Full wwPDB X-ray Structure Validation Report ⓘ

Feb 4, 2025 – 12:13 PM JST

PDB ID	:	9LRJ
Title	:	Glucosyl transferase NbUGT72AY1 co-crystallized with Scopoletin and UDP2Fglucose in the presence of retinol
Authors	:	Arold, S.T.; Hameed, U.F.S.
Deposited on	:	2025-01-31
Resolution	:	3.11 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

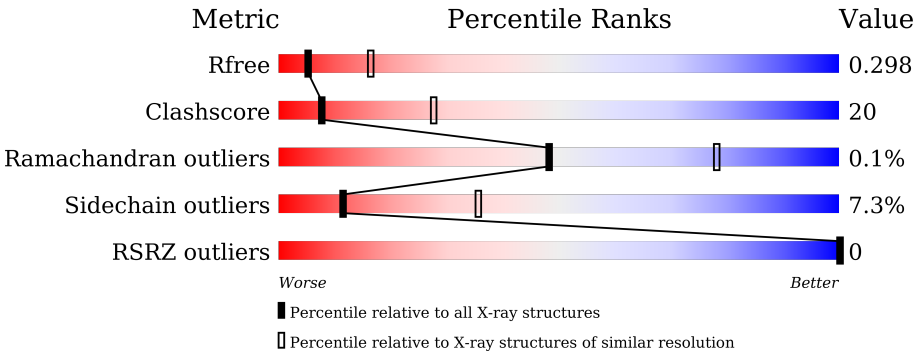
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 3.11 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	1668 (3.14-3.10)
Clashscore	180529	1788 (3.14-3.10)
Ramachandran outliers	177936	1696 (3.14-3.10)
Sidechain outliers	177891	1696 (3.14-3.10)
RSRZ outliers	164620	1668 (3.14-3.10)

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	479	60% 31% · 5%
1	B	479	65% 27% · ·
1	C	479	58% 34% · ·
1	D	479	65% 28% · ·
1	E	479	61% 31% · ·
1	F	479	64% 28% · ·

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Mol	Chain	Length	Quality of chain
1	G	479	52% 37% 7%

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
2	U2F	C	501	-	-	X	-
2	U2F	E	501	-	-	X	-

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 25741 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 Glycosyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	455	Total	C	N	O	S	0	0	0
			3600	2302	605	677	16			
1	B	459	Total	C	N	O	S	0	0	0
			3633	2321	611	685	16			
1	C	460	Total	C	N	O	S	0	0	0
			3640	2325	612	687	16			
1	D	460	Total	C	N	O	S	0	0	0
			3640	2325	612	687	16			
1	E	459	Total	C	N	O	S	0	0	0
			3633	2321	611	685	16			
1	F	459	Total	C	N	O	S	0	0	0
			3633	2321	611	685	16			
1	G	460	Total	C	N	O	S	0	0	0
			3640	2325	612	687	16			

There are 28 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
A	0	PRO	-	expression tag	UNP A0A8K1ZRH3
A	1	LEU	-	expression tag	UNP A0A8K1ZRH3
A	2	GLY	-	expression tag	UNP A0A8K1ZRH3
B	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
B	0	PRO	-	expression tag	UNP A0A8K1ZRH3
B	1	LEU	-	expression tag	UNP A0A8K1ZRH3
B	2	GLY	-	expression tag	UNP A0A8K1ZRH3
C	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
C	0	PRO	-	expression tag	UNP A0A8K1ZRH3
C	1	LEU	-	expression tag	UNP A0A8K1ZRH3
C	2	GLY	-	expression tag	UNP A0A8K1ZRH3
D	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
D	0	PRO	-	expression tag	UNP A0A8K1ZRH3
D	1	LEU	-	expression tag	UNP A0A8K1ZRH3

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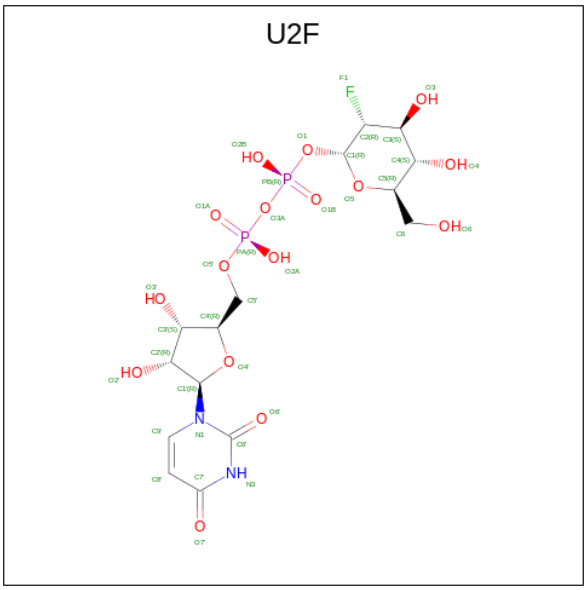
Chain	Residue	Modelled	Actual	Comment	Reference
D	2	GLY	-	expression tag	UNP A0A8K1ZRH3
E	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
E	0	PRO	-	expression tag	UNP A0A8K1ZRH3
E	1	LEU	-	expression tag	UNP A0A8K1ZRH3
E	2	GLY	-	expression tag	UNP A0A8K1ZRH3
F	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
F	0	PRO	-	expression tag	UNP A0A8K1ZRH3
F	1	LEU	-	expression tag	UNP A0A8K1ZRH3
F	2	GLY	-	expression tag	UNP A0A8K1ZRH3
G	-1	GLY	-	expression tag	UNP A0A8K1ZRH3
G	0	PRO	-	expression tag	UNP A0A8K1ZRH3
G	1	LEU	-	expression tag	UNP A0A8K1ZRH3
G	2	GLY	-	expression tag	UNP A0A8K1ZRH3

- Molecule 2 is URIDINE-5'-DIPHOSPHATE-2-DEOXY-2-FLUORO-ALPHA-D-GLUCOSE (three-letter code: U2F) (formula: $C_{15}H_{23}FN_2O_{16}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total	C	F	N	O	P	0	0
			36	15	1	2	16	2		
2	B	1	Total	C	F	N	O	P	0	0
			36	15	1	2	16	2		
2	C	1	Total	C	F	N	O	P	0	0
			36	15	1	2	16	2		
2	D	1	Total	C	F	N	O	P	0	0
			36	15	1	2	16	2		

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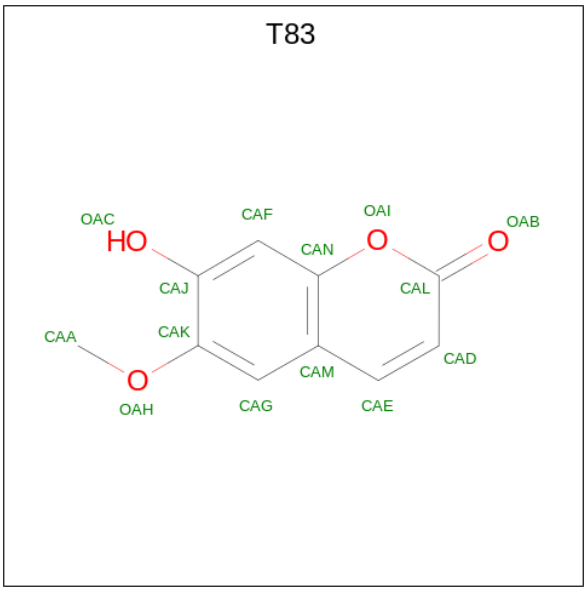
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	E	1	Total C F N O P 36 15 1 2 16 2	0	0
2	F	1	Total C F N O P 36 15 1 2 16 2	0	0
2	G	1	Total C F N O P 36 15 1 2 16 2	0	0

- Molecule 3 is 7-hydroxy-6-methoxy-2H-1-benzopyran-2-one (three-letter code: T83) (formula: $C_{10}H_8O_4$) (labeled as "Ligand of Interest" by depositor).



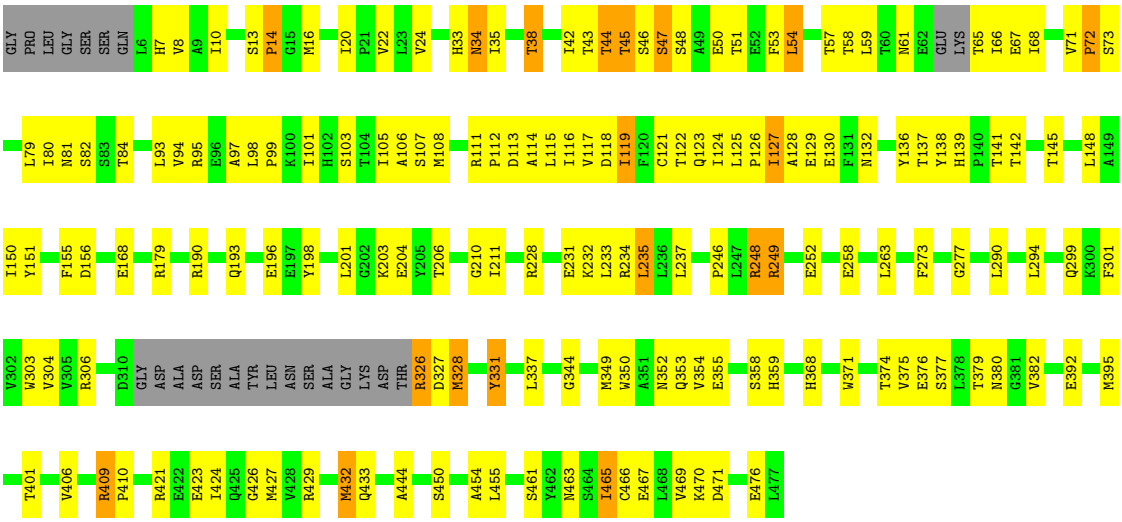
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O 14 10 4	0	0
3	B	1	Total C O 14 10 4	0	0
3	C	1	Total C O 14 10 4	0	0
3	D	1	Total C O 14 10 4	0	0
3	F	1	Total C O 14 10 4	0	0

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.

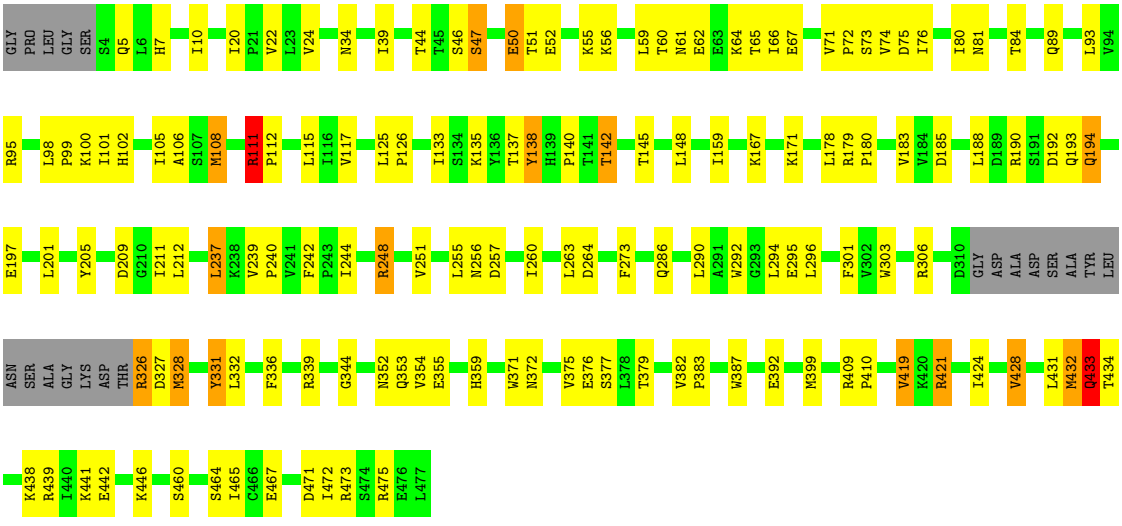
- Molecule 1: Glycosyltransferase

Chain A:



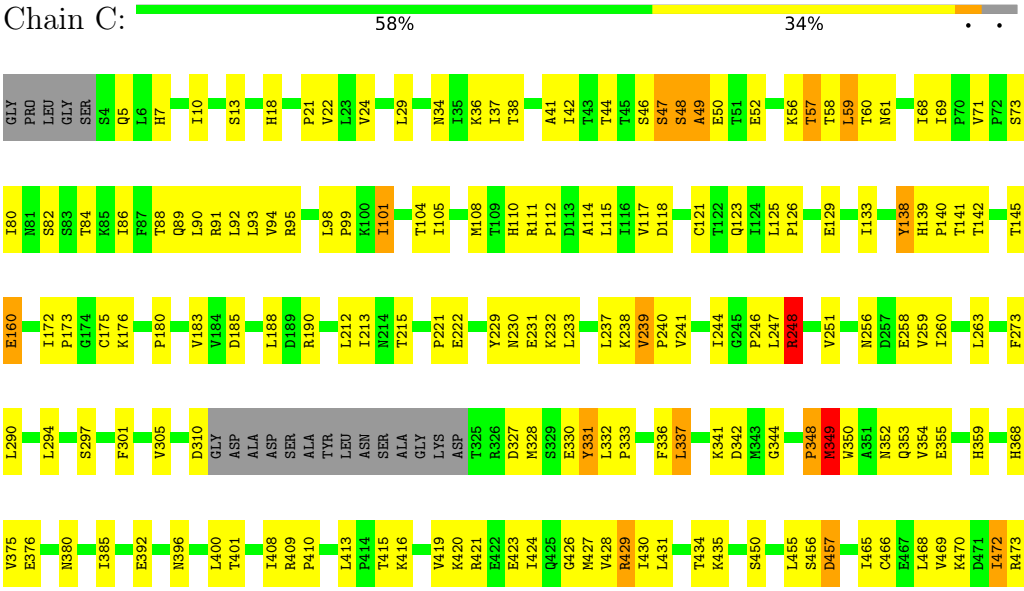
- Molecule 1: Glycosyltransferase

Chain B:



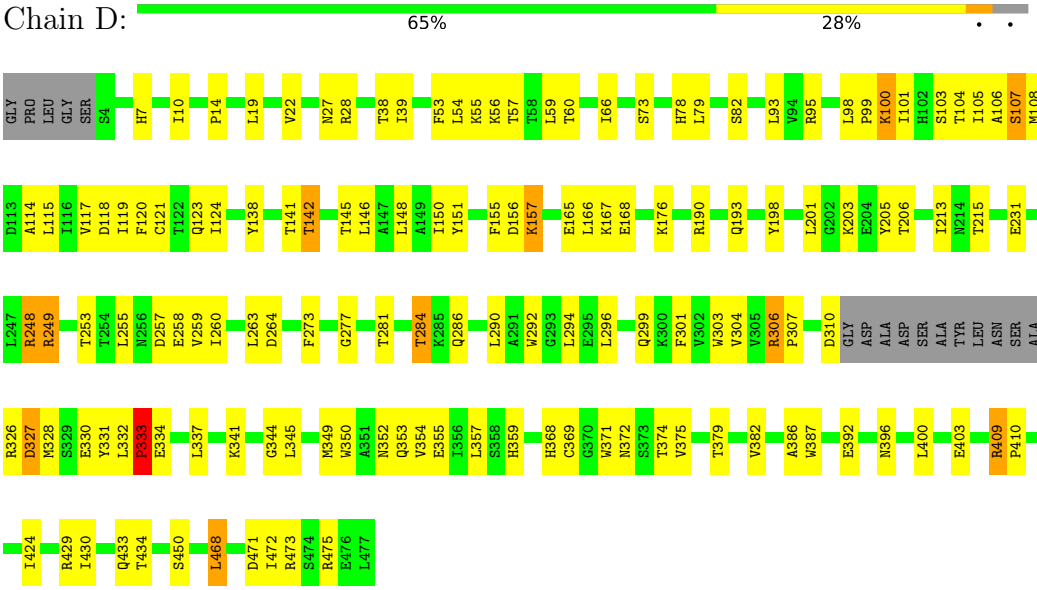
• Molecule 1: Glycosyltransferase

Chain C:



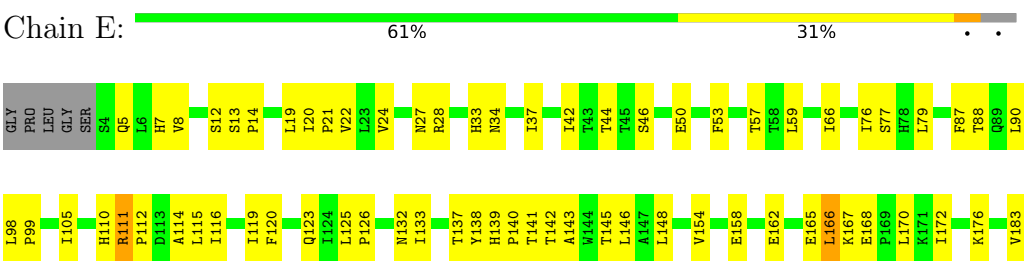
• Molecule 1: Glycosyltransferase

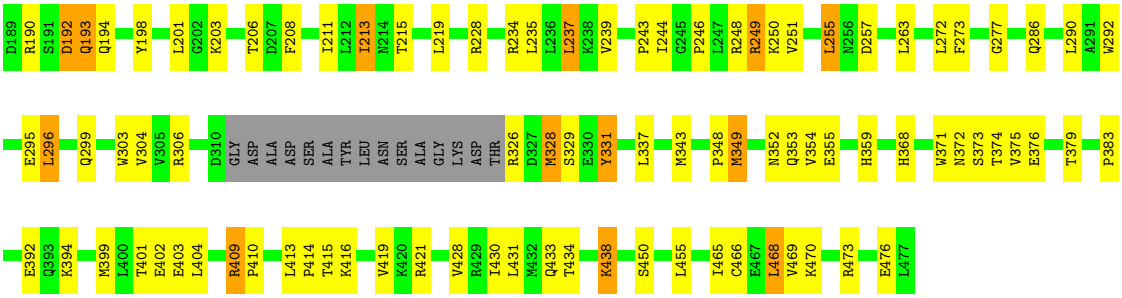
Chain D:



• Molecule 1: Glycosyltransferase

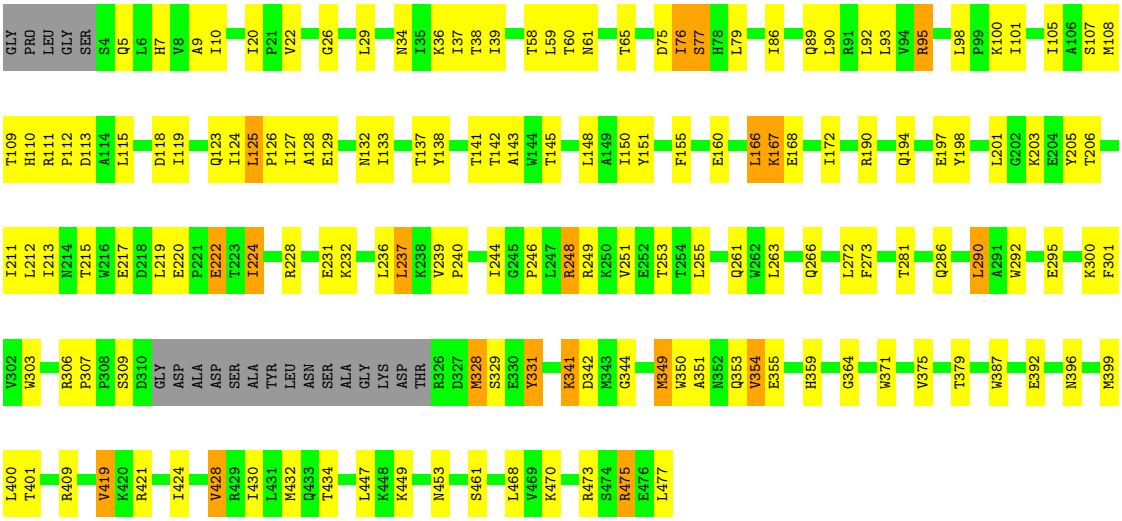
Chain E:





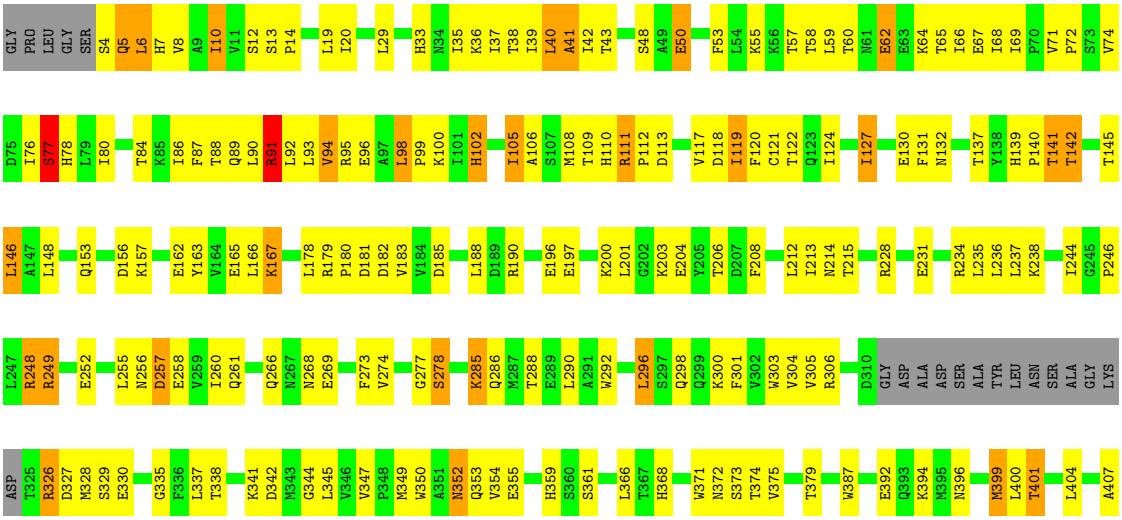
• Molecule 1: Glycosyltransferase

Chain F:



• Molecule 1: Glycosyltransferase

Chain G:




V412
K417
L418
V419
K420
R421
E422
E423
I424
Q425
G426
M427
V428
Q433
S450
S460
M463
S464
I465
C466
V469
K470
R473
S474
R475
E476
L477

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	87.72Å 171.78Å 153.38Å 90.00° 93.35° 90.00°	Depositor
Resolution (Å)	48.89 – 3.11 48.89 – 3.11	Depositor EDS
% Data completeness (in resolution range)	68.8 (48.89-3.11) 58.2 (48.89-3.11)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.55 (at 3.12Å)	Xtriage
Refinement program	REFMAC Refmac5	Depositor
R, R_{free}	0.268 , 0.312 0.264 , 0.298	Depositor DCC
R_{free} test set	2878 reflections (5.13%)	wwPDB-VP
Wilson B-factor (Å^2)	58.5	Xtriage
Anisotropy	0.308	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 73.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.41$, $< L^2 > = 0.24$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	25741	wwPDB-VP
Average B, all atoms (Å^2)	34.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.94% 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: U2F, T83

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	0.44	0/3670	0.75	5/4978 (0.1%)
1	B	0.43	0/3704	0.85	16/5024 (0.3%)
1	C	0.46	1/3711 (0.0%)	0.85	10/5034 (0.2%)
1	D	0.43	0/3711	0.78	6/5034 (0.1%)
1	E	0.45	0/3704	0.75	6/5024 (0.1%)
1	F	0.44	0/3704	0.76	6/5024 (0.1%)
1	G	0.50	0/3711	0.96	24/5034 (0.5%)
All	All	0.45	1/25915 (0.0%)	0.82	73/35152 (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	9
1	B	0	8
1	C	0	6
1	D	0	8
1	E	0	10
1	F	0	7
1	G	0	9
All	All	0	57

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	231	GLU	C-O	-7.08	1.09	1.23

All (73) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	G	59	LEU	CB-CA-C	-19.66	72.85	110.20
1	C	57	THR	CB-CA-C	14.99	152.07	111.60
1	G	278	SER	CB-CA-C	14.54	137.74	110.10
1	C	348	PRO	N-CA-C	14.48	149.75	112.10
1	G	41	ALA	N-CA-CB	-13.55	91.13	110.10
1	B	328	MET	CB-CA-C	-13.49	83.43	110.40
1	E	192	ASP	CB-CA-C	-12.60	85.19	110.40
1	B	328	MET	N-CA-C	12.59	144.98	111.00
1	D	334	GLU	N-CA-C	12.25	144.08	111.00
1	C	57	THR	N-CA-C	-11.27	80.56	111.00
1	E	192	ASP	N-CA-C	11.26	141.39	111.00
1	A	47	SER	N-CA-CB	-11.11	93.84	110.50
1	B	46	SER	CB-CA-C	10.90	130.81	110.10
1	B	433	GLN	CB-CA-C	10.81	132.02	110.40
1	D	334	GLU	N-CA-CB	-10.64	91.45	110.60
1	F	76	ILE	CB-CA-C	-10.37	90.87	111.60
1	C	49	ALA	N-CA-CB	-10.14	95.90	110.10
1	B	50	GLU	CB-CA-C	-9.48	91.44	110.40
1	E	193	GLN	N-CA-CB	8.96	126.73	110.60
1	G	60	THR	N-CA-C	-8.95	86.83	111.00
1	G	476	GLU	CB-CA-C	8.94	128.28	110.40
1	C	349	MET	N-CA-CB	-8.91	94.57	110.60
1	C	58	THR	N-CA-C	-8.90	86.98	111.00
1	D	333	PRO	N-CA-C	-8.86	89.07	112.10
1	B	434	THR	N-CA-CB	-8.84	93.50	110.30
1	B	67	GLU	N-CA-CB	8.81	126.47	110.60
1	E	46	SER	N-CA-CB	-8.55	97.67	110.50
1	B	47	SER	N-CA-CB	-8.35	97.97	110.50
1	B	47	SER	N-CA-C	8.26	133.29	111.00
1	G	66	ILE	N-CA-CB	-8.19	91.97	110.80
1	B	67	GLU	N-CA-C	-8.01	89.37	111.00
1	F	77	SER	N-CA-C	-7.81	89.91	111.00
1	G	41	ALA	CB-CA-C	-7.78	98.44	110.10
1	G	163	TYR	CB-CA-C	-7.65	95.09	110.40
1	A	252	GLU	N-CA-C	-7.61	90.46	111.00
1	G	215	THR	N-CA-CB	7.40	124.35	110.30
1	B	434	THR	N-CA-C	7.38	130.92	111.00
1	G	475	ARG	N-CA-C	-7.28	91.35	111.00
1	E	257	ASP	N-CA-CB	7.23	123.62	110.60
1	F	76	ILE	N-CA-C	-7.15	91.69	111.00
1	B	66	ILE	N-CA-C	-7.15	91.70	111.00
1	B	51	THR	N-CA-C	-7.04	91.98	111.00
1	G	40	LEU	N-CA-CB	7.03	124.45	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	61	ASN	N-CA-C	6.99	129.88	111.00
1	A	34	ASN	CB-CA-C	-6.76	96.88	110.40
1	G	427	MET	CG-SD-CE	-6.65	89.56	100.20
1	F	61	ASN	N-CA-CB	-6.54	98.82	110.60
1	C	48	SER	CB-CA-C	6.46	122.38	110.10
1	A	350	TRP	N-CA-CB	-6.42	99.05	110.60
1	C	60	THR	N-CA-C	-6.34	93.89	111.00
1	F	128	ALA	N-CA-C	6.30	128.01	111.00
1	G	257	ASP	N-CA-C	-6.29	94.02	111.00
1	G	350	TRP	N-CA-CB	-6.17	99.49	110.60
1	D	255	LEU	N-CA-C	6.17	127.67	111.00
1	G	91	ARG	CA-CB-CG	-5.97	100.27	113.40
1	B	50	GLU	N-CA-CB	5.96	121.32	110.60
1	G	476	GLU	N-CA-C	-5.81	95.31	111.00
1	E	257	ASP	N-CA-C	-5.67	95.69	111.00
1	G	215	THR	N-CA-C	-5.62	95.82	111.00
1	G	305	VAL	CA-CB-CG1	5.55	119.22	110.90
1	G	214	ASN	N-CA-C	-5.52	96.09	111.00
1	D	60	THR	CA-CB-OG1	-5.52	97.41	109.00
1	G	477	LEU	N-CA-CB	5.49	121.38	110.40
1	B	256	ASN	N-CA-C	-5.48	96.20	111.00
1	G	102	HIS	CB-CA-C	5.32	121.03	110.40
1	G	102	HIS	CA-CB-CG	5.30	122.62	113.60
1	A	350	TRP	N-CA-C	5.29	125.29	111.00
1	C	256	ASN	N-CA-CB	5.27	120.08	110.60
1	G	66	ILE	N-CA-C	5.26	125.20	111.00
1	D	350	TRP	N-CA-CB	-5.16	101.32	110.60
1	B	51	THR	N-CA-CB	5.11	120.01	110.30
1	C	58	THR	N-CA-CB	-5.07	100.67	110.30
1	G	29	LEU	CA-CB-CG	5.07	126.96	115.30

There are no chirality outliers.

All (57) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	111	ARG	Sidechain
1	A	179	ARG	Sidechain
1	A	228	ARG	Sidechain
1	A	234	ARG	Sidechain
1	A	248	ARG	Sidechain
1	A	249	ARG	Sidechain
1	A	326	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	A	409	ARG	Sidechain
1	A	421	ARG	Sidechain
1	B	111	ARG	Sidechain
1	B	179	ARG	Sidechain
1	B	190	ARG	Sidechain
1	B	248	ARG	Sidechain
1	B	306	ARG	Sidechain
1	B	326	ARG	Sidechain
1	B	421	ARG	Sidechain
1	B	473	ARG	Sidechain
1	C	111	ARG	Sidechain
1	C	248	ARG	Sidechain
1	C	421	ARG	Sidechain
1	C	429	ARG	Sidechain
1	C	473	ARG	Sidechain
1	C	91	ARG	Sidechain
1	D	107	SER	Mainchain
1	D	111	ARG	Sidechain
1	D	248	ARG	Sidechain
1	D	249	ARG	Sidechain
1	D	28	ARG	Sidechain
1	D	306	ARG	Sidechain
1	D	421	ARG	Sidechain
1	D	473	ARG	Sidechain
1	E	111	ARG	Sidechain
1	E	190	ARG	Sidechain
1	E	228	ARG	Sidechain
1	E	249	ARG	Sidechain
1	E	28	ARG	Sidechain
1	E	306	ARG	Sidechain
1	E	409	ARG	Sidechain
1	E	421	ARG	Sidechain
1	E	473	ARG	Sidechain
1	E	95	ARG	Sidechain
1	F	111	ARG	Sidechain
1	F	190	ARG	Sidechain
1	F	228	ARG	Sidechain
1	F	248	ARG	Sidechain
1	F	421	ARG	Sidechain
1	F	475	ARG	Sidechain
1	F	95	ARG	Sidechain
1	G	111	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	G	228	ARG	Sidechain
1	G	248	ARG	Sidechain
1	G	249	ARG	Sidechain
1	G	326	ARG	Sidechain
1	G	421	ARG	Sidechain
1	G	473	ARG	Sidechain
1	G	475	ARG	Sidechain
1	G	91	ARG	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3600	0	3690	160	1
1	B	3633	0	3723	118	1
1	C	3640	0	3730	151	0
1	D	3640	0	3729	130	0
1	E	3633	0	3723	156	0
1	F	3633	0	3722	120	0
1	G	3640	0	3729	183	0
2	A	36	0	21	0	0
2	B	36	0	20	3	0
2	C	36	0	20	15	0
2	D	36	0	20	5	0
2	E	36	0	20	10	0
2	F	36	0	20	4	0
2	G	36	0	20	5	0
3	A	14	0	0	1	0
3	B	14	0	0	1	0
3	C	14	0	0	1	0
3	D	14	0	0	1	0
3	F	14	0	0	1	0
All	All	25741	0	26187	1025	1

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 20.

All (1025) 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)
2:G:501:U2F:O4'	2:G:501:U2F:C4'	1.67	1.30
2:E:501:U2F:O4'	2:E:501:U2F:C4'	1.65	1.28
2:B:501:U2F:O4'	2:B:501:U2F:C4'	1.66	1.28
2:F:501:U2F:C4'	2:F:501:U2F:O4'	1.66	1.25
2:C:501:U2F:C4'	2:C:501:U2F:O4'	1.65	1.23
1:A:57:THR:CG2	1:A:68:ILE:HD13	1.70	1.21
2:D:501:U2F:O4'	2:D:501:U2F:C4'	1.66	1.19
1:A:115:LEU:CD2	1:A:128:ALA:HB2	1.74	1.16
1:A:54:LEU:HD12	1:A:68:ILE:HD12	1.30	1.12
1:G:10:ILE:H	1:G:39:ILE:HG22	0.99	1.12
1:G:10:ILE:HG13	1:G:39:ILE:HG21	1.32	1.11
1:E:176:LYS:NZ	1:E:403:GLU:HG2	1.67	1.09
1:A:115:LEU:HD23	1:A:128:ALA:HB2	1.35	1.07
1:E:176:LYS:HZ2	1:E:403:GLU:HG2	0.96	1.07
1:A:57:THR:HG23	1:A:68:ILE:HD13	1.29	1.06
1:G:10:ILE:H	1:G:39:ILE:CG2	1.70	1.05
1:A:429:ARG:HH11	1:A:433:GLN:CD	1.59	1.04
1:A:122:THR:CG2	1:A:204:GLU:OE1	2.08	1.02
1:B:239:VAL:HG13	1:B:240:PRO:HD2	1.43	1.01
1:E:176:LYS:HZ2	1:E:403:GLU:CG	1.74	1.00
1:A:429:ARG:NH1	1:A:433:GLN:NE2	2.12	0.97
1:E:176:LYS:NZ	1:E:403:GLU:CG	2.28	0.96
1:B:239:VAL:CG1	1:B:240:PRO:HD2	1.95	0.96
1:A:10:ILE:HG23	1:A:116:ILE:HG21	1.46	0.94
1:E:12:SER:HB2	1:E:22:VAL:HG21	1.49	0.94
1:G:258:GLU:HG3	1:G:261:GLN:HB2	1.50	0.94
1:A:122:THR:HG23	1:A:204:GLU:OE1	1.66	0.93
1:D:372:ASN:HB2	2:D:501:U2F:O1A	1.67	0.92
1:G:10:ILE:N	1:G:39:ILE:HG22	1.84	0.92
1:A:429:ARG:NH1	1:A:433:GLN:HE22	1.66	0.91
1:F:351:ALA:O	2:F:501:U2F:H8'	1.71	0.90
1:A:231:GLU:O	1:A:235:LEU:HD23	1.71	0.90
1:B:81:ASN:O	1:B:84:THR:HG22	1.72	0.89
1:D:117:VAL:HG13	1:D:121:CYS:HB2	1.51	0.89
1:E:19:LEU:O	1:E:22:VAL:HG22	1.70	0.89
1:G:13:SER:HB3	1:G:14:PRO:HD2	1.52	0.88
1:A:57:THR:CG2	1:A:68:ILE:CD1	2.51	0.88
1:A:429:ARG:NH1	1:A:433:GLN:CD	2.26	0.88
1:C:117:VAL:HG13	1:C:121:CYS:HB2	1.54	0.88
1:A:7:HIS:O	1:A:112:PRO:O	1.91	0.88
1:A:57:THR:HG23	1:A:68:ILE:CD1	2.03	0.88
1:E:183:VAL:CG1	1:E:187:LEU:HB2	2.02	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:146:LEU:HD13	1:C:213:ILE:HD11	1.54	0.88
1:D:55:LYS:O	1:D:56:LYS:HG2	1.75	0.87
1:G:183:VAL:O	1:G:394:LYS:HD2	1.74	0.87
1:E:413:LEU:HD23	1:E:414:PRO:HD2	1.58	0.86
1:G:153:GLN:OE1	1:G:203:LYS:HD3	1.75	0.86
1:E:413:LEU:HD23	1:E:414:PRO:CD	2.06	0.85
1:A:10:ILE:HG12	1:A:116:ILE:HD13	1.57	0.85
1:C:332:LEU:HD13	1:C:336:PHE:HB3	1.58	0.85
1:A:115:LEU:HD22	1:A:128:ALA:HB2	1.56	0.85
1:A:105:ILE:O	1:A:108:MET:HG2	1.77	0.85
1:F:239:VAL:HG22	1:F:240:PRO:HD2	1.59	0.84
1:C:185:ASP:HA	1:C:188:LEU:HD13	1.59	0.84
1:G:38:THR:CG2	1:G:69:ILE:HD11	2.08	0.84
1:D:103:SER:O	1:D:106:ALA:O	1.95	0.83
1:A:122:THR:HG21	1:A:204:GLU:OE1	1.76	0.83
1:A:42:ILE:HD11	1:A:101:ILE:HD11	1.59	0.83
1:A:141:THR:HG22	1:A:371:TRP:CB	2.09	0.83
1:A:299:GLN:NE2	1:A:433:GLN:NE2	2.27	0.83
1:G:234:ARG:HD2	1:G:234:ARG:O	1.79	0.83
1:E:5:GLN:HG3	1:E:34:ASN:O	1.78	0.82
1:F:266:GLN:OE1	1:F:300:LYS:HE2	1.80	0.82
1:E:119:ILE:HD11	1:E:120:PHE:CE1	2.14	0.82
1:D:157:LYS:HA	1:D:157:LYS:CE	2.10	0.82
1:G:249:ARG:NH2	2:G:501:U2F:O2'	2.12	0.81
1:E:251:VAL:HG23	1:E:355:GLU:HG3	1.61	0.81
1:A:81:ASN:OD1	1:A:84:THR:OG1	1.98	0.80
1:F:141:THR:HG22	1:F:371:TRP:CB	2.10	0.80
1:C:146:LEU:CD1	1:C:213:ILE:HD11	2.12	0.80
1:E:409:ARG:HG2	1:E:409:ARG:HH11	1.44	0.80
1:G:476:GLU:O	1:G:477:LEU:HD23	1.81	0.80
1:G:38:THR:HG22	1:G:69:ILE:CD1	2.11	0.80
1:A:65:THR:HG23	1:A:66:ILE:HG12	1.62	0.79
1:B:80:ILE:HB	1:B:84:THR:HG21	1.65	0.79
1:A:14:PRO:O	1:A:50:GLU:OE2	2.00	0.79
1:A:299:GLN:NE2	1:A:433:GLN:HE21	1.80	0.79
1:C:290:LEU:O	1:C:294:LEU:HD12	1.82	0.79
1:G:255:LEU:HD23	1:G:261:GLN:HG2	1.62	0.79
1:G:38:THR:HG22	1:G:69:ILE:HD12	1.65	0.79
1:B:290:LEU:O	1:B:294:LEU:HD12	1.83	0.78
1:D:257:ASP:OD1	1:D:258:GLU:N	2.16	0.78
1:D:290:LEU:O	1:D:294:LEU:HD12	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:285:LYS:HE3	1:G:285:LYS:HA	1.64	0.77
1:A:210:GLY:C	1:A:211:ILE:HD12	2.03	0.77
1:G:37:ILE:HG22	1:G:39:ILE:HG23	1.66	0.77
1:B:244:ILE:HG23	1:B:465:ILE:HD11	1.65	0.77
1:A:290:LEU:O	1:A:294:LEU:HD12	1.84	0.77
1:C:305:VAL:O	1:C:348:PRO:O	2.03	0.77
1:A:103:SER:O	1:A:106:ALA:O	2.04	0.76
1:A:429:ARG:NH1	1:A:433:GLN:OE1	1.95	0.76
3:C:502:T83:OAC	3:C:502:T83:CAA	2.33	0.76
1:G:274:VAL:HG13	1:G:366:LEU:HD23	1.66	0.76
1:G:38:THR:HG21	1:G:69:ILE:HD11	1.67	0.76
1:G:285:LYS:HA	1:G:285:LYS:CE	2.15	0.76
1:B:377:SER:O	1:B:382:VAL:HG22	1.86	0.76
1:F:29:LEU:HB2	1:F:37:ILE:HD11	1.67	0.75
1:F:150:ILE:HD13	1:F:237:LEU:HD23	1.68	0.75
1:A:10:ILE:HG23	1:A:116:ILE:CG2	2.16	0.75
1:A:7:HIS:ND1	1:A:112:PRO:HA	2.01	0.75
1:A:377:SER:O	1:A:382:VAL:HG22	1.86	0.75
1:D:290:LEU:HD22	1:D:303:TRP:CZ2	2.22	0.75
1:D:392:GLU:HG2	1:D:396:ASN:ND2	2.02	0.75
1:E:373:SER:OG	2:E:501:U2F:H5'2	1.87	0.75
1:A:299:GLN:HE22	1:A:433:GLN:HE21	1.33	0.74
1:G:38:THR:CG2	1:G:69:ILE:CD1	2.64	0.74
1:D:150:ILE:HD13	1:D:237:LEU:HD23	1.69	0.74
1:D:430:ILE:HA	1:D:434:THR:HG23	1.69	0.74
1:E:148:LEU:HD23	1:E:172:ILE:HD11	1.70	0.74
1:F:341:LYS:HE2	1:F:342:ASP:OD1	1.87	0.74
2:C:501:U2F:PB	2:C:501:U2F:H4'	2.27	0.73
1:G:292:TRP:O	1:G:296:LEU:HD22	1.87	0.73
1:B:295:GLU:OE1	1:B:339:ARG:HD2	1.88	0.73
2:E:501:U2F:O1A	2:E:501:U2F:H4'	1.84	0.73
1:G:80:ILE:HD11	1:G:92:LEU:HD11	1.69	0.73
1:G:285:LYS:HE3	1:G:288:THR:OG1	1.88	0.73
1:D:332:LEU:C	1:D:333:PRO:O	2.18	0.73
1:C:68:ILE:C	1:C:69:ILE:HD12	2.10	0.73
1:A:150:ILE:HD13	1:A:237:LEU:HD23	1.70	0.73
1:A:304:VAL:HG13	1:A:349:MET:O	1.89	0.73
1:G:40:LEU:HG	1:G:41:ALA:H	1.54	0.73
1:A:57:THR:HG21	1:A:68:ILE:HD13	1.68	0.72
1:C:213:ILE:HG22	1:C:215:THR:HG22	1.69	0.72
1:B:71:VAL:HG13	1:B:100:LYS:HG2	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:183:VAL:HG11	1:E:187:LEU:HB2	1.70	0.72
1:F:143:ALA:N	1:F:213:ILE:HD11	2.03	0.72
1:E:57:THR:O	1:E:59:LEU:HD12	1.90	0.72
1:G:118:ASP:OD1	1:G:119:ILE:HG22	1.89	0.72
3:D:502:T83:OAC	3:D:502:T83:CAA	2.37	0.71
1:F:36:LYS:HD3	1:F:65:THR:HA	1.72	0.71
1:E:203:LYS:O	1:E:206:THR:HG22	1.90	0.71
1:G:76:ILE:HB	1:G:96:GLU:OE1	1.90	0.71
1:B:251:VAL:HG13	1:B:355:GLU:HG3	1.72	0.71
1:D:203:LYS:O	1:D:206:THR:HG22	1.90	0.71
1:E:431:LEU:O	1:E:431:LEU:HD23	1.91	0.71
3:F:502:T83:OAC	3:F:502:T83:CAA	2.38	0.71
1:B:292:TRP:O	1:B:296:LEU:HD12	1.90	0.71
1:F:141:THR:HG22	1:F:371:TRP:HB2	1.72	0.71
1:G:10:ILE:CG1	1:G:39:ILE:HG21	2.16	0.71
1:A:203:LYS:O	1:A:206:THR:HG22	1.91	0.71
1:B:137:THR:HG21	1:B:205:TYR:HD1	1.56	0.71
1:A:141:THR:HG22	1:A:371:TRP:HB2	1.73	0.70
1:A:115:LEU:HD23	1:A:128:ALA:CB	2.19	0.70
1:C:429:ARG:NH2	1:D:260:ILE:CG2	2.54	0.70
1:G:278:SER:O	1:G:306:ARG:NH1	2.23	0.70
1:F:364:GLY:HA3	1:F:432:MET:HE3	1.71	0.70
1:C:352:ASN:HB2	1:C:355:GLU:OE1	1.92	0.70
1:F:203:LYS:O	1:F:206:THR:HG22	1.92	0.70
1:G:203:LYS:O	1:G:206:THR:HG22	1.92	0.70
1:G:466:CYS:O	1:G:470:LYS:HG2	1.92	0.70
3:B:502:T83:OAC	3:B:502:T83:CAA	2.39	0.70
1:B:185:ASP:HA	1:B:188:LEU:HD23	1.73	0.69
1:C:88:THR:O	1:C:92:LEU:HD13	1.91	0.69
1:D:117:VAL:HG11	1:D:121:CYS:O	1.92	0.69
1:D:292:TRP:O	1:D:296:LEU:HD12	1.92	0.69
1:A:406:VAL:CG2	1:A:444:ALA:HB2	2.22	0.69
1:E:413:LEU:CD2	1:E:415:THR:H	2.04	0.69
1:G:89:GLN:O	1:G:93:LEU:HG	1.93	0.69
1:G:153:GLN:OE1	1:G:203:LYS:CD	2.39	0.69
1:C:56:LYS:O	1:C:57:THR:C	2.27	0.69
1:F:248:ARG:HD2	1:F:379:THR:HG21	1.73	0.69
1:G:185:ASP:HA	1:G:188:LEU:HD23	1.73	0.69
1:A:38:THR:HG22	1:A:67:GLU:HB3	1.74	0.69
1:A:141:THR:HG21	1:A:392:GLU:OE2	1.93	0.69
1:F:137:THR:HG21	1:F:205:TYR:HD1	1.58	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:166:LEU:HD13	1:F:168:GLU:H	1.57	0.69
1:C:330:GLU:HG3	1:C:331:TYR:CD1	2.28	0.69
1:E:413:LEU:HD23	1:E:414:PRO:N	2.08	0.69
1:E:87:PHE:HB3	1:E:194:GLN:HG2	1.74	0.68
1:E:215:THR:OG1	1:E:219:LEU:HD23	1.93	0.68
1:B:50:GLU:O	1:B:50:GLU:HG2	1.93	0.68
1:D:430:ILE:HA	1:D:434:THR:CG2	2.23	0.68
1:C:48:SER:O	1:C:52:GLU:OE2	2.12	0.68
1:F:141:THR:HG21	1:F:392:GLU:OE2	1.93	0.68
1:E:185:ASP:HA	1:E:188:LEU:HD23	1.74	0.68
1:A:8:VAL:HG12	1:A:114:ALA:HB3	1.76	0.68
1:G:244:ILE:HG22	1:G:244:ILE:O	1.90	0.68
1:G:162:GLU:OE2	1:G:165:GLU:CD	2.32	0.68
1:G:256:ASN:HB2	1:G:260:ILE:HD13	1.74	0.68
1:A:352:ASN:HB3	1:A:355:GLU:OE1	1.92	0.67
1:C:244:ILE:HG23	1:C:465:ILE:HD11	1.76	0.67
1:A:10:ILE:HG12	1:A:116:ILE:CD1	2.25	0.67
1:C:185:ASP:HA	1:C:188:LEU:CD1	2.23	0.67
1:C:117:VAL:HG11	1:C:121:CYS:O	1.94	0.67
1:G:40:LEU:HG	1:G:41:ALA:N	2.08	0.67
1:G:273:PHE:HE2	1:G:353:GLN:HG3	1.59	0.67
1:A:115:LEU:HD21	1:A:124:ILE:HG22	1.76	0.67
1:F:239:VAL:HG22	1:F:240:PRO:CD	2.23	0.67
1:D:157:LYS:HA	1:D:157:LYS:HE2	1.73	0.67
1:E:466:CYS:O	1:E:470:LYS:HG2	1.93	0.66
1:G:76:ILE:HG13	1:G:78:HIS:H	1.59	0.66
1:G:90:LEU:O	1:G:94:VAL:HG13	1.96	0.66
1:E:14:PRO:O	1:E:50:GLU:OE1	2.13	0.66
1:D:273:PHE:HE2	1:D:353:GLN:HG3	1.61	0.66
1:F:137:THR:HG21	1:F:205:TYR:CD1	2.31	0.66
1:G:87:PHE:HE1	1:G:91:ARG:NH2	1.94	0.66
1:A:54:LEU:CD1	1:A:68:ILE:HD12	2.19	0.66
1:G:352:ASN:HB3	1:G:355:GLU:OE1	1.96	0.66
1:C:297:SER:HB2	1:C:428:VAL:CG2	2.25	0.65
1:B:352:ASN:HB3	1:B:355:GLU:OE1	1.95	0.65
1:D:281:THR:HG23	1:D:306:ARG:NH1	2.11	0.65
1:E:88:THR:HG21	1:E:193:GLN:HG2	1.76	0.65
1:F:76:ILE:HG13	1:F:93:LEU:HD22	1.78	0.65
1:E:19:LEU:O	1:E:22:VAL:CG2	2.43	0.65
1:E:372:ASN:HB2	2:E:501:U2F:O1A	1.96	0.65
1:B:137:THR:HG21	1:B:205:TYR:CD1	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:141:THR:HG22	1:A:371:TRP:HB3	1.78	0.65
1:C:115:LEU:CD1	1:C:133:ILE:HG21	2.27	0.65
1:F:328:MET:HA	1:F:331:TYR:CE1	2.32	0.65
1:C:56:LYS:C	1:C:57:THR:O	2.27	0.65
1:C:244:ILE:HG22	1:C:244:ILE:O	1.97	0.65
1:E:183:VAL:HG12	1:E:187:LEU:HB2	1.79	0.65
1:D:429:ARG:O	1:D:433:GLN:HG2	1.95	0.65
1:F:219:LEU:HD12	1:F:220:GLU:HG3	1.79	0.65
1:B:112:PRO:HG2	1:B:133:ILE:HD13	1.79	0.64
1:C:466:CYS:O	1:C:470:LYS:HG3	1.96	0.64
1:D:392:GLU:HG2	1:D:396:ASN:HD21	1.58	0.64
1:E:438:LYS:N	1:E:438:LYS:HD2	2.12	0.64
1:F:222:GLU:N	1:F:222:GLU:OE1	2.29	0.64
1:A:463:ASN:O	1:A:467:GLU:OE1	2.15	0.64
1:B:244:ILE:HG22	1:B:244:ILE:O	1.95	0.64
1:F:101:ILE:HD13	1:F:124:ILE:HD11	1.80	0.64
1:D:332:LEU:O	1:D:333:PRO:C	2.35	0.64
1:G:423:GLU:O	1:G:427:MET:HG3	1.98	0.64
1:E:176:LYS:NZ	1:E:403:GLU:HG3	2.10	0.64
1:D:176:LYS:NZ	1:D:403:GLU:HG3	2.13	0.63
1:A:273:PHE:HE2	1:A:353:GLN:HG3	1.62	0.63
1:B:239:VAL:HG12	1:B:240:PRO:HD2	1.80	0.63
1:E:352:ASN:HB3	1:E:355:GLU:OE1	1.98	0.63
1:C:94:VAL:HG23	1:C:123:GLN:NE2	2.13	0.63
1:E:213:ILE:HG23	1:E:215:THR:HG22	1.80	0.63
1:D:332:LEU:O	1:D:333:PRO:O	2.17	0.63
1:B:111:ARG:HH22	1:G:255:LEU:HD21	1.64	0.63
1:C:332:LEU:HD13	1:C:336:PHE:CB	2.29	0.62
1:G:304:VAL:HG13	1:G:349:MET:O	2.00	0.62
1:A:119:ILE:HG13	1:A:201:LEU:HD11	1.82	0.62
1:C:239:VAL:HG22	1:C:240:PRO:HD2	1.80	0.62
1:E:383:PRO:HG2	1:E:431:LEU:HD21	1.81	0.62
1:A:117:VAL:HG23	1:A:137:THR:HG23	1.80	0.62
2:C:501:U2F:H4'	2:C:501:U2F:O1B	2.00	0.62
1:D:352:ASN:HB3	1:D:355:GLU:OE1	1.98	0.62
1:G:57:THR:O	1:G:57:THR:HG22	2.00	0.62
1:D:157:LYS:HE2	1:D:157:LYS:CA	2.30	0.62
1:A:299:GLN:HE21	1:A:433:GLN:NE2	1.98	0.62
1:E:272:LEU:HD22	1:E:428:VAL:HG13	1.81	0.62
1:G:196:GLU:O	1:G:200:LYS:HG3	2.00	0.62
1:E:413:LEU:HD22	1:E:415:THR:HB	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:126:PRO:O	1:A:129:GLU:HG3	1.99	0.61
1:G:139:HIS:ND1	1:G:146:LEU:HB2	2.15	0.61
1:B:286:GLN:OE1	1:B:419:VAL:HG23	2.00	0.61
1:D:259:VAL:HG13	1:D:345:LEU:HD23	1.82	0.61
1:G:277:GLY:HA3	1:G:368:HIS:CE1	2.36	0.61
1:B:353:GLN:NE2	1:B:376:GLU:OE1	2.34	0.61
1:E:251:VAL:CG2	1:E:355:GLU:HG3	2.30	0.61
1:G:255:LEU:HD23	1:G:261:GLN:CG	2.28	0.61
1:B:76:ILE:CD1	1:B:93:LEU:HD22	2.30	0.61
1:D:115:LEU:CD2	1:D:117:VAL:HG23	2.31	0.61
1:E:176:LYS:HZ3	1:E:403:GLU:HG3	1.65	0.61
1:A:16:MET:SD	1:A:53:PHE:HD2	2.24	0.61
1:E:14:PRO:HG2	1:E:93:LEU:HD23	1.82	0.61
1:E:213:ILE:HG22	1:E:243:PRO:HA	1.82	0.61
1:E:413:LEU:HD13	1:E:416:LYS:HD3	1.83	0.61
1:G:108:MET:CE	1:G:112:PRO:HD3	2.31	0.61
1:G:109:THR:OG1	1:G:110:HIS:CD2	2.54	0.61
1:D:106:ALA:HA	1:D:111:ARG:HH12	1.64	0.60
1:E:248:ARG:HD3	1:E:379:THR:HG21	1.83	0.60
1:C:350:TRP:CZ2	2:C:501:U2F:H8'	2.36	0.60
1:C:435:LYS:HZ3	1:D:382:VAL:CG2	2.14	0.60
1:B:464:SER:O	1:B:467:GLU:HG2	2.01	0.60
1:G:122:THR:OG1	1:G:204:GLU:OE1	2.13	0.60
1:E:57:THR:O	1:E:59:LEU:CD1	2.49	0.60
1:E:146:LEU:HD13	1:E:146:LEU:C	2.21	0.60
1:E:286:GLN:HE22	1:E:419:VAL:H	1.50	0.60
1:G:38:THR:HG23	1:G:67:GLU:HG3	1.82	0.60
1:A:277:GLY:O	1:A:306:ARG:NH2	2.34	0.60
1:C:76:ILE:CD1	1:C:93:LEU:HD22	2.31	0.60
1:C:297:SER:CB	1:C:428:VAL:HG21	2.30	0.60
2:E:501:U2F:O6'	2:E:501:U2F:C2'	2.48	0.60
1:F:141:THR:HG22	1:F:371:TRP:HB3	1.82	0.60
1:G:76:ILE:HG23	1:G:77:SER:H	1.67	0.60
1:C:466:CYS:HA	1:C:469:VAL:HG22	1.83	0.60
1:E:409:ARG:HH11	1:E:409:ARG:CG	2.14	0.60
1:F:166:LEU:CD1	1:F:168:GLU:H	2.15	0.60
1:G:286:GLN:HE22	1:G:419:VAL:H	1.50	0.60
2:C:501:U2F:H3'	2:C:501:U2F:O3A	2.02	0.59
1:B:10:ILE:CG2	1:B:22:VAL:HG13	2.33	0.59
1:B:142:THR:HG22	1:B:145:THR:HG23	1.83	0.59
1:E:183:VAL:HG11	1:E:187:LEU:CB	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:91:ARG:HG2	1:G:91:ARG:HH11	1.68	0.59
1:C:332:LEU:HD12	1:C:333:PRO:O	2.02	0.59
1:G:212:LEU:HD23	1:G:244:ILE:HD12	1.85	0.59
1:G:244:ILE:O	1:G:244:ILE:CG2	2.50	0.59
1:G:463:ASN:O	1:G:466:CYS:SG	2.54	0.59
1:C:371:TRP:N	2:C:501:U2F:O4	2.27	0.59
1:E:162:GLU:O	1:E:165:GLU:HG2	2.02	0.59
1:B:50:GLU:O	1:B:50:GLU:CG	2.49	0.59
1:C:251:VAL:HG13	1:C:355:GLU:HG3	1.85	0.59
1:D:19:LEU:HD23	1:D:19:LEU:O	2.02	0.59
1:A:16:MET:SD	1:A:50:GLU:CB	2.91	0.59
1:C:212:LEU:HD23	1:C:244:ILE:HD12	1.84	0.59
1:C:372:ASN:HB2	2:C:501:U2F:H1'	1.84	0.59
1:E:148:LEU:HD12	1:E:198:TYR:OH	2.03	0.59
1:F:286:GLN:HE22	1:F:419:VAL:H	1.49	0.59
1:B:239:VAL:CG1	1:B:240:PRO:CD	2.78	0.58
1:G:137:THR:HG23	1:G:208:PHE:CD2	2.38	0.58
1:G:373:SER:OG	2:G:501:U2F:O2A	2.20	0.58
1:E:328:MET:HA	1:E:331:TYR:CE1	2.39	0.58
1:D:326:ARG:HB3	1:D:330:GLU:OE2	2.03	0.58
1:A:148:LEU:HD12	1:A:198:TYR:OH	2.03	0.58
1:B:292:TRP:CD1	1:B:421:ARG:NH2	2.70	0.58
1:G:10:ILE:N	1:G:39:ILE:CG2	2.52	0.58
1:G:235:LEU:HA	1:G:238:LYS:NZ	2.19	0.58
1:A:406:VAL:HG23	1:A:444:ALA:HB2	1.86	0.58
1:E:263:LEU:HB3	1:E:359:HIS:ND1	2.19	0.58
3:A:502:T83:OAC	3:A:502:T83:CAA	2.51	0.58
1:D:115:LEU:HD21	1:D:117:VAL:HG23	1.86	0.58
1:E:468:LEU:C	1:E:468:LEU:HD13	2.24	0.58
1:C:213:ILE:CG2	1:C:215:THR:HG22	2.33	0.58
1:G:117:VAL:HG23	1:G:137:THR:HG22	1.85	0.58
1:D:148:LEU:HD12	1:D:198:TYR:OH	2.03	0.58
1:F:10:ILE:CG2	1:F:22:VAL:HG13	2.34	0.58
1:G:4:SER:OG	1:G:36:LYS:NZ	2.31	0.58
1:A:429:ARG:CZ	1:A:433:GLN:HE22	2.16	0.57
1:E:399:MET:HG2	1:E:404:LEU:CD2	2.34	0.57
1:A:211:ILE:HD12	1:A:211:ILE:N	2.19	0.57
1:D:249:ARG:NH2	1:D:354:VAL:HG23	2.19	0.57
1:F:263:LEU:HB3	1:F:359:HIS:ND1	2.19	0.57
1:G:412:VAL:HG11	1:G:417:LYS:HD3	1.86	0.57
1:C:263:LEU:HB3	1:C:359:HIS:ND1	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:217:GLU:HG2	1:F:224:ILE:HD12	1.85	0.57
1:A:10:ILE:HA	1:A:116:ILE:HB	1.87	0.57
1:C:286:GLN:HE22	1:C:419:VAL:H	1.52	0.57
1:C:297:SER:CB	1:C:428:VAL:CG2	2.82	0.57
1:F:290:LEU:HD13	1:F:303:TRP:CZ2	2.40	0.57
1:B:76:ILE:HD11	1:B:93:LEU:HD22	1.87	0.57
1:D:259:VAL:HG13	1:D:345:LEU:CD2	2.35	0.57
1:D:468:LEU:HD13	1:D:468:LEU:C	2.25	0.57
1:F:148:LEU:HD12	1:F:198:TYR:OH	2.03	0.57
1:F:172:ILE:HD12	1:F:172:ILE:H	1.70	0.57
1:A:113:ASP:HB3	1:A:476:GLU:OE2	2.05	0.57
1:A:105:ILE:O	1:A:108:MET:CG	2.52	0.57
1:A:117:VAL:HG21	1:A:122:THR:HA	1.86	0.57
1:B:61:ASN:O	1:B:62:GLU:HG2	2.05	0.57
1:B:244:ILE:O	1:B:244:ILE:CG2	2.53	0.57
1:C:141:THR:OG1	1:C:142:THR:N	2.38	0.57
1:F:98:LEU:HA	1:F:101:ILE:HD12	1.85	0.57
1:F:239:VAL:CG2	1:F:240:PRO:HD2	2.32	0.56
1:B:89:GLN:O	1:B:93:LEU:HD23	2.05	0.56
1:C:327:ASP:O	1:C:330:GLU:HG2	2.05	0.56
1:D:286:GLN:HE22	1:D:419:VAL:H	1.50	0.56
1:D:290:LEU:HD23	1:D:294:LEU:CD1	2.35	0.56
1:D:299:GLN:NE2	1:D:433:GLN:OE1	2.38	0.56
1:E:246:PRO:HD2	1:E:455:LEU:HD11	1.88	0.56
1:G:148:LEU:HD22	1:G:178:LEU:CD2	2.35	0.56
1:A:16:MET:CE	1:A:53:PHE:CD2	2.88	0.56
1:D:201:LEU:HD13	1:D:201:LEU:C	2.26	0.56
1:C:139:HIS:CE1	1:C:141:THR:HG23	2.41	0.56
1:C:350:TRP:HA	1:C:350:TRP:CE3	2.41	0.56
1:G:106:ALA:HB2	1:G:131:PHE:CZ	2.40	0.56
1:B:201:LEU:HD13	1:B:201:LEU:C	2.26	0.56
1:B:244:ILE:CG2	1:B:465:ILE:HD11	2.36	0.56
1:F:239:VAL:CG2	1:F:240:PRO:CD	2.83	0.56
1:C:424:ILE:O	1:C:428:VAL:HG13	2.06	0.56
1:D:78:HIS:CE1	1:D:79:LEU:HD21	2.40	0.56
1:D:277:GLY:HA3	1:D:368:HIS:CE1	2.41	0.56
1:E:201:LEU:HD13	1:E:201:LEU:C	2.26	0.56
1:G:13:SER:HA	1:G:42:ILE:HD12	1.87	0.56
1:G:268:ASN:O	1:G:269:GLU:HG2	2.05	0.56
1:B:336:PHE:HA	1:B:339:ARG:NH1	2.20	0.56
1:G:40:LEU:CG	1:G:41:ALA:H	2.17	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:19:LEU:HD23	1:D:19:LEU:C	2.26	0.56
1:D:263:LEU:HB3	1:D:359:HIS:ND1	2.21	0.56
1:E:95:ARG:HA	1:E:98:LEU:HD23	1.88	0.56
1:E:373:SER:OG	2:E:501:U2F:C5'	2.54	0.56
1:D:304:VAL:HG13	1:D:349:MET:O	2.06	0.56
1:G:72:PRO:O	1:G:100:LYS:CE	2.54	0.56
1:A:105:ILE:C	1:A:108:MET:HG2	2.27	0.55
1:D:22:VAL:HG12	1:D:39:ILE:CD1	2.36	0.55
1:A:54:LEU:O	1:A:58:THR:HG23	2.06	0.55
1:E:13:SER:HB3	1:E:14:PRO:CD	2.37	0.55
1:B:115:LEU:CD2	1:B:117:VAL:HG12	2.37	0.55
1:F:249:ARG:HH21	1:F:354:VAL:HG22	1.72	0.55
1:G:48:SER:O	1:G:50:GLU:HG3	2.06	0.55
1:A:115:LEU:C	1:A:116:ILE:HG13	2.27	0.55
1:B:148:LEU:HD22	1:B:178:LEU:CD2	2.36	0.55
1:C:244:ILE:O	1:C:244:ILE:CG2	2.55	0.55
1:D:53:PHE:O	1:D:57:THR:OG1	2.24	0.55
1:G:153:GLN:O	1:G:157:LYS:HD3	2.06	0.55
1:D:10:ILE:CG2	1:D:22:VAL:HG13	2.37	0.55
1:E:141:THR:OG1	1:E:142:THR:N	2.39	0.55
1:F:353:GLN:OE1	2:F:501:U2F:H2'	2.07	0.55
1:B:5:GLN:HG3	1:B:34:ASN:O	2.07	0.55
1:C:78:HIS:CE1	1:C:79:LEU:HG	2.42	0.55
1:C:117:VAL:HG11	1:C:121:CYS:C	2.27	0.55
1:C:230:ASN:OD1	1:C:232:LYS:N	2.36	0.55
1:E:119:ILE:HD11	1:E:120:PHE:CD1	2.41	0.55
1:F:89:GLN:O	1:F:93:LEU:HD23	2.06	0.55
1:F:251:VAL:HG13	1:F:355:GLU:HG2	1.88	0.55
1:A:476:GLU:OE1	1:A:476:GLU:HA	2.06	0.54
1:D:117:VAL:HG11	1:D:121:CYS:C	2.27	0.54
2:E:501:U2F:O6'	2:E:501:U2F:C3'	2.56	0.54
1:F:95:ARG:HA	1:F:98:LEU:HD23	1.90	0.54
1:C:89:GLN:O	1:C:93:LEU:HD23	2.07	0.54
1:F:292:TRP:CZ3	1:F:295:GLU:OE1	2.60	0.54
1:G:72:PRO:O	1:G:100:LYS:HE3	2.07	0.54
1:A:34:ASN:CG	1:A:34:ASN:O	2.44	0.54
1:A:377:SER:HB2	1:A:382:VAL:HG23	1.89	0.54
1:B:372:ASN:HA	1:B:375:VAL:HG22	1.90	0.54
1:B:377:SER:HB2	1:B:382:VAL:HG23	1.90	0.54
1:C:76:ILE:HD11	1:C:93:LEU:HD22	1.89	0.54
1:D:236:LEU:HD12	1:D:236:LEU:N	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:286:GLN:NE2	1:F:419:VAL:HG23	2.22	0.54
1:G:86:ILE:HA	1:G:89:GLN:HB2	1.90	0.54
1:A:328:MET:HA	1:A:331:TYR:CZ	2.43	0.54
1:B:273:PHE:HE2	1:B:353:GLN:HG3	1.72	0.54
1:C:430:ILE:O	1:C:434:THR:OG1	2.26	0.54
1:C:29:LEU:HB2	1:C:37:ILE:HD11	1.89	0.54
1:F:197:GLU:HA	1:F:197:GLU:OE1	2.07	0.54
1:A:10:ILE:CG2	1:A:22:VAL:HG13	2.38	0.54
1:G:87:PHE:CE1	1:G:91:ARG:CZ	2.91	0.54
1:B:244:ILE:HG23	1:B:465:ILE:CD1	2.35	0.54
1:C:408:ILE:HD12	1:C:430:ILE:HD11	1.88	0.54
1:D:95:ARG:HA	1:D:98:LEU:HD23	1.89	0.54
1:F:29:LEU:CB	1:F:37:ILE:HD11	2.36	0.54
1:C:248:ARG:HH21	1:C:354:VAL:CG1	2.21	0.54
1:G:118:ASP:OD1	1:G:119:ILE:N	2.38	0.54
1:D:246:PRO:HB2	1:D:375:VAL:HG13	1.90	0.53
1:E:119:ILE:CD1	1:E:120:PHE:CD1	2.92	0.53
1:E:273:PHE:HE2	1:E:353:GLN:HG3	1.74	0.53
1:A:277:GLY:HA3	1:A:368:HIS:CE1	2.43	0.53
1:B:193:GLN:HE21	1:B:197:GLU:HG2	1.74	0.53
1:C:142:THR:OG1	1:C:145:THR:HG23	2.08	0.53
1:D:327:ASP:O	1:D:328:MET:C	2.47	0.53
1:E:119:ILE:CG2	1:E:139:HIS:HA	2.38	0.53
1:F:59:LEU:O	1:F:59:LEU:HG	2.08	0.53
1:F:236:LEU:HD12	1:F:236:LEU:N	2.22	0.53
1:A:112:PRO:O	1:A:113:ASP:HB2	2.08	0.53
1:B:95:ARG:HA	1:B:98:LEU:HD23	1.90	0.53
1:G:122:THR:HG21	1:G:201:LEU:HD11	1.91	0.53
1:A:249:ARG:NH2	1:A:354:VAL:HG23	2.24	0.53
1:C:10:ILE:CG2	1:C:22:VAL:HG13	2.38	0.53
1:E:148:LEU:CD2	1:E:172:ILE:HD11	2.38	0.53
1:E:430:ILE:O	1:E:434:THR:OG1	2.24	0.53
1:F:166:LEU:HD12	1:F:168:GLU:O	2.09	0.53
1:F:263:LEU:HB3	1:F:359:HIS:HD1	1.74	0.53
1:F:273:PHE:HE2	1:F:353:GLN:HG3	1.74	0.53
1:G:475:ARG:O	1:G:476:GLU:CG	2.56	0.53
1:B:424:ILE:O	1:B:428:VAL:HG12	2.08	0.53
1:B:442:GLU:O	1:B:446:LYS:CD	2.57	0.53
1:C:429:ARG:NH2	1:D:260:ILE:HG23	2.24	0.53
1:A:43:THR:HG22	1:A:71:VAL:O	2.09	0.53
1:C:95:ARG:HA	1:C:98:LEU:HD23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:246:PRO:HB2	1:E:375:VAL:HG13	1.89	0.53
1:F:359:HIS:HD2	1:G:433:GLN:O	1.92	0.53
1:G:106:ALA:HB2	1:G:131:PHE:CE2	2.44	0.53
1:G:236:LEU:N	1:G:236:LEU:HD12	2.23	0.53
1:A:95:ARG:HA	1:A:98:LEU:HD23	1.90	0.52
1:B:111:ARG:HH12	1:G:255:LEU:HD22	1.74	0.52
1:F:430:ILE:O	1:F:434:THR:OG1	2.26	0.52
1:C:337:LEU:HD12	1:C:337:LEU:H	1.74	0.52
1:F:5:GLN:HG3	1:F:34:ASN:O	2.09	0.52
1:G:274:VAL:CG1	1:G:366:LEU:HD23	2.37	0.52
1:E:277:GLY:HA3	1:E:368:HIS:CE1	2.44	0.52
1:G:463:ASN:HA	1:G:466:CYS:SG	2.50	0.52
1:C:69:ILE:HD12	1:C:69:ILE:N	2.24	0.52
1:F:142:THR:OG1	1:F:145:THR:HG23	2.09	0.52
1:F:449:LYS:O	1:F:453:ASN:OD1	2.28	0.52
1:A:16:MET:SD	1:A:50:GLU:HB2	2.49	0.52
1:B:336:PHE:HA	1:B:339:ARG:HH11	1.74	0.52
1:D:353:GLN:OE1	2:D:501:U2F:H2'	2.09	0.52
1:F:9:ALA:O	1:F:115:LEU:HD12	2.10	0.52
1:G:475:ARG:O	1:G:476:GLU:CD	2.48	0.52
1:E:143:ALA:HA	1:E:213:ILE:HD11	1.91	0.52
1:E:399:MET:HG2	1:E:404:LEU:HD21	1.91	0.52
1:E:119:ILE:HG22	1:E:139:HIS:HA	1.92	0.52
1:A:142:THR:OG1	1:A:145:THR:HG23	2.09	0.52
1:E:90:LEU:HD22	1:E:120:PHE:CE2	2.45	0.52
1:B:442:GLU:O	1:B:446:LYS:HD3	2.10	0.52
1:C:126:PRO:HA	1:C:129:GLU:HG3	1.92	0.52
1:D:142:THR:HG23	1:D:145:THR:HG23	1.92	0.52
1:E:94:VAL:HG23	1:E:123:GLN:OE1	2.09	0.52
1:B:212:LEU:HD23	1:B:244:ILE:HD12	1.90	0.52
1:G:105:ILE:HD12	1:G:127:ILE:HG23	1.91	0.52
1:A:248:ARG:HD3	1:A:379:THR:HG21	1.92	0.51
1:B:22:VAL:HG12	1:B:39:ILE:HD12	1.90	0.51
1:D:290:LEU:CD2	1:D:294:LEU:HD11	2.40	0.51
1:E:183:VAL:O	1:E:394:LYS:HE2	2.10	0.51
1:F:217:GLU:HA	1:F:224:ILE:CD1	2.40	0.51
1:B:383:PRO:HB2	1:B:431:LEU:HD11	1.91	0.51
1:E:292:TRP:O	1:E:296:LEU:HD22	2.10	0.51
1:C:423:GLU:O	1:C:427:MET:HG3	2.11	0.51
1:D:146:LEU:HD23	1:D:213:ILE:HD11	1.93	0.51
1:G:182:ASP:O	1:G:394:LYS:HG3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:209:ASP:C	1:B:239:VAL:HG11	2.31	0.51
1:F:10:ILE:HG21	1:F:22:VAL:HG13	1.92	0.51
1:D:10:ILE:HG21	1:D:22:VAL:HG13	1.93	0.51
1:D:101:ILE:HD13	1:D:124:ILE:HD11	1.91	0.51
1:A:401:THR:HG21	1:A:409:ARG:HD3	1.92	0.51
1:C:21:PRO:O	1:C:24:VAL:HG22	2.10	0.51
1:G:337:LEU:HD12	1:G:337:LEU:H	1.74	0.51
1:E:20:ILE:HG21	1:E:249:ARG:HD3	1.91	0.51
1:E:14:PRO:HB3	1:E:44:THR:HG22	1.93	0.51
1:E:468:LEU:HD13	1:E:468:LEU:O	2.10	0.51
1:G:137:THR:CG2	1:G:208:PHE:CE2	2.93	0.51
1:D:327:ASP:O	1:D:330:GLU:HG2	2.11	0.51
1:D:468:LEU:HD13	1:D:468:LEU:O	2.10	0.51
1:G:466:CYS:O	1:G:469:VAL:HG12	2.10	0.51
1:E:290:LEU:HD22	1:E:303:TRP:CZ2	2.46	0.51
1:A:193:GLN:O	1:A:196:GLU:HG2	2.11	0.50
1:G:290:LEU:HD22	1:G:303:TRP:CZ2	2.47	0.50
2:C:501:U2F:H5'1	2:C:501:U2F:H9'	1.94	0.50
1:E:431:LEU:HD23	1:E:431:LEU:C	2.32	0.50
1:C:328:MET:HA	1:C:331:TYR:CZ	2.47	0.50
1:D:55:LYS:O	1:D:56:LYS:CG	2.55	0.50
1:D:257:ASP:OD2	1:D:260:ILE:HG12	2.10	0.50
1:E:402:GLU:HB2	1:E:403:GLU:OE1	2.11	0.50
1:E:413:LEU:HD22	1:E:415:THR:N	2.26	0.50
1:G:50:GLU:O	1:G:53:PHE:HB2	2.11	0.50
1:G:122:THR:CG2	1:G:201:LEU:HD11	2.42	0.50
1:B:10:ILE:HG21	1:B:22:VAL:HG13	1.94	0.50
1:C:42:ILE:HA	1:C:71:VAL:HG13	1.92	0.50
1:G:366:LEU:HD11	1:G:387:TRP:CE3	2.47	0.50
1:A:246:PRO:HB2	1:A:375:VAL:HG13	1.93	0.50
1:D:118:ASP:OD1	1:D:119:ILE:N	2.45	0.50
1:G:290:LEU:HD22	1:G:303:TRP:CH2	2.47	0.50
1:B:255:LEU:HD22	1:B:257:ASP:HB2	1.94	0.50
1:C:297:SER:HB2	1:C:428:VAL:HG22	1.93	0.50
1:C:350:TRP:HZ2	2:C:501:U2F:O7'	1.95	0.50
1:F:172:ILE:HD12	1:F:172:ILE:N	2.27	0.50
1:D:301:PHE:CE1	1:D:344:GLY:HA3	2.47	0.50
1:A:121:CYS:HB3	1:A:124:ILE:HD12	1.93	0.50
1:D:141:THR:OG1	1:D:142:THR:N	2.45	0.50
1:G:252:GLU:HG2	1:G:355:GLU:OE2	2.12	0.50
1:B:52:GLU:HA	1:B:55:LYS:HE2	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:373:SER:OG	2:C:501:U2F:O2'	2.21	0.49
1:E:290:LEU:HD22	1:E:303:TRP:CH2	2.47	0.49
1:F:29:LEU:HB2	1:F:37:ILE:CD1	2.39	0.49
1:F:109:THR:HG23	1:F:110:HIS:N	2.27	0.49
1:F:266:GLN:CD	1:F:300:LYS:HE2	2.33	0.49
1:B:73:SER:OG	1:B:74:VAL:N	2.44	0.49
1:D:22:VAL:HG12	1:D:39:ILE:HD12	1.95	0.49
1:G:8:VAL:O	1:G:37:ILE:HG23	2.13	0.49
1:G:141:THR:CG2	1:G:142:THR:H	2.25	0.49
1:B:44:THR:HG21	1:B:47:SER:HB3	1.95	0.49
1:C:44:THR:HA	1:C:73:SER:OG	2.12	0.49
1:D:98:LEU:HD11	1:D:123:GLN:O	2.12	0.49
1:A:231:GLU:HG3	1:A:232:LYS:N	2.27	0.49
1:D:118:ASP:OD1	1:D:119:ILE:HG22	2.11	0.49
1:E:119:ILE:HG23	1:E:140:PRO:HD3	1.94	0.49
1:E:468:LEU:C	1:E:468:LEU:CD1	2.81	0.49
1:F:98:LEU:HD11	1:F:123:GLN:O	2.12	0.49
1:G:246:PRO:HB2	1:G:375:VAL:HG13	1.94	0.49
1:G:249:ARG:HH21	2:G:501:U2F:C2'	2.25	0.49
1:A:337:LEU:HD12	1:A:337:LEU:H	1.75	0.49
1:C:101:ILE:HG22	1:C:105:ILE:HD11	1.95	0.49
1:A:136:TYR:OH	1:A:471:ASP:OD1	2.31	0.49
1:C:115:LEU:HD13	1:C:133:ILE:CG2	2.43	0.49
1:D:284:THR:HG22	1:D:310:ASP:OD1	2.11	0.49
1:D:468:LEU:C	1:D:468:LEU:CD1	2.81	0.49
1:E:413:LEU:CD2	1:E:415:THR:HB	2.43	0.49
1:G:42:ILE:HA	1:G:71:VAL:O	2.13	0.49
1:E:337:LEU:H	1:E:337:LEU:HD12	1.78	0.49
1:B:251:VAL:HG22	1:B:354:VAL:HG22	1.94	0.49
1:F:261:GLN:HE21	1:G:298:GLN:HE21	1.61	0.49
1:G:372:ASN:HB2	2:G:501:U2F:O5'	2.12	0.49
1:A:124:ILE:HG23	1:A:127:ILE:HD11	1.94	0.49
1:G:335:GLY:O	1:G:338:THR:HG22	2.13	0.49
1:B:98:LEU:HA	1:B:101:ILE:HD12	1.94	0.49
1:B:248:ARG:HD3	1:B:379:THR:HG21	1.95	0.49
1:C:251:VAL:CG1	1:C:355:GLU:HG3	2.43	0.49
1:F:118:ASP:OD1	1:F:119:ILE:N	2.46	0.49
1:C:247:LEU:HD23	1:C:455:LEU:HD11	1.93	0.48
1:E:244:ILE:CG2	1:E:465:ILE:HD11	2.43	0.48
1:E:413:LEU:HD22	1:E:415:THR:H	1.76	0.48
1:G:87:PHE:CE1	1:G:91:ARG:NH2	2.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:157:LYS:CE	1:D:157:LYS:CA	2.85	0.48
1:B:301:PHE:CE1	1:B:344:GLY:HA3	2.47	0.48
1:B:327:ASP:O	1:B:328:MET:HB2	2.13	0.48
1:F:341:LYS:HG3	1:F:342:ASP:N	2.28	0.48
1:G:95:ARG:O	1:G:98:LEU:HD22	2.14	0.48
1:A:20:ILE:O	1:A:24:VAL:HG13	2.13	0.48
1:A:115:LEU:HG	1:A:116:ILE:H	1.77	0.48
1:G:162:GLU:OE1	1:G:162:GLU:N	2.29	0.48
1:A:377:SER:HB2	1:A:382:VAL:CG2	2.43	0.48
1:C:117:VAL:CG1	1:C:121:CYS:C	2.82	0.48
1:C:413:LEU:HB2	1:C:416:LYS:HE2	1.94	0.48
1:F:76:ILE:HD11	1:F:93:LEU:HA	1.95	0.48
1:A:10:ILE:HG21	1:A:22:VAL:HG13	1.96	0.48
1:A:376:GLU:O	1:A:380:ASN:ND2	2.43	0.48
1:D:117:VAL:CG1	1:D:121:CYS:C	2.81	0.48
1:E:401:THR:HG21	1:E:409:ARG:HD3	1.96	0.48
1:A:168:GLU:HA	1:A:168:GLU:OE1	2.14	0.48
1:B:292:TRP:O	1:B:296:LEU:CD1	2.60	0.48
1:E:21:PRO:O	1:E:24:VAL:HG22	2.14	0.48
1:E:119:ILE:HD11	1:E:120:PHE:CZ	2.48	0.48
1:A:14:PRO:HA	1:A:42:ILE:O	2.14	0.48
1:B:332:LEU:N	1:B:332:LEU:HD12	2.29	0.48
2:B:501:U2F:H9'	2:B:501:U2F:H5'1	1.95	0.48
1:C:5:GLN:NE2	1:C:36:LYS:HB2	2.29	0.48
1:C:86:ILE:O	1:C:90:LEU:HD23	2.14	0.48
1:G:268:ASN:C	1:G:269:GLU:HG2	2.34	0.48
1:A:45:THR:OG1	1:A:73:SER:N	2.47	0.48
1:E:59:LEU:HD12	1:E:59:LEU:N	2.29	0.48
1:D:176:LYS:HZ1	1:D:403:GLU:HG3	1.76	0.47
1:F:251:VAL:HG13	1:F:355:GLU:CG	2.43	0.47
1:G:62:GLU:H	1:G:62:GLU:HG2	1.38	0.47
1:A:454:ALA:O	1:A:455:LEU:HB2	2.15	0.47
1:B:74:VAL:HG22	1:B:75:ASP:N	2.29	0.47
1:C:246:PRO:HB2	1:C:375:VAL:HG13	1.95	0.47
1:A:16:MET:SD	1:A:50:GLU:HB3	2.54	0.47
1:B:105:ILE:O	1:B:111:ARG:NH1	2.47	0.47
1:C:117:VAL:HG13	1:C:121:CYS:CB	2.36	0.47
1:E:20:ILE:HD13	1:E:249:ARG:HD3	1.97	0.47
1:A:117:VAL:CG2	1:A:137:THR:HG23	2.44	0.47
1:B:242:PHE:CE2	1:B:467:GLU:HG3	2.49	0.47
1:E:148:LEU:HD13	1:E:148:LEU:C	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:364:GLY:HA3	1:F:432:MET:CE	2.43	0.47
1:G:121:CYS:HB3	1:G:124:ILE:HD12	1.95	0.47
1:G:146:LEU:HD13	1:G:146:LEU:O	2.14	0.47
1:A:105:ILE:HA	1:A:108:MET:HG2	1.96	0.47
1:A:115:LEU:O	1:A:116:ILE:HG13	2.14	0.47
1:E:8:VAL:HG22	1:E:114:ALA:HB3	1.97	0.47
1:E:234:ARG:HH12	1:E:237:LEU:HD12	1.79	0.47
1:D:176:LYS:HZ2	1:D:403:GLU:HG3	1.79	0.47
2:E:501:U2F:O6'	2:E:501:U2F:H2'	2.14	0.47
1:F:26:GLY:HA2	1:F:37:ILE:HD13	1.96	0.47
1:G:473:ARG:HE	1:G:473:ARG:HB3	1.57	0.47
1:A:148:LEU:HD13	1:A:148:LEU:C	2.35	0.47
1:B:115:LEU:HD21	1:B:117:VAL:HG12	1.95	0.47
1:B:326:ARG:HB3	1:B:331:TYR:HE1	1.80	0.47
2:C:501:U2F:O1B	2:C:501:U2F:H5	2.15	0.47
1:A:16:MET:HE1	1:A:53:PHE:CD2	2.50	0.47
1:C:141:THR:HA	1:C:371:TRP:CD1	2.50	0.47
1:C:392:GLU:OE2	2:C:501:U2F:H4	2.15	0.47
1:D:290:LEU:HD22	1:D:303:TRP:CH2	2.49	0.47
1:D:337:LEU:HD12	1:D:337:LEU:H	1.80	0.47
1:F:203:LYS:O	1:F:206:THR:CG2	2.62	0.47
1:F:387:TRP:CH2	1:F:419:VAL:HG21	2.50	0.47
1:G:94:VAL:O	1:G:98:LEU:HD13	2.14	0.47
1:E:33:HIS:CE1	1:E:465:ILE:HG21	2.50	0.47
1:E:328:MET:HE2	1:E:348:PRO:HA	1.97	0.47
1:F:213:ILE:HD13	1:F:215:THR:HG22	1.96	0.47
1:G:156:ASP:O	1:G:190:ARG:NH2	2.47	0.47
1:A:16:MET:SD	1:A:53:PHE:CD2	3.06	0.47
1:B:20:ILE:O	1:B:24:VAL:HG13	2.14	0.47
1:D:156:ASP:OD1	1:D:190:ARG:NH2	2.48	0.47
1:F:148:LEU:HD13	1:F:148:LEU:C	2.35	0.46
1:F:212:LEU:HD23	1:F:244:ILE:HD13	1.97	0.46
1:F:263:LEU:HB3	1:F:359:HIS:CE1	2.51	0.46
1:F:263:LEU:CB	1:F:359:HIS:HD1	2.28	0.46
1:F:424:ILE:O	1:F:428:VAL:HG12	2.15	0.46
1:D:55:LYS:C	1:D:56:LYS:HG2	2.35	0.46
1:D:148:LEU:C	1:D:148:LEU:HD13	2.35	0.46
1:E:112:PRO:HB2	1:E:133:ILE:HD13	1.97	0.46
1:E:466:CYS:HA	1:E:469:VAL:HG12	1.97	0.46
2:E:501:U2F:O2A	2:E:501:U2F:O5	2.32	0.46
1:G:20:ILE:HD13	1:G:249:ARG:HD3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:141:THR:HA	1:A:371:TRP:CD1	2.50	0.46
1:B:125:LEU:HB3	1:B:126:PRO:HD3	1.97	0.46
1:E:203:LYS:O	1:E:206:THR:CG2	2.62	0.46
1:F:392:GLU:OE2	2:F:501:U2F:O3	2.33	0.46
1:E:263:LEU:HB3	1:E:359:HIS:CE1	2.50	0.46
1:G:13:SER:HB3	1:G:14:PRO:CD	2.34	0.46
1:G:102:HIS:O	1:G:105:ILE:HG12	2.15	0.46
1:B:433:GLN:O	1:B:438:LYS:HE2	2.15	0.46
1:C:277:GLY:HA3	1:C:368:HIS:CE1	2.51	0.46
1:G:38:THR:HG23	1:G:67:GLU:CG	2.46	0.46
1:A:156:ASP:OD1	1:A:190:ARG:NH2	2.49	0.46
1:F:166:LEU:HD13	1:F:167:LYS:N	2.31	0.46
1:A:14:PRO:O	1:A:50:GLU:CD	2.53	0.46
1:A:465:ILE:H	1:A:465:ILE:HG13	1.52	0.46
1:B:377:SER:HB2	1:B:382:VAL:CG2	2.45	0.46
1:C:263:LEU:HB3	1:C:359:HIS:CE1	2.51	0.46
1:D:7:HIS:ND1	1:D:112:PRO:HA	2.31	0.46
1:D:292:TRP:O	1:D:296:LEU:CD1	2.61	0.46
1:D:396:ASN:O	1:D:400:LEU:HG	2.15	0.46
1:F:468:LEU:O	1:F:468:LEU:HD23	2.16	0.46
1:A:382:VAL:HG23	1:A:382:VAL:O	2.16	0.46
1:B:194:GLN:H	1:B:194:GLN:HG3	1.58	0.46
1:C:468:LEU:O	1:C:472:ILE:HG12	2.16	0.46
1:G:12:SER:HB3	1:G:41:ALA:HB2	1.98	0.46
1:G:248:ARG:HD3	1:G:379:THR:HG21	1.97	0.46
1:A:48:SER:HB2	1:A:51:THR:CG2	2.46	0.46
1:A:432:MET:HE2	1:A:432:MET:HB3	1.75	0.46
1:C:427:MET:HA	1:C:430:ILE:HG12	1.98	0.46
1:C:429:ARG:NH2	1:D:264:ASP:OD2	2.49	0.46
1:D:369:CYS:SG	1:D:386:ALA:O	2.64	0.46
1:F:290:LEU:C	1:F:290:LEU:CD2	2.85	0.46
1:C:7:HIS:ND1	1:C:112:PRO:HA	2.30	0.45
1:D:203:LYS:O	1:D:206:THR:CG2	2.62	0.45
1:D:372:ASN:CB	2:D:501:U2F:O1A	2.51	0.45
1:G:257:ASP:O	1:G:258:GLU:HB3	2.15	0.45
1:C:156:ASP:OD1	1:C:190:ARG:NH2	2.49	0.45
2:D:501:U2F:H9'	2:D:501:U2F:H5'2	1.98	0.45
1:E:244:ILE:CG2	1:E:244:ILE:O	2.64	0.45
1:E:299:GLN:NE2	1:E:433:GLN:HG3	2.32	0.45
1:G:6:LEU:HB3	1:G:35:ILE:HG23	1.99	0.45
1:G:86:ILE:O	1:G:87:PHE:C	2.55	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:95:ARG:HD2	1:G:95:ARG:HA	1.83	0.45
1:B:237:LEU:HD22	1:B:239:VAL:H	1.81	0.45
1:C:348:PRO:O	1:C:349:MET:CE	2.64	0.45
1:F:143:ALA:CA	1:F:213:ILE:CD1	2.95	0.45
1:A:203:LYS:O	1:A:206:THR:CG2	2.62	0.45
1:C:173:PRO:HB2	1:C:233:LEU:HG	1.98	0.45
1:D:249:ARG:CZ	1:D:354:VAL:HG23	2.47	0.45
1:F:141:THR:HA	1:F:371:TRP:CD1	2.51	0.45
1:F:143:ALA:HA	1:F:213:ILE:HD12	1.98	0.45
1:C:13:SER:OG	1:C:18:HIS:CB	2.65	0.45
1:E:53:PHE:CE1	1:E:57:THR:HG21	2.52	0.45
1:E:59:LEU:CD1	1:E:59:LEU:N	2.79	0.45
1:E:125:LEU:HB3	1:E:126:PRO:HD3	1.98	0.45
1:F:137:THR:HG23	1:F:211:ILE:HG23	1.99	0.45
1:G:424:ILE:O	1:G:428:VAL:HG12	2.16	0.45
1:A:290:LEU:HD23	1:A:303:TRP:CZ2	2.51	0.45
1:F:246:PRO:HB2	1:F:375:VAL:HG13	1.97	0.45
1:F:290:LEU:C	1:F:290:LEU:HD23	2.37	0.45
1:B:105:ILE:HA	1:B:108:MET:CE	2.46	0.45
2:C:501:U2F:H3'	2:C:501:U2F:PA	2.57	0.45
1:D:263:LEU:HB3	1:D:359:HIS:CE1	2.52	0.45
1:C:476:GLU:HA	1:C:476:GLU:OE1	2.17	0.45
1:D:78:HIS:CE1	1:D:79:LEU:CD2	2.99	0.45
1:G:203:LYS:O	1:G:206:THR:CG2	2.63	0.45
1:G:290:LEU:HD23	1:G:290:LEU:C	2.37	0.45
1:B:290:LEU:HD23	1:B:303:TRP:CZ2	2.51	0.45
1:C:114:ALA:C	1:C:115:LEU:HD12	2.37	0.45
1:D:114:ALA:CB	1:D:472:ILE:HD13	2.47	0.45
1:D:176:LYS:HD2	1:D:403:GLU:OE2	2.17	0.45
2:E:501:U2F:O6'	2:E:501:U2F:H3'	2.17	0.45
1:G:40:LEU:HD13	1:G:68:ILE:HG12	1.98	0.45
1:A:470:LYS:HD3	1:A:470:LYS:C	2.37	0.45
1:B:239:VAL:HG12	1:B:240:PRO:CD	2.46	0.45
1:E:246:PRO:HD2	1:E:455:LEU:CD1	2.46	0.45
1:E:292:TRP:C	1:E:296:LEU:HD22	2.37	0.45
1:G:91:ARG:O	1:G:95:ARG:N	2.34	0.45
1:A:328:MET:HA	1:A:331:TYR:CE2	2.52	0.44
1:B:142:THR:HG21	1:B:399:MET:HE1	1.99	0.44
1:D:117:VAL:HG13	1:D:121:CYS:CB	2.36	0.44
1:A:249:ARG:CZ	1:A:354:VAL:HG23	2.47	0.44
1:B:137:THR:HG23	1:B:211:ILE:HG23	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:376:GLU:O	1:C:380:ASN:ND2	2.42	0.44
1:E:353:GLN:NE2	1:E:376:GLU:OE1	2.35	0.44
1:F:217:GLU:HA	1:F:224:ILE:HD12	1.98	0.44
1:F:253:THR:HG22	1:G:425:GLN:HE22	1.82	0.44
1:G:7:HIS:HA	1:G:36:LYS:O	2.18	0.44
1:A:43:THR:CG2	1:A:72:PRO:HA	2.47	0.44
1:A:48:SER:HB2	1:A:51:THR:HG21	1.98	0.44
1:B:76:ILE:HD11	1:B:93:LEU:CD2	2.47	0.44
1:C:94:VAL:CG2	1:C:123:GLN:HE21	2.30	0.44
1:E:95:ARG:CA	1:E:98:LEU:HD23	2.48	0.44
1:A:43:THR:OG1	1:A:44:THR:N	2.51	0.44
1:A:79:LEU:HD23	1:A:79:LEU:HA	1.83	0.44
1:C:10:ILE:HG21	1:C:22:VAL:HG13	1.98	0.44
1:C:69:ILE:N	1:C:69:ILE:CD1	2.80	0.44
1:E:296:LEU:N	1:E:296:LEU:HD13	2.32	0.44
1:F:86:ILE:O	1:F:90:LEU:HD23	2.16	0.44
1:F:253:THR:HG21	1:G:425:GLN:NE2	2.33	0.44
1:A:115:LEU:HG	1:A:116:ILE:N	2.32	0.44
1:B:44:THR:CG2	1:B:47:SER:HB3	2.48	0.44
1:C:94:VAL:CG2	1:C:123:GLN:NE2	2.79	0.44
1:C:258:GLU:OE2	1:E:132:ASN:ND2	2.51	0.44
1:C:429:ARG:HH22	1:D:260:ILE:HG22	1.81	0.44
1:D:106:ALA:HA	1:D:111:ARG:NH1	2.30	0.44
1:G:57:THR:O	1:G:57:THR:CG2	2.65	0.44
1:B:72:PRO:HD2	1:B:100:LYS:HD3	1.98	0.44
1:C:221:PRO:HG2	1:C:222:GLU:OE1	2.18	0.44
1:D:100:LYS:HD2	1:D:100:LYS:HA	1.71	0.44
1:E:145:THR:HG21	1:E:392:GLU:HG3	2.00	0.44
1:E:290:LEU:C	1:E:290:LEU:HD23	2.37	0.44
1:G:117:VAL:CG2	1:G:137:THR:HG22	2.47	0.44
1:C:244:ILE:HG23	1:C:465:ILE:CD1	2.47	0.44
1:E:14:PRO:HA	1:E:42:ILE:O	2.18	0.44
1:E:201:LEU:HD13	1:E:201:LEU:O	2.18	0.44
1:F:105:ILE:HA	1:F:108:MET:CE	2.48	0.44
1:F:468:LEU:HD23	1:F:468:LEU:C	2.38	0.44
1:G:141:THR:CG2	1:G:142:THR:N	2.81	0.44
1:G:146:LEU:C	1:G:146:LEU:CD1	2.86	0.44
1:A:105:ILE:CA	1:A:108:MET:HG2	2.48	0.44
1:G:5:GLN:OE1	1:G:35:ILE:HA	2.18	0.44
1:G:33:HIS:CE1	1:G:465:ILE:HD13	2.53	0.44
1:G:475:ARG:O	1:G:476:GLU:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:263:LEU:HB3	1:A:359:HIS:CD2	2.52	0.43
1:B:295:GLU:CD	1:B:339:ARG:HD2	2.38	0.43
1:C:408:ILE:CD1	1:C:430:ILE:HG13	2.48	0.43
1:D:95:ARG:CA	1:D:98:LEU:HD23	2.48	0.43
1:E:19:LEU:HD22	1:E:50:GLU:HG3	2.00	0.43
1:E:383:PRO:CG	1:E:431:LEU:HD21	2.46	0.43
1:G:354:VAL:HG23	1:G:355:GLU:CD	2.38	0.43
1:A:124:ILE:O	1:A:125:LEU:C	2.56	0.43
1:A:211:ILE:N	1:A:211:ILE:CD1	2.82	0.43
1:D:14:PRO:HG2	1:D:93:LEU:HD12	2.00	0.43
1:D:151:TYR:HD2	1:D:155:PHE:CE2	2.36	0.43
1:E:234:ARG:NH1	1:E:237:LEU:HD12	2.32	0.43
1:E:399:MET:O	1:E:404:LEU:HD22	2.18	0.43
1:G:292:TRP:C	1:G:296:LEU:HD22	2.39	0.43
1:A:409:ARG:HB2	1:A:410:PRO:HD2	2.01	0.43
1:C:38:THR:HG23	1:C:69:ILE:HD13	2.00	0.43
1:F:143:ALA:CA	1:F:213:ILE:HD11	2.47	0.43
1:F:272:LEU:HD13	1:F:432:MET:HE3	2.00	0.43
1:G:301:PHE:CZ	1:G:344:GLY:HA3	2.53	0.43
1:A:95:ARG:CA	1:A:98:LEU:HD23	2.49	0.43
1:B:7:HIS:ND1	1:B:112:PRO:HA	2.33	0.43
1:C:104:THR:O	1:C:108:MET:HG2	2.19	0.43
1:C:409:ARG:HB2	1:C:410:PRO:HD2	2.01	0.43
1:E:34:ASN:O	1:E:34:ASN:CG	2.56	0.43
1:F:349:MET:HB3	1:F:350:TRP:H	1.70	0.43
1:G:137:THR:CG2	1:G:208:PHE:CD2	3.01	0.43
1:B:52:GLU:O	1:B:56:LYS:HG2	2.19	0.43
1:B:382:VAL:HG23	1:B:382:VAL:O	2.18	0.43
1:C:95:ARG:CA	1:C:98:LEU:HD23	2.49	0.43
1:E:27:ASN:HA	1:E:66:ILE:HD11	2.01	0.43
1:E:295:GLU:HB3	1:E:296:LEU:HD13	2.01	0.43
1:G:88:THR:OG1	1:G:89:GLN:N	2.52	0.43
1:A:151:TYR:HD2	1:A:155:PHE:CE2	2.37	0.43
1:C:42:ILE:HA	1:C:71:VAL:CG1	2.49	0.43
1:D:10:ILE:HB	1:D:39:ILE:HD13	1.99	0.43
1:D:213:ILE:HG22	1:D:215:THR:HG22	2.00	0.43
1:G:404:LEU:N	1:G:404:LEU:HD12	2.33	0.43
1:A:33:HIS:O	1:A:35:ILE:HG13	2.18	0.43
1:A:35:ILE:HD11	1:A:469:VAL:CG1	2.49	0.43
1:B:10:ILE:HG22	1:B:22:VAL:HG13	1.99	0.43
1:C:94:VAL:HG23	1:C:123:GLN:HE21	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:229:TYR:CD2	1:F:430:ILE:HD11	2.53	0.43
1:C:328:MET:HA	1:C:331:TYR:CE2	2.54	0.43
1:D:201:LEU:HD13	1:D:201:LEU:O	2.18	0.43
1:E:413:LEU:HD13	1:E:416:LYS:CE	2.48	0.43
1:F:301:PHE:CZ	1:F:344:GLY:HA3	2.53	0.43
1:G:72:PRO:O	1:G:100:LYS:HD3	2.18	0.43
1:G:90:LEU:HD13	1:G:120:PHE:CZ	2.54	0.43
1:G:139:HIS:HE1	1:G:146:LEU:N	2.16	0.43
1:B:106:ALA:O	1:B:111:ARG:NH1	2.50	0.43
1:B:301:PHE:CZ	1:B:344:GLY:HA3	2.53	0.43
1:D:27:ASN:HA	1:D:66:ILE:HD11	2.00	0.43
1:D:409:ARG:HB2	1:D:410:PRO:HD2	2.01	0.43
1:F:58:THR:O	1:F:59:LEU:HB3	2.18	0.43
1:A:301:PHE:CZ	1:A:344:GLY:HA3	2.54	0.43
1:B:145:THR:HG21	1:B:392:GLU:HG3	2.01	0.43
1:C:61:ASN:OD1	1:C:61:ASN:O	2.37	0.43
1:C:80:ILE:HG22	1:C:84:THR:HG21	2.01	0.43
1:G:139:HIS:CE1	1:G:146:LEU:HB2	2.54	0.43
1:B:115:LEU:CD2	1:B:117:VAL:CG1	2.97	0.43
1:C:59:LEU:HD22	1:C:59:LEU:H	1.84	0.43
1:C:125:LEU:HB3	1:C:126:PRO:HD3	2.01	0.43
1:C:259:VAL:HG23	1:C:260:ILE:N	2.33	0.43
1:C:429:ARG:NH2	1:D:260:ILE:HG22	2.30	0.43
1:A:466:CYS:HA	1:A:469:VAL:HG22	2.01	0.42
1:B:251:VAL:CG1	1:B:355:GLU:HG3	2.45	0.42
1:B:431:LEU:O	1:B:432:MET:HB2	2.18	0.42
1:B:464:SER:HA	1:B:467:GLU:HG2	2.01	0.42
1:D:157:LYS:HE2	1:D:157:LYS:N	2.34	0.42
1:E:7:HIS:HB2	1:E:110:HIS:CE1	2.54	0.42
1:E:137:THR:OG1	1:E:208:PHE:CD2	2.72	0.42
1:E:371:TRP:HA	1:E:374:THR:OG1	2.19	0.42
1:F:124:ILE:O	1:F:127:ILE:N	2.52	0.42
1:F:151:TYR:HD2	1:F:155:PHE:CE2	2.37	0.42
1:G:399:MET:O	1:G:404:LEU:HD13	2.19	0.42
1:A:54:LEU:HD12	1:A:68:ILE:CD1	2.23	0.42
1:A:139:HIS:CE1	1:A:141:THR:O	2.72	0.42
1:A:406:VAL:O	1:A:406:VAL:HG22	2.19	0.42
1:C:101:ILE:O	1:C:105:ILE:HG13	2.20	0.42
1:E:119:ILE:CD1	1:E:120:PHE:CE1	2.96	0.42
1:F:290:LEU:HD23	1:F:290:LEU:O	2.18	0.42
1:G:91:ARG:NE	1:G:197:GLU:HG3	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:409:ARG:HB2	1:B:410:PRO:HD2	2.01	0.42
2:B:501:U2F:O4'	2:B:501:U2F:C5'	2.56	0.42
1:C:332:LEU:CD1	1:C:333:PRO:O	2.66	0.42
1:C:350:TRP:CZ2	2:C:501:U2F:C8'	3.02	0.42
1:E:166:LEU:HD13	1:E:167:LYS:N	2.33	0.42
1:E:192:ASP:O	1:E:194:GLN:N	2.42	0.42
1:F:125:LEU:HB3	1:F:126:PRO:HD3	2.01	0.42
1:F:143:ALA:HA	1:F:213:ILE:CD1	2.49	0.42
1:A:115:LEU:CD2	1:A:128:ALA:CB	2.69	0.42
1:A:290:LEU:HA	1:A:424:ILE:HD13	2.02	0.42
1:B:371:TRP:O	1:B:375:VAL:HG13	2.20	0.42
1:B:442:GLU:O	1:B:446:LYS:HD2	2.19	0.42
1:C:273:PHE:HE2	1:C:353:GLN:HB2	1.85	0.42
1:D:301:PHE:CZ	1:D:344:GLY:HA3	2.53	0.42
1:E:21:PRO:HA	1:E:24:VAL:HG22	2.01	0.42
1:E:244:ILE:HG23	1:E:465:ILE:HD11	2.00	0.42
1:E:249:ARG:CZ	1:E:354:VAL:CG2	2.97	0.42
1:E:409:ARG:HB2	1:E:410:PRO:HD2	2.00	0.42
1:A:94:VAL:O	1:A:95:ARG:C	2.57	0.42
1:C:76:ILE:HD11	1:C:93:LEU:CD2	2.49	0.42
1:D:98:LEU:N	1:D:99:PRO:HD2	2.34	0.42
1:E:213:ILE:CG2	1:E:215:THR:HG22	2.47	0.42
1:F:7:HIS:HD2	1:F:112:PRO:HA	1.83	0.42
1:G:137:THR:HG23	1:G:208:PHE:CG	2.54	0.42
1:B:95:ARG:CA	1:B:98:LEU:HD23	2.49	0.42
1:B:171:LYS:O	1:B:171:LYS:HG3	2.19	0.42
1:C:376:GLU:OE2	2:C:501:U2F:O6'	2.37	0.42
1:D:119:ILE:HG23	1:D:120:PHE:CD2	2.55	0.42
1:D:290:LEU:CD2	1:D:294:LEU:CD1	2.97	0.42
1:F:95:ARG:CA	1:F:98:LEU:HD23	2.48	0.42
1:G:401:THR:HG22	1:G:407:ALA:O	2.19	0.42
1:B:263:LEU:HB3	1:B:359:HIS:CD2	2.55	0.42
1:B:336:PHE:O	1:B:339:ARG:HG2	2.20	0.42
1:C:426:GLY:HA2	1:D:253:THR:HG21	2.02	0.42
1:D:307:PRO:HD3	1:D:349:MET:HE3	2.02	0.42
1:E:14:PRO:CG	1:E:93:LEU:HD23	2.48	0.42
1:G:121:CYS:HB3	1:G:124:ILE:CD1	2.49	0.42
1:A:81:ASN:O	1:A:82:SER:C	2.57	0.42
1:B:99:PRO:O	1:B:102:HIS:HB3	2.20	0.42
1:C:41:ALA:O	1:C:71:VAL:HG12	2.19	0.42
1:C:44:THR:HA	1:C:73:SER:HG	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:145:THR:HG21	1:C:392:GLU:HG3	2.02	0.42
1:C:435:LYS:HZ3	1:D:382:VAL:HG22	1.85	0.42
1:D:248:ARG:HD3	1:D:379:THR:HG21	2.02	0.42
1:E:5:GLN:HE21	1:E:34:ASN:C	2.22	0.42
1:E:235:LEU:HD13	1:E:235:LEU:O	2.19	0.42
1:E:250:LYS:HD3	1:E:250:LYS:HA	1.92	0.42
1:E:304:VAL:HG13	1:E:349:MET:O	2.19	0.42
1:F:212:LEU:N	1:F:212:LEU:HD12	2.35	0.42
1:B:201:LEU:HD13	1:B:201:LEU:O	2.20	0.42
1:B:387:TRP:CH2	1:B:419:VAL:HG21	2.54	0.42
1:C:98:LEU:N	1:C:99:PRO:HD2	2.35	0.42
1:C:301:PHE:CZ	1:C:344:GLY:HA3	2.53	0.42
1:F:20:ILE:HG21	1:F:249:ARG:CD	2.49	0.42
1:A:98:LEU:N	1:A:99:PRO:HD2	2.35	0.42
1:A:371:TRP:HA	1:A:374:THR:OG1	2.19	0.42
1:A:426:GLY:O	1:A:427:MET:C	2.58	0.42
1:C:290:LEU:HA	1:C:424:ILE:HD13	2.02	0.42
1:D:371:TRP:HA	1:D:374:THR:OG1	2.19	0.42
1:E:343:MET:HE3	1:E:343:MET:HB3	1.83	0.42
1:F:129:GLU:O	1:F:132:ASN:N	2.48	0.42
1:F:145:THR:HG21	1:F:392:GLU:HG3	2.00	0.42
1:G:359:HIS:ND1	1:G:361:SER:OG	2.45	0.42
1:C:401:THR:HG21	1:C:409:ARG:HD3	2.02	0.41
1:E:7:HIS:ND1	1:E:112:PRO:HA	2.35	0.41
1:F:231:GLU:HG2	1:F:232:LYS:N	2.34	0.41
1:G:145:THR:HG21	1:G:392:GLU:HG3	2.02	0.41
1:G:167:LYS:HE3	1:G:167:LYS:HB3	1.55	0.41
1:A:13:SER:CB	1:A:14:PRO:CD	2.99	0.41
1:C:396:ASN:O	1:C:400:LEU:HG	2.20	0.41
1:D:330:GLU:HG3	1:D:331:TYR:CD2	2.55	0.41
1:G:90:LEU:CD1	1:G:120:PHE:CE1	3.02	0.41
1:G:285:LYS:CE	1:G:285:LYS:CA	2.95	0.41
1:G:352:ASN:HD22	1:G:352:ASN:N	2.18	0.41
1:D:104:THR:O	1:D:108:MET:HG3	2.19	0.41
1:E:98:LEU:N	1:E:99:PRO:HD2	2.34	0.41
1:E:119:ILE:HG13	1:E:120:PHE:CD1	2.56	0.41
1:E:413:LEU:HD13	1:E:416:LYS:CD	2.50	0.41
1:G:57:THR:O	1:G:58:THR:C	2.58	0.41
1:G:137:THR:HG23	1:G:208:PHE:CE2	2.54	0.41
1:G:141:THR:HG23	1:G:142:THR:H	1.84	0.41
1:A:94:VAL:O	1:A:97:ALA:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:145:THR:HG21	1:A:392:GLU:HG3	2.02	0.41
1:A:429:ARG:CZ	1:A:433:GLN:NE2	2.77	0.41
1:C:115:LEU:HD13	1:C:133:ILE:HG21	2.01	0.41
1:D:106:ALA:O	1:D:107:SER:CB	2.67	0.41
1:F:401:THR:HG21	1:F:409:ARG:HD3	2.02	0.41
1:G:20:ILE:HG21	1:G:249:ARG:HD3	2.02	0.41
1:A:51:THR:O	1:A:54:LEU:HB3	2.20	0.41
1:A:423:GLU:O	1:A:427:MET:HG3	2.21	0.41
1:C:456:SER:O	1:C:457:ASP:C	2.58	0.41
1:D:146:LEU:CD2	1:D:213:ILE:HD11	2.50	0.41
1:F:281:THR:CG2	1:F:309:SER:HB3	2.50	0.41
1:G:341:LYS:O	1:G:342:ASP:HB2	2.21	0.41
1:C:49:ALA:O	1:C:50:GLU:C	2.59	0.41
1:C:52:GLU:H	1:C:52:GLU:HG3	1.50	0.41
1:C:435:LYS:NZ	1:D:357:LEU:O	2.53	0.41
1:F:79:LEU:HB3	1:F:92:LEU:HD13	2.02	0.41
1:A:130:GLU:C	1:A:132:ASN:H	2.24	0.41
1:B:115:LEU:C	1:B:115:LEU:HD23	2.41	0.41
1:B:159:ILE:N	1:B:159:ILE:HD12	2.36	0.41
1:D:19:LEU:C	1:D:19:LEU:CD2	2.89	0.41
1:D:213:ILE:HG21	1:D:213:ILE:HD13	1.84	0.41
1:F:290:LEU:HA	1:F:424:ILE:HD13	2.03	0.41
1:G:105:ILE:O	1:G:106:ALA:HB3	2.21	0.41
1:A:54:LEU:HA	1:A:57:THR:HG22	2.02	0.41
1:A:65:THR:O	1:A:66:ILE:C	2.59	0.41
1:A:249:ARG:CZ	1:A:354:VAL:CG2	2.99	0.41
1:B:255:LEU:HD13	1:B:260:ILE:HG13	2.03	0.41
1:C:138:TYR:O	1:C:140:PRO:HD3	2.21	0.41
1:C:159:ILE:HD13	1:C:160:GLU:H	1.85	0.41
1:D:119:ILE:HG13	1:D:205:TYR:OH	2.21	0.41
1:E:76:ILE:O	1:E:77:SER:C	2.58	0.41
1:A:35:ILE:HD11	1:A:469:VAL:HG12	2.02	0.41
1:B:336:PHE:CA	1:B:339:ARG:NH1	2.83	0.41
1:C:117:VAL:HG12	1:C:118:ASP:O	2.21	0.41
1:C:371:TRP:HA	1:C:374:THR:OG1	2.21	0.41
1:D:105:ILE:O	1:D:108:MET:HB2	2.20	0.41
1:D:290:LEU:HA	1:D:424:ILE:HD13	2.02	0.41
1:E:154:VAL:O	1:E:158:GLU:HG2	2.20	0.41
1:E:237:LEU:HD12	1:E:239:VAL:O	2.21	0.41
1:F:26:GLY:O	1:F:37:ILE:HD12	2.21	0.41
1:G:69:ILE:O	1:G:69:ILE:HG22	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:371:TRP:HA	1:G:374:THR:OG1	2.20	0.41
1:G:396:ASN:O	1:G:400:LEU:HG	2.21	0.41
1:A:106:ALA:O	1:A:107:SER:CB	2.69	0.41
1:B:255:LEU:HA	1:B:255:LEU:HD23	1.84	0.41
1:B:471:ASP:O	1:B:475:ARG:HG2	2.21	0.41
1:C:455:LEU:HD23	1:C:455:LEU:HA	1.83	0.41
1:D:471:ASP:O	1:D:475:ARG:HG2	2.21	0.41
1:E:76:ILE:HG23	1:E:79:LEU:HB2	2.02	0.41
1:G:98:LEU:N	1:G:99:PRO:HD2	2.36	0.41
1:G:231:GLU:O	1:G:235:LEU:HG	2.21	0.41
1:G:235:LEU:HA	1:G:238:LYS:HZ2	1.84	0.41
1:B:255:LEU:CD1	1:B:260:ILE:HG13	2.51	0.40
1:C:341:LYS:O	1:C:342:ASP:HB2	2.21	0.40
1:E:438:LYS:HD2	1:E:438:LYS:H	1.84	0.40
1:G:179:ARG:CD	1:G:180:PRO:HD2	2.50	0.40
1:A:105:ILE:HA	1:A:108:MET:CG	2.51	0.40
1:B:326:ARG:HB3	1:B:331:TYR:CE1	2.56	0.40
1:C:46:SER:O	1:C:47:SER:C	2.58	0.40
1:C:180:PRO:O	1:C:183:VAL:HG13	2.21	0.40
1:F:306:ARG:HB3	1:F:307:PRO:HD2	2.03	0.40
1:F:396:ASN:O	1:F:400:LEU:HG	2.21	0.40
1:G:130:GLU:C	1:G:132:ASN:H	2.24	0.40
1:G:266:GLN:HG3	1:G:300:LYS:HD3	2.03	0.40
1:C:385:ILE:HG13	1:C:431:LEU:HD22	2.03	0.40
1:E:263:LEU:CB	1:E:359:HIS:ND1	2.85	0.40
1:G:76:ILE:HG23	1:G:80:ILE:HD12	2.04	0.40
1:G:366:LEU:HD11	1:G:387:TRP:HE3	1.86	0.40
1:B:138:TYR:O	1:B:140:PRO:HD3	2.22	0.40
1:B:432:MET:HE3	1:B:432:MET:HB3	1.72	0.40
1:C:71:VAL:HG21	1:C:101:ILE:HD13	2.04	0.40
1:E:94:VAL:HG23	1:E:95:ARG:N	2.37	0.40
1:E:255:LEU:H	1:E:255:LEU:HG	1.56	0.40
1:F:253:THR:CG2	1:G:425:GLN:NE2	2.84	0.40
1:F:328:MET:HA	1:F:331:TYR:CZ	2.57	0.40
1:G:90:LEU:HD13	1:G:120:PHE:CE1	2.57	0.40
1:A:54:LEU:O	1:A:57:THR:HG22	2.21	0.40
1:B:180:PRO:O	1:B:183:VAL:HG13	2.22	0.40
1:C:212:LEU:CD2	1:C:244:ILE:HD12	2.51	0.40
1:C:435:LYS:NZ	1:D:382:VAL:HG22	2.36	0.40
1:E:166:LEU:HD22	1:E:166:LEU:HA	1.92	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the sym-

metry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:433:GLN:NE2	1:B:264:ASP:OD2[2_646]	2.07	0.13

5.3 Torsion angles

5.3.1 Protein backbone

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	449/479 (94%)	418 (93%)	30 (7%)	1 (0%)	44 73
1	B	455/479 (95%)	424 (93%)	31 (7%)	0	100 100
1	C	456/479 (95%)	420 (92%)	36 (8%)	0	100 100
1	D	456/479 (95%)	422 (92%)	33 (7%)	1 (0%)	44 73
1	E	455/479 (95%)	423 (93%)	32 (7%)	0	100 100
1	F	455/479 (95%)	422 (93%)	33 (7%)	0	100 100
1	G	456/479 (95%)	405 (89%)	50 (11%)	1 (0%)	44 73
All	All	3182/3353 (95%)	2934 (92%)	245 (8%)	3 (0%)	48 78

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	46	SER
1	D	73	SER
1	G	77	SER

5.3.2 Protein sidechains

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	408/425 (96%)	379 (93%)	29 (7%)	12	37
1	B	412/425 (97%)	390 (95%)	22 (5%)	19	46
1	C	413/425 (97%)	387 (94%)	26 (6%)	15	41
1	D	413/425 (97%)	388 (94%)	25 (6%)	15	42
1	E	412/425 (97%)	389 (94%)	23 (6%)	17	44
1	F	412/425 (97%)	376 (91%)	36 (9%)	8	29
1	G	413/425 (97%)	364 (88%)	49 (12%)	4	16
All	All	2883/2975 (97%)	2673 (93%)	210 (7%)	11	35

All (210) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	14	PRO
1	A	38	THR
1	A	44	THR
1	A	45	THR
1	A	47	SER
1	A	54	LEU
1	A	59	LEU
1	A	61	ASN
1	A	72	PRO
1	A	80	ILE
1	A	93	LEU
1	A	118	ASP
1	A	119	ILE
1	A	123	GLN
1	A	127	ILE
1	A	138	TYR
1	A	233	LEU
1	A	235	LEU
1	A	258	GLU
1	A	326	ARG
1	A	327	ASP
1	A	328	MET
1	A	331	TYR
1	A	358	SER
1	A	395	MET
1	A	432	MET
1	A	450	SER
1	A	461	SER
1	A	465	ILE

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Mol	Chain	Res	Type
1	B	59	LEU
1	B	60	THR
1	B	64	LYS
1	B	65	THR
1	B	108	MET
1	B	111	ARG
1	B	135	LYS
1	B	138	TYR
1	B	142	THR
1	B	167	LYS
1	B	192	ASP
1	B	194	GLN
1	B	237	LEU
1	B	331	TYR
1	B	419	VAL
1	B	428	VAL
1	B	432	MET
1	B	433	GLN
1	B	439	ARG
1	B	441	LYS
1	B	460	SER
1	B	472	ILE
1	C	34	ASN
1	C	47	SER
1	C	59	LEU
1	C	82	SER
1	C	101	ILE
1	C	110	HIS
1	C	138	TYR
1	C	159	ILE
1	C	160	GLU
1	C	172	ILE
1	C	175	CYS
1	C	176	LYS
1	C	237	LEU
1	C	238	LYS
1	C	239	VAL
1	C	241	VAL
1	C	248	ARG
1	C	310	ASP
1	C	331	TYR
1	C	337	LEU

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Mol	Chain	Res	Type
1	C	349	MET
1	C	415	THR
1	C	420	LYS
1	C	450	SER
1	C	457	ASP
1	C	472	ILE
1	D	38	THR
1	D	54	LEU
1	D	59	LEU
1	D	82	SER
1	D	100	LYS
1	D	109	THR
1	D	138	TYR
1	D	142	THR
1	D	157	LYS
1	D	165	GLU
1	D	166	LEU
1	D	167	LYS
1	D	168	GLU
1	D	193	GLN
1	D	231	GLU
1	D	237	LEU
1	D	284	THR
1	D	327	ASP
1	D	333	PRO
1	D	341	LYS
1	D	387	TRP
1	D	409	ARG
1	D	418	LEU
1	D	450	SER
1	D	468	LEU
1	E	37	ILE
1	E	105	ILE
1	E	111	ARG
1	E	115	LEU
1	E	116	ILE
1	E	138	TYR
1	E	166	LEU
1	E	168	GLU
1	E	170	LEU
1	E	211	ILE
1	E	213	ILE

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Mol	Chain	Res	Type
1	E	237	LEU
1	E	255	LEU
1	E	296	LEU
1	E	326	ARG
1	E	328	MET
1	E	329	SER
1	E	331	TYR
1	E	349	MET
1	E	438	LYS
1	E	450	SER
1	E	468	LEU
1	E	476	GLU
1	F	38	THR
1	F	39	ILE
1	F	60	THR
1	F	75	ASP
1	F	77	SER
1	F	100	LYS
1	F	107	SER
1	F	113	ASP
1	F	125	LEU
1	F	133	ILE
1	F	138	TYR
1	F	160	GLU
1	F	166	LEU
1	F	167	LYS
1	F	194	GLN
1	F	201	LEU
1	F	222	GLU
1	F	224	ILE
1	F	237	LEU
1	F	255	LEU
1	F	290	LEU
1	F	328	MET
1	F	329	SER
1	F	331	TYR
1	F	341	LYS
1	F	349	MET
1	F	354	VAL
1	F	399	MET
1	F	419	VAL
1	F	428	VAL

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Mol	Chain	Res	Type
1	F	447	LEU
1	F	461	SER
1	F	470	LYS
1	F	473	ARG
1	F	475	ARG
1	F	477	LEU
1	G	5	GLN
1	G	6	LEU
1	G	10	ILE
1	G	19	LEU
1	G	43	THR
1	G	50	GLU
1	G	55	LYS
1	G	62	GLU
1	G	64	LYS
1	G	65	THR
1	G	74	VAL
1	G	77	SER
1	G	84	THR
1	G	91	ARG
1	G	94	VAL
1	G	98	LEU
1	G	105	ILE
1	G	111	ARG
1	G	113	ASP
1	G	119	ILE
1	G	127	ILE
1	G	140	PRO
1	G	141	THR
1	G	142	THR
1	G	146	LEU
1	G	166	LEU
1	G	167	LYS
1	G	181	ASP
1	G	213	ILE
1	G	237	LEU
1	G	285	LYS
1	G	296	LEU
1	G	326	ARG
1	G	327	ASP
1	G	328	MET
1	G	329	SER

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Mol	Chain	Res	Type
1	G	330	GLU
1	G	345	LEU
1	G	347	VAL
1	G	352	ASN
1	G	399	MET
1	G	401	THR
1	G	428	VAL
1	G	450	SER
1	G	460	SER
1	G	469	VAL
1	G	473	ARG
1	G	475	ARG
1	G	477	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (51) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	132	ASN
1	A	268	ASN
1	A	299	GLN
1	A	368	HIS
1	B	5	GLN
1	B	110	HIS
1	B	193	GLN
1	B	194	GLN
1	C	102	HIS
1	C	123	GLN
1	C	268	ASN
1	C	286	GLN
1	C	352	ASN
1	D	34	ASN
1	D	78	HIS
1	D	102	HIS
1	D	123	GLN
1	D	286	GLN
1	D	299	GLN
1	D	353	GLN
1	D	368	HIS
1	D	380	ASN
1	D	396	ASN
1	D	463	ASN
1	E	5	GLN

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Mol	Chain	Res	Type
1	E	32	HIS
1	E	110	HIS
1	E	132	ASN
1	E	286	GLN
1	E	299	GLN
1	E	368	HIS
1	E	372	ASN
1	F	5	GLN
1	F	89	GLN
1	F	286	GLN
1	F	425	GLN
1	F	453	ASN
1	G	27	ASN
1	G	61	ASN
1	G	110	HIS
1	G	225	ASN
1	G	286	GLN
1	G	298	GLN
1	G	299	GLN
1	G	352	ASN
1	G	353	GLN
1	G	368	HIS
1	G	372	ASN
1	G	425	GLN
1	G	433	GLN
1	G	463	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)

12 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	T83	A	502	-	15,15,15	0.59	0	21,21,21	1.02	2 (9%)
3	T83	C	502	-	15,15,15	0.49	0	21,21,21	0.96	2 (9%)
3	T83	B	502	-	15,15,15	0.47	0	21,21,21	0.95	2 (9%)
3	T83	D	502	-	15,15,15	0.52	0	21,21,21	0.93	2 (9%)
2	U2F	F	501	-	35,38,38	3.55	18 (51%)	51,58,58	1.94	13 (25%)
2	U2F	A	501	-	35,38,38	0.54	0	51,58,58	0.61	0
2	U2F	E	501	-	35,38,38	3.36	19 (54%)	51,58,58	2.06	18 (35%)
2	U2F	C	501	-	35,38,38	3.60	18 (51%)	51,58,58	1.96	10 (19%)
3	T83	F	502	-	15,15,15	0.48	0	21,21,21	0.93	2 (9%)
2	U2F	B	501	-	35,38,38	3.39	19 (54%)	51,58,58	1.77	15 (29%)
2	U2F	G	501	-	35,38,38	3.45	20 (57%)	51,58,58	1.89	13 (25%)
2	U2F	D	501	-	35,38,38	3.44	19 (54%)	51,58,58	1.82	13 (25%)

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	T83	A	502	-	-	2/2/2/2	0/2/2/2
3	T83	C	502	-	-	2/2/2/2	0/2/2/2
3	T83	B	502	-	-	2/2/2/2	0/2/2/2
3	T83	D	502	-	-	2/2/2/2	0/2/2/2
2	U2F	F	501	-	-	7/22/59/59	0/3/3/3
2	U2F	A	501	-	-	8/22/59/59	0/3/3/3
2	U2F	E	501	-	-	14/22/59/59	0/3/3/3
2	U2F	C	501	-	-	8/22/59/59	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	T83	F	502	-	-	2/2/2/2	0/2/2/2
2	U2F	B	501	-	-	8/22/59/59	0/3/3/3
2	U2F	G	501	-	-	9/22/59/59	0/3/3/3
2	U2F	D	501	-	-	8/22/59/59	0/3/3/3

All (113) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	501	U2F	O4'-C4'	9.83	1.67	1.45
2	F	501	U2F	O4'-C4'	9.80	1.66	1.45
2	D	501	U2F	O4'-C4'	9.65	1.66	1.45
2	B	501	U2F	O4'-C4'	9.42	1.66	1.45
2	E	501	U2F	O4'-C4'	9.33	1.65	1.45
2	C	501	U2F	O4'-C4'	9.28	1.65	1.45
2	C	501	U2F	C2-C3	-9.02	1.44	1.52
2	B	501	U2F	O7'-C7'	7.94	1.39	1.24
2	G	501	U2F	O7'-C7'	7.76	1.39	1.24
2	F	501	U2F	O7'-C7'	7.74	1.39	1.24
2	F	501	U2F	C2-C3	-7.51	1.45	1.52
2	D	501	U2F	O7'-C7'	7.41	1.38	1.24
2	D	501	U2F	C2-C3	-7.01	1.46	1.52
2	C	501	U2F	O7'-C7'	7.01	1.38	1.24
2	E	501	U2F	C2-C3	-7.00	1.46	1.52
2	C	501	U2F	C3'-C4'	-6.90	1.35	1.53
2	G	501	U2F	C2-C3	-6.88	1.46	1.52
2	B	501	U2F	C2-C3	-6.74	1.46	1.52
2	D	501	U2F	C3'-C4'	-6.73	1.35	1.53
2	E	501	U2F	O7'-C7'	6.66	1.37	1.24
2	E	501	U2F	C3'-C4'	-6.65	1.36	1.53
2	F	501	U2F	C3'-C4'	-6.64	1.36	1.53
2	B	501	U2F	C3'-C4'	-6.62	1.36	1.53
2	G	501	U2F	C3'-C4'	-6.27	1.37	1.53
2	G	501	U2F	O4'-C1'	-5.24	1.29	1.42
2	F	501	U2F	O4'-C1'	-5.20	1.29	1.42
2	E	501	U2F	O4'-C1'	-4.90	1.30	1.42
2	C	501	U2F	O4'-C1'	-4.86	1.30	1.42
2	D	501	U2F	O4'-C1'	-4.79	1.30	1.42
2	C	501	U2F	O2'-C2'	-4.71	1.31	1.43
2	B	501	U2F	O4'-C1'	-4.69	1.30	1.42
2	F	501	U2F	O2'-C2'	-4.64	1.32	1.43
2	F	501	U2F	O5-C5	4.55	1.55	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	501	U2F	O5-C5	4.54	1.55	1.44
2	C	501	U2F	C7'-N3	-4.51	1.30	1.38
2	B	501	U2F	O2'-C2'	-4.50	1.32	1.43
2	E	501	U2F	O2'-C2'	-4.32	1.32	1.43
2	D	501	U2F	O2'-C2'	-4.20	1.33	1.43
2	G	501	U2F	O2'-C2'	-4.13	1.33	1.43
2	E	501	U2F	O5-C5	4.10	1.54	1.44
2	C	501	U2F	O5-C5	4.03	1.54	1.44
2	B	501	U2F	O5-C5	3.93	1.53	1.44
2	G	501	U2F	O5-C5	3.84	1.53	1.44
2	F	501	U2F	C7'-N3	-3.83	1.31	1.38
2	E	501	U2F	C2-C1	-3.74	1.49	1.52
2	D	501	U2F	C7'-N3	-3.71	1.31	1.38
2	G	501	U2F	C6'-N1	-3.70	1.32	1.38
2	F	501	U2F	C6'-N1	-3.57	1.32	1.38
2	F	501	U2F	PB-O1	3.49	1.69	1.60
2	G	501	U2F	C7'-N3	-3.44	1.32	1.38
2	B	501	U2F	C6'-N1	-3.43	1.32	1.38
2	D	501	U2F	C6'-N1	-3.43	1.32	1.38
2	C	501	U2F	C6'-N3	-3.37	1.32	1.38
2	D	501	U2F	PB-O1	3.33	1.69	1.60
2	C	501	U2F	C2'-C1'	3.31	1.64	1.53
2	B	501	U2F	C7'-N3	-3.27	1.32	1.38
2	E	501	U2F	C7'-N3	-3.22	1.32	1.38
2	G	501	U2F	PB-O1	3.22	1.68	1.60
2	E	501	U2F	C6'-N1	-3.16	1.33	1.38
2	C	501	U2F	C6'-N1	-3.08	1.33	1.38
2	F	501	U2F	O5-C1	3.07	1.49	1.41
2	B	501	U2F	PB-O1	3.07	1.68	1.60
2	C	501	U2F	O5-C1	3.03	1.49	1.41
2	C	501	U2F	PB-O1	3.00	1.68	1.60
2	C	501	U2F	C2-C1	-2.93	1.49	1.52
2	F	501	U2F	O3'-C3'	2.89	1.49	1.43
2	G	501	U2F	C2-C1	-2.88	1.49	1.52
2	E	501	U2F	F1-C2	2.86	1.46	1.40
2	E	501	U2F	PB-O1	2.78	1.67	1.60
2	D	501	U2F	O5-C1	2.77	1.48	1.41
2	E	501	U2F	O5-C1	2.77	1.48	1.41
2	E	501	U2F	C6'-N3	-2.76	1.33	1.38
2	G	501	U2F	C2'-C1'	2.73	1.62	1.53
2	B	501	U2F	F1-C2	2.72	1.46	1.40
2	C	501	U2F	F1-C2	2.72	1.46	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	G	501	U2F	F1-C2	2.66	1.45	1.40
2	G	501	U2F	O3'-C3'	2.63	1.49	1.43
2	D	501	U2F	C2'-C1'	2.60	1.61	1.53
2	D	501	U2F	F1-C2	2.58	1.45	1.40
2	E	501	U2F	C2'-C1'	2.56	1.61	1.53
2	C	501	U2F	O3'-C3'	2.56	1.49	1.43
2	D	501	U2F	O3'-C3'	2.56	1.49	1.43
2	C	501	U2F	O6'-C6'	-2.55	1.18	1.23
2	B	501	U2F	O3'-C3'	2.54	1.49	1.43
2	E	501	U2F	O3-C3	2.50	1.48	1.43
2	F	501	U2F	F1-C2	2.46	1.45	1.40
2	B	501	U2F	C2-C1	-2.46	1.50	1.52
2	G	501	U2F	O3-C3	2.44	1.48	1.43
2	D	501	U2F	C6'-N3	-2.44	1.33	1.38
2	G	501	U2F	O5-C1	2.44	1.48	1.41
2	F	501	U2F	O6'-C6'	-2.44	1.18	1.23
2	B	501	U2F	C2'-C1'	2.43	1.61	1.53
2	B	501	U2F	O5-C1	2.40	1.48	1.41
2	B	501	U2F	O3-C3	2.39	1.48	1.43
2	E	501	U2F	O3'-C3'	2.36	1.48	1.43
2	F	501	U2F	C2'-C1'	2.33	1.60	1.53
2	F	501	U2F	C2-C1	-2.33	1.50	1.52
2	B	501	U2F	C6-C5	-2.30	1.44	1.51
2	F	501	U2F	C6'-N3	-2.30	1.33	1.38
2	D	501	U2F	C2-C1	-2.30	1.50	1.52
2	E	501	U2F	C8'-C7'	-2.28	1.38	1.43
2	G	501	U2F	O6'-C6'	-2.26	1.18	1.23
2	G	501	U2F	PA-O5'	2.22	1.68	1.59
2	G	501	U2F	C9'-C8'	2.20	1.40	1.35
2	D	501	U2F	C8'-C7'	-2.15	1.38	1.43
2	B	501	U2F	C6'-N3	-2.12	1.34	1.38
2	D	501	U2F	PA-O5'	2.11	1.67	1.59
2	E	501	U2F	PA-O5'	2.07	1.67	1.59
2	C	501	U2F	C6-C5	-2.06	1.44	1.51
2	G	501	U2F	C6-C5	-2.06	1.44	1.51
2	F	501	U2F	O3-C3	2.06	1.47	1.43
2	B	501	U2F	C8'-C7'	-2.04	1.39	1.43
2	D	501	U2F	O3-C3	2.00	1.47	1.43

All (92) bond angle outliers are listed below:

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	501	U2F	N3-C6'-N1	7.10	124.32	114.89
2	F	501	U2F	N3-C6'-N1	7.03	124.22	114.89
2	G	501	U2F	N3-C6'-N1	6.84	123.98	114.89
2	B	501	U2F	N3-C6'-N1	6.12	123.01	114.89
2	C	501	U2F	C7'-N3-C6'	-6.03	118.62	126.58
2	F	501	U2F	C7'-N3-C6'	-5.59	119.21	126.58
2	D	501	U2F	N3-C6'-N1	5.58	122.29	114.89
2	G	501	U2F	C7'-N3-C6'	-4.79	120.26	126.58
2	D	501	U2F	C1-O5-C5	4.76	123.02	113.69
2	E	501	U2F	C8'-C7'-N3	4.67	121.82	114.84
2	E	501	U2F	C2'-C3'-C4'	-4.64	93.62	102.64
2	E	501	U2F	C7'-N3-C6'	-4.33	120.87	126.58
2	E	501	U2F	O7'-C7'-C8'	-4.23	117.72	125.16
2	B	501	U2F	C7'-N3-C6'	-4.18	121.07	126.58
2	D	501	U2F	C7'-N3-C6'	-4.16	121.09	126.58
2	F	501	U2F	C1-O5-C5	4.13	121.79	113.69
2	C	501	U2F	C8'-C7'-N3	3.87	120.63	114.84
2	E	501	U2F	N3-C6'-N1	3.81	119.95	114.89
2	E	501	U2F	O5-C5-C4	-3.79	102.81	109.69
2	C	501	U2F	O6'-C6'-N3	-3.73	114.56	121.50
2	D	501	U2F	C1-C2-C3	3.72	116.07	110.60
2	B	501	U2F	PA-O3A-PB	-3.60	120.47	132.83
2	B	501	U2F	O7'-C7'-C8'	-3.49	119.02	125.16
2	E	501	U2F	C1'-N1-C6'	3.38	123.69	117.57
2	E	501	U2F	C3-C4-C5	3.13	115.83	110.24
2	E	501	U2F	O3'-C3'-C4'	3.13	120.09	111.05
3	A	502	T83	OAC-CAJ-CAK	3.11	127.35	120.09
2	C	501	U2F	C1-O5-C5	3.06	119.69	113.69
2	F	501	U2F	F1-C2-C1	3.06	110.99	107.57
2	G	501	U2F	C3-C4-C5	3.05	115.67	110.24
2	G	501	U2F	PA-O3A-PB	-3.02	122.47	132.83
2	F	501	U2F	O6'-C6'-N3	-2.99	115.93	121.50
2	D	501	U2F	O7'-C7'-C8'	-2.99	119.90	125.16
2	G	501	U2F	O6'-C6'-N1	-2.98	118.82	122.79
2	E	501	U2F	O3A-PB-O1	2.97	108.47	102.48
2	D	501	U2F	C8'-C7'-N3	2.94	119.24	114.84
2	C	501	U2F	O3A-PB-O1	2.91	108.35	102.48
2	D	501	U2F	F1-C2-C1	2.88	110.80	107.57
2	F	501	U2F	O3A-PB-O1	2.88	108.29	102.48
2	E	501	U2F	C4'-O4'-C1'	-2.85	103.18	109.47
3	C	502	T83	OAC-CAJ-CAK	2.85	126.75	120.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	501	U2F	F1-C2-C1	2.84	110.75	107.57
3	B	502	T83	OAC-CAJ-CAK	2.82	126.67	120.09
2	G	501	U2F	O7'-C7'-C8'	-2.78	120.28	125.16
3	D	502	T83	OAC-CAJ-CAK	2.74	126.49	120.09
2	E	501	U2F	C9'-C8'-C7'	-2.73	115.78	119.52
3	F	502	T83	OAC-CAJ-CAK	2.72	126.44	120.09
2	G	501	U2F	O4'-C1'-C2'	-2.72	100.72	106.64
3	A	502	T83	OAC-CAJ-CAF	-2.69	112.25	119.46
2	D	501	U2F	O6'-C6'-N3	-2.66	116.55	121.50
2	B	501	U2F	F1-C2-C1	2.59	110.47	107.57
2	F	501	U2F	C1'-N1-C6'	2.56	122.21	117.57
2	F	501	U2F	C8'-C7'-N3	2.56	118.67	114.84
2	F	501	U2F	PA-O3A-PB	-2.53	124.15	132.83
2	G	501	U2F	C4'-O4'-C1'	-2.53	103.89	109.47
2	E	501	U2F	PA-O3A-PB	-2.52	124.17	132.83
2	D	501	U2F	C1'-N1-C6'	2.51	122.11	117.57
2	E	501	U2F	O6'-C6'-N3	-2.49	116.86	121.50
2	E	501	U2F	C1'-N1-C9'	-2.49	115.42	120.84
2	B	501	U2F	C9'-N1-C6'	-2.49	117.81	120.99
2	B	501	U2F	O6'-C6'-N3	-2.48	116.89	121.50
2	C	501	U2F	PA-O3A-PB	-2.47	124.33	132.83
2	B	501	U2F	C8'-C7'-N3	2.47	118.54	114.84
3	C	502	T83	OAC-CAJ-CAF	-2.43	112.95	119.46
2	G	501	U2F	C8'-C7'-N3	2.41	118.45	114.84
2	D	501	U2F	PA-O3A-PB	-2.40	124.58	132.83
3	B	502	T83	OAC-CAJ-CAF	-2.40	113.04	119.46
3	D	502	T83	OAC-CAJ-CAF	-2.36	113.14	119.46
3	F	502	T83	OAC-CAJ-CAF	-2.35	113.18	119.46
2	B	501	U2F	C1'-N1-C6'	2.33	121.79	117.57
2	B	501	U2F	O3A-PB-O1	2.33	107.18	102.48
2	F	501	U2F	O1-C1-C2	2.32	112.63	108.38
2	E	501	U2F	O4-C4-C5	-2.31	103.56	109.30
2	G	501	U2F	O6'-C6'-N3	-2.31	117.20	121.50
2	F	501	U2F	C3'-C2'-C1'	2.28	105.76	101.43
2	G	501	U2F	C9'-N1-C6'	-2.24	118.13	120.99
2	B	501	U2F	O5-C1-O1	-2.22	108.46	111.36
2	D	501	U2F	C3-C4-C5	2.22	114.20	110.24
2	C	501	U2F	C3-C4-C5	2.21	114.18	110.24
2	F	501	U2F	O6'-C6'-N1	-2.21	119.85	122.79
2	E	501	U2F	F1-C2-C1	2.20	110.03	107.57
2	D	501	U2F	O5-C5-C4	2.19	113.68	109.69
2	E	501	U2F	O5-C5-C6	2.18	111.85	106.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	501	U2F	C3'-C2'-C1'	2.17	105.55	101.43
2	B	501	U2F	O7'-C7'-N3	2.14	122.44	119.31
2	G	501	U2F	O5-C1-O1	-2.11	108.61	111.36
2	D	501	U2F	O3-C3-C4	-2.08	105.54	110.35
2	C	501	U2F	O2'-C2'-C3'	-2.06	105.15	111.82
2	B	501	U2F	O1-C1-C2	2.02	112.09	108.38
2	G	501	U2F	F1-C2-C1	2.02	109.83	107.57
2	B	501	U2F	O6'-C6'-N1	-2.02	120.10	122.79
2	F	501	U2F	O7'-C7'-C8'	-2.02	121.61	125.16

There are no chirality outliers.

All (72) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	U2F	O5-C1-O1-PB
2	B	501	U2F	C1-O1-PB-O3A
2	C	501	U2F	O5-C1-O1-PB
2	C	501	U2F	C4'-C5'-O5'-PA
2	D	501	U2F	O5-C1-O1-PB
2	D	501	U2F	PB-O3A-PA-O5'
2	D	501	U2F	C5'-O5'-PA-O1A
2	D	501	U2F	O4'-C4'-C5'-O5'
2	D	501	U2F	C3'-C4'-C5'-O5'
2	E	501	U2F	C5'-O5'-PA-O1A
2	E	501	U2F	C4'-C5'-O5'-PA
2	E	501	U2F	C3'-C4'-C5'-O5'
2	F	501	U2F	O5-C1-O1-PB
2	F	501	U2F	O4'-C1'-N1-C6'
2	F	501	U2F	O4'-C1'-N1-C9'
2	G	501	U2F	C5'-O5'-PA-O3A
3	C	502	T83	CAG-CAK-OAH-CAA
3	C	502	T83	CAJ-CAK-OAH-CAA
3	D	502	T83	CAG-CAK-OAH-CAA
3	B	502	T83	CAG-CAK-OAH-CAA
3	F	502	T83	CAG-CAK-OAH-CAA
3	A	502	T83	CAG-CAK-OAH-CAA
3	B	502	T83	CAJ-CAK-OAH-CAA
3	D	502	T83	CAJ-CAK-OAH-CAA
3	F	502	T83	CAJ-CAK-OAH-CAA
3	A	502	T83	CAJ-CAK-OAH-CAA
2	A	501	U2F	C4-C5-C6-O6
2	E	501	U2F	C2'-C1'-N1-C6'

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Mol	Chain	Res	Type	Atoms
2	C	501	U2F	O4'-C4'-C5'-O5'
2	E	501	U2F	O5-C5-C6-O6
2	E	501	U2F	C4-C5-C6-O6
2	F	501	U2F	C4-C5-C6-O6
2	A	501	U2F	O5-C5-C6-O6
2	E	501	U2F	C2'-C1'-N1-C9'
2	C	501	U2F	C3'-C4'-C5'-O5'
2	F	501	U2F	O5-C5-C6-O6
2	B	501	U2F	O5-C5-C6-O6
2	E	501	U2F	O4'-C4'-C5'-O5'
2	F	501	U2F	O4'-C4'-C5'-O5'
2	D	501	U2F	C4-C5-C6-O6
2	G	501	U2F	O5-C5-C6-O6
2	G	501	U2F	O4'-C4'-C5'-O5'
2	B	501	U2F	C4'-C5'-O5'-PA
2	A	501	U2F	PB-O3A-PA-O5'
2	E	501	U2F	PA-O3A-PB-O1
2	G	501	U2F	PA-O3A-PB-O1
2	C	501	U2F	C1-O1-PB-O3A
2	D	501	U2F	C1-O1-PB-O3A
2	E	501	U2F	C5'-O5'-PA-O3A
2	B	501	U2F	C1-O1-PB-O1B
2	A	501	U2F	C1-O1-PB-O3A
2	G	501	U2F	C4'-C5'-O5'-PA
2	E	501	U2F	C5'-O5'-PA-O2A
2	G	501	U2F	C5'-O5'-PA-O2A
2	B	501	U2F	O5-C1-O1-PB
2	E	501	U2F	O5-C1-O1-PB
2	A	501	U2F	PA-O3A-PB-O1B
2	C	501	U2F	PA-O3A-PB-O2B
2	F	501	U2F	C3'-C4'-C5'-O5'
2	G	501	U2F	C3'-C4'-C5'-O5'
2	B	501	U2F	C4-C5-C6-O6
2	D	501	U2F	O5-C5-C6-O6
2	G	501	U2F	C1-O1-PB-O3A
2	E	501	U2F	PB-O3A-PA-O5'
2	C	501	U2F	O4'-C1'-N1-C9'
2	E	501	U2F	O4'-C1'-N1-C9'
2	C	501	U2F	C2'-C1'-N1-C9'
2	A	501	U2F	O4'-C4'-C5'-O5'
2	A	501	U2F	PA-O3A-PB-O2B
2	B	501	U2F	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
2	G	501	U2F	C5'-O5'-PA-O1A
2	B	501	U2F	O4'-C4'-C5'-O5'

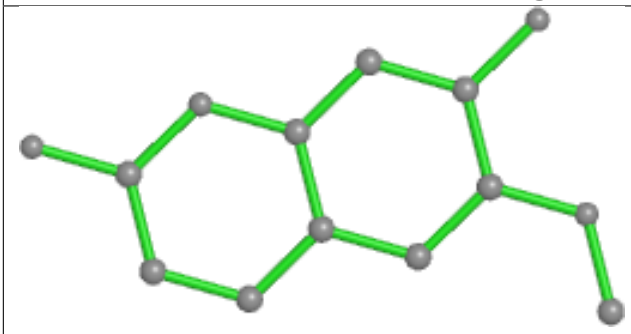
There are no ring outliers.

11 monomers are involved in 47 short contacts:

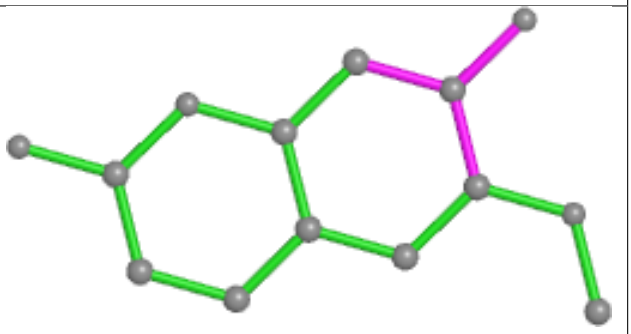
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	502	T83	1	0
3	C	502	T83	1	0
3	B	502	T83	1	0
3	D	502	T83	1	0
2	F	501	U2F	4	0
2	E	501	U2F	10	0
2	C	501	U2F	15	0
3	F	502	T83	1	0
2	B	501	U2F	3	0
2	G	501	U2F	5	0
2	D	501	U2F	5	0

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.

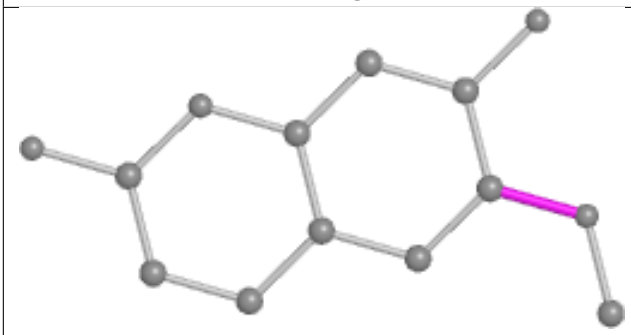
Ligand T83 A 502



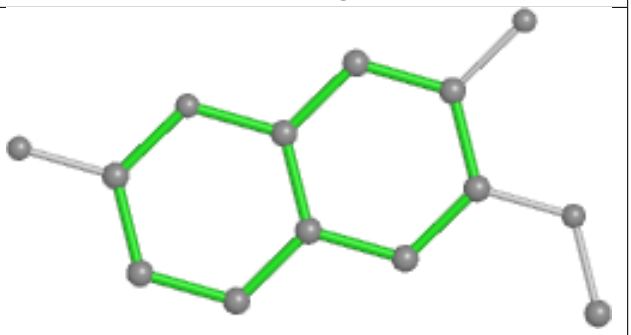
Bond lengths



Bond angles

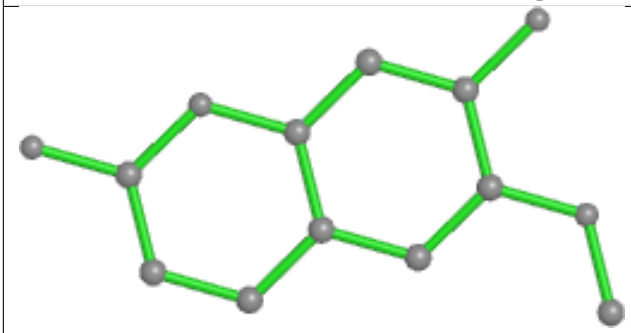


Torsions



Rings

Ligand T83 C 502



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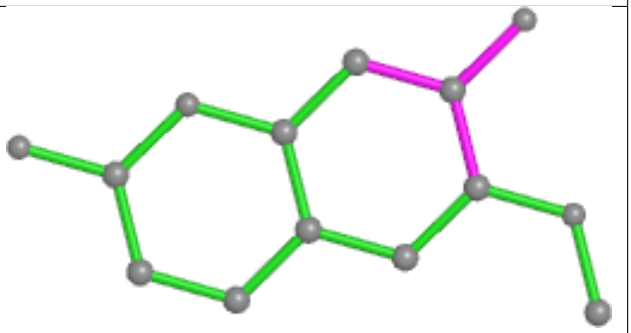
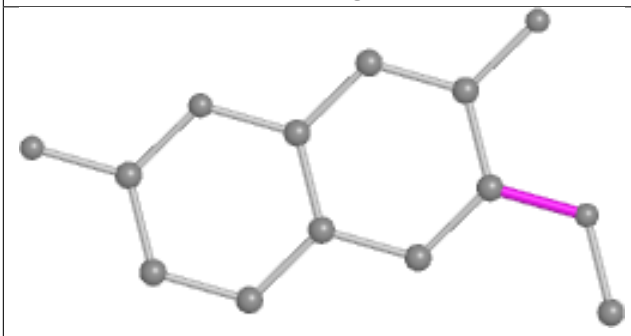
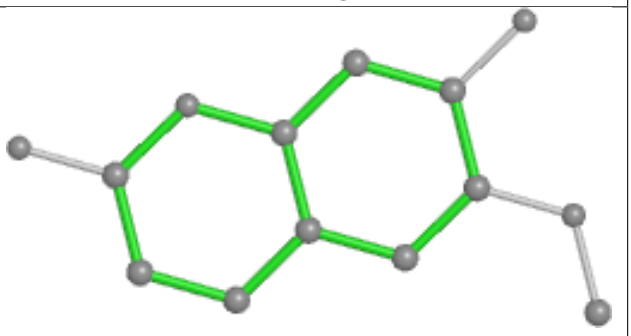


Bond angles

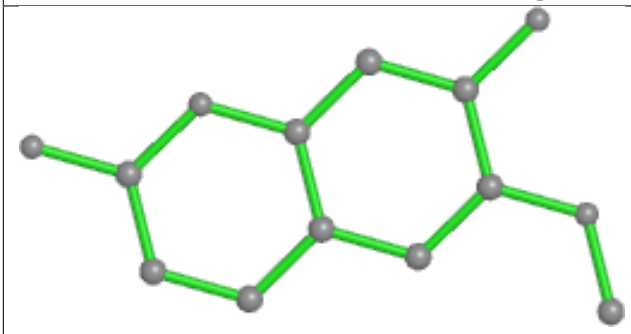


Torsions

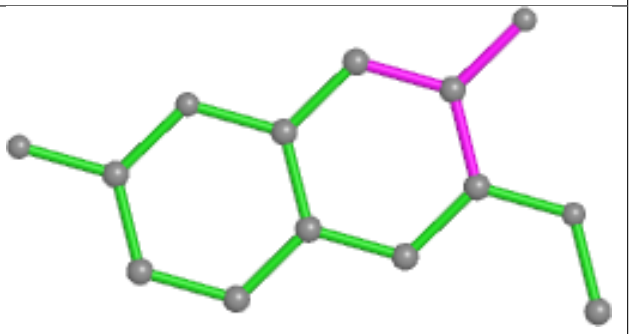


Rings

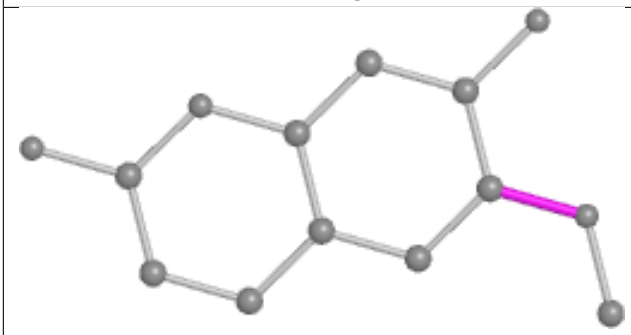
Ligand T83 B 502



Bond lengths



Bond angles



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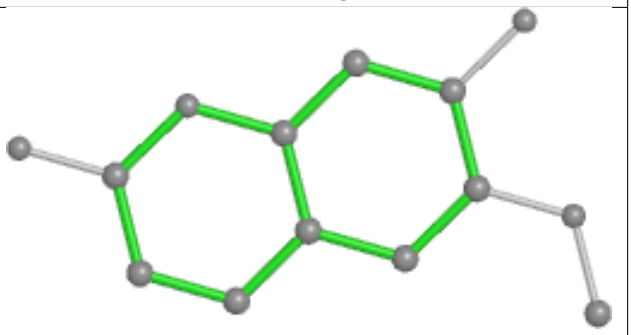
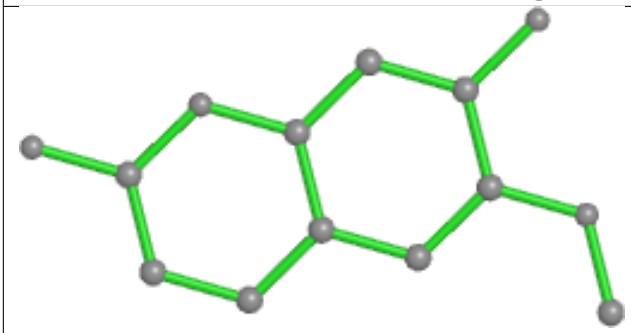
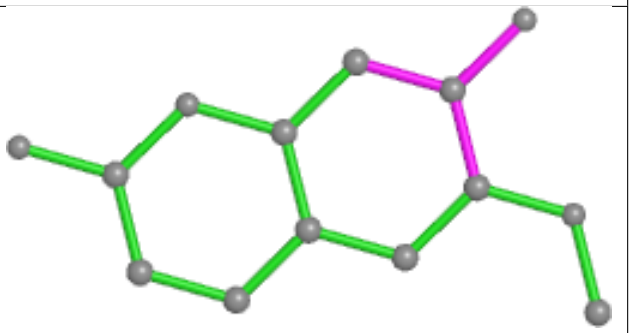


Rings

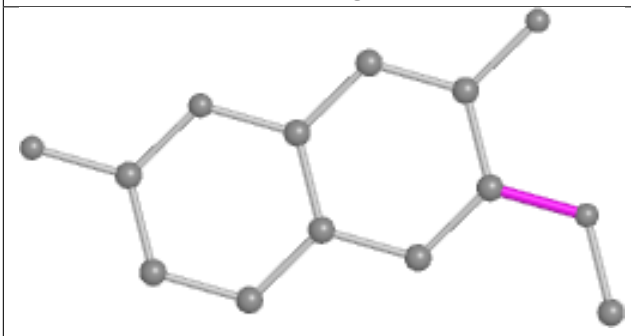
Ligand T83 D 502



Bond lengths



Bond angles



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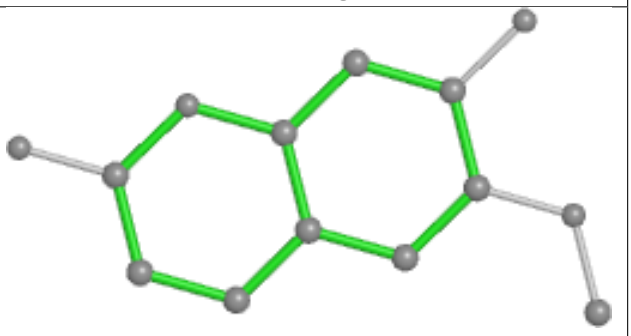
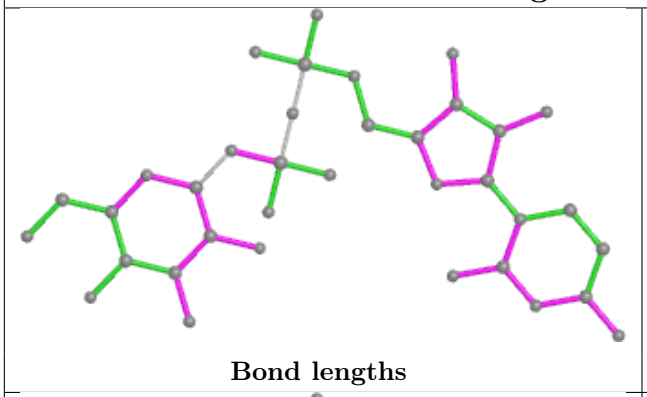
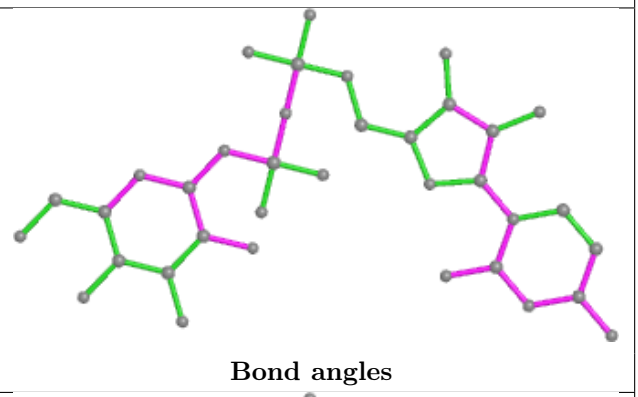


Rings

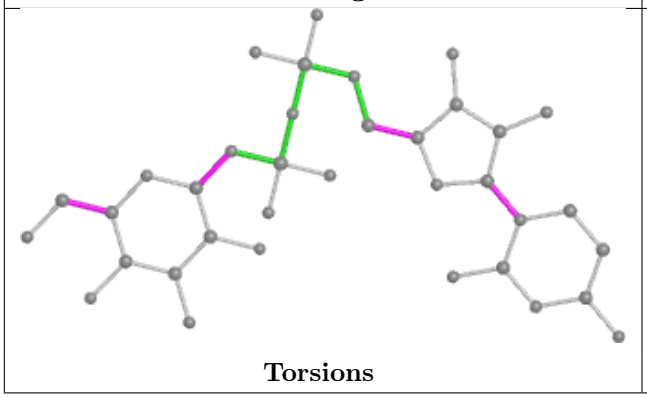
Ligand U2F F 501



Bond lengths



Bond angles



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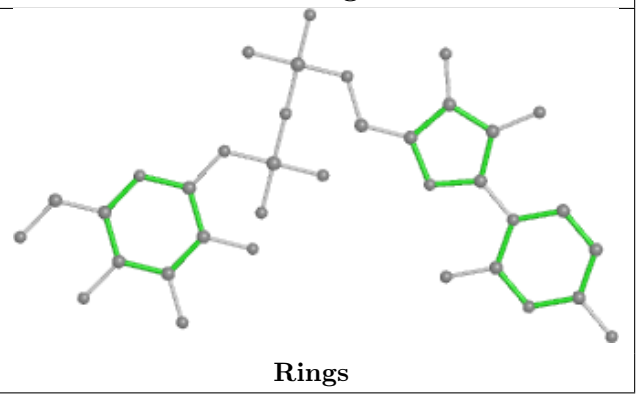
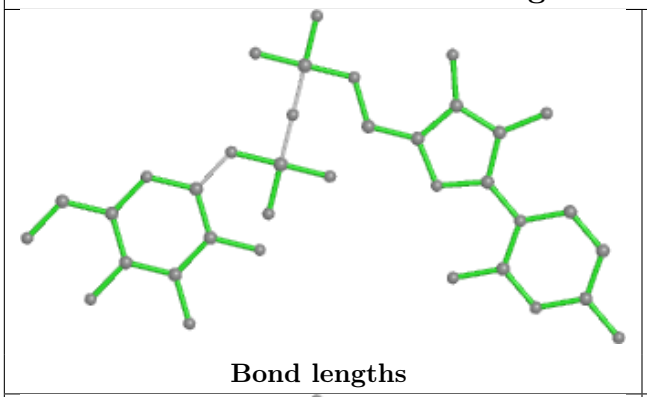


Rings

Ligand U2F A 501



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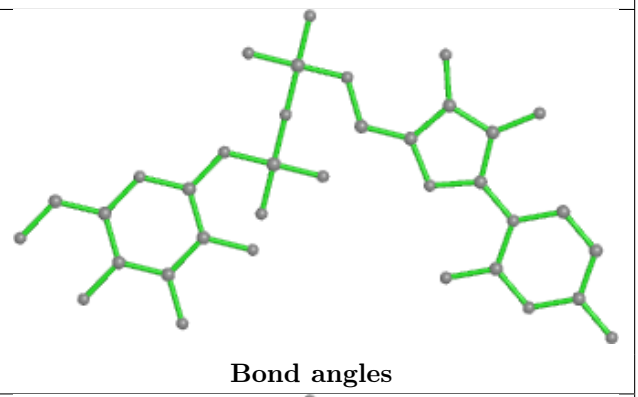
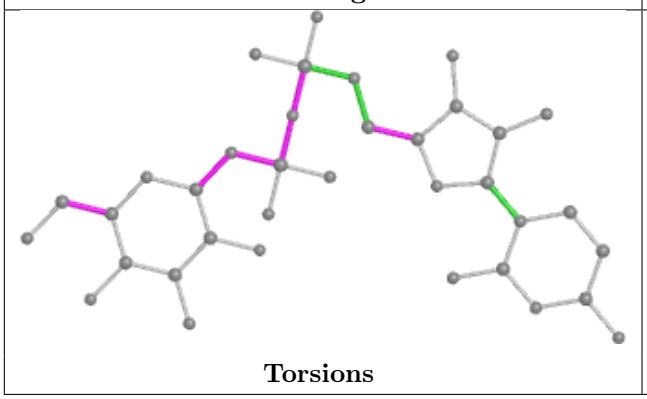


Bond angles



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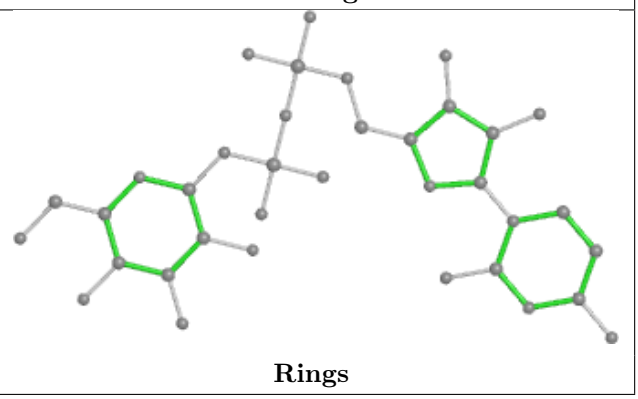
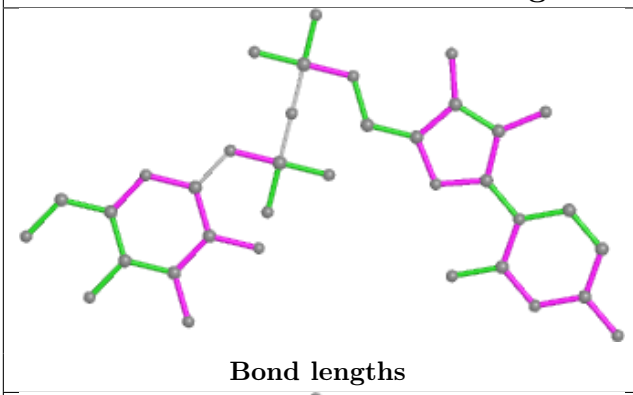


Rings

Ligand U2F E 501



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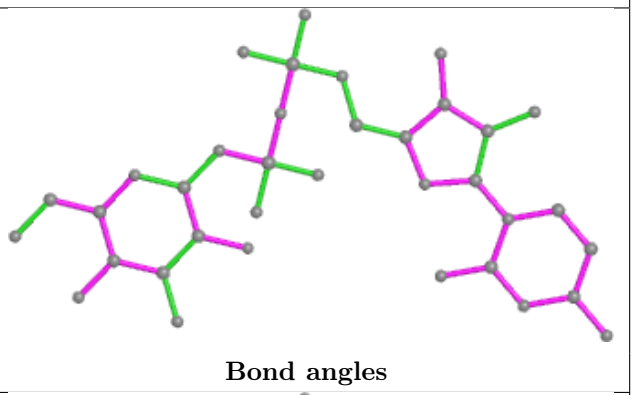
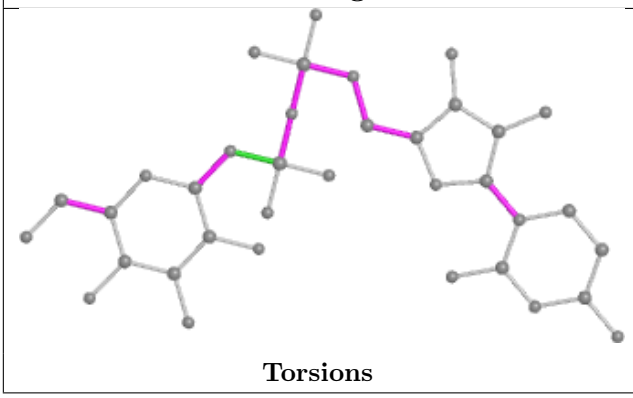


Bond angles



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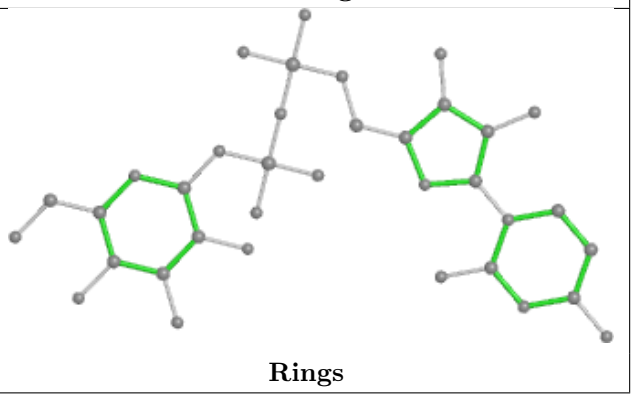
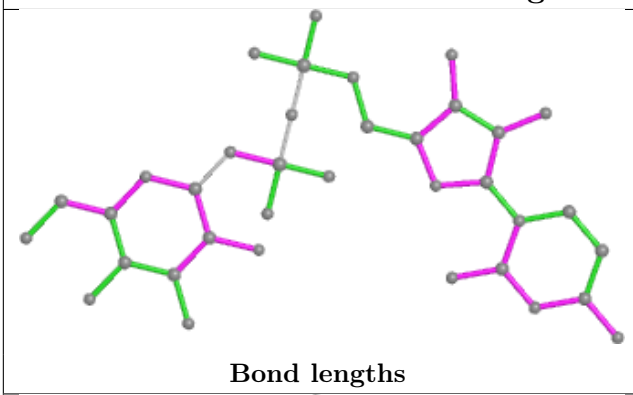


Rings

Ligand U2F C 501



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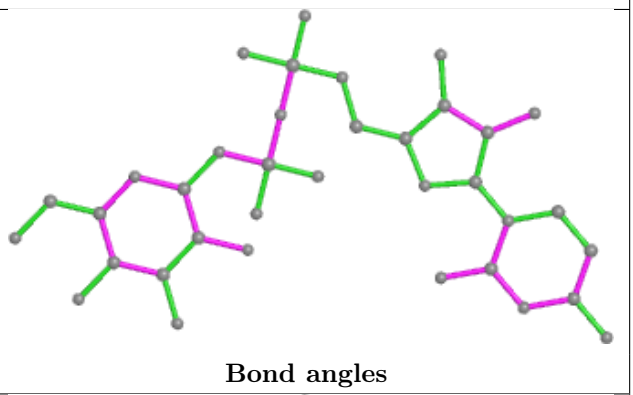
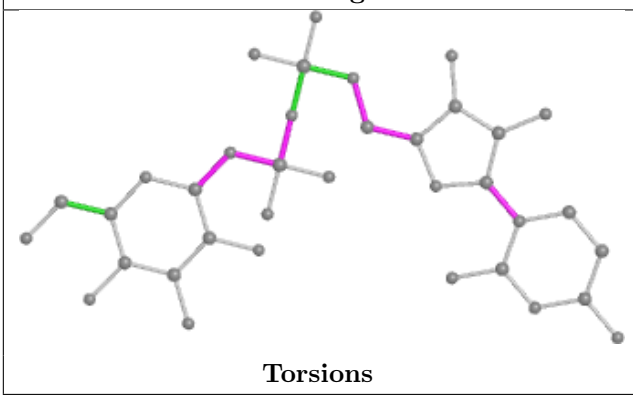


Bond angles



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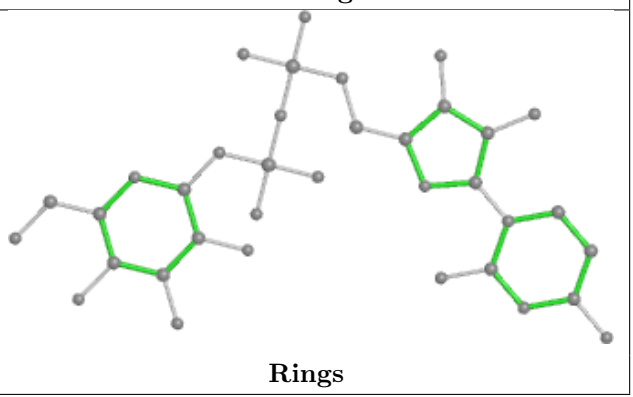
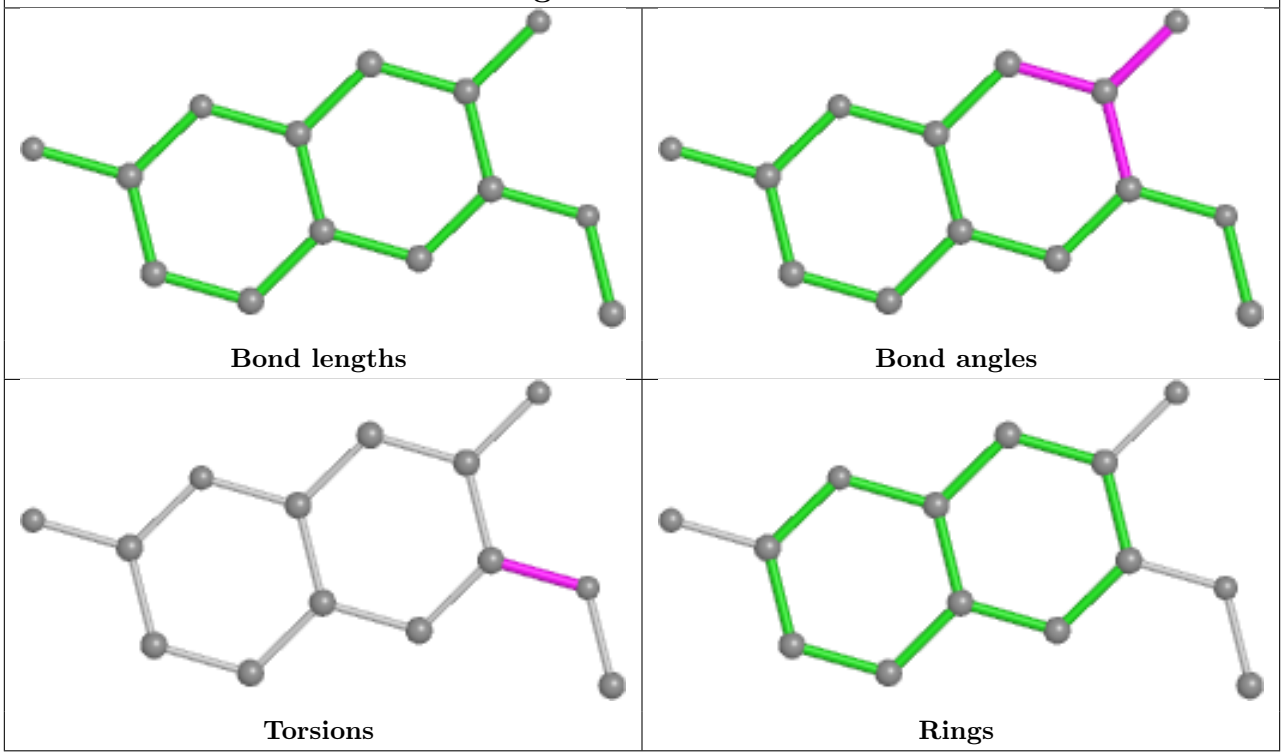
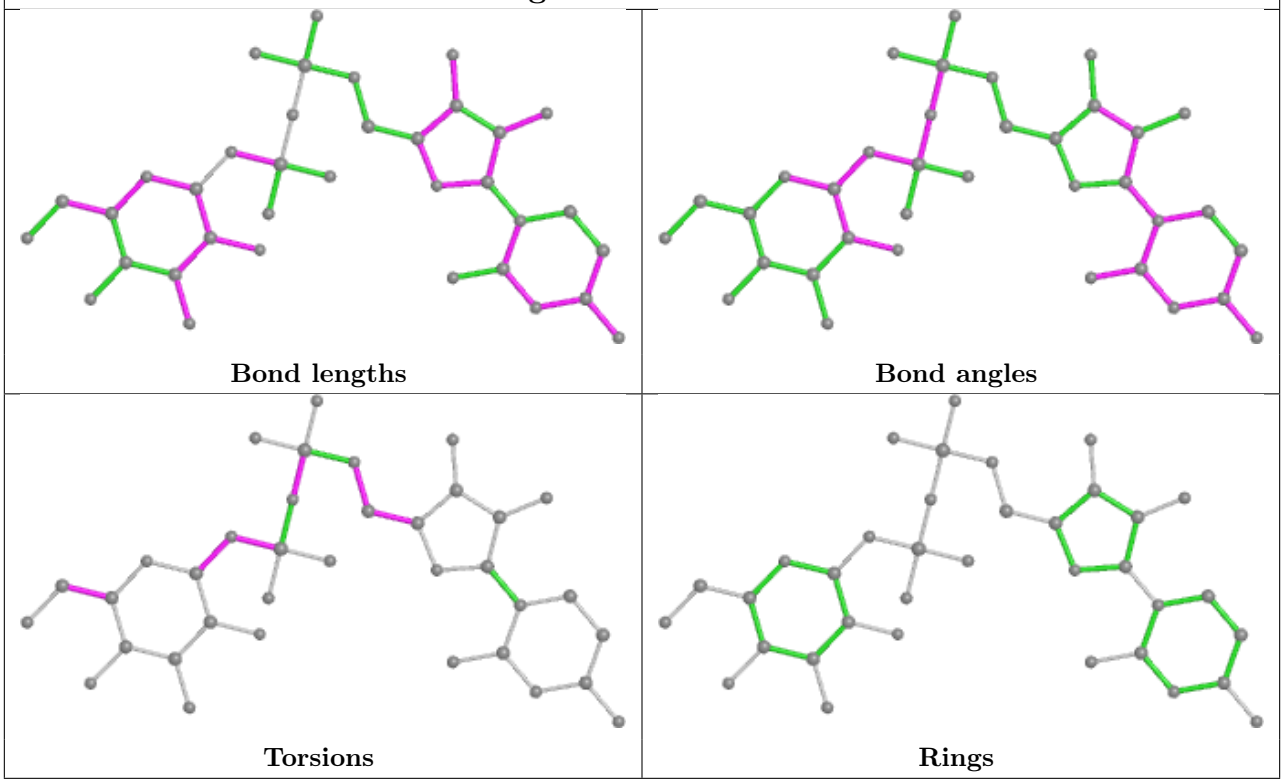


Rings

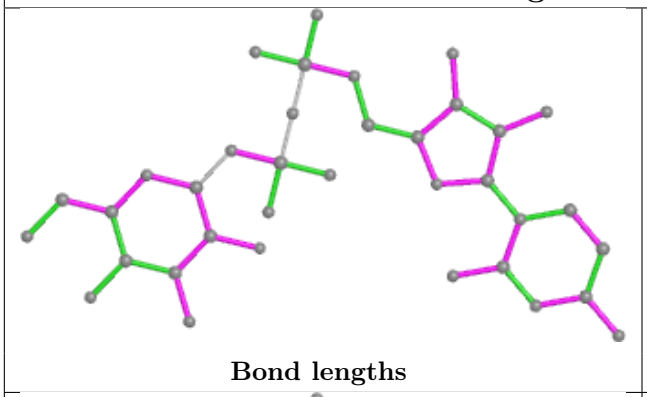
Ligand T83 F 502



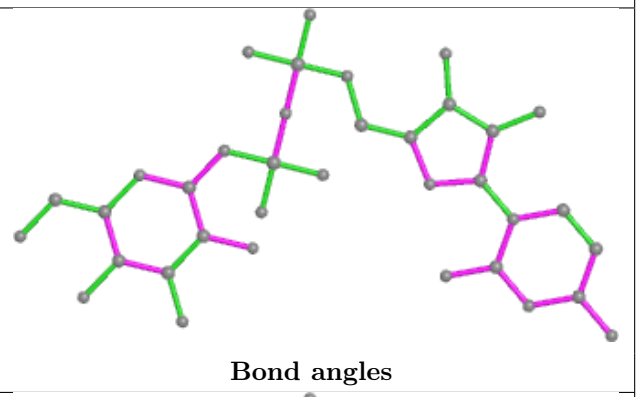
Ligand U2F B 501



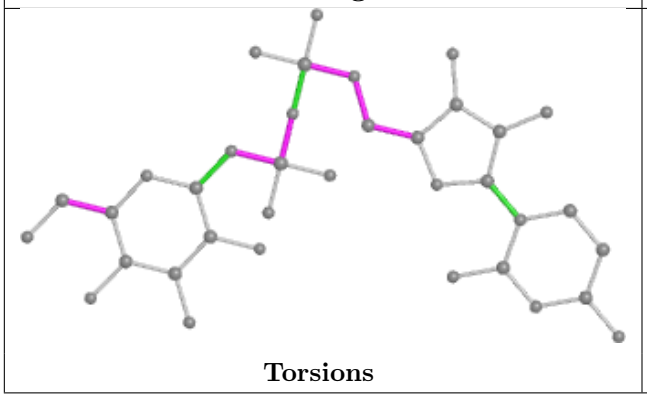
Ligand U2F G 501



Bond lengths



Bond angles



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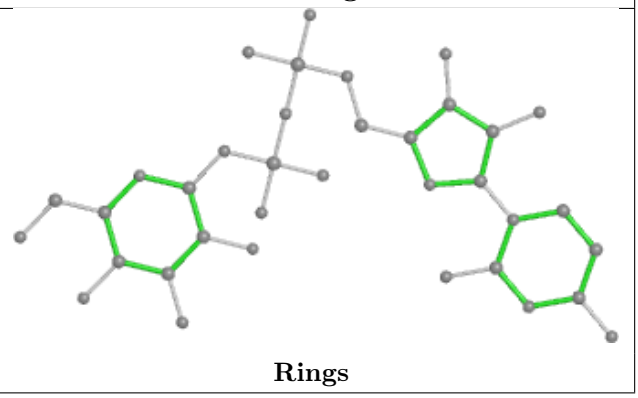
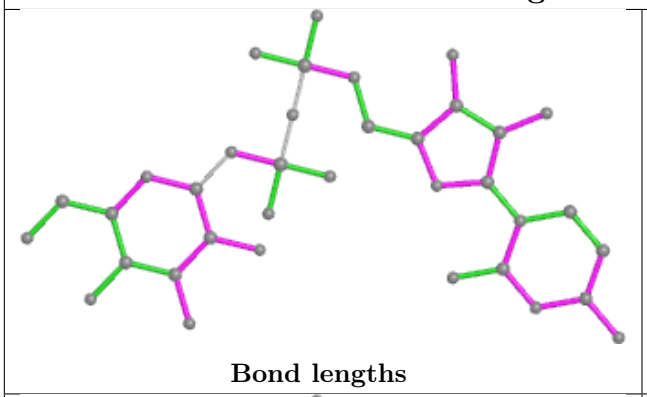
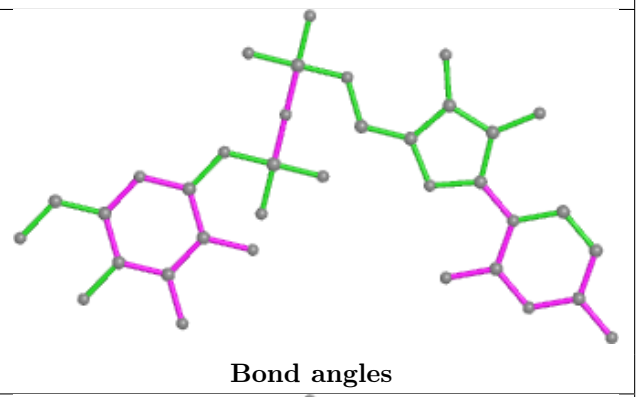


Rings

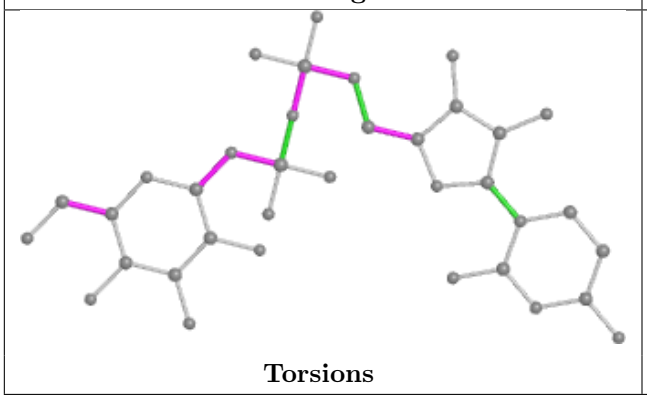
Ligand U2F D 501



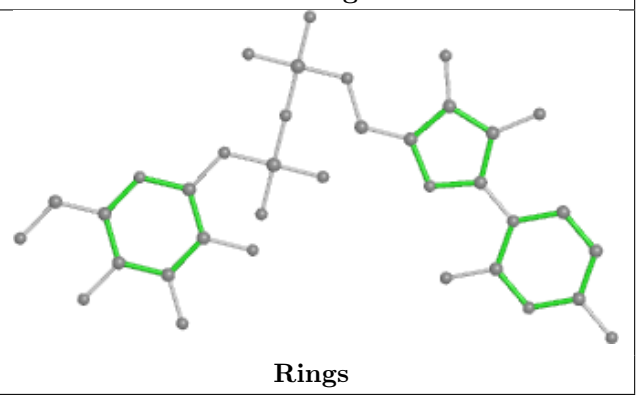
Bond lengths



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	455/479 (94%)	-1.63	0	100	100	11, 30, 65, 138	0
1	B	459/479 (95%)	-1.65	0	100	100	12, 28, 57, 121	0
1	C	460/479 (96%)	-1.65	0	100	100	10, 28, 61, 92	0
1	D	460/479 (96%)	-1.65	0	100	100	13, 29, 56, 97	0
1	E	459/479 (95%)	-1.63	0	100	100	10, 31, 59, 81	0
1	F	459/479 (95%)	-1.61	0	100	100	14, 34, 62, 126	0
1	G	460/479 (96%)	-1.59	0	100	100	13, 35, 67, 94	0
All	All	3212/3353 (95%)	-1.63	0	100	100	10, 30, 61, 138	0

There are no RSRZ outliers to report.

6.2 Non-standard residues in protein, DNA, RNA chains

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

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands

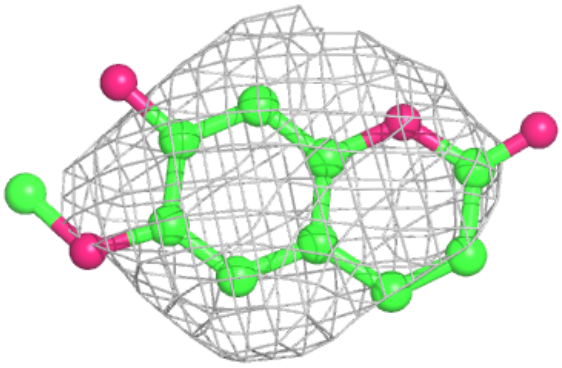
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

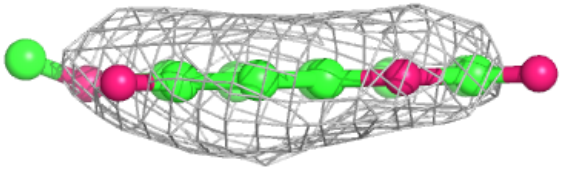
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	T83	F	502	14/14	0.98	0.06	62,68,75,76	0
2	U2F	D	501	36/36	0.99	0.03	34,49,69,84	0
2	U2F	F	501	36/36	0.99	0.03	33,49,79,80	0
2	U2F	G	501	36/36	0.99	0.04	36,63,119,125	0
3	T83	A	502	14/14	0.99	0.04	52,62,85,95	0
3	T83	B	502	14/14	0.99	0.04	49,54,62,66	0
3	T83	C	502	14/14	0.99	0.04	56,67,80,83	0
3	T83	D	502	14/14	0.99	0.04	35,56,75,87	0
2	U2F	C	501	36/36	0.99	0.03	30,69,117,141	0
2	U2F	B	501	36/36	1.00	0.03	22,27,60,62	0
2	U2F	E	501	36/36	1.00	0.03	39,65,105,117	0
2	U2F	A	501	36/36	1.00	0.02	29,38,78,92	0

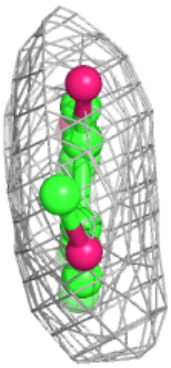
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around T83 F 502:

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

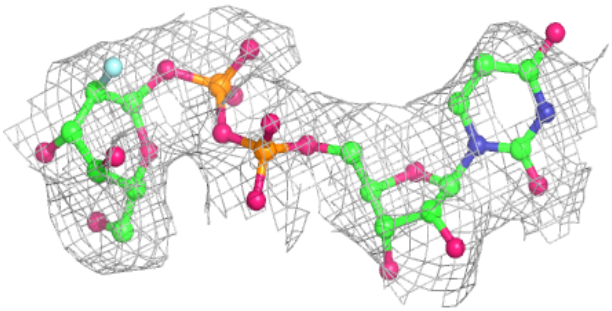


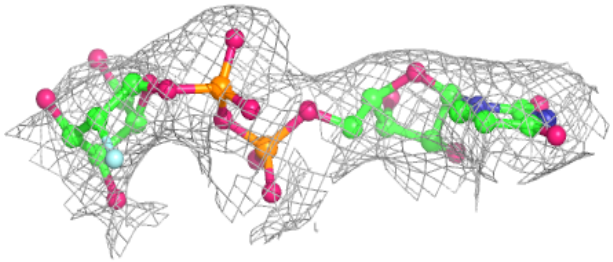


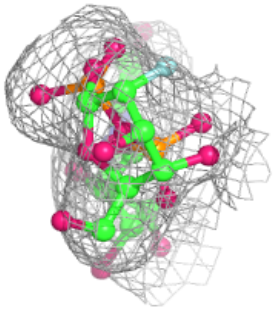


Electron density around U2F D 501:

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

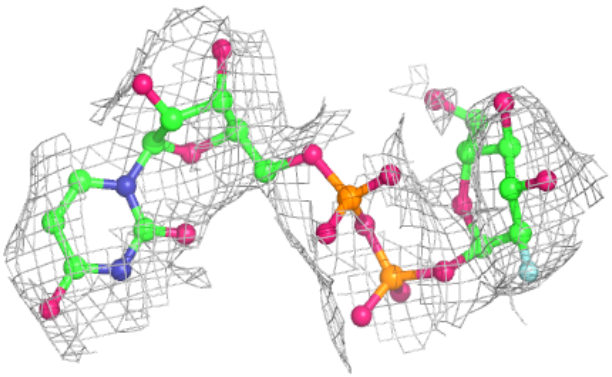


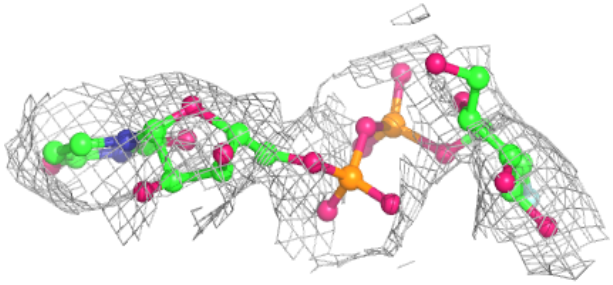


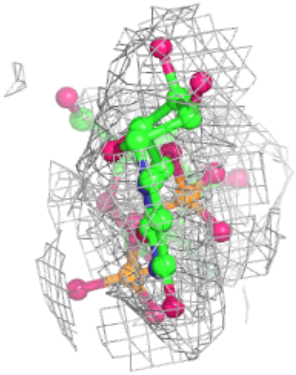


Electron density around U2F F 501:

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

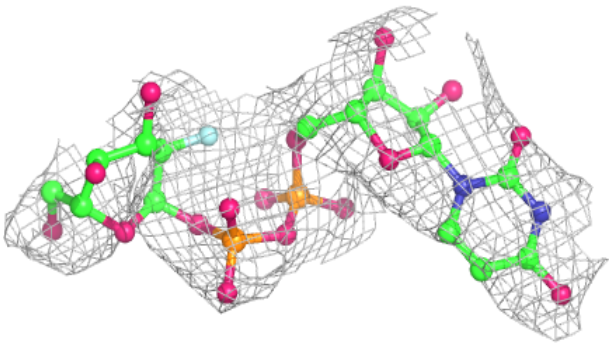


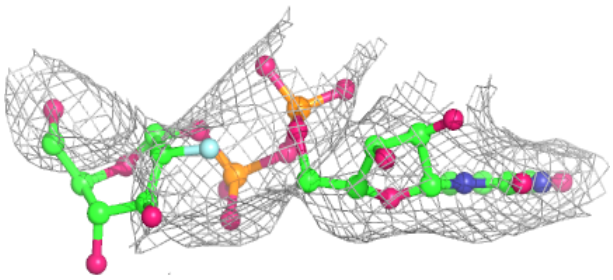


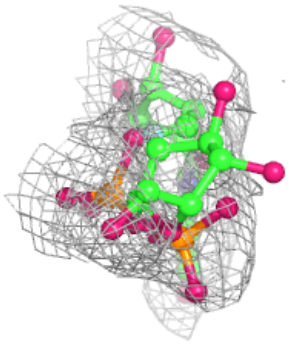


Electron density around U2F G 501:

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

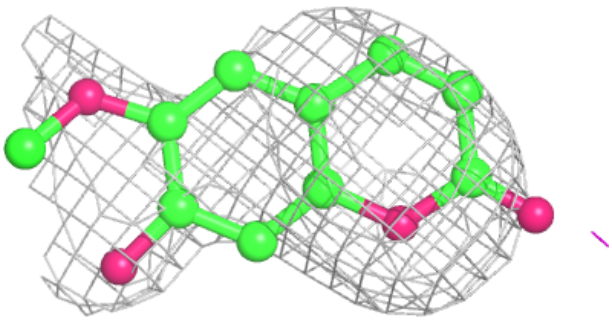


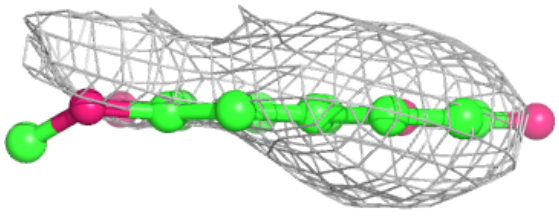


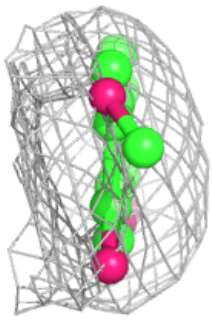


Electron density around T83 A 502:

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

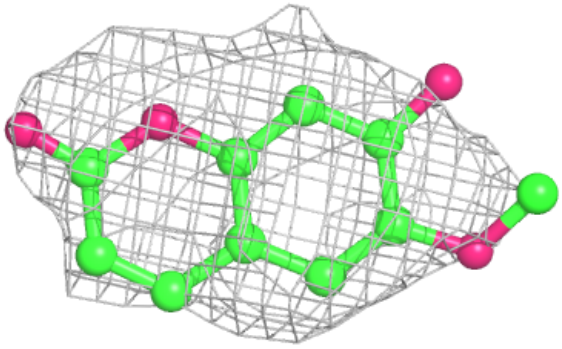


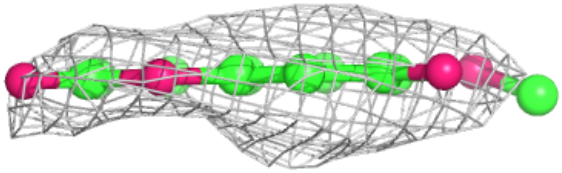


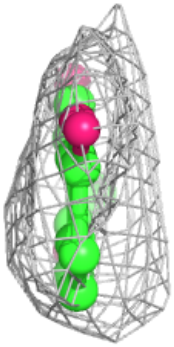


Electron density around T83 B 502:

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

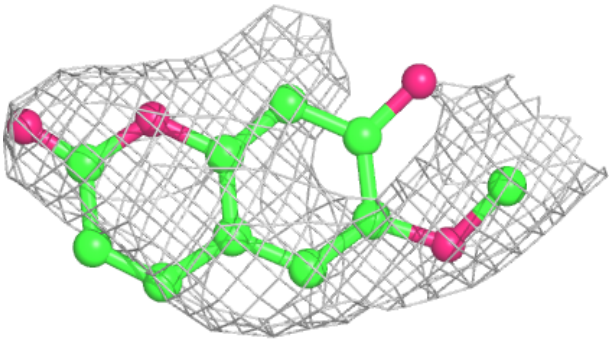


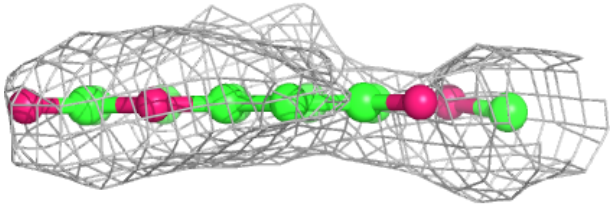


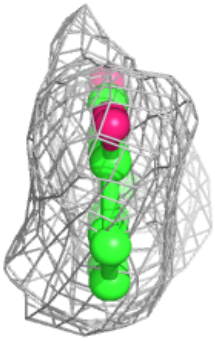


Electron density around T83 C 502:

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

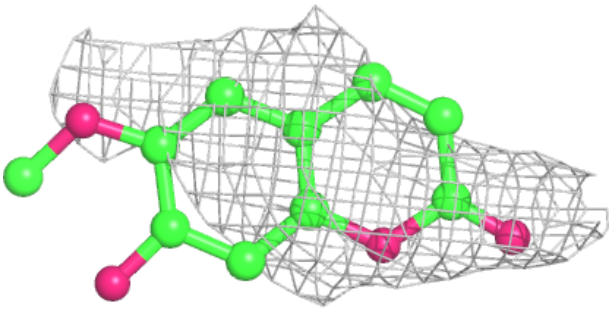


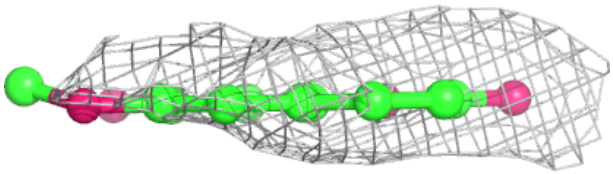


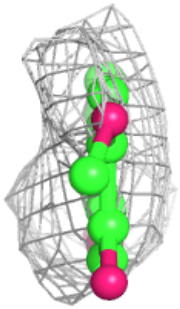


Electron density around T83 D 502:

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

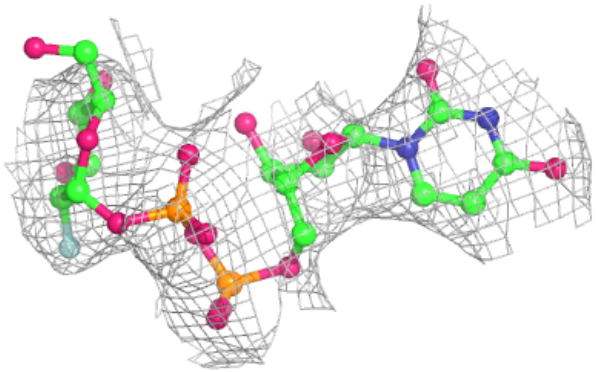


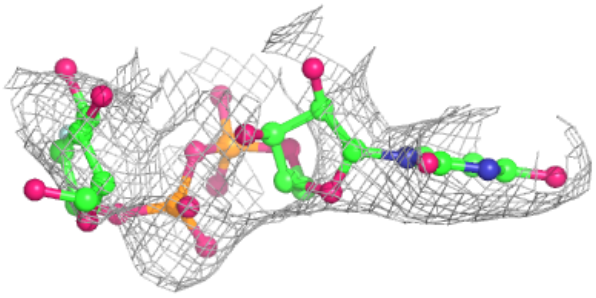


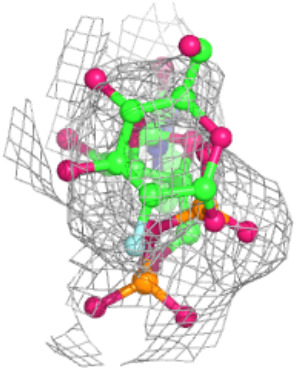


Electron density around U2F C 501:

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

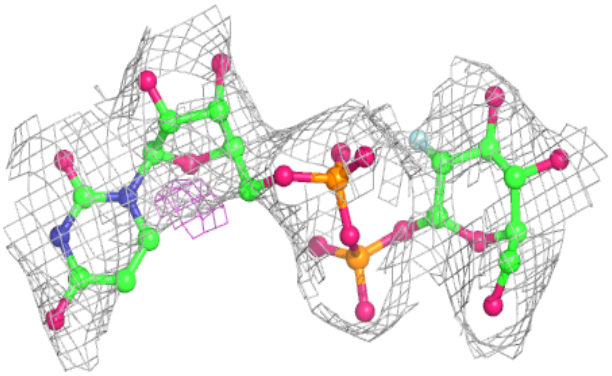


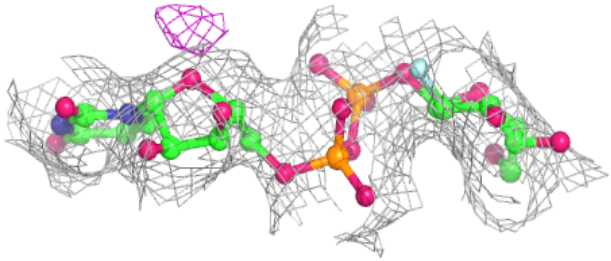


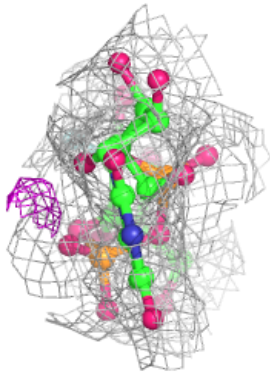


Electron density around U2F B 501:

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

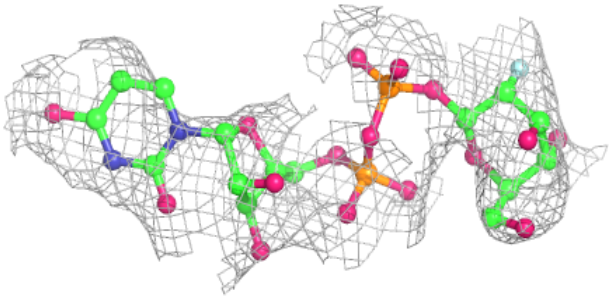


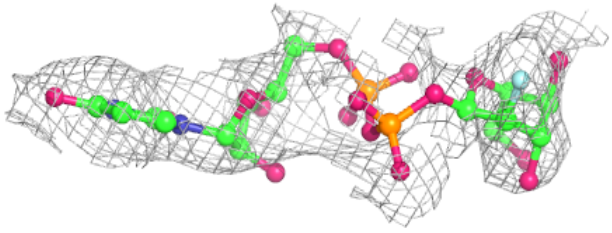


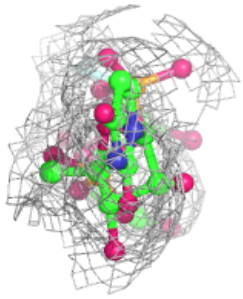


Electron density around U2F E 501:

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

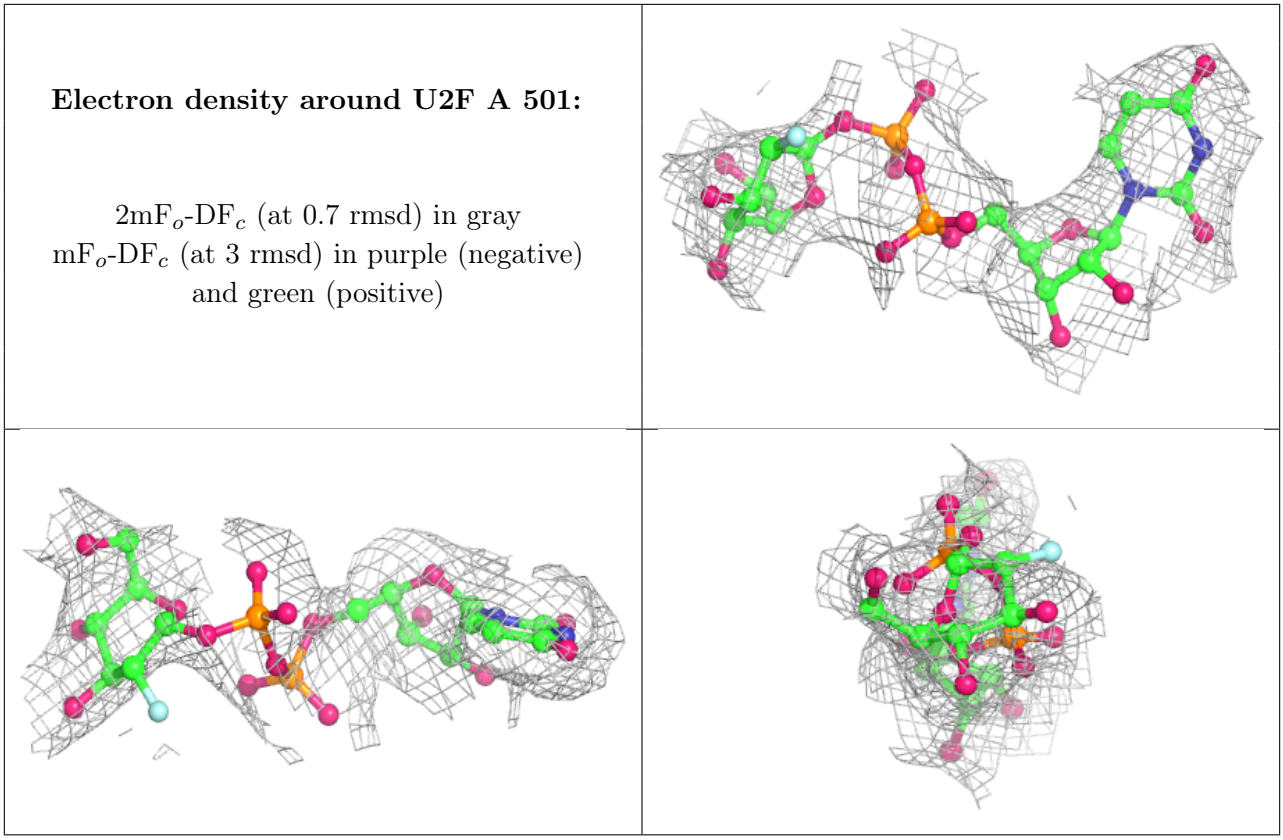






Electron density around U2F A 501:

$2mF_o$-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.