ligand A1KDD C 302



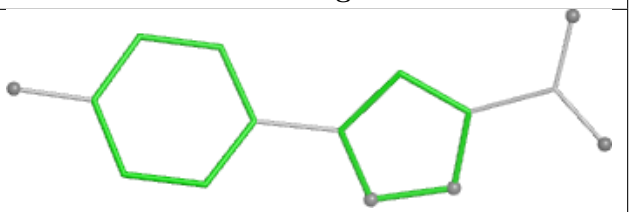
Bond lengths



Bond angles

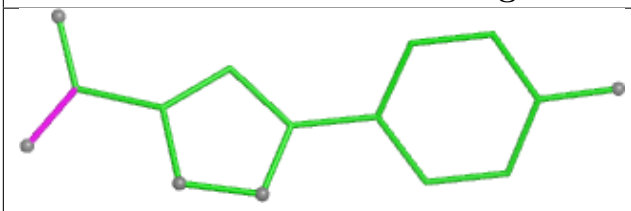


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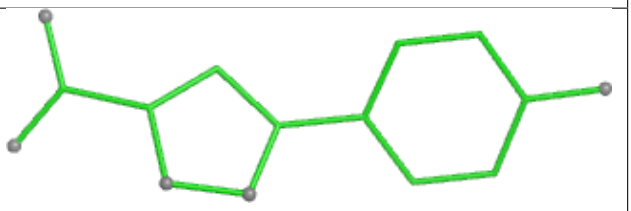


Rings

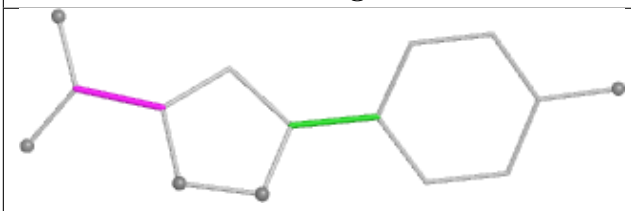
Ligand A1KDD E 302



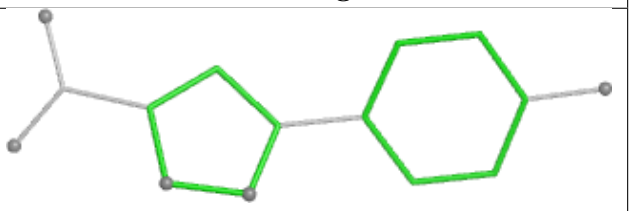
Bond lengths



Bond angles

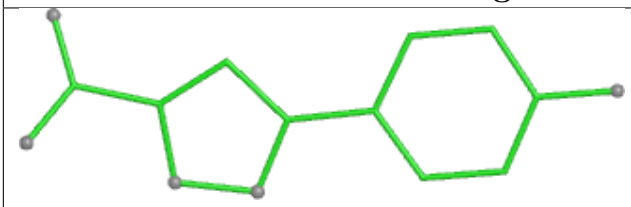


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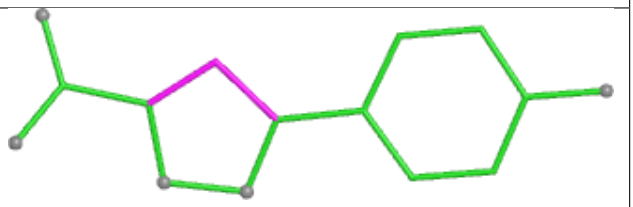


Rings

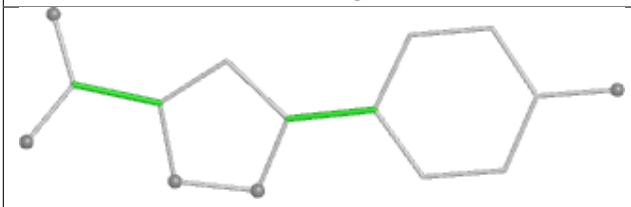
Ligand A1KDD M 302



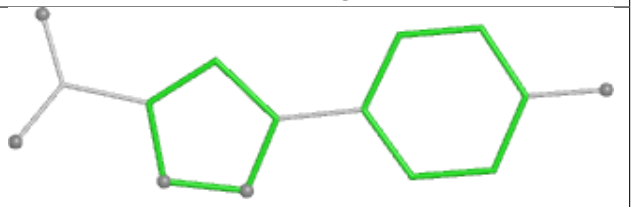
Bond lengths



Bond angles

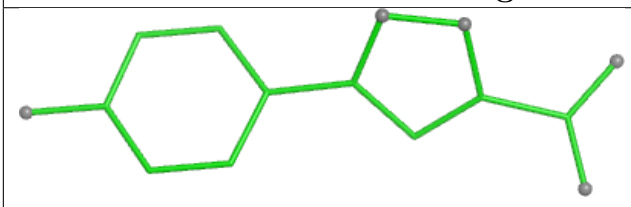


Torsions

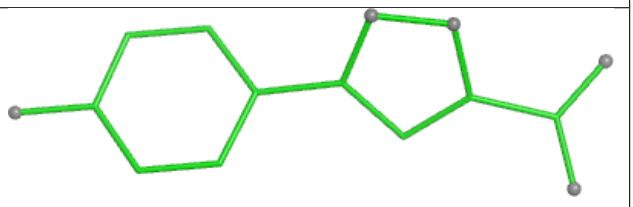


Rings

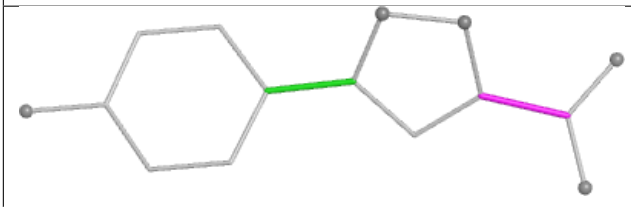
Ligand A1KDD H 302



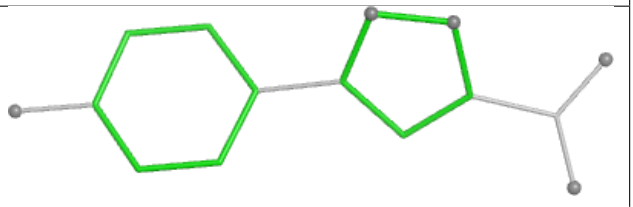
Bond lengths



Bond angles

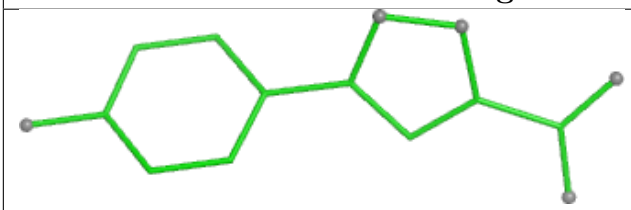


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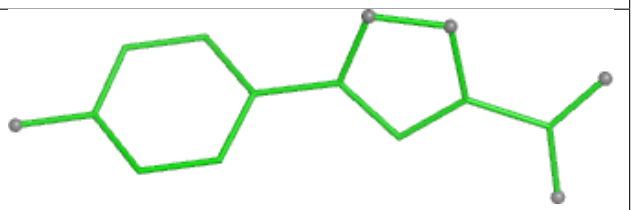


Rings

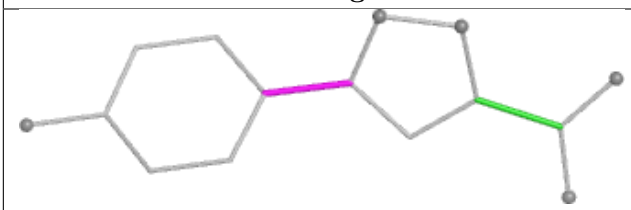
Ligand A1KDD K 302



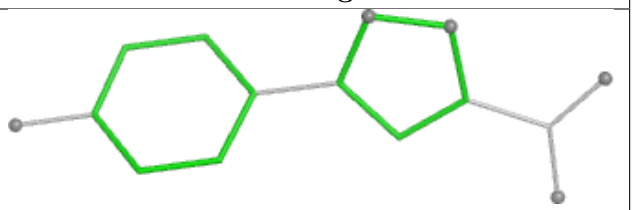
Bond lengths



Bond angles

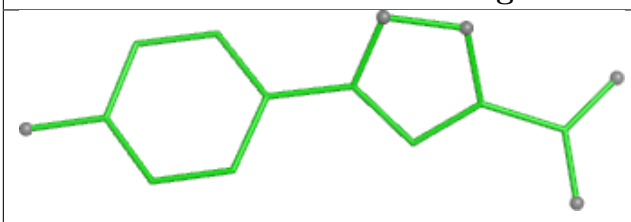


Torsions

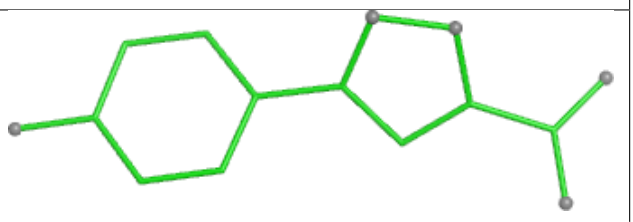


Rings

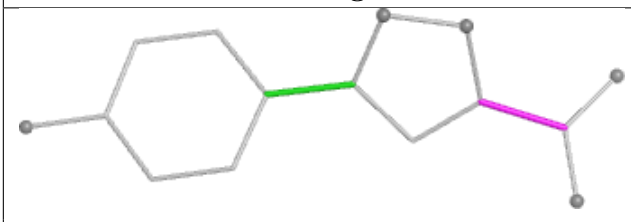
Ligand A1KDD K 301



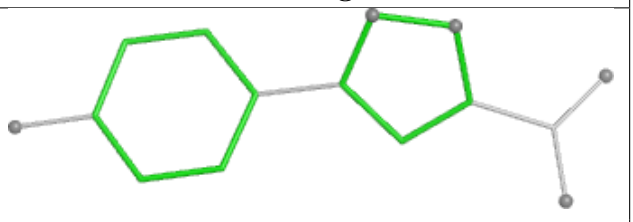
Bond lengths



Bond angles

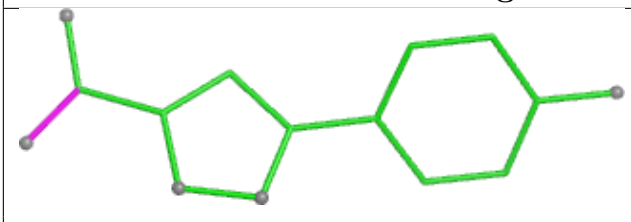


Torsions

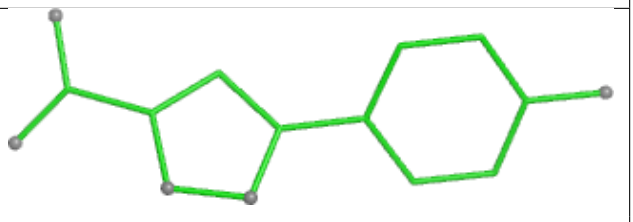


Rings

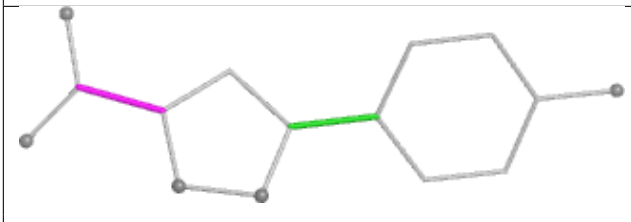
Ligand A1KDD U 301



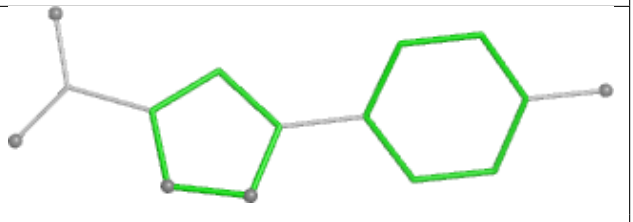
Bond lengths



Bond angles

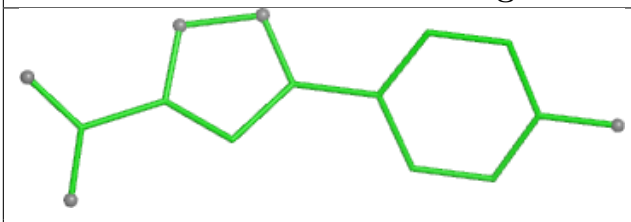


Torsions

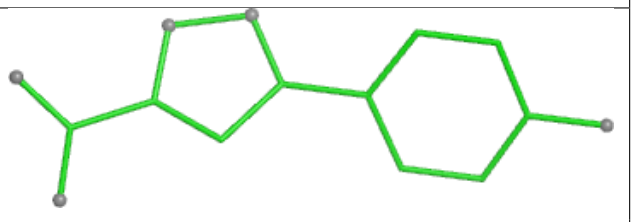


Rings

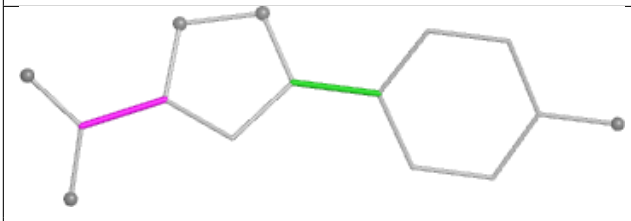
Ligand A1KDD O 301



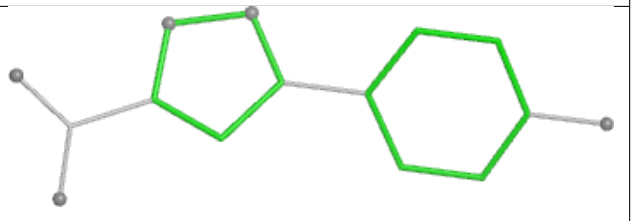
Bond lengths



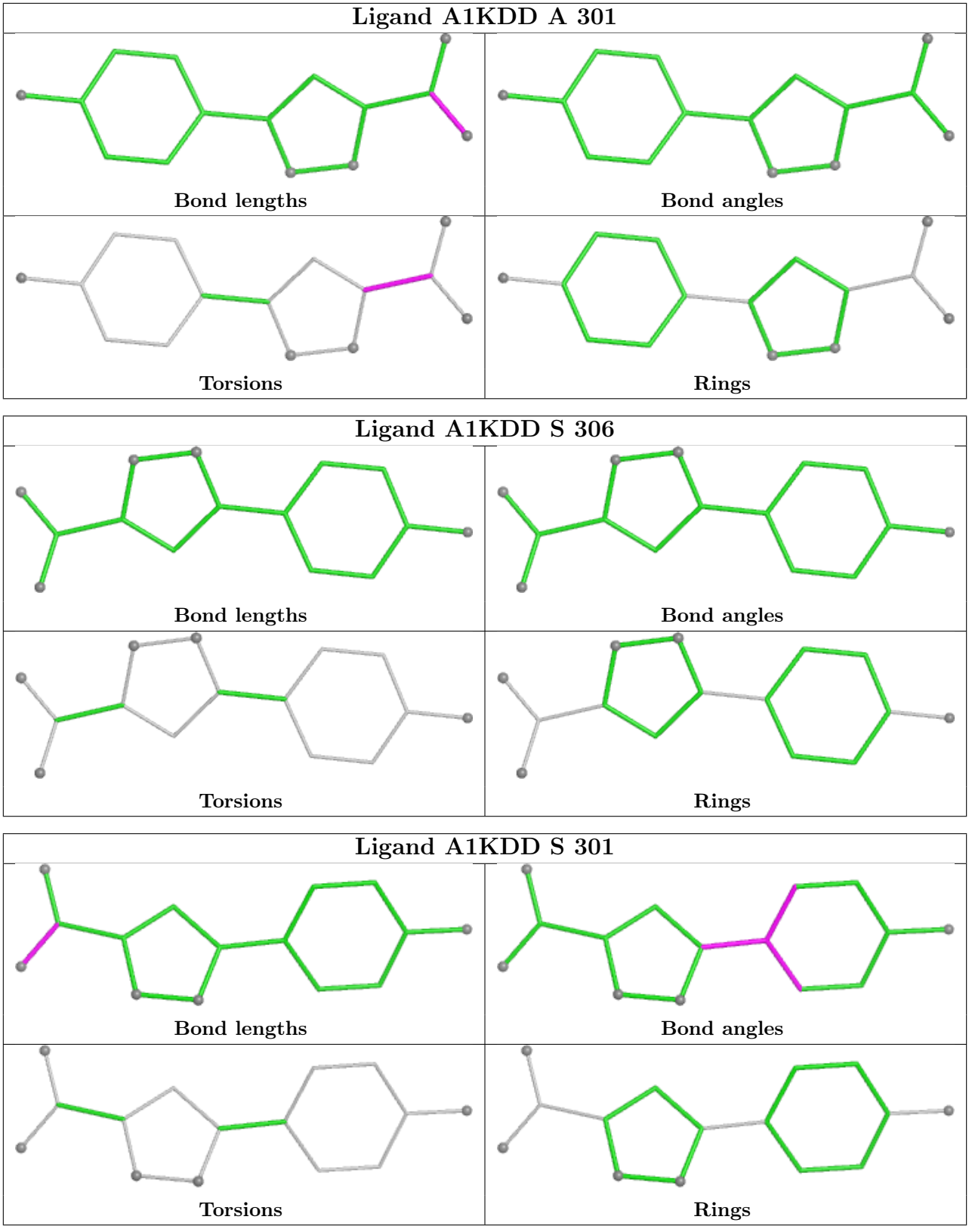
Bond angles



Torsions



Rings



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	186/215 (86%)	0.31	17 (9%)	15	15	16, 42, 116, 133	2 (1%)
1	B	187/215 (86%)	0.23	19 (10%)	12	12	14, 37, 91, 134	2 (1%)
1	C	188/215 (87%)	0.14	13 (6%)	23	24	14, 37, 99, 128	2 (1%)
1	D	188/215 (87%)	0.24	20 (10%)	11	12	15, 36, 108, 140	1 (0%)
1	E	189/215 (87%)	0.22	13 (6%)	23	24	23, 36, 87, 136	0
1	F	187/215 (86%)	0.26	17 (9%)	15	15	23, 38, 85, 119	1 (0%)
1	G	187/215 (86%)	0.36	12 (6%)	25	27	18, 43, 104, 128	2 (1%)
1	H	189/215 (87%)	0.59	24 (12%)	8	8	20, 49, 100, 138	2 (1%)
1	I	187/215 (86%)	0.75	23 (12%)	8	8	34, 57, 140, 159	0
1	J	187/215 (86%)	0.80	25 (13%)	7	7	27, 60, 136, 171	2 (1%)
1	K	187/215 (86%)	0.81	32 (17%)	4	4	20, 55, 130, 158	2 (1%)
1	L	187/215 (86%)	0.18	13 (6%)	22	24	17, 37, 97, 135	2 (1%)
1	M	189/215 (87%)	0.34	16 (8%)	16	17	16, 39, 83, 112	2 (1%)
1	N	187/215 (86%)	0.32	13 (6%)	22	24	16, 40, 103, 140	3 (1%)
1	O	187/215 (86%)	0.28	14 (7%)	20	21	16, 38, 99, 137	2 (1%)
1	P	188/215 (87%)	0.22	19 (10%)	12	13	14, 35, 89, 134	2 (1%)
1	Q	188/215 (87%)	0.22	16 (8%)	16	17	15, 35, 101, 144	2 (1%)
1	R	187/215 (86%)	0.22	10 (5%)	32	34	16, 37, 81, 138	1 (0%)
1	S	188/215 (87%)	0.21	12 (6%)	25	27	26, 40, 100, 134	0
1	T	188/215 (87%)	0.33	17 (9%)	15	16	17, 41, 109, 138	2 (1%)
1	U	188/215 (87%)	0.27	11 (5%)	28	30	19, 38, 96, 132	1 (0%)
1	V	187/215 (86%)	0.22	14 (7%)	20	21	17, 38, 86, 114	1 (0%)
All	All	4126/4730 (87%)	0.34	370 (8%)	15	16	14, 41, 105, 171	34 (0%)

All (370) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	25	CYS	5.6
1	Q	184	LEU	5.5
1	N	184	LEU	5.2
1	G	210	PRO	5.2
1	A	184	LEU	5.0
1	I	24	LEU	4.9
1	U	24	LEU	4.8
1	L	184	LEU	4.8
1	P	184	LEU	4.8
1	G	167	LEU	4.7
1	Q	24	LEU	4.7
1	K	184	LEU	4.7
1	K	167	LEU	4.6
1	S	210	PRO	4.6
1	T	184	LEU	4.6
1	B	167	LEU	4.6
1	T	167	LEU	4.6
1	T	24	LEU	4.5
1	O	167	LEU	4.4
1	P	182	LEU	4.4
1	I	210	PRO	4.4
1	O	184	LEU	4.4
1	S	24	LEU	4.3
1	U	59	GLY	4.3
1	T	210	PRO	4.3
1	V	184	LEU	4.2
1	N	24	LEU	4.2
1	H	24	LEU	4.2
1	J	167	LEU	4.2
1	P	24	LEU	4.2
1	M	24	LEU	4.1
1	Q	25	CYS	4.1
1	H	59	GLY	4.1
1	D	167	LEU	4.1
1	M	184	LEU	4.1
1	N	210	PRO	4.0
1	K	58	GLY	4.0
1	B	175	LEU	4.0
1	F	182	LEU	4.0
1	L	210	PRO	4.0
1	O	58	GLY	4.0
1	G	184	LEU	3.9
1	J	182	LEU	3.9

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Mol	Chain	Res	Type	RSRZ
1	S	184	LEU	3.9
1	A	210	PRO	3.9
1	O	210	PRO	3.9
1	P	167	LEU	3.9
1	C	58	GLY	3.8
1	C	184	LEU	3.8
1	U	210	PRO	3.8
1	P	180	ARG	3.8
1	T	211	ASN	3.8
1	N	182	LEU	3.8
1	E	212	MET	3.8
1	D	25	CYS	3.8
1	F	167	LEU	3.8
1	K	177	LYS	3.8
1	O	209	ARG	3.8
1	V	104	TYR	3.7
1	B	210	PRO	3.7
1	H	210	PRO	3.7
1	E	167	LEU	3.7
1	G	209	ARG	3.7
1	U	166	ILE	3.7
1	R	167	LEU	3.7
1	E	24	LEU	3.6
1	J	184	LEU	3.6
1	U	184	LEU	3.6
1	H	56	MET	3.6
1	K	166	ILE	3.6
1	K	179	PRO	3.6
1	V	167	LEU	3.6
1	I	182	LEU	3.5
1	H	60	GLY	3.5
1	O	104[A]	TYR	3.5
1	K	209	ARG	3.5
1	T	209	ARG	3.5
1	R	180	ARG	3.5
1	I	104	TYR	3.5
1	P	211	ASN	3.5
1	R	210	PRO	3.4
1	H	57	ALA	3.4
1	I	178	LEU	3.4
1	D	212	MET	3.4
1	F	59	GLY	3.4

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Mol	Chain	Res	Type	RSRZ
1	G	182	LEU	3.4
1	E	210	PRO	3.4
1	I	179	PRO	3.4
1	L	167	LEU	3.4
1	Q	182	LEU	3.4
1	K	182	LEU	3.3
1	G	211	ASN	3.3
1	V	210	PRO	3.3
1	M	57	ALA	3.3
1	D	166	ILE	3.3
1	H	167	LEU	3.3
1	M	167	LEU	3.3
1	H	182	LEU	3.2
1	T	58	GLY	3.2
1	J	208	CYS	3.2
1	L	211	ASN	3.2
1	K	180	ARG	3.2
1	C	211	ASN	3.2
1	T	104[A]	TYR	3.1
1	A	206	ASN	3.1
1	B	211	ASN	3.1
1	F	166	ILE	3.1
1	M	58	GLY	3.1
1	I	167	LEU	3.1
1	H	179	PRO	3.1
1	J	156[A]	ARG	3.1
1	O	182	LEU	3.1
1	I	209	ARG	3.0
1	L	56	MET	3.0
1	K	172	LEU	3.0
1	C	59	GLY	3.0
1	K	183	PRO	3.0
1	K	98	LEU	3.0
1	H	166	ILE	3.0
1	C	177	LYS	3.0
1	D	210	PRO	3.0
1	F	104	TYR	3.0
1	K	37	GLN	2.9
1	B	180	ARG	2.9
1	N	181	GLN	2.9
1	V	211	ASN	2.9
1	A	188	LEU	2.9

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Mol	Chain	Res	Type	RSRZ
1	H	178	LEU	2.9
1	V	29	CYS	2.9
1	D	183	PRO	2.9
1	J	210	PRO	2.9
1	O	211	ASN	2.9
1	C	182	LEU	2.9
1	K	29[A]	CYS	2.9
1	I	63	VAL	2.9
1	V	209	ARG	2.9
1	B	179	PRO	2.9
1	R	99	ASN	2.9
1	P	59	GLY	2.9
1	C	212	MET	2.8
1	C	29	CYS	2.8
1	F	29	CYS	2.8
1	A	209	ARG	2.8
1	M	209	ARG	2.8
1	R	211	ASN	2.8
1	I	25	CYS	2.8
1	N	131	GLY	2.8
1	J	171	TYR	2.8
1	K	57	ALA	2.8
1	H	184	LEU	2.8
1	M	182	LEU	2.8
1	N	167	LEU	2.8
1	M	210	PRO	2.8
1	P	183	PRO	2.8
1	A	25	CYS	2.8
1	J	211	ASN	2.7
1	J	199	SER	2.7
1	P	57	ALA	2.7
1	D	178	LEU	2.7
1	U	209	ARG	2.7
1	D	181	GLN	2.7
1	H	211	ASN	2.7
1	Q	210	PRO	2.7
1	U	211	ASN	2.7
1	D	29	CYS	2.7
1	H	58	GLY	2.7
1	V	59	GLY	2.7
1	J	194	GLN	2.7
1	F	184	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
1	C	210	PRO	2.7
1	B	100	ASN	2.7
1	M	176	ASN	2.7
1	G	186	VAL	2.7
1	H	199	SER	2.7
1	P	186	VAL	2.7
1	L	29	CYS	2.7
1	H	190	LYS	2.7
1	B	59	GLY	2.7
1	F	58	GLY	2.7
1	F	181	GLN	2.6
1	B	57	ALA	2.6
1	A	182	LEU	2.6
1	H	212	MET	2.6
1	I	196	LEU	2.6
1	S	167	LEU	2.6
1	A	208	CYS	2.6
1	P	58	GLY	2.6
1	C	181	GLN	2.6
1	D	57	ALA	2.6
1	J	99	ASN	2.6
1	B	177	LYS	2.6
1	J	209	ARG	2.6
1	T	63	VAL	2.6
1	T	25	CYS	2.6
1	E	58	GLY	2.6
1	B	184	LEU	2.6
1	H	188	LEU	2.6
1	J	59	GLY	2.6
1	N	58	GLY	2.6
1	Q	56	MET	2.6
1	I	57	ALA	2.6
1	B	172	LEU	2.6
1	K	175	LEU	2.6
1	U	182	LEU	2.6
1	D	186	VAL	2.5
1	P	166	ILE	2.5
1	H	131	GLY	2.5
1	J	56	MET	2.5
1	K	131	GLY	2.5
1	M	59	GLY	2.5
1	H	209	ARG	2.5

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Mol	Chain	Res	Type	RSRZ
1	E	57	ALA	2.5
1	D	130	GLU	2.5
1	A	186	VAL	2.5
1	S	59	GLY	2.5
1	Q	100	ASN	2.5
1	P	210	PRO	2.5
1	S	181	GLN	2.5
1	K	130	GLU	2.5
1	V	57	ALA	2.5
1	E	182	LEU	2.5
1	J	172	LEU	2.5
1	K	178	LEU	2.5
1	K	188	LEU	2.5
1	B	58	GLY	2.5
1	G	60	GLY	2.5
1	T	131	GLY	2.5
1	V	58	GLY	2.5
1	D	209	ARG	2.5
1	P	209	ARG	2.5
1	G	104	TYR	2.5
1	R	29	CYS	2.5
1	T	29	CYS	2.5
1	T	189	THR	2.5
1	Q	57	ALA	2.5
1	L	182	LEU	2.5
1	O	178	LEU	2.5
1	A	181	GLN	2.4
1	J	137	LEU	2.4
1	F	211	ASN	2.4
1	E	173	ARG	2.4
1	U	57	ALA	2.4
1	R	184	LEU	2.4
1	D	56	MET	2.4
1	K	25	CYS	2.4
1	O	29	CYS	2.4
1	V	25	CYS	2.4
1	E	183	PRO	2.4
1	Q	104[A]	TYR	2.4
1	I	58	GLY	2.4
1	Q	211	ASN	2.4
1	A	166	ILE	2.4
1	M	212	MET	2.4

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Mol	Chain	Res	Type	RSRZ
1	U	156[A]	ARG	2.4
1	Q	205	TYR	2.3
1	B	182	LEU	2.3
1	T	182	LEU	2.3
1	J	101	GLY	2.3
1	J	207	SER	2.3
1	K	52	ILE	2.3
1	J	57	ALA	2.3
1	K	104	TYR	2.3
1	I	99	ASN	2.3
1	D	59	GLY	2.3
1	D	182	LEU	2.3
1	E	59	GLY	2.3
1	F	102	ALA	2.3
1	D	58	GLY	2.3
1	D	184	LEU	2.3
1	I	180	ARG	2.3
1	O	63	VAL	2.3
1	N	183	PRO	2.3
1	V	183	PRO	2.3
1	A	29	CYS	2.3
1	C	180	ARG	2.3
1	E	209	ARG	2.3
1	M	60	GLY	2.3
1	I	175	LEU	2.3
1	R	205	TYR	2.3
1	N	103	PHE	2.2
1	A	156[A]	ARG	2.2
1	B	209	ARG	2.2
1	R	209	ARG	2.2
1	B	29	CYS	2.2
1	L	59	GLY	2.2
1	Q	60	GLY	2.2
1	A	167	LEU	2.2
1	B	178	LEU	2.2
1	S	182	LEU	2.2
1	I	61	GLN	2.2
1	D	211	ASN	2.2
1	A	63	VAL	2.2
1	H	186	VAL	2.2
1	I	183	PRO	2.2
1	J	52	ILE	2.2

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Mol	Chain	Res	Type	RSRZ
1	O	179	PRO	2.2
1	P	100	ASN	2.2
1	T	166	ILE	2.2
1	I	186	VAL	2.2
1	B	168	ASP	2.2
1	N	56	MET	2.2
1	F	60	GLY	2.2
1	I	29	CYS	2.2
1	M	29	CYS	2.2
1	Q	181	GLN	2.2
1	F	173[A]	ARG	2.2
1	L	177	LYS	2.2
1	I	166	ILE	2.2
1	P	60	GLY	2.2
1	K	181	GLN	2.2
1	O	181	GLN	2.2
1	I	98	LEU	2.2
1	J	188	LEU	2.2
1	Q	167	LEU	2.2
1	S	209	ARG	2.2
1	I	205	TYR	2.2
1	N	104	TYR	2.2
1	P	179	PRO	2.1
1	J	131	GLY	2.1
1	B	173	ARG	2.1
1	V	180	ARG	2.1
1	P	29	CYS	2.1
1	F	56	MET	2.1
1	A	183	PRO	2.1
1	L	179	PRO	2.1
1	E	166	ILE	2.1
1	U	173	ARG	2.1
1	F	57	ALA	2.1
1	A	178	LEU	2.1
1	N	132	LEU	2.1
1	S	62	LYS	2.1
1	G	29	CYS	2.1
1	K	56	MET	2.1
1	O	56	MET	2.1
1	K	171	TYR	2.1
1	G	183	PRO	2.1
1	K	210	PRO	2.1

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Mol	Chain	Res	Type	RSRZ
1	M	181	GLN	2.1
1	G	131	GLY	2.1
1	J	166	ILE	2.1
1	Q	166	ILE	2.1
1	T	186	VAL	2.1
1	P	177	LYS	2.1
1	H	136	ALA	2.1
1	J	178	LEU	2.1
1	L	132	LEU	2.1
1	V	182	LEU	2.1
1	K	165	CYS	2.1
1	H	181	GLN	2.1
1	M	180	ARG	2.1
1	S	183	PRO	2.1
1	E	131	GLY	2.1
1	K	60	GLY	2.1
1	L	60	GLY	2.1
1	R	59	GLY	2.1
1	K	41	LYS	2.1
1	C	57	ALA	2.1
1	K	207	SER	2.1
1	K	211	ASN	2.0
1	S	37	GLN	2.0
1	Q	173	ARG	2.0
1	L	183	PRO	2.0
1	S	179	PRO	2.0
1	M	166	ILE	2.0
1	F	34	GLU	2.0
1	H	156[A]	ARG	2.0
1	T	180	ARG	2.0
1	C	183	PRO	2.0
1	J	183	PRO	2.0
1	D	131	GLY	2.0

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

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

6.3 Carbohydrates (i)

There are no oligosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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
3	EDO	J	301	4/4	0.61	0.27	52,57,64,69	0
2	A1KDD	S	306	15/15	0.70	0.18	66,94,106,106	0
2	A1KDD	T	301	15/15	0.72	0.18	47,71,85,86	0
2	A1KDD	F	301	15/15	0.72	0.18	47,74,91,96	0
3	EDO	A	306	4/4	0.76	0.15	66,68,71,78	0
2	A1KDD	L	305	15/15	0.76	0.16	44,77,88,97	0
2	A1KDD	K	302	15/15	0.77	0.17	53,92,107,108	0
2	A1KDD	L	301	15/15	0.77	0.17	45,73,87,92	0
2	A1KDD	H	302	15/15	0.77	0.16	55,86,93,97	0
2	A1KDD	M	302	15/15	0.77	0.18	66,101,113,113	0
3	EDO	S	302	4/4	0.77	0.22	50,57,63,70	0
3	EDO	U	303	4/4	0.77	0.19	42,44,58,59	0
3	EDO	O	304	4/4	0.78	0.21	55,60,61,65	0
3	EDO	U	302	4/4	0.79	0.19	50,55,57,66	0
2	A1KDD	O	302	15/15	0.79	0.18	44,79,114,132	0
2	A1KDD	B	302	15/15	0.80	0.15	43,59,67,76	0
2	A1KDD	S	301	15/15	0.80	0.14	50,63,69,70	0
3	EDO	L	303	4/4	0.81	0.11	62,64,65,69	0
3	EDO	N	302	4/4	0.81	0.17	46,67,68,70	0
3	EDO	C	305	4/4	0.81	0.16	52,61,65,65	0
3	EDO	K	305	4/4	0.82	0.18	57,58,59,65	0
3	EDO	K	304	4/4	0.83	0.20	61,68,70,70	0
3	EDO	R	303	4/4	0.83	0.17	53,60,63,63	0
2	A1KDD	E	302	15/15	0.83	0.14	37,58,69,78	0
2	A1KDD	D	302	15/15	0.83	0.13	41,68,92,100	0
2	A1KDD	R	302	15/15	0.83	0.14	45,70,75,80	0
3	EDO	A	302	4/4	0.84	0.15	57,58,62,66	0
3	EDO	M	304	4/4	0.84	0.19	62,67,68,75	0
2	A1KDD	N	301	15/15	0.84	0.14	46,83,92,104	0
2	A1KDD	U	301	15/15	0.84	0.13	47,64,68,71	0
3	EDO	E	303	4/4	0.85	0.14	47,55,57,64	0
3	EDO	T	304	4/4	0.85	0.12	55,57,59,60	0
3	EDO	C	301	4/4	0.85	0.21	73,73,75,78	0
2	A1KDD	C	302	15/15	0.85	0.13	41,57,63,68	0
3	EDO	Q	305	4/4	0.86	0.17	35,47,50,54	0
3	EDO	M	303	4/4	0.86	0.14	53,53,56,57	0
3	EDO	F	302	4/4	0.86	0.15	49,58,62,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	EDO	S	305	4/4	0.86	0.13	59,65,69,73	0
3	EDO	I	301	4/4	0.86	0.17	50,54,60,61	0
2	A1KDD	K	301	15/15	0.86	0.12	59,74,80,80	0
3	EDO	O	306	4/4	0.86	0.17	42,51,53,55	0
3	EDO	V	303	4/4	0.86	0.15	60,62,67,70	0
4	CL	A	308	1/1	0.86	0.14	78,78,78,78	0
4	CL	R	307	1/1	0.86	0.18	59,59,59,59	0
3	EDO	D	303	4/4	0.87	0.14	61,68,69,70	0
2	A1KDD	O	301	15/15	0.87	0.12	42,65,74,90	0
3	EDO	R	304	4/4	0.87	0.15	59,60,60,60	0
3	EDO	B	303	4/4	0.87	0.14	42,52,53,55	0
3	EDO	G	301	4/4	0.87	0.14	50,53,56,61	0
3	EDO	B	305	4/4	0.87	0.14	50,59,60,64	0
3	EDO	O	303	4/4	0.87	0.15	39,44,49,52	0
2	A1KDD	H	301	15/15	0.87	0.13	49,79,88,88	0
3	EDO	V	301	4/4	0.87	0.16	49,60,61,63	0
2	A1KDD	R	301	15/15	0.87	0.11	37,54,63,64	0
3	EDO	Q	302	4/4	0.87	0.20	66,70,72,72	0
4	CL	C	308	1/1	0.87	0.15	64,64,64,64	0
3	EDO	Q	304	4/4	0.87	0.16	44,53,54,56	0
3	EDO	Q	303	4/4	0.88	0.19	62,62,64,65	0
3	EDO	F	304	4/4	0.88	0.14	49,63,65,70	0
3	EDO	D	301	4/4	0.88	0.15	64,65,66,68	0
3	EDO	H	303	4/4	0.88	0.13	52,60,60,63	0
3	EDO	V	302	4/4	0.88	0.16	42,56,57,61	0
3	EDO	H	304	4/4	0.88	0.19	60,66,67,69	0
3	EDO	R	305	4/4	0.88	0.14	45,53,55,57	0
4	CL	B	309	1/1	0.88	0.15	89,89,89,89	0
3	EDO	M	301	4/4	0.88	0.14	44,58,58,63	0
4	CL	G	303	1/1	0.88	0.17	73,73,73,73	0
3	EDO	A	307	4/4	0.88	0.18	65,67,69,70	0
4	CL	B	308	1/1	0.89	0.15	68,68,68,68	0
3	EDO	B	301	4/4	0.89	0.18	66,68,69,69	0
2	A1KDD	A	301	15/15	0.89	0.10	42,49,55,60	0
3	EDO	A	305	4/4	0.89	0.14	51,55,61,61	0
3	EDO	S	304	4/4	0.89	0.12	44,52,59,62	0
3	EDO	A	303	4/4	0.90	0.13	36,40,45,48	0
3	EDO	F	303	4/4	0.90	0.13	42,48,51,57	0
3	EDO	D	305	4/4	0.90	0.13	48,55,56,57	0
3	EDO	E	301	4/4	0.90	0.15	63,67,69,73	0
2	A1KDD	P	301	15/15	0.90	0.10	37,44,52,56	0
3	EDO	L	302	4/4	0.90	0.13	40,48,52,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	MG	C	306	1/1	0.90	0.13	67,67,67,67	0
5	MG	O	307	1/1	0.90	0.10	61,61,61,61	0
3	EDO	U	305	4/4	0.91	0.17	64,68,69,75	0
4	CL	C	307	1/1	0.91	0.15	78,78,78,78	0
3	EDO	T	303	4/4	0.91	0.16	52,56,58,62	0
3	EDO	C	303	4/4	0.91	0.13	43,57,58,58	0
4	CL	H	305	1/1	0.91	0.16	83,83,83,83	0
3	EDO	E	304	4/4	0.91	0.13	46,51,60,60	0
4	CL	S	307	1/1	0.91	0.15	79,79,79,79	0
3	EDO	J	302	4/4	0.91	0.13	51,52,56,60	0
5	MG	K	306	1/1	0.91	0.14	68,68,68,68	0
3	EDO	U	304	4/4	0.91	0.13	40,48,49,56	0
3	EDO	B	306	4/4	0.92	0.12	47,57,60,66	0
3	EDO	I	302	4/4	0.92	0.13	79,80,83,90	0
5	MG	P	303	1/1	0.92	0.16	63,63,63,63	0
3	EDO	C	304	4/4	0.93	0.11	45,49,50,52	0
3	EDO	O	305	4/4	0.93	0.11	57,59,65,72	0
3	EDO	D	304	4/4	0.93	0.10	40,42,46,52	0
4	CL	T	305	1/1	0.93	0.16	76,76,76,76	0
3	EDO	K	303	4/4	0.93	0.13	49,54,56,59	0
3	EDO	I	304	4/4	0.93	0.12	59,69,69,71	0
3	EDO	R	306	4/4	0.93	0.11	40,48,48,58	0
4	CL	G	304	1/1	0.93	0.16	84,84,84,84	0
4	CL	N	305	1/1	0.94	0.14	77,77,77,77	0
3	EDO	L	304	4/4	0.94	0.11	46,54,57,58	0
3	EDO	M	305	4/4	0.94	0.10	42,47,51,55	0
3	EDO	A	304	4/4	0.94	0.10	39,47,49,51	0
4	CL	V	304	1/1	0.94	0.14	80,80,80,80	0
5	MG	B	307	1/1	0.94	0.22	70,70,70,70	0
3	EDO	T	302	4/4	0.94	0.11	40,48,51,58	0
3	EDO	Q	301	4/4	0.94	0.11	38,47,49,49	0
3	EDO	N	303	4/4	0.94	0.11	40,47,52,60	0
3	EDO	I	303	4/4	0.94	0.11	51,54,59,62	0
3	EDO	G	302	4/4	0.95	0.11	46,50,55,64	0
3	EDO	B	304	4/4	0.95	0.09	37,44,47,53	0
3	EDO	E	305	4/4	0.95	0.09	40,46,47,55	0
4	CL	O	308	1/1	0.95	0.09	76,76,76,76	0
4	CL	Q	306	1/1	0.95	0.17	67,67,67,67	0
4	CL	E	306	1/1	0.95	0.19	75,75,75,75	0
3	EDO	N	304	4/4	0.95	0.12	49,54,57,62	0
4	CL	F	305	1/1	0.96	0.19	71,71,71,71	0
3	EDO	S	303	4/4	0.96	0.08	40,46,49,56	0

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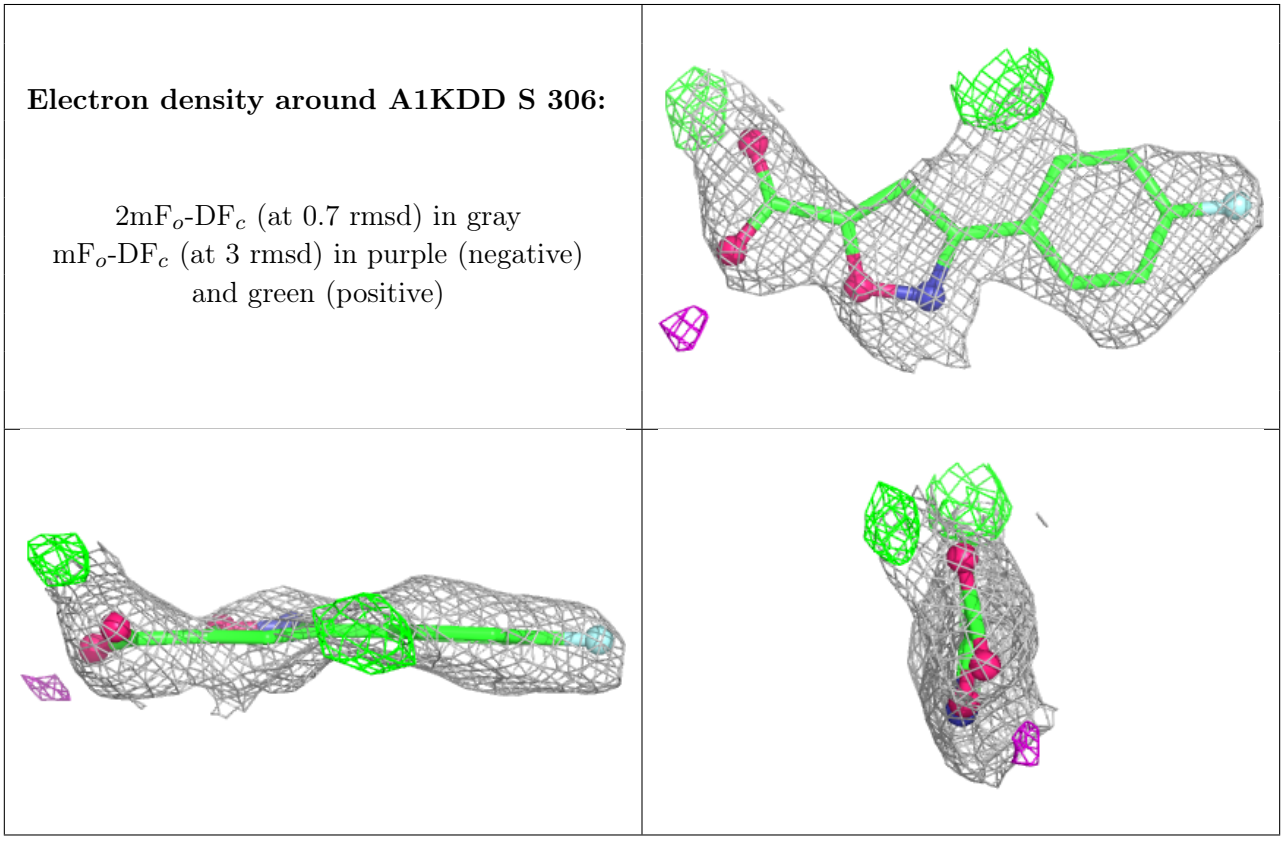
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	CL	L	306	1/1	0.96	0.16	73,73,73,73	0
4	CL	D	306	1/1	0.97	0.13	72,72,72,72	0
4	CL	P	304	1/1	0.97	0.15	72,72,72,72	0
3	EDO	P	302	4/4	0.97	0.09	36,40,45,49	0

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.

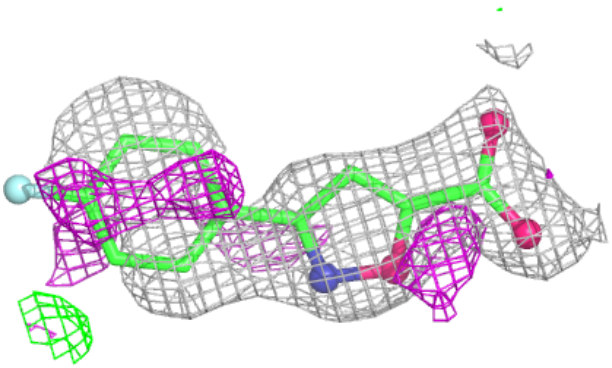
Electron density around A1KDD S 306:

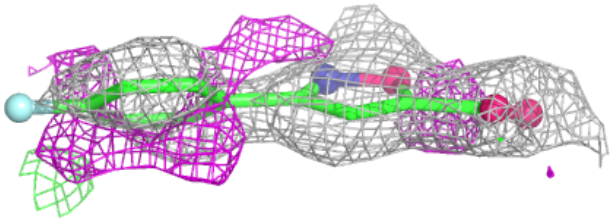
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

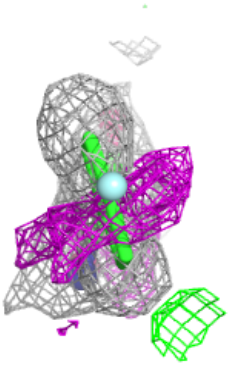


Electron density around A1KDD T 301:

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

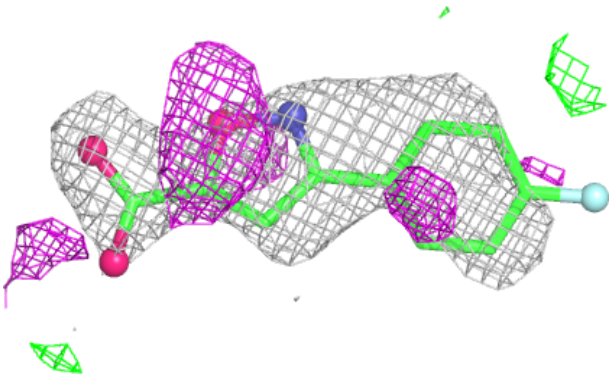


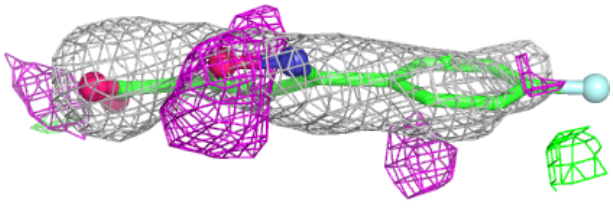


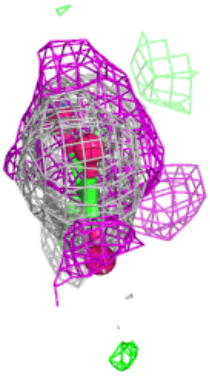


Electron density around A1KDD F 301:

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

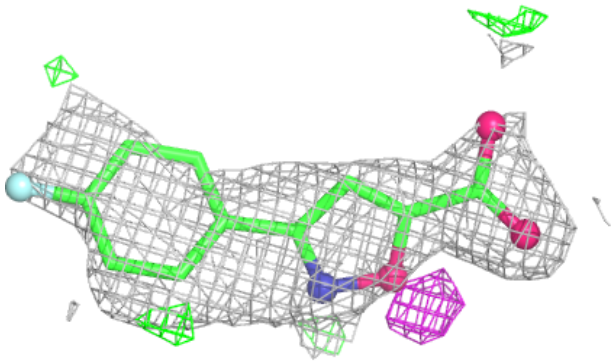


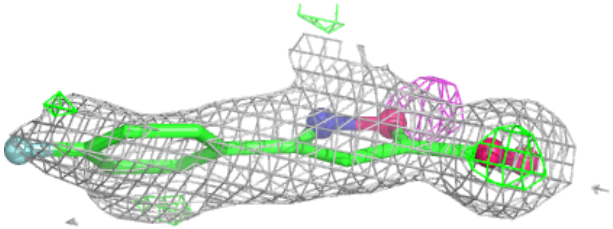


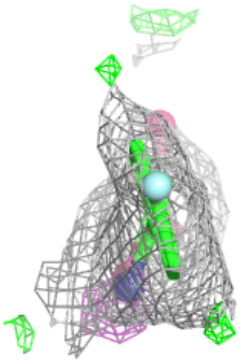


Electron density around A1KDD L 305:

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

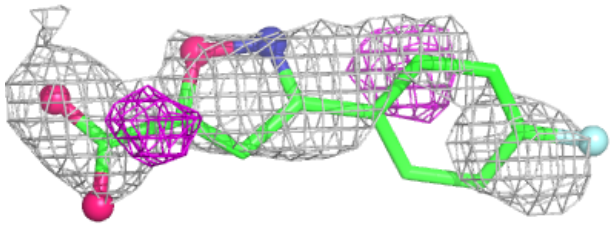


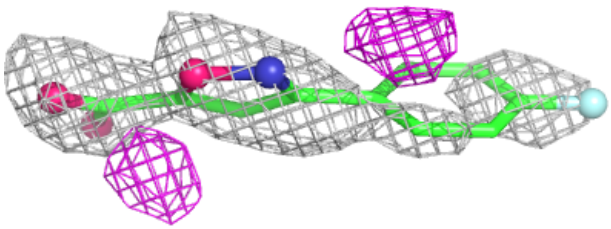


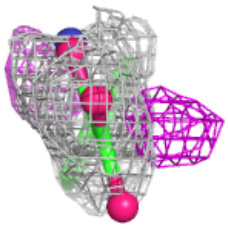


Electron density around A1KDD K 302:

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

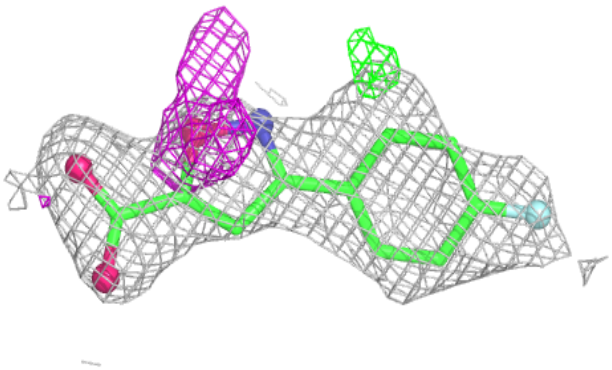


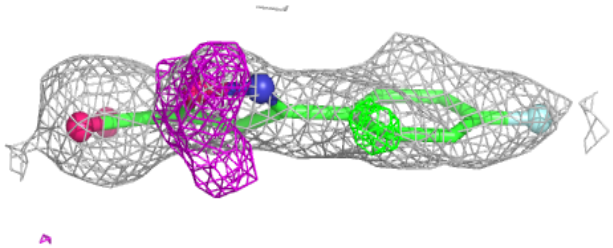


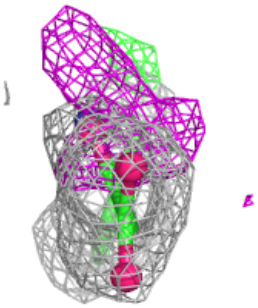


Electron density around A1KDD L 301:

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

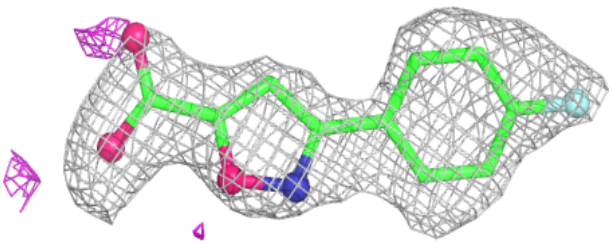


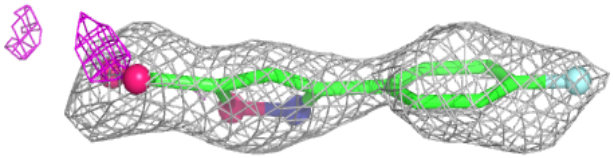


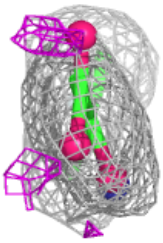


Electron density around A1KDD H 302:

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

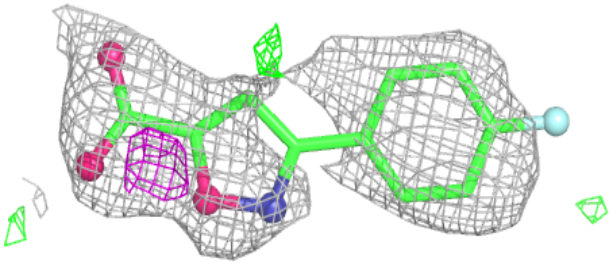


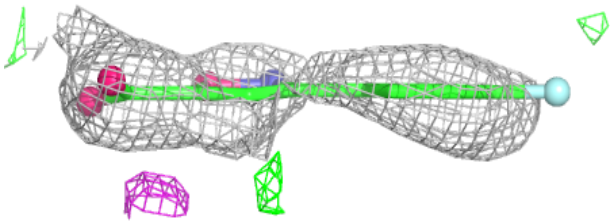


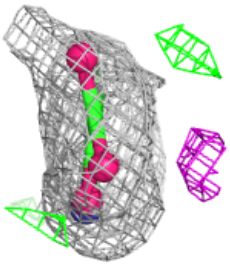


Electron density around A1KDD M 302:

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

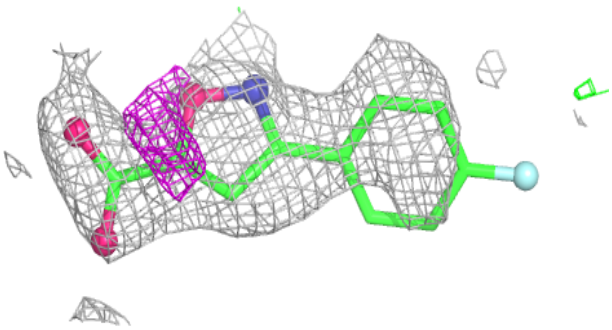


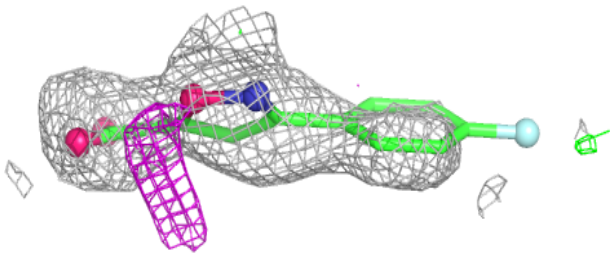


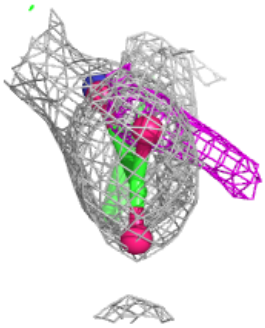


Electron density around A1KDD O 302:

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

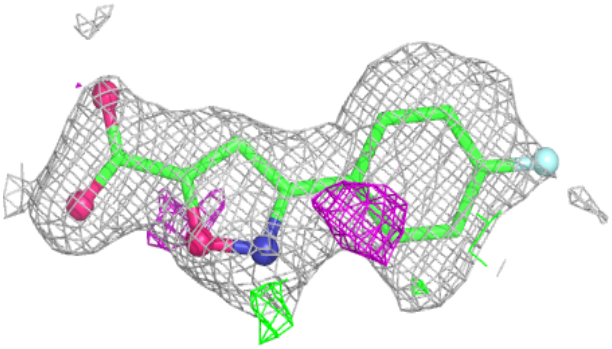


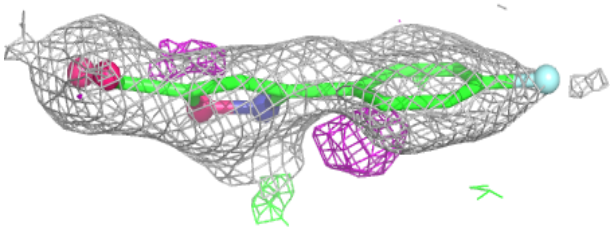


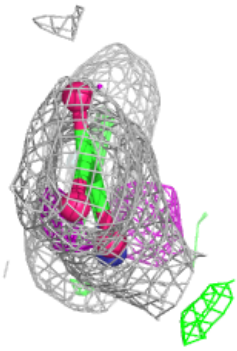


Electron density around A1KDD B 302:

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

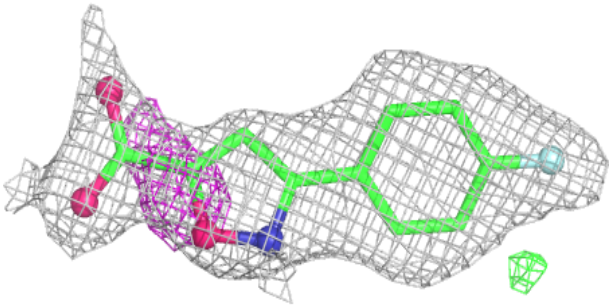


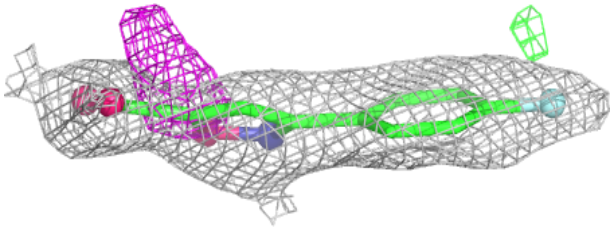


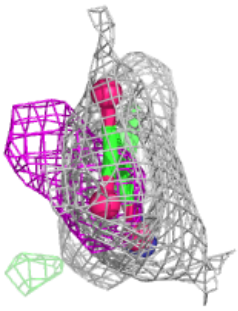


Electron density around A1KDD S 301:

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

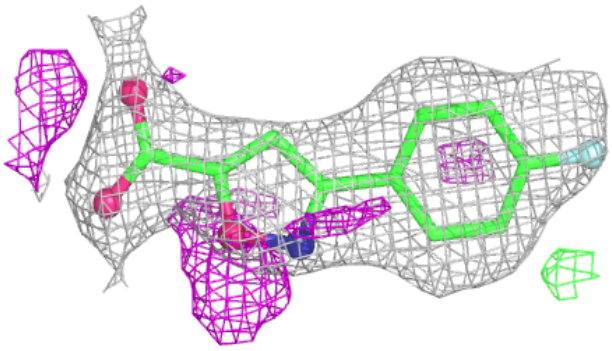


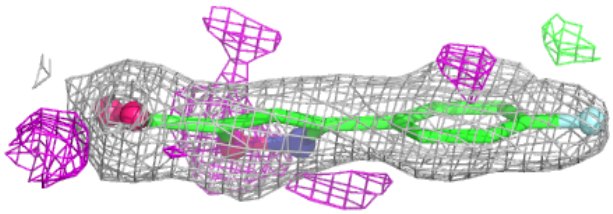


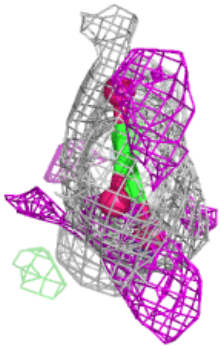


Electron density around A1KDD E 302:

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mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

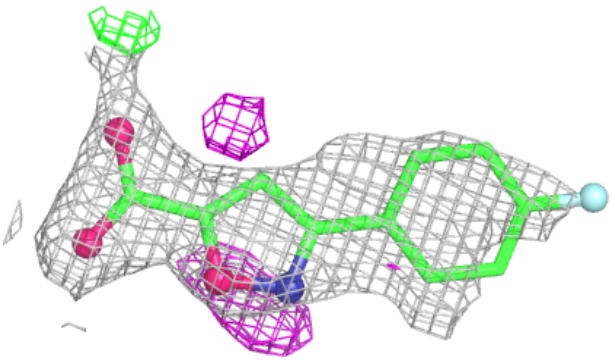


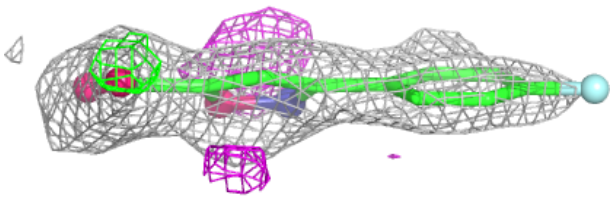


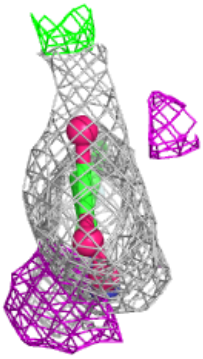


Electron density around A1KDD D 302:

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mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

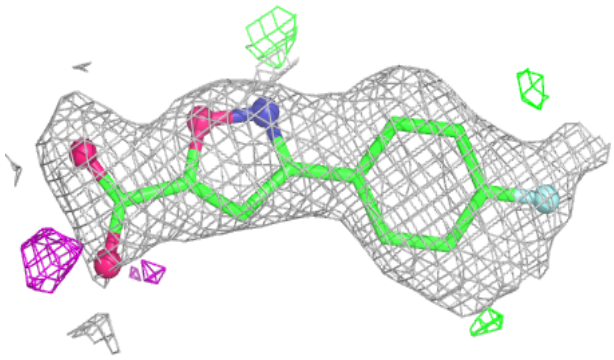


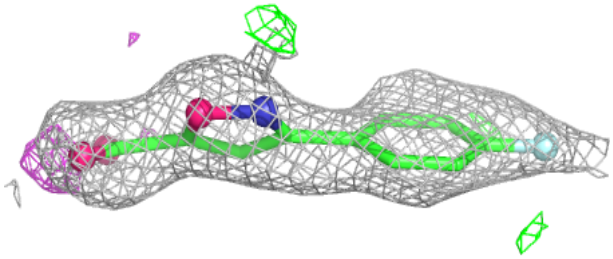


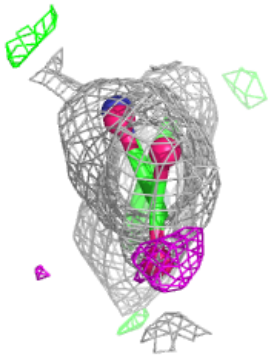


Electron density around A1KDD R 302:

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mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

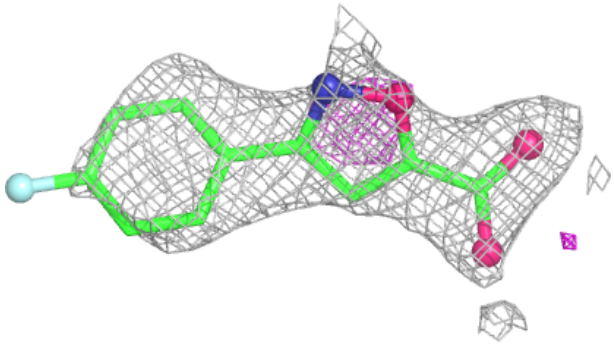


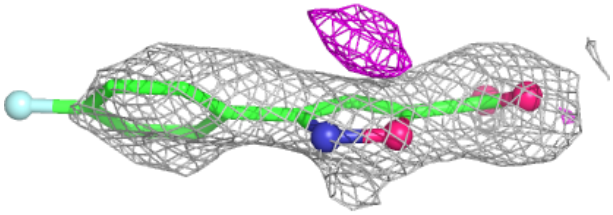


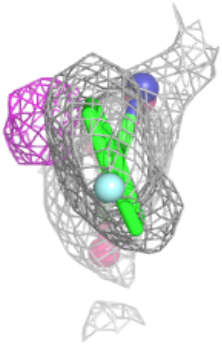


Electron density around A1KDD N 301:

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mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

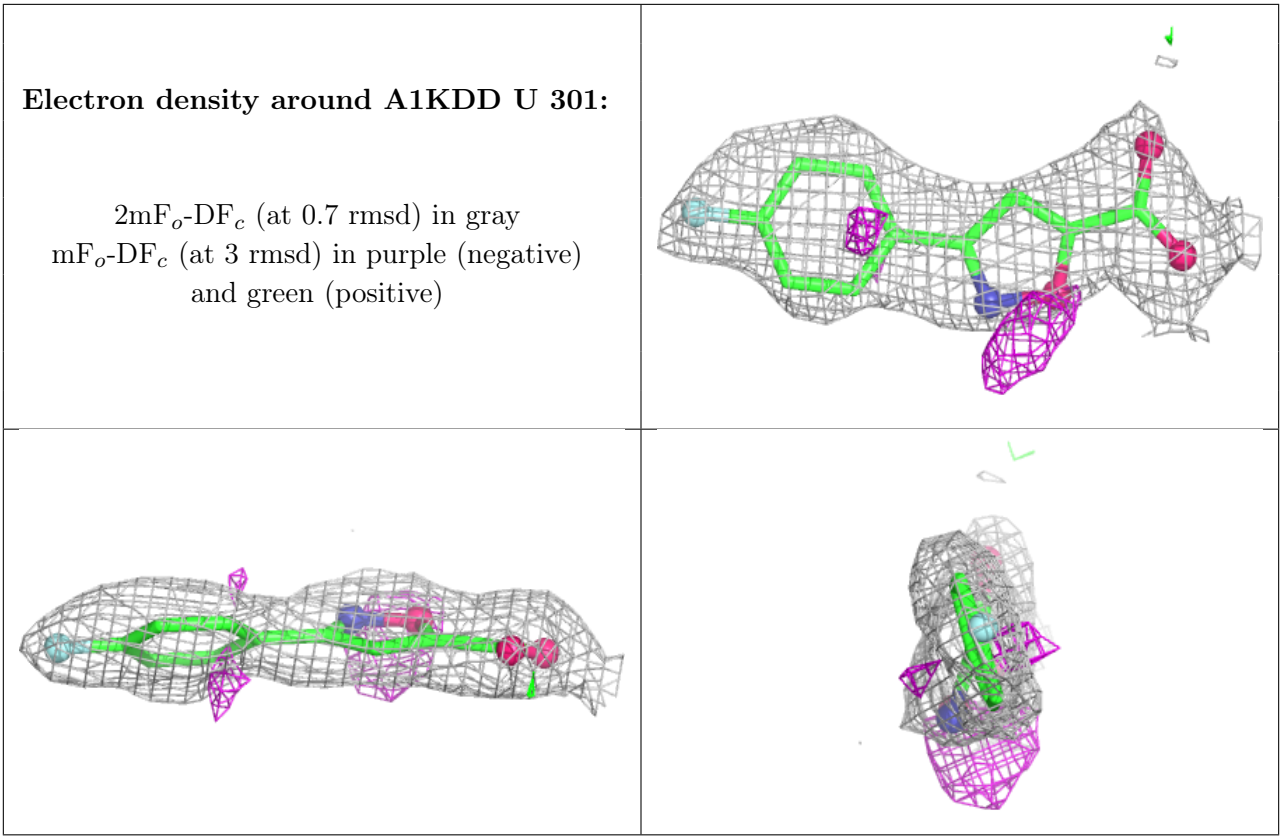






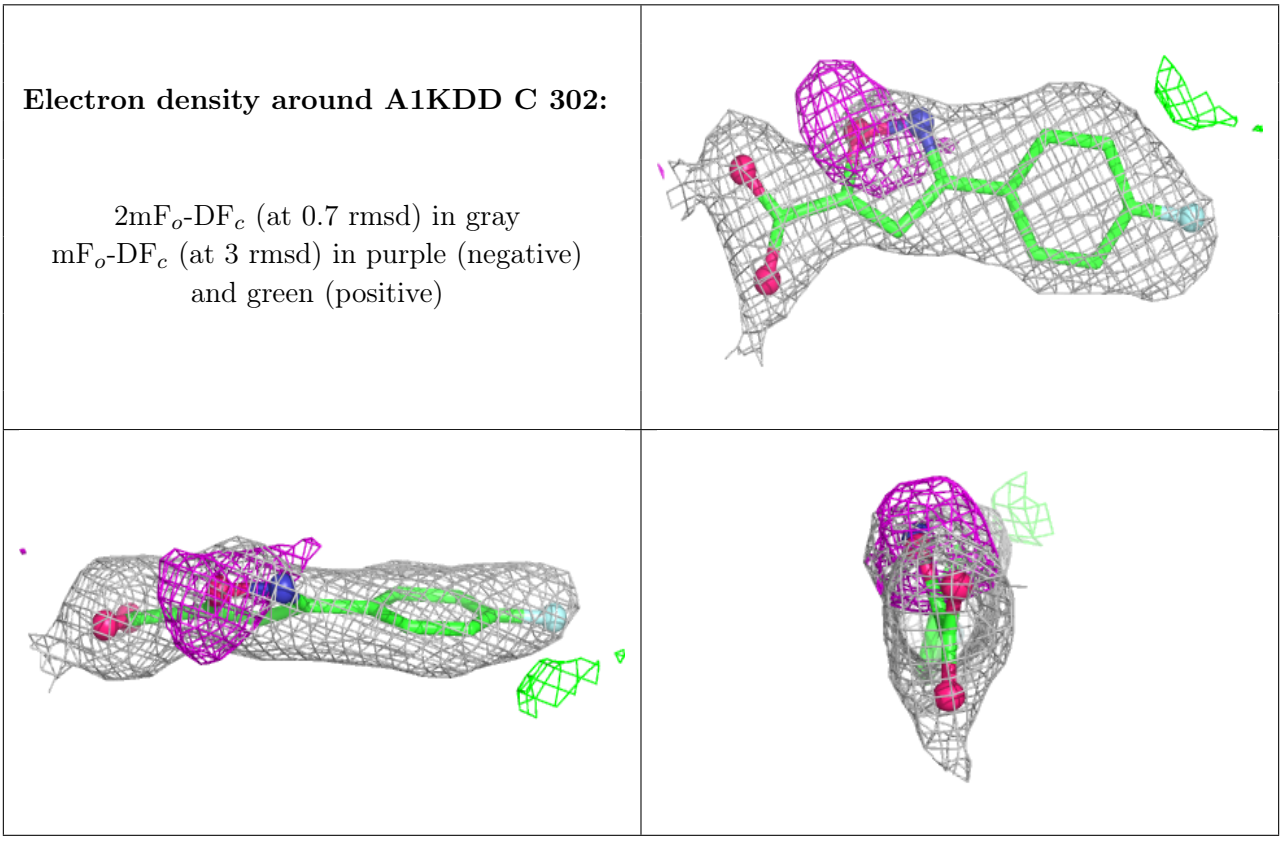
Electron density around A1KDD U 301:

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



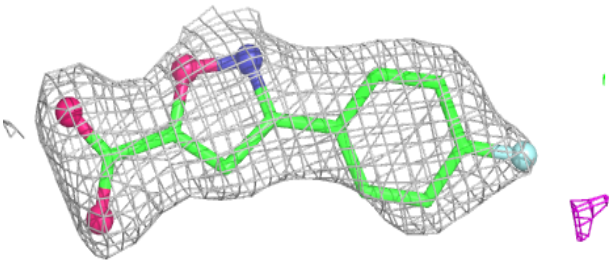
Electron density around A1KDD C 302:

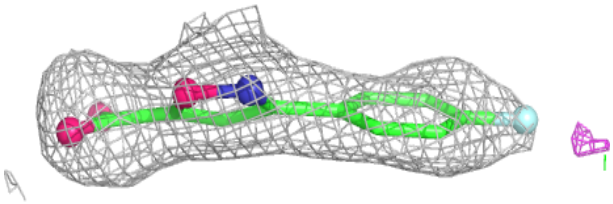
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

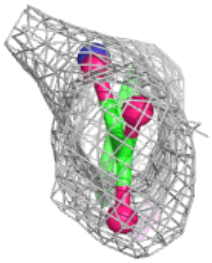


Electron density around A1KDD K 301:

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

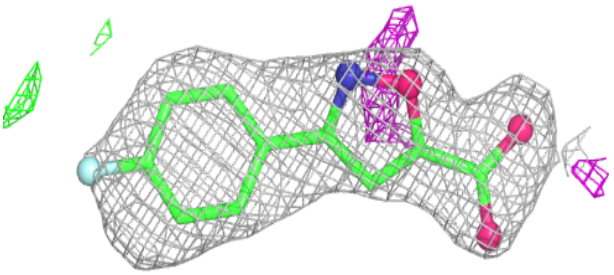


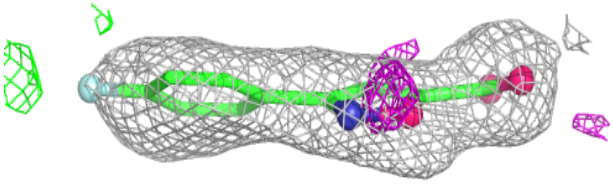


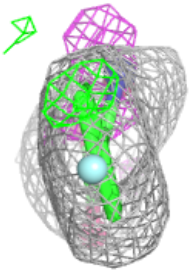


Electron density around A1KDD O 301:

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

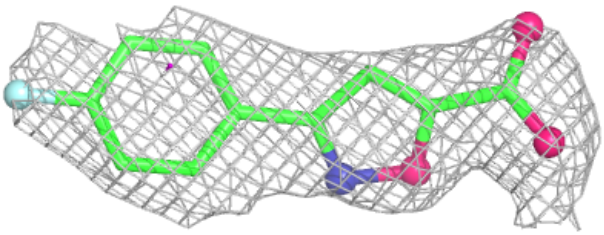


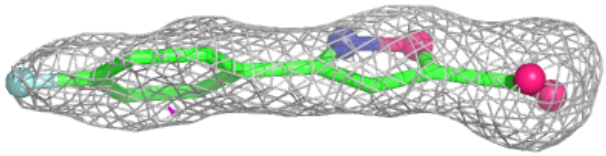


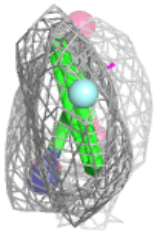


Electron density around A1KDD H 301:

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

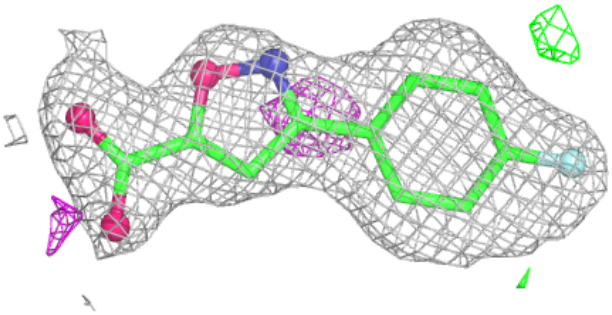


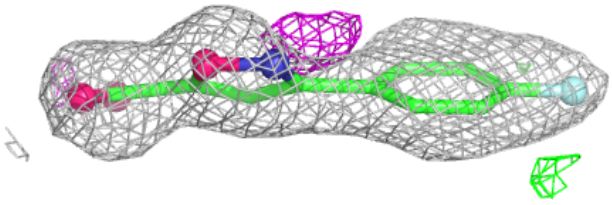


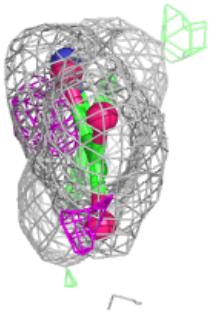


Electron density around A1KDD R 301:

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

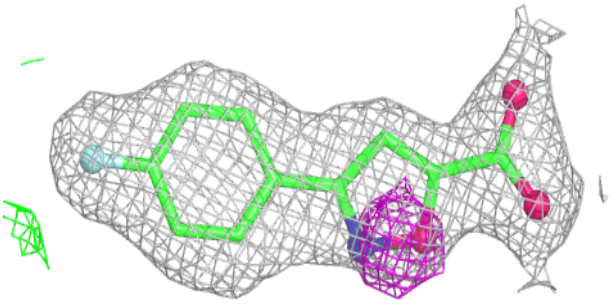


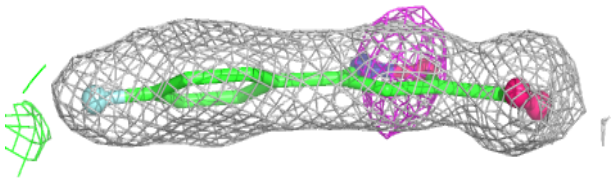


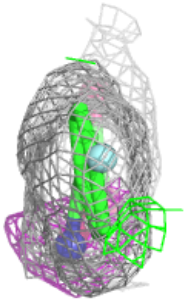


Electron density around A1KDD A 301:

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

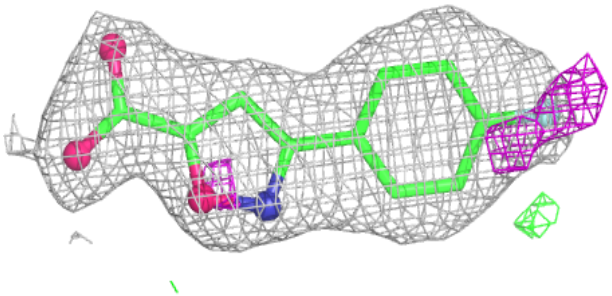


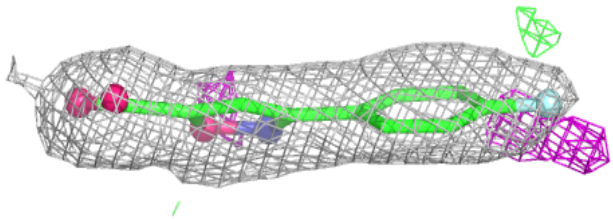


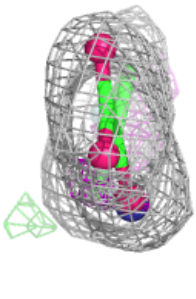


Electron density around A1KDD P 301:

$2mF_o$-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.