Full wwPDB X-ray Structure Validation Report (i)

Oct 28, 2024 – 07:16 pm GMT

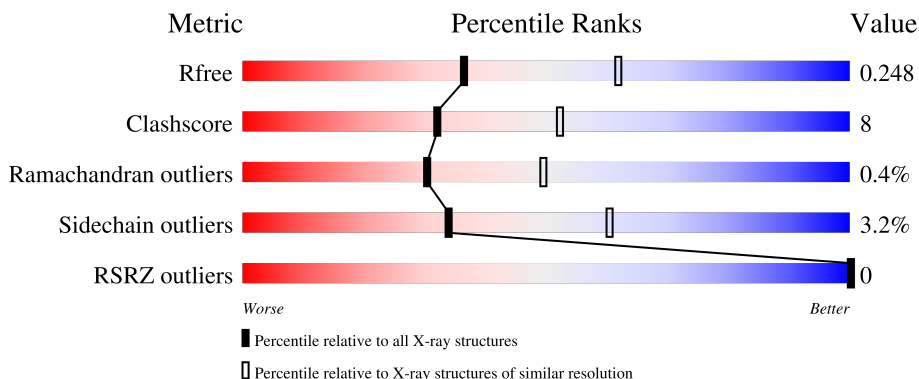|		
PDB ID	:	2VAV
Title	:	Crystal structure of deacetylcephalosporin C acetyltransferase (DAC-Soak)
Authors	:	Lejon, S.; Ellis, J.; Valegard, K.
Deposited on	:	2007-09-04
Resolution	:	2.50 Å(reported)

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 2.50 Å.

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

Metric	Percentile Ranks	Value
Rfree		0.248
Clashscore		8
Ramachandran outliers		0.4%
Sidechain outliers		3.2%
RSRZ outliers		0

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	5504 (2.50-2.50)
Clashscore	180529	6282 (2.50-2.50)
Ramachandran outliers	177936	6191 (2.50-2.50)
Sidechain outliers	177891	6193 (2.50-2.50)
RSRZ outliers	164620	5504 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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	444	66% 11% · 22%
1	B	444	68% 10% 21%
1	C	444	66% 11% · 22%
1	D	444	66% 11% · 22%
1	E	444	68% 9% · 22%

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Mol	Chain	Length	Quality of chain
1	F	444	66% · 11% · 23%
1	G	444	66% · 10% · 23%
1	H	444	67% · 9% · 23%
1	I	444	67% · 10% · 22%
1	J	444	61% · 15% · 23%
1	K	444	63% · 13% · 23%
1	L	444	67% · 9% · 23%

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

| Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
1	OAS	A	149[A]	-	X	-	-
1	OAS	B	149[A]	-	X	-	-
1	OAS	C	149[A]	-	X	-	-
1	OAS	D	149[A]	-	X	-	-
1	OAS	E	149[A]	-	X	-	-
1	OAS	F	149[A]	-	X	X	-
1	OAS	G	149[A]	-	X	-	-
1	OAS	H	149[A]	-	X	-	-
1	OAS	I	149[A]	-	X	-	-
1	OAS	J	149[A]	-	X	-	-
1	OAS	K	149[A]	-	X	-	-
1	OAS	L	149[A]	-	X	-	-
2	CSC	A	1383[B]	-	-	X	-
2	CSC	F	1383[A]	-	-	X	-
3	ACT	A	1384	-	-	X	-
3	ACT	C	1384	-	-	X	-
3	ACT	E	1384	-	-	X	-
3	ACT	H	1384	-	-	X	-

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 33548 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 ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	348	Total	C	N	O	S	0	2	0
			2743	1730	483	511	19			
1	B	350	Total	C	N	O	S	0	3	0
			2754	1736	486	513	19			
1	C	347	Total	C	N	O	S	0	4	0
			2758	1739	489	511	19			
1	D	345	Total	C	N	O	S	0	4	0
			2745	1732	487	507	19			
1	E	346	Total	C	N	O	S	0	3	0
			2723	1719	478	507	19			
1	F	341	Total	C	N	O	S	0	2	0
			2696	1702	473	502	19			
1	G	342	Total	C	N	O	S	0	3	0
			2707	1708	477	503	19			
1	H	343	Total	C	N	O	S	0	4	0
			2714	1713	478	504	19			
1	I	348	Total	C	N	O	S	0	3	1
			2735	1725	483	508	19			
1	J	344	Total	C	N	O	S	0	2	0
			2714	1713	476	506	19			
1	K	341	Total	C	N	O	S	0	2	0
			2694	1701	473	501	19			
1	L	340	Total	C	N	O	S	0	3	0
			2691	1699	472	501	19			

- Molecule 2 is 4-(3-ACETOXYMETHYL-2-CARBOXY-8-OXO-5-THIA-1-AZA-BICYCLO [4.2.0]OCT-2-EN-7-YLCARBAMOYL)-1-CARBOXY-BUTYL-AMMONIUM (three-letter code: CSC) (formula: $C_{16}H_{22}N_3O_8S$).
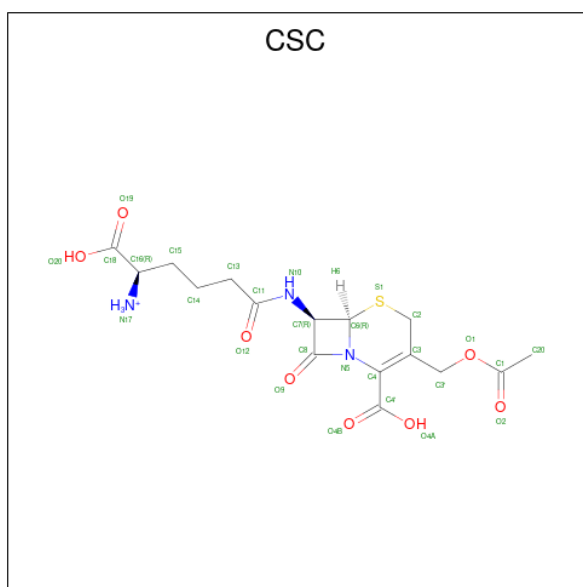
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	B	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	C	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	D	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	E	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	F	1	Total	C	N	O	S	0	1
			30	17	3	9	1		
2	G	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	H	1	Total	C	N	O	S	0	1
			30	17	3	9	1		
2	I	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	J	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	K	1	Total	C	N	O	S	0	1
			25	14	3	7	1		
2	L	1	Total	C	N	O	S	0	1
			30	17	3	9	1		

- Molecule 3 is ACETATE ION (three-letter code: ACT) (formula: $C_2H_3O_2$).

ACT

OXT

O⁻

C

CH3

O

O

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

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

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	48	Total 48	O 48	0	0
4	B	51	Total 51	O 51	0	0
4	C	43	Total 43	O 43	0	0
4	D	49	Total 49	O 49	0	0
4	E	46	Total 46	O 46	0	0
4	F	41	Total 41	O 41	0	0
4	G	52	Total 52	O 52	0	0
4	H	48	Total 48	O 48	0	0
4	I	56	Total 56	O 56	0	0
4	J	17	Total 17	O 17	0	0
4	K	11	Total 11	O 11	0	0
4	L	37	Total 37	O 37	0	0

3 Residue-property plots ⓘ

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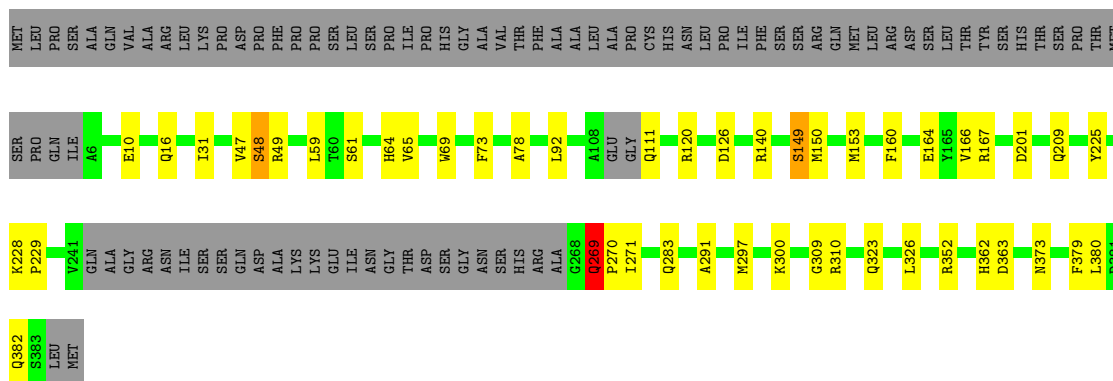
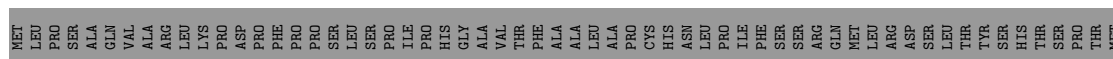• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain A:
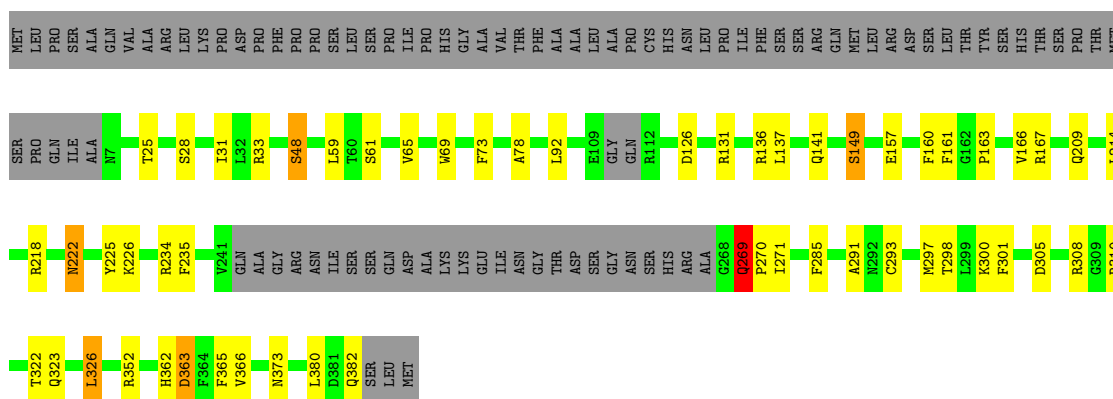
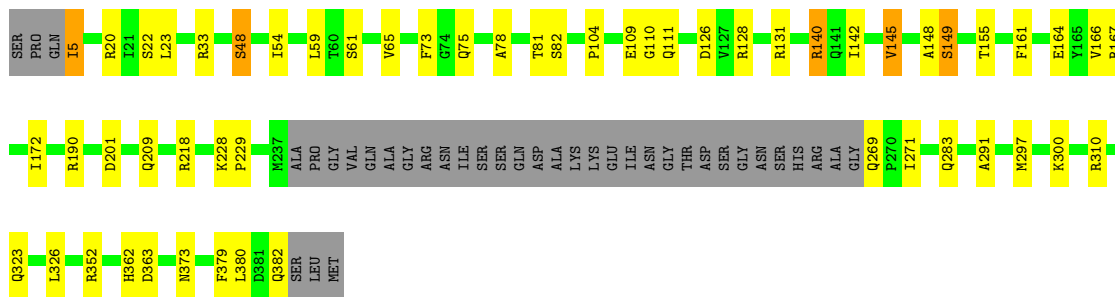• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain B:

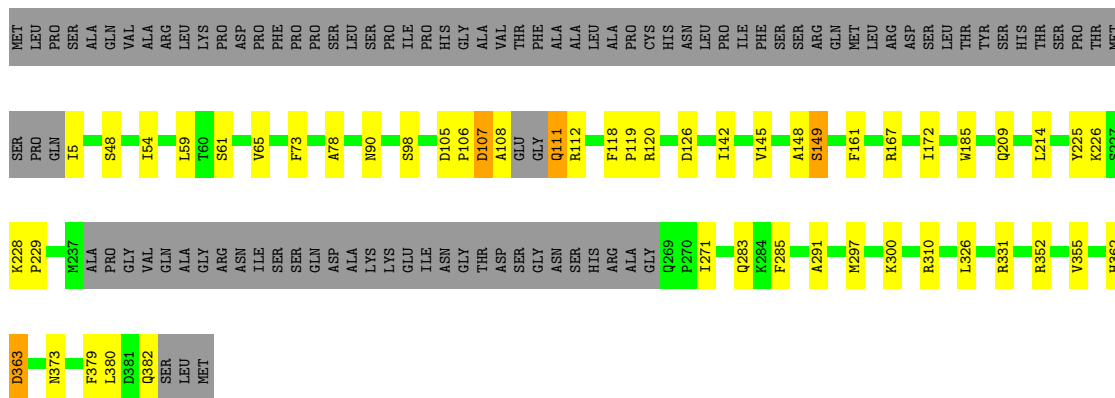• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE
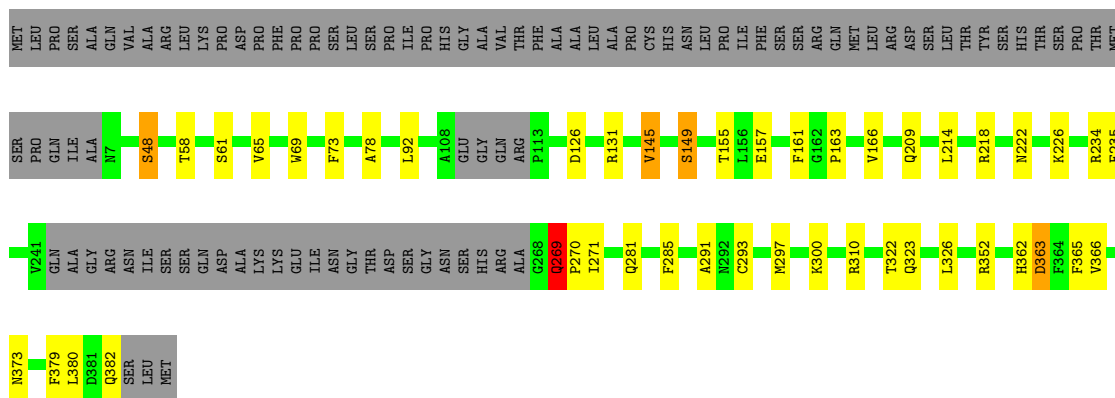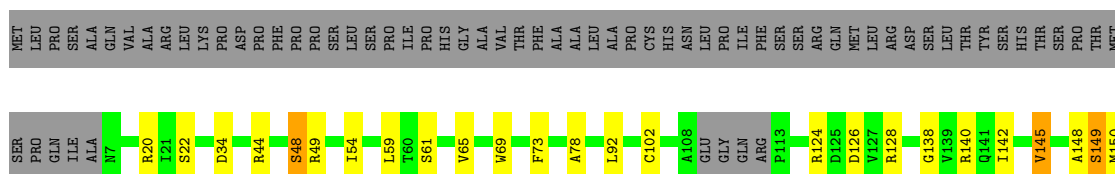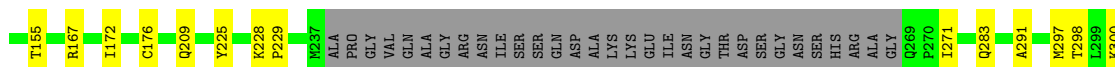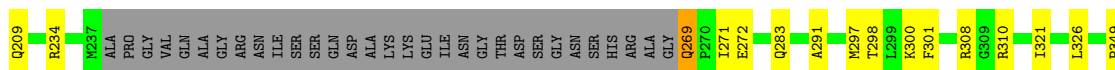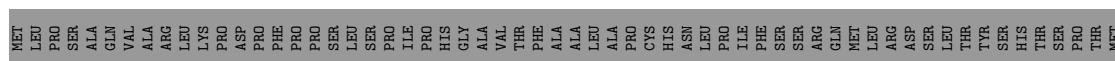
Chain C:

SER PRO GLN I5 R20 I21 S22 L23 R33 S48 I54 L59 T60 S61 V65 F73 G74 Q75 A78 T81 S82 P104 E109 G110 Q111 D126 V127 R128 R131 R140 Q141 I142 V145 A148 S149 T155 F161 E164 Y165 V166 R167

I172 R190 D201 Q209 R218 K228 P229 M237 ALA PRO GLY VAL GLN ALA GLY ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA GLY Q269 P270 I271 Q283 A291 M297 K300 R310

Q323 L326 R352 H362 D363 N373 F379 L380 D381 Q382 SER LEU MET

• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain D: 66% 11% • 22%

MET LEU PRO SER ALA GLN VAL ALA ARG LEU LYS PRO ASP PRO PHE PRO PRO SER LEU SER PRO ILE PRO HIS GLY ALA VAL THR PHE ALA ALA LEU ALA PRO CYS HIS ASN LEU PRO ILE PHE SER SER ARG GLN MET LEU ARG ASP SER LEU THR TYR SER HIS THR SER PRO THR MET

SER PRO GLN I5 S48 I54 L59 T60 S61 V65 F73 A78 N90 S98 D105 P106 D107 A108 GLU GLY Q111 R112 F118 P119 R120 D126 I142 V145 A148 S149 F161 R167 I172 W185 Q209 L214 Y225 K226 S227

K228 P229 M237 ALA PRO GLY VAL GLN ALA GLY ARG ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE LEU ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA GLY Q269 P270 I271 Q283 K284 F285 A291 M297 K300 R310 L326 R331 R352 V355 H362

D363 N373 F379 L380 D381 Q382 SER LEU MET

• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain E: 68% 9% • 22%

MET LEU PRO SER ALA GLN VAL ALA ARG LEU LYS PRO ASP PRO PHE PRO PRO SER LEU SER PRO ILE PRO HIS GLY ALA VAL THR PHE ALA ALA LEU ALA PRO CYS HIS ASN LEU PRO ILE PHE SER SER ARG GLN MET LEU ARG ASP SER LEU THR TYR SER HIS THR SER PRO THR MET

SER PRO GLN ILE ALA N7 S48 T58 S61 V65 W69 F73 A78 L92 A108 GLU GLY GLN ARG P113 D126 R131 V145 S149 T155 L156 E157 F161 G162 P163 V166 Q209 L214 R218 N222 K226 R234 F235

V241 GLN ALA GLY ARG ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA GLY G268 Q269 P270 I271 Q281 F285 A291 N292 C293 M297 K300 R310 T322 Q323 L326 R352 H362 D363 F364 F365 V366
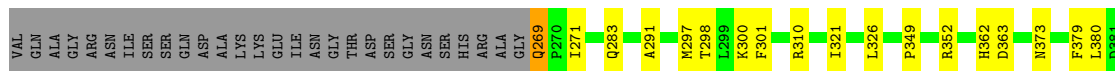
N373 F379 L380 D381 Q382 SER LEU MET

• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain F: 66% 11% • 23%

MET LEU PRO SER ALA GLN VAL ALA ARG LEU LYS PRO ASP PRO PHE PRO PRO SER LEU SER PRO ILE PRO HIS GLY ALA VAL THR PHE ALA ALA LEU ALA PRO CYS HIS ASN LEU PRO ILE PHE SER SER ARG GLN MET LEU ARG ASP SER LEU THR TYR SER HIS THR SER PRO THR MET

SER PRO GLN ILE ALA N7 R20 I21 S22 D34 R44 S48 R49 I54 L59 T60 S61 V65 W69 F73 A78 L92 C102 A108 GLU GLY GLN ARG P113 R124 D125 D126 V127 R128 G138 V139 R140 Q141 I142 V145 A148 S149 M150

T155 R167 I172 C176 Q209 Y225 K228 P229 M237 ALA PRO GLY VAL GLN ALA GLY ARG ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA GLY Q269 P270 I271 Q283 A291 M297 T298 L299 K300

F301 L326 Y336 R346 R352 H362 D363 N373 F379 L380 D381 Q382 SER LEU MET
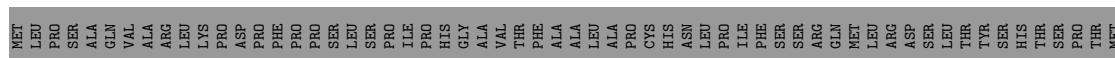
- Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain G:

66%   10%   •   23%

MET LEU PRO SER ALA GLN VAL ALA ARG LEU LYS PRO ASP PRO PHE PRO PRO SER LEU SER PRO ILE PRO HIS GLY ALA VAL THR PHE ALA ALA LEU ALA PRO CYS HIS ASN LEU PRO ILE PHE SER SER ARG GLN MET LEU ARG ASP SER LEU THR TYR SER HIS THR SER PRO THR MET

SER PRO GLN ILE ALA N7 E27 R33 S41 S48 L59 T60 S61 V65 T66 S67 W68 W69 F73 A78 I86 L92 A108 GLU GLY GLN R112 D126 V127 R128 L134 D135 R136 I142 A148 S149 Y165 I172 C176 L200

Q209 R234 M237 ALA PRO GLY VAL GLN ALA GLY ARG ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA GLY Q269 P270 I271 E272 Q283 A291 M297 T298 L299 K300 F301 R308 G309 R310 I321 L326 P349

R352 H362 D363 N373 F379 L380 D381 Q382 SER LEU MET

- Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain H:

67%   9%   •   23%

MET LEU PRO SER ALA GLN VAL ALA ARG LEU LYS PRO ASP PRO PHE PRO PRO SER LEU SER PRO ILE PRO HIS GLY ALA VAL THR PHE ALA ALA LEU ALA PRO CYS HIS ASN LEU PRO ILE PHE SER SER ARG GLN MET LEU ARG ASP SER LEU THR TYR SER HIS THR SER PRO THR MET

SER PRO GLN ILE ALA N7 V30 R33 V47 S48 L59 T60 S61 V65 W69 F73 A78 I86 L92 E109 GLY GLN R112 D126 V127 R128 A148 S149 M150 I172 D205 Q209 Y225 K228 P229 R234 M237 ALA PRO GLY

VAL GLN ALA GLY ARG ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA GLY Q269 P270 I271 Q283 A291 M297 T298 L299 K300 F301 R310 I321 L326 P349 R352 H362 D363 N373 F379 L380 D381

Q382 SER LEU MET

- Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain I:

67%   10%   •   22%

MET LEU PRO SER ALA GLN VAL ALA ARG LEU LYS PRO ASP PRO PHE PRO PRO SER LEU SER PRO ILE PRO HIS GLY ALA VAL THR PHE ALA ALA LEU ALA PRO CYS HIS ASN LEU PRO ILE PHE SER SER ARG GLN MET LEU ARG ASP SER LEU THR TYR SER HIS THR SER PRO THR MET

SER PRO GLN ILE ALA N7 E10 L13 Q16 S48 L59 T60 S61 H64 V65 W69 L72 F73 A78 L92 F96 A108 GLU GLY GLN R112 D126 R131 A148 S149 M150 M153 P163 V166 I172 A173 D201 Q209

Y225 K226 S227 K228 P229 V241 GLN ALA GLY ARG ASN ILE SER SER GLN ASP ALA LYS LYS GLU ILE ASN GLY THR ASP SER GLY ASN SER HIS ARG ALA G268 Q269 P270 I271 Q283 A291 M297 K300 R310 T322 Q323 L326 R331 R352 H362 D363

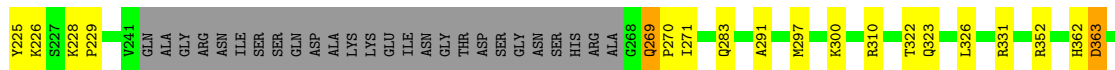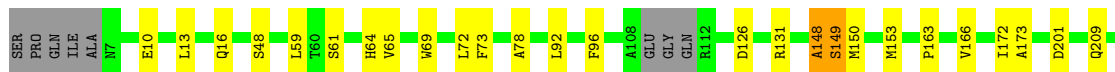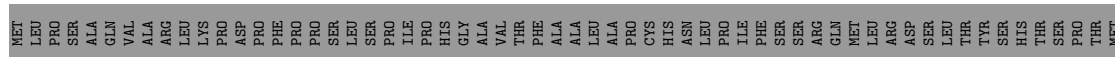N373 F379 L380 D381 Q382 S383 LEU MET

• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain J:

61% 15% • 23%

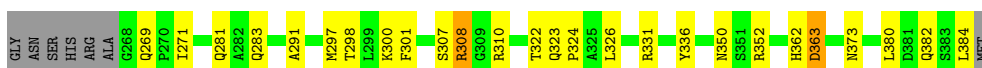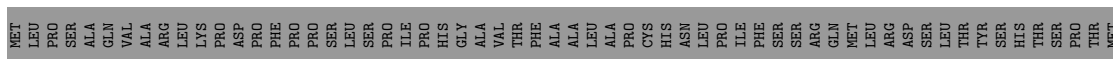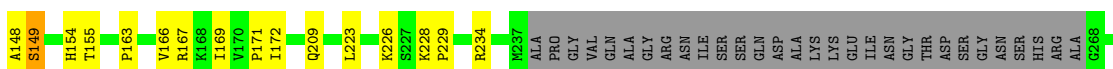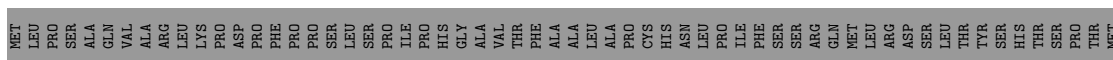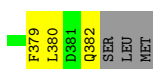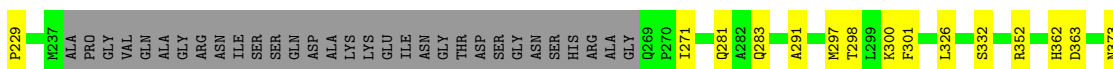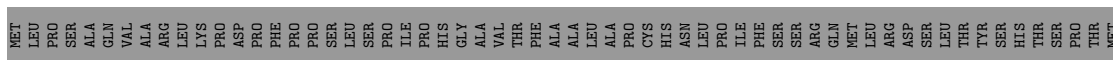• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain K:

63% 13% • 23%

• Molecule 1: ACETYL-COA--DEACETYLCEPHALOSPORIN C ACETYLTRANSFERASE

Chain L:

67% 9% 23%

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	122.06Å 108.86Å 195.79Å 90.00° 90.03° 90.00°	Depositor
Resolution (Å)	103.70 – 2.50 103.70 – 2.50	Depositor EDS
% Data completeness (in resolution range)	99.9 (103.70-2.50) 99.7 (103.70-2.50)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.96 (at 2.52Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.219 , 0.255 0.214 , 0.248	Depositor DCC
R_{free} test set	3419 reflections (1.93%)	wwPDB-VP
Wilson B-factor (Å^2)	35.0	Xtriage
Anisotropy	0.161	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 25.7	EDS
L-test for twinning[2]	$< \lvert L \rvert > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.468 for h,-k,-l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	33548	wwPDB-VP
Average B, all atoms (Å^2)	28.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 17.42% of the height of the origin peak. No significant pseudotranslation is detected.*

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[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< \lvert L \rvert >$, $< L^2 >$ 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: CSC, OAS, ACT

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	0.70	1/2796 (0.0%)	0.73	1/3789 (0.0%)
1	B	0.68	0/2807	0.72	3/3804 (0.1%)
1	C	0.70	0/2817	0.75	5/3816 (0.1%)
1	D	0.71	0/2803	0.80	5/3796 (0.1%)
1	E	0.70	0/2776	0.73	0/3762
1	F	0.73	1/2748 (0.0%)	0.74	1/3723 (0.0%)
1	G	0.71	1/2759 (0.0%)	0.75	2/3738 (0.1%)
1	H	0.70	0/2766	0.74	3/3747 (0.1%)
1	I	0.69	0/2788	0.73	2/3779 (0.1%)
1	J	0.82	0/2766	0.75	0/3747
1	K	0.83	0/2745	0.76	1/3717 (0.0%)
1	L	0.71	1/2743 (0.0%)	0.74	0/3716
All	All	0.72	4/33314 (0.0%)	0.75	23/45134 (0.1%)

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	I	0	2

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	176	CYS	CB-SG	-7.04	1.70	1.82
1	L	176	CYS	CB-SG	-6.52	1.71	1.82
1	G	176	CYS	CB-SG	-5.73	1.72	1.81
1	A	222	ASN	CB-CG	5.24	1.63	1.51

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	310	ARG	NE-CZ-NH1	-13.12	113.74	120.30
1	D	310	ARG	NE-CZ-NH2	13.03	126.82	120.30
1	K	140	ARG	NE-CZ-NH1	7.27	123.93	120.30
1	D	310	ARG	CD-NE-CZ	6.99	133.38	123.60
1	C	310	ARG	NE-CZ-NH1	6.72	123.66	120.30
1	B	310	ARG	NE-CZ-NH1	6.25	123.42	120.30
1	C	310	ARG	NE-CZ-NH2	-6.13	117.24	120.30
1	G	134	LEU	CB-CG-CD1	6.04	121.26	111.00
1	I	310	ARG	NE-CZ-NH1	5.85	123.22	120.30
1	C	167	ARG	NE-CZ-NH1	5.82	123.21	120.30
1	D	167	ARG	NE-CZ-NH1	5.79	123.20	120.30
1	B	167	ARG	NE-CZ-NH1	5.66	123.13	120.30
1	H	310	ARG	NE-CZ-NH1	5.60	123.10	120.30
1	A	326	LEU	CB-CG-CD2	5.58	120.48	111.00
1	I	382	GLN	O-C-N	-5.58	113.78	122.70
1	H	310	ARG	NE-CZ-NH2	-5.51	117.54	120.30
1	C	190	ARG	NE-CZ-NH2	5.47	123.03	120.30
1	G	310	ARG	NE-CZ-NH1	5.28	122.94	120.30
1	F	167	ARG	NE-CZ-NH1	5.23	122.91	120.30
1	H	30	VAL	CG1-CB-CG2	5.21	119.23	110.90
1	D	167	ARG	NE-CZ-NH2	-5.20	117.70	120.30
1	C	128[A]	ARG	NE-CZ-NH1	5.19	122.90	120.30
1	B	310	ARG	NE-CZ-NH2	-5.01	117.80	120.30

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	I	148	ALA	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2743	0	2645	48	0
1	B	2754	0	2656	37	0
1	C	2758	0	2673	43	0
1	D	2745	0	2661	48	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	2723	0	2624	39	0
1	F	2696	0	2600	60	0
1	G	2707	0	2610	31	1
1	H	2714	0	2613	41	1
1	I	2735	0	2638	42	0
1	J	2714	0	2618	55	1
1	K	2694	0	2602	47	1
1	L	2691	0	2592	36	0
2	A	25	0	16	9	0
2	B	25	0	17	1	0
2	C	25	0	17	2	0
2	D	25	0	16	2	0
2	E	25	0	16	6	0
2	F	30	0	6	14	0
2	G	25	0	16	3	0
2	H	30	0	4	5	0
2	I	25	0	17	2	0
2	J	25	0	15	3	0
2	K	25	0	15	4	0
2	L	30	0	6	5	0
3	A	8	0	6	2	0
3	B	8	0	6	1	0
3	C	4	0	3	2	0
3	D	4	0	3	1	0
3	E	8	0	6	4	0
3	F	4	0	3	1	0
3	G	4	0	3	1	0
3	H	4	0	3	2	0
3	I	12	0	9	0	0
3	L	4	0	3	0	0
4	A	48	0	0	1	0
4	B	51	0	0	3	0
4	C	43	0	0	5	0
4	D	49	0	0	1	0
4	E	46	0	0	2	0
4	F	41	0	0	5	0
4	G	52	0	0	2	0
4	H	48	0	0	3	0
4	I	56	0	0	1	0
4	J	17	0	0	1	0
4	K	11	0	0	0	0
4	L	37	0	0	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	33548	0	31738	515	2

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 8.

All (515) 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:F:149[A]:OAS:HB2	2:F:1383[A]:CSC:C20	1.24	1.54
1:F:149[A]:OAS:CB	2:F:1383[A]:CSC:C20	1.89	1.48
1:F:149[A]:OAS:CB	2:F:1383[A]:CSC:H201	1.57	1.27
1:F:149[A]:OAS:OG	2:F:1383[A]:CSC:H202	1.40	1.21
1:F:149[A]:OAS:CB	2:F:1383[A]:CSC:H202	1.65	1.11
1:J:140:ARG:NH1	4:J:2002:HOH:O	1.79	1.10
1:D:120[B]:ARG:HG3	1:D:120[B]:ARG:HH11	1.17	1.09
1:E:234:ARG:HH22	2:E:1383[B]:CSC:C18	1.67	1.08
1:D:331:ARG:HH21	1:I:382:GLN:HE21	1.05	1.02
1:H:234:ARG:HD3	4:H:2032:HOH:O	1.62	0.98
2:J:1385[B]:CSC:O1	2:J:1385[B]:CSC:O4A	1.81	0.98
2:K:1385[B]:CSC:O4B	2:K:1385[B]:CSC:O1	1.86	0.93
1:F:150:MET:H	2:F:1383[A]:CSC:H201	1.33	0.93
2:J:1385[B]:CSC:O1	2:J:1385[B]:CSC:C4'	2.15	0.93
1:I:10:GLU:O	1:L:44:ARG:NH1	2.04	0.91
1:C:352:ARG:NH2	1:C:382:GLN:HE22	1.69	0.89
1:D:352:ARG:NH2	1:D:382:GLN:HE22	1.71	0.89
1:E:234:ARG:NH2	2:E:1383[B]:CSC:O20	2.06	0.89
1:B:10:GLU:O	1:F:44:ARG:NH1	2.07	0.88
1:E:222:ASN:HB3	4:E:2030:HOH:O	1.74	0.88
1:D:352:ARG:HH22	1:D:382:GLN:HE22	1.19	0.86
1:H:128[A]:ARG:HH21	1:H:128[A]:ARG:CG	1.90	0.85
1:J:23:LEU:HD23	1:J:33:ARG:HG3	1.59	0.85
1:F:149[A]:OAS:HB2	2:F:1383[A]:CSC:H203	1.54	0.85
2:K:1385[B]:CSC:O1	2:K:1385[B]:CSC:C4'	2.16	0.85
1:I:352:ARG:HH22	1:I:382:GLN:HE22	1.24	0.85
1:A:33:ARG:HH21	1:A:33:ARG:HG3	1.42	0.84
1:L:126:ASP:OD2	1:L:300:LYS:HE3	1.77	0.84
1:J:126:ASP:OD2	1:J:300:LYS:HE3	1.78	0.84
1:C:352:ARG:HH22	1:C:382:GLN:HE22	1.20	0.83
1:D:331:ARG:NH2	1:I:382:GLN:HE21	1.76	0.83
1:F:149[A]:OAS:OG	2:F:1383[A]:CSC:C20	2.11	0.83
1:H:149[B]:OAS:OAC	2:H:1383[B]:CSC:O1	1.89	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:352:ARG:HH22	1:B:382:GLN:HE22	1.28	0.82
1:L:126:ASP:OD2	1:L:300:LYS:CE	2.29	0.80
1:A:48:SER:HB2	4:A:2006:HOH:O	1.83	0.79
1:D:111:GLN:HA	1:D:111:GLN:OE1	1.80	0.79
1:F:346:ARG:NH2	4:F:2038:HOH:O	2.15	0.78
1:F:149[A]:OAS:HB2	2:F:1383[A]:CSC:H201	0.78	0.78
1:K:126:ASP:OD2	1:K:300:LYS:CE	2.32	0.78
1:D:120[B]:ARG:HH11	1:D:120[B]:ARG:CG	1.97	0.77
1:G:126:ASP:OD2	1:G:300:LYS:HE3	1.83	0.77
1:J:126:ASP:OD2	1:J:300:LYS:CE	2.32	0.77
1:J:49:ARG:NH2	1:J:140:ARG:HH21	1.83	0.76
1:D:331:ARG:HH21	1:I:382:GLN:NE2	1.83	0.76
1:K:126:ASP:OD2	1:K:300:LYS:HE3	1.84	0.76
1:E:48:SER:HB2	4:E:2007:HOH:O	1.85	0.76
1:K:49:ARG:HH22	1:K:140:ARG:HH21	1.34	0.76
1:G:126:ASP:OD2	1:G:300:LYS:CE	2.33	0.75
1:F:126:ASP:OD2	1:F:300:LYS:CE	2.35	0.74
1:K:92:LEU:O	1:K:300:LYS:NZ	2.20	0.73
1:E:78:ALA:H	1:E:373:ASN:HD21	1.34	0.73
2:E:1383[B]:CSC:H3'1	2:E:1383[B]:CSC:O4B	1.87	0.73
1:D:126:ASP:OD2	1:D:300:LYS:HE3	1.88	0.73
1:A:78:ALA:H	1:A:373:ASN:HD21	1.35	0.73
1:L:149[A]:OAS:OG	1:L:362:HIS:NE2	2.18	0.73
1:E:161:PHE:CZ	3:E:1384:ACT:H3	2.24	0.72
1:D:126:ASP:OD2	1:D:300:LYS:CE	2.37	0.72
1:K:49:ARG:NH2	1:K:140:ARG:HH21	1.85	0.72
1:C:75:GLN:HG3	1:F:140:ARG:HA	1.70	0.72
1:J:209:GLN:HE22	1:J:291:ALA:H	1.36	0.72
1:B:209:GLN:HE22	1:B:291:ALA:H	1.38	0.72
1:H:126:ASP:OD2	1:H:300:LYS:HE3	1.88	0.72
1:H:126:ASP:OD2	1:H:300:LYS:CE	2.38	0.71
1:B:47:VAL:HG23	4:B:2003:HOH:O	1.89	0.71
1:D:355:VAL:O	1:I:382:GLN:HA	1.89	0.71
1:A:234:ARG:NH2	2:A:1383[B]:CSC:O19	2.18	0.71
1:H:47:VAL:HG23	4:H:2003:HOH:O	1.91	0.70
1:H:128[A]:ARG:HH21	1:H:128[A]:ARG:HG3	1.56	0.70
1:F:92:LEU:O	1:F:300:LYS:NZ	2.24	0.70
1:F:126:ASP:OD2	1:F:300:LYS:HE3	1.92	0.70
1:I:149[A]:OAS:OG	1:I:362:HIS:NE2	2.20	0.70
1:C:126:ASP:OD2	1:C:300:LYS:HE3	1.92	0.70
1:K:27:GLU:HB3	1:K:128[A]:ARG:HH22	1.57	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:234:ARG:NH2	2:E:1383[B]:CSC:C18	2.49	0.70
1:K:209:GLN:HE22	1:K:291:ALA:H	1.39	0.70
1:E:78:ALA:H	1:E:373:ASN:ND2	1.89	0.70
1:B:10:GLU:HG2	1:F:44:ARG:HH12	1.56	0.69
1:F:352:ARG:HH22	1:F:382:GLN:HE22	1.37	0.69
1:K:23:LEU:HD23	1:K:33:ARG:HG3	1.74	0.69
1:C:23:LEU:HD23	1:C:33:ARG:HG2	1.74	0.69
1:A:78:ALA:H	1:A:373:ASN:ND2	1.90	0.69
1:I:352:ARG:NH2	1:I:382:GLN:HE22	1.90	0.69
1:D:209:GLN:HE22	1:D:291:ALA:H	1.40	0.69
1:L:92:LEU:O	1:L:300:LYS:NZ	2.26	0.68
1:B:149[A]:OAS:OG	1:B:362:HIS:NE2	2.23	0.68
1:C:209:GLN:HE22	1:C:291:ALA:H	1.41	0.68
1:C:161:PHE:CZ	3:C:1384:ACT:H3	2.29	0.68
2:G:1383[B]:CSC:O4B	2:G:1383[B]:CSC:H3'1	1.92	0.68
1:C:126:ASP:OD2	1:C:300:LYS:CE	2.42	0.68
1:H:352:ARG:HH22	1:H:382:GLN:HE22	1.41	0.67
1:I:209:GLN:HE22	1:I:291:ALA:H	1.42	0.67
1:F:150:MET:N	2:F:1383[A]:CSC:H201	2.07	0.67
1:F:352:ARG:NH1	4:F:2039:HOH:O	2.27	0.67
1:B:126:ASP:OD2	1:B:300:LYS:HE2	1.95	0.67
1:B:352:ARG:NH2	1:B:382:GLN:HE22	1.93	0.66
1:H:205:ASP:HB2	4:H:2028:HOH:O	1.95	0.66
1:I:78:ALA:H	1:I:373:ASN:HD21	1.43	0.66
1:L:352:ARG:HH22	1:L:382:GLN:HE22	1.41	0.66
1:I:92:LEU:O	1:I:300:LYS:NZ	2.28	0.66
1:B:126:ASP:OD2	1:B:300:LYS:CE	2.43	0.66
1:D:352:ARG:HH22	1:D:382:GLN:NE2	1.94	0.66
1:I:64:HIS:HD2	4:I:2002:HOH:O	1.80	0.65
1:I:126:ASP:OD2	1:I:300:LYS:HE2	1.96	0.65
1:J:92:LEU:O	1:J:300:LYS:NZ	2.29	0.65
1:A:352:ARG:HH22	1:A:382:GLN:HE22	1.43	0.65
1:G:128[A]:ARG:HH21	3:G:1384:ACT:H1	1.61	0.65
1:H:149[A]:OAS:OG	1:H:362:HIS:NE2	2.22	0.64
1:F:149[A]:OAS:OG	1:F:362:HIS:NE2	2.21	0.64
1:I:126:ASP:OD2	1:I:300:LYS:CE	2.45	0.64
1:A:92:LEU:O	1:A:300:LYS:NZ	2.31	0.64
1:C:352:ARG:HH22	1:C:382:GLN:NE2	1.93	0.63
1:J:49:ARG:HH22	1:J:140:ARG:HH21	1.45	0.63
1:A:33:ARG:HG3	1:A:33:ARG:NH2	2.10	0.63
1:K:149[A]:OAS:OG	1:K:362:HIS:NE2	2.26	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:209:GLN:HE22	1:L:291:ALA:H	1.46	0.63
1:B:92:LEU:O	1:B:300:LYS:NZ	2.31	0.63
1:K:297:MET:O	1:K:300:LYS:HB2	1.99	0.63
1:E:269:GLN:H	1:E:270:PRO:HD2	1.64	0.63
1:A:149[A]:OAS:OG	1:A:362:HIS:NE2	2.26	0.62
1:B:78:ALA:H	1:B:373:ASN:HD21	1.45	0.62
1:D:120[B]:ARG:HG3	1:D:120[B]:ARG:NH1	1.98	0.62
1:G:149[A]:OAS:OG	1:G:362:HIS:NE2	2.24	0.62
1:I:10:GLU:HG2	1:L:44:ARG:HH12	1.62	0.62
1:E:92:LEU:O	1:E:300:LYS:NZ	2.32	0.62
1:G:352:ARG:HH22	1:G:382:GLN:HE22	1.46	0.62
1:I:149[B]:OAS:HB3	1:I:362:HIS:HE2	1.63	0.62
1:J:149[A]:OAS:OG	1:J:362:HIS:NE2	2.28	0.62
1:H:352:ARG:NH2	1:H:382:GLN:HE22	1.97	0.62
1:H:128[A]:ARG:HG3	1:H:128[A]:ARG:NH2	2.15	0.62
1:E:209:GLN:HE22	1:E:291:ALA:H	1.47	0.61
1:L:44:ARG:NH2	4:L:2003:HOH:O	2.33	0.61
1:A:209:GLN:HE22	1:A:291:ALA:H	1.48	0.61
1:J:331:ARG:HG2	1:J:331:ARG:HH11	1.66	0.61
1:E:126:ASP:OD2	1:E:300:LYS:CE	2.49	0.61
1:F:209:GLN:HE22	1:F:291:ALA:H	1.48	0.61
1:I:78:ALA:H	1:I:373:ASN:ND2	1.99	0.61
1:A:126:ASP:OD2	1:A:300:LYS:CE	2.49	0.60
1:F:44:ARG:NH2	4:F:2004:HOH:O	2.34	0.60
1:A:65:VAL:HG12	1:A:73:PHE:HE1	1.67	0.60
1:F:65:VAL:HG12	1:F:73:PHE:HE1	1.66	0.60
1:H:109:GLU:HG2	1:H:112:ARG:HB2	1.81	0.60
1:K:126:ASP:OD2	1:K:300:LYS:HE2	1.99	0.60
1:G:352:ARG:NH2	1:G:382:GLN:HE22	1.99	0.60
1:E:352:ARG:HH22	1:E:382:GLN:HE22	1.49	0.60
1:F:124:ARG:O	1:F:128[A]:ARG:HG3	2.02	0.60
1:C:78:ALA:H	1:C:373:ASN:ND2	2.00	0.60
1:L:78:ALA:H	1:L:373:ASN:HD21	1.47	0.60
1:D:5:ILE:HG13	1:D:111:GLN:O	2.01	0.59
1:D:78:ALA:H	1:D:373:ASN:ND2	1.99	0.59
1:F:78:ALA:H	1:F:373:ASN:HD21	1.48	0.59
1:I:16:GLN:HG2	1:L:44:ARG:HH21	1.67	0.59
1:A:297:MET:O	1:A:300:LYS:HB2	2.02	0.59
1:A:160:PHE:O	1:B:31:ILE:HD13	2.02	0.59
1:F:54:ILE:HB	1:F:145:VAL:HB	1.85	0.59
1:J:163:PRO:HG3	1:J:322:THR:CG2	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:65:VAL:HG12	1:L:73:PHE:HE1	1.67	0.59
1:F:126:ASP:OD2	1:F:300:LYS:HE2	2.02	0.59
1:D:78:ALA:H	1:D:373:ASN:HD21	1.49	0.58
1:D:225:TYR:CZ	2:D:1383[B]:CSC:H3'1	2.39	0.58
1:E:149[A]:OAS:OG	1:E:362:HIS:NE2	2.31	0.58
1:E:297:MET:O	1:E:300:LYS:HB2	2.03	0.58
1:K:163:PRO:HG3	1:K:322:THR:CG2	2.33	0.58
1:B:16:GLN:HG2	1:F:44:ARG:HH21	1.69	0.58
1:C:23:LEU:CD2	1:C:33:ARG:HG2	2.34	0.58
1:E:126:ASP:OD2	1:E:300:LYS:HE2	2.04	0.58
1:B:64:HIS:HD2	4:B:2002:HOH:O	1.86	0.57
1:G:92:LEU:O	1:G:300:LYS:NZ	2.35	0.57
1:A:126:ASP:OD2	1:A:300:LYS:HE2	2.04	0.57
1:A:161:PHE:CZ	3:A:1384:ACT:H2	2.39	0.57
1:B:164:GLU:HB2	4:B:2024:HOH:O	2.04	0.57
1:C:5:ILE:HG13	1:C:111:GLN:O	2.05	0.57
1:C:48:SER:O	1:C:140:ARG:NH2	2.38	0.57
1:H:128[A]:ARG:HH22	3:H:1384:ACT:H1	1.69	0.57
1:E:65:VAL:HG12	1:E:73:PHE:HE1	1.70	0.57
1:E:145:VAL:HG22	1:E:155:THR:HG23	1.85	0.57
1:J:297:MET:O	1:J:300:LYS:HB2	2.04	0.57
1:K:234:ARG:NH2	2:K:1385[B]:CSC:O19	2.37	0.57
1:C:149[A]:OAS:OG	1:C:362:HIS:NE2	2.30	0.57
1:F:225:TYR:CZ	2:F:1383[A]:CSC:H3'1	2.40	0.57
1:C:78:ALA:H	1:C:373:ASN:HD21	1.52	0.57
1:A:25:THR:HG21	3:B:1385:ACT:H2	1.87	0.57
1:L:20:ARG:HD3	1:L:34:ASP:OD1	2.04	0.57
2:E:1383[B]:CSC:O4B	2:E:1383[B]:CSC:C3'	2.53	0.56
1:F:352:ARG:NH2	1:F:382:GLN:HE22	2.02	0.56
1:H:209:GLN:HE22	1:H:291:ALA:H	1.53	0.56
1:H:269:GLN:CA	1:H:269:GLN:HE21	2.18	0.56
1:E:161:PHE:CZ	3:E:1384:ACT:CH3	2.88	0.56
1:G:209:GLN:HE22	1:G:291:ALA:H	1.53	0.56
1:J:234:ARG:NH2	2:J:1385[B]:CSC:O20	2.35	0.56
1:D:149[A]:OAS:OG	1:D:362:HIS:NE2	2.30	0.56
1:B:78:ALA:H	1:B:373:ASN:ND2	2.03	0.56
1:D:297:MET:O	1:D:300:LYS:HB2	2.05	0.56
1:H:78:ALA:H	1:H:373:ASN:HD21	1.52	0.56
1:E:226:LYS:NZ	1:E:363:ASP:OD2	2.38	0.56
1:F:48:SER:HB2	4:F:2007:HOH:O	2.06	0.55
1:L:126:ASP:OD2	1:L:300:LYS:HE2	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:297:MET:O	1:C:300:LYS:HB2	2.06	0.55
1:D:111:GLN:OE1	1:D:111:GLN:CA	2.54	0.55
1:J:126:ASP:OD2	1:J:300:LYS:HE2	2.05	0.55
1:L:225:TYR:CZ	2:L:1383[A]:CSC:H3'1	2.42	0.55
1:A:269:GLN:H	1:A:270:PRO:HD2	1.70	0.55
1:C:54:ILE:CD1	1:C:142:ILE:HD13	2.36	0.55
1:G:78:ALA:H	1:G:373:ASN:HD21	1.53	0.55
1:A:149[B]:OAS:OAC	2:A:1383[B]:CSC:O1	2.20	0.55
1:D:326:LEU:HD22	1:D:379:PHE:HB2	1.88	0.54
1:F:297:MET:O	1:F:300:LYS:HB2	2.07	0.54
1:L:27:GLU:HB3	1:L:128[A]:ARG:HH12	1.72	0.54
1:L:297:MET:O	1:L:300:LYS:HB2	2.08	0.54
1:D:54:ILE:CD1	1:D:142:ILE:HD13	2.38	0.54
1:I:269:GLN:H	1:I:270:PRO:HD2	1.71	0.54
1:J:65:VAL:HG12	1:J:73:PHE:HE1	1.71	0.54
1:C:326:LEU:HD22	1:C:379:PHE:HB2	1.89	0.54
1:I:149[B]:OAS:HB3	1:I:362:HIS:NE2	2.22	0.54
1:A:352:ARG:NH2	1:A:382:GLN:HE22	2.05	0.54
1:D:120[B]:ARG:CG	1:D:120[B]:ARG:NH1	2.63	0.54
1:K:331:ARG:HH11	1:K:331:ARG:HG2	1.72	0.54
1:K:124:ARG:O	1:K:128[A]:ARG:HG3	2.08	0.54
1:G:126:ASP:OD2	1:G:300:LYS:HE2	2.06	0.54
1:J:163:PRO:HG3	1:J:322:THR:HG21	1.90	0.54
1:K:163:PRO:HG3	1:K:322:THR:HG21	1.89	0.54
1:B:10:GLU:HG2	1:F:44:ARG:NH1	2.22	0.54
1:D:59:LEU:HD12	1:D:297:MET:HB3	1.90	0.54
1:D:331:ARG:NH2	1:I:382:GLN:NE2	2.51	0.54
1:H:92:LEU:O	1:H:300:LYS:NZ	2.40	0.54
1:H:59:LEU:CD1	1:H:297:MET:HB3	2.37	0.53
1:A:305:ASP:HB3	1:A:308:ARG:HG2	1.90	0.53
1:D:228:LYS:HB3	1:D:229:PRO:HD3	1.90	0.53
1:G:59:LEU:CD1	1:G:297:MET:HB3	2.37	0.53
1:H:148:ALA:HA	1:H:172:ILE:O	2.09	0.53
1:J:27:GLU:CD	1:J:308:ARG:HH12	2.12	0.53
1:C:228:LYS:HB3	1:C:229:PRO:HD3	1.91	0.53
1:C:104:PRO:HB3	1:C:110:GLY:HA2	1.91	0.52
2:A:1383[B]:CSC:O4B	2:A:1383[B]:CSC:C3'	2.57	0.52
1:K:65:VAL:HG12	1:K:73:PHE:HE1	1.74	0.52
1:H:33[A]:ARG:HG2	1:H:33[A]:ARG:HH21	1.73	0.52
1:G:148:ALA:HA	1:G:172:ILE:O	2.09	0.52
1:I:269:GLN:H	1:I:270:PRO:CD	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:ILE:HD13	1:B:160:PHE:O	2.09	0.52
1:L:225:TYR:OH	2:L:1383[A]:CSC:H3'1	2.10	0.52
1:B:126:ASP:OD2	1:B:300:LYS:HE3	2.10	0.51
1:K:148:ALA:HA	1:K:172:ILE:O	2.10	0.51
1:H:78:ALA:H	1:H:373:ASN:ND2	2.07	0.51
1:H:109:GLU:HB3	1:H:112:ARG:HB3	1.91	0.51
1:B:65:VAL:HG12	1:B:73:PHE:HE1	1.76	0.51
1:C:65:VAL:HG12	1:C:73:PHE:HE1	1.76	0.51
1:I:10:GLU:HG2	1:L:44:ARG:NH1	2.24	0.51
1:E:352:ARG:NH2	1:E:382:GLN:HE22	2.07	0.51
1:K:145:VAL:HG22	1:K:155:THR:HG23	1.93	0.51
1:I:65:VAL:HG12	1:I:73:PHE:HE1	1.76	0.51
1:G:298:THR:O	1:G:301:PHE:HB2	2.11	0.51
1:H:65:VAL:HG12	1:H:73:PHE:HE1	1.76	0.51
1:C:140:ARG:HB2	1:C:140:ARG:HH21	1.77	0.50
1:G:269:GLN:HA	1:G:269:GLN:NE2	2.26	0.50
1:B:269:GLN:H	1:B:270:PRO:CD	2.25	0.50
1:H:126:ASP:OD2	1:H:300:LYS:HE2	2.09	0.50
1:G:78:ALA:H	1:G:373:ASN:ND2	2.08	0.50
1:L:352:ARG:NH1	4:L:2035:HOH:O	2.43	0.50
1:F:65:VAL:HG12	1:F:73:PHE:CE1	2.46	0.50
1:J:148:ALA:HA	1:J:172:ILE:O	2.12	0.49
1:D:65:VAL:HG12	1:D:73:PHE:HE1	1.77	0.49
1:I:10:GLU:CG	1:L:44:ARG:HH12	2.25	0.49
1:J:145:VAL:HG22	1:J:155:THR:HG23	1.94	0.49
1:K:226:LYS:NZ	1:K:363:ASP:OD2	2.42	0.49
1:L:352:ARG:NH2	1:L:382:GLN:HE22	2.08	0.49
1:B:269:GLN:H	1:B:270:PRO:HD2	1.78	0.49
1:K:166:VAL:O	1:K:323:GLN:HG2	2.13	0.49
1:K:27:GLU:CD	1:K:308:ARG:HH12	2.15	0.49
1:H:59:LEU:HD12	1:H:297:MET:HB3	1.93	0.49
1:K:78:ALA:H	1:K:373:ASN:ND2	2.10	0.49
1:A:166:VAL:O	1:A:323:GLN:HG2	2.13	0.49
1:C:82:SER:HB3	1:F:140:ARG:HE	1.78	0.49
1:J:307:SER:O	1:J:308:ARG:C	2.51	0.49
1:D:148:ALA:HA	1:D:172:ILE:O	2.13	0.48
1:F:148:ALA:HA	1:F:172:ILE:O	2.13	0.48
1:F:228:LYS:HB3	1:F:229:PRO:HD3	1.95	0.48
1:F:78:ALA:H	1:F:373:ASN:ND2	2.11	0.48
1:J:190:ARG:HD3	1:J:298:THR:OG1	2.13	0.48
1:J:324:PRO:HG3	1:J:384:LEU:HD22	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:78:ALA:N	1:A:373:ASN:HD21	2.08	0.48
1:C:59:LEU:HD12	1:C:297:MET:HB3	1.96	0.48
1:C:148:ALA:HA	1:C:172:ILE:O	2.13	0.48
1:G:27:GLU:CD	1:G:308:ARG:HH12	2.15	0.48
1:G:65:VAL:HG12	1:G:73:PHE:HE1	1.78	0.48
1:F:20:ARG:HG2	1:F:34:ASP:OD1	2.13	0.48
1:H:225:TYR:OH	2:H:1383[B]:CSC:H3'1	2.12	0.48
1:H:128[A]:ARG:HH21	1:H:128[A]:ARG:HG2	1.71	0.48
1:L:59:LEU:HD12	1:L:297:MET:HB3	1.96	0.48
1:C:140:ARG:HH21	1:C:140:ARG:CB	2.27	0.48
1:H:269:GLN:HA	1:H:269:GLN:NE2	2.29	0.48
1:J:49:ARG:HD2	1:J:138:GLY:O	2.12	0.48
1:L:78:ALA:H	1:L:373:ASN:ND2	2.11	0.48
1:A:163:PRO:HG3	1:A:322:THR:CG2	2.43	0.48
1:A:225:TYR:OH	2:A:1383[B]:CSC:H3'1	2.13	0.48
1:C:54:ILE:HD11	1:C:142:ILE:HD13	1.94	0.48
1:D:108:ALA:C	1:D:111:GLN:HB2	2.33	0.48
1:F:59:LEU:HD12	1:F:297:MET:HB3	1.96	0.48
1:D:107:ASP:O	1:D:108:ALA:HB2	2.13	0.47
1:I:126:ASP:OD2	1:I:300:LYS:HE3	2.14	0.47
1:K:228:LYS:HB3	1:K:229:PRO:HD3	1.94	0.47
1:E:163:PRO:HG3	1:E:322:THR:CG2	2.43	0.47
1:J:228:LYS:HB3	1:J:229:PRO:HD3	1.96	0.47
1:L:65:VAL:HG12	1:L:73:PHE:CE1	2.47	0.47
1:A:65:VAL:HG12	1:A:73:PHE:CE1	2.47	0.47
1:F:20:ARG:HD3	1:F:34:ASP:OD1	2.14	0.47
1:H:269:GLN:CA	1:H:269:GLN:NE2	2.78	0.47
1:B:10:GLU:CG	1:F:44:ARG:HH12	2.24	0.47
1:H:298:THR:O	1:H:301:PHE:HB2	2.15	0.47
2:C:1383[B]:CSC:C4'	2:C:1383[B]:CSC:O1	2.63	0.47
1:L:218:ARG:NH2	4:L:2021:HOH:O	2.38	0.47
2:C:1383[B]:CSC:O1	2:C:1383[B]:CSC:O4B	2.33	0.47
1:D:226:LYS:NZ	1:D:363:ASP:OD2	2.45	0.47
1:H:326:LEU:HD22	1:H:379:PHE:HB2	1.96	0.47
1:J:23:LEU:CD2	1:J:33:ARG:HG3	2.38	0.47
1:J:166:VAL:O	1:J:323:GLN:HG2	2.15	0.47
1:K:54:ILE:CD1	1:K:142:ILE:HD13	2.44	0.47
1:L:148:ALA:HA	1:L:172:ILE:O	2.15	0.47
1:L:298:THR:O	1:L:301:PHE:HB2	2.15	0.47
1:G:59:LEU:HD12	1:G:297:MET:HB3	1.96	0.47
1:K:167:ARG:O	1:K:324:PRO:HD2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:298:THR:O	1:J:301:PHE:HB2	2.14	0.47
1:K:145:VAL:HG13	1:K:169:ILE:HG22	1.97	0.47
2:A:1383[B]:CSC:O1	2:A:1383[B]:CSC:C4'	2.63	0.47
1:B:228:LYS:HB3	1:B:229:PRO:HD3	1.96	0.47
1:K:126:ASP:O	1:K:130:HIS:CG	2.68	0.47
1:D:54:ILE:HD12	1:D:142:ILE:HD13	1.96	0.46
1:F:225:TYR:OH	2:F:1383[A]:CSC:H3'1	2.15	0.46
1:D:59:LEU:CD1	1:D:297:MET:HB3	2.44	0.46
1:D:149[B]:OAS:HB3	1:D:362:HIS:HE2	1.79	0.46
1:J:124:ARG:O	1:J:128[A]:ARG:HG3	2.16	0.46
1:I:149[A]:OAS:HA	1:I:173:ALA:O	2.16	0.46
1:J:126:ASP:O	1:J:130:HIS:CG	2.69	0.46
1:K:149[B]:OAS:HB3	1:K:362:HIS:HE2	1.81	0.46
1:C:382:GLN:CG	4:C:2043:HOH:O	2.64	0.46
1:L:150:MET:H	2:L:1383[A]:CSC:C20	2.28	0.46
1:C:382:GLN:HG3	4:C:2043:HOH:O	2.14	0.46
1:C:33:ARG:HD3	4:C:2003:HOH:O	2.15	0.46
1:K:59:LEU:HD12	1:K:297:MET:HB3	1.97	0.46
1:F:128[A]:ARG:HG2	3:F:1384:ACT:H3	1.98	0.46
1:F:102:CYS:HB2	4:F:2015:HOH:O	2.15	0.46
1:K:352:ARG:HH22	1:K:382:GLN:HE22	1.64	0.46
1:A:235:PHE:HA	1:A:269:GLN:O	2.16	0.46
1:C:145:VAL:HG22	1:C:155:THR:HG23	1.98	0.46
1:J:72:LEU:HA	1:J:373:ASN:HD22	1.80	0.46
1:E:218:ARG:HG3	1:E:222:ASN:ND2	2.30	0.45
1:D:54:ILE:HD11	1:D:142:ILE:CD1	2.46	0.45
1:E:65:VAL:HG12	1:E:73:PHE:CE1	2.50	0.45
1:G:269:GLN:NE2	1:G:269:GLN:CA	2.79	0.45
1:A:161:PHE:CZ	3:A:1384:ACT:CH3	2.99	0.45
1:B:326:LEU:HD22	1:B:379:PHE:HB2	1.97	0.45
1:C:81:THR:OG1	1:F:138:GLY:HA2	2.17	0.45
1:F:145:VAL:HG22	1:F:155:THR:HG23	1.99	0.45
1:J:45:MET:SD	1:J:49:ARG:HG2	2.56	0.45
1:J:226:LYS:NZ	1:J:363:ASP:OD2	2.45	0.45
1:K:59:LEU:CD1	1:K:297:MET:HB3	2.47	0.45
1:K:298:THR:O	1:K:301:PHE:HB2	2.16	0.45
1:B:166:VAL:O	1:B:323:GLN:HG2	2.16	0.45
1:E:126:ASP:OD2	1:E:300:LYS:HE3	2.16	0.45
1:L:124:ARG:O	1:L:128[A]:ARG:HG3	2.17	0.45
1:J:49:ARG:HH22	1:J:140:ARG:NH2	2.14	0.45
1:C:54:ILE:HD12	1:C:142:ILE:HD13	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:82:SER:HA	1:F:49:ARG:HD3	1.98	0.45
1:K:307:SER:O	1:K:308:ARG:C	2.54	0.45
1:A:33:ARG:NH2	1:A:33:ARG:CG	2.77	0.45
1:C:164:GLU:HB2	4:C:2022:HOH:O	2.16	0.45
1:E:235:PHE:HA	1:E:269:GLN:O	2.16	0.45
1:G:269:GLN:CA	1:G:269:GLN:HE21	2.30	0.45
1:H:128[A]:ARG:NH2	3:H:1384:ACT:H1	2.32	0.45
1:A:136:ARG:HG2	1:C:22:SER:OG	2.17	0.45
1:A:157:GLU:OE1	1:A:310:ARG:NH2	2.37	0.45
1:G:136:ARG:NH1	4:G:2020:HOH:O	2.46	0.45
1:I:226:LYS:NZ	1:I:363:ASP:OD2	2.47	0.45
1:C:54:ILE:HD11	1:C:142:ILE:CD1	2.46	0.45
1:J:157:GLU:OE1	1:J:310:ARG:NH2	2.40	0.45
1:E:166:VAL:O	1:E:323:GLN:HG2	2.17	0.44
1:E:326:LEU:HD22	1:E:379:PHE:HB2	1.99	0.44
1:G:272:GLU:CD	1:G:272:GLU:H	2.21	0.44
1:I:166:VAL:O	1:I:323:GLN:HG2	2.17	0.44
1:J:49:ARG:NH2	1:J:140:ARG:NH2	2.61	0.44
1:L:149[B]:OAS:HC22	2:L:1383[B]:CSC:H12	1.64	0.44
1:L:228:LYS:HB3	1:L:229:PRO:HD3	1.99	0.44
2:A:1383[B]:CSC:O4B	2:A:1383[B]:CSC:H3'1	2.17	0.44
1:K:120:ARG:HE	1:K:120:ARG:HB3	1.61	0.44
1:A:298:THR:O	1:A:301:PHE:HB2	2.17	0.44
1:J:33:ARG:CZ	1:J:33:ARG:HB2	2.48	0.44
1:K:78:ALA:H	1:K:373:ASN:HD21	1.65	0.44
1:D:214:LEU:HD22	1:D:285:PHE:HE1	1.82	0.44
1:B:149[B]:OAS:HB3	1:B:362:HIS:HE2	1.83	0.44
1:J:352:ARG:HH22	1:J:382:GLN:HE22	1.66	0.44
1:K:49:ARG:HH22	1:K:140:ARG:NH2	2.09	0.44
1:A:126:ASP:OD2	1:A:300:LYS:HE3	2.18	0.44
1:D:106:PRO:C	1:D:108:ALA:H	2.21	0.44
1:A:149[B]:OAS:HC22	2:A:1383[B]:CSC:H12	1.69	0.44
1:F:298:THR:O	1:F:301:PHE:HB2	2.18	0.44
1:H:150:MET:H	2:H:1383[A]:CSC:C20	2.31	0.44
1:A:28:SER:O	1:B:309:GLY:HA3	2.18	0.43
1:I:326:LEU:HD22	1:I:379:PHE:HB2	1.99	0.43
1:G:234:ARG:HH22	2:G:1383[B]:CSC:C18	2.29	0.43
1:H:225:TYR:OH	2:H:1383[A]:CSC:H3'1	2.16	0.43
1:J:120:ARG:HE	1:J:120:ARG:HB3	1.52	0.43
1:B:150:MET:O	1:B:153:MET:HB2	2.18	0.43
1:C:161:PHE:CE2	3:C:1384:ACT:H3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:54:ILE:HD11	1:D:142:ILE:HD13	2.01	0.43
1:D:126:ASP:OD2	1:D:300:LYS:HE2	2.17	0.43
1:J:54:ILE:CD1	1:J:142:ILE:HD13	2.49	0.43
1:K:383:SER:C	1:K:384:LEU:HG	2.38	0.43
1:H:109:GLU:HB3	1:H:112:ARG:CB	2.48	0.43
1:A:225:TYR:CZ	2:A:1383[B]:CSC:H3'1	2.53	0.43
1:J:167:ARG:O	1:J:324:PRO:HD2	2.19	0.43
1:E:269:GLN:HE21	1:E:269:GLN:HB3	1.51	0.43
1:J:22:SER:HA	1:J:34:ASP:HA	2.00	0.43
1:H:321:ILE:O	1:H:349:PRO:HD2	2.19	0.43
1:D:120[A]:ARG:NH1	4:D:2018:HOH:O	2.51	0.43
1:I:150:MET:O	1:I:153:MET:HB2	2.18	0.43
1:I:228:LYS:HB3	1:I:229:PRO:HD3	2.00	0.43
1:A:149[B]:OAS:HB3	1:A:362:HIS:HE2	1.84	0.43
1:E:161:PHE:CE1	3:E:1384:ACT:H3	2.54	0.43
1:I:148:ALA:HB2	1:I:172:ILE:HB	2.01	0.43
1:J:324:PRO:HA	1:J:350:ASN:O	2.19	0.43
1:I:163:PRO:HG3	1:I:322:THR:CG2	2.49	0.42
1:C:166:VAL:O	1:C:323:GLN:HG2	2.18	0.42
1:E:78:ALA:N	1:E:373:ASN:HD21	2.08	0.42
1:E:161:PHE:CE2	3:E:1384:ACT:CH3	3.02	0.42
1:F:59:LEU:CD1	1:F:297:MET:HB3	2.48	0.42
1:J:54:ILE:HB	1:J:145:VAL:HB	2.00	0.42
1:K:54:ILE:HD11	1:K:142:ILE:CD1	2.50	0.42
1:B:269:GLN:HE21	1:B:269:GLN:HB3	1.66	0.42
1:E:214:LEU:HD22	1:E:285:PHE:CE1	2.55	0.42
1:F:20:ARG:CD	1:F:34:ASP:OD1	2.68	0.42
1:I:16:GLN:HG2	1:L:44:ARG:NH2	2.32	0.42
1:J:54:ILE:HD11	1:J:142:ILE:HD13	2.02	0.42
1:L:326:LEU:HD22	1:L:379:PHE:HB2	2.00	0.42
1:A:218:ARG:HG3	1:A:222:ASN:ND2	2.35	0.42
1:E:58:THR:HB	2:E:1383[B]:CSC:O1	2.20	0.42
1:G:326:LEU:HD22	1:G:379:PHE:HB2	2.01	0.42
1:J:65:VAL:HG12	1:J:73:PHE:CE1	2.54	0.42
1:J:141:GLN:OE1	1:J:167:ARG:NH1	2.52	0.42
1:A:59:LEU:CD1	1:A:297:MET:HB3	2.50	0.42
1:E:293:CYS:O	1:E:297:MET:HG2	2.19	0.42
1:J:59:LEU:CD1	1:J:297:MET:HB3	2.50	0.42
1:J:78:ALA:H	1:J:373:ASN:ND2	2.17	0.42
1:L:20:ARG:HH11	1:L:20:ARG:HG3	1.85	0.42
1:A:141:GLN:OE1	1:A:167:ARG:NH1	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:126:ASP:OD2	1:C:300:LYS:HE2	2.20	0.42
1:H:209:GLN:HE21	1:H:209:GLN:HB3	1.70	0.42
1:C:218:ARG:NH1	4:C:2027:HOH:O	2.51	0.42
1:J:145:VAL:HG13	1:J:169:ILE:HG22	2.02	0.42
2:K:1385[B]:CSC:H171	2:K:1385[B]:CSC:H141	1.60	0.42
1:A:226:LYS:NZ	1:A:363:ASP:OD2	2.40	0.42
1:F:209:GLN:HE21	1:F:209:GLN:HB3	1.69	0.42
1:F:326:LEU:HD22	1:F:379:PHE:HB2	2.00	0.42
1:K:72:LEU:HA	1:K:373:ASN:HD22	1.85	0.42
1:A:234:ARG:HH22	2:A:1383[B]:CSC:C18	2.23	0.42
1:B:48:SER:O	1:B:140:ARG:HD3	2.19	0.42
1:D:112:ARG:HH21	1:D:112:ARG:HG3	1.84	0.42
1:J:59:LEU:HD12	1:J:297:MET:HB3	2.01	0.42
1:E:157:GLU:OE1	1:E:310:ARG:NH2	2.41	0.41
1:G:67:SER:HB3	4:G:2008:HOH:O	2.20	0.41
1:I:72:LEU:HA	1:I:373:ASN:HD22	1.85	0.41
1:F:225:TYR:OH	2:F:1383[B]:CSC:H3'1	2.21	0.41
1:I:149[B]:OAS:HC22	2:I:1383[B]:CSC:H12	1.99	0.41
1:J:336:TYR:CD1	1:J:362:HIS:CE1	3.08	0.41
1:D:118:PHE:HA	1:D:119:PRO:HD3	1.95	0.41
1:G:297:MET:O	1:G:300:LYS:HB2	2.20	0.41
1:G:321:ILE:O	1:G:349:PRO:HD2	2.20	0.41
1:K:54:ILE:HB	1:K:145:VAL:HB	2.01	0.41
1:I:13:LEU:HD11	1:I:96:PHE:HB3	2.03	0.41
1:L:281:GLN:H	1:L:281:GLN:HG2	1.72	0.41
1:A:214:LEU:HD22	1:A:285:PHE:CE1	2.56	0.41
1:E:209:GLN:HE21	1:E:209:GLN:HB3	1.61	0.41
1:I:225:TYR:HA	1:I:362:HIS:HB3	2.03	0.41
1:K:54:ILE:HD11	1:K:142:ILE:HD13	2.03	0.41
1:A:160:PHE:C	1:B:31:ILE:HD13	2.41	0.41
1:B:225:TYR:HA	1:B:362:HIS:HB3	2.03	0.41
1:D:185:TRP:CD2	1:K:223:LEU:HD13	2.55	0.41
1:E:281:GLN:H	1:E:281:GLN:HG2	1.74	0.41
1:F:225:TYR:CZ	2:F:1383[B]:CSC:H3'1	2.55	0.41
1:F:336:TYR:CD1	1:F:362:HIS:CE1	3.08	0.41
1:G:209:GLN:HE21	1:G:209:GLN:HB3	1.70	0.41
1:E:365:PHE:CE1	1:E:366:VAL:HG23	2.55	0.41
1:F:22:SER:HA	1:F:34:ASP:HA	2.02	0.41
1:I:297:MET:O	1:I:300:LYS:HB2	2.20	0.41
1:D:161:PHE:CZ	3:D:1384:ACT:H2	2.56	0.41
1:A:293:CYS:O	1:A:297:MET:HG2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:365:PHE:CE1	1:A:366:VAL:HG23	2.56	0.41
1:B:49:ARG:NH2	1:B:140:ARG:HD2	2.35	0.41
1:G:142:ILE:HD12	1:G:165:TYR:CE2	2.56	0.41
1:H:59:LEU:H	2:H:1383[A]:CSC:C1	2.34	0.41
1:H:228:LYS:HB3	1:H:229:PRO:HD3	2.03	0.41
1:J:281:GLN:H	1:J:281:GLN:HG2	1.70	0.41
1:K:326:LEU:HD22	1:K:379:PHE:HB2	2.03	0.41
1:A:137:LEU:HD23	1:C:23:LEU:HD12	2.03	0.41
1:D:105:ASP:HA	1:D:106:PRO:HD2	1.88	0.41
1:I:226:LYS:NZ	2:I:1383[B]:CSC:O19	2.35	0.41
1:G:234:ARG:NH2	2:G:1383[B]:CSC:O19	2.48	0.40
1:K:226:LYS:CE	1:K:363:ASP:OD2	2.68	0.40
1:D:90:ASN:HB3	1:D:98:SER:OG	2.21	0.40
1:G:41:SER:HA	1:G:86:ILE:O	2.21	0.40
1:J:171:PRO:HD2	1:J:326:LEU:O	2.22	0.40
1:J:199:TYR:O	1:J:200:LEU:HB2	2.21	0.40
1:B:59:LEU:HD12	1:B:297:MET:HB3	2.02	0.40
1:H:33[A]:ARG:HG2	1:H:33[A]:ARG:NH2	2.35	0.40
1:J:149[B]:OAS:HB3	1:J:362:HIS:HE2	1.86	0.40
1:B:16:GLN:HG2	1:F:44:ARG:NH2	2.34	0.40
2:B:1384[B]:CSC:O1	2:B:1384[B]:CSC:C4'	2.67	0.40
1:I:59:LEU:HD12	1:I:297:MET:HB3	2.02	0.40
1:K:91:TYR:CE2	1:K:154:HIS:CD2	3.10	0.40
1:K:171:PRO:HD2	1:K:326:LEU:O	2.21	0.40
1:B:209:GLN:HE21	1:B:209:GLN:HB3	1.69	0.40
1:C:111:GLN:HA	1:C:111:GLN:OE1	2.22	0.40
1:D:107:ASP:O	1:D:108:ALA:CB	2.70	0.40
1:F:54:ILE:CD1	1:F:142:ILE:HD13	2.52	0.40

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:283:GLN:OE1	1:K:49:ARG:NH2[2_655]	1.99	0.21
1:G:283:GLN:OE1	1:J:49:ARG:NH2[1_556]	2.13	0.07

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	341/444 (77%)	328 (96%)	11 (3%)	2 (1%)	22	39
1	B	343/444 (77%)	329 (96%)	12 (4%)	2 (1%)	22	39
1	C	344/444 (78%)	330 (96%)	13 (4%)	1 (0%)	37	56
1	D	340/444 (77%)	329 (97%)	9 (3%)	2 (1%)	22	39
1	E	339/444 (76%)	327 (96%)	10 (3%)	2 (1%)	22	39
1	F	334/444 (75%)	323 (97%)	10 (3%)	1 (0%)	37	56
1	G	335/444 (76%)	323 (96%)	11 (3%)	1 (0%)	37	56
1	H	336/444 (76%)	324 (96%)	11 (3%)	1 (0%)	37	56
1	I	341/444 (77%)	328 (96%)	11 (3%)	2 (1%)	22	39
1	J	337/444 (76%)	322 (96%)	14 (4%)	1 (0%)	37	56
1	K	334/444 (75%)	319 (96%)	14 (4%)	1 (0%)	37	56
1	L	333/444 (75%)	319 (96%)	13 (4%)	1 (0%)	37	56
All	All	4057/5328 (76%)	3901 (96%)	139 (3%)	17 (0%)	30	49

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	363	ASP
1	B	363	ASP
1	C	363	ASP
1	D	363	ASP
1	E	363	ASP
1	F	363	ASP
1	G	363	ASP
1	H	363	ASP
1	I	363	ASP
1	J	363	ASP
1	K	363	ASP
1	L	363	ASP

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Mol	Chain	Res	Type
1	D	107	ASP
1	A	269	GLN
1	E	269	GLN
1	I	269	GLN
1	B	269	GLN

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	290/371 (78%)	282 (97%)	8 (3%)	38	65
1	B	291/371 (78%)	281 (97%)	10 (3%)	32	58
1	C	292/371 (79%)	278 (95%)	14 (5%)	21	43
1	D	291/371 (78%)	284 (98%)	7 (2%)	44	70
1	E	288/371 (78%)	280 (97%)	8 (3%)	38	65
1	F	286/371 (77%)	279 (98%)	7 (2%)	44	70
1	G	287/371 (77%)	278 (97%)	9 (3%)	35	62
1	H	287/371 (77%)	279 (97%)	8 (3%)	38	65
1	I	289/371 (78%)	280 (97%)	9 (3%)	35	62
1	J	288/371 (78%)	276 (96%)	12 (4%)	25	49
1	K	286/371 (77%)	276 (96%)	10 (4%)	31	57
1	L	286/371 (77%)	278 (97%)	8 (3%)	38	65
All	All	3461/4452 (78%)	3351 (97%)	110 (3%)	34	60

All (110) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	48	SER
1	A	61	SER
1	A	69	TRP
1	A	131	ARG
1	A	269	GLN

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Mol	Chain	Res	Type
1	A	271	ILE
1	A	326	LEU
1	A	380	LEU
1	B	48	SER
1	B	61	SER
1	B	69	TRP
1	B	111	GLN
1	B	120	ARG
1	B	201	ASP
1	B	269	GLN
1	B	271	ILE
1	B	283	GLN
1	B	380	LEU
1	C	5	ILE
1	C	20[A]	ARG
1	C	20[B]	ARG
1	C	48	SER
1	C	61	SER
1	C	109	GLU
1	C	131	ARG
1	C	140	ARG
1	C	145	VAL
1	C	201	ASP
1	C	269	GLN
1	C	271	ILE
1	C	283	GLN
1	C	380	LEU
1	D	48	SER
1	D	61	SER
1	D	111	GLN
1	D	145	VAL
1	D	271	ILE
1	D	283	GLN
1	D	380	LEU
1	E	48	SER
1	E	61	SER
1	E	69	TRP
1	E	131[A]	ARG
1	E	145	VAL
1	E	269	GLN
1	E	271	ILE
1	E	380	LEU

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Mol	Chain	Res	Type
1	F	48	SER
1	F	61	SER
1	F	69	TRP
1	F	145	VAL
1	F	271	ILE
1	F	283	GLN
1	F	380	LEU
1	G	33[A]	ARG
1	G	48	SER
1	G	61	SER
1	G	69	TRP
1	G	134	LEU
1	G	200	LEU
1	G	269	GLN
1	G	271	ILE
1	G	380	LEU
1	H	48	SER
1	H	61	SER
1	H	69	TRP
1	H	86	ILE
1	H	109	GLU
1	H	269	GLN
1	H	271	ILE
1	H	380	LEU
1	I	48	SER
1	I	61	SER
1	I	69	TRP
1	I	131[A]	ARG
1	I	201	ASP
1	I	271	ILE
1	I	283	GLN
1	I	331	ARG
1	I	380	LEU
1	J	48	SER
1	J	61	SER
1	J	69	TRP
1	J	107	ASP
1	J	145	VAL
1	J	200	LEU
1	J	201	ASP
1	J	269	GLN
1	J	271	ILE

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Mol	Chain	Res	Type
1	J	283	GLN
1	J	308	ARG
1	J	380	LEU
1	K	48	SER
1	K	61	SER
1	K	69	TRP
1	K	145	VAL
1	K	271	ILE
1	K	283	GLN
1	K	308	ARG
1	K	332	SER
1	K	380	LEU
1	K	384	LEU
1	L	20	ARG
1	L	48	SER
1	L	61	SER
1	L	69	TRP
1	L	271	ILE
1	L	283	GLN
1	L	332	SER
1	L	380	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (56) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	209	GLN
1	A	269	GLN
1	A	373	ASN
1	A	382	GLN
1	B	64	HIS
1	B	209	GLN
1	B	269	GLN
1	B	373	ASN
1	B	382	GLN
1	C	209	GLN
1	C	269	GLN
1	C	373	ASN
1	C	382	GLN
1	D	209	GLN
1	D	269	GLN
1	D	373	ASN
1	D	382	GLN

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Mol	Chain	Res	Type
1	E	209	GLN
1	E	269	GLN
1	E	373	ASN
1	E	382	GLN
1	F	64	HIS
1	F	209	GLN
1	F	269	GLN
1	F	373	ASN
1	F	382	GLN
1	G	64	HIS
1	G	209	GLN
1	G	269	GLN
1	G	373	ASN
1	G	382	GLN
1	H	64	HIS
1	H	209	GLN
1	H	269	GLN
1	H	373	ASN
1	H	382	GLN
1	I	64	HIS
1	I	209	GLN
1	I	269	GLN
1	I	373	ASN
1	I	382	GLN
1	J	209	GLN
1	J	281	GLN
1	J	283	GLN
1	J	292	ASN
1	J	373	ASN
1	J	382	GLN
1	K	209	GLN
1	K	281	GLN
1	K	283	GLN
1	K	373	ASN
1	L	64	HIS
1	L	209	GLN
1	L	269	GLN
1	L	373	ASN
1	L	382	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

24 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
1	OAS	F	149[A]	-	7,5,9	7.40	1 (14%)	5,5,11	7.09	3 (60%)
1	OAS	A	149[B]	-	7,8,9	1.26	1 (14%)	5,9,11	1.03	0
1	OAS	L	149[B]	-	7,8,9	1.21	1 (14%)	5,9,11	0.81	0
1	OAS	F	149[B]	-	7,8,9	1.28	1 (14%)	5,9,11	1.03	0
1	OAS	D	149[A]	-	7,5,9	7.41	1 (14%)	5,5,11	6.91	3 (60%)
1	OAS	D	149[B]	-	7,8,9	1.28	1 (14%)	5,9,11	1.28	1 (20%)
1	OAS	C	149[A]	-	7,5,9	7.41	1 (14%)	5,5,11	6.88	3 (60%)
1	OAS	E	149[A]	-	7,5,9	7.36	1 (14%)	5,5,11	7.17	3 (60%)
1	OAS	C	149[B]	-	7,8,9	1.33	1 (14%)	5,9,11	1.32	1 (20%)
1	OAS	E	149[B]	-	7,8,9	1.18	1 (14%)	5,9,11	1.23	1 (20%)
1	OAS	I	149[A]	-	7,5,9	8.41	1 (14%)	5,5,11	8.02	4 (80%)
1	OAS	G	149[A]	-	7,5,9	7.60	1 (14%)	5,5,11	7.20	3 (60%)
1	OAS	I	149[B]	-	7,8,9	1.30	1 (14%)	5,9,11	2.17	2 (40%)
1	OAS	G	149[B]	-	7,8,9	1.21	1 (14%)	5,9,11	1.16	0
1	OAS	K	149[A]	-	7,5,9	8.63	1 (14%)	5,5,11	7.43	3 (60%)
1	OAS	K	149[B]	-	7,8,9	1.24	1 (14%)	5,9,11	1.52	1 (20%)
1	OAS	L	149[A]	-	7,5,9	7.37	1 (14%)	5,5,11	7.20	3 (60%)
1	OAS	J	149[A]	-	7,5,9	8.35	1 (14%)	5,5,11	7.28	3 (60%)
1	OAS	H	149[A]	-	7,5,9	7.81	1 (14%)	5,5,11	7.35	3 (60%)
1	OAS	J	149[B]	-	7,8,9	1.30	1 (14%)	5,9,11	1.45	1 (20%)
1	OAS	B	149[A]	-	7,5,9	7.80	1 (14%)	5,5,11	7.35	3 (60%)
1	OAS	H	149[B]	-	7,8,9	1.20	1 (14%)	5,9,11	1.18	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
1	OAS	B	149[B]	-	7,8,9	1.14	1 (14%)	5,9,11	1.36	1 (20%)
1	OAS	A	149[A]	-	7,5,9	7.42	1 (14%)	5,5,11	7.51	3 (60%)

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
1	OAS	F	149[A]	-	-	4/5/4/9	-
1	OAS	A	149[B]	-	-	2/5/7/9	-
1	OAS	L	149[B]	-	-	2/5/7/9	-
1	OAS	F	149[B]	-	-	2/5/7/9	-
1	OAS	D	149[A]	-	-	4/5/4/9	-
1	OAS	D	149[B]	-	-	3/5/7/9	-
1	OAS	C	149[A]	-	-	4/5/4/9	-
1	OAS	E	149[A]	-	-	4/5/4/9	-
1	OAS	C	149[B]	-	-	2/5/7/9	-
1	OAS	E	149[B]	-	-	2/5/7/9	-
1	OAS	I	149[A]	-	-	4/5/4/9	-
1	OAS	G	149[A]	-	-	4/5/4/9	-
1	OAS	I	149[B]	-	-	4/5/7/9	-
1	OAS	G	149[B]	-	-	2/5/7/9	-
1	OAS	K	149[A]	-	-	4/5/4/9	-
1	OAS	K	149[B]	-	-	3/5/7/9	-
1	OAS	L	149[A]	-	-	4/5/4/9	-
1	OAS	J	149[A]	-	-	4/5/4/9	-
1	OAS	H	149[A]	-	-	4/5/4/9	-
1	OAS	J	149[B]	-	-	3/5/7/9	-
1	OAS	B	149[A]	-	-	4/5/4/9	-
1	OAS	H	149[B]	-	-	2/5/7/9	-
1	OAS	B	149[B]	-	-	3/5/7/9	-
1	OAS	A	149[A]	-	-	4/5/4/9	-

All (24) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	K	149[A]	OAS	OG-C1A	22.79	2.43	1.33
1	I	149[A]	OAS	OG-C1A	22.15	2.40	1.33
1	J	149[A]	OAS	OG-C1A	22.02	2.39	1.33
1	H	149[A]	OAS	OG-C1A	20.61	2.33	1.33
1	B	149[A]	OAS	OG-C1A	20.59	2.32	1.33
1	G	149[A]	OAS	OG-C1A	20.02	2.30	1.33
1	A	149[A]	OAS	OG-C1A	19.56	2.27	1.33
1	D	149[A]	OAS	OG-C1A	19.54	2.27	1.33
1	F	149[A]	OAS	OG-C1A	19.53	2.27	1.33
1	C	149[A]	OAS	OG-C1A	19.52	2.27	1.33
1	L	149[A]	OAS	OG-C1A	19.46	2.27	1.33
1	E	149[A]	OAS	OG-C1A	19.40	2.27	1.33
1	C	149[B]	OAS	OG-C1A	3.05	1.48	1.33
1	D	149[B]	OAS	OG-C1A	3.01	1.48	1.33
1	F	149[B]	OAS	OG-C1A	3.00	1.48	1.33
1	J	149[B]	OAS	OG-C1A	2.91	1.47	1.33
1	K	149[B]	OAS	OG-C1A	2.86	1.47	1.33
1	L	149[B]	OAS	OG-C1A	2.84	1.47	1.33
1	A	149[B]	OAS	OG-C1A	2.83	1.47	1.33
1	H	149[B]	OAS	OG-C1A	2.75	1.46	1.33
1	I	149[B]	OAS	OG-C1A	2.67	1.46	1.33
1	G	149[B]	OAS	OG-C1A	2.65	1.46	1.33
1	E	149[B]	OAS	OG-C1A	2.56	1.46	1.33
1	B	149[B]	OAS	OG-C1A	2.56	1.46	1.33

All (45) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	149[A]	OAS	CB-OG-C1A	-16.80	74.90	117.10
1	A	149[A]	OAS	CB-OG-C1A	-15.90	77.15	117.10
1	K	149[A]	OAS	CB-OG-C1A	-15.57	77.97	117.10
1	B	149[A]	OAS	CB-OG-C1A	-15.52	78.11	117.10
1	H	149[A]	OAS	CB-OG-C1A	-15.39	78.43	117.10
1	J	149[A]	OAS	CB-OG-C1A	-15.28	78.70	117.10
1	G	149[A]	OAS	CB-OG-C1A	-15.24	78.82	117.10
1	E	149[A]	OAS	CB-OG-C1A	-15.18	78.96	117.10
1	L	149[A]	OAS	CB-OG-C1A	-14.86	79.77	117.10
1	D	149[A]	OAS	CB-OG-C1A	-14.70	80.18	117.10
1	C	149[A]	OAS	CB-OG-C1A	-14.68	80.21	117.10
1	F	149[A]	OAS	CB-OG-C1A	-14.51	80.65	117.10
1	F	149[A]	OAS	OG-C1A-OAC	4.47	144.63	121.55
1	L	149[A]	OAS	OG-C1A-C2A	-4.34	93.44	112.38
1	F	149[A]	OAS	OG-C1A-C2A	-4.32	93.53	112.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	149[A]	OAS	OG-C1A-OAC	4.25	143.49	121.55
1	I	149[A]	OAS	OG-C1A-C2A	-4.17	94.19	112.38
1	H	149[A]	OAS	OG-C1A-OAC	4.12	142.78	121.55
1	K	149[A]	OAS	OG-C1A-OAC	4.11	142.74	121.55
1	I	149[A]	OAS	OG-C1A-OAC	4.08	142.60	121.55
1	J	149[A]	OAS	OG-C1A-OAC	4.02	142.30	121.55
1	A	149[A]	OAS	OG-C1A-OAC	3.91	141.72	121.55
1	K	149[A]	OAS	OG-C1A-C2A	-3.89	95.41	112.38
1	H	149[A]	OAS	OG-C1A-C2A	-3.89	95.41	112.38
1	I	149[B]	OAS	OG-CB-CA	3.85	119.35	108.48
1	B	149[A]	OAS	OG-C1A-C2A	-3.81	95.74	112.38
1	B	149[A]	OAS	OG-C1A-OAC	3.78	141.05	121.55
1	J	149[A]	OAS	OG-C1A-C2A	-3.72	96.14	112.38
1	G	149[A]	OAS	OG-C1A-C2A	-3.70	96.25	112.38
1	E	149[A]	OAS	OG-C1A-OAC	3.59	140.07	121.55
1	G	149[A]	OAS	OG-C1A-OAC	3.56	139.91	121.55
1	A	149[A]	OAS	OG-C1A-C2A	-3.55	96.89	112.38
1	E	149[A]	OAS	OG-C1A-C2A	-3.54	96.93	112.38
1	D	149[A]	OAS	OG-C1A-OAC	3.34	138.76	121.55
1	C	149[A]	OAS	OG-C1A-OAC	3.28	138.46	121.55
1	D	149[A]	OAS	OG-C1A-C2A	-3.15	98.63	112.38
1	C	149[A]	OAS	OG-C1A-C2A	-3.02	99.20	112.38
1	J	149[B]	OAS	OG-CB-CA	2.47	115.45	108.48
1	C	149[B]	OAS	OG-CB-CA	2.42	115.32	108.48
1	D	149[B]	OAS	OG-CB-CA	2.30	114.99	108.48
1	K	149[B]	OAS	OG-CB-CA	2.29	114.95	108.48
1	I	149[A]	OAS	OG-CB-CA	2.26	114.86	108.48
1	E	149[B]	OAS	OG-CB-CA	2.16	114.59	108.48
1	B	149[B]	OAS	OG-CB-CA	2.16	114.59	108.48
1	I	149[B]	OAS	CB-OG-C1A	2.13	122.44	117.10

There are no chirality outliers.

All (78) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	149[A]	OAS	C-CA-CB-OG
1	B	149[A]	OAS	C-CA-CB-OG
1	B	149[B]	OAS	C-CA-CB-OG
1	C	149[A]	OAS	C-CA-CB-OG
1	D	149[A]	OAS	C-CA-CB-OG
1	E	149[A]	OAS	C-CA-CB-OG
1	F	149[A]	OAS	C-CA-CB-OG

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Mol	Chain	Res	Type	Atoms
1	G	149[A]	OAS	C-CA-CB-OG
1	H	149[A]	OAS	C-CA-CB-OG
1	I	149[A]	OAS	N-CA-CB-OG
1	I	149[A]	OAS	C-CA-CB-OG
1	J	149[A]	OAS	C-CA-CB-OG
1	K	149[A]	OAS	C-CA-CB-OG
1	K	149[B]	OAS	C-CA-CB-OG
1	L	149[A]	OAS	C-CA-CB-OG
1	A	149[B]	OAS	OAC-C1A-OG-CB
1	J	149[A]	OAS	C2A-C1A-OG-CB
1	C	149[B]	OAS	OAC-C1A-OG-CB
1	D	149[B]	OAS	OAC-C1A-OG-CB
1	E	149[B]	OAS	OAC-C1A-OG-CB
1	G	149[B]	OAS	OAC-C1A-OG-CB
1	A	149[A]	OAS	C2A-C1A-OG-CB
1	B	149[A]	OAS	C2A-C1A-OG-CB
1	C	149[A]	OAS	C2A-C1A-OG-CB
1	D	149[A]	OAS	C2A-C1A-OG-CB
1	E	149[A]	OAS	C2A-C1A-OG-CB
1	F	149[A]	OAS	C2A-C1A-OG-CB
1	G	149[A]	OAS	C2A-C1A-OG-CB
1	H	149[A]	OAS	C2A-C1A-OG-CB
1	K	149[A]	OAS	C2A-C1A-OG-CB
1	L	149[A]	OAS	C2A-C1A-OG-CB
1	B	149[B]	OAS	OAC-C1A-OG-CB
1	F	149[B]	OAS	OAC-C1A-OG-CB
1	H	149[B]	OAS	OAC-C1A-OG-CB
1	I	149[B]	OAS	OAC-C1A-OG-CB
1	J	149[B]	OAS	OAC-C1A-OG-CB
1	K	149[A]	OAS	OAC-C1A-OG-CB
1	L	149[B]	OAS	OAC-C1A-OG-CB
1	C	149[A]	OAS	OAC-C1A-OG-CB
1	F	149[A]	OAS	OAC-C1A-OG-CB
1	J	149[A]	OAS	OAC-C1A-OG-CB
1	L	149[A]	OAS	OAC-C1A-OG-CB
1	A	149[B]	OAS	C2A-C1A-OG-CB
1	C	149[B]	OAS	C2A-C1A-OG-CB
1	D	149[B]	OAS	C2A-C1A-OG-CB
1	E	149[B]	OAS	C2A-C1A-OG-CB
1	F	149[B]	OAS	C2A-C1A-OG-CB
1	G	149[B]	OAS	C2A-C1A-OG-CB
1	H	149[B]	OAS	C2A-C1A-OG-CB

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Mol	Chain	Res	Type	Atoms
1	I	149[A]	OAS	C2A-C1A-OG-CB
1	I	149[B]	OAS	C2A-C1A-OG-CB
1	L	149[B]	OAS	C2A-C1A-OG-CB
1	K	149[B]	OAS	OAC-C1A-OG-CB
1	B	149[B]	OAS	C2A-C1A-OG-CB
1	J	149[B]	OAS	C2A-C1A-OG-CB
1	D	149[A]	OAS	OAC-C1A-OG-CB
1	A	149[A]	OAS	OAC-C1A-OG-CB
1	B	149[A]	OAS	OAC-C1A-OG-CB
1	H	149[A]	OAS	OAC-C1A-OG-CB
1	K	149[B]	OAS	C2A-C1A-OG-CB
1	E	149[A]	OAS	OAC-C1A-OG-CB
1	G	149[A]	OAS	OAC-C1A-OG-CB
1	I	149[A]	OAS	OAC-C1A-OG-CB
1	D	149[B]	OAS	C-CA-CB-OG
1	I	149[B]	OAS	C-CA-CB-OG
1	J	149[B]	OAS	C-CA-CB-OG
1	A	149[A]	OAS	N-CA-CB-OG
1	B	149[A]	OAS	N-CA-CB-OG
1	C	149[A]	OAS	N-CA-CB-OG
1	D	149[A]	OAS	N-CA-CB-OG
1	E	149[A]	OAS	N-CA-CB-OG
1	F	149[A]	OAS	N-CA-CB-OG
1	G	149[A]	OAS	N-CA-CB-OG
1	H	149[A]	OAS	N-CA-CB-OG
1	J	149[A]	OAS	N-CA-CB-OG
1	K	149[A]	OAS	N-CA-CB-OG
1	L	149[A]	OAS	N-CA-CB-OG
1	I	149[B]	OAS	N-CA-CB-OG

There are no ring outliers.

21 monomers are involved in 34 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	F	149[A]	OAS	9	0
1	A	149[B]	OAS	3	0
1	L	149[B]	OAS	1	0
1	F	149[B]	OAS	1	0
1	D	149[A]	OAS	1	0
1	D	149[B]	OAS	1	0
1	C	149[A]	OAS	1	0
1	E	149[A]	OAS	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	I	149[A]	OAS	2	0
1	G	149[A]	OAS	1	0
1	I	149[B]	OAS	3	0
1	K	149[A]	OAS	1	0
1	K	149[B]	OAS	1	0
1	L	149[A]	OAS	1	0
1	J	149[A]	OAS	1	0
1	H	149[A]	OAS	1	0
1	J	149[B]	OAS	1	0
1	B	149[A]	OAS	1	0
1	H	149[B]	OAS	1	0
1	B	149[B]	OAS	1	0
1	A	149[A]	OAS	1	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

30 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
3	ACT	C	1384	-	3,3,3	0.87	0	3,3,3	1.10	0
3	ACT	D	1384	-	3,3,3	0.82	0	3,3,3	0.88	0
2	CSC	I	1383[B]	-	25,26,29	1.48	5 (20%)	32,37,41	1.84	6 (18%)
3	ACT	E	1385	-	3,3,3	0.76	0	3,3,3	1.20	0
3	ACT	A	1384	-	3,3,3	0.79	0	3,3,3	1.09	0
3	ACT	F	1384	-	3,3,3	0.84	0	3,3,3	0.58	0
3	ACT	L	1384	-	3,3,3	0.78	0	3,3,3	0.96	0
2	CSC	K	1385[B]	-	25,26,29	1.44	4 (16%)	32,37,41	2.29	9 (28%)
2	CSC	E	1383[B]	-	25,26,29	1.29	4 (16%)	32,37,41	2.14	10 (31%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
3	ACT	G	1384	-	3,3,3	0.71	0	3,3,3	0.95	0
2	CSC	B	1384[B]	-	25,26,29	1.49	5 (20%)	32,37,41	1.97	7 (21%)
2	CSC	J	1385[B]	-	25,26,29	1.49	4 (16%)	32,37,41	2.20	7 (21%)
2	CSC	H	1383[A]	-	28,29,29	1.39	6 (21%)	36,41,41	1.96	4 (11%)
2	CSC	H	1383[B]	-	28,26,29	1.62	6 (21%)	36,37,41	1.97	4 (11%)
3	ACT	A	1385	-	3,3,3	0.88	0	3,3,3	0.26	0
3	ACT	E	1384	-	3,3,3	0.76	0	3,3,3	1.25	0
2	CSC	G	1383[B]	-	25,26,29	1.49	5 (20%)	32,37,41	2.06	7 (21%)
3	ACT	I	1386	-	3,3,3	0.83	0	3,3,3	0.80	0
3	ACT	I	1384	-	3,3,3	0.93	0	3,3,3	0.25	0
2	CSC	A	1383[B]	-	25,26,29	1.35	5 (20%)	32,37,41	2.00	6 (18%)
3	ACT	B	1386	-	3,3,3	0.74	0	3,3,3	1.16	0
3	ACT	H	1384	-	3,3,3	0.75	0	3,3,3	0.95	0
2	CSC	F	1383[A]	-	28,29,29	1.41	4 (14%)	36,41,41	2.14	4 (11%)
2	CSC	F	1383[B]	-	28,26,29	1.33	3 (10%)	36,37,41	2.28	5 (13%)
3	ACT	B	1385	-	3,3,3	0.97	0	3,3,3	0.25	0
3	ACT	I	1385	-	3,3,3	0.97	0	3,3,3	0.58	0
2	CSC	C	1383[B]	-	25,26,29	1.38	3 (12%)	32,37,41	1.99	3 (9%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CSC	B	1384[B]	-	-	8/20/49/52	0/2/2/2
2	CSC	J	1385[B]	-	-	8/20/49/52	0/2/2/2
2	CSC	H	1383[A]	-	-	9/23/52/52	0/2/2/2
2	CSC	F	1383[A]	-	-	10/23/52/52	0/2/2/2
2	CSC	E	1383[B]	-	-	4/20/49/52	0/2/2/2
2	CSC	H	1383[B]	-	-	11/23/49/52	0/2/2/2
2	CSC	F	1383[B]	-	-	8/23/49/52	0/2/2/2
2	CSC	G	1383[B]	-	-	4/20/49/52	0/2/2/2
2	CSC	I	1383[B]	-	-	8/20/49/52	0/2/2/2
2	CSC	K	1385[B]	-	-	9/20/49/52	0/2/2/2
2	CSC	A	1383[B]	-	-	5/20/49/52	0/2/2/2
2	CSC	C	1383[B]	-	-	6/20/49/52	0/2/2/2

All (54) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	1383[B]	CSC	O1-C1	5.08	1.58	1.33
2	K	1385[B]	CSC	C4-N5	-4.38	1.32	1.41
2	J	1385[B]	CSC	C4-N5	-4.15	1.33	1.41
2	I	1383[B]	CSC	C4-N5	-4.13	1.33	1.41
2	B	1384[B]	CSC	C4-N5	-4.04	1.33	1.41
2	F	1383[A]	CSC	C4-N5	-3.86	1.33	1.41
2	F	1383[B]	CSC	C4-N5	-3.86	1.33	1.41
2	C	1383[B]	CSC	C4-N5	-3.80	1.33	1.41
2	G	1383[B]	CSC	C4-N5	-3.70	1.33	1.41
2	H	1383[A]	CSC	C4-N5	-3.57	1.34	1.41
2	H	1383[B]	CSC	C4-N5	-3.57	1.34	1.41
2	A	1383[B]	CSC	C4-N5	-3.35	1.34	1.41
2	G	1383[B]	CSC	C6-S1	-3.05	1.73	1.80
2	B	1384[B]	CSC	C6-S1	-3.05	1.73	1.80
2	K	1385[B]	CSC	C8-N5	-3.00	1.28	1.38
2	J	1385[B]	CSC	C8-N5	-2.96	1.29	1.38
2	H	1383[A]	CSC	C2-S1	-2.91	1.75	1.82
2	H	1383[B]	CSC	C2-S1	-2.91	1.75	1.82
2	A	1383[B]	CSC	C2-S1	-2.80	1.75	1.82
2	J	1385[B]	CSC	C2-S1	-2.73	1.76	1.82
2	C	1383[B]	CSC	C2-S1	-2.68	1.76	1.82
2	F	1383[A]	CSC	C2-S1	-2.67	1.76	1.82
2	F	1383[B]	CSC	C2-S1	-2.67	1.76	1.82
2	I	1383[B]	CSC	C6-S1	-2.66	1.74	1.80
2	H	1383[A]	CSC	O1-C1	2.57	1.46	1.33
2	B	1384[B]	CSC	C2-S1	-2.53	1.76	1.82
2	F	1383[A]	CSC	O1-C1	2.52	1.45	1.33
2	E	1383[B]	CSC	C2-S1	-2.51	1.76	1.82
2	K	1385[B]	CSC	C2-S1	-2.43	1.76	1.82
2	B	1384[B]	CSC	C8-N5	-2.43	1.30	1.38
2	I	1383[B]	CSC	C8-N5	-2.39	1.30	1.38
2	G	1383[B]	CSC	O4A-C4'	-2.37	1.23	1.30
2	J	1385[B]	CSC	C6-S1	-2.35	1.75	1.80
2	G	1383[B]	CSC	C2-S1	-2.35	1.76	1.82
2	I	1383[B]	CSC	C7-C8	-2.34	1.48	1.54
2	G	1383[B]	CSC	C8-N5	-2.33	1.31	1.38
2	I	1383[B]	CSC	C2-S1	-2.28	1.77	1.82
2	E	1383[B]	CSC	C6-S1	-2.27	1.75	1.80
2	C	1383[B]	CSC	C8-N5	-2.18	1.31	1.38
2	E	1383[B]	CSC	C4-N5	-2.17	1.37	1.41
2	H	1383[A]	CSC	C8-N5	-2.15	1.31	1.38
2	H	1383[B]	CSC	C8-N5	-2.15	1.31	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	H	1383[A]	CSC	O4A-C4'	-2.13	1.24	1.30
2	H	1383[B]	CSC	O4A-C4'	-2.13	1.24	1.30
2	F	1383[A]	CSC	C8-N5	-2.11	1.31	1.38
2	F	1383[B]	CSC	C8-N5	-2.11	1.31	1.38
2	A	1383[B]	CSC	C6-S1	-2.08	1.75	1.80
2	A	1383[B]	CSC	O4A-C4'	-2.06	1.24	1.30
2	B	1384[B]	CSC	C7-C8	-2.06	1.49	1.54
2	H	1383[A]	CSC	C6-S1	-2.06	1.75	1.80
2	H	1383[B]	CSC	C6-S1	-2.06	1.75	1.80
2	K	1385[B]	CSC	O4A-C4'	-2.04	1.24	1.30
2	E	1383[B]	CSC	O4A-C4'	-2.03	1.24	1.30
2	A	1383[B]	CSC	C8-N5	-2.01	1.32	1.38

All (72) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	1383[A]	CSC	C6-C7-N10	-8.29	100.16	118.27
2	F	1383[B]	CSC	C6-C7-N10	-8.29	100.16	118.27
2	G	1383[B]	CSC	S1-C6-N5	-6.80	97.02	110.48
2	H	1383[A]	CSC	C6-C7-N10	-6.47	104.12	118.27
2	H	1383[B]	CSC	C6-C7-N10	-6.47	104.12	118.27
2	B	1384[B]	CSC	S1-C6-N5	-6.39	97.83	110.48
2	J	1385[B]	CSC	S1-C6-N5	-6.31	97.98	110.48
2	K	1385[B]	CSC	C6-C7-N10	-6.29	104.52	118.27
2	K	1385[B]	CSC	C2-S1-C6	6.27	106.77	94.47
2	A	1383[B]	CSC	C6-C7-N10	-6.21	104.70	118.27
2	E	1383[B]	CSC	S1-C6-N5	-6.02	98.56	110.48
2	C	1383[B]	CSC	C6-C7-N10	-5.96	105.25	118.27
2	A	1383[B]	CSC	C2-S1-C6	5.90	106.05	94.47
2	C	1383[B]	CSC	S1-C6-N5	-5.68	99.24	110.48
2	J	1385[B]	CSC	C2-S1-C6	5.66	105.58	94.47
2	C	1383[B]	CSC	C2-S1-C6	5.65	105.56	94.47
2	J	1385[B]	CSC	C6-C7-N10	-5.59	106.05	118.27
2	E	1383[B]	CSC	C2-S1-C6	5.57	105.39	94.47
2	K	1385[B]	CSC	S1-C6-N5	-5.54	99.51	110.48
2	F	1383[A]	CSC	S1-C6-N5	-5.53	99.53	110.48
2	F	1383[B]	CSC	S1-C6-N5	-5.53	99.53	110.48
2	I	1383[B]	CSC	S1-C6-N5	-5.25	100.09	110.48
2	F	1383[B]	CSC	C3'-O1-C1	5.17	125.29	116.07
2	H	1383[A]	CSC	S1-C6-N5	-5.16	100.27	110.48
2	H	1383[B]	CSC	S1-C6-N5	-5.16	100.27	110.48
2	F	1383[A]	CSC	C2-S1-C6	5.07	104.41	94.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	1383[B]	CSC	C2-S1-C6	5.07	104.41	94.47
2	G	1383[B]	CSC	C2-S1-C6	5.05	104.38	94.47
2	H	1383[A]	CSC	C2-S1-C6	4.93	104.13	94.47
2	H	1383[B]	CSC	C2-S1-C6	4.93	104.13	94.47
2	B	1384[B]	CSC	C2-S1-C6	4.07	102.46	94.47
2	A	1383[B]	CSC	S1-C6-N5	-4.06	102.44	110.48
2	G	1383[B]	CSC	C6-C7-N10	-3.84	109.88	118.27
2	I	1383[B]	CSC	C7-N10-C11	-3.82	114.53	121.83
2	E	1383[B]	CSC	C6-C7-N10	-3.66	110.28	118.27
2	B	1384[B]	CSC	C7-N10-C11	-3.45	115.22	121.83
2	I	1383[B]	CSC	C2-S1-C6	3.24	100.83	94.47
2	I	1383[B]	CSC	C6-C7-N10	-3.06	111.59	118.27
2	G	1383[B]	CSC	C7-N10-C11	-3.05	115.98	121.83
2	I	1383[B]	CSC	C13-C11-N10	3.03	121.09	115.83
2	B	1384[B]	CSC	C6-C7-N10	-3.02	111.66	118.27
2	K	1385[B]	CSC	O1-C3'-C3	-2.89	106.26	111.58
2	E	1383[B]	CSC	O1-C3'-C3	2.81	116.76	111.58
2	E	1383[B]	CSC	C7-N10-C11	2.79	127.17	121.83
2	E	1383[B]	CSC	C3-C2-S1	-2.76	109.95	115.08
2	B	1384[B]	CSC	C13-C11-N10	2.69	120.49	115.83
2	J	1385[B]	CSC	O12-C11-C13	-2.57	117.32	122.02
2	A	1383[B]	CSC	C7-N10-C11	2.54	126.69	121.83
2	E	1383[B]	CSC	O12-C11-C13	-2.53	117.39	122.02
2	J	1385[B]	CSC	O1-C3'-C3	-2.46	107.05	111.58
2	G	1383[B]	CSC	C13-C11-N10	2.37	119.93	115.83
2	K	1385[B]	CSC	C6-N5-C4	2.36	132.19	125.35
2	J	1385[B]	CSC	C6-N5-C4	2.35	132.15	125.35
2	E	1383[B]	CSC	C8-C7-N10	2.32	122.00	115.38
2	K	1385[B]	CSC	O12-C11-C13	-2.27	117.86	122.02
2	H	1383[A]	CSC	C3'-O1-C1	2.26	120.10	116.07
2	H	1383[B]	CSC	O1-C1-C20	2.25	122.17	112.38
2	G	1383[B]	CSC	O4A-C4'-C4	2.17	122.42	115.95
2	E	1383[B]	CSC	O4A-C4'-C4	2.16	122.38	115.95
2	J	1385[B]	CSC	O4A-C4'-O4B	-2.16	118.67	123.61
2	F	1383[A]	CSC	C8-C7-N10	2.14	121.50	115.38
2	F	1383[B]	CSC	C8-C7-N10	2.14	121.50	115.38
2	K	1385[B]	CSC	C14-C13-C11	-2.12	107.32	113.26
2	A	1383[B]	CSC	C14-C15-C16	-2.06	106.71	113.35
2	E	1383[B]	CSC	C13-C11-N10	2.04	119.38	115.83
2	G	1383[B]	CSC	C3-C2-S1	-2.04	111.29	115.08
2	B	1384[B]	CSC	C6-N5-C4	2.04	131.26	125.35
2	A	1383[B]	CSC	C3-C2-S1	-2.03	111.31	115.08

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	K	1385[B]	CSC	O20-C18-C16	2.02	120.27	113.38
2	B	1384[B]	CSC	O4A-C4'-C4	2.01	121.95	115.95
2	I	1383[B]	CSC	O20-C18-C16	2.01	120.24	113.38
2	K	1385[B]	CSC	C8-N5-C4	-2.01	129.17	133.77

There are no chirality outliers.

All (90) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1383[B]	CSC	C2-C3-C3'-O1
2	A	1383[B]	CSC	C14-C15-C16-N17
2	A	1383[B]	CSC	C14-C15-C16-C18
2	B	1384[B]	CSC	C2-C3-C3'-O1
2	B	1384[B]	CSC	C4-C3-C3'-O1
2	E	1383[B]	CSC	C2-C3-C3'-O1
2	E	1383[B]	CSC	C14-C15-C16-C18
2	F	1383[A]	CSC	C2-C3-C3'-O1
2	F	1383[A]	CSC	C4-C3-C3'-O1
2	H	1383[A]	CSC	C14-C15-C16-N17
2	H	1383[A]	CSC	C14-C15-C16-C18
2	H	1383[B]	CSC	C2-C3-C3'-O1
2	H	1383[B]	CSC	C14-C15-C16-N17
2	H	1383[B]	CSC	C14-C15-C16-C18
2	I	1383[B]	CSC	C2-C3-C3'-O1
2	I	1383[B]	CSC	C4-C3-C3'-O1
2	J	1385[B]	CSC	C4-C3-C3'-O1
2	J	1385[B]	CSC	C14-C15-C16-N17
2	J	1385[B]	CSC	C14-C15-C16-C18
2	K	1385[B]	CSC	C2-C3-C3'-O1
2	K	1385[B]	CSC	C4-C3-C3'-O1
2	K	1385[B]	CSC	C14-C15-C16-N17
2	K	1385[B]	CSC	C14-C15-C16-C18
2	H	1383[A]	CSC	C11-C13-C14-C15
2	H	1383[B]	CSC	C11-C13-C14-C15
2	J	1385[B]	CSC	C11-C13-C14-C15
2	K	1385[B]	CSC	C11-C13-C14-C15
2	F	1383[B]	CSC	C20-C1-O1-C3'
2	E	1383[B]	CSC	C11-C13-C14-C15
2	F	1383[A]	CSC	C11-C13-C14-C15
2	F	1383[B]	CSC	C11-C13-C14-C15
2	B	1384[B]	CSC	N17-C16-C18-O20
2	C	1383[B]	CSC	N17-C16-C18-O20

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Mol	Chain	Res	Type	Atoms
2	F	1383[B]	CSC	O2-C1-O1-C3'
2	H	1383[B]	CSC	O2-C1-O1-C3'
2	H	1383[A]	CSC	O2-C1-O1-C3'
2	F	1383[A]	CSC	O2-C1-O1-C3'
2	F	1383[A]	CSC	C20-C1-O1-C3'
2	A	1383[B]	CSC	C11-C13-C14-C15
2	I	1383[B]	CSC	N17-C16-C18-O20
2	H	1383[A]	CSC	C20-C1-O1-C3'
2	H	1383[B]	CSC	C20-C1-O1-C3'
2	E	1383[B]	CSC	C13-C14-C15-C16
2	I	1383[B]	CSC	N10-C11-C13-C14
2	B	1384[B]	CSC	O12-C11-C13-C14
2	I	1383[B]	CSC	O12-C11-C13-C14
2	G	1383[B]	CSC	C13-C14-C15-C16
2	C	1383[B]	CSC	C13-C14-C15-C16
2	B	1384[B]	CSC	N10-C11-C13-C14
2	H	1383[A]	CSC	C13-C14-C15-C16
2	H	1383[B]	CSC	C13-C14-C15-C16
2	F	1383[A]	CSC	C13-C14-C15-C16
2	F	1383[B]	CSC	C13-C14-C15-C16
2	J	1385[B]	CSC	C13-C14-C15-C16
2	K	1385[B]	CSC	C13-C14-C15-C16
2	B	1384[B]	CSC	C15-C16-C18-O19
2	B	1384[B]	CSC	C15-C16-C18-O20
2	G	1383[B]	CSC	N17-C16-C18-O20
2	B	1384[B]	CSC	N17-C16-C18-O19
2	C	1383[B]	CSC	N17-C16-C18-O19
2	I	1383[B]	CSC	N17-C16-C18-O19
2	I	1383[B]	CSC	C13-C14-C15-C16
2	A	1383[B]	CSC	C4-C3-C3'-O1
2	C	1383[B]	CSC	C4-C3-C3'-O1
2	H	1383[B]	CSC	C4-C3-C3'-O1
2	F	1383[A]	CSC	C15-C16-C18-O20
2	F	1383[B]	CSC	C15-C16-C18-O20
2	H	1383[A]	CSC	C15-C16-C18-O20
2	H	1383[B]	CSC	C15-C16-C18-O20
2	J	1385[B]	CSC	C15-C16-C18-O20
2	F	1383[A]	CSC	C15-C16-C18-O19
2	F	1383[B]	CSC	C15-C16-C18-O19
2	J	1385[B]	CSC	C15-C16-C18-O19
2	K	1385[B]	CSC	C15-C16-C18-O20
2	H	1383[A]	CSC	C15-C16-C18-O19

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Mol	Chain	Res	Type	Atoms
2	H	1383[B]	CSC	C15-C16-C18-O19
2	K	1385[B]	CSC	C15-C16-C18-O19
2	K	1385[B]	CSC	N5-C4-C4'-O4B
2	G	1383[B]	CSC	N17-C16-C18-O19
2	C	1383[B]	CSC	C3-C4-C4'-O4B
2	F	1383[A]	CSC	C3-C4-C4'-O4B
2	F	1383[B]	CSC	C3-C4-C4'-O4B
2	G	1383[B]	CSC	N5-C4-C4'-O4B
2	I	1383[B]	CSC	N5-C4-C4'-O4B
2	F	1383[A]	CSC	C3-C4-C4'-O4A
2	F	1383[B]	CSC	C3-C4-C4'-O4A
2	J	1385[B]	CSC	C2-C3-C3'-O1
2	C	1383[B]	CSC	C15-C16-C18-O19
2	H	1383[A]	CSC	N5-C4-C4'-O4B
2	H	1383[B]	CSC	N5-C4-C4'-O4B

There are no ring outliers.

20 monomers are involved in 63 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	1384	ACT	2	0
3	D	1384	ACT	1	0
2	I	1383[B]	CSC	2	0
3	A	1384	ACT	2	0
3	F	1384	ACT	1	0
2	K	1385[B]	CSC	4	0
2	E	1383[B]	CSC	6	0
3	G	1384	ACT	1	0
2	B	1384[B]	CSC	1	0
2	J	1385[B]	CSC	3	0
2	H	1383[A]	CSC	3	0
2	H	1383[B]	CSC	2	0
3	E	1384	ACT	4	0
2	G	1383[B]	CSC	3	0
2	A	1383[B]	CSC	9	0
3	H	1384	ACT	2	0
2	F	1383[A]	CSC	12	0
2	F	1383[B]	CSC	2	0
3	B	1385	ACT	1	0
2	C	1383[B]	CSC	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 CSC I 1383 (B)

Ligand CSC K 1385 (B)

Ligand CSC E 1383 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC B 1384 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC J 1385 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC H 1383 (A)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC H 1383 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC G 1383 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC A 1383 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC F 1383 (A)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC F 1383 (B)

Bond lengths

Bond angles

Torsions

Rings

Ligand CSC C 1383 (B)

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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, 95th 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	347/444 (78%)	-1.59	0	100	100	12, 27, 46, 60	1 (0%)
1	B	349/444 (78%)	-1.58	0	100	100	9, 27, 46, 67	2 (0%)
1	C	346/444 (77%)	-1.57	0	100	100	9, 26, 46, 60	3 (0%)
1	D	344/444 (77%)	-1.56	0	100	100	9, 26, 45, 55	3 (0%)
1	E	345/444 (77%)	-1.56	0	100	100	11, 27, 45, 61	2 (0%)
1	F	340/444 (76%)	-1.55	0	100	100	16, 27, 44, 59	1 (0%)
1	G	341/444 (76%)	-1.56	0	100	100	16, 26, 44, 53	2 (0%)
1	H	342/444 (77%)	-1.61	0	100	100	16, 26, 44, 59	3 (0%)
1	I	347/444 (78%)	-1.60	0	100	100	10, 26, 46, 67	2 (0%)
1	J	343/444 (77%)	-1.44	0	100	100	16, 27, 45, 65	1 (0%)
1	K	340/444 (76%)	-1.43	0	100	100	16, 27, 44, 53	1 (0%)
1	L	339/444 (76%)	-1.56	0	100	100	16, 27, 44, 53	2 (0%)
All	All	4123/5328 (77%)	-1.55	0	100	100	9, 27, 45, 67	23 (0%)

There are no RSRZ outliers to report.

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

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, 95th 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
1	OAS	J	149[A]	6/10	0.97	0.06	15,17,17,18	3
1	OAS	J	149[B]	9/10	0.97	0.06	8,16,17,18	6
1	OAS	C	149[A]	6/10	0.99	0.03	15,17,17,18	3

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	OAS	C	149[B]	9/10	0.99	0.03	8,16,17,18	6
1	OAS	D	149[A]	6/10	0.99	0.03	15,16,17,18	3
1	OAS	D	149[B]	9/10	0.99	0.03	7,16,17,18	6
1	OAS	E	149[A]	6/10	0.99	0.03	15,17,17,17	3
1	OAS	E	149[B]	9/10	0.99	0.03	7,17,17,17	6
1	OAS	G	149[A]	6/10	0.99	0.05	15,17,17,17	3
1	OAS	G	149[B]	9/10	0.99	0.05	8,16,17,17	6
1	OAS	I	149[A]	6/10	0.99	0.04	15,17,17,18	3
1	OAS	I	149[B]	9/10	0.99	0.04	8,16,17,18	6
1	OAS	B	149[A]	6/10	0.99	0.04	15,17,17,18	3
1	OAS	B	149[B]	9/10	0.99	0.04	8,16,17,18	6
1	OAS	K	149[A]	6/10	0.99	0.04	15,17,17,18	3
1	OAS	K	149[B]	9/10	0.99	0.04	8,16,17,18	6
1	OAS	F	149[A]	6/10	1.00	0.02	15,16,17,17	3
1	OAS	F	149[B]	9/10	1.00	0.02	8,16,17,17	6
1	OAS	A	149[A]	6/10	1.00	0.03	15,16,17,17	3
1	OAS	A	149[B]	9/10	1.00	0.03	8,16,17,17	6
1	OAS	H	149[A]	6/10	1.00	0.02	15,16,17,17	3
1	OAS	H	149[B]	9/10	1.00	0.02	8,16,17,17	6
1	OAS	L	149[A]	6/10	1.00	0.02	15,16,17,17	3
1	OAS	L	149[B]	9/10	1.00	0.02	8,16,17,17	6

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	ACT	G	1384	4/4	0.97	0.07	37,37,37,38	0
2	CSC	C	1383[B]	25/28	0.98	0.05	11,22,33,34	25
2	CSC	D	1383[B]	25/28	0.98	0.05	7,18,33,35	25
2	CSC	E	1383[B]	25/28	0.98	0.05	14,27,29,31	25
2	CSC	A	1383[B]	25/28	0.98	0.05	29,43,48,48	25
3	ACT	H	1384	4/4	0.98	0.06	37,37,38,38	0
3	ACT	I	1386	4/4	0.98	0.06	41,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	CSC	G	1383[B]	25/28	0.99	0.05	11,21,36,37	25
2	CSC	H	1383[A]	28/28	0.99	0.05	46,60,84,84	5
2	CSC	H	1383[B]	25/28	0.99	0.05	46,60,84,84	2
2	CSC	I	1383[B]	25/28	0.99	0.04	4,16,29,30	25
2	CSC	J	1385[B]	25/28	0.99	0.04	19,23,30,30	25
2	CSC	K	1385[B]	25/28	0.99	0.05	23,26,30,31	25
2	CSC	L	1383[B]	25/28	0.99	0.04	37,46,55,56	2
2	CSC	L	1383[A]	25/28	0.99	0.04	37,50,55,56	5
3	ACT	A	1384	4/4	0.99	0.03	26,26,27,27	0
3	ACT	A	1385	4/4	0.99	0.06	43,44,44,45	0
3	ACT	B	1385	4/4	0.99	0.03	30,31,31,33	0
3	ACT	B	1386	4/4	0.99	0.07	35,37,37,39	0
3	ACT	D	1384	4/4	0.99	0.03	23,24,24,25	0
3	ACT	E	1384	4/4	0.99	0.04	25,26,26,26	0
3	ACT	E	1385	4/4	0.99	0.04	39,39,40,40	0
3	ACT	F	1384	4/4	0.99	0.06	40,40,40,40	0
2	CSC	B	1384[B]	25/28	0.99	0.04	11,19,28,29	25
2	CSC	F	1383[A]	28/28	0.99	0.04	39,51,61,62	5
3	ACT	I	1384	4/4	0.99	0.03	26,28,28,30	0
3	ACT	I	1385	4/4	0.99	0.04	37,37,38,40	0
2	CSC	F	1383[B]	25/28	0.99	0.04	39,49,61,62	2
3	ACT	L	1384	4/4	0.99	0.05	43,43,43,44	0
3	ACT	C	1384	4/4	1.00	0.05	22,22,22,23	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 CSC C 1383 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
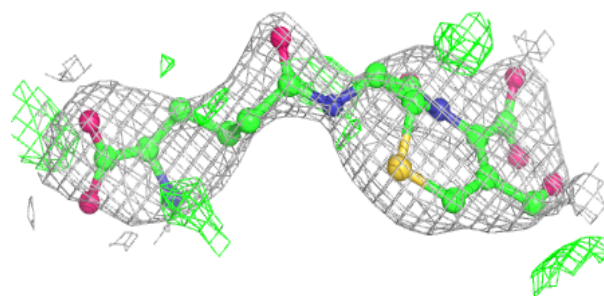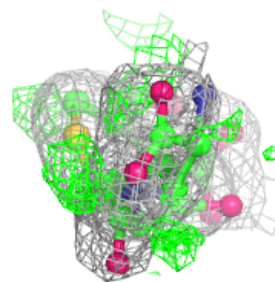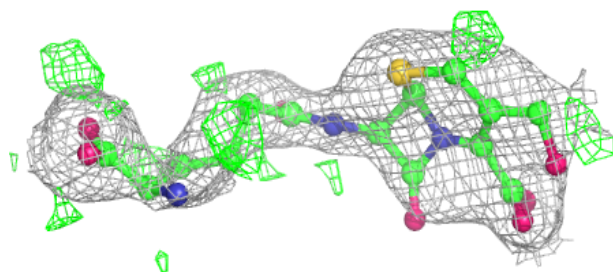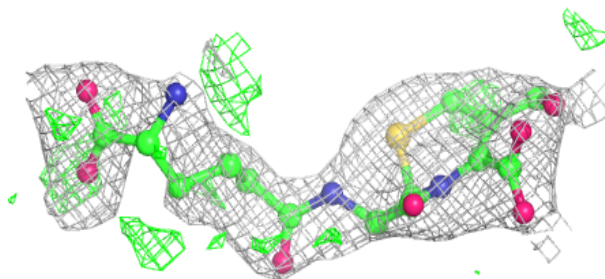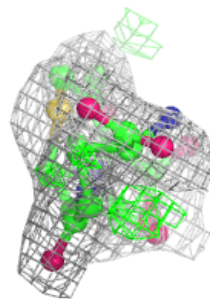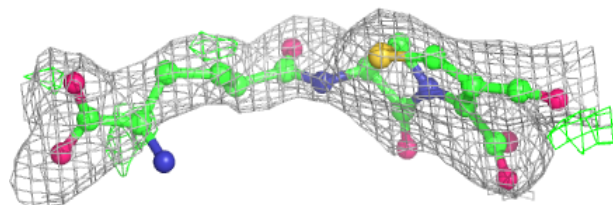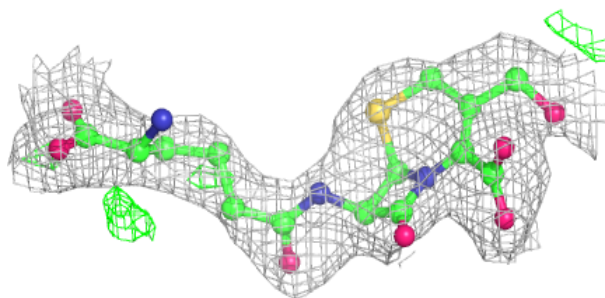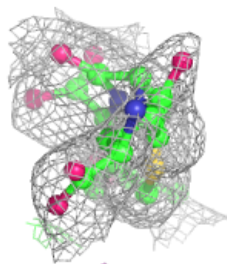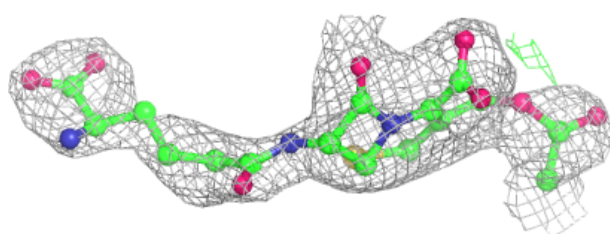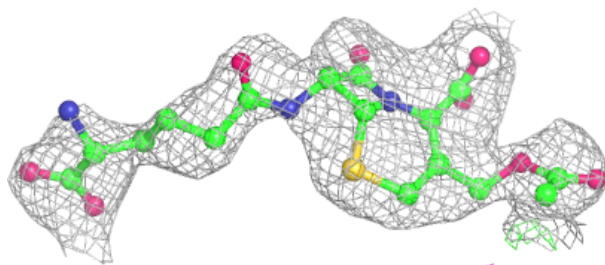and green (positive)
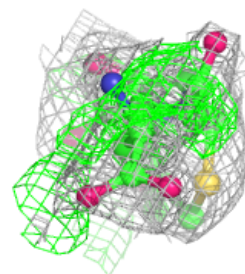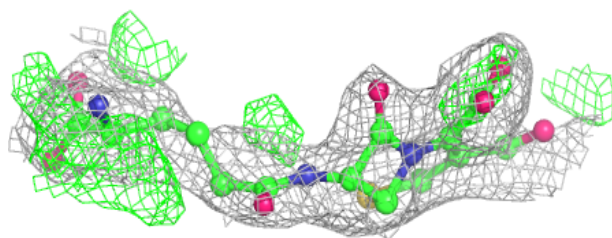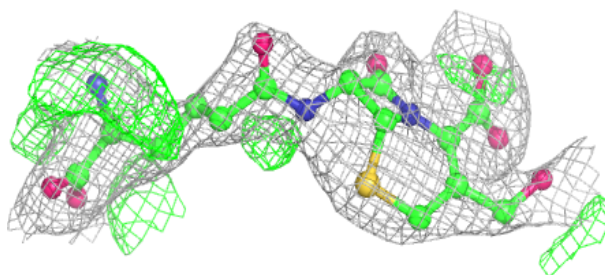
Electron density around CSC E 1383 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
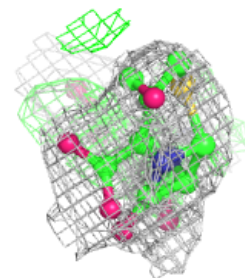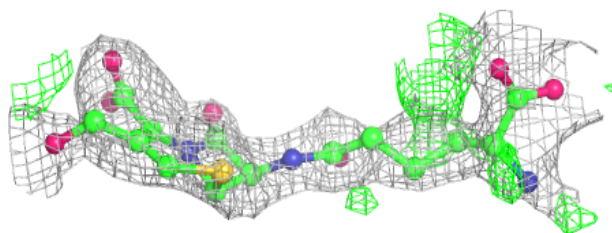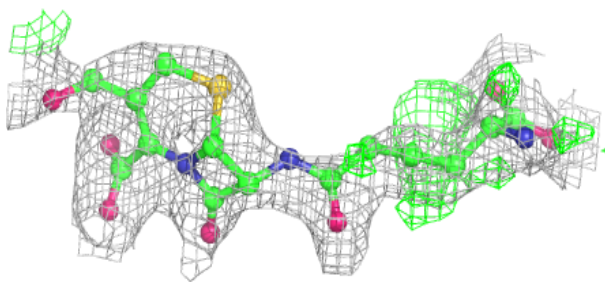
Electron density around CSC A 1383 (B):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
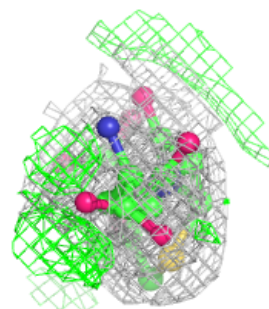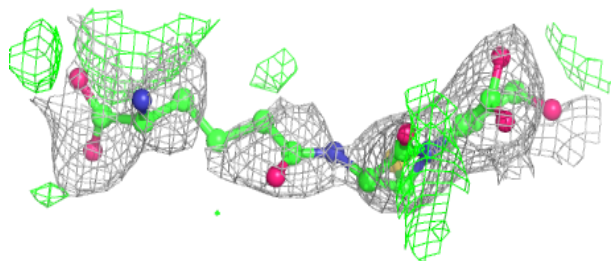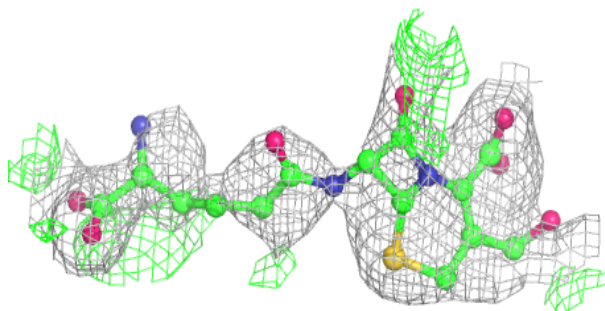
Electron density around CSC G 1383 (B):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
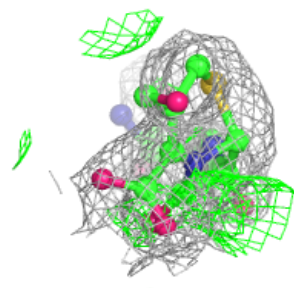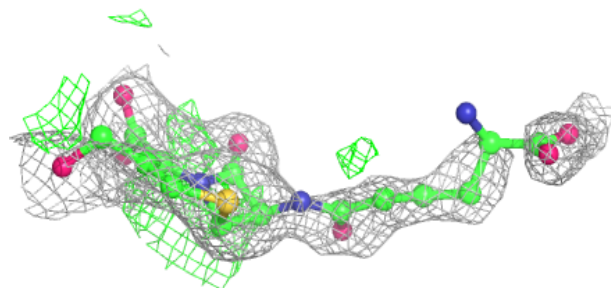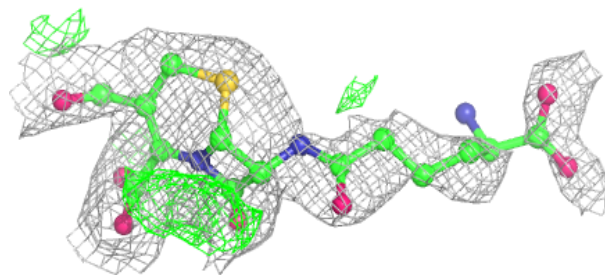
Electron density around CSC H 1383 (A):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
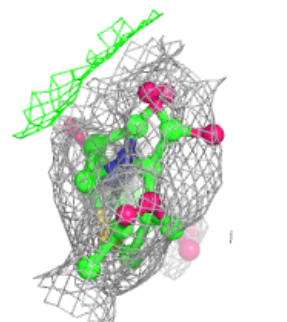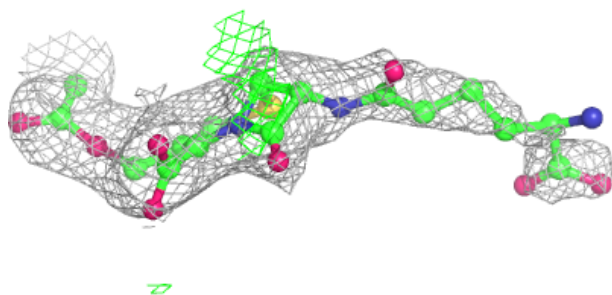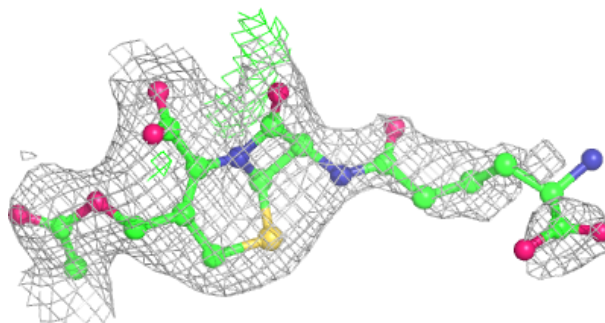
Electron density around CSC H 1383 (B):

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
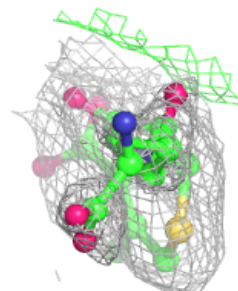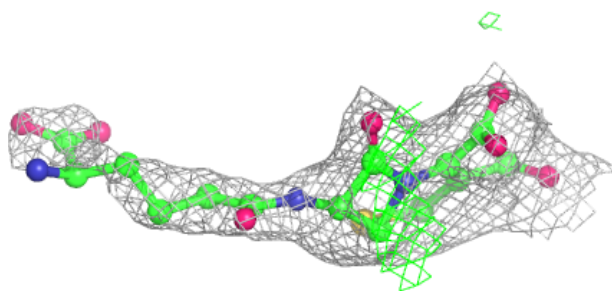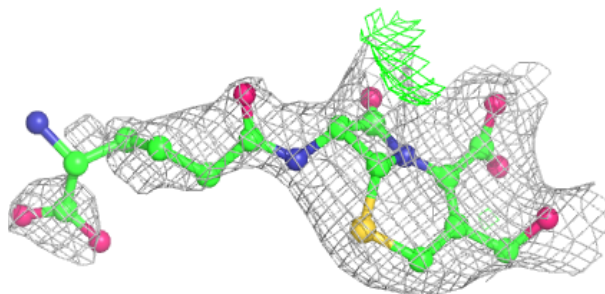
Electron density around CSC I 1383 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
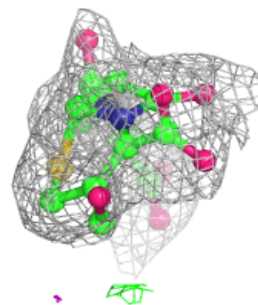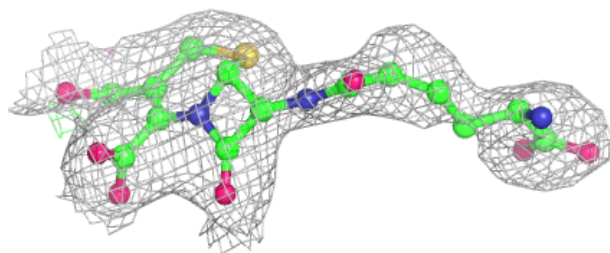mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
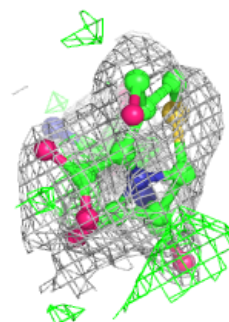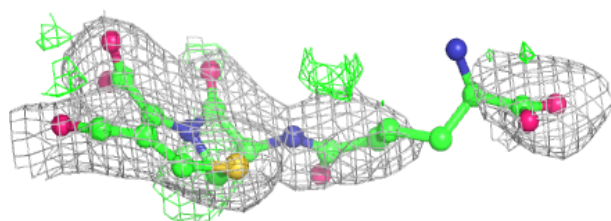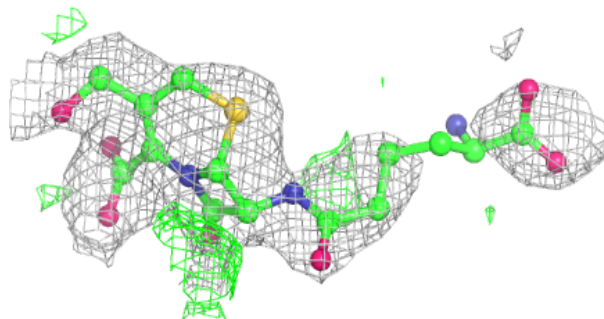
Electron density around CSC J 1385 (B):

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
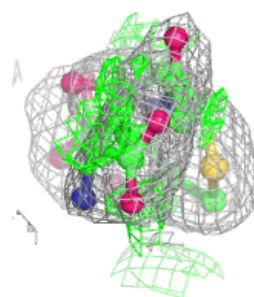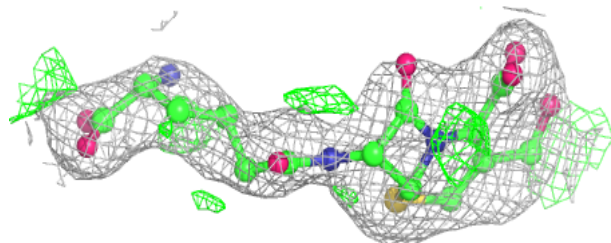
Electron density around CSC K 1385 (B):

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

Electron density around CSC B 1384 (B):

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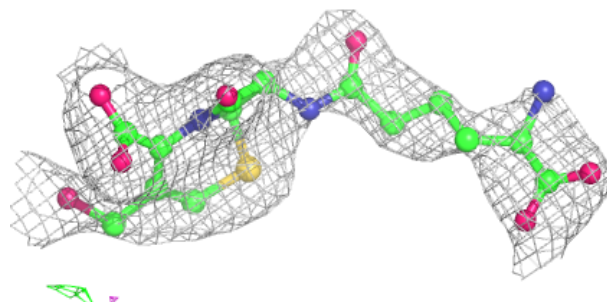mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around CSC F 1383 (A):

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

Electron density around CSC F 1383 (B):

$2mF_o$-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.