Full wwPDB X-ray Structure Validation Report ⓘ

Dec 24, 2024 – 06:15 PM JST

PDB ID	:	8Z2R
Title	:	Crystal structure of trehalose synthase mutant N253T from Deinococcus radiodurans
Authors	:	Ye, L.C.; Chen, S.C.
Deposited on	:	2024-04-13
Resolution	:	2.53 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:

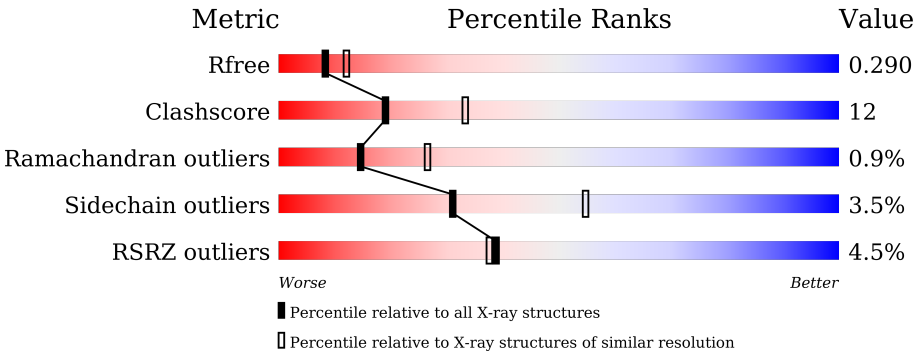
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & 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 2.53 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	6935 (2.54-2.50)
Clashscore	180529	7778 (2.54-2.50)
Ramachandran outliers	177936	7674 (2.54-2.50)
Sidechain outliers	177891	7676 (2.54-2.50)
RSRZ outliers	164620	6935 (2.54-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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	571	72% 23%
1	B	571	76% 19%
1	C	571	7% 63% 30%
1	D	571	% 72% 24%
1	E	571	4% 68% 27%
1	F	571	75% 20%

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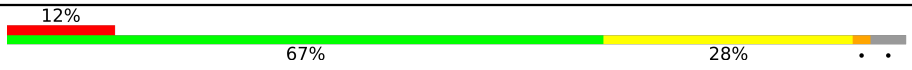
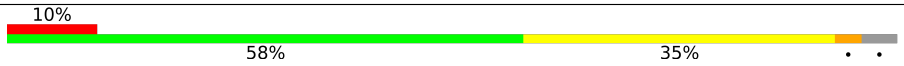
Mol	Chain	Length	Quality of chain
1	G	571	
1	H	571	

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 35768 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 maltose alpha-D-glucosyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	B	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	C	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	D	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	E	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	F	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	G	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			
1	H	548	Total	C	N	O	S	0	0	0
			4403	2818	750	819	16			

There are 192 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	MET	-	initiating methionine	UNP I3NX86
A	0	VAL	-	expression tag	UNP I3NX86
A	1	PRO	-	expression tag	UNP I3NX86
A	97	TRP	ARG	engineered mutation	UNP I3NX86
A	253	THR	ASN	engineered mutation	UNP I3NX86
A	313	ILE	THR	engineered mutation	UNP I3NX86
A	380	VAL	ILE	engineered mutation	UNP I3NX86
A	553	SER	-	expression tag	UNP I3NX86
A	554	ARG	-	expression tag	UNP I3NX86
A	555	VAL	-	expression tag	UNP I3NX86
A	556	ASP	-	expression tag	UNP I3NX86
A	557	LYS	-	expression tag	UNP I3NX86
A	558	LEU	-	expression tag	UNP I3NX86

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Chain	Residue	Modelled	Actual	Comment	Reference
A	559	ALA	-	expression tag	UNP I3NX86
A	560	ALA	-	expression tag	UNP I3NX86
A	561	ALA	-	expression tag	UNP I3NX86
A	562	LEU	-	expression tag	UNP I3NX86
A	563	GLU	-	expression tag	UNP I3NX86
A	564	HIS	-	expression tag	UNP I3NX86
A	565	HIS	-	expression tag	UNP I3NX86
A	566	HIS	-	expression tag	UNP I3NX86
A	567	HIS	-	expression tag	UNP I3NX86
A	568	HIS	-	expression tag	UNP I3NX86
A	569	HIS	-	expression tag	UNP I3NX86
B	-1	MET	-	initiating methionine	UNP I3NX86
B	0	VAL	-	expression tag	UNP I3NX86
B	1	PRO	-	expression tag	UNP I3NX86
B	97	TRP	ARG	engineered mutation	UNP I3NX86
B	253	THR	ASN	engineered mutation	UNP I3NX86
B	313	ILE	THR	engineered mutation	UNP I3NX86
B	380	VAL	ILE	engineered mutation	UNP I3NX86
B	553	SER	-	expression tag	UNP I3NX86
B	554	ARG	-	expression tag	UNP I3NX86
B	555	VAL	-	expression tag	UNP I3NX86
B	556	ASP	-	expression tag	UNP I3NX86
B	557	LYS	-	expression tag	UNP I3NX86
B	558	LEU	-	expression tag	UNP I3NX86
B	559	ALA	-	expression tag	UNP I3NX86
B	560	ALA	-	expression tag	UNP I3NX86
B	561	ALA	-	expression tag	UNP I3NX86
B	562	LEU	-	expression tag	UNP I3NX86
B	563	GLU	-	expression tag	UNP I3NX86
B	564	HIS	-	expression tag	UNP I3NX86
B	565	HIS	-	expression tag	UNP I3NX86
B	566	HIS	-	expression tag	UNP I3NX86
B	567	HIS	-	expression tag	UNP I3NX86
B	568	HIS	-	expression tag	UNP I3NX86
B	569	HIS	-	expression tag	UNP I3NX86
C	-1	MET	-	initiating methionine	UNP I3NX86
C	0	VAL	-	expression tag	UNP I3NX86
C	1	PRO	-	expression tag	UNP I3NX86
C	97	TRP	ARG	engineered mutation	UNP I3NX86
C	253	THR	ASN	engineered mutation	UNP I3NX86
C	313	ILE	THR	engineered mutation	UNP I3NX86
C	380	VAL	ILE	engineered mutation	UNP I3NX86

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Chain	Residue	Modelled	Actual	Comment	Reference
C	553	SER	-	expression tag	UNP I3NX86
C	554	ARG	-	expression tag	UNP I3NX86
C	555	VAL	-	expression tag	UNP I3NX86
C	556	ASP	-	expression tag	UNP I3NX86
C	557	LYS	-	expression tag	UNP I3NX86
C	558	LEU	-	expression tag	UNP I3NX86
C	559	ALA	-	expression tag	UNP I3NX86
C	560	ALA	-	expression tag	UNP I3NX86
C	561	ALA	-	expression tag	UNP I3NX86
C	562	LEU	-	expression tag	UNP I3NX86
C	563	GLU	-	expression tag	UNP I3NX86
C	564	HIS	-	expression tag	UNP I3NX86
C	565	HIS	-	expression tag	UNP I3NX86
C	566	HIS	-	expression tag	UNP I3NX86
C	567	HIS	-	expression tag	UNP I3NX86
C	568	HIS	-	expression tag	UNP I3NX86
C	569	HIS	-	expression tag	UNP I3NX86
D	-1	MET	-	initiating methionine	UNP I3NX86
D	0	VAL	-	expression tag	UNP I3NX86
D	1	PRO	-	expression tag	UNP I3NX86
D	97	TRP	ARG	engineered mutation	UNP I3NX86
D	253	THR	ASN	engineered mutation	UNP I3NX86
D	313	ILE	THR	engineered mutation	UNP I3NX86
D	380	VAL	ILE	engineered mutation	UNP I3NX86
D	553	SER	-	expression tag	UNP I3NX86
D	554	ARG	-	expression tag	UNP I3NX86
D	555	VAL	-	expression tag	UNP I3NX86
D	556	ASP	-	expression tag	UNP I3NX86
D	557	LYS	-	expression tag	UNP I3NX86
D	558	LEU	-	expression tag	UNP I3NX86
D	559	ALA	-	expression tag	UNP I3NX86
D	560	ALA	-	expression tag	UNP I3NX86
D	561	ALA	-	expression tag	UNP I3NX86
D	562	LEU	-	expression tag	UNP I3NX86
D	563	GLU	-	expression tag	UNP I3NX86
D	564	HIS	-	expression tag	UNP I3NX86
D	565	HIS	-	expression tag	UNP I3NX86
D	566	HIS	-	expression tag	UNP I3NX86
D	567	HIS	-	expression tag	UNP I3NX86
D	568	HIS	-	expression tag	UNP I3NX86
D	569	HIS	-	expression tag	UNP I3NX86
E	-1	MET	-	initiating methionine	UNP I3NX86

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Chain	Residue	Modelled	Actual	Comment	Reference
E	0	VAL	-	expression tag	UNP I3NX86
E	1	PRO	-	expression tag	UNP I3NX86
E	97	TRP	ARG	engineered mutation	UNP I3NX86
E	253	THR	ASN	engineered mutation	UNP I3NX86
E	313	ILE	THR	engineered mutation	UNP I3NX86
E	380	VAL	ILE	engineered mutation	UNP I3NX86
E	553	SER	-	expression tag	UNP I3NX86
E	554	ARG	-	expression tag	UNP I3NX86
E	555	VAL	-	expression tag	UNP I3NX86
E	556	ASP	-	expression tag	UNP I3NX86
E	557	LYS	-	expression tag	UNP I3NX86
E	558	LEU	-	expression tag	UNP I3NX86
E	559	ALA	-	expression tag	UNP I3NX86
E	560	ALA	-	expression tag	UNP I3NX86
E	561	ALA	-	expression tag	UNP I3NX86
E	562	LEU	-	expression tag	UNP I3NX86
E	563	GLU	-	expression tag	UNP I3NX86
E	564	HIS	-	expression tag	UNP I3NX86
E	565	HIS	-	expression tag	UNP I3NX86
E	566	HIS	-	expression tag	UNP I3NX86
E	567	HIS	-	expression tag	UNP I3NX86
E	568	HIS	-	expression tag	UNP I3NX86
E	569	HIS	-	expression tag	UNP I3NX86
F	-1	MET	-	initiating methionine	UNP I3NX86
F	0	VAL	-	expression tag	UNP I3NX86
F	1	PRO	-	expression tag	UNP I3NX86
F	97	TRP	ARG	engineered mutation	UNP I3NX86
F	253	THR	ASN	engineered mutation	UNP I3NX86
F	313	ILE	THR	engineered mutation	UNP I3NX86
F	380	VAL	ILE	engineered mutation	UNP I3NX86
F	553	SER	-	expression tag	UNP I3NX86
F	554	ARG	-	expression tag	UNP I3NX86
F	555	VAL	-	expression tag	UNP I3NX86
F	556	ASP	-	expression tag	UNP I3NX86
F	557	LYS	-	expression tag	UNP I3NX86
F	558	LEU	-	expression tag	UNP I3NX86
F	559	ALA	-	expression tag	UNP I3NX86
F	560	ALA	-	expression tag	UNP I3NX86
F	561	ALA	-	expression tag	UNP I3NX86
F	562	LEU	-	expression tag	UNP I3NX86
F	563	GLU	-	expression tag	UNP I3NX86
F	564	HIS	-	expression tag	UNP I3NX86

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Chain	Residue	Modelled	Actual	Comment	Reference
F	565	HIS	-	expression tag	UNP I3NX86
F	566	HIS	-	expression tag	UNP I3NX86
F	567	HIS	-	expression tag	UNP I3NX86
F	568	HIS	-	expression tag	UNP I3NX86
F	569	HIS	-	expression tag	UNP I3NX86
G	-1	MET	-	initiating methionine	UNP I3NX86
G	0	VAL	-	expression tag	UNP I3NX86
G	1	PRO	-	expression tag	UNP I3NX86
G	97	TRP	ARG	engineered mutation	UNP I3NX86
G	253	THR	ASN	engineered mutation	UNP I3NX86
G	313	ILE	THR	engineered mutation	UNP I3NX86
G	380	VAL	ILE	engineered mutation	UNP I3NX86
G	553	SER	-	expression tag	UNP I3NX86
G	554	ARG	-	expression tag	UNP I3NX86
G	555	VAL	-	expression tag	UNP I3NX86
G	556	ASP	-	expression tag	UNP I3NX86
G	557	LYS	-	expression tag	UNP I3NX86
G	558	LEU	-	expression tag	UNP I3NX86
G	559	ALA	-	expression tag	UNP I3NX86
G	560	ALA	-	expression tag	UNP I3NX86
G	561	ALA	-	expression tag	UNP I3NX86
G	562	LEU	-	expression tag	UNP I3NX86
G	563	GLU	-	expression tag	UNP I3NX86
G	564	HIS	-	expression tag	UNP I3NX86
G	565	HIS	-	expression tag	UNP I3NX86
G	566	HIS	-	expression tag	UNP I3NX86
G	567	HIS	-	expression tag	UNP I3NX86
G	568	HIS	-	expression tag	UNP I3NX86
G	569	HIS	-	expression tag	UNP I3NX86
H	-1	MET	-	initiating methionine	UNP I3NX86
H	0	VAL	-	expression tag	UNP I3NX86
H	1	PRO	-	expression tag	UNP I3NX86
H	97	TRP	ARG	engineered mutation	UNP I3NX86
H	253	THR	ASN	engineered mutation	UNP I3NX86
H	313	ILE	THR	engineered mutation	UNP I3NX86
H	380	VAL	ILE	engineered mutation	UNP I3NX86
H	553	SER	-	expression tag	UNP I3NX86
H	554	ARG	-	expression tag	UNP I3NX86
H	555	VAL	-	expression tag	UNP I3NX86
H	556	ASP	-	expression tag	UNP I3NX86
H	557	LYS	-	expression tag	UNP I3NX86
H	558	LEU	-	expression tag	UNP I3NX86

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Chain	Residue	Modelled	Actual	Comment	Reference
H	559	ALA	-	expression tag	UNP I3NX86
H	560	ALA	-	expression tag	UNP I3NX86
H	561	ALA	-	expression tag	UNP I3NX86
H	562	LEU	-	expression tag	UNP I3NX86
H	563	GLU	-	expression tag	UNP I3NX86
H	564	HIS	-	expression tag	UNP I3NX86
H	565	HIS	-	expression tag	UNP I3NX86
H	566	HIS	-	expression tag	UNP I3NX86
H	567	HIS	-	expression tag	UNP I3NX86
H	568	HIS	-	expression tag	UNP I3NX86
H	569	HIS	-	expression tag	UNP I3NX86

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Ca 1 1	0	0
2	B	1	Total Ca 1 1	0	0
2	C	1	Total Ca 1 1	0	0
2	D	1	Total Ca 1 1	0	0
2	E	1	Total Ca 1 1	0	0
2	F	1	Total Ca 1 1	0	0
2	G	1	Total Ca 1 1	0	0
2	H	1	Total Ca 1 1	0	0

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Mg 1 1	0	0
3	B	1	Total Mg 1 1	0	0

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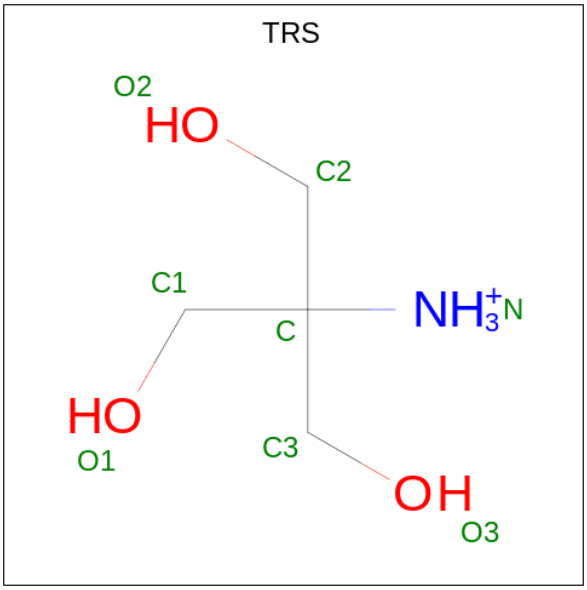
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total Mg 1 1	0	0
3	D	1	Total Mg 1 1	0	0
3	E	1	Total Mg 1 1	0	0
3	F	1	Total Mg 1 1	0	0
3	G	1	Total Mg 1 1	0	0
3	H	1	Total Mg 1 1	0	0

- Molecule 4 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (three-letter code: TRS) (formula: $C_4H_{12}NO_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C N O 8 4 1 3	0	0
4	B	1	Total C N O 8 4 1 3	0	0
4	C	1	Total C N O 8 4 1 3	0	0
4	D	1	Total C N O 8 4 1 3	0	0
4	E	1	Total C N O 8 4 1 3	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	F	1	Total C N O 8 4 1 3	0	0
4	G	1	Total C N O 8 4 1 3	0	0
4	H	1	Total C N O 8 4 1 3	0	0

- Molecule 5 is water.

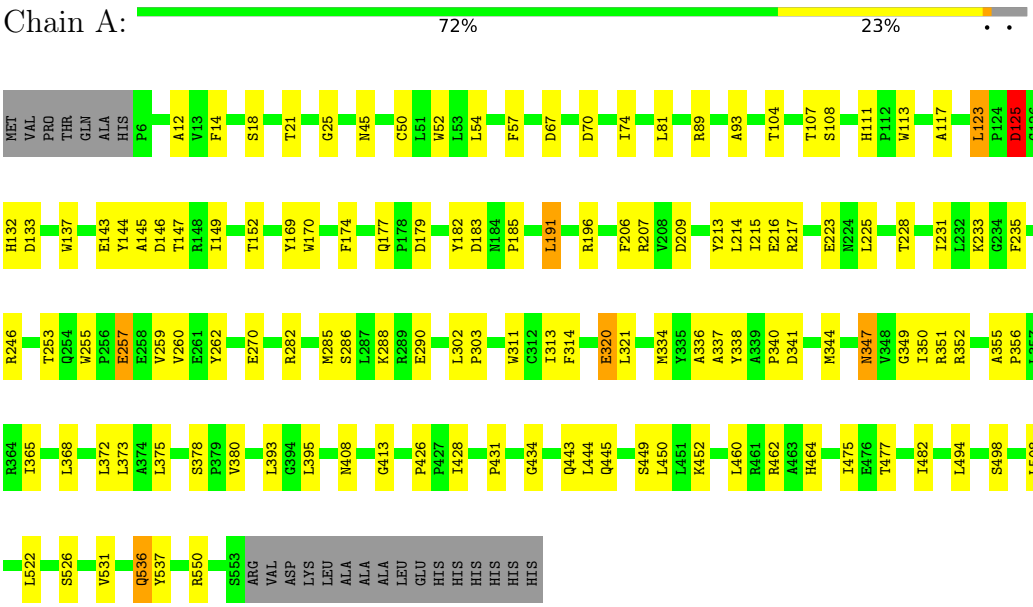
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	52	Total O 52 52	0	0
5	B	94	Total O 94 94	0	0
5	C	9	Total O 9 9	0	0
5	D	20	Total O 20 20	0	0
5	E	100	Total O 100 100	0	0
5	F	79	Total O 79 79	0	0
5	G	7	Total O 7 7	0	0
5	H	103	Total O 103 103	0	0

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.

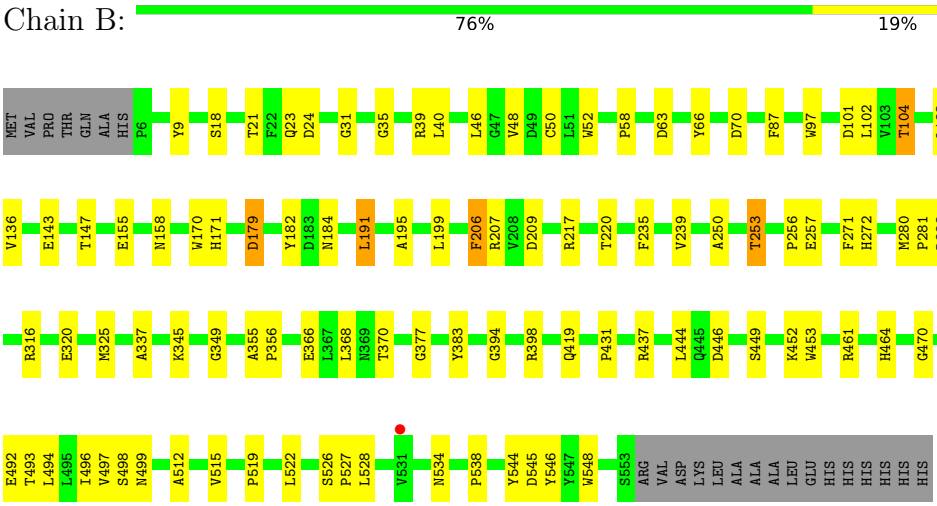
• Molecule 1: maltose alpha-D-glucosyltransferase

Chain A:

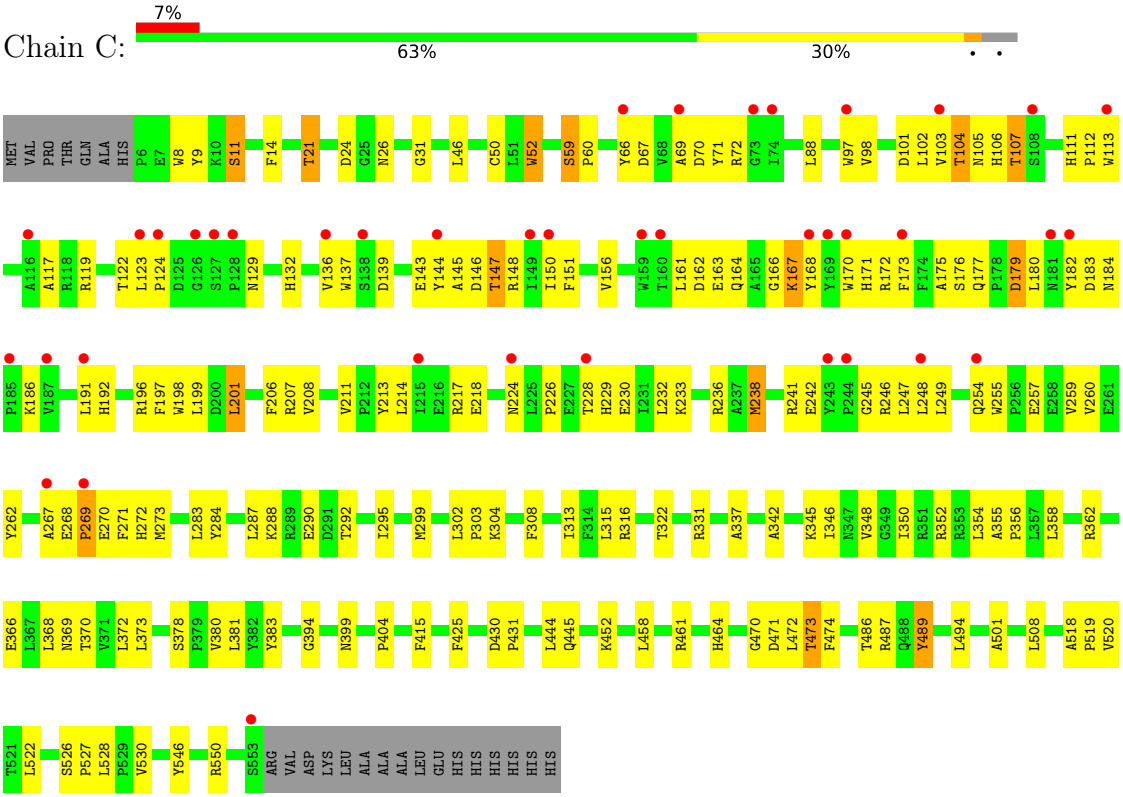


• Molecule 1: maltose alpha-D-glucosyltransferase

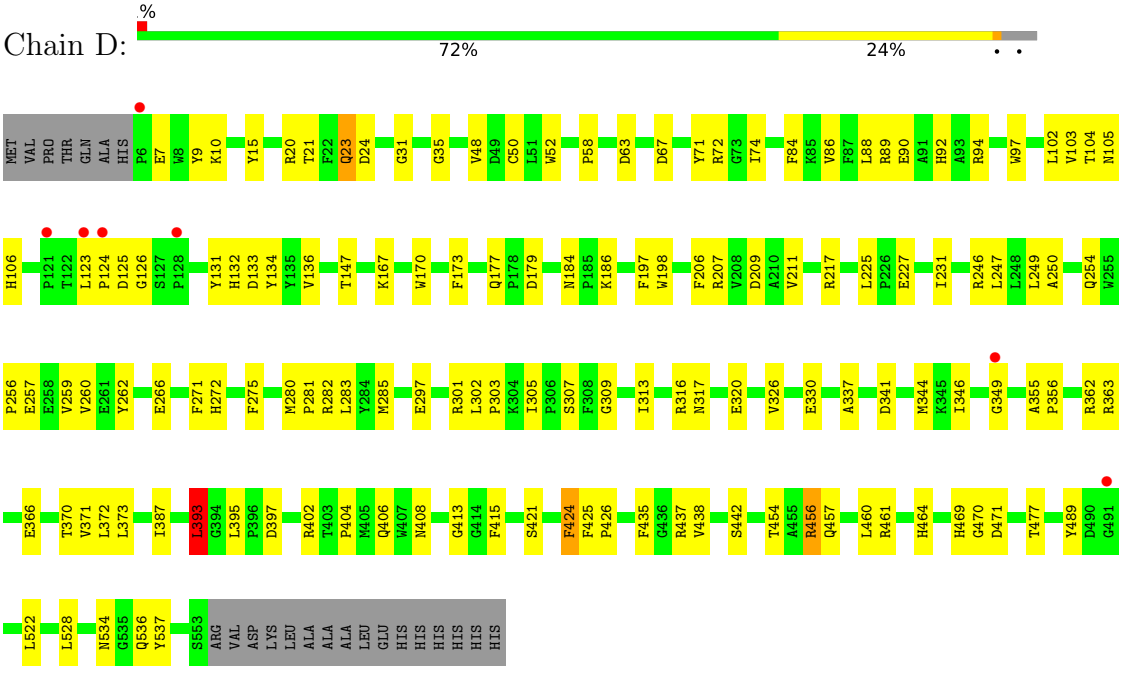
Chain B:



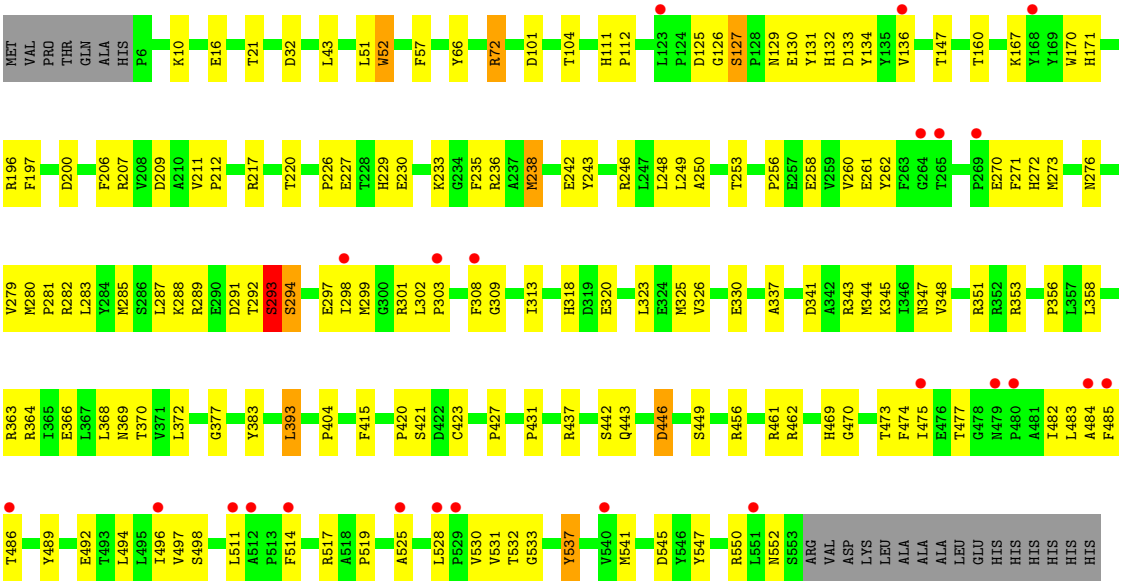
• Molecule 1: maltose alpha-D-glucosyltransferase



• Molecule 1: maltose alpha-D-glucosyltransferase

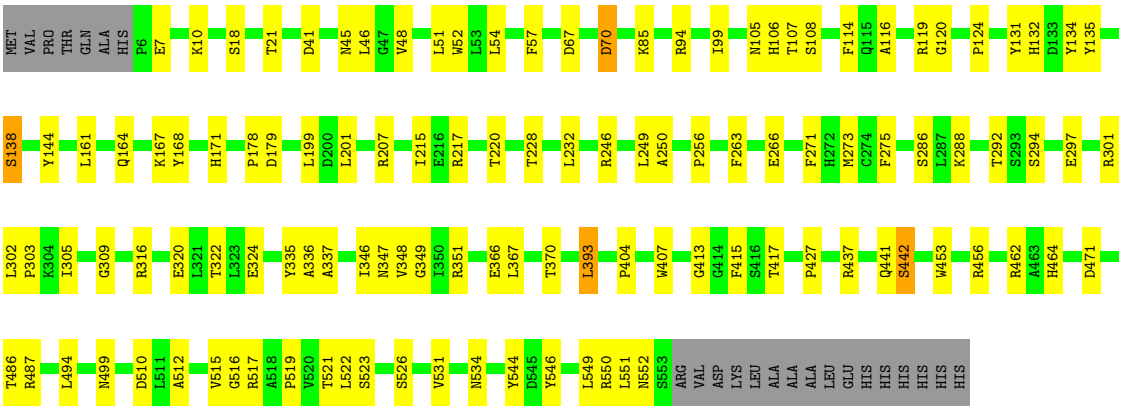


• Molecule 1: maltose alpha-D-glucosyltransferase



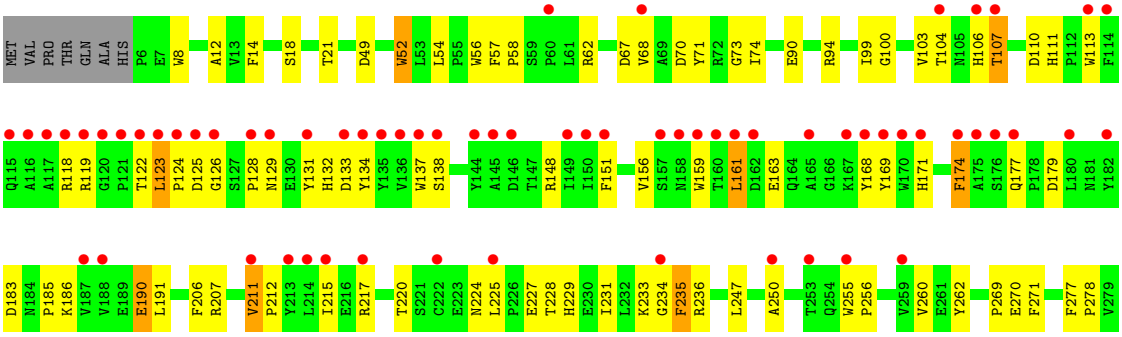
• Molecule 1: maltose alpha-D-glucosyltransferase

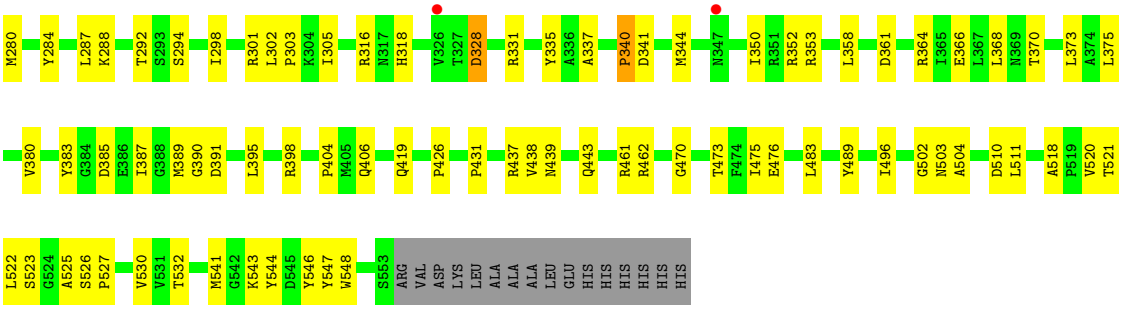
Chain F:



• Molecule 1: maltose alpha-D-glucosyltransferase

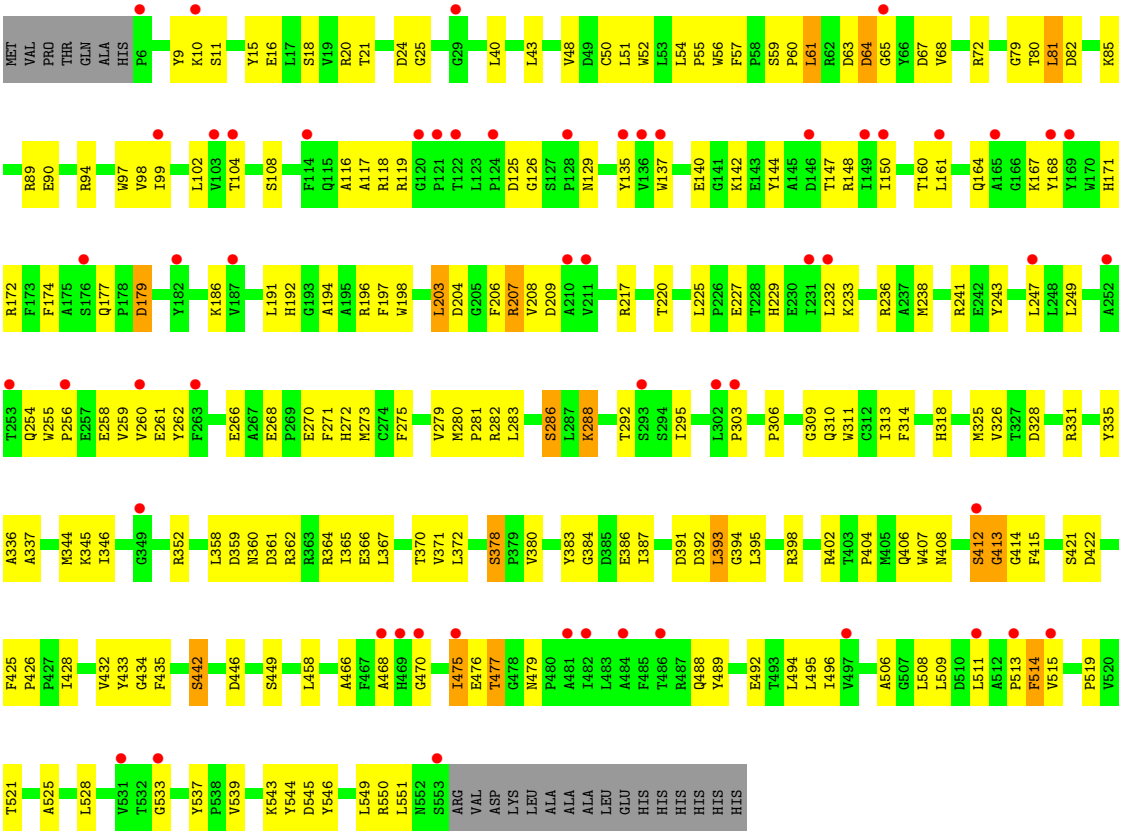
Chain G:





• Molecule 1: maltose alpha-D-glucosyltransferase

Chain H:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	95.60Å 195.38Å 131.32Å 90.00° 92.82° 90.00°	Depositor
Resolution (Å)	27.79 – 2.53 27.79 – 2.53	Depositor EDS
% Data completeness (in resolution range)	91.4 (27.79-2.53) 91.5 (27.79-2.53)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.44 (at 2.54Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, R_{free}	0.217 , 0.290 0.217 , 0.290	Depositor DCC
R_{free} test set	8125 reflections (5.09%)	wwPDB-VP
Wilson B-factor (Å^2)	37.4	Xtriage
Anisotropy	0.019	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 43.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Estimated twinning fraction	0.045 for h,-k,-l	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	35768	wwPDB-VP
Average B, all atoms (Å^2)	44.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.39% 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: MG, CA, TRS

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	0.55	0/4536	0.71	2/6181 (0.0%)
1	B	0.50	0/4536	0.69	2/6181 (0.0%)
1	C	0.47	0/4536	0.68	1/6181 (0.0%)
1	D	0.47	0/4536	0.68	1/6181 (0.0%)
1	E	0.48	1/4536 (0.0%)	0.70	1/6181 (0.0%)
1	F	0.48	0/4536	0.68	0/6181
1	G	0.44	0/4536	0.67	1/6181 (0.0%)
1	H	0.49	0/4536	0.71	1/6181 (0.0%)
All	All	0.48	1/36288 (0.0%)	0.69	9/49448 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1
1	B	0	1
1	E	0	1
1	G	0	1
1	H	0	2
All	All	0	6

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	423	CYS	CB-SG	-5.93	1.72	1.81

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	125	ASP	CB-CG-OD2	6.48	124.13	118.30
1	A	191	LEU	CA-CB-CG	-5.90	101.73	115.30
1	E	446	ASP	CB-CG-OD1	5.60	123.34	118.30
1	G	161	LEU	CA-CB-CG	5.58	128.15	115.30
1	C	381	LEU	CA-CB-CG	5.46	127.86	115.30
1	B	191	LEU	CB-CG-CD1	-5.34	101.91	111.00
1	H	412	SER	C-N-CA	-5.19	111.41	122.30
1	D	249	LEU	CA-CB-CG	5.07	126.96	115.30
1	B	545	ASP	CB-CG-OD1	5.02	122.82	118.30

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	206	PHE	Peptide
1	B	206	PHE	Peptide
1	E	206	PHE	Peptide
1	G	206	PHE	Peptide
1	H	206	PHE	Peptide
1	H	413	GLY	Peptide

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	4403	0	4202	89	0
1	B	4403	0	4202	66	0
1	C	4403	0	4202	128	0
1	D	4403	0	4202	82	0
1	E	4403	0	4202	109	0
1	F	4403	0	4202	77	0
1	G	4403	0	4201	118	0
1	H	4403	0	4202	153	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	F	1	0	0	0	0
2	G	1	0	0	0	0
2	H	1	0	0	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
3	E	1	0	0	0	0
3	F	1	0	0	0	0
3	G	1	0	0	0	0
3	H	1	0	0	0	0
4	A	8	0	12	0	0
4	B	8	0	12	1	0
4	C	8	0	12	2	0
4	D	8	0	12	2	0
4	E	8	0	12	0	0
4	F	8	0	12	0	0
4	G	8	0	12	2	0
4	H	8	0	12	1	0
5	A	52	0	0	4	0
5	B	94	0	0	3	0
5	C	9	0	0	1	0
5	D	20	0	0	2	0
5	E	100	0	0	8	0
5	F	79	0	0	4	0
5	G	7	0	0	3	0
5	H	103	0	0	17	0
All	All	35768	0	33711	800	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (800) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:288:LYS:HG2	1:H:337:ALA:HB1	1.48	0.95
1:E:285:MET:HG2	5:E:751:HOH:O	1.69	0.93
1:B:104:THR:HG22	1:B:191:LEU:HD13	1.54	0.88
1:E:292:THR:HG21	1:E:483:LEU:HB2	1.59	0.84
1:G:68:VAL:HG21	1:G:103:VAL:HG21	1.62	0.81
1:G:288:LYS:HG2	1:G:337:ALA:HB1	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:288:LYS:HG2	1:B:337:ALA:HB1	1.61	0.80
1:A:123:LEU:HD11	1:A:127:SER:OG	1.82	0.80
1:G:328:ASP:OD1	1:G:331:ARG:NH1	2.16	0.79
1:H:295:ILE:HA	5:H:788:HOH:O	1.83	0.79
1:E:288:LYS:HG2	1:E:337:ALA:HB1	1.66	0.78
1:A:147:THR:HG21	1:A:170:TRP:HH2	1.47	0.77
1:E:313:ILE:HG22	1:E:372:LEU:HD12	1.65	0.77
1:C:59:SER:OG	1:C:67:ASP:O	2.03	0.77
1:F:119:ARG:HA	1:F:164:GLN:HE22	1.49	0.76
1:E:320:GLU:OE2	1:E:320:GLU:N	2.17	0.76
1:H:59:SER:N	5:H:705:HOH:O	2.19	0.76
1:A:104:THR:HG22	1:A:191:LEU:HD23	1.69	0.75
1:F:171:HIS:O	1:F:171:HIS:ND1	2.20	0.74
1:H:16:GLU:OE2	1:H:318:HIS:ND1	2.21	0.74
1:E:291:ASP:OD1	1:E:293:SER:OG	2.05	0.73
1:H:129:ASN:OD1	5:H:701:HOH:O	2.06	0.73
1:A:125:ASP:OD2	1:A:125:ASP:N	2.22	0.72
1:H:18:SER:HB2	1:H:54:LEU:HD22	1.70	0.72
1:C:260:VAL:HG21	1:C:303:PRO:HD2	1.70	0.71
1:H:328:ASP:OD1	1:H:331:ARG:NH1	2.23	0.71
1:A:89:ARG:NH2	5:A:702:HOH:O	2.17	0.71
1:H:358:LEU:HD13	1:H:364:ARG:HB3	1.73	0.71
1:F:18:SER:HB2	1:F:54:LEU:HD22	1.72	0.70
1:C:182:TYR:OH	1:C:191:LEU:HD13	1.92	0.70
1:C:119:ARG:HH21	1:C:124:PRO:HD2	1.57	0.70
1:E:485:PHE:CD2	1:E:496:ILE:HD11	2.27	0.69
1:G:256:PRO:HB3	1:G:302:LEU:HD23	1.72	0.69
1:H:137:TRP:HB3	1:H:167:LYS:HD3	1.72	0.69
1:C:145:ALA:O	1:C:147:THR:N	2.25	0.69
1:E:341:ASP:HB3	1:E:344:MET:HG3	1.75	0.69
1:H:79:GLY:O	5:H:702:HOH:O	2.09	0.69
1:C:199:LEU:HD12	1:C:199:LEU:H	1.58	0.69
1:G:361:ASP:HB3	1:G:364:ARG:HB2	1.73	0.69
1:F:52:TRP:CZ2	1:F:207:ARG:HD3	2.27	0.68
1:F:324:GLU:OE1	5:F:701:HOH:O	2.11	0.68
1:H:359:ASP:OD2	5:H:703:HOH:O	2.12	0.67
1:B:143:GLU:OE1	1:B:143:GLU:N	2.27	0.67
1:F:322:THR:OG1	1:F:324:GLU:HG3	1.94	0.67
1:D:260:VAL:HG21	1:D:303:PRO:HD2	1.76	0.67
1:H:258:GLU:N	1:H:258:GLU:OE1	2.28	0.66
1:E:469:HIS:HA	5:E:703:HOH:O	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:63:ASP:OD2	4:H:602:TRS:O2	2.12	0.66
1:H:370:THR:HG21	1:H:546:TYR:CD1	2.31	0.66
1:B:217:ARG:O	1:B:220:THR:OG1	2.12	0.66
1:H:82:ASP:OD1	5:H:704:HOH:O	2.14	0.66
1:G:68:VAL:CG2	1:G:103:VAL:HG21	2.25	0.66
1:E:276:ASN:HD21	1:E:299:MET:HE3	1.60	0.66
1:C:249:LEU:HD13	1:C:273:MET:HB3	1.78	0.65
1:F:232:LEU:HD13	1:F:271:PHE:HE2	1.60	0.65
1:G:260:VAL:HG21	1:G:303:PRO:HD2	1.77	0.65
1:B:52:TRP:CZ2	1:B:207:ARG:HD3	2.32	0.65
1:E:473:THR:OG1	5:E:701:HOH:O	2.13	0.65
1:A:431:PRO:HG2	1:C:445:GLN:HE22	1.61	0.65
1:G:52:TRP:CZ2	1:G:207:ARG:HD3	2.32	0.65
1:H:217:ARG:O	1:H:220:THR:OG1	2.12	0.65
1:A:52:TRP:CZ2	1:A:207:ARG:HD3	2.31	0.65
1:D:320:GLU:HG3	1:D:349:GLY:HA3	1.78	0.65
1:G:358:LEU:HD11	1:G:368:LEU:HD12	1.79	0.65
1:D:52:TRP:CZ2	1:D:207:ARG:HD3	2.32	0.65
1:H:24:ASP:OD1	1:H:25:GLY:N	2.29	0.64
1:C:150:ILE:HD13	1:C:173:PHE:CE1	2.33	0.64
1:A:18:SER:HB2	1:A:54:LEU:HD22	1.79	0.64
1:A:67:ASP:HB3	1:A:177:GLN:HG2	1.78	0.64
1:E:211:VAL:HG23	1:E:212:PRO:HD3	1.78	0.64
1:A:214:LEU:HB2	1:A:228:THR:HG23	1.79	0.64
1:A:464:HIS:CE1	1:A:522:LEU:HD22	2.33	0.63
1:C:233:LYS:HG3	1:C:270:GLU:HG2	1.80	0.63
1:D:470:GLY:HA2	1:D:489:TYR:HB2	1.79	0.63
1:E:377:GLY:O	1:E:461:ARG:NH2	2.31	0.63
1:E:363:ARG:NH1	1:H:366:GLU:OE1	2.32	0.63
1:F:119:ARG:HA	1:F:164:GLN:NE2	2.13	0.63
1:G:215:ILE:H	1:G:228:THR:HG22	1.63	0.63
1:H:395:LEU:HD11	1:H:426:PRO:HD2	1.81	0.62
1:H:160:THR:OG1	1:H:171:HIS:NE2	2.25	0.62
1:D:404:PRO:HB3	1:D:415:PHE:CG	2.34	0.62
1:E:496:ILE:HD12	1:E:496:ILE:O	1.99	0.62
1:G:255:TRP:HZ3	1:G:301:ARG:HH12	1.48	0.62
1:B:470:GLY:HA2	1:B:489:TYR:HB2	1.80	0.62
1:C:21:THR:HG21	1:C:383:TYR:OH	1.99	0.62
1:E:446:ASP:HB2	1:H:432:VAL:HG13	1.81	0.62
1:C:69:ALA:O	1:C:111:HIS:ND1	2.33	0.61
1:D:534:ASN:ND2	1:D:536:GLN:HG2	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:280:MET:HA	1:E:283:LEU:HD12	1.81	0.61
1:G:174:PHE:HB2	1:G:177:GLN:HG3	1.82	0.61
1:H:260:VAL:HG11	1:H:303:PRO:HG2	1.83	0.61
1:C:224:ASN:OD1	1:C:262:TYR:OH	2.16	0.61
1:B:446:ASP:HB3	1:B:449:SER:HB3	1.82	0.61
1:E:258:GLU:HA	1:E:261:GLU:HG3	1.82	0.61
1:G:21:THR:HG23	1:G:404:PRO:HA	1.83	0.61
1:G:126:GLY:O	5:G:701:HOH:O	2.16	0.61
1:E:129:ASN:HD22	1:E:132:HIS:HB2	1.65	0.61
1:G:331:ARG:HG2	1:G:335:TYR:CE2	2.37	0.60
1:A:358:LEU:HD11	1:A:368:LEU:HD12	1.84	0.60
1:C:444:LEU:O	1:C:452:LYS:NZ	2.20	0.60
1:E:72:ARG:HG2	1:E:197:PHE:CD2	2.35	0.60
1:G:256:PRO:HB3	1:G:302:LEU:CD2	2.30	0.60
1:D:456:ARG:NE	5:D:701:HOH:O	2.34	0.60
1:B:133:ASP:HB3	1:B:184:ASN:HD22	1.67	0.60
1:E:287:LEU:HD21	1:E:364:ARG:HG2	1.83	0.60
1:H:72:ARG:NH1	5:H:707:HOH:O	2.27	0.60
1:G:292:THR:HG21	1:G:483:LEU:HB2	1.83	0.60
1:H:313:ILE:HG22	1:H:372:LEU:HD12	1.83	0.60
1:H:446:ASP:HB3	1:H:449:SER:HB3	1.83	0.60
1:A:445:GLN:NE2	1:C:431:PRO:HG2	2.16	0.59
1:C:52:TRP:CZ2	1:C:207:ARG:HD3	2.37	0.59
1:E:227:GLU:N	1:E:227:GLU:OE1	2.35	0.59
1:C:342:ALA:O	1:C:345:LYS:HG2	2.02	0.59
1:H:344:MET:HG2	1:H:352:ARG:HD2	1.84	0.59
1:D:256:PRO:HB3	1:D:302:LEU:HD23	1.83	0.59
1:F:116:ALA:O	1:F:119:ARG:HB2	2.03	0.59
1:F:161:LEU:HB2	1:F:168:TYR:CE1	2.38	0.59
1:C:11:SER:O	1:C:11:SER:OG	2.21	0.58
1:B:377:GLY:O	1:B:461:ARG:NH2	2.36	0.58
1:D:373:LEU:HB3	1:D:461:ARG:HD2	1.83	0.58
1:E:125:ASP:OD1	1:E:125:ASP:N	2.36	0.58
1:A:45:ASN:HB3	5:A:745:HOH:O	2.04	0.58
1:H:475:ILE:HD12	1:H:511:LEU:HD23	1.85	0.58
1:D:313:ILE:HG22	1:D:372:LEU:HD12	1.85	0.58
1:G:520:VAL:HG12	1:G:527:PRO:HA	1.85	0.58
1:H:233:LYS:HE2	1:H:268:GLU:O	2.04	0.58
1:C:299:MET:HA	1:C:302:LEU:HD12	1.84	0.58
1:H:50:CYS:HA	1:H:97:TRP:O	2.04	0.58
1:D:86:VAL:HG22	1:D:89:ARG:NH2	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:67:ASP:HB3	1:G:177:GLN:HE21	1.69	0.58
1:E:131:TYR:HA	1:E:134:TYR:CD1	2.39	0.58
1:A:260:VAL:HG21	1:A:303:PRO:HD2	1.85	0.57
1:B:464:HIS:NE2	1:B:522:LEU:HD22	2.18	0.57
1:A:351:ARG:O	1:A:393:LEU:HD11	2.04	0.57
1:F:512:ALA:O	1:F:515:VAL:HG23	2.05	0.57
1:H:509:LEU:HD22	1:H:539:VAL:HG11	1.86	0.57
1:H:50:CYS:SG	1:H:99:ILE:HG12	2.44	0.57
1:H:384:GLY:O	1:H:387:ILE:HG12	2.04	0.57
1:B:46:LEU:HD23	1:B:48:VAL:HG23	1.86	0.57
1:A:445:GLN:HE22	1:C:431:PRO:HG2	1.69	0.57
1:G:54:LEU:HD21	1:G:318:HIS:CD2	2.39	0.57
1:D:260:VAL:HG13	1:D:305:ILE:HG22	1.87	0.57
1:D:464:HIS:CE1	1:D:522:LEU:HD22	2.40	0.57
1:B:171:HIS:HA	1:B:179:ASP:OD1	2.04	0.56
1:D:362:ARG:NE	1:D:366:GLU:OE2	2.38	0.56
1:G:12:ALA:HB1	1:G:49:ASP:HB2	1.87	0.56
1:E:272:HIS:O	1:E:309:GLY:HA2	2.05	0.56
1:F:370:THR:HG21	1:F:546:TYR:CD2	2.41	0.56
1:G:191:LEU:HG	1:G:235:PHE:CZ	2.41	0.56
1:H:404:PRO:HB3	1:H:415:PHE:CG	2.41	0.56
1:B:253:THR:HG22	1:B:325:MET:HG2	1.86	0.56
1:A:320:GLU:HG3	1:A:349:GLY:HA3	1.87	0.56
1:B:522:LEU:HD12	1:B:548:TRP:HB3	1.86	0.56
1:H:280:MET:HB3	1:H:281:PRO:HD3	1.88	0.56
1:A:363:ARG:NH1	1:C:366:GLU:OE1	2.38	0.55
1:E:470:GLY:HA2	1:E:489:TYR:HB2	1.87	0.55
1:C:150:ILE:HG22	1:C:151:PHE:CD1	2.41	0.55
1:D:460:LEU:O	1:D:464:HIS:HD2	1.89	0.55
1:G:138:SER:N	1:G:168:TYR:O	2.39	0.55
1:G:260:VAL:HG13	1:G:305:ILE:HG22	1.89	0.55
1:G:530:VAL:O	1:G:532:THR:HG23	2.07	0.55
1:H:408:ASN:ND2	1:H:414:GLY:HA3	2.21	0.55
1:D:366:GLU:O	1:D:370:THR:HG23	2.06	0.55
1:H:67:ASP:HB3	1:H:177:GLN:HG2	1.87	0.55
1:H:56:TRP:HH2	1:H:203:LEU:HD21	1.71	0.55
1:E:233:LYS:HG2	1:E:270:GLU:HG3	1.89	0.55
1:G:111:HIS:CD2	1:G:113:TRP:H	2.25	0.55
1:D:283:LEU:HD22	1:D:371:VAL:HG11	1.89	0.55
1:G:131:TYR:O	1:G:134:TYR:HB2	2.07	0.55
1:G:260:VAL:HG11	1:G:303:PRO:HG2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:163:GLU:HG3	1:C:164:GLN:H	1.72	0.54
1:E:477:THR:HG21	1:E:482:ILE:HG22	1.89	0.54
1:A:444:LEU:O	1:A:452:LYS:HE2	2.06	0.54
1:C:14:PHE:O	1:C:380:VAL:HA	2.07	0.54
1:E:217:ARG:O	1:E:220:THR:OG1	2.26	0.54
1:E:353:ARG:O	1:E:356:PRO:HD2	2.08	0.54
1:F:517:ARG:HG2	1:F:552:ASN:O	2.07	0.54
1:H:408:ASN:HD21	1:H:414:GLY:HA3	1.72	0.54
1:G:156:VAL:N	5:G:703:HOH:O	2.40	0.54
1:G:227:GLU:N	1:G:227:GLU:OE2	2.36	0.54
1:D:344:MET:HA	1:D:393:LEU:HD22	1.89	0.54
1:F:67:ASP:HB2	1:F:108:SER:HB2	1.89	0.54
1:H:428:ILE:HG22	1:H:434:GLY:HA2	1.90	0.54
1:H:9:TYR:CD2	1:H:247:LEU:HD13	2.42	0.54
1:C:350:ILE:HG22	1:C:352:ARG:HG3	1.88	0.54
1:E:260:VAL:HB	1:E:303:PRO:HG2	1.90	0.54
1:A:531:VAL:HG22	1:A:537:TYR:CD2	2.43	0.54
1:B:131:TYR:HA	1:B:134:TYR:CD1	2.43	0.54
1:G:439:ASN:O	1:G:443:GLN:HG3	2.08	0.54
1:F:346:ILE:CG2	1:F:351:ARG:HD3	2.38	0.54
1:F:464:HIS:CE1	1:F:522:LEU:HD22	2.42	0.54
1:H:52:TRP:HA	1:H:99:ILE:HG13	1.89	0.54
1:H:392:ASP:O	1:H:394:GLY:N	2.41	0.54
1:E:52:TRP:CZ2	1:E:207:ARG:HD3	2.42	0.53
1:H:260:VAL:HG21	1:H:303:PRO:HD2	1.89	0.53
1:G:340:PRO:HD2	1:G:344:MET:SD	2.48	0.53
1:C:117:ALA:HA	1:C:129:ASN:HD21	1.73	0.53
1:D:147:THR:HG21	1:D:170:TRP:HH2	1.73	0.53
1:C:236:ARG:NH1	1:C:270:GLU:O	2.37	0.53
1:D:297:GLU:O	1:D:301:ARG:HG3	2.09	0.53
1:E:474:PHE:HA	1:E:485:PHE:HB3	1.89	0.53
1:G:518:ALA:HB2	1:G:530:VAL:HG22	1.89	0.53
1:H:519:PRO:HA	1:H:551:LEU:HD22	1.91	0.53
1:A:191:LEU:HB3	1:A:235:PHE:HZ	1.73	0.53
1:B:280:MET:HB3	1:B:281:PRO:HD3	1.90	0.53
1:G:224:ASN:OD1	1:G:262:TYR:OH	2.19	0.53
1:D:20:ARG:O	1:D:20:ARG:HG2	2.09	0.53
1:E:497:VAL:HB	1:E:547:TYR:HB2	1.90	0.53
1:E:531:VAL:HG22	1:E:537:TYR:HD2	1.73	0.53
1:H:255:TRP:NE1	1:H:325:MET:SD	2.82	0.53
1:B:133:ASP:HB3	1:B:184:ASN:ND2	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:66:TYR:HB3	4:C:602:TRS:O3	2.09	0.52
1:C:171:HIS:CD2	1:C:175:ALA:HA	2.44	0.52
1:H:90:GLU:HB3	1:H:94:ARG:HH21	1.73	0.52
1:C:192:HIS:HB3	1:C:196:ARG:HH12	1.74	0.52
1:C:283:LEU:HD23	1:C:295:ILE:HD13	1.90	0.52
1:E:147:THR:HG21	1:E:170:TRP:HH2	1.74	0.52
1:G:151:PHE:HZ	4:G:602:TRS:H22	1.73	0.52
1:G:504:ALA:HA	1:G:541:MET:O	2.09	0.52
1:G:373:LEU:HB3	1:G:461:ARG:HD2	1.92	0.52
1:H:361:ASP:O	1:H:365:ILE:HG13	2.09	0.52
1:C:315:LEU:HG	1:C:372:LEU:HD13	1.92	0.52
1:F:41:ASP:OD1	1:F:94:ARG:NE	2.34	0.52
1:G:255:TRP:HE3	1:G:256:PRO:HD2	1.74	0.52
1:D:207:ARG:HD2	1:D:275:PHE:HE2	1.75	0.52
1:C:248:LEU:HB3	1:C:271:PHE:HD1	1.74	0.52
1:F:217:ARG:O	1:F:220:THR:OG1	2.24	0.52
1:D:72:ARG:HG3	1:D:197:PHE:CD2	2.44	0.52
1:D:217:ARG:NE	1:D:227:GLU:OE2	2.32	0.52
1:D:316:ARG:NH1	1:D:317:ASN:H	2.07	0.52
1:C:287:LEU:HD22	1:C:368:LEU:HD21	1.91	0.52
1:D:341:ASP:HB2	1:D:344:MET:HG3	1.91	0.51
1:E:282:ARG:N	1:E:282:ARG:HD2	2.25	0.51
1:H:362:ARG:HA	1:H:365:ILE:HD12	1.91	0.51
1:H:174:PHE:HB3	5:H:756:HOH:O	2.10	0.51
1:H:171:HIS:O	1:H:171:HIS:ND1	2.43	0.51
1:H:470:GLY:HA3	1:H:489:TYR:HB2	1.92	0.51
1:C:117:ALA:HB1	1:C:132:HIS:HA	1.91	0.51
1:E:485:PHE:CE2	1:E:496:ILE:HD11	2.45	0.51
1:E:530:VAL:HG23	5:E:786:HOH:O	2.10	0.51
1:B:534:ASN:OD1	1:B:534:ASN:N	2.43	0.51
1:C:162:ASP:OD1	1:C:163:GLU:N	2.44	0.51
1:E:130:GLU:HG2	5:E:724:HOH:O	2.09	0.51
1:G:104:THR:HG22	1:G:191:LEU:HD11	1.93	0.51
1:A:241:ARG:NH2	5:A:701:HOH:O	2.08	0.51
1:C:255:TRP:O	1:C:259:VAL:HG23	2.11	0.51
1:C:472:LEU:HD22	1:C:473:THR:N	2.26	0.51
1:E:437:ARG:NH2	1:H:446:ASP:OD2	2.38	0.51
1:F:351:ARG:O	1:F:393:LEU:HD11	2.11	0.51
1:H:229:HIS:CE1	1:H:261:GLU:HB3	2.46	0.51
1:C:283:LEU:HD23	1:C:295:ILE:CD1	2.41	0.51
1:C:313:ILE:HG22	1:C:372:LEU:HD12	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:134:TYR:OH	1:G:190:GLU:HG3	2.11	0.51
1:G:496:ILE:HD12	1:G:548:TRP:CD1	2.46	0.51
1:C:113:TRP:NE1	5:C:701:HOH:O	2.35	0.51
1:D:285:MET:HE1	1:D:330:GLU:HG2	1.93	0.51
1:E:484:ALA:CB	1:E:497:VAL:HG22	2.41	0.51
1:G:123:LEU:HB3	1:G:124:PRO:HD2	1.93	0.51
1:C:70:ASP:OD1	1:C:71:TYR:N	2.43	0.51
1:C:257:GLU:H	1:C:257:GLU:CD	2.14	0.51
1:F:48:VAL:HG11	1:F:51:LEU:HD23	1.93	0.51
1:G:186:LYS:O	1:G:186:LYS:HG3	2.11	0.51
1:A:207:ARG:HH21	1:A:209:ASP:HB2	1.75	0.50
1:A:355:ALA:HB3	1:A:356:PRO:HD3	1.93	0.50
1:C:183:ASP:OD2	1:C:217:ARG:NH1	2.42	0.50
1:G:123:LEU:HD12	5:G:704:HOH:O	2.09	0.50
1:H:196:ARG:NH1	5:H:712:HOH:O	2.43	0.50
1:B:320:GLU:HG3	1:B:349:GLY:HA3	1.94	0.50
1:C:404:PRO:HB3	1:C:415:PHE:CG	2.46	0.50
1:G:52:TRP:CD1	1:G:52:TRP:C	2.84	0.50
1:G:71:TYR:CE2	1:G:103:VAL:HG23	2.45	0.50
1:G:341:ASP:O	1:G:344:MET:HG3	2.11	0.50
1:B:256:PRO:HB3	1:B:302:LEU:HD23	1.94	0.50
1:A:183:ASP:O	1:A:185:PRO:HD3	2.11	0.50
1:C:163:GLU:HG3	1:C:164:GLN:N	2.26	0.50
1:C:214:LEU:HD12	1:C:228:THR:HG23	1.92	0.50
1:C:248:LEU:H	1:C:272:HIS:HD2	1.58	0.50
1:C:519:PRO:HA	1:C:550:ARG:O	2.11	0.50
1:H:40:LEU:HD23	1:H:43:LEU:HD12	1.94	0.50
1:E:136:VAL:HB	1:E:170:TRP:HB3	1.93	0.50
1:E:443:GLN:HG2	1:E:449:SER:HB2	1.94	0.50
1:G:521:THR:O	1:G:525:ALA:HA	2.11	0.50
1:A:494:LEU:HD22	1:A:522:LEU:HD11	1.93	0.50
1:C:331:ARG:HD3	1:C:348:VAL:HG13	1.93	0.50
1:D:184:ASN:OD1	1:D:186:LYS:HB2	2.12	0.50
1:E:243:TYR:O	1:E:246:ARG:HG2	2.12	0.50
1:G:111:HIS:HD2	1:G:113:TRP:H	1.57	0.50
1:C:102:LEU:HD23	1:C:104:THR:HG23	1.94	0.50
1:F:131:TYR:O	1:F:134:TYR:HB2	2.12	0.50
1:G:284:TYR:OH	1:G:316:ARG:HG2	2.12	0.50
1:H:283:LEU:HD22	1:H:371:VAL:HG11	1.93	0.50
1:A:282:ARG:HD2	1:A:282:ARG:N	2.27	0.50
1:C:370:THR:HG21	1:C:546:TYR:CG	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:123:LEU:HB3	1:D:124:PRO:HD2	1.94	0.50
1:E:276:ASN:HD21	1:E:299:MET:CE	2.24	0.50
1:G:366:GLU:O	1:G:370:THR:HG23	2.11	0.50
1:C:107:THR:HG21	1:C:111:HIS:CD2	2.46	0.49
1:D:266:GLU:OE2	1:D:307:SER:N	2.42	0.49
1:E:72:ARG:HG2	1:E:197:PHE:CG	2.47	0.49
1:F:7:GLU:OE1	1:F:10:LYS:NZ	2.21	0.49
1:B:18:SER:HB3	1:B:21:THR:HB	1.94	0.49
1:C:106:HIS:CE1	1:C:173:PHE:CD2	3.00	0.49
1:E:280:MET:HB3	1:E:281:PRO:HD3	1.94	0.49
1:E:366:GLU:O	1:E:370:THR:HG23	2.11	0.49
1:F:232:LEU:HD13	1:F:271:PHE:CE2	2.45	0.49
1:G:151:PHE:HD1	1:G:174:PHE:CD1	2.30	0.49
1:G:161:LEU:HD13	1:G:168:TYR:CD2	2.47	0.49
1:H:161:LEU:HG	1:H:168:TYR:CZ	2.47	0.49
1:C:52:TRP:CE2	1:C:207:ARG:HD3	2.47	0.49
1:C:113:TRP:N	1:C:113:TRP:CD1	2.80	0.49
1:C:199:LEU:HD11	1:C:206:PHE:HE2	1.78	0.49
1:E:10:LYS:NZ	5:E:703:HOH:O	2.45	0.49
1:A:52:TRP:CE2	1:A:207:ARG:HD3	2.47	0.49
1:C:248:LEU:HB3	1:C:271:PHE:CD1	2.47	0.49
1:C:290:GLU:HG2	1:C:501:ALA:HA	1.94	0.49
1:E:16:GLU:O	1:E:383:TYR:HB3	2.12	0.49
1:F:52:TRP:HB2	1:F:99:ILE:HD11	1.94	0.49
1:H:402:ARG:O	1:H:425:PHE:HD2	1.95	0.49
1:D:90:GLU:HB3	1:D:94:ARG:HH21	1.78	0.49
1:E:496:ILE:HA	1:E:547:TYR:O	2.13	0.49
1:B:257:GLU:OE2	1:B:301:ARG:NH2	2.44	0.49
1:D:9:TYR:CD2	1:D:247:LEU:HD13	2.48	0.49
1:E:226:PRO:O	1:E:230:GLU:HG2	2.11	0.49
1:G:183:ASP:O	1:G:185:PRO:HD3	2.13	0.49
1:H:148:ARG:NH1	1:H:150:ILE:HG12	2.28	0.49
1:H:519:PRO:HB2	1:H:528:LEU:HB2	1.93	0.49
1:E:196:ARG:HG3	1:E:238:MET:CE	2.42	0.49
1:F:114:PHE:HB2	1:F:135:TYR:CZ	2.47	0.49
1:F:256:PRO:HB3	1:F:302:LEU:HD23	1.94	0.49
1:F:286:SER:HB3	1:F:292:THR:HA	1.94	0.49
1:G:161:LEU:HD13	1:G:168:TYR:CE2	2.48	0.49
1:H:241:ARG:NE	1:H:241:ARG:HA	2.27	0.49
1:A:104:THR:HA	1:A:191:LEU:CD2	2.43	0.49
1:B:250:ALA:HB2	1:B:271:PHE:CG	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:485:PHE:CG	1:E:496:ILE:HD11	2.48	0.49
1:B:24:ASP:HA	1:B:31:GLY:HA2	1.94	0.49
1:C:50:CYS:HA	1:C:97:TRP:O	2.13	0.49
1:C:143:GLU:HB3	1:C:218:GLU:OE1	2.13	0.49
1:C:245:GLY:O	1:C:246:ARG:HD2	2.12	0.49
1:D:105:ASN:HB3	1:D:106:HIS:ND1	2.27	0.49
1:H:81:LEU:HD23	1:H:85:LYS:NZ	2.27	0.49
1:H:198:TRP:HB3	1:H:203:LEU:HD23	1.94	0.49
1:H:225:LEU:HB3	1:H:227:GLU:OE1	2.12	0.49
1:A:313:ILE:HG22	1:A:372:LEU:HD12	1.94	0.48
1:H:102:LEU:HG	1:H:104:THR:HG23	1.93	0.48
1:H:286:SER:OG	1:H:292:THR:HA	2.13	0.48
1:C:208:VAL:HG12	1:C:211:VAL:HG12	1.95	0.48
1:E:171:HIS:O	1:E:171:HIS:ND1	2.46	0.48
1:E:196:ARG:HG3	1:E:238:MET:HE2	1.94	0.48
1:E:249:LEU:HD13	1:E:273:MET:HB2	1.96	0.48
1:F:370:THR:HG21	1:F:546:TYR:CG	2.48	0.48
1:H:232:LEU:HD13	1:H:271:PHE:HE1	1.78	0.48
1:F:404:PRO:HB3	1:F:415:PHE:CD1	2.48	0.48
1:H:232:LEU:HD22	1:H:271:PHE:CZ	2.48	0.48
1:A:510:ASP:HB2	1:A:536:GLN:HE22	1.78	0.48
1:C:161:LEU:HD13	1:C:168:TYR:CZ	2.48	0.48
1:F:303:PRO:HA	5:F:706:HOH:O	2.12	0.48
1:H:179:ASP:HB3	5:H:732:HOH:O	2.13	0.48
1:H:477:THR:O	1:H:508:LEU:N	2.42	0.48
1:A:74:ILE:HG12	1:A:81:LEU:HD12	1.95	0.48
1:C:198:TRP:HB2	1:C:206:PHE:HZ	1.78	0.48
1:C:366:GLU:O	1:C:370:THR:HG23	2.14	0.48
1:E:292:THR:O	1:E:294:SER:N	2.46	0.48
1:G:215:ILE:H	1:G:228:THR:CG2	2.27	0.48
1:H:16:GLU:O	1:H:383:TYR:HB3	2.12	0.48
1:H:52:TRP:CZ2	1:H:207:ARG:HD3	2.49	0.48
1:H:207:ARG:HD2	1:H:275:PHE:HE2	1.78	0.48
1:A:257:GLU:CD	1:A:257:GLU:H	2.15	0.48
1:B:195:ALA:O	1:B:199:LEU:HG	2.12	0.48
1:C:241:ARG:HG2	1:C:242:GLU:HG3	1.96	0.48
1:D:227:GLU:O	1:D:231:ILE:HD12	2.14	0.48
1:E:211:VAL:HG21	1:E:250:ALA:HB1	1.96	0.48
1:E:545:ASP:OD1	1:H:545:ASP:OD2	2.31	0.48
1:H:233:LYS:HD3	1:H:268:GLU:HB3	1.94	0.48
1:B:23:GLN:O	1:B:35:GLY:HA3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:116:ALA:O	1:H:119:ARG:HG2	2.14	0.48
1:A:152:THR:OG1	1:A:347:ASN:HA	2.13	0.48
1:C:148:ARG:NH2	1:C:213:TYR:OH	2.47	0.48
1:D:74:ILE:HD11	1:D:84:PHE:HD2	1.78	0.48
1:F:288:LYS:HG2	1:F:337:ALA:HB1	1.96	0.48
1:H:118:ARG:HG3	1:H:164:GLN:OE1	2.13	0.48
1:A:216:GLU:O	1:A:217:ARG:NH1	2.45	0.48
1:C:184:ASN:OD1	1:C:186:LYS:N	2.47	0.48
1:C:226:PRO:O	1:C:230:GLU:HG2	2.13	0.48
1:F:85:LYS:HE3	1:F:201:LEU:HD22	1.96	0.48
1:G:134:TYR:HE1	1:G:186:LYS:CG	2.27	0.48
1:H:57:PHE:HB2	1:H:68:VAL:HG13	1.96	0.48
1:H:249:LEU:HD21	1:H:275:PHE:CE1	2.49	0.48
1:D:125:ASP:N	1:D:125:ASP:OD1	2.47	0.48
1:F:521:THR:OG1	1:F:526:SER:N	2.43	0.48
1:C:257:GLU:OE1	1:C:257:GLU:N	2.28	0.47
1:E:207:ARG:NH2	1:E:209:ASP:OD1	2.47	0.47
1:H:15:TYR:OH	1:H:386:GLU:OE2	2.15	0.47
1:D:387:ILE:HD12	1:D:438:VAL:HG12	1.96	0.47
1:F:471:ASP:O	1:F:487:ARG:HA	2.14	0.47
1:H:511:LEU:HD12	1:H:537:TYR:CD2	2.49	0.47
1:A:340:PRO:HD2	1:A:344:MET:SD	2.54	0.47
1:H:125:ASP:OD1	1:H:126:GLY:N	2.47	0.47
1:E:256:PRO:HB3	1:E:302:LEU:HD23	1.96	0.47
1:F:516:GLY:N	1:F:531:VAL:O	2.30	0.47
1:G:90:GLU:HB3	1:G:94:ARG:NH1	2.29	0.47
1:G:250:ALA:HB2	1:G:271:PHE:CG	2.49	0.47
1:C:520:VAL:HA	1:C:527:PRO:HA	1.95	0.47
1:E:353:ARG:C	1:E:356:PRO:HD2	2.35	0.47
1:C:470:GLY:HA2	1:C:489:TYR:HB2	1.96	0.47
1:D:132:HIS:CE1	1:D:167:LYS:HZ2	2.33	0.47
1:E:297:GLU:O	1:E:301:ARG:HG3	2.14	0.47
1:E:483:LEU:HD12	1:E:484:ALA:N	2.30	0.47
1:G:100:GLY:O	1:G:207:ARG:N	2.43	0.47
1:A:338:TYR:O	1:A:352:ARG:NH1	2.44	0.47
1:B:519:PRO:HG2	1:B:528:LEU:HB2	1.96	0.47
1:D:363:ARG:NH1	1:G:366:GLU:OE1	2.48	0.47
1:E:52:TRP:CE2	1:E:207:ARG:HD3	2.50	0.47
1:E:323:LEU:O	1:E:326:VAL:HG22	2.14	0.47
1:E:486:THR:HA	1:E:494:LEU:O	2.14	0.47
1:F:207:ARG:HA	1:F:249:LEU:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:212:PRO:HB3	1:G:224:ASN:OD1	2.15	0.47
1:G:255:TRP:HZ3	1:G:301:ARG:NH1	2.10	0.47
1:G:277:PHE:HB2	1:G:278:PRO:HD3	1.97	0.47
1:H:135:TYR:HD1	1:H:179:ASP:O	1.98	0.47
1:H:254:GLN:HB2	1:H:259:VAL:HG23	1.95	0.47
1:H:280:MET:HG3	1:H:314:PHE:CE2	2.50	0.47
1:A:12:ALA:O	1:A:378:SER:HB3	2.14	0.47
1:B:40:LEU:HD21	1:B:87:PHE:HE1	1.79	0.47
1:C:107:THR:O	1:C:177:GLN:HA	2.15	0.47
1:D:257:GLU:CD	1:D:257:GLU:H	2.18	0.47
1:F:404:PRO:HD2	1:F:427:PRO:HA	1.96	0.47
1:D:9:TYR:CG	1:D:247:LEU:HD13	2.50	0.47
1:E:517:ARG:O	1:E:530:VAL:HG13	2.15	0.47
1:H:392:ASP:C	1:H:394:GLY:H	2.19	0.47
1:H:513:PRO:HB2	1:H:514:PHE:CE1	2.49	0.47
1:A:286:SER:O	1:A:290:GLU:N	2.48	0.47
1:C:288:LYS:HG2	1:C:337:ALA:HB1	1.97	0.47
1:F:366:GLU:O	1:F:370:THR:HG23	2.15	0.47
1:G:353:ARG:NH1	1:G:385:ASP:OD1	2.47	0.47
1:G:353:ARG:HG3	1:G:390:GLY:O	2.14	0.47
1:H:236:ARG:HB2	1:H:270:GLU:O	2.15	0.47
1:A:67:ASP:O	1:A:108:SER:HB2	2.15	0.46
1:B:316:ARG:HH11	1:B:316:ARG:HA	1.80	0.46
1:B:499:ASN:O	1:B:544:TYR:HA	2.15	0.46
1:B:512:ALA:O	1:B:515:VAL:HG23	2.15	0.46
1:F:105:ASN:HB3	1:F:106:HIS:ND1	2.30	0.46
1:F:347:ASN:ND2	5:F:705:HOH:O	2.34	0.46
1:H:116:ALA:HB1	5:H:701:HOH:O	2.15	0.46
1:A:395:LEU:HD11	1:A:426:PRO:HD2	1.97	0.46
1:C:247:LEU:HD12	1:C:248:LEU:H	1.79	0.46
1:F:519:PRO:HA	1:F:550:ARG:O	2.16	0.46
1:G:387:ILE:O	1:G:438:VAL:HG13	2.14	0.46
1:G:470:GLY:HA2	1:G:489:TYR:HB2	1.96	0.46
1:H:10:LYS:O	1:H:468:ALA:HB1	2.15	0.46
1:C:46:LEU:O	1:C:458:LEU:HD12	2.15	0.46
1:C:229:HIS:HA	1:C:232:LEU:HD12	1.97	0.46
1:D:71:TYR:O	1:D:198:TRP:NE1	2.41	0.46
1:D:272:HIS:O	1:D:309:GLY:HA2	2.16	0.46
1:E:129:ASN:ND2	1:E:132:HIS:HB2	2.30	0.46
1:H:56:TRP:CH2	1:H:203:LEU:HD21	2.50	0.46
1:H:233:LYS:HG3	1:H:270:GLU:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:486:THR:HA	1:F:494:LEU:O	2.16	0.46
1:B:235:PHE:O	1:B:239:VAL:HG23	2.15	0.46
1:B:484:ALA:HA	1:B:496:ILE:O	2.15	0.46
1:D:67:ASP:HB3	1:D:177:GLN:HG2	1.98	0.46
1:D:250:ALA:HB2	1:D:271:PHE:CG	2.50	0.46
1:F:266:GLU:HG2	5:F:729:HOH:O	2.15	0.46
1:C:107:THR:HG21	1:C:111:HIS:HD2	1.81	0.46
1:D:173:PHE:CE1	4:D:602:TRS:H12	2.50	0.46
1:E:260:VAL:CB	1:E:303:PRO:HG2	2.46	0.46
1:E:530:VAL:O	1:E:532:THR:HG23	2.15	0.46
1:A:255:TRP:O	1:A:259:VAL:HG23	2.15	0.46
1:A:288:LYS:HG2	1:A:337:ALA:HB1	1.96	0.46
1:C:150:ILE:HD13	1:C:173:PHE:HE1	1.77	0.46
1:G:106:HIS:HB3	1:G:179:ASP:HA	1.98	0.46
1:A:143:GLU:OE1	1:A:143:GLU:N	2.44	0.46
1:C:284:TYR:OH	1:C:316:ARG:HG2	2.16	0.46
1:E:66:TYR:HH	1:E:318:HIS:CE1	2.33	0.46
1:H:142:LYS:HE3	5:H:798:HOH:O	2.16	0.46
1:H:273:MET:HA	1:H:310:GLN:O	2.16	0.46
1:A:253:THR:HG23	1:A:253:THR:O	2.16	0.46
1:B:209:ASP:OD2	4:B:602:TRS:O3	2.33	0.46
1:B:282:ARG:HA	1:B:285:MET:HE3	1.97	0.46
1:D:50:CYS:HA	1:D:97:TRP:O	2.16	0.46
1:H:144:TYR:O	1:H:147:THR:HB	2.15	0.46
1:H:406:GLN:HG2	1:H:435:PHE:HB3	1.97	0.46
1:H:521:THR:O	1:H:525:ALA:HA	2.16	0.46
1:B:21:THR:HG21	1:B:383:TYR:OH	2.15	0.46
1:B:370:THR:HG21	1:B:546:TYR:CD2	2.50	0.46
1:C:106:HIS:HB3	1:C:179:ASP:HA	1.97	0.46
1:E:160:THR:HG1	1:E:171:HIS:CD2	2.32	0.46
1:C:14:PHE:CD1	1:C:50:CYS:HB3	2.51	0.45
1:C:472:LEU:HD11	1:C:474:PHE:CZ	2.51	0.45
1:D:103:VAL:HA	1:D:209:ASP:HB3	1.98	0.45
1:G:8:TRP:CZ2	1:G:247:LEU:HB2	2.51	0.45
1:H:229:HIS:NE2	1:H:261:GLU:HB3	2.31	0.45
1:C:373:LEU:HB3	1:C:461:ARG:HD2	1.99	0.45
1:C:472:LEU:HD23	1:C:487:ARG:HD2	1.98	0.45
1:D:20:ARG:HD3	1:D:424:PHE:CE2	2.51	0.45
1:D:395:LEU:HD11	1:D:426:PRO:HD2	1.98	0.45
1:G:151:PHE:CD1	1:G:174:PHE:CE1	3.05	0.45
1:G:503:ASN:OD1	1:G:503:ASN:N	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:199:LEU:HD22	1:F:246:ARG:HG2	1.97	0.45
1:H:129:ASN:HB2	5:H:708:HOH:O	2.15	0.45
1:H:238:MET:SD	1:H:238:MET:C	2.95	0.45
1:D:7:GLU:N	1:D:7:GLU:OE1	2.45	0.45
1:D:528:LEU:HB3	1:D:537:TYR:OH	2.16	0.45
1:F:250:ALA:HB2	1:F:271:PHE:CG	2.52	0.45
1:C:173:PHE:CE2	4:C:602:TRS:H12	2.51	0.45
1:D:24:ASP:HA	1:D:31:GLY:HA2	1.98	0.45
1:E:302:LEU:HD23	1:E:302:LEU:HA	1.68	0.45
1:G:58:PRO:HB2	1:G:70:ASP:HB3	1.97	0.45
1:G:62:ARG:NH1	1:G:110:ASP:OD1	2.47	0.45
1:G:370:THR:HG21	1:G:546:TYR:CG	2.52	0.45
1:A:123:LEU:HD23	1:A:129:ASN:HA	1.98	0.45
1:A:233:LYS:HE3	1:A:270:GLU:OE1	2.16	0.45
1:A:477:THR:HG21	1:A:482:ILE:O	2.16	0.45
1:C:171:HIS:O	1:C:171:HIS:ND1	2.49	0.45
1:C:471:ASP:O	1:C:487:ARG:NE	2.43	0.45
1:D:15:TYR:CD2	1:D:48:VAL:HG21	2.51	0.45
1:D:72:ARG:HG3	1:D:197:PHE:CG	2.50	0.45
1:H:306:PRO:HD3	5:H:757:HOH:O	2.16	0.45
1:H:495:LEU:C	1:H:496:ILE:HD13	2.36	0.45
1:A:14:PHE:CD2	1:A:50:CYS:HB3	2.52	0.45
1:A:243:TYR:HB3	1:A:246:ARG:HG3	1.98	0.45
1:A:462:ARG:NH2	1:B:394:GLY:HA3	2.32	0.45
1:B:355:ALA:HB3	1:B:356:PRO:HD3	1.98	0.45
1:B:486:THR:HA	1:B:494:LEU:O	2.17	0.45
1:F:366:GLU:HG2	1:F:453:TRP:CE2	2.52	0.45
1:G:298:ILE:HD12	1:G:301:ARG:HH11	1.82	0.45
1:H:262:TYR:HA	1:H:270:GLU:OE2	2.17	0.45
1:H:335:TYR:CD1	1:H:345:LYS:HD3	2.51	0.45
1:A:145:ALA:O	1:A:146:ASP:HB2	2.17	0.45
1:C:254:GLN:HB2	1:C:259:VAL:HG22	1.98	0.45
1:D:131:TYR:O	1:D:134:TYR:HB2	2.16	0.45
1:E:211:VAL:CG2	1:E:212:PRO:HD3	2.46	0.45
1:E:511:LEU:HD12	1:E:537:TYR:HB2	1.99	0.45
1:F:138:SER:O	1:F:167:LYS:HB3	2.17	0.45
1:F:215:ILE:HB	1:F:228:THR:OG1	2.16	0.45
1:C:8:TRP:CE2	1:C:97:TRP:CD1	3.05	0.45
1:D:136:VAL:HB	1:D:170:TRP:HB3	1.98	0.45
1:F:335:TYR:OH	1:F:348:VAL:HA	2.17	0.45
1:A:117:ALA:HA	1:A:132:HIS:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:488:GLN:HG2	1:B:493:THR:OG1	2.16	0.45
1:C:182:TYR:CD2	1:C:214:LEU:HB2	2.52	0.45
1:C:233:LYS:HD3	1:C:268:GLU:HB2	1.99	0.45
1:D:23:GLN:O	1:D:35:GLY:HA3	2.16	0.45
1:E:528:LEU:HD22	1:H:506:ALA:HB2	1.98	0.45
1:F:499:ASN:O	1:F:544:TYR:HA	2.16	0.45
1:F:517:ARG:HD2	1:F:551:LEU:HB3	1.97	0.45
1:G:350:ILE:HG22	1:G:352:ARG:HG3	1.98	0.45
1:A:362:ARG:HA	1:A:365:ILE:HD12	1.98	0.44
1:B:250:ALA:HB2	1:B:271:PHE:CD1	2.53	0.44
1:D:88:LEU:HG	1:D:92:HIS:CE1	2.51	0.44
1:D:126:GLY:HA2	5:D:711:HOH:O	2.15	0.44
1:G:118:ARG:NH2	1:G:163:GLU:HG2	2.32	0.44
1:G:137:TRP:HA	1:G:169:TYR:HA	1.99	0.44
1:G:353:ARG:N	1:G:391:ASP:OD2	2.45	0.44
1:H:328:ASP:HA	1:H:331:ARG:NH1	2.31	0.44
1:H:407:TRP:N	1:H:413:GLY:O	2.49	0.44
1:B:39:ARG:HA	5:B:707:HOH:O	2.17	0.44
1:C:518:ALA:HB2	1:C:530:VAL:HG22	1.98	0.44
1:D:402:ARG:O	1:D:425:PHE:HD2	2.01	0.44
1:E:133:ASP:HB2	5:E:772:HOH:O	2.17	0.44
1:E:236:ARG:HB2	1:E:270:GLU:O	2.17	0.44
1:E:261:GLU:HB3	5:E:722:HOH:O	2.17	0.44
1:C:183:ASP:CG	1:C:217:ARG:HH12	2.20	0.44
1:E:497:VAL:HG12	1:E:541:MET:CE	2.47	0.44
1:H:314:PHE:HB3	1:H:380:VAL:HG13	1.99	0.44
1:B:136:VAL:HB	1:B:170:TRP:HB3	1.98	0.44
1:B:257:GLU:H	1:B:257:GLU:CD	2.19	0.44
1:E:250:ALA:HB2	1:E:271:PHE:CD1	2.53	0.44
1:E:282:ARG:HG3	1:E:294:SER:HB2	2.00	0.44
1:B:50:CYS:HA	1:B:97:TRP:O	2.18	0.44
1:B:123:LEU:HB3	1:B:124:PRO:HD2	1.98	0.44
1:C:105:ASN:OD1	1:C:214:LEU:HA	2.18	0.44
1:C:430:ASP:HA	1:F:45:ASN:OD1	2.18	0.44
1:H:207:ARG:HH21	1:H:209:ASP:HB2	1.82	0.44
1:A:137:TRP:CZ3	1:A:169:TYR:HB3	2.53	0.44
1:D:408:ASN:N	1:D:413:GLY:O	2.41	0.44
1:F:521:THR:HA	1:F:549:LEU:HD23	1.99	0.44
1:H:362:ARG:NE	1:H:366:GLU:OE2	2.51	0.44
1:A:362:ARG:HD2	1:A:450:LEU:HD13	2.00	0.44
1:B:63:ASP:OD1	1:B:398:ARG:NH2	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:526:SER:HA	1:B:527:PRO:HD3	1.83	0.44
1:C:172:ARG:HD2	1:C:172:ARG:HA	1.68	0.44
1:E:253:THR:HG22	1:E:325:MET:HG3	2.00	0.44
1:F:456:ARG:HG2	1:F:456:ARG:HH11	1.82	0.44
1:A:196:ARG:HD2	5:A:710:HOH:O	2.17	0.44
1:B:437:ARG:HA	1:F:437:ARG:HG3	2.00	0.44
1:C:196:ARG:CZ	1:C:238:MET:HE3	2.48	0.44
1:H:352:ARG:HG2	1:H:393:LEU:HD21	1.99	0.44
1:H:492:GLU:OE2	1:H:550:ARG:HD3	2.18	0.44
1:A:341:ASP:O	1:A:344:MET:HB2	2.18	0.43
1:B:182:TYR:OH	1:B:191:LEU:CD1	2.66	0.43
1:C:129:ASN:HD22	1:C:132:HIS:HB2	1.83	0.43
1:F:407:TRP:N	1:F:413:GLY:O	2.51	0.43
1:A:25:GLY:HA3	1:F:417:THR:HG21	2.00	0.43
1:C:136:VAL:HB	1:C:170:TRP:HB3	2.00	0.43
1:D:132:HIS:CE1	1:D:167:LYS:NZ	2.86	0.43
1:E:519:PRO:HA	1:E:550:ARG:O	2.18	0.43
1:G:431:PRO:O	1:G:437:ARG:HD2	2.18	0.43
1:H:89:ARG:HA	1:H:89:ARG:HD3	1.76	0.43
1:C:88:LEU:HD11	1:C:98:VAL:HB	2.01	0.43
1:G:419:GLN:H	1:G:419:GLN:HG2	1.66	0.43
1:B:475:ILE:HD11	1:B:486:THR:HG23	1.99	0.43
1:E:236:ARG:NH1	1:E:270:GLU:O	2.40	0.43
1:G:90:GLU:HB3	1:G:94:ARG:HH12	1.84	0.43
1:G:225:LEU:O	1:G:228:THR:OG1	2.28	0.43
1:H:344:MET:CG	1:H:352:ARG:HD2	2.49	0.43
1:A:262:TYR:O	1:A:270:GLU:HB3	2.19	0.43
1:F:52:TRP:CE2	1:F:207:ARG:HD3	2.53	0.43
1:G:138:SER:HB2	1:G:159:TRP:CH2	2.53	0.43
1:H:117:ALA:HA	1:H:129:ASN:HD21	1.83	0.43
1:H:466:ALA:HB3	1:H:494:LEU:HD11	2.00	0.43
1:A:57:PHE:HB3	1:A:70:ASP:O	2.18	0.43
1:B:182:TYR:OH	1:B:191:LEU:HD11	2.18	0.43
1:B:431:PRO:O	1:F:442:SER:OG	2.37	0.43
1:C:519:PRO:HB2	1:C:528:LEU:HD12	1.99	0.43
1:E:125:ASP:O	1:E:127:SER:N	2.48	0.43
1:E:248:LEU:HB3	1:E:271:PHE:CD1	2.53	0.43
1:E:200:ASP:OD1	1:E:243:TYR:OH	2.26	0.43
1:G:99:ILE:HD13	1:G:247:LEU:HD23	1.99	0.43
1:G:502:GLY:HA2	1:G:544:TYR:CZ	2.54	0.43
1:A:144:TYR:O	1:A:147:THR:HG22	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:243:TYR:HB3	1:A:246:ARG:CG	2.48	0.43
1:A:460:LEU:HD12	1:A:460:LEU:HA	1.67	0.43
1:C:399:ASN:ND2	1:C:425:PHE:CZ	2.87	0.43
1:E:111:HIS:ND1	1:E:112:PRO:HD2	2.34	0.43
1:F:57:PHE:HB3	1:F:70:ASP:O	2.19	0.43
1:A:285:MET:HG3	1:A:334:MET:SD	2.58	0.43
1:A:408:ASN:O	1:A:413:GLY:HA2	2.18	0.43
1:A:519:PRO:HA	1:A:550:ARG:O	2.18	0.43
1:C:139:ASP:HA	1:C:167:LYS:CD	2.49	0.43
1:C:355:ALA:HB3	1:C:356:PRO:HD3	2.01	0.43
1:C:464:HIS:CE1	1:C:522:LEU:HD22	2.54	0.43
1:D:372:LEU:HD23	1:D:373:LEU:HD23	2.01	0.43
1:H:140:GLU:HB3	1:H:142:LYS:HD3	2.00	0.43
1:B:52:TRP:CE2	1:B:207:ARG:HD3	2.53	0.43
1:E:233:LYS:CG	1:E:270:GLU:HG3	2.48	0.43
1:E:475:ILE:HD13	1:E:475:ILE:HA	1.85	0.43
1:F:393:LEU:HD12	1:F:393:LEU:HA	1.71	0.43
1:G:262:TYR:O	1:G:271:PHE:HB2	2.19	0.43
1:A:111:HIS:CE1	1:A:113:TRP:CD2	3.07	0.42
1:A:213:TYR:CE1	1:A:223:GLU:HG2	2.53	0.42
1:B:102:LEU:HD13	1:B:206:PHE:CE1	2.54	0.42
1:F:337:ALA:HB2	1:H:336:ALA:HB1	2.01	0.42
1:G:148:ARG:HH11	1:G:148:ARG:HG3	1.84	0.42
1:G:419:GLN:HE21	1:G:419:GLN:HB3	1.62	0.42
1:H:208:VAL:CG2	1:H:271:PHE:HE2	2.32	0.42
1:H:458:LEU:HB3	5:H:743:HOH:O	2.18	0.42
1:E:235:PHE:O	1:E:238:MET:N	2.53	0.42
1:E:420:PRO:HB3	1:E:427:PRO:HD2	2.01	0.42
1:G:71:TYR:HE1	1:G:107:THR:HB	1.83	0.42
1:H:72:ARG:HG3	1:H:197:PHE:CG	2.54	0.42
1:A:182:TYR:OH	1:A:191:LEU:HD22	2.19	0.42
1:A:321:LEU:N	1:A:350:ILE:O	2.41	0.42
1:A:336:ALA:HB1	1:D:337:ALA:HB2	2.01	0.42
1:A:344:MET:HA	1:A:393:LEU:HD21	2.01	0.42
1:C:52:TRP:CD1	1:C:52:TRP:C	2.92	0.42
1:C:394:GLY:HA3	1:F:462:ARG:NH2	2.35	0.42
1:F:320:GLU:HG3	1:F:349:GLY:HA3	2.00	0.42
1:G:231:ILE:O	1:G:234:GLY:N	2.48	0.42
1:H:207:ARG:NH2	1:H:209:ASP:HB2	2.34	0.42
1:A:215:ILE:O	1:A:225:LEU:HD12	2.19	0.42
1:C:106:HIS:HE1	1:C:173:PHE:CE2	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:256:PRO:O	1:D:260:VAL:HG23	2.19	0.42
1:F:46:LEU:HD23	1:F:48:VAL:HG23	2.01	0.42
1:B:58:PRO:HG2	1:B:70:ASP:HB3	2.00	0.42
1:D:106:HIS:CD2	1:D:177:GLN:HE21	2.37	0.42
1:D:406:GLN:HG2	1:D:435:PHE:HB3	2.01	0.42
1:F:297:GLU:O	1:F:301:ARG:HG3	2.20	0.42
1:G:217:ARG:O	1:G:220:THR:OG1	2.37	0.42
1:G:227:GLU:O	1:G:231:ILE:HD12	2.19	0.42
1:H:67:ASP:HB2	1:H:108:SER:HB2	2.01	0.42
1:D:437:ARG:HA	1:G:437:ARG:HG3	2.01	0.42
1:E:285:MET:CE	1:E:330:GLU:HG2	2.49	0.42
1:F:367:LEU:HD13	1:F:544:TYR:O	2.20	0.42
1:G:122:THR:HA	1:G:128:PRO:HA	2.01	0.42
1:G:287:LEU:HD12	1:G:287:LEU:HA	1.81	0.42
1:G:292:THR:O	1:G:294:SER:N	2.53	0.42
1:H:208:VAL:HG21	1:H:271:PHE:HE2	1.85	0.42
1:B:9:TYR:CZ	1:B:272:HIS:HB3	2.55	0.42
1:C:180:LEU:HD23	1:C:180:LEU:HA	1.86	0.42
1:E:351:ARG:O	1:E:393:LEU:HD11	2.20	0.42
1:G:58:PRO:HD3	1:G:73:GLY:O	2.20	0.42
1:A:182:TYR:HB3	1:A:231:ILE:HD13	2.02	0.42
1:A:314:PHE:HB3	1:A:380:VAL:CG1	2.49	0.42
1:B:158:ASN:ND2	5:B:704:HOH:O	2.35	0.42
1:C:236:ARG:HG2	1:C:269:PRO:O	2.20	0.42
1:C:370:THR:HG21	1:C:546:TYR:CD2	2.55	0.42
1:E:262:TYR:O	1:E:270:GLU:HB3	2.20	0.42
1:G:129:ASN:HD22	1:G:132:HIS:HB2	1.84	0.42
1:H:360:ASN:HB2	1:H:433:TYR:OH	2.19	0.42
1:B:444:LEU:O	1:B:452:LYS:HE2	2.20	0.42
1:F:207:ARG:HD2	1:F:275:PHE:HE2	1.85	0.42
1:F:336:ALA:HB1	1:H:337:ALA:HB2	2.02	0.42
1:H:515:VAL:HG21	1:H:533:GLY:O	2.20	0.42
1:A:375:LEU:HD23	1:A:375:LEU:HA	1.87	0.42
1:D:10:LYS:HB3	1:D:469:HIS:CE1	2.55	0.42
1:D:254:GLN:HB2	1:D:259:VAL:HG23	2.02	0.42
1:E:294:SER:O	1:E:298:ILE:HG22	2.20	0.42
1:G:522:LEU:HG	1:G:548:TRP:O	2.20	0.42
1:H:207:ARG:HG2	1:H:208:VAL:N	2.34	0.42
1:A:373:LEU:HA	1:A:373:LEU:HD23	1.85	0.41
1:A:428:ILE:HG22	1:A:434:GLY:HA2	2.01	0.41
1:A:508:LEU:HD12	1:A:508:LEU:HA	1.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:346:ILE:CD1	1:D:397:ASP:HA	2.50	0.41
1:G:236:ARG:HB2	1:G:270:GLU:O	2.19	0.41
1:H:272:HIS:O	1:H:309:GLY:HA2	2.20	0.41
1:B:155:GLU:OE2	5:B:701:HOH:O	2.22	0.41
1:G:510:ASP:O	1:G:511:LEU:HD23	2.19	0.41
1:H:20:ARG:NH2	1:H:61:LEU:HD21	2.35	0.41
1:H:232:LEU:HD22	1:H:271:PHE:HZ	1.84	0.41
1:D:225:LEU:HD23	1:D:225:LEU:HA	1.82	0.41
1:G:395:LEU:HD21	1:G:426:PRO:CD	2.50	0.41
1:G:475:ILE:HG22	1:G:476:GLU:O	2.21	0.41
1:H:364:ARG:HG3	1:H:544:TYR:CE2	2.56	0.41
1:H:488:GLN:HE21	1:H:488:GLN:HB2	1.59	0.41
1:G:191:LEU:HG	1:G:235:PHE:HZ	1.84	0.41
1:G:389:MET:SD	1:G:406:GLN:HG3	2.61	0.41
1:B:366:GLU:HG2	1:B:453:TRP:CE2	2.56	0.41
1:D:102:LEU:HB2	1:D:206:PHE:CD1	2.55	0.41
1:H:48:VAL:HG11	1:H:51:LEU:HD23	2.01	0.41
1:H:282:ARG:CZ	1:H:326:VAL:HG12	2.50	0.41
1:C:24:ASP:HA	1:C:31:GLY:HA2	2.01	0.41
1:C:60:PRO:HG2	1:C:67:ASP:OD2	2.20	0.41
1:F:316:ARG:HA	1:F:316:ARG:HD2	1.91	0.41
1:G:56:TRP:CD1	1:G:74:ILE:HD13	2.55	0.41
1:H:413:GLY:HA3	5:H:751:HOH:O	2.20	0.41
1:A:225:LEU:HA	1:A:225:LEU:HD23	1.79	0.41
1:A:443:GLN:HG2	1:A:449:SER:HB2	2.03	0.41
1:B:123:LEU:HB3	1:B:124:PRO:CD	2.51	0.41
1:C:139:ASP:HA	1:C:167:LYS:HD2	2.01	0.41
1:C:486:THR:HA	1:C:494:LEU:O	2.21	0.41
1:D:355:ALA:HB3	1:D:356:PRO:HD3	2.02	0.41
1:E:358:LEU:HD11	1:E:368:LEU:HD12	2.01	0.41
1:E:483:LEU:HD12	1:E:484:ALA:H	1.85	0.41
1:G:236:ARG:HG2	1:G:269:PRO:HB2	2.02	0.41
1:H:292:THR:O	1:H:295:ILE:HB	2.21	0.41
1:A:174:PHE:HB2	1:A:177:GLN:OE1	2.20	0.41
1:C:247:LEU:HD12	1:C:248:LEU:N	2.36	0.41
1:F:534:ASN:OD1	1:F:534:ASN:N	2.52	0.41
1:A:475:ILE:HD13	1:A:475:ILE:HA	1.78	0.41
1:C:236:ARG:CZ	1:C:269:PRO:HB2	2.51	0.41
1:C:247:LEU:HD11	1:C:273:MET:SD	2.61	0.41
1:C:354:LEU:HD11	1:C:358:LEU:HD11	2.03	0.41
1:E:404:PRO:HB3	1:E:415:PHE:CG	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:431:PRO:O	1:H:442:SER:HB3	2.21	0.41
1:E:456:ARG:HE	1:E:456:ARG:HB2	1.70	0.41
1:E:514:PHE:HD1	1:E:517:ARG:NH2	2.19	0.41
1:G:151:PHE:CZ	4:G:602:TRS:H22	2.55	0.41
1:G:541:MET:HG2	1:G:547:TYR:CE2	2.55	0.41
1:H:55:PRO:HB2	1:H:65:GLY:O	2.21	0.41
1:H:191:LEU:HA	1:H:194:ALA:HB3	2.02	0.41
1:H:367:LEU:HD22	1:H:544:TYR:HA	2.03	0.41
1:H:521:THR:HA	1:H:549:LEU:HD23	2.02	0.41
1:B:155:GLU:OE1	1:B:171:HIS:HE1	2.03	0.41
1:C:26:ASN:OD1	1:C:26:ASN:N	2.50	0.41
1:C:143:GLU:H	1:C:143:GLU:HG3	1.74	0.41
1:D:211:VAL:HG23	1:D:262:TYR:CE2	2.56	0.41
1:D:282:ARG:CZ	1:D:326:VAL:HG12	2.51	0.41
1:E:207:ARG:HA	1:E:249:LEU:HB3	2.02	0.41
1:E:279:VAL:HB	1:E:299:MET:HE3	2.03	0.41
1:G:21:THR:HG21	1:G:383:TYR:OH	2.21	0.41
1:H:9:TYR:HB2	1:H:273:MET:SD	2.61	0.41
1:A:302:LEU:HD22	1:A:311:TRP:CZ2	2.56	0.40
1:C:9:TYR:OH	1:C:308:PHE:O	2.18	0.40
1:G:14:PHE:HB2	1:G:380:VAL:HB	2.03	0.40
1:G:159:TRP:HA	1:G:169:TYR:O	2.21	0.40
1:G:375:LEU:HD23	1:G:375:LEU:HA	1.92	0.40
1:H:67:ASP:O	1:H:108:SER:HB2	2.20	0.40
1:H:172:ARG:HD2	1:H:172:ARG:HA	1.88	0.40
1:A:107:THR:O	1:A:177:GLN:HA	2.21	0.40
1:F:107:THR:O	1:F:178:PRO:HD2	2.20	0.40
1:F:120:GLY:HA2	1:F:132:HIS:CE1	2.57	0.40
1:G:134:TYR:HE1	1:G:186:LYS:HG2	1.85	0.40
1:G:171:HIS:O	1:G:171:HIS:ND1	2.54	0.40
1:H:258:GLU:O	1:H:261:GLU:HB2	2.21	0.40
1:H:279:VAL:O	1:H:283:LEU:HG	2.21	0.40
1:A:93:ALA:HA	1:B:419:GLN:OE1	2.22	0.40
1:A:149:ILE:O	1:A:152:THR:HG23	2.22	0.40
1:D:58:PRO:HD3	1:D:74:ILE:C	2.41	0.40
1:D:280:MET:HB3	1:D:281:PRO:HD3	2.04	0.40
1:D:282:ARG:NH2	1:D:326:VAL:HG12	2.36	0.40
1:F:249:LEU:HD13	1:F:273:MET:HB3	2.03	0.40
1:F:263:PHE:CE1	1:F:305:ILE:HD12	2.57	0.40
1:H:266:GLU:H	1:H:266:GLU:HG2	1.69	0.40
1:B:147:THR:HG21	1:B:170:TRP:HH2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:72:ARG:HB3	1:C:197:PHE:CE2	2.56	0.40
1:C:132:HIS:O	1:C:137:TRP:NE1	2.52	0.40
1:D:63:ASP:OD2	4:D:602:TRS:O2	2.37	0.40
1:D:454:THR:O	1:D:457:GLN:N	2.53	0.40
1:E:43:LEU:HD13	1:E:51:LEU:HD22	2.03	0.40
1:F:404:PRO:HB3	1:F:415:PHE:CG	2.57	0.40
1:H:80:THR:HB	5:H:704:HOH:O	2.20	0.40
1:H:311:TRP:O	1:H:378:SER:N	2.39	0.40
1:C:197:PHE:O	1:C:201:LEU:HD12	2.22	0.40
1:C:369:ASN:O	1:C:372:LEU:HB3	2.22	0.40
1:F:305:ILE:HD11	1:F:309:GLY:C	2.42	0.40
1:G:229:HIS:O	1:G:233:LYS:HG3	2.22	0.40
1:H:98:VAL:O	1:H:203:LEU:HD12	2.20	0.40
1:H:196:ARG:HG2	1:H:243:TYR:CE2	2.57	0.40
1:H:260:VAL:CG1	1:H:303:PRO:HG2	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	546/571 (96%)	520 (95%)	26 (5%)	0	100 100
1	B	546/571 (96%)	515 (94%)	28 (5%)	3 (0%)	25 42
1	C	546/571 (96%)	498 (91%)	39 (7%)	9 (2%)	8 14
1	D	546/571 (96%)	504 (92%)	38 (7%)	4 (1%)	19 33
1	E	546/571 (96%)	498 (91%)	41 (8%)	7 (1%)	10 18
1	F	546/571 (96%)	520 (95%)	23 (4%)	3 (0%)	25 42
1	G	546/571 (96%)	501 (92%)	41 (8%)	4 (1%)	19 33
1	H	546/571 (96%)	488 (89%)	49 (9%)	9 (2%)	8 14

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	4368/4568 (96%)	4044 (93%)	285 (6%)	39 (1%)	14 26

All (39) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	144	TYR
1	C	146	ASP
1	H	393	LEU
1	D	424	PHE
1	E	229	HIS
1	F	70	ASP
1	H	412	SER
1	E	525	ALA
1	D	393	LEU
1	D	471	ASP
1	E	293	SER
1	H	204	ASP
1	B	66	TYR
1	B	306	PRO
1	C	304	LYS
1	C	346	ILE
1	C	489	TYR
1	D	23	GLN
1	E	533	GLY
1	E	552	ASN
1	G	211	VAL
1	G	340	PRO
1	H	64	ASP
1	C	267	ALA
1	E	126	GLY
1	F	510	ASP
1	G	123	LEU
1	G	174	PHE
1	H	346	ILE
1	H	422	ASP
1	C	166	GLY
1	C	269	PRO
1	H	256	PRO
1	B	538	PRO
1	E	348	VAL
1	F	124	PRO
1	H	479	ASN

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Mol	Chain	Res	Type
1	C	112	PRO
1	H	60	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	465/484 (96%)	453 (97%)	12 (3%)	41	66
1	B	465/484 (96%)	454 (98%)	11 (2%)	44	68
1	C	465/484 (96%)	441 (95%)	24 (5%)	19	37
1	D	465/484 (96%)	455 (98%)	10 (2%)	47	71
1	E	465/484 (96%)	439 (94%)	26 (6%)	17	33
1	F	465/484 (96%)	456 (98%)	9 (2%)	52	75
1	G	465/484 (96%)	447 (96%)	18 (4%)	27	50
1	H	465/484 (96%)	443 (95%)	22 (5%)	22	41
All	All	3720/3872 (96%)	3588 (96%)	132 (4%)	31	55

All (132) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	THR
1	A	123	LEU
1	A	125	ASP
1	A	133	ASP
1	A	179	ASP
1	A	241	ARG
1	A	257	GLU
1	A	320	GLU
1	A	347	ASN
1	A	498	SER
1	A	526	SER
1	A	536	GLN
1	B	101	ASP

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Mol	Chain	Res	Type
1	B	104	THR
1	B	127	SER
1	B	133	ASP
1	B	179	ASP
1	B	253	THR
1	B	345	LYS
1	B	368	LEU
1	B	492	GLU
1	B	497	VAL
1	B	498	SER
1	C	11	SER
1	C	21	THR
1	C	52	TRP
1	C	59	SER
1	C	101	ASP
1	C	103	VAL
1	C	104	THR
1	C	107	THR
1	C	122	THR
1	C	123	LEU
1	C	147	THR
1	C	156	VAL
1	C	167	LYS
1	C	176	SER
1	C	179	ASP
1	C	201	LEU
1	C	238	MET
1	C	292	THR
1	C	322	THR
1	C	362	ARG
1	C	378	SER
1	C	473	THR
1	C	508	LEU
1	C	526	SER
1	D	21	THR
1	D	104	THR
1	D	133	ASP
1	D	179	ASP
1	D	246	ARG
1	D	393	LEU
1	D	421	SER
1	D	442	SER

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Mol	Chain	Res	Type
1	D	456	ARG
1	D	477	THR
1	E	21	THR
1	E	32	ASP
1	E	52	TRP
1	E	57	PHE
1	E	72	ARG
1	E	101	ASP
1	E	104	THR
1	E	127	SER
1	E	167	LYS
1	E	238	MET
1	E	242	GLU
1	E	289	ARG
1	E	293	SER
1	E	294	SER
1	E	308	PHE
1	E	343	ARG
1	E	345	LYS
1	E	347	ASN
1	E	369	ASN
1	E	393	LEU
1	E	421	SER
1	E	442	SER
1	E	462	ARG
1	E	492	GLU
1	E	498	SER
1	E	537	TYR
1	F	21	THR
1	F	138	SER
1	F	144	TYR
1	F	179	ASP
1	F	294	SER
1	F	393	LEU
1	F	441	GLN
1	F	442	SER
1	F	523	SER
1	G	18	SER
1	G	52	TRP
1	G	57	PHE
1	G	107	THR
1	G	119	ARG

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Mol	Chain	Res	Type
1	G	125	ASP
1	G	133	ASP
1	G	190	GLU
1	G	211	VAL
1	G	235	PHE
1	G	280	MET
1	G	328	ASP
1	G	398	ARG
1	G	462	ARG
1	G	473	THR
1	G	523	SER
1	G	526	SER
1	G	543	LYS
1	H	11	SER
1	H	21	THR
1	H	61	LEU
1	H	64	ASP
1	H	81	LEU
1	H	179	ASP
1	H	186	LYS
1	H	192	HIS
1	H	203	LEU
1	H	207	ARG
1	H	286	SER
1	H	288	LYS
1	H	378	SER
1	H	391	ASP
1	H	398	ARG
1	H	421	SER
1	H	442	SER
1	H	475	ILE
1	H	476	GLU
1	H	477	THR
1	H	514	PHE
1	H	543	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (41) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	441	GLN
1	A	445	GLN
1	A	464	HIS

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Mol	Chain	Res	Type
1	A	536	GLN
1	B	105	ASN
1	B	441	GLN
1	C	106	HIS
1	C	129	ASN
1	C	158	ASN
1	C	229	HIS
1	C	272	HIS
1	C	445	GLN
1	C	464	HIS
1	D	177	GLN
1	D	441	GLN
1	D	445	GLN
1	D	464	HIS
1	E	129	ASN
1	E	164	GLN
1	E	229	HIS
1	E	276	ASN
1	E	469	HIS
1	E	505	GLN
1	F	158	ASN
1	F	164	GLN
1	F	441	GLN
1	F	445	GLN
1	F	464	HIS
1	F	488	GLN
1	G	106	HIS
1	G	115	GLN
1	G	129	ASN
1	G	192	HIS
1	G	229	HIS
1	G	406	GLN
1	G	419	GLN
1	H	92	HIS
1	H	158	ASN
1	H	464	HIS
1	H	469	HIS
1	H	488	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 24 ligands modelled in this entry, 16 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	TRS	C	602	-	7,7,7	0.34	0	9,9,9	0.57	0
4	TRS	G	602	-	7,7,7	0.42	0	9,9,9	0.51	0
4	TRS	B	602	-	7,7,7	0.30	0	9,9,9	0.85	0
4	TRS	A	602	-	7,7,7	0.37	0	9,9,9	0.96	1 (11%)
4	TRS	H	602	-	7,7,7	0.34	0	9,9,9	1.03	0
4	TRS	F	602	-	7,7,7	0.36	0	9,9,9	0.38	0
4	TRS	D	602	-	7,7,7	0.28	0	9,9,9	0.21	0
4	TRS	E	602	-	7,7,7	0.38	0	9,9,9	0.73	0

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
4	TRS	C	602	-	-	0/9/9/9	-
4	TRS	G	602	-	-	3/9/9/9	-
4	TRS	B	602	-	-	0/9/9/9	-
4	TRS	A	602	-	-	8/9/9/9	-
4	TRS	H	602	-	-	6/9/9/9	-
4	TRS	F	602	-	-	3/9/9/9	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	TRS	D	602	-	-	0/9/9/9	-
4	TRS	E	602	-	-	3/9/9/9	-

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	602	TRS	O1-C1-C	-2.06	104.47	111.00

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	602	TRS	C1-C-C2-O2
4	F	602	TRS	C1-C-C3-O3
4	F	602	TRS	C2-C-C3-O3
4	H	602	TRS	C2-C-C1-O1
4	H	602	TRS	C3-C-C1-O1
4	H	602	TRS	N-C-C1-O1
4	H	602	TRS	C1-C-C3-O3
4	H	602	TRS	C2-C-C3-O3
4	A	602	TRS	C3-C-C2-O2
4	A	602	TRS	C2-C-C3-O3
4	E	602	TRS	C2-C-C1-O1
4	E	602	TRS	C3-C-C1-O1
4	F	602	TRS	N-C-C3-O3
4	G	602	TRS	C2-C-C3-O3
4	H	602	TRS	N-C-C3-O3
4	A	602	TRS	C2-C-C1-O1
4	A	602	TRS	C1-C-C3-O3
4	G	602	TRS	C1-C-C3-O3
4	A	602	TRS	C3-C-C1-O1
4	A	602	TRS	N-C-C2-O2
4	A	602	TRS	N-C-C3-O3
4	E	602	TRS	N-C-C1-O1
4	G	602	TRS	N-C-C3-O3

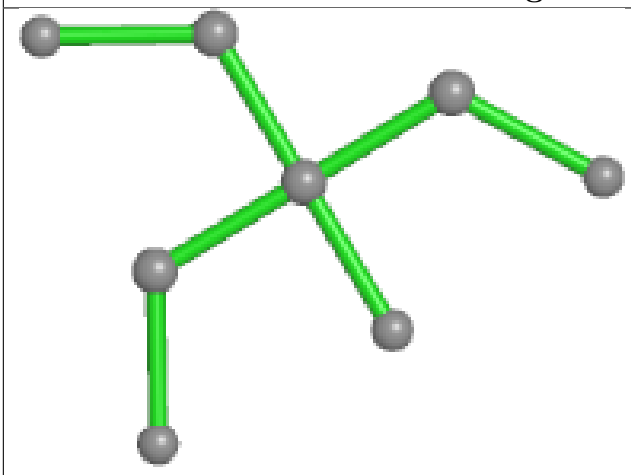
There are no ring outliers.

5 monomers are involved in 8 short contacts:

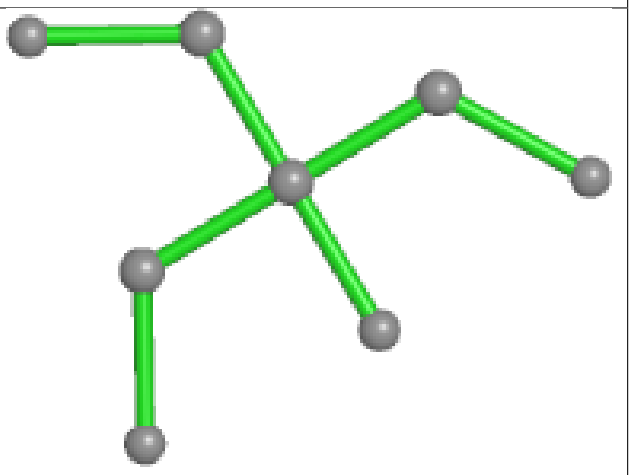
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	602	TRS	2	0
4	G	602	TRS	2	0
4	B	602	TRS	1	0
4	H	602	TRS	1	0
4	D	602	TRS	2	0

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.

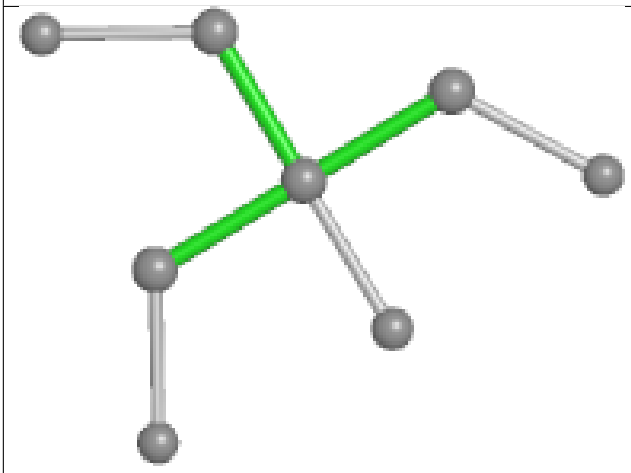
Ligand TRS C 602



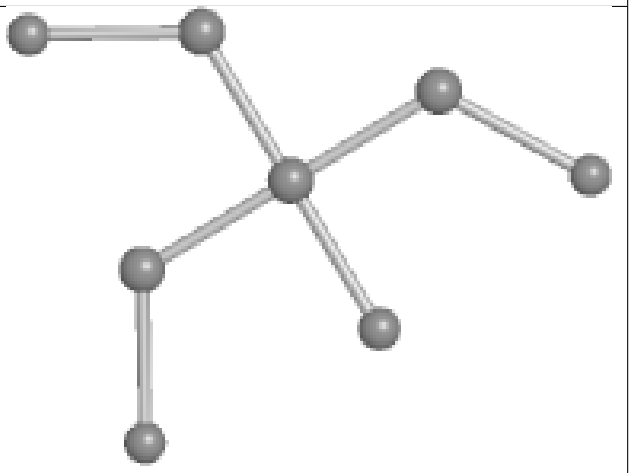
Bond lengths



Bond angles

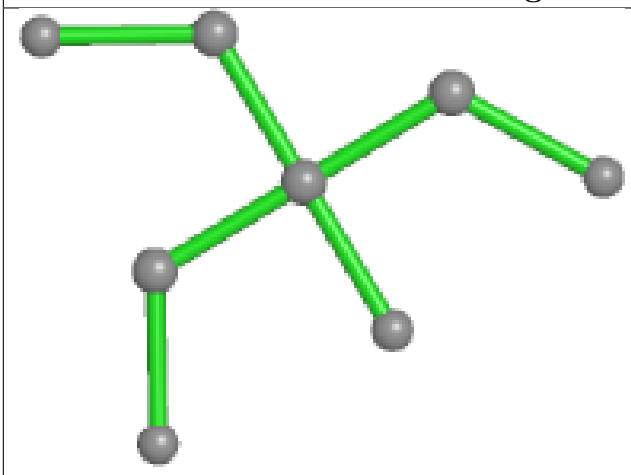


Torsions

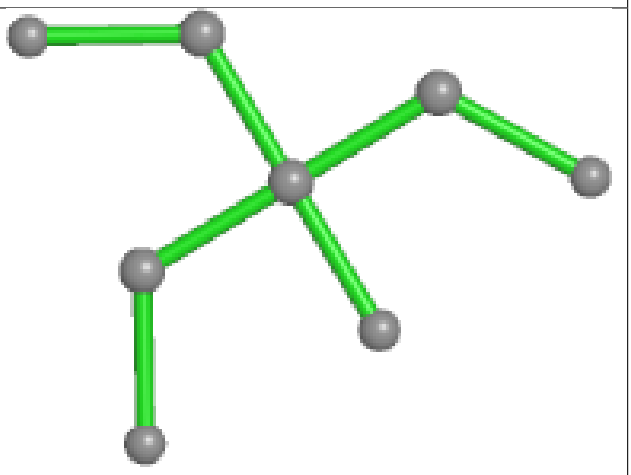


Rings

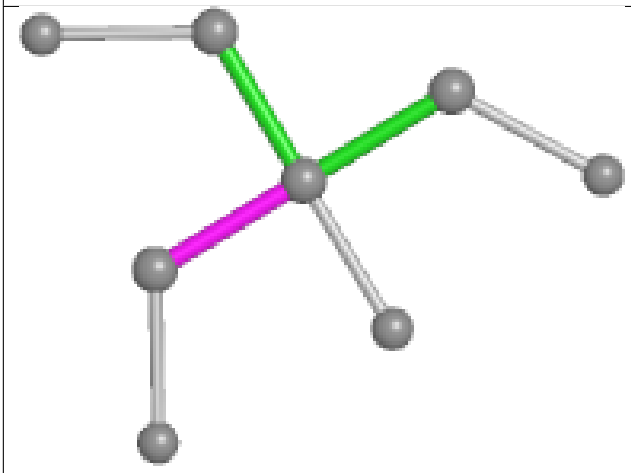
Ligand TRS G 602



Bond lengths



Bond angles



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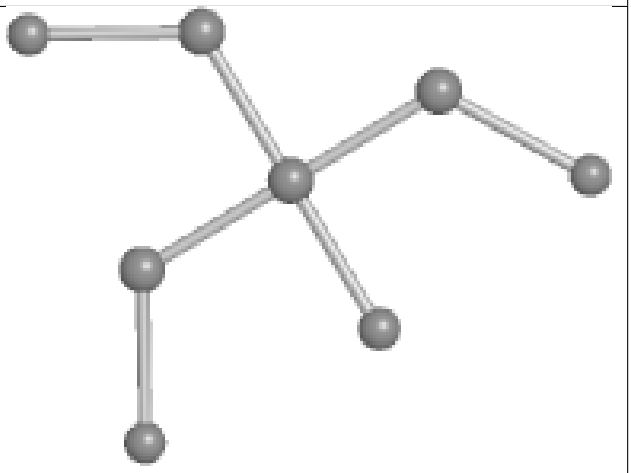
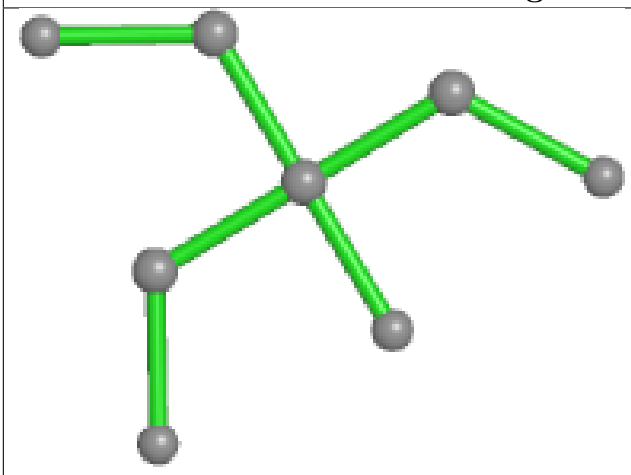
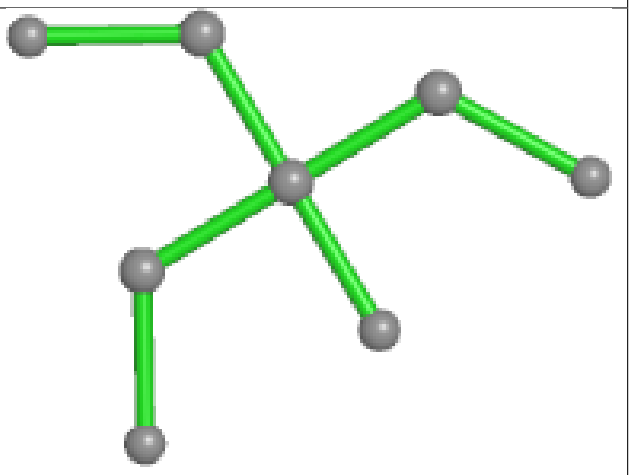


Rings

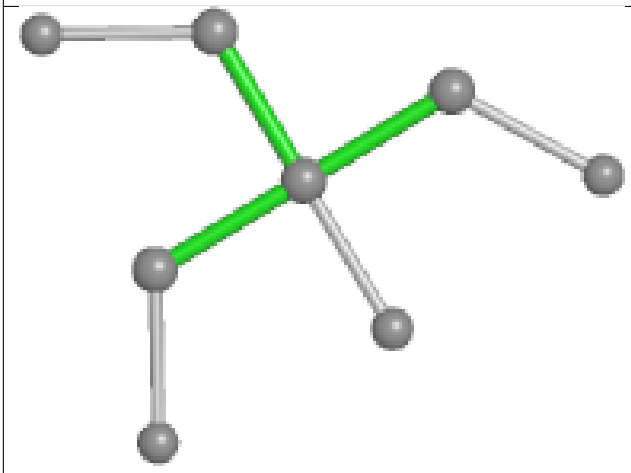
Ligand TRS B 602



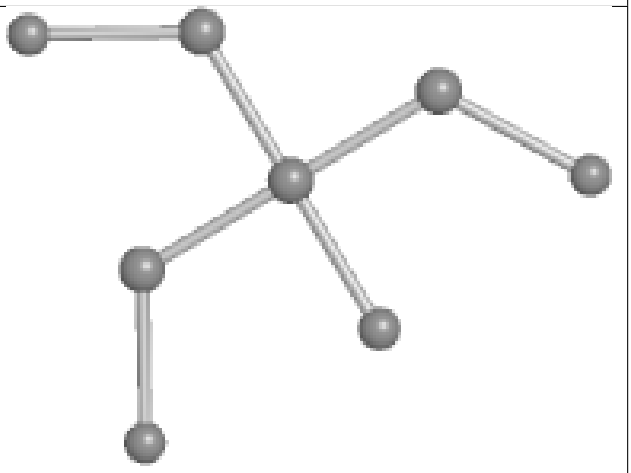
Bond lengths



Bond angles

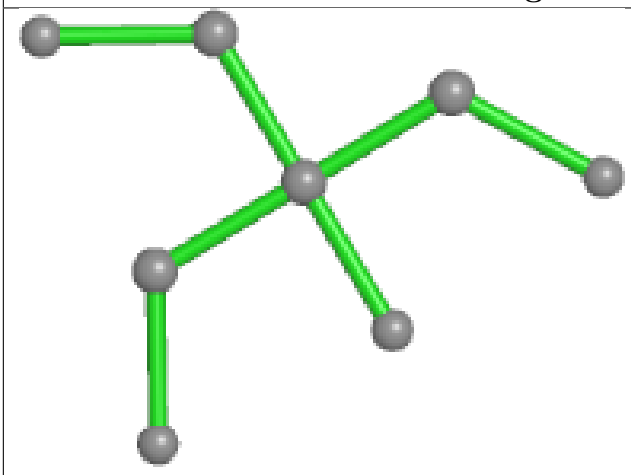


Torsions

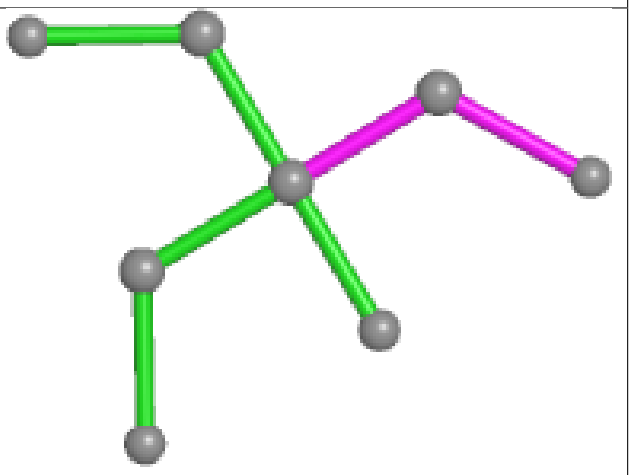


Rings

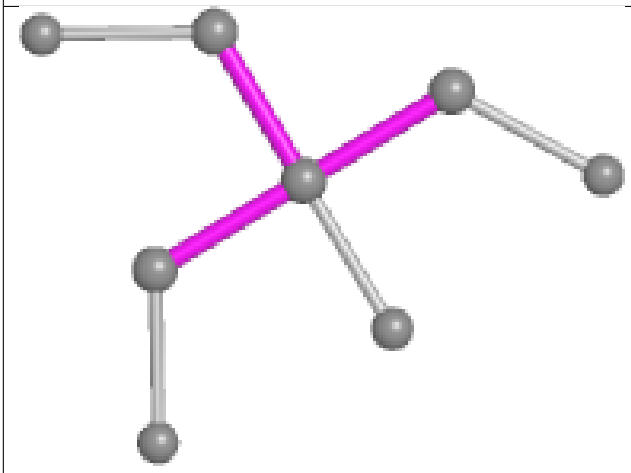
Ligand TRS A 602



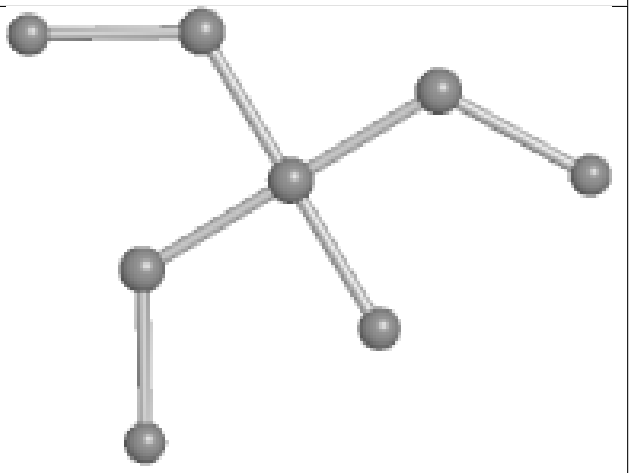
Bond lengths



Bond angles

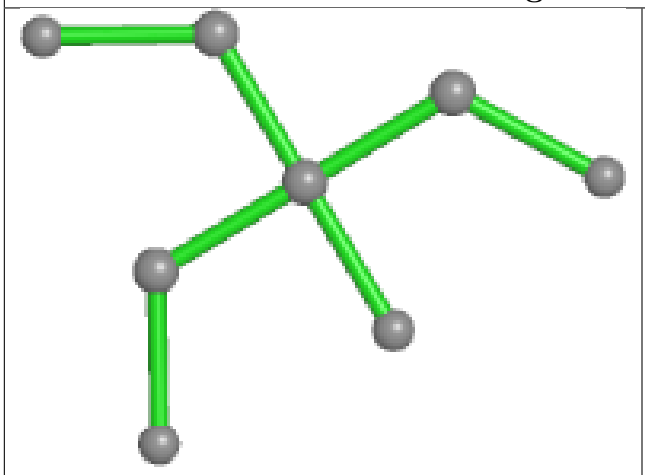


Torsions

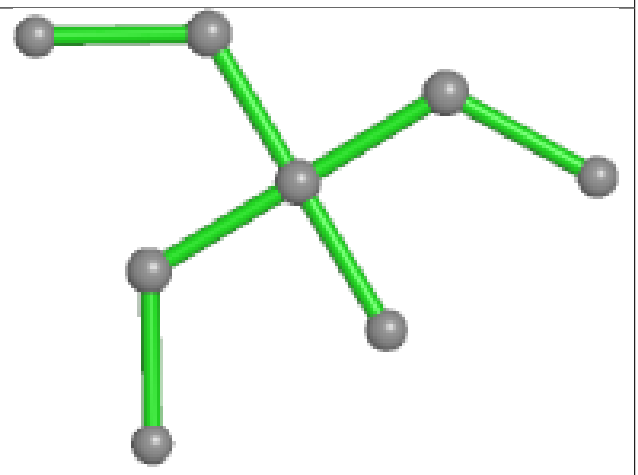


Rings

Ligand TRS H 602



Bond lengths



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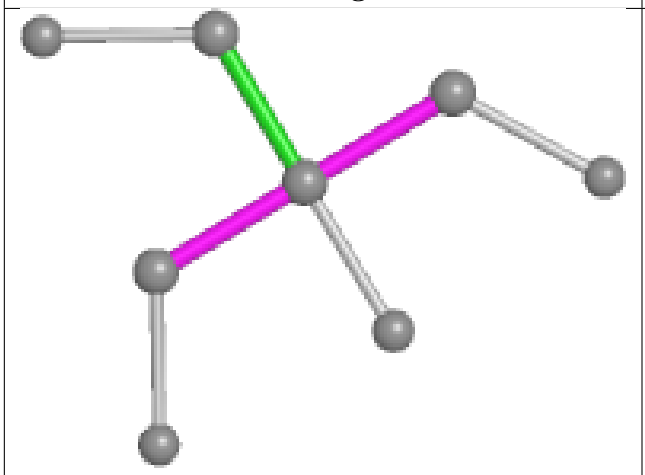
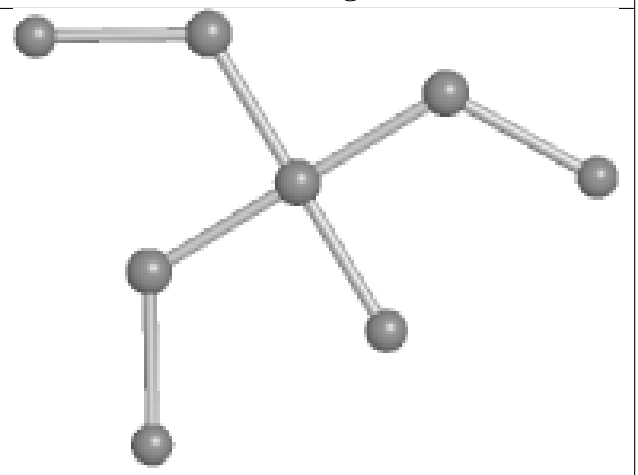
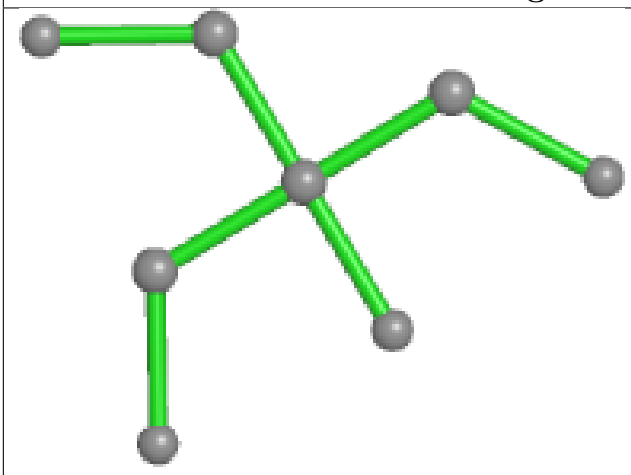


Torsions



Rings

Ligand TRS F 602



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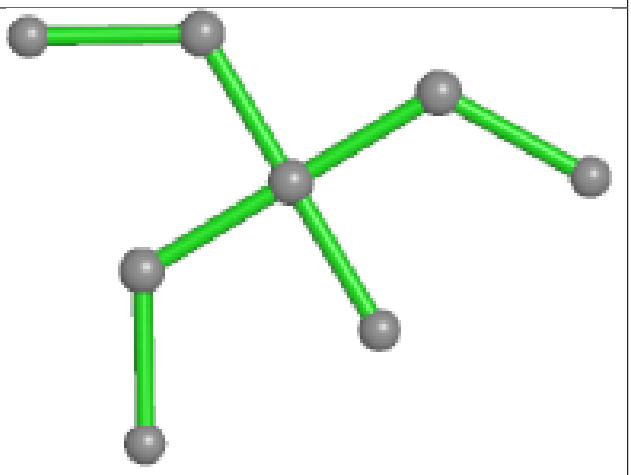
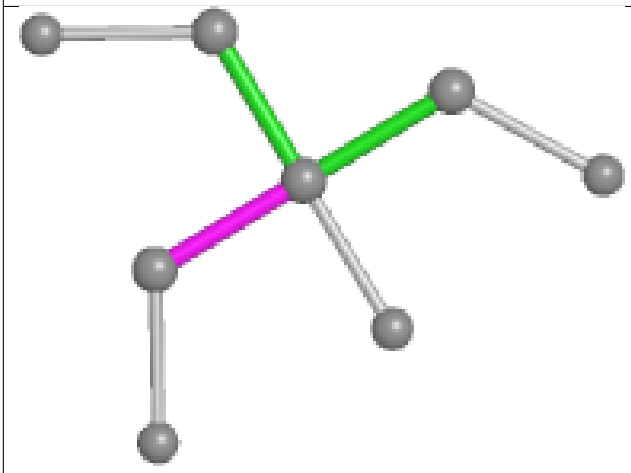
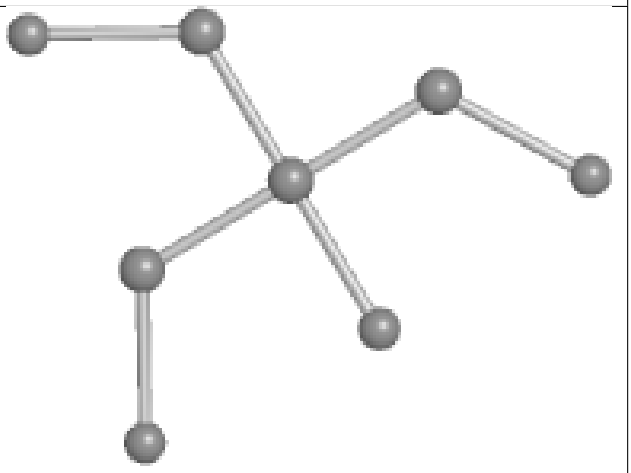


Bond angles

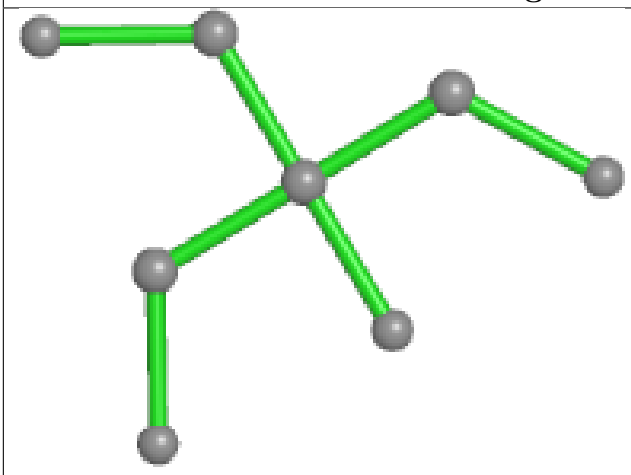


Torsions

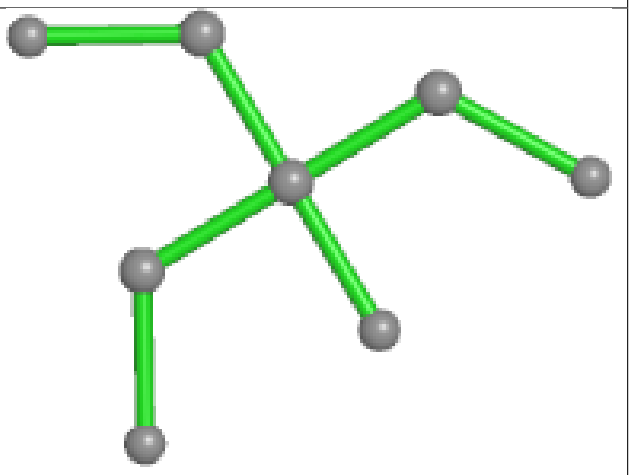


Rings

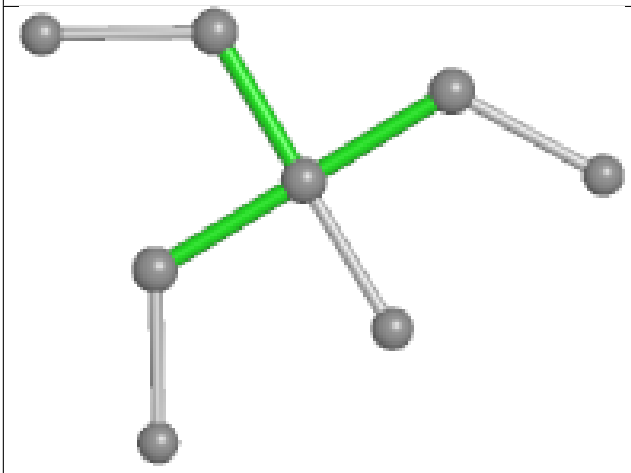
Ligand TRS D 602



Bond lengths



Bond angles



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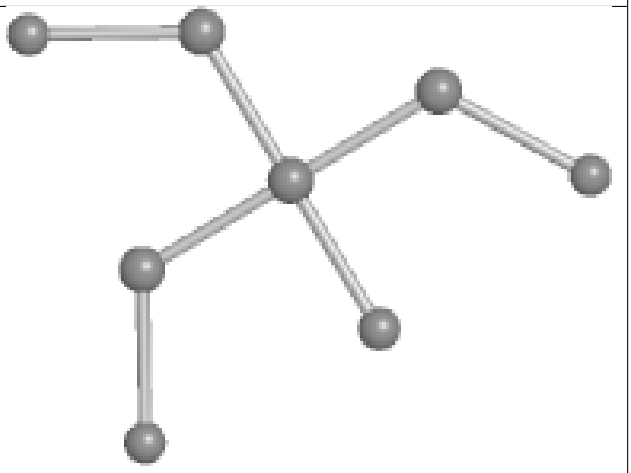
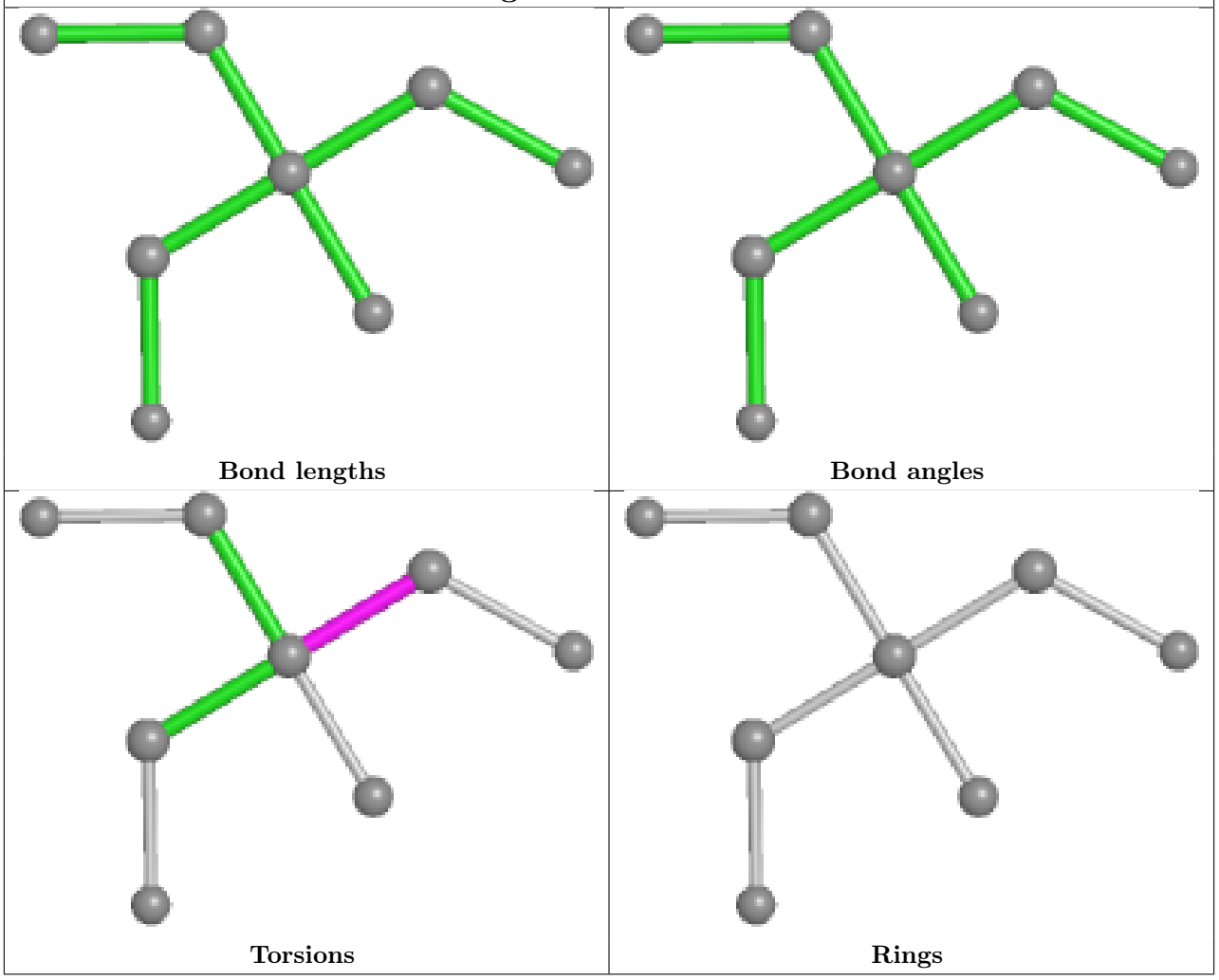


Rings

Ligand TRS E 602



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	548/571 (95%)	-0.59	1 (0%) 92 90	14, 26, 43, 83	0
1	B	548/571 (95%)	-0.16	2 (0%) 89 87	15, 36, 65, 93	0
1	C	548/571 (95%)	0.47	40 (7%) 22 22	23, 48, 79, 105	0
1	D	548/571 (95%)	0.03	7 (1%) 74 73	26, 41, 62, 103	0
1	E	548/571 (95%)	0.30	24 (4%) 39 38	16, 47, 73, 88	0
1	F	548/571 (95%)	-0.26	0 100 100	19, 36, 56, 71	0
1	G	548/571 (95%)	0.77	68 (12%) 9 9	32, 54, 90, 112	0
1	H	548/571 (95%)	0.96	56 (10%) 13 13	28, 53, 75, 97	1 (0%)
All	All	4384/4568 (95%)	0.19	198 (4%) 39 37	14, 42, 75, 112	1 (0%)

All (198) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	175	ALA	5.4
1	G	128	PRO	4.7
1	G	135	TYR	4.4
1	G	114	PHE	4.3
1	G	159	TRP	4.2
1	H	182	TYR	4.2
1	G	134	TYR	4.0
1	E	485	PHE	4.0
1	H	121	PRO	3.8
1	C	191	LEU	3.8
1	G	170	TRP	3.8
1	G	131	TYR	3.7
1	H	124	PRO	3.7
1	H	513	PRO	3.7
1	G	180	LEU	3.7
1	C	144	TYR	3.7

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Mol	Chain	Res	Type	RSRZ
1	G	124	PRO	3.6
1	G	136	VAL	3.6
1	G	215	ILE	3.6
1	G	116	ALA	3.5
1	D	124	PRO	3.5
1	G	149	ILE	3.5
1	E	540	VAL	3.4
1	H	161	LEU	3.4
1	G	144	TYR	3.4
1	G	115	GLN	3.3
1	C	182	TYR	3.3
1	G	174	PHE	3.3
1	G	123	LEU	3.2
1	G	182	TYR	3.2
1	G	137	TRP	3.2
1	H	128	PRO	3.2
1	E	136	VAL	3.2
1	H	187	VAL	3.1
1	E	480	PRO	3.1
1	G	118	ARG	3.1
1	G	250	ALA	3.1
1	G	157	SER	3.1
1	H	150	ILE	3.0
1	H	533	GLY	3.0
1	C	243	TYR	3.0
1	G	150	ILE	3.0
1	C	244	PRO	3.0
1	H	260	VAL	3.0
1	G	169	TYR	3.0
1	H	511	LEU	3.0
1	H	497	VAL	3.0
1	H	210	ALA	3.0
1	H	65	GLY	3.0
1	G	113	TRP	3.0
1	G	125	ASP	3.0
1	H	253	THR	3.0
1	H	484	ALA	2.9
1	G	122	THR	2.9
1	E	511	LEU	2.8
1	G	126	GLY	2.8
1	G	165	ALA	2.8
1	B	531	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
1	G	120	GLY	2.8
1	H	256	PRO	2.8
1	G	133	ASP	2.8
1	C	136	VAL	2.8
1	H	103	VAL	2.8
1	H	553	SER	2.7
1	G	259	VAL	2.7
1	C	228	THR	2.7
1	C	128	PRO	2.7
1	G	160	THR	2.7
1	G	68	VAL	2.7
1	G	121	PRO	2.7
1	C	73	GLY	2.7
1	C	173	PHE	2.7
1	C	116	ALA	2.6
1	H	165	ALA	2.6
1	G	168	TYR	2.6
1	B	124	PRO	2.6
1	G	161	LEU	2.6
1	C	66	TYR	2.6
1	C	181	ASN	2.6
1	E	514	PHE	2.6
1	H	469	HIS	2.6
1	E	525	ALA	2.6
1	C	113	TRP	2.5
1	C	159	TRP	2.5
1	C	187	VAL	2.5
1	E	298	ILE	2.5
1	E	479	ASN	2.5
1	G	222	CYS	2.5
1	C	138	SER	2.5
1	C	168	TYR	2.5
1	E	123	LEU	2.5
1	C	97	TRP	2.5
1	H	6	PRO	2.5
1	E	168	TYR	2.5
1	G	211	VAL	2.5
1	H	303	PRO	2.5
1	H	293	SER	2.5
1	G	158	ASN	2.5
1	H	247	LEU	2.4
1	C	74	ILE	2.4

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Mol	Chain	Res	Type	RSRZ
1	H	481	ALA	2.4
1	G	119	ARG	2.4
1	E	265	THR	2.4
1	C	169	TYR	2.4
1	G	213	TYR	2.4
1	G	187	VAL	2.4
1	C	553	SER	2.4
1	H	168	TYR	2.4
1	H	10	LYS	2.4
1	C	150	ILE	2.4
1	C	267	ALA	2.4
1	C	126	GLY	2.4
1	C	160	THR	2.4
1	H	120	GLY	2.4
1	H	470	GLY	2.4
1	C	224	ASN	2.3
1	A	127	SER	2.3
1	G	176	SER	2.3
1	G	234	GLY	2.3
1	G	167	LYS	2.3
1	C	149	ILE	2.3
1	G	138	SER	2.3
1	H	232	LEU	2.3
1	H	99	ILE	2.3
1	C	127	SER	2.3
1	E	264	GLY	2.3
1	E	486	THR	2.3
1	C	269	PRO	2.3
1	G	214	LEU	2.2
1	H	176	SER	2.2
1	D	6	PRO	2.2
1	D	121	PRO	2.2
1	E	529	PRO	2.2
1	G	326	VAL	2.2
1	H	211	VAL	2.2
1	H	231	ILE	2.2
1	H	515	VAL	2.2
1	H	29	GLY	2.2
1	G	253	THR	2.2
1	G	151	PHE	2.2
1	H	263	PHE	2.2
1	C	124	PRO	2.2

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Mol	Chain	Res	Type	RSRZ
1	G	146	ASP	2.2
1	C	215	ILE	2.2
1	E	496	ILE	2.2
1	H	531	VAL	2.2
1	G	117	ALA	2.2
1	H	468	ALA	2.2
1	C	248	LEU	2.2
1	D	491	GLY	2.2
1	C	108	SER	2.2
1	G	347	ASN	2.2
1	H	146	ASP	2.2
1	E	475	ILE	2.2
1	E	512	ALA	2.2
1	H	169	TYR	2.2
1	H	252	ALA	2.2
1	E	528	LEU	2.2
1	G	225	LEU	2.2
1	H	349	GLY	2.2
1	G	104	THR	2.2
1	C	185	PRO	2.2
1	E	269	PRO	2.2
1	G	60	PRO	2.2
1	G	177	GLN	2.2
1	C	170	TRP	2.2
1	H	149	ILE	2.2
1	G	107	THR	2.1
1	H	122	THR	2.1
1	G	129	ASN	2.1
1	G	162	ASP	2.1
1	G	106	HIS	2.1
1	C	123	LEU	2.1
1	D	123	LEU	2.1
1	E	303	PRO	2.1
1	C	103	VAL	2.1
1	H	136	VAL	2.1
1	E	551	LEU	2.1
1	H	137	TRP	2.1
1	D	128	PRO	2.1
1	H	114	PHE	2.1
1	G	171	HIS	2.1
1	G	188	VAL	2.1
1	E	484	ALA	2.1

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Mol	Chain	Res	Type	RSRZ
1	G	145	ALA	2.1
1	C	254	GLN	2.1
1	H	475	ILE	2.1
1	H	302	LEU	2.0
1	D	349	GLY	2.0
1	H	486	THR	2.0
1	H	482	ILE	2.0
1	C	69	ALA	2.0
1	G	255	TRP	2.0
1	E	308	PHE	2.0
1	H	104	THR	2.0
1	H	135	TYR	2.0
1	H	412	SER	2.0
1	G	217	ARG	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	TRS	C	602	8/8	0.77	0.12	57,62,66,69	0
4	TRS	G	602	8/8	0.81	0.11	63,64,67,71	0
3	MG	A	601	1/1	0.86	0.21	51,51,51,51	0
3	MG	G	601	1/1	0.86	0.12	60,60,60,60	0
4	TRS	H	602	8/8	0.89	0.10	38,48,51,52	0
4	TRS	D	602	8/8	0.92	0.10	35,43,46,46	0
4	TRS	F	602	8/8	0.92	0.08	33,36,38,39	0
2	CA	E	600	1/1	0.93	0.07	49,49,49,49	0
4	TRS	B	602	8/8	0.93	0.08	29,30,33,34	0

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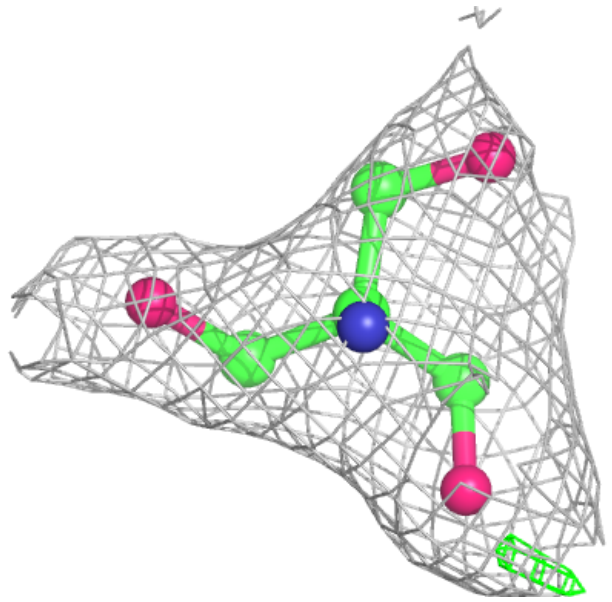
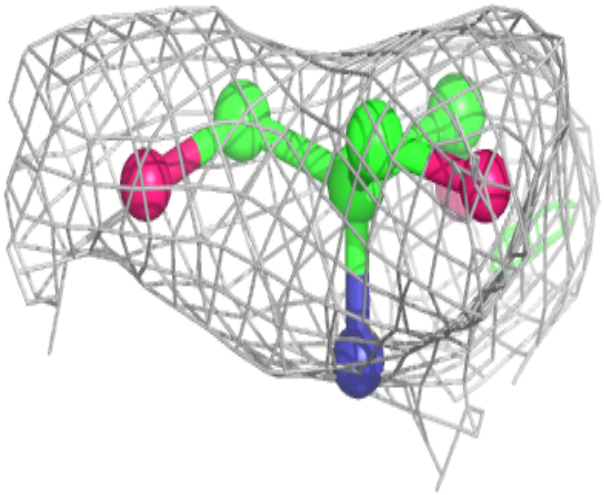
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	TRS	E	602	8/8	0.93	0.09	30,35,37,39	0
2	CA	D	600	1/1	0.94	0.06	56,56,56,56	0
2	CA	B	600	1/1	0.94	0.06	49,49,49,49	0
2	CA	G	600	1/1	0.94	0.07	80,80,80,80	0
4	TRS	A	602	8/8	0.95	0.06	20,21,26,28	0
2	CA	C	600	1/1	0.95	0.06	67,67,67,67	0
2	CA	A	600	1/1	0.96	0.03	29,29,29,29	0
2	CA	F	600	1/1	0.96	0.04	42,42,42,42	0
3	MG	B	601	1/1	0.96	0.04	23,23,23,23	0
2	CA	H	600	1/1	0.97	0.04	40,40,40,40	0
3	MG	H	601	1/1	0.97	0.04	47,47,47,47	0
3	MG	C	601	1/1	0.97	0.05	52,52,52,52	0
3	MG	E	601	1/1	0.97	0.03	25,25,25,25	0
3	MG	F	601	1/1	0.97	0.04	33,33,33,33	0
3	MG	D	601	1/1	0.98	0.04	37,37,37,37	0

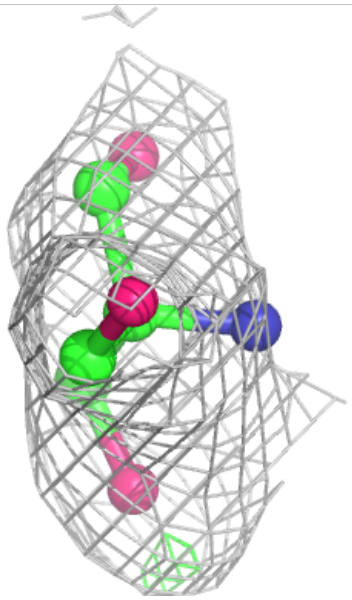
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around TRS C 602:

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

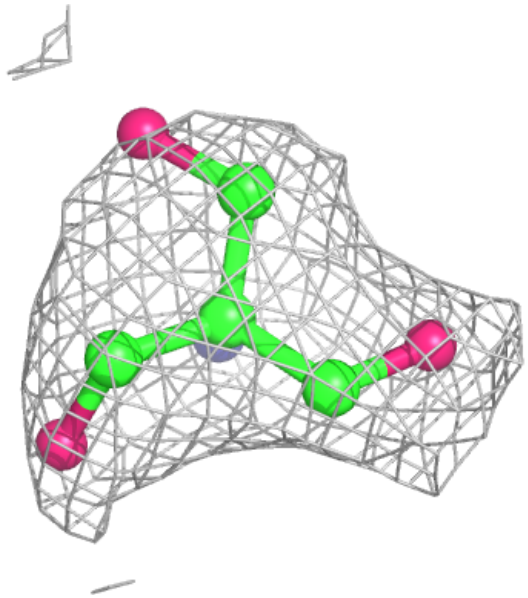


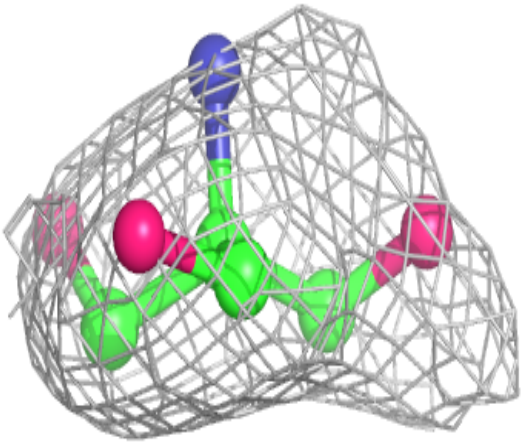


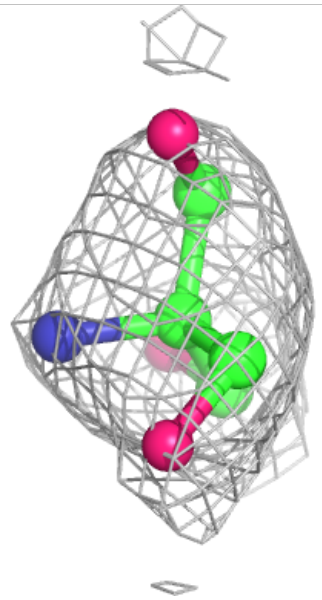


Electron density around TRS G 602:

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

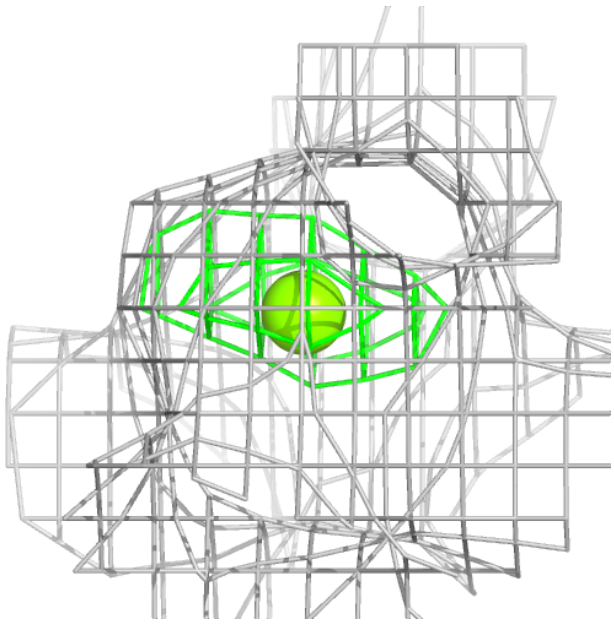


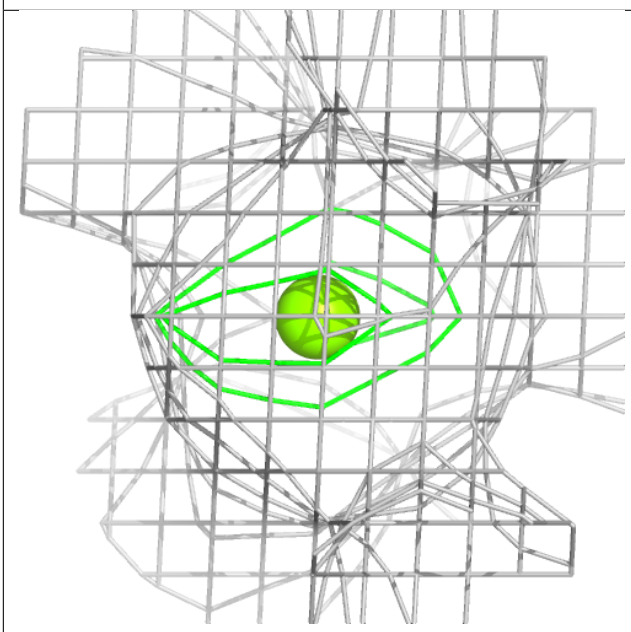


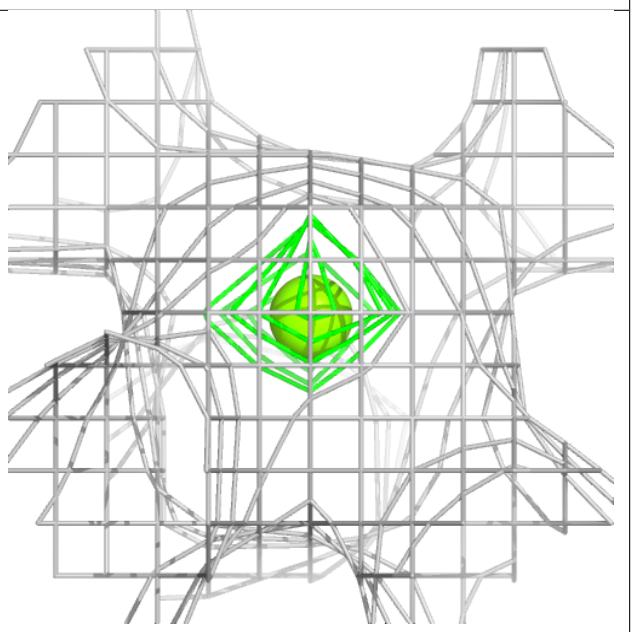


Electron density around MG A 601:

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

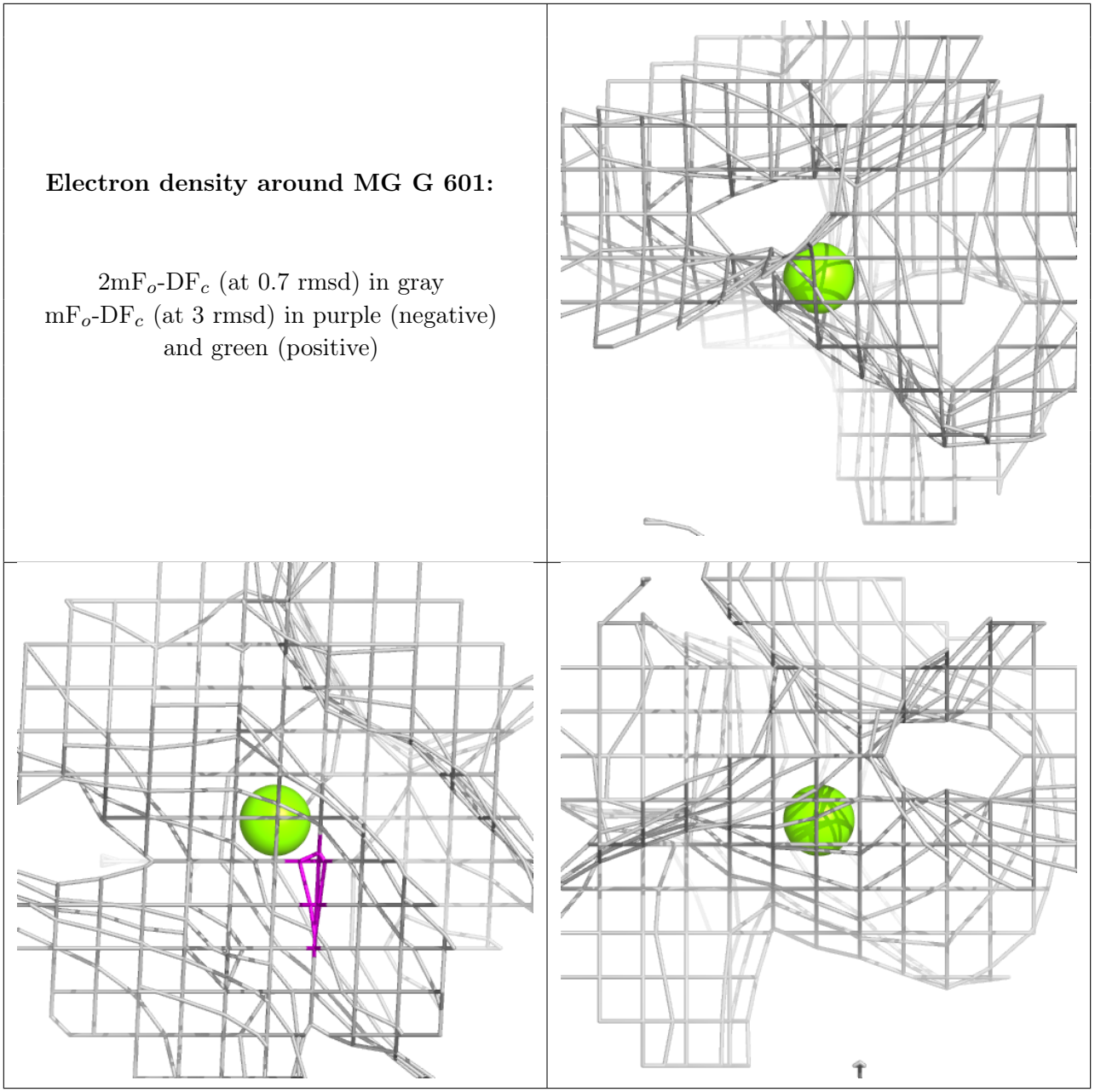






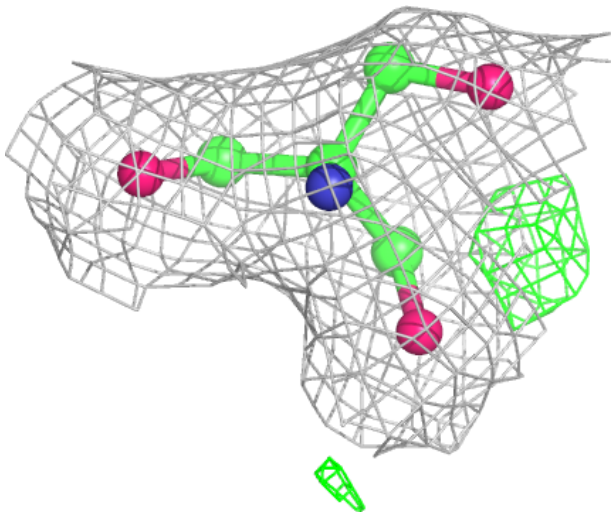
Electron density around MG G 601:

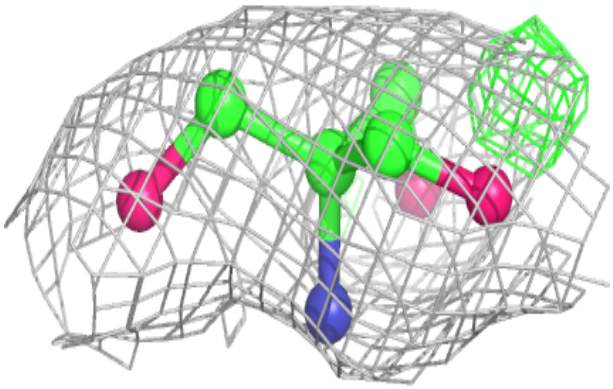
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

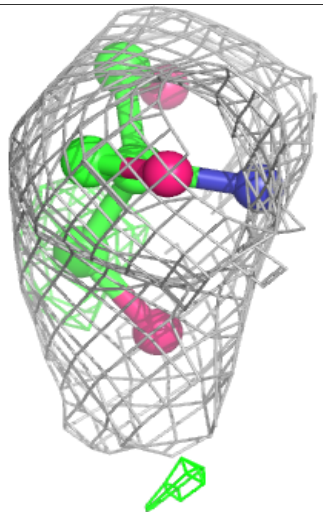


Electron density around TRS H 602:

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

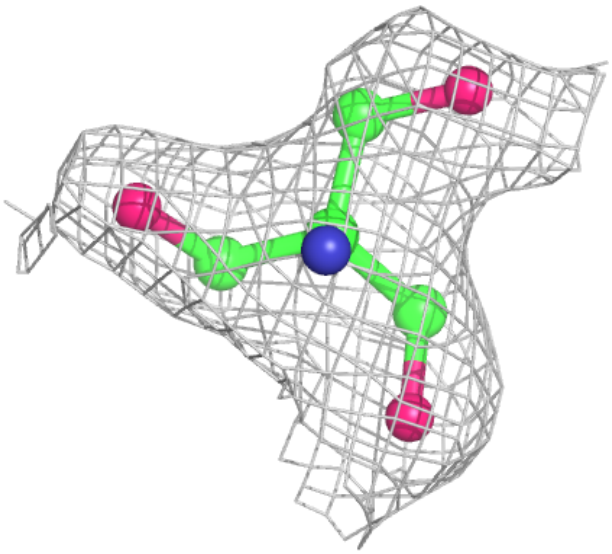


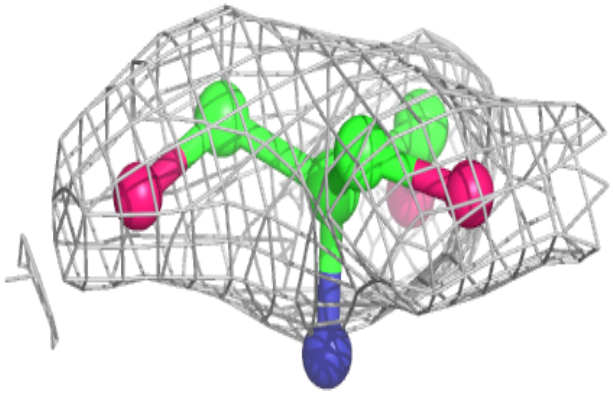


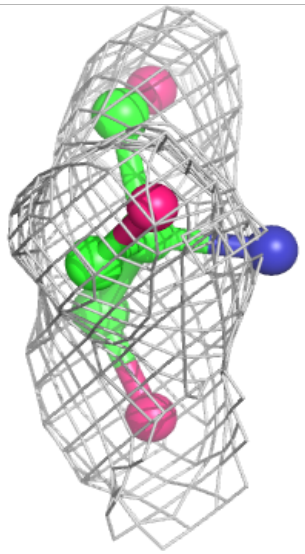


Electron density around TRS D 602:

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

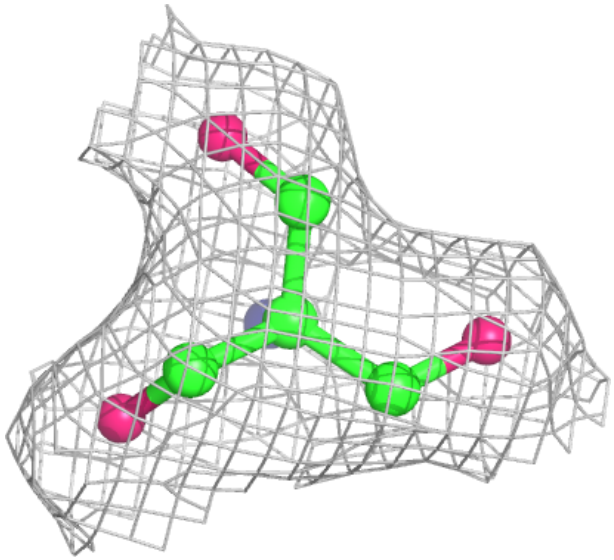


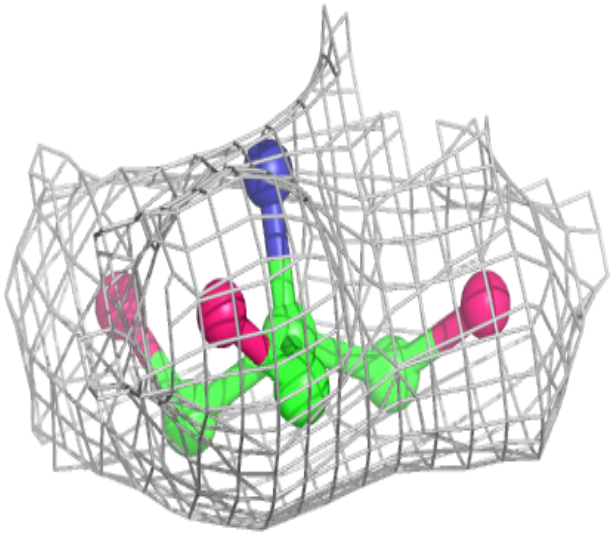


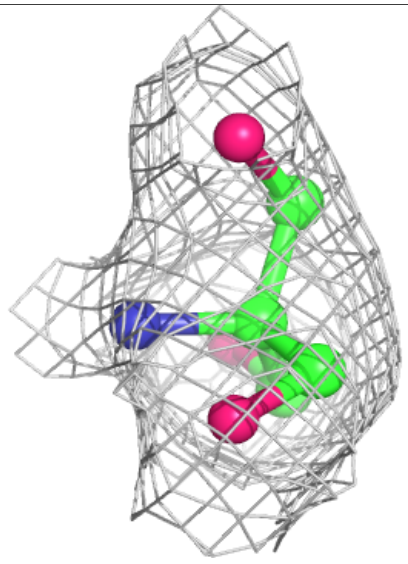


Electron density around TRS F 602:

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

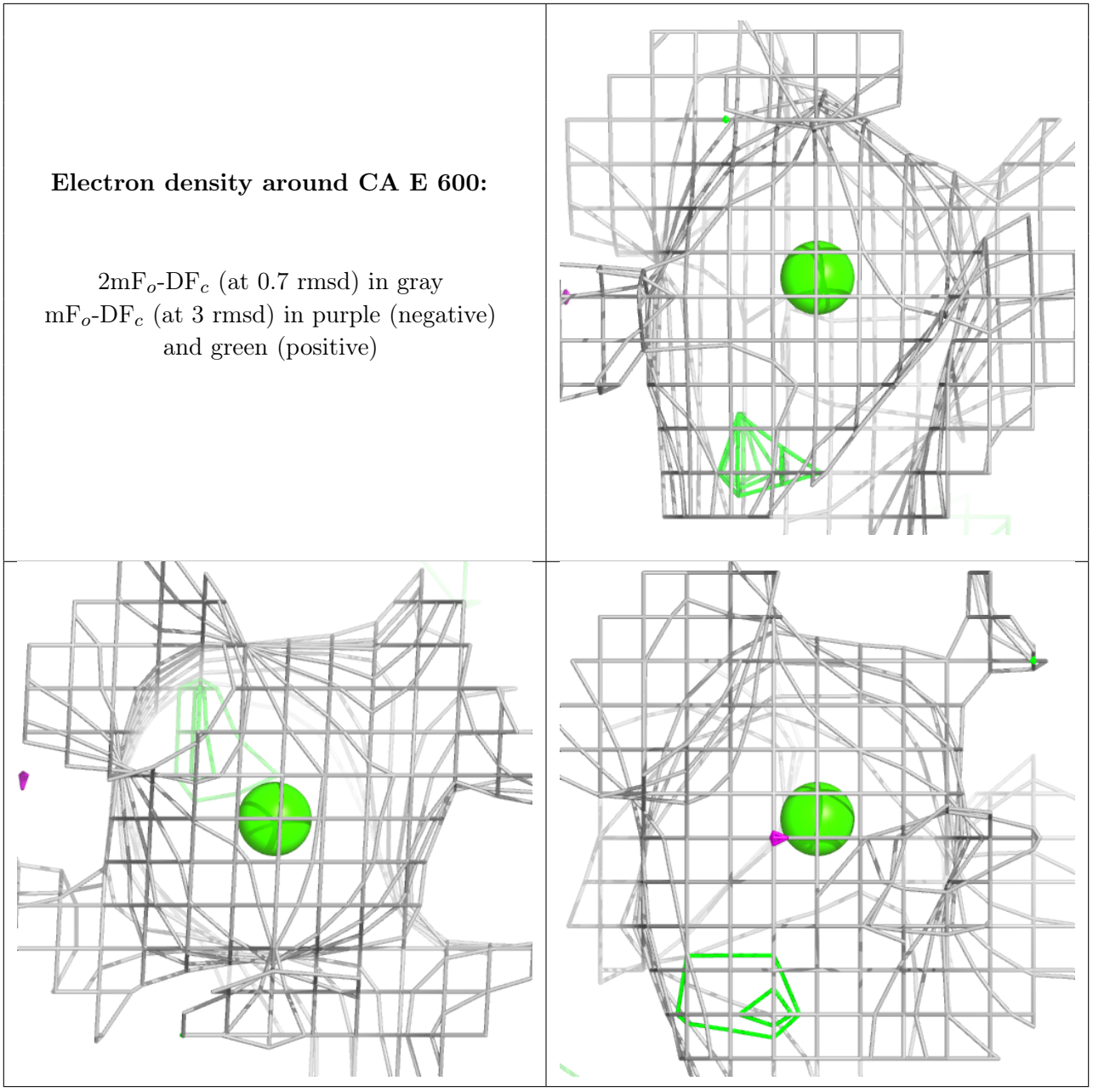






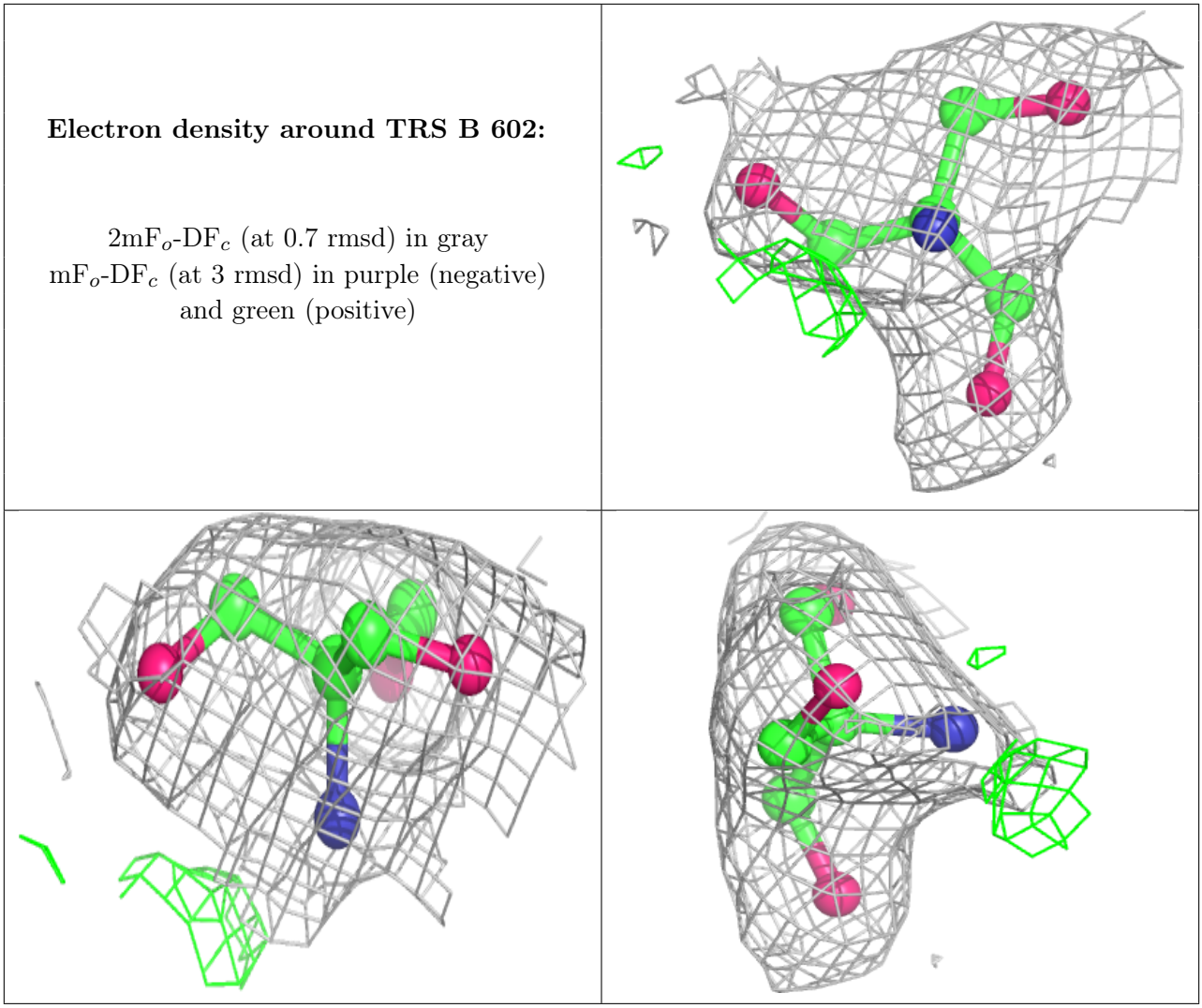
Electron density around CA E 600:

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



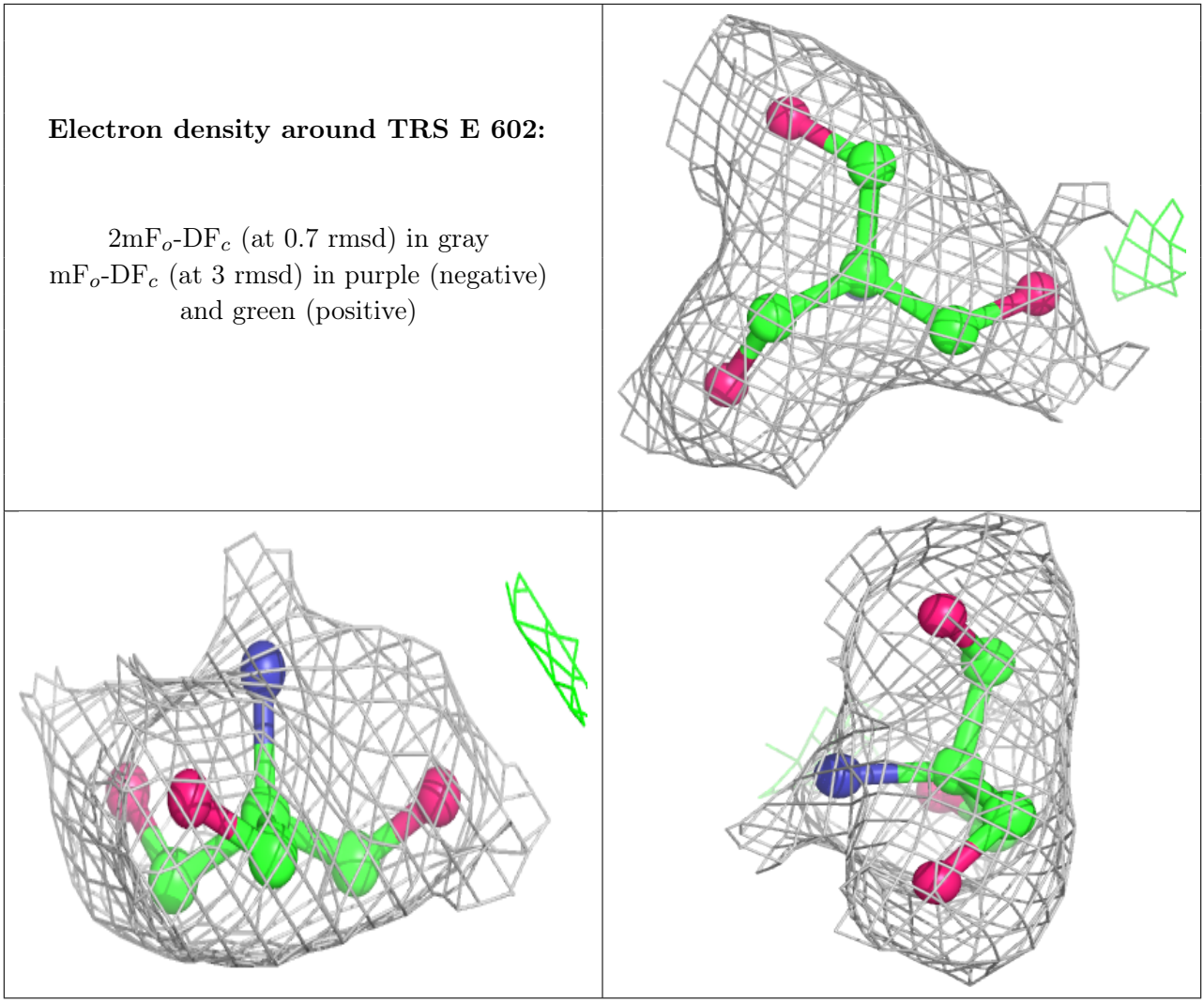
Electron density around TRS B 602:

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



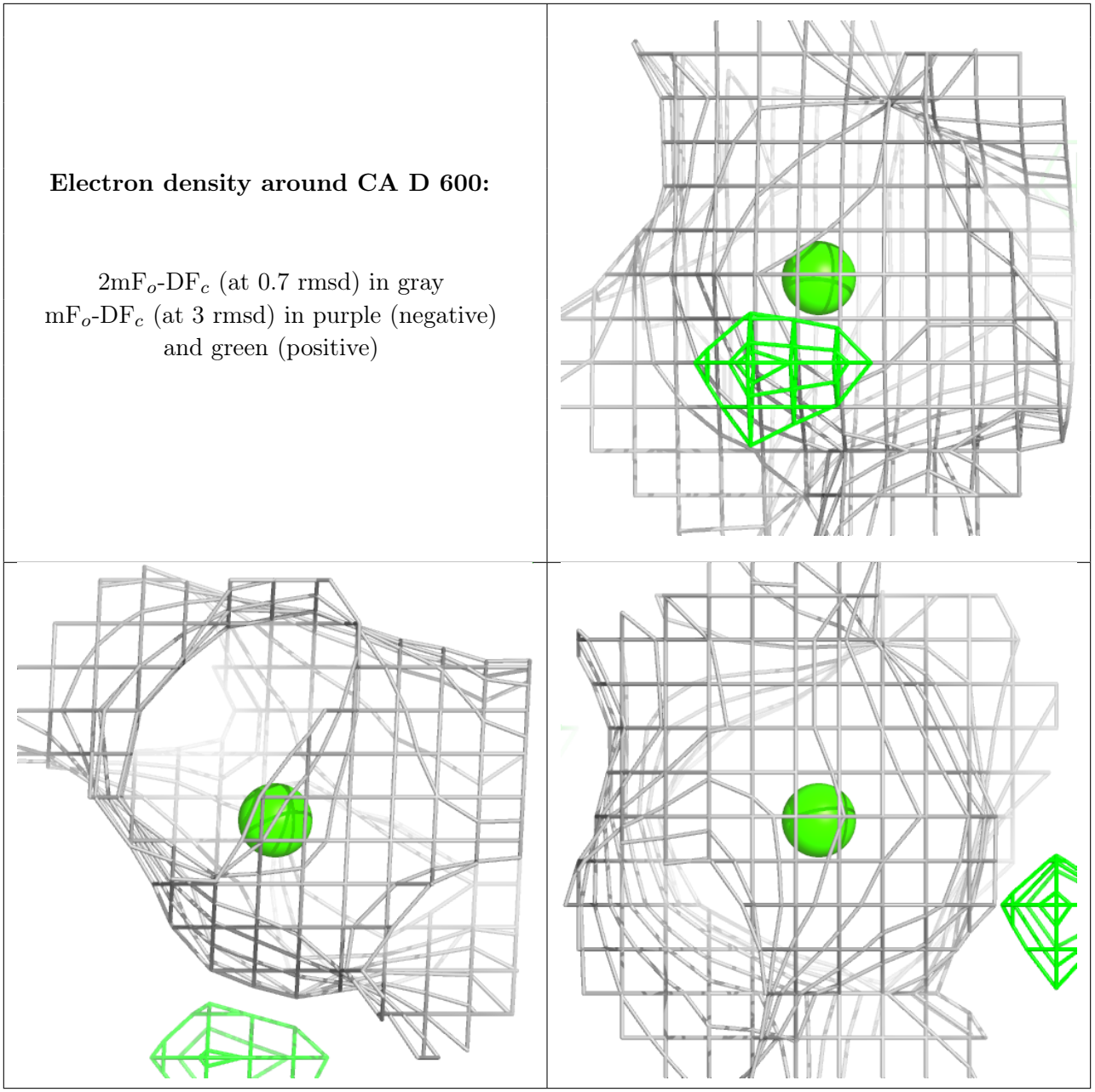
Electron density around TRS E 602:

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



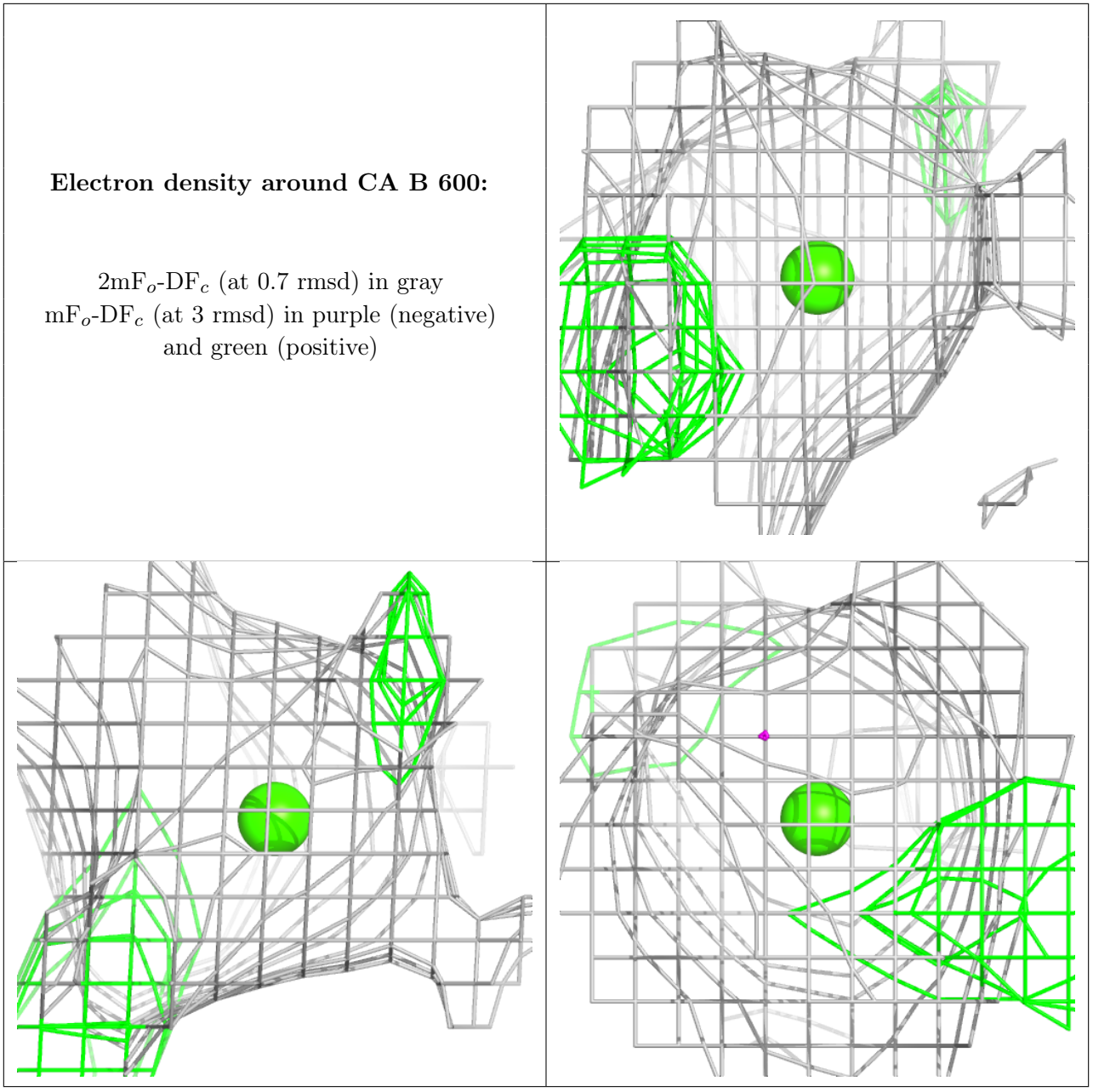
Electron density around CA D 600:

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



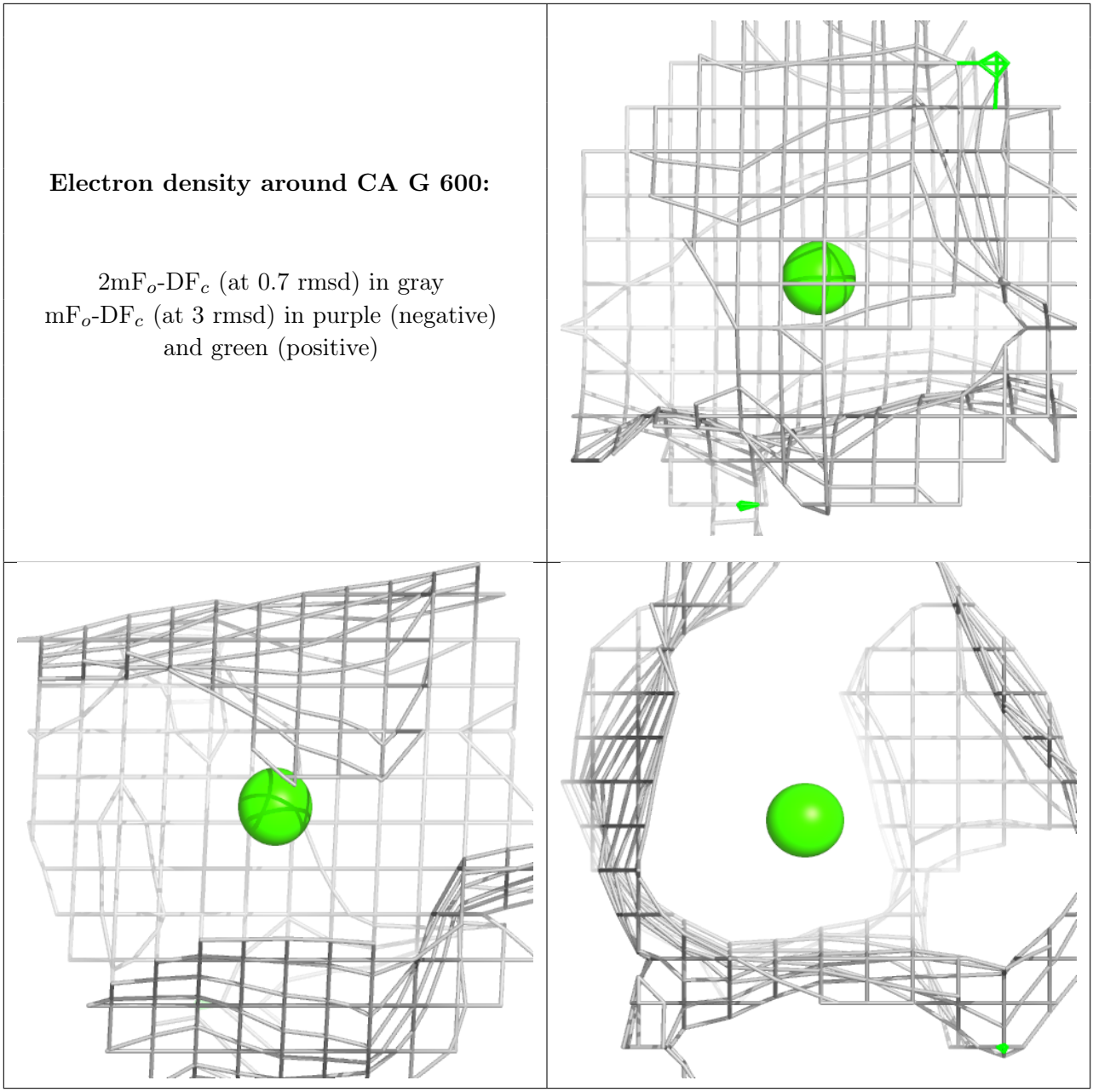
Electron density around CA B 600:

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



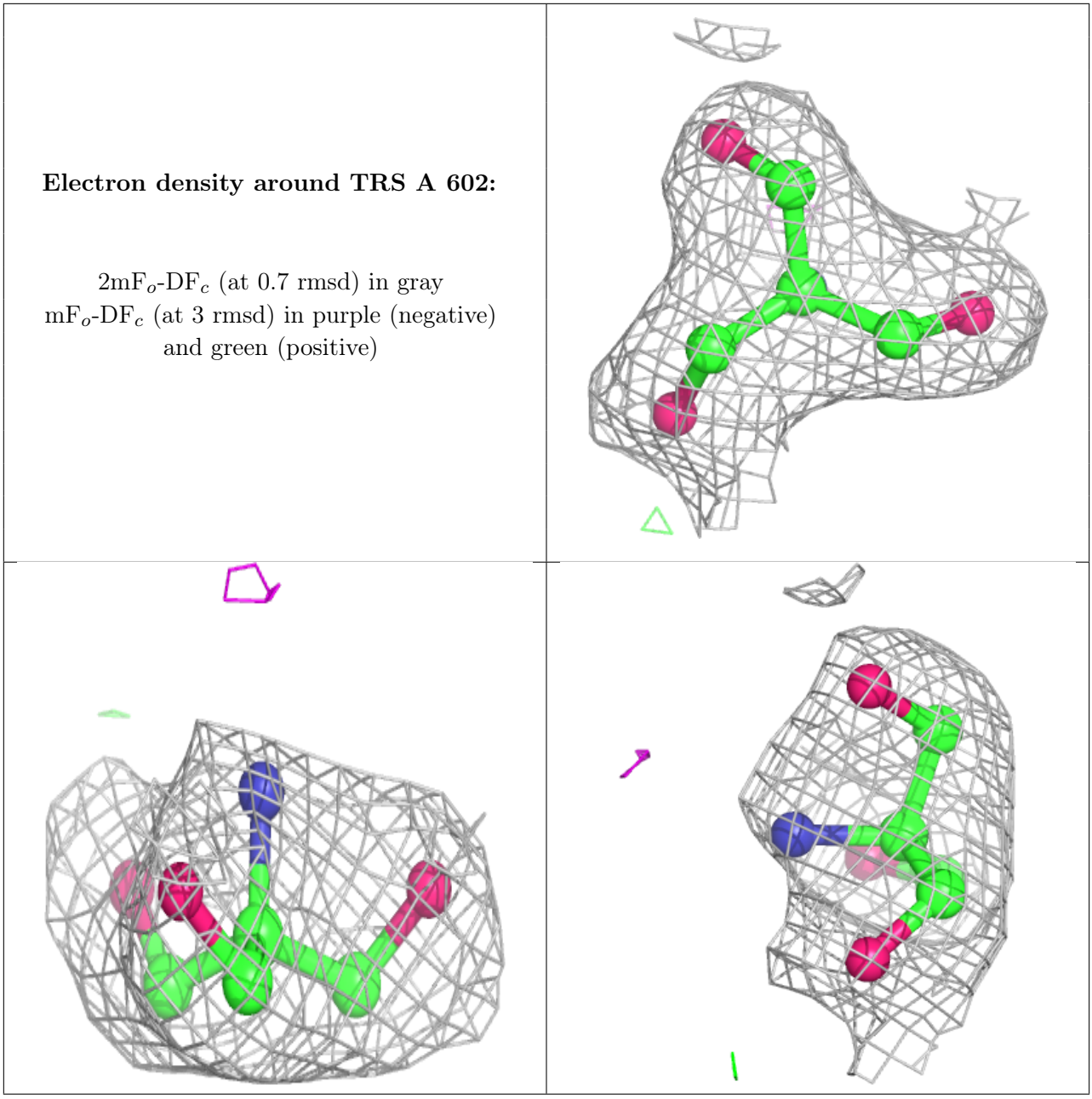
Electron density around CA G 600:

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



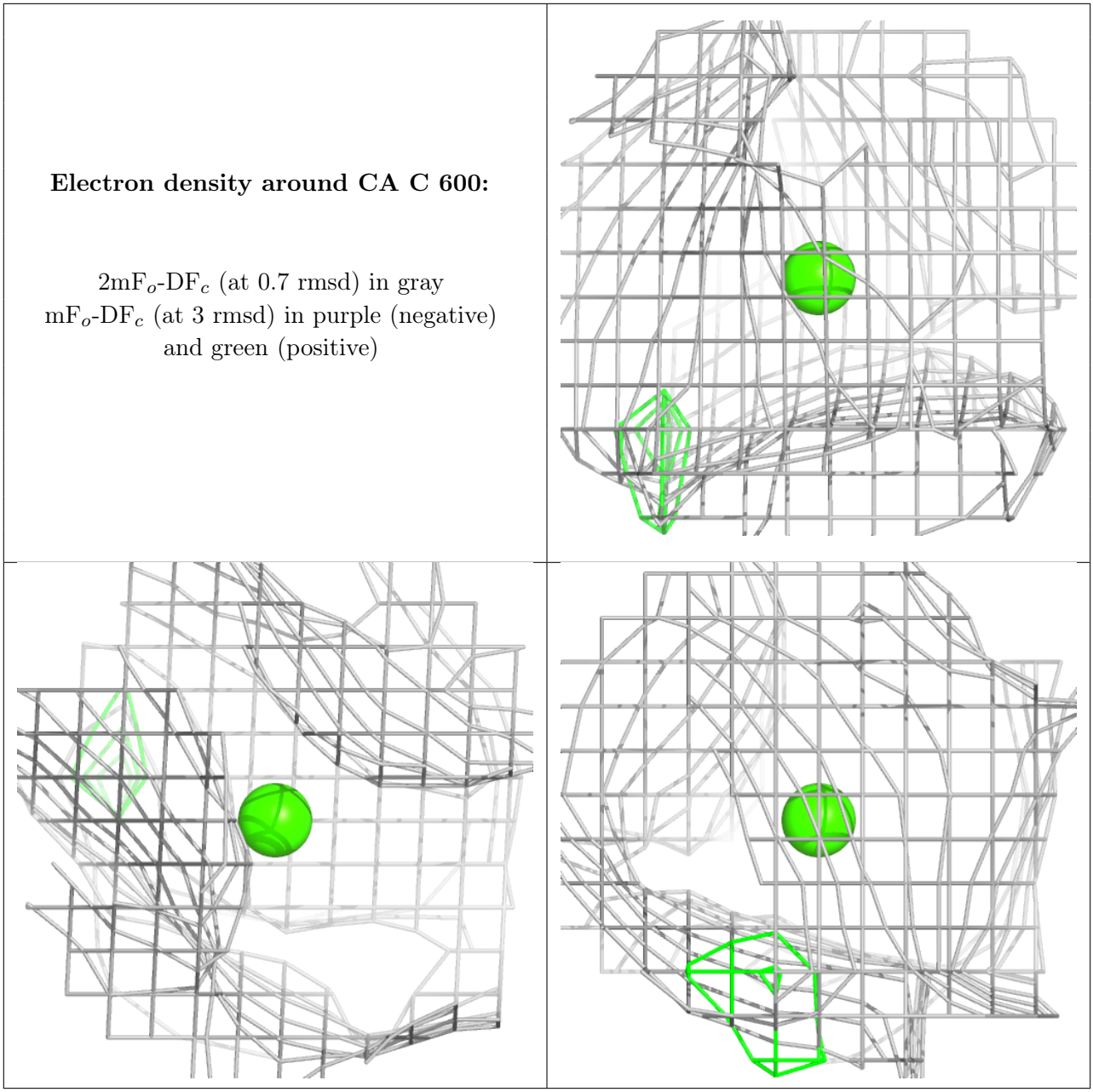
Electron density around TRS A 602:

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



Electron density around CA C 600:

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



Electron density around CA A 600:

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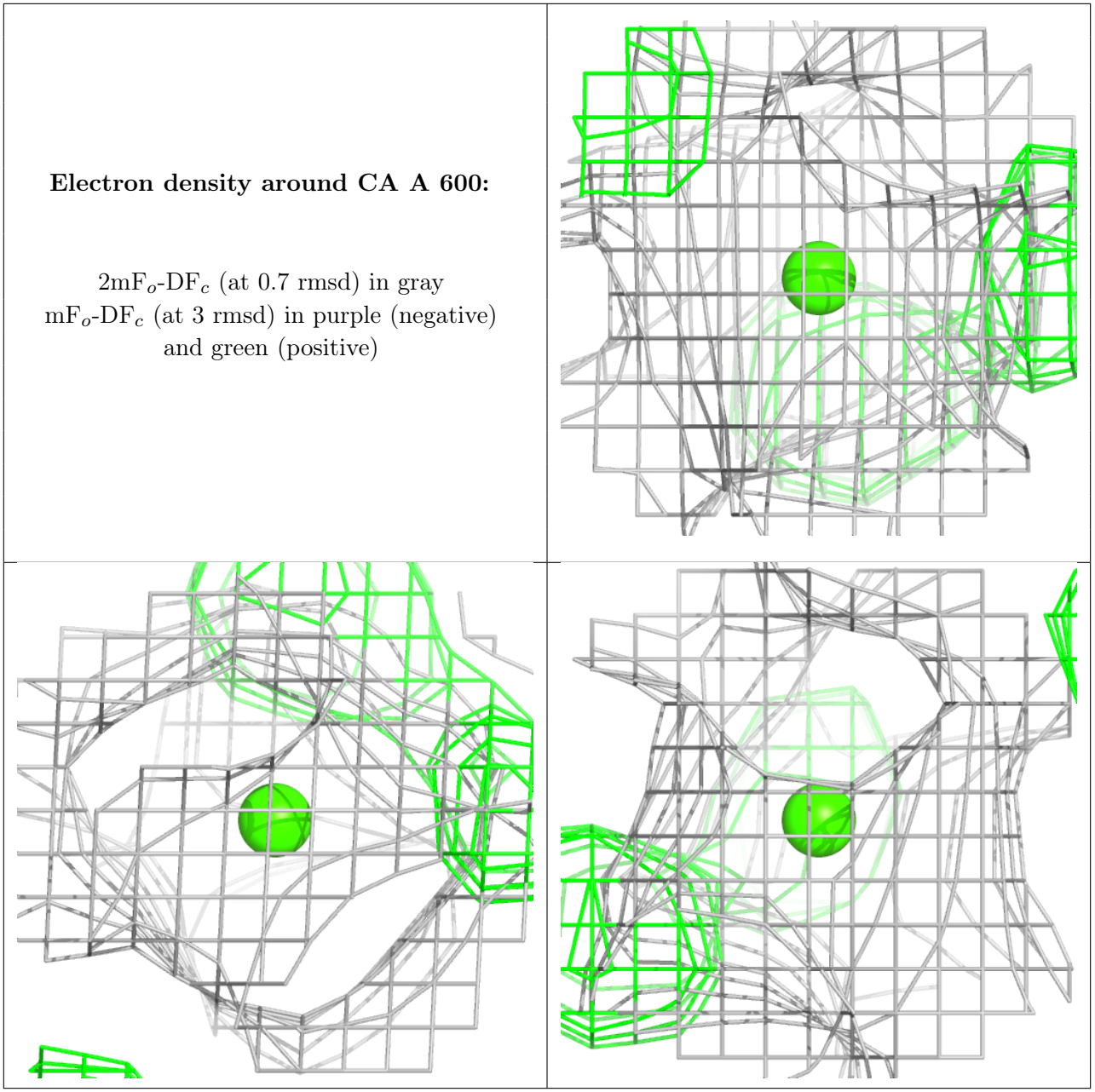
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around CA F 600:

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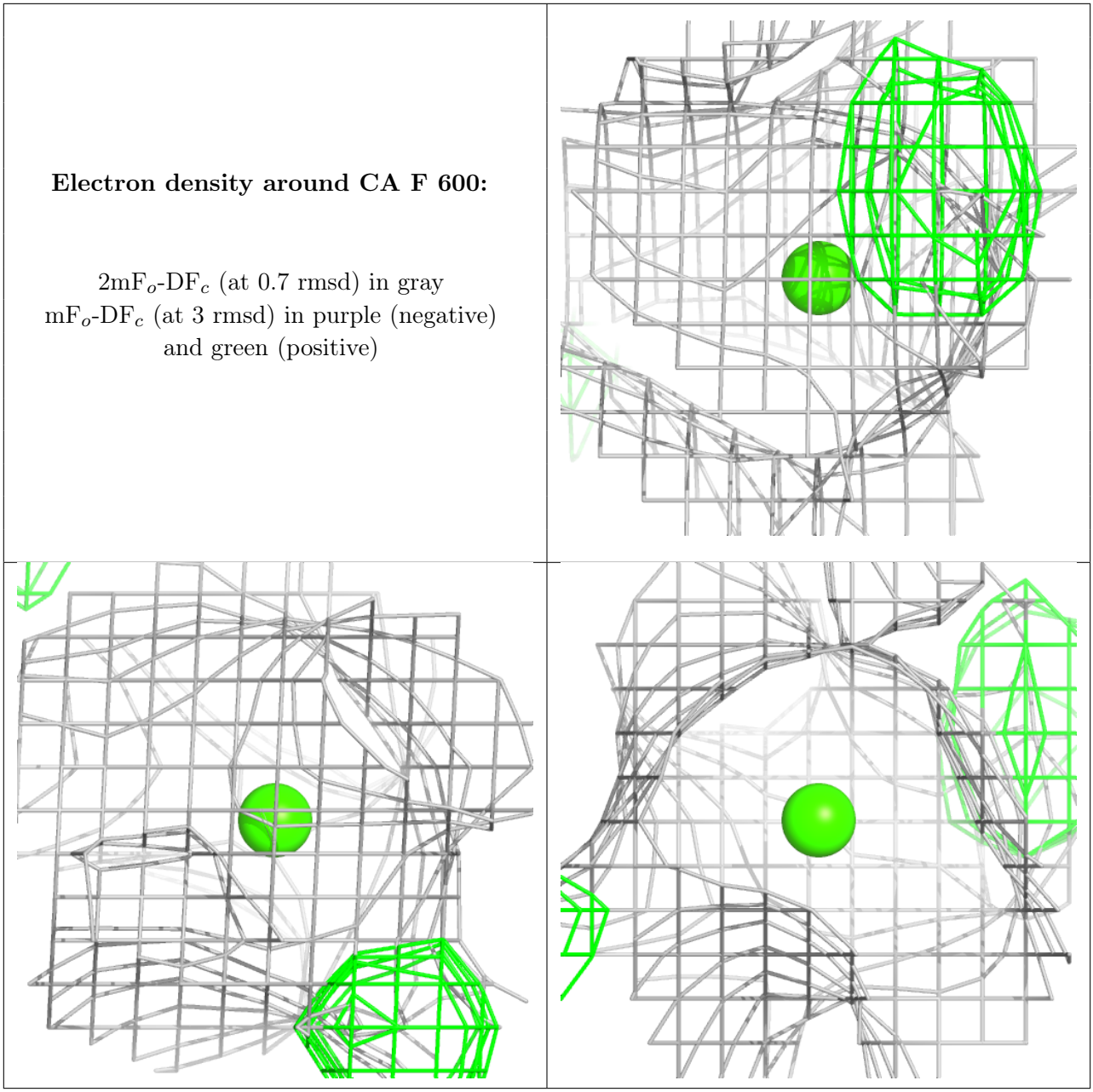
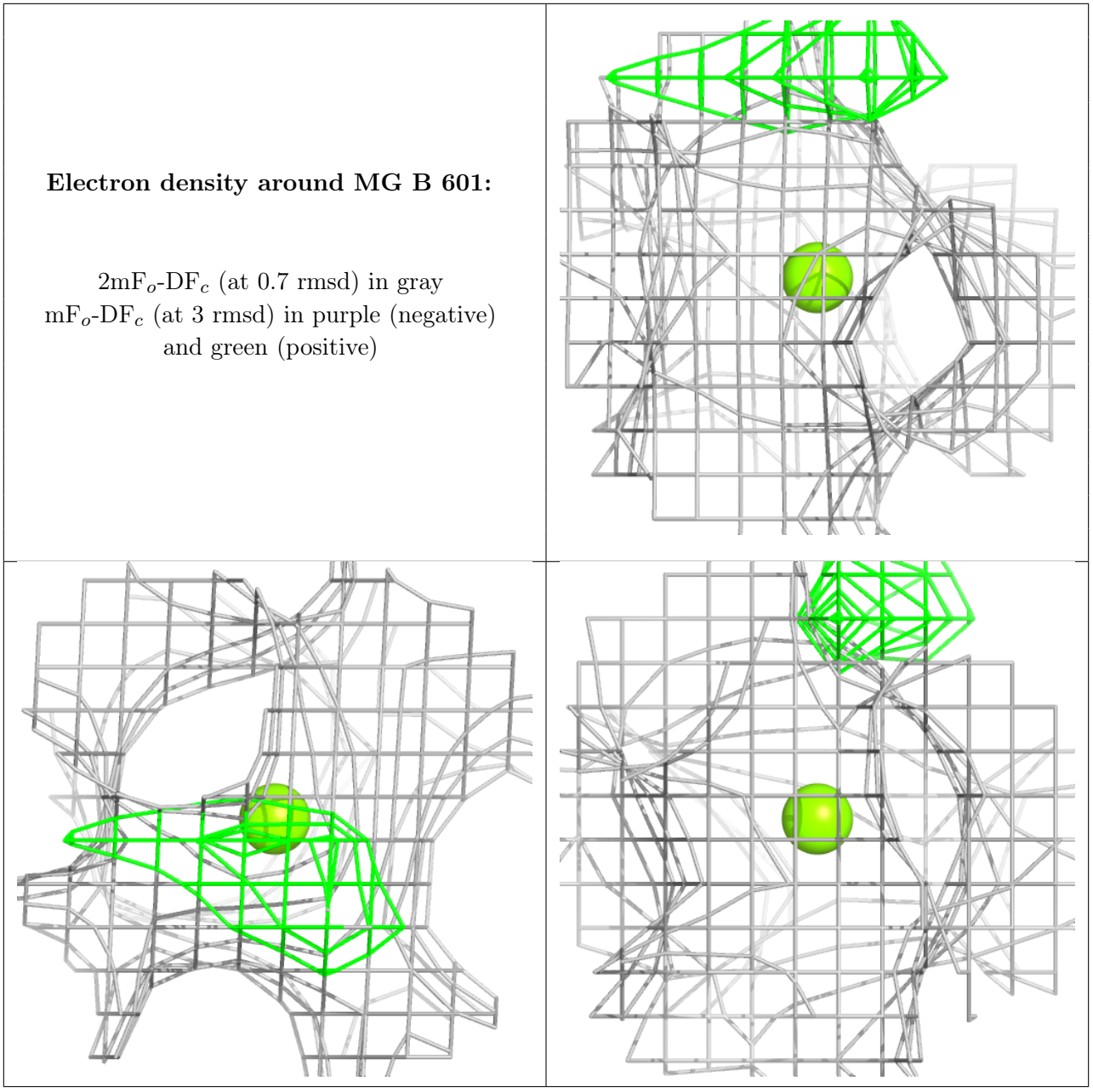
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around MG B 601:

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



Electron density around CA H 600:

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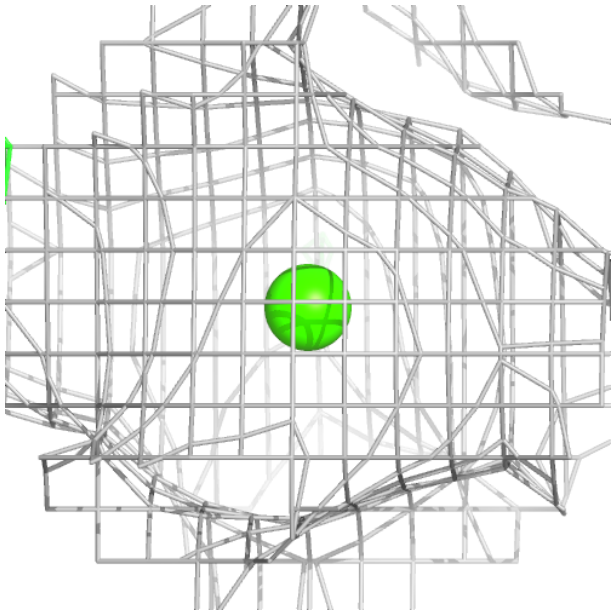
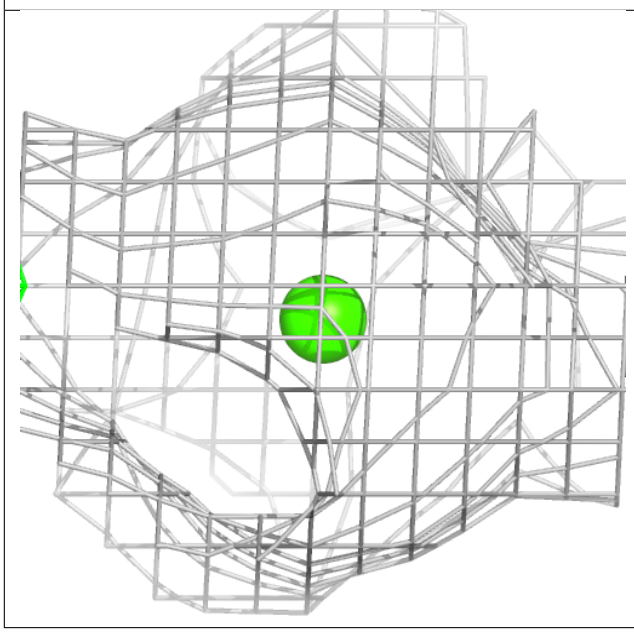
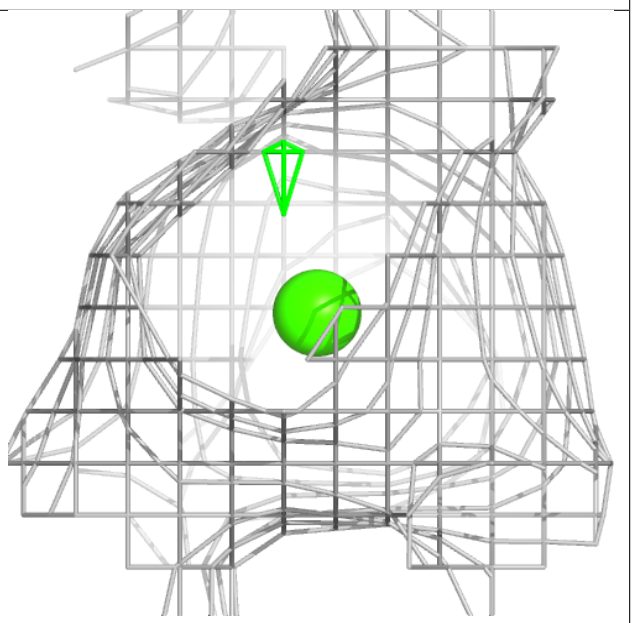
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

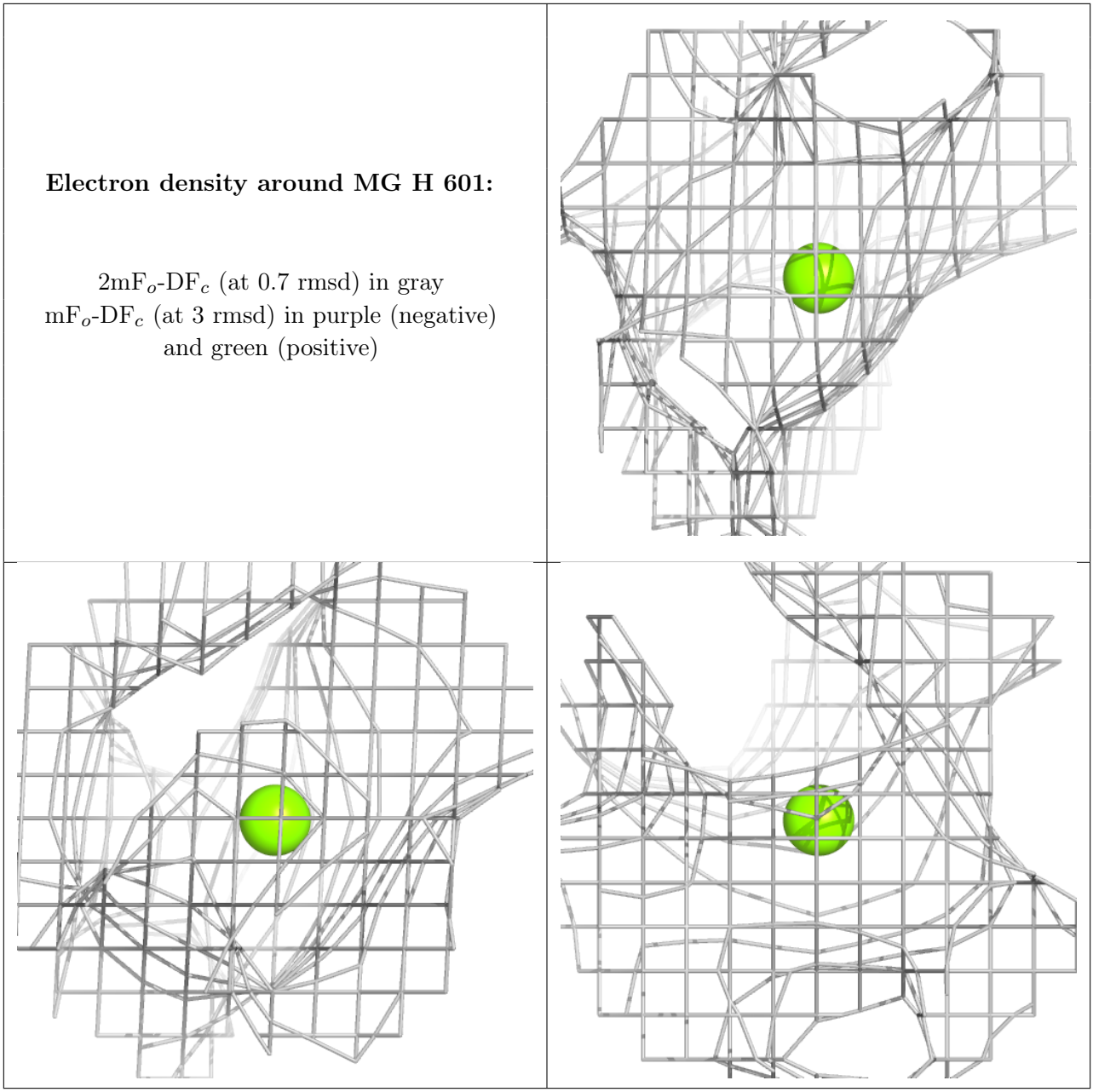






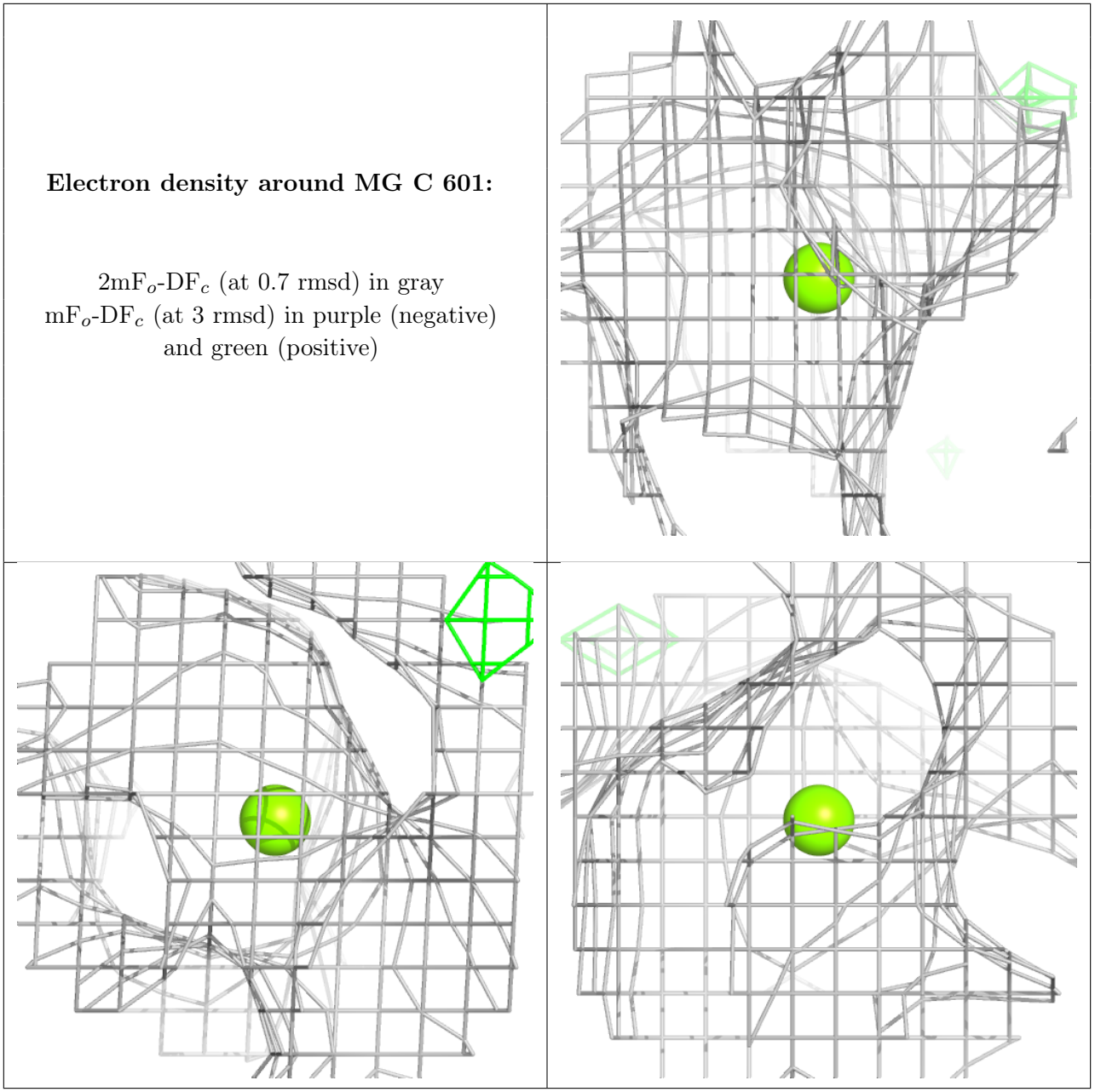
Electron density around MG H 601:

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



Electron density around MG C 601:

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



Electron density around MG E 601:

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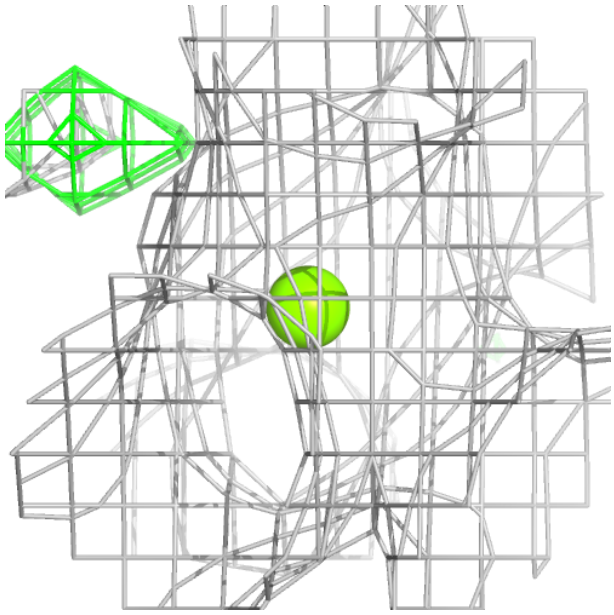
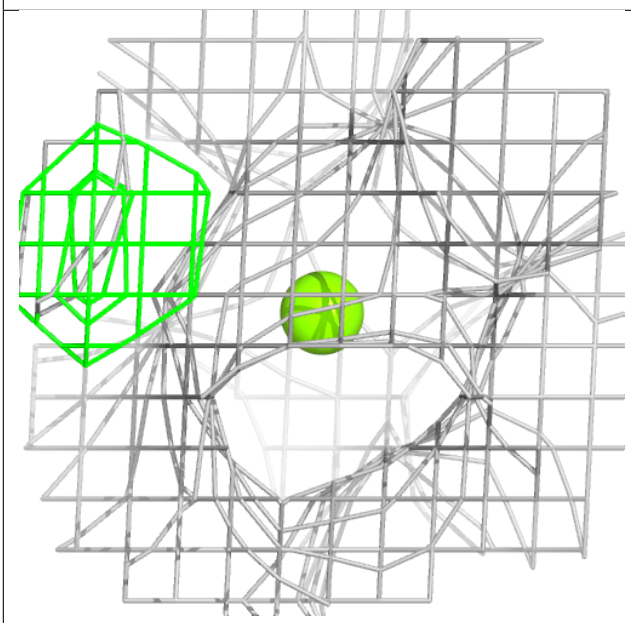
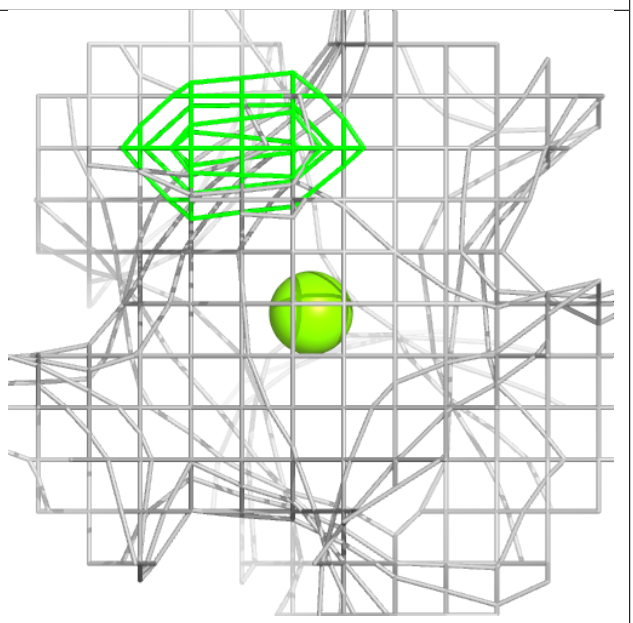
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

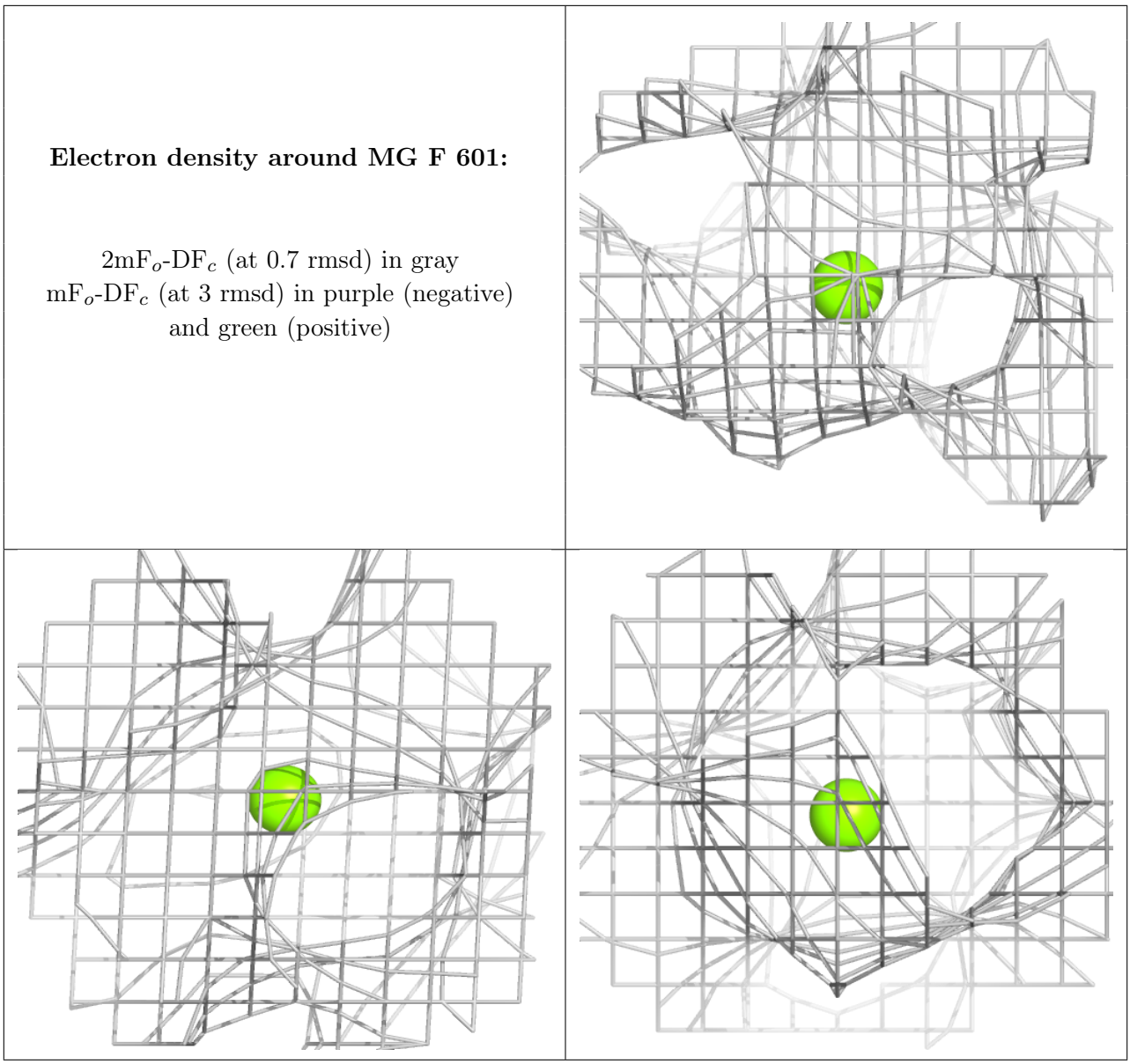






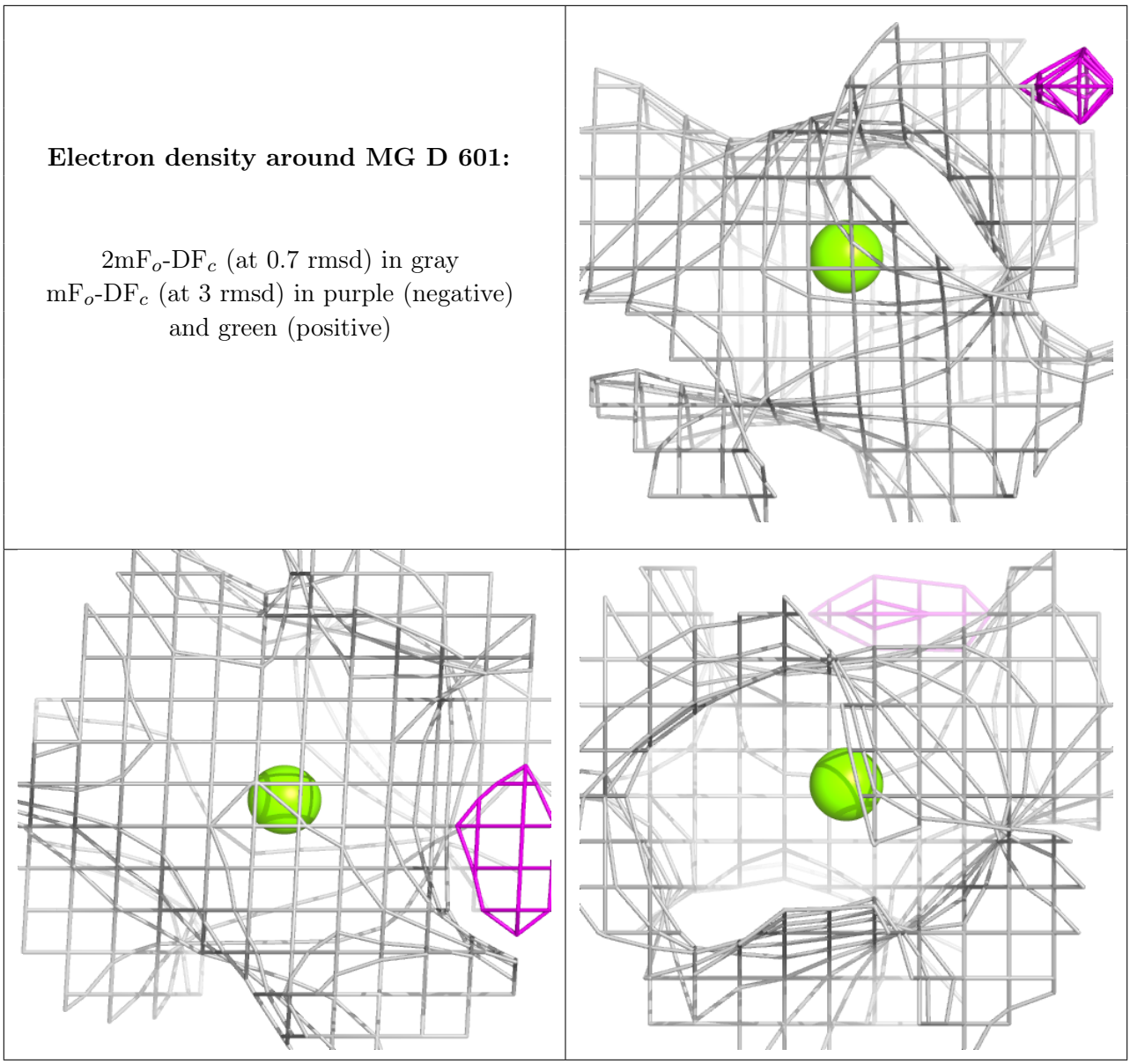
Electron density around MG F 601:

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



Electron density around MG D 601:

$2mF_o$-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

There are no such residues in this entry.