Full wwPDB X-ray Structure Validation Report ⓘ

Oct 10, 2023 – 02:44 AM EDT

PDB ID	:	7RGG
Title	:	Room temperature serial crystal structure of Glutaminase C in complex with inhibitor BPTES
Authors	:	Milano, S.K.; Finke, A.; Cerione, R.A.
Deposited on	:	2021-07-15
Resolution	:	3.00 Å(reported)

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

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

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

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

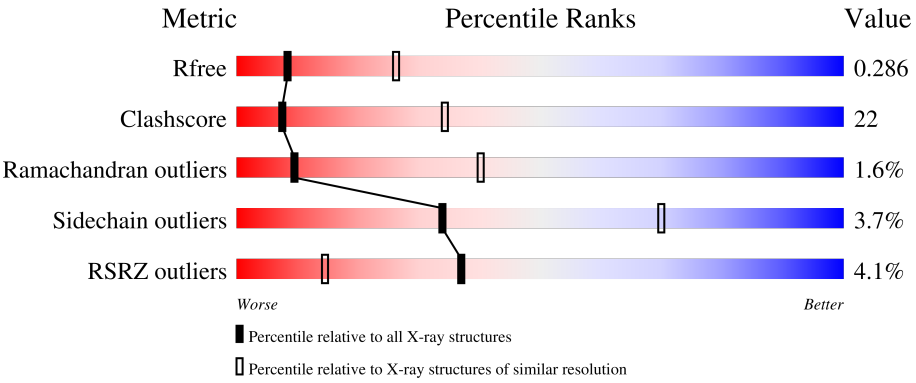
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2092 (3.00-3.00)
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

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	491	3% 48% 32% · 18%
1	B	491	5% 46% 35% · 18%
1	C	491	3% 45% 36% · 18%
1	D	491	3% 51% 29% · 18%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	04A	A	601	-	-	X	-

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 12367 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 Glutaminase kidney isoform, mitochondrial 68 kDa chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	402	Total	C	N	O	S	1	0	0
			3069	1950	523	568	28			
1	B	403	Total	C	N	O	S	1	0	0
			3060	1941	522	569	28			
1	C	403	Total	C	N	O	S	1	0	0
			3093	1962	528	575	28			
1	D	402	Total	C	N	O	S	1	0	0
			3071	1948	525	571	27			

There are 48 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	60	MET	-	expression tag	UNP O94925
A	61	ARG	-	expression tag	UNP O94925
A	62	GLY	-	expression tag	UNP O94925
A	63	SER	-	expression tag	UNP O94925
A	64	HIS	-	expression tag	UNP O94925
A	65	HIS	-	expression tag	UNP O94925
A	66	HIS	-	expression tag	UNP O94925
A	67	HIS	-	expression tag	UNP O94925
A	68	HIS	-	expression tag	UNP O94925
A	69	HIS	-	expression tag	UNP O94925
A	70	GLY	-	expression tag	UNP O94925
A	71	SER	-	expression tag	UNP O94925
B	60	MET	-	expression tag	UNP O94925
B	61	ARG	-	expression tag	UNP O94925
B	62	GLY	-	expression tag	UNP O94925
B	63	SER	-	expression tag	UNP O94925
B	64	HIS	-	expression tag	UNP O94925
B	65	HIS	-	expression tag	UNP O94925
B	66	HIS	-	expression tag	UNP O94925
B	67	HIS	-	expression tag	UNP O94925
B	68	HIS	-	expression tag	UNP O94925

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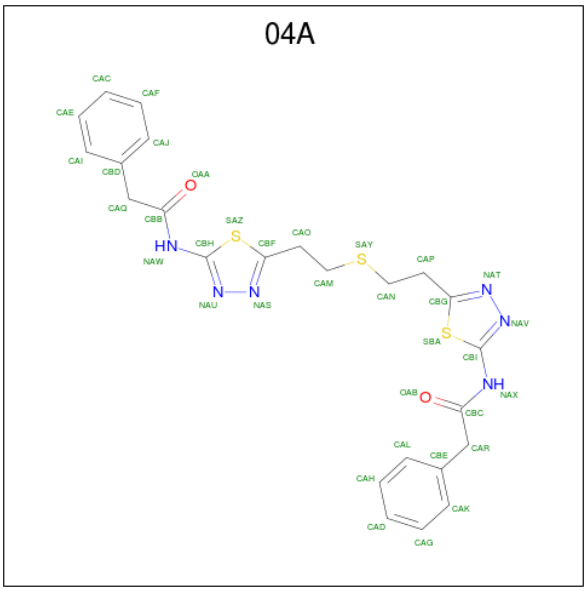
Chain	Residue	Modelled	Actual	Comment	Reference
B	69	HIS	-	expression tag	UNP O94925
B	70	GLY	-	expression tag	UNP O94925
B	71	SER	-	expression tag	UNP O94925
C	60	MET	-	expression tag	UNP O94925
C	61	ARG	-	expression tag	UNP O94925
C	62	GLY	-	expression tag	UNP O94925
C	63	SER	-	expression tag	UNP O94925
C	64	HIS	-	expression tag	UNP O94925
C	65	HIS	-	expression tag	UNP O94925
C	66	HIS	-	expression tag	UNP O94925
C	67	HIS	-	expression tag	UNP O94925
C	68	HIS	-	expression tag	UNP O94925
C	69	HIS	-	expression tag	UNP O94925
C	70	GLY	-	expression tag	UNP O94925
C	71	SER	-	expression tag	UNP O94925
D	60	MET	-	expression tag	UNP O94925
D	61	ARG	-	expression tag	UNP O94925
D	62	GLY	-	expression tag	UNP O94925
D	63	SER	-	expression tag	UNP O94925
D	64	HIS	-	expression tag	UNP O94925
D	65	HIS	-	expression tag	UNP O94925
D	66	HIS	-	expression tag	UNP O94925
D	67	HIS	-	expression tag	UNP O94925
D	68	HIS	-	expression tag	UNP O94925
D	69	HIS	-	expression tag	UNP O94925
D	70	GLY	-	expression tag	UNP O94925
D	71	SER	-	expression tag	UNP O94925

- Molecule 2 is N,N'-[sulfanediylbis(ethane-2,1-diyl-1,3,4-thiadiazole-5,2-diyl)]bis(2-phenylacetamide) (three-letter code: 04A) (formula: $C_{24}H_{24}N_6O_2S_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C N O S 35 24 6 2 3	0	0
2	D	1	Total C N O S 35 24 6 2 3	0	0

- Molecule 3 is water.

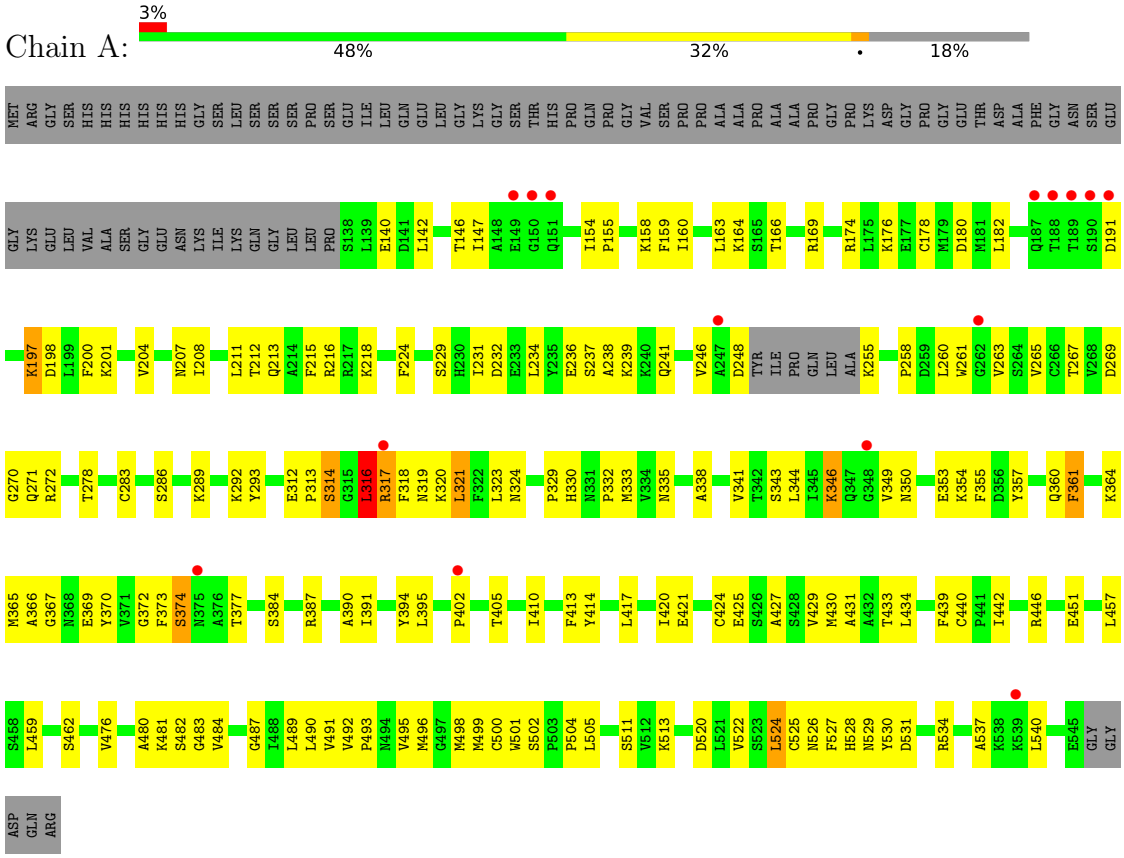
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	3	Total O 3 3	0	0
3	D	1	Total O 1 1	0	0

3 Residue-property plots (i)

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

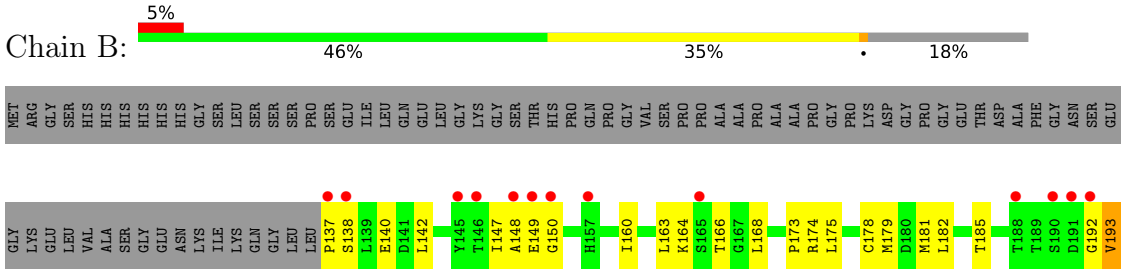
• Molecule 1: Glutaminase kidney isoform, mitochondrial 68 kDa chain

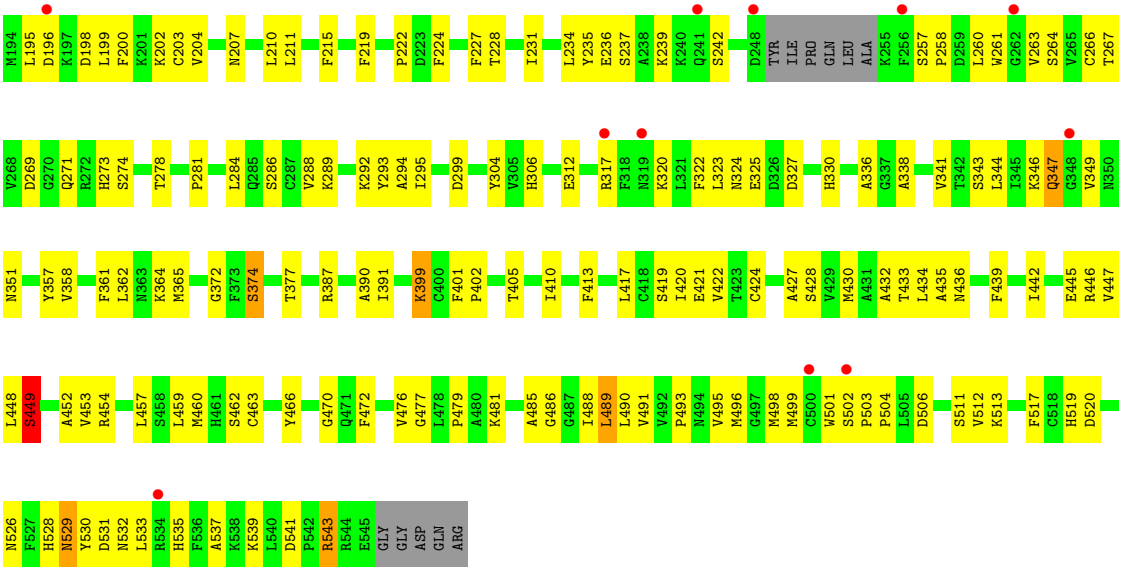
Chain A:



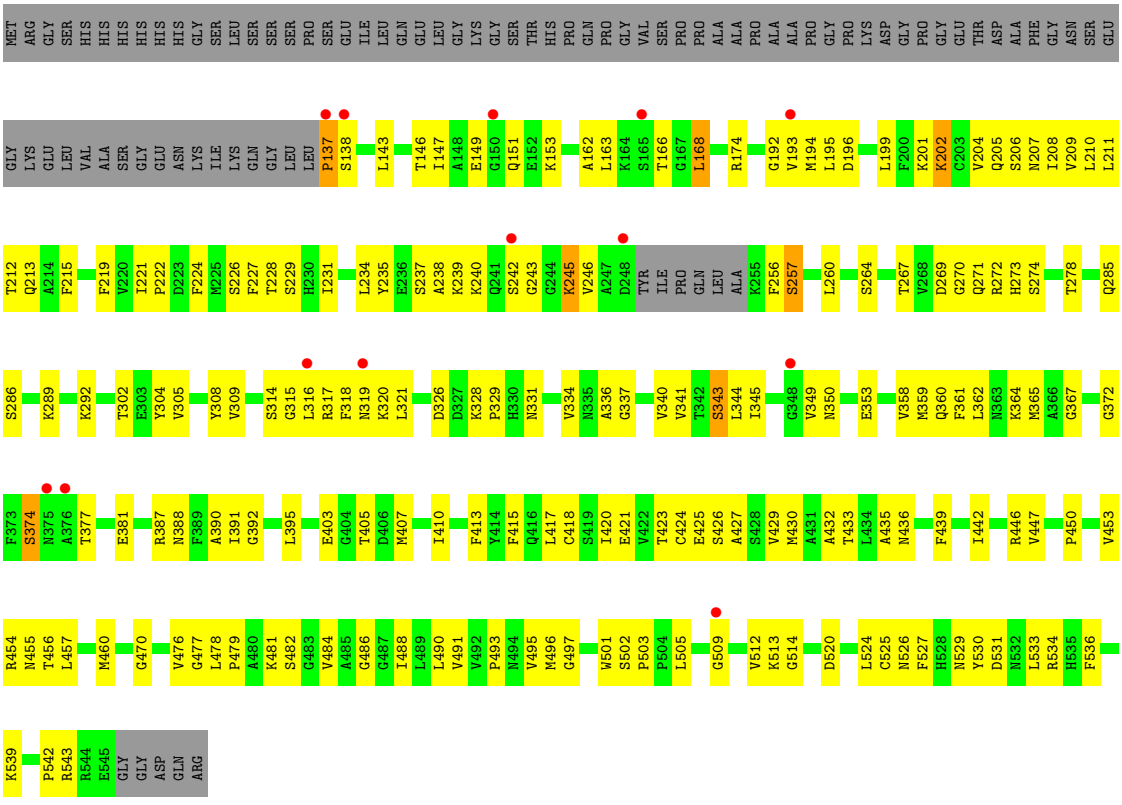
• Molecule 1: Glutaminase kidney isoform, mitochondrial 68 kDa chain

Chain B:

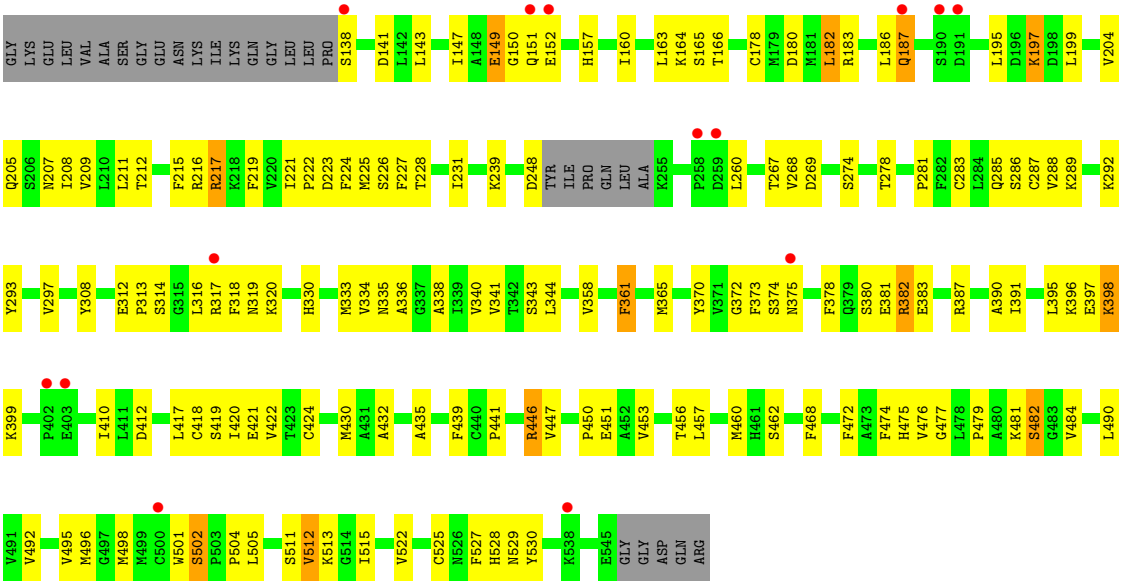




• Molecule 1: Glutaminase kidney isoform, mitochondrial 68 kDa chain



• Molecule 1: Glutaminase kidney isoform, mitochondrial 68 kDa chain


GLY LYS GLU LEU VAL ALA SER GLY GLU ASN LYS ILE LYS GLN GLY LEU LEU PRO S138 D141 L142 L143 I147 A148 E149 G150 Q151 E152 H157 I160 L163 K164 S165 T166 C178 M179 D180 M181 L182 R183 L186 Q187 S190 D191 L195 D196 K197 D198 L199 V204
Q205 S206 N207 I208 V209 L210 L211 T212 F215 R216 R217 K218 F219 V220 I221 P222 D223 F224 M225 S226 F227 T228 I231 K239 D248 TYR ILE PRO GLN LEU ALA K255 P258 D259 L260 T267 V268 D269 S274 T278 P281 F282 C283 L284 Q285 S286 C287 V288 K289 K292
Y293 V297 Y308 E312 P313 S314 G315 L316 R317 F318 N319 K320 H330 M333 V334 N335 A336 G337 A338 I339 V340 V341 T342 S343 L344 V358 F361 M365 Y370 W371 G372 F373 S374 N375 F378 Q379 S380 E381 R382 E383 R387 A390 I391 L395 K396 E397 K398
K399 P402 E403 I410 L411 D412 L417 C418 S419 I420 E421 V422 T423 C424 M430 A431 A432 A435 F439 C440 P441 R446 V447 P450 E451 A452 V453 T456 L457 M460 H461 S462 F468 F472 A473 F474 H475 V476 G477 L478 P479 A480 K481 S482 G483 V484 L490
V491 V492 V495 M496 G497 M498 M499 C500 W501 S502 P503 P504 L505 S511 V512 K513 G514 I515 V522 C525 N526 F527 H528 N529 Y530 K538 E545 GLY GLY ASP GLN ARG

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	50.00Å 138.00Å 178.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.33 – 3.00 20.33 – 3.00	Depositor EDS
% Data completeness (in resolution range)	97.3 (20.33-3.00) 86.7 (20.33-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.03 (at 2.98Å)	Xtriage
Refinement program	PHENIX 1.16_3549	Depositor
R, R_{free}	0.207 , 0.286 0.207 , 0.286	Depositor DCC
R_{free} test set	2015 reflections (4.27%)	wwPDB-VP
Wilson B-factor (Å^2)	70.8	Xtriage
Anisotropy	0.590	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 68.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.096 for h,-k,-l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	12367	wwPDB-VP
Average B, all atoms (Å^2)	90.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.96% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 04A

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	0.49	0/3136	0.64	0/4238
1	B	0.48	0/3126	0.66	1/4229 (0.0%)
1	C	0.49	0/3160	0.67	2/4268 (0.0%)
1	D	0.46	0/3138	0.65	3/4241 (0.1%)
All	All	0.48	0/12560	0.66	6/16976 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1

There are no bond length outliers.

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	137	PRO	N-CA-CB	5.96	110.45	103.30
1	D	502	SER	N-CA-C	-5.84	95.24	111.00
1	C	168	LEU	CA-CB-CG	5.62	128.22	115.30
1	C	137	PRO	N-CA-CB	5.29	109.65	103.30
1	D	187	GLN	CA-CB-CG	5.13	124.68	113.40
1	D	502	SER	N-CA-CB	5.10	118.15	110.50

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	202	LYS	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3069	0	2968	139	0
1	B	3060	0	2937	146	0
1	C	3093	0	2998	146	0
1	D	3071	0	2958	120	0
2	A	35	0	24	16	0
2	D	35	0	24	5	0
3	A	3	0	0	1	0
3	D	1	0	0	3	0
All	All	12367	0	11909	535	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 22.

All (535) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:317:ARG:HH11	2:A:601:04A:CAE	1.48	1.26
1:B:430:MET:O	1:B:433:THR:HG22	1.22	1.25
1:B:357:TYR:CZ	1:B:361:PHE:HE2	1.56	1.23
1:A:524:LEU:HD23	1:A:525:CYS:SG	1.87	1.13
1:A:317:ARG:HH11	2:A:601:04A:HAE	1.00	1.12
1:A:317:ARG:NH1	2:A:601:04A:HAE	1.68	1.06
1:B:357:TYR:CZ	1:B:361:PHE:CE2	2.47	1.02
1:A:321:LEU:HD23	2:A:601:04A:CBI	1.90	1.01
1:B:430:MET:O	1:B:433:THR:CG2	2.09	0.99
1:C:202:LYS:HD2	1:C:205:GLN:HB3	1.45	0.97
1:A:317:ARG:NH1	2:A:601:04A:CAE	2.29	0.94
1:B:365:MET:CG	1:B:433:THR:HG21	1.97	0.94
1:A:317:ARG:HH11	2:A:601:04A:CAC	1.82	0.92
1:B:357:TYR:OH	1:B:361:PHE:HE2	1.52	0.90
1:A:321:LEU:HD23	2:A:601:04A:SBA	2.12	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:243:GLY:O	1:C:512:VAL:HG21	1.72	0.87
1:B:365:MET:HG2	1:B:433:THR:HG21	1.59	0.85
1:C:392:GLY:HA3	1:C:407:MET:HE1	1.58	0.84
1:D:450:PRO:HA	1:D:453:VAL:HG12	1.59	0.84
1:B:427:ALA:HA	1:B:430:MET:HG3	1.59	0.82
1:B:293:TYR:HH	1:B:306:HIS:HE2	1.24	0.81
1:A:292:LYS:HG3	1:A:341:VAL:HG11	1.66	0.78
1:B:433:THR:HG23	1:B:434:LEU:HD23	1.65	0.78
1:C:166:THR:HG23	1:C:168:LEU:HD23	1.66	0.78
1:C:302:THR:OG1	1:C:455:ASN:ND2	2.17	0.78
1:A:317:ARG:NH1	2:A:601:04A:CAC	2.43	0.78
1:B:357:TYR:OH	1:B:361:PHE:CE2	2.33	0.78
1:B:163:LEU:O	1:B:166:THR:HG22	1.86	0.76
1:B:529:ASN:ND2	1:D:529:ASN:OD1	2.19	0.75
1:B:372:GLY:O	1:B:421:GLU:N	2.18	0.75
1:A:317:ARG:NH1	2:A:601:04A:HAC	2.00	0.75
1:C:372:GLY:O	1:C:421:GLU:N	2.16	0.74
1:D:274:SER:HB3	1:D:278:THR:HG21	1.67	0.74
1:C:163:LEU:O	1:C:166:THR:HG22	1.87	0.73
1:C:143:LEU:O	1:C:147:ILE:HD12	1.87	0.73
1:D:343:SER:HA	1:D:410:ILE:HD12	1.71	0.73
1:D:484:VAL:HA	1:D:505:LEU:HD11	1.71	0.73
1:D:165:SER:HA	1:D:225:MET:HE3	1.69	0.73
1:B:293:TYR:OH	1:B:306:HIS:NE2	2.16	0.72
1:A:355:PHE:CE1	1:A:420:ILE:HD11	2.25	0.71
1:B:537:ALA:HB2	1:D:450:PRO:HG2	1.71	0.71
1:C:240:LYS:HG3	1:C:240:LYS:O	1.89	0.71
1:C:524:LEU:HD23	1:C:525:CYS:SG	2.30	0.70
1:C:343:SER:HA	1:C:410:ILE:HD12	1.72	0.70
1:A:178:CYS:HB3	1:A:207:ASN:HD22	1.57	0.70
1:C:168:LEU:HD21	1:C:219:PHE:HE2	1.57	0.70
1:D:341:VAL:HA	1:D:344:LEU:HD12	1.74	0.69
1:D:157:HIS:HA	1:D:160:ILE:HG12	1.75	0.69
1:C:202:LYS:HD2	1:C:205:GLN:CB	2.22	0.69
1:C:243:GLY:O	1:C:512:VAL:HG11	1.93	0.69
1:B:289:LYS:HA	1:B:292:LYS:HE3	1.76	0.67
1:C:403:GLU:H	1:C:403:GLU:CD	1.98	0.67
1:C:163:LEU:HD12	1:C:211:LEU:HD21	1.77	0.67
1:B:166:THR:HG23	1:B:168:LEU:H	1.60	0.66
1:B:357:TYR:CE2	1:B:361:PHE:CE2	2.82	0.66
1:A:163:LEU:O	1:A:166:THR:HG22	1.95	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:477:GLY:O	1:C:529:ASN:HB2	1.96	0.66
1:C:439:PHE:CE2	1:C:446:ARG:HB2	2.31	0.66
1:D:195:LEU:HA	1:D:199:LEU:HD23	1.77	0.66
1:A:272:ARG:NH2	1:A:369:GLU:OE2	2.29	0.66
1:B:234:LEU:HD22	1:B:520:ASP:HB3	1.78	0.65
1:B:364:LYS:NZ	1:B:445:GLU:OE1	2.18	0.65
1:C:202:LYS:CD	1:C:205:GLN:HB3	2.25	0.65
1:D:387:ARG:O	1:D:391:ILE:HD12	1.97	0.65
1:C:358:VAL:HG11	1:C:417:LEU:HD22	1.78	0.65
1:B:365:MET:HG3	1:B:433:THR:HG21	1.75	0.65
1:D:391:ILE:O	1:D:395:LEU:HG	1.96	0.65
1:D:490:LEU:HB3	1:D:498:MET:HB2	1.78	0.65
1:A:213:GLN:HB3	1:A:218:LYS:HB2	1.79	0.64
1:C:318:PHE:CE2	1:C:321:LEU:CD1	2.79	0.64
1:C:476:VAL:HG12	1:C:478:LEU:H	1.62	0.64
1:C:392:GLY:HA3	1:C:407:MET:CE	2.28	0.64
1:C:484:VAL:HA	1:C:505:LEU:HD11	1.78	0.64
1:A:492:VAL:HB	1:A:495:VAL:HG22	1.78	0.64
1:A:140:GLU:N	1:A:140:GLU:OE1	2.29	0.64
1:A:241:GLN:HB2	1:A:513:LYS:HG2	1.79	0.64
1:A:537:ALA:HB2	1:C:450:PRO:HG2	1.80	0.64
1:C:318:PHE:CD2	1:C:321:LEU:HD12	2.33	0.63
1:B:258:PRO:HB3	1:B:504:PRO:HG3	1.80	0.63
1:A:316:LEU:O	1:A:319:ASN:OD1	2.17	0.63
1:D:281:PRO:HB3	1:D:370:TYR:HE2	1.63	0.63
1:A:344:LEU:N	1:A:344:LEU:HD23	2.14	0.62
1:A:427:ALA:HA	1:A:430:MET:HG3	1.82	0.62
1:C:278:THR:HB	1:C:425:GLU:HG2	1.81	0.62
1:B:528:HIS:HB3	1:B:531:ASP:OD2	1.99	0.62
1:B:502:SER:OG	1:B:513:LYS:NZ	2.32	0.62
1:C:208:ILE:HA	1:C:211:LEU:HB2	1.81	0.62
1:B:462:SER:HB2	1:B:463:CYS:SG	2.41	0.61
1:B:470:GLY:HA3	1:D:312:GLU:HG2	1.82	0.61
1:C:318:PHE:CE2	1:C:321:LEU:HD11	2.36	0.60
1:A:343:SER:OG	1:A:410:ILE:HD12	2.00	0.60
1:B:148:ALA:O	1:B:150:GLY:N	2.35	0.60
1:D:217:ARG:H	1:D:217:ARG:HD2	1.66	0.60
1:A:431:ALA:HA	1:A:434:LEU:HD12	1.84	0.60
1:A:481:LYS:NZ	1:A:482:SER:O	2.33	0.60
2:D:601:04A:NAX	2:D:601:04A:HAL	2.17	0.60
1:A:321:LEU:HD23	2:A:601:04A:NAX	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:165:SER:HA	1:D:225:MET:CE	2.31	0.59
1:A:317:ARG:CZ	2:A:601:04A:HAC	2.31	0.59
1:D:372:GLY:O	1:D:421:GLU:N	2.26	0.59
1:A:197:LYS:O	1:A:201:LYS:HB2	2.02	0.59
1:A:321:LEU:CD2	2:A:601:04A:CBI	2.73	0.59
1:B:430:MET:C	1:B:433:THR:HG22	2.16	0.59
1:B:470:GLY:HA3	1:D:312:GLU:CG	2.33	0.59
1:C:304:TYR:CE2	1:C:344:LEU:HD22	2.38	0.59
1:C:349:VAL:CG1	1:C:353:GLU:HB2	2.33	0.59
1:B:227:PHE:HZ	1:B:496:MET:CE	2.16	0.59
1:D:227:PHE:CZ	1:D:231:ILE:HD11	2.38	0.59
1:A:160:ILE:O	1:A:164:LYS:N	2.25	0.58
1:B:200:PHE:CZ	1:B:204:VAL:HG21	2.38	0.58
1:A:525:CYS:C	1:A:527:PHE:H	2.07	0.58
1:B:374:SER:O	1:B:374:SER:OG	2.19	0.58
1:D:227:PHE:O	1:D:231:ILE:HG13	2.03	0.58
1:C:432:ALA:HA	1:C:435:ALA:HB3	1.86	0.58
1:D:314:SER:OG	1:D:330:HIS:CG	2.57	0.58
1:B:479:PRO:HD3	1:D:530:TYR:OH	2.02	0.58
1:C:267:THR:HG23	1:C:269:ASP:H	1.67	0.58
1:B:182:LEU:HD13	1:B:203:CYS:HB3	1.86	0.57
1:C:222:PRO:HD2	1:C:542:PRO:O	2.04	0.57
1:D:208:ILE:HG13	1:D:212:THR:HG23	1.85	0.57
1:D:439:PHE:CZ	1:D:446:ARG:HG3	2.39	0.57
1:A:289:LYS:HD3	1:A:338:ALA:HB2	1.86	0.57
1:A:367:GLY:HA3	1:A:442:ILE:HD11	1.87	0.57
1:B:506:ASP:HB3	1:B:512:VAL:HG22	1.86	0.57
1:D:281:PRO:HA	1:D:422:VAL:O	2.05	0.57
1:D:178:CYS:O	1:D:182:LEU:HD12	2.05	0.56
1:D:477:GLY:O	1:D:529:ASN:HB2	2.05	0.56
1:A:374:SER:OG	1:A:377:THR:HG22	2.05	0.56
1:C:457:LEU:HD21	1:C:491:VAL:HG11	1.87	0.56
1:D:293:TYR:O	1:D:297:VAL:HG22	2.06	0.56
1:B:160:ILE:O	1:B:164:LYS:N	2.36	0.56
1:B:261:TRP:HA	1:B:501:TRP:O	2.06	0.56
1:B:449:SER:HB3	1:B:452:ALA:H	1.70	0.56
1:C:360:GLN:HB3	1:C:364:LYS:NZ	2.21	0.56
1:D:209:VAL:HG23	3:D:701:HOH:O	2.05	0.56
1:A:176:LYS:O	1:A:180:ASP:N	2.30	0.56
1:B:457:LEU:HD21	1:B:491:VAL:HG11	1.87	0.56
1:C:481:LYS:NZ	1:C:482:SER:O	2.28	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:335:ASN:HD22	1:D:335:ASN:H	1.54	0.56
2:D:601:04A:HAL	2:D:601:04A:HNAX	1.71	0.56
1:C:337:GLY:O	1:C:341:VAL:HG23	2.06	0.55
1:C:245:LYS:NZ	1:C:246:VAL:O	2.27	0.55
1:A:343:SER:OG	1:A:410:ILE:HG21	2.07	0.55
1:C:374:SER:OG	1:C:377:THR:HG23	2.07	0.55
1:A:234:LEU:HD22	1:A:520:ASP:HB3	1.87	0.55
1:C:320:LYS:HB3	2:D:601:04A:NAU	2.21	0.55
1:A:283:CYS:SG	1:A:377:THR:HG21	2.47	0.55
1:A:292:LYS:HG3	1:A:341:VAL:CG1	2.34	0.55
1:B:267:THR:HG23	1:B:271:GLN:O	2.07	0.55
1:D:358:VAL:HG21	1:D:417:LEU:HD21	1.87	0.55
1:D:396:LYS:O	1:D:399:LYS:NZ	2.31	0.55
1:C:270:GLY:O	1:C:272:ARG:HG2	2.07	0.54
1:D:281:PRO:HB3	1:D:370:TYR:CE2	2.43	0.54
1:A:530:TYR:CE1	1:C:479:PRO:HG3	2.43	0.54
1:C:536:PHE:HD2	1:C:539:LYS:HB2	1.72	0.54
1:B:227:PHE:CZ	1:B:231:ILE:HD11	2.42	0.54
1:C:318:PHE:CE2	1:C:321:LEU:HD12	2.43	0.54
1:A:248:ASP:OD1	1:A:248:ASP:N	2.40	0.54
1:B:351:ASN:HD21	1:B:413:PHE:HB2	1.71	0.54
1:C:439:PHE:CZ	1:C:446:ARG:HB2	2.42	0.54
1:A:212:THR:O	1:A:216:ARG:N	2.35	0.54
1:C:392:GLY:CA	1:C:407:MET:HE1	2.33	0.54
1:D:382:ARG:HH12	1:D:412:ASP:CG	2.12	0.54
1:D:475:HIS:O	1:D:528:HIS:HD2	1.91	0.54
1:A:200:PHE:O	1:A:204:VAL:HG22	2.08	0.54
1:A:439:PHE:CE2	1:A:446:ARG:HB2	2.43	0.54
1:B:264:SER:HB2	1:B:428:SER:OG	2.08	0.54
1:C:345:ILE:HD11	1:C:413:PHE:CZ	2.43	0.54
1:C:527:PHE:HZ	1:C:542:PRO:HG2	1.72	0.54
1:A:142:LEU:O	1:A:146:THR:HG23	2.08	0.53
1:C:336:ALA:HA	1:C:391:ILE:HG21	1.90	0.53
1:D:186:LEU:HD13	1:D:186:LEU:O	2.08	0.53
1:D:358:VAL:HG21	1:D:417:LEU:CD2	2.38	0.53
1:A:402:PRO:O	1:A:405:THR:OG1	2.20	0.53
1:C:166:THR:CG2	1:C:168:LEU:HD23	2.37	0.53
1:C:227:PHE:CZ	1:C:231:ILE:HD11	2.44	0.53
1:C:526:ASN:OD1	1:C:543:ARG:NH2	2.41	0.53
1:A:457:LEU:HD22	1:A:491:VAL:HG11	1.91	0.53
1:C:201:LYS:C	1:C:202:LYS:HD3	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:174:ARG:NH2	1:C:210:LEU:HD11	2.23	0.53
1:B:267:THR:HA	1:B:496:MET:HA	1.91	0.52
1:B:196:ASP:OD2	1:B:198:ASP:N	2.42	0.52
1:C:209:VAL:O	1:C:213:GLN:HG3	2.09	0.52
1:C:174:ARG:NH1	1:C:269:ASP:O	2.42	0.52
1:D:504:PRO:O	1:D:511:SER:HA	2.09	0.52
1:A:200:PHE:CE2	1:A:204:VAL:HG21	2.44	0.52
1:B:174:ARG:HD2	1:B:210:LEU:HD11	1.91	0.52
1:C:243:GLY:O	1:C:512:VAL:CG2	2.53	0.52
1:D:151:GLN:CD	1:D:152:GLU:H	2.12	0.52
1:C:243:GLY:C	1:C:512:VAL:HG11	2.29	0.52
1:B:299:ASP:OD2	1:B:357:TYR:OH	2.26	0.52
1:C:450:PRO:O	1:C:453:VAL:HG12	2.10	0.52
1:A:387:ARG:O	1:A:390:ALA:HB3	2.10	0.52
1:B:195:LEU:HA	1:B:199:LEU:HD12	1.91	0.52
1:C:168:LEU:HD21	1:C:219:PHE:CE2	2.43	0.52
1:A:265:VAL:HG22	1:A:498:MET:HG2	1.92	0.52
1:A:525:CYS:O	1:A:527:PHE:N	2.41	0.52
1:B:304:TYR:OH	1:B:347:GLN:OE1	2.28	0.52
1:C:331:ASN:O	1:C:334:VAL:HG22	2.09	0.52
1:B:293:TYR:CE2	1:B:459:LEU:HD12	2.44	0.51
1:C:149:GLU:HB2	1:C:151:GLN:HG3	1.90	0.51
1:B:224:PHE:O	1:B:228:THR:HG23	2.11	0.51
1:B:341:VAL:HA	1:B:344:LEU:HD12	1.92	0.51
1:B:417:LEU:HD23	1:B:420:ILE:HD12	1.91	0.51
1:D:267:THR:O	1:D:269:ASP:N	2.43	0.51
1:B:289:LYS:HE3	1:B:338:ALA:HB2	1.93	0.51
1:A:261:TRP:HA	1:A:501:TRP:O	2.11	0.51
1:A:405:THR:CG2	1:A:410:ILE:HG13	2.40	0.51
1:C:163:LEU:CD1	1:C:211:LEU:HD21	2.39	0.51
1:C:432:ALA:O	1:C:436:ASN:HB2	2.11	0.51
1:D:432:ALA:CB	1:D:441:PRO:HG3	2.40	0.51
1:A:354:LYS:NZ	3:A:701:HOH:O	2.43	0.51
1:D:365:MET:HB3	1:D:430:MET:CE	2.40	0.51
1:A:147:ILE:O	1:A:158:LYS:NZ	2.42	0.51
1:B:196:ASP:OD2	1:B:198:ASP:CB	2.58	0.51
1:B:495:VAL:HG12	1:B:496:MET:HG2	1.93	0.51
1:D:260:LEU:HD13	1:D:501:TRP:CH2	2.46	0.51
1:A:178:CYS:H	1:A:207:ASN:ND2	2.09	0.51
1:A:528:HIS:HB3	1:A:531:ASP:OD2	2.10	0.51
1:B:358:VAL:HG11	1:B:417:LEU:HD21	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:313:PRO:HG3	1:D:462:SER:HB3	1.93	0.51
1:D:373:PHE:HE1	1:D:419:SER:HB2	1.76	0.50
1:B:196:ASP:OD2	1:B:198:ASP:HB2	2.11	0.50
1:B:235:TYR:CD1	1:B:236:GLU:HG2	2.47	0.50
1:C:153:LYS:CB	1:C:194:MET:HB3	2.41	0.50
1:D:481:LYS:NZ	1:D:482:SER:O	2.34	0.50
1:A:313:PRO:HG3	1:A:462:SER:HB3	1.93	0.50
1:B:481:LYS:O	1:B:488:ILE:HA	2.11	0.50
1:D:285:GLN:HE22	1:D:381:GLU:CD	2.15	0.50
1:B:401:PHE:HB3	1:B:405:THR:HG21	1.93	0.50
1:C:340:VAL:HG23	1:C:395:LEU:HD13	1.93	0.50
1:C:359:MET:SD	1:C:420:ILE:HD12	2.52	0.50
1:D:141:ASP:CB	1:D:197:LYS:HZ1	2.25	0.50
1:B:174:ARG:HD2	1:B:210:LEU:CD1	2.42	0.50
1:B:439:PHE:CE2	1:B:446:ARG:HB2	2.47	0.50
1:B:472:PHE:CZ	1:B:476:VAL:HG21	2.47	0.50
1:C:226:SER:O	1:C:229:SER:OG	2.26	0.50
1:C:456:THR:HG22	1:C:460:MET:SD	2.52	0.50
1:D:285:GLN:NE2	1:D:381:GLU:OE2	2.42	0.50
1:A:263:VAL:HG22	1:A:500:CYS:SG	2.52	0.49
1:D:432:ALA:HB1	1:D:441:PRO:HG3	1.94	0.49
1:B:485:ALA:O	1:B:503:PRO:HA	2.13	0.49
1:B:541:ASP:OD1	1:B:543:ARG:NE	2.44	0.49
1:B:343:SER:HA	1:B:410:ILE:HD12	1.95	0.49
1:C:235:TYR:CE1	1:C:239:LYS:HD2	2.48	0.49
1:A:349:VAL:CG1	1:A:353:GLU:HB2	2.43	0.49
1:D:495:VAL:HG12	1:D:496:MET:HB3	1.94	0.49
1:B:362:LEU:HD22	1:B:430:MET:HE1	1.94	0.49
1:C:227:PHE:O	1:C:231:ILE:HG12	2.13	0.49
1:C:405:THR:HG23	1:C:410:ILE:HG13	1.95	0.49
1:D:217:ARG:HD2	1:D:217:ARG:N	2.25	0.49
1:C:221:ILE:HB	1:C:271:GLN:HE22	1.77	0.49
1:C:423:THR:H	1:C:426:SER:HG	1.55	0.49
1:A:270:GLY:O	1:A:272:ARG:HG2	2.13	0.49
1:A:350:ASN:ND2	1:A:353:GLU:HG3	2.27	0.49
1:B:526:ASN:OD1	1:B:543:ARG:NH2	2.46	0.49
1:C:202:LYS:HB3	1:C:205:GLN:HG2	1.94	0.49
1:A:260:LEU:HD13	1:A:501:TRP:CH2	2.48	0.48
1:A:476:VAL:HA	1:A:522:VAL:HG21	1.94	0.48
1:A:528:HIS:O	1:A:530:TYR:N	2.46	0.48
1:B:346:LYS:HE3	1:B:357:TYR:CD1	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:292:LYS:HZ1	1:D:338:ALA:HB1	1.78	0.48
1:A:236:GLU:HA	1:A:239:LYS:HB2	1.95	0.48
1:A:489:LEU:HD12	1:A:499:MET:HE2	1.94	0.48
1:D:289:LYS:HD3	1:D:338:ALA:HB2	1.95	0.48
1:A:258:PRO:HB3	1:A:504:PRO:HG3	1.95	0.48
1:B:486:GLY:O	1:B:501:TRP:HA	2.13	0.48
1:C:318:PHE:CD2	1:C:321:LEU:CD1	2.96	0.48
1:C:305:VAL:O	1:C:309:VAL:HG12	2.12	0.48
1:A:224:PHE:HB2	1:A:271:GLN:HE21	1.79	0.48
1:A:525:CYS:HA	1:A:540:LEU:O	2.13	0.48
1:B:182:LEU:CD1	1:B:203:CYS:HB3	2.43	0.48
1:B:286:SER:HB3	1:B:289:LYS:NZ	2.29	0.48
1:C:392:GLY:CA	1:C:407:MET:CE	2.91	0.48
1:D:267:THR:C	1:D:269:ASP:H	2.16	0.48
1:D:492:VAL:CG1	1:D:496:MET:HG2	2.44	0.48
1:B:530:TYR:CE1	1:D:479:PRO:HG3	2.48	0.48
1:A:343:SER:HA	1:A:410:ILE:HD12	1.96	0.48
1:A:211:LEU:O	1:A:215:PHE:HD2	1.97	0.48
1:A:484:VAL:O	1:A:505:LEU:HD21	2.14	0.48
1:A:427:ALA:O	1:A:430:MET:HB2	2.14	0.47
1:B:433:THR:HG23	1:B:434:LEU:N	2.28	0.47
1:C:358:VAL:O	1:C:362:LEU:HG	2.13	0.47
1:D:260:LEU:HD13	1:D:501:TRP:HH2	1.78	0.47
1:A:492:VAL:HG11	1:A:527:PHE:CD1	2.49	0.47
1:B:286:SER:OG	1:B:466:TYR:OH	2.25	0.47
1:C:387:ARG:O	1:C:390:ALA:HB3	2.14	0.47
1:C:432:ALA:N	1:C:497:GLY:HA3	2.29	0.47
1:C:224:PHE:O	1:C:228:THR:HG23	2.14	0.47
1:D:149:GLU:O	1:D:151:GLN:N	2.47	0.47
1:D:285:GLN:HA	1:D:418:CYS:HB3	1.96	0.47
1:D:223:ASP:OD2	1:D:226:SER:OG	2.30	0.47
1:D:239:LYS:HA	1:D:513:LYS:HD3	1.96	0.47
1:A:357:TYR:HH	1:A:361:PHE:HE2	1.63	0.47
1:B:358:VAL:O	1:B:362:LEU:HG	2.15	0.47
1:B:532:ASN:HB3	1:B:535:HIS:O	2.15	0.47
2:A:601:04A:HNAW	2:A:601:04A:HAJ	1.80	0.47
1:B:219:PHE:HB3	1:B:271:GLN:OE1	2.15	0.47
1:B:235:TYR:CE2	1:B:261:TRP:CD1	3.03	0.47
1:C:260:LEU:HD13	1:C:501:TRP:CH2	2.49	0.47
1:C:365:MET:HG3	1:C:447:VAL:HG11	1.96	0.47
1:D:474:PHE:O	1:D:528:HIS:NE2	2.39	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:324:ASN:HB3	1:B:330:HIS:ND1	2.30	0.47
1:A:174:ARG:NH1	1:A:269:ASP:O	2.48	0.47
1:B:192:GLY:HA3	1:B:193:VAL:HA	1.59	0.47
1:C:285:GLN:OE1	1:C:418:CYS:HB3	2.15	0.47
1:C:388:ASN:ND2	1:C:415:PHE:HE1	2.12	0.47
1:A:178:CYS:CB	1:A:207:ASN:HD22	2.25	0.46
1:B:502:SER:HB3	1:B:511:SER:HG	1.79	0.46
1:D:160:ILE:O	1:D:164:LYS:N	2.39	0.46
1:C:195:LEU:HA	1:C:199:LEU:HD23	1.96	0.46
1:C:495:VAL:HG12	1:C:496:MET:HG2	1.97	0.46
1:B:387:ARG:O	1:B:390:ALA:HB3	2.16	0.46
1:A:440:CYS:SG	1:A:442:ILE:HG12	2.55	0.46
1:B:147:ILE:HD12	1:B:147:ILE:H	1.80	0.46
1:B:477:GLY:O	1:B:529:ASN:HB2	2.16	0.46
1:D:285:GLN:OE1	1:D:418:CYS:HB3	2.16	0.46
1:B:453:VAL:O	1:B:457:LEU:HD12	2.15	0.46
1:C:429:VAL:O	1:C:433:THR:OG1	2.26	0.46
1:B:294:ALA:HB1	1:B:448:LEU:HD13	1.96	0.46
1:A:429:VAL:O	1:A:433:THR:OG1	2.23	0.46
1:B:317:ARG:HH21	1:C:317:ARG:NH2	2.13	0.46
1:C:495:VAL:HG12	1:C:496:MET:CG	2.45	0.46
1:D:318:PHE:C	1:D:320:LYS:H	2.18	0.46
1:A:324:ASN:HB3	1:A:330:HIS:ND1	2.31	0.46
1:B:322:PHE:C	1:B:323:LEU:HD23	2.36	0.46
1:B:413:PHE:CZ	1:B:417:LEU:HD11	2.51	0.46
1:B:447:VAL:O	1:B:448:LEU:HD23	2.16	0.46
1:B:531:ASP:OD1	1:B:539:LYS:NZ	2.49	0.46
1:D:476:VAL:HG13	1:D:522:VAL:HG21	1.98	0.46
1:B:432:ALA:HA	1:B:435:ALA:HB3	1.98	0.46
1:A:333:MET:HG3	1:A:481:LYS:HE2	1.96	0.46
1:C:208:ILE:O	1:C:212:THR:HG23	2.16	0.46
1:A:293:TYR:CE2	1:A:459:LEU:HD12	2.51	0.45
1:A:492:VAL:HB	1:A:495:VAL:CG2	2.44	0.45
1:B:178:CYS:SG	1:B:204:VAL:HG12	2.56	0.45
1:B:204:VAL:HB	1:B:211:LEU:HD13	1.99	0.45
1:C:208:ILE:HG13	1:C:212:THR:HG23	1.98	0.45
1:C:427:ALA:HA	1:C:430:MET:HG3	1.97	0.45
1:D:219:PHE:O	1:D:221:ILE:N	2.49	0.45
1:A:267:THR:HA	1:A:496:MET:HA	1.99	0.45
1:B:175:LEU:HB3	1:B:179:MET:HE3	1.97	0.45
1:B:372:GLY:C	1:B:421:GLU:H	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:454:ARG:HD3	1:D:528:HIS:CG	2.52	0.45
1:D:138:SER:O	1:D:138:SER:OG	2.34	0.45
1:C:315:GLY:O	1:C:317:ARG:N	2.49	0.45
1:D:207:ASN:HA	3:D:701:HOH:O	2.16	0.45
1:A:391:ILE:O	1:A:395:LEU:HG	2.16	0.45
1:A:528:HIS:CG	1:C:454:ARG:HD2	2.51	0.45
1:B:476:VAL:HG12	1:B:519:HIS:HA	1.98	0.45
1:D:372:GLY:C	1:D:421:GLU:HB2	2.37	0.45
1:B:227:PHE:HZ	1:B:496:MET:HE3	1.80	0.45
1:C:205:GLN:HG3	1:C:206:SER:N	2.31	0.45
1:A:323:LEU:HD12	1:A:329:PRO:N	2.32	0.45
1:A:427:ALA:HA	1:A:430:MET:CG	2.46	0.45
1:B:288:VAL:HG13	1:B:292:LYS:HE2	1.99	0.45
1:B:292:LYS:HA	1:B:295:ILE:HD12	1.99	0.45
1:B:435:ALA:HB2	1:B:491:VAL:HG13	1.98	0.45
1:C:345:ILE:HD11	1:C:413:PHE:HZ	1.81	0.45
1:C:488:ILE:HD12	1:C:514:GLY:HA3	1.99	0.45
1:A:261:TRP:HE3	1:A:501:TRP:O	1.99	0.45
1:A:320:LYS:O	2:A:601:04A:HAM	2.17	0.45
1:B:257:SER:O	1:B:260:LEU:HG	2.16	0.45
1:C:245:LYS:O	1:C:505:LEU:N	2.45	0.45
1:C:365:MET:HG2	1:C:433:THR:HG21	1.98	0.45
1:D:382:ARG:HG3	1:D:383:GLU:N	2.30	0.45
1:A:208:ILE:O	1:A:212:THR:N	2.50	0.45
1:A:480:ALA:HB2	1:A:490:LEU:HD12	1.99	0.45
1:D:451:GLU:OE2	1:D:451:GLU:N	2.47	0.45
1:C:224:PHE:CZ	1:C:273:HIS:HB2	2.53	0.45
1:D:221:ILE:HD13	1:D:227:PHE:CE2	2.52	0.45
1:D:278:THR:HA	1:D:424:CYS:SG	2.57	0.45
1:A:481:LYS:HA	1:A:481:LYS:HD2	1.68	0.44
1:A:524:LEU:CD2	1:A:525:CYS:SG	2.81	0.44
1:B:140:GLU:OE2	1:B:140:GLU:N	2.47	0.44
1:D:432:ALA:HA	1:D:435:ALA:HB3	1.98	0.44
1:A:216:ARG:O	1:A:218:LYS:HD3	2.18	0.44
1:B:263:VAL:O	1:B:278:THR:HG21	2.17	0.44
1:B:502:SER:HB3	1:B:511:SER:OG	2.16	0.44
1:C:308:TYR:O	1:C:329:PRO:HD2	2.17	0.44
1:D:308:TYR:HB3	1:D:340:VAL:HG11	1.98	0.44
1:A:278:THR:HB	1:A:424:CYS:HB2	1.98	0.44
1:B:312:GLU:OE2	1:D:316:LEU:HD11	2.18	0.44
1:C:278:THR:HA	1:C:424:CYS:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:289:LYS:HA	1:C:292:LYS:HE3	1.98	0.44
1:A:321:LEU:CD2	2:A:601:04A:NAX	2.81	0.44
1:B:278:THR:HB	1:B:424:CYS:HB2	1.99	0.44
1:B:293:TYR:HH	1:B:306:HIS:CD2	2.35	0.44
1:B:460:MET:HE1	1:B:489:LEU:HD23	2.00	0.44
1:B:490:LEU:HB3	1:B:498:MET:HB2	2.00	0.44
1:B:495:VAL:HG12	1:B:496:MET:N	2.32	0.44
1:B:533:LEU:HD23	1:B:533:LEU:HA	1.76	0.44
1:D:141:ASP:HA	1:D:197:LYS:NZ	2.32	0.44
1:B:211:LEU:O	1:B:215:PHE:HB2	2.17	0.44
1:D:227:PHE:CE2	1:D:231:ILE:HD11	2.53	0.44
1:D:267:THR:C	1:D:269:ASP:N	2.68	0.44
1:A:357:TYR:OH	1:A:361:PHE:HE2	2.01	0.44
1:B:266:CYS:O	1:B:432:ALA:HB2	2.17	0.44
1:C:289:LYS:HA	1:C:292:LYS:CE	2.47	0.44
1:C:377:THR:O	1:C:381:GLU:HB2	2.18	0.44
1:D:387:ARG:O	1:D:390:ALA:HB3	2.18	0.44
1:A:238:ALA:O	1:A:513:LYS:HD2	2.18	0.44
1:A:355:PHE:CZ	1:A:420:ILE:HD11	2.51	0.44
1:B:142:LEU:HA	1:B:142:LEU:HD23	1.80	0.44
1:B:264:SER:OG	1:B:278:THR:HB	2.18	0.44
1:D:211:LEU:O	1:D:215:PHE:HD2	2.01	0.44
1:A:483:GLY:N	1:A:487:GLY:O	2.51	0.43
1:C:204:VAL:O	1:C:208:ILE:HB	2.18	0.43
1:C:367:GLY:HA3	1:C:442:ILE:HD11	2.00	0.43
1:D:180:ASP:O	1:D:183:ARG:HB2	2.17	0.43
1:A:346:LYS:HD2	1:A:357:TYR:CG	2.53	0.43
1:A:360:GLN:O	1:A:364:LYS:HG3	2.18	0.43
1:C:234:LEU:HD22	1:C:520:ASP:HB3	2.00	0.43
1:D:180:ASP:OD1	1:D:183:ARG:NH2	2.51	0.43
1:A:178:CYS:O	1:A:182:LEU:HG	2.18	0.43
1:C:202:LYS:HA	1:C:205:GLN:HB3	2.00	0.43
1:A:231:ILE:HD12	1:A:265:VAL:HG21	2.00	0.43
1:A:317:ARG:NE	2:A:601:04A:HAC	2.34	0.43
1:A:502:SER:HB3	1:A:511:SER:OG	2.18	0.43
1:B:239:LYS:HA	1:B:513:LYS:HD3	2.00	0.43
1:C:143:LEU:O	1:C:146:THR:OG1	2.32	0.43
1:D:365:MET:HB3	1:D:430:MET:HE3	2.01	0.43
1:B:227:PHE:O	1:B:231:ILE:HG12	2.19	0.43
1:C:491:VAL:O	1:C:493:PRO:HD3	2.19	0.43
1:D:224:PHE:O	1:D:228:THR:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:468:PHE:CD2	1:D:472:PHE:HB2	2.53	0.43
1:A:176:LYS:HD3	1:A:176:LYS:HA	1.84	0.43
1:A:332:PRO:CG	1:A:459:LEU:HD13	2.48	0.43
1:C:315:GLY:O	1:C:318:PHE:N	2.51	0.43
1:D:399:LYS:HA	1:D:399:LYS:HD3	1.75	0.43
1:A:246:VAL:HG21	1:A:258:PRO:HG3	2.01	0.43
1:A:269:ASP:OD1	1:C:534:ARG:NH2	2.48	0.43
1:A:312:GLU:CD	1:C:470:GLY:HA3	2.39	0.43
1:A:530:TYR:OH	1:C:479:PRO:HD3	2.19	0.43
1:B:273:HIS:CG	1:B:274:SER:N	2.86	0.43
1:B:528:HIS:O	1:B:530:TYR:N	2.52	0.43
1:A:317:ARG:HH22	1:D:317:ARG:NH2	2.16	0.43
1:A:317:ARG:HD3	1:A:318:PHE:CD2	2.54	0.43
1:A:355:PHE:CZ	1:A:420:ILE:CD1	3.02	0.43
1:A:493:PRO:HG2	1:C:530:TYR:CD1	2.54	0.43
1:C:360:GLN:HB3	1:C:364:LYS:HZ2	1.81	0.43
1:D:207:ASN:CA	3:D:701:HOH:O	2.65	0.43
1:B:281:PRO:HA	1:B:422:VAL:O	2.19	0.43
1:D:219:PHE:HD1	1:D:219:PHE:HA	1.70	0.43
1:D:439:PHE:CE1	1:D:446:ARG:HG3	2.54	0.43
1:B:242:SER:O	1:B:242:SER:OG	2.31	0.42
1:C:321:LEU:HD23	2:D:601:04A:SAY	2.60	0.42
1:C:486:GLY:HA3	1:C:503:PRO:HA	2.01	0.42
1:D:289:LYS:NZ	1:D:333:MET:O	2.45	0.42
1:B:493:PRO:HG2	1:D:530:TYR:CE1	2.54	0.42
1:C:490:LEU:HD12	1:C:490:LEU:HA	1.84	0.42
1:D:336:ALA:HA	1:D:391:ILE:HG21	2.01	0.42
1:D:398:LYS:HZ1	2:D:601:04A:HAE	1.85	0.42
1:C:256:PHE:HB3	1:C:257:SER:H	1.52	0.42
1:D:334:VAL:HG22	1:D:336:ALA:H	1.82	0.42
1:D:373:PHE:CE1	1:D:419:SER:HB2	2.55	0.42
1:B:320:LYS:HA	1:B:320:LYS:HD3	1.83	0.42
1:B:325:GLU:HG2	1:B:325:GLU:O	2.20	0.42
1:C:168:LEU:CD2	1:C:219:PHE:HE2	2.28	0.42
1:C:387:ARG:HB2	1:D:397:GLU:HG2	2.02	0.42
1:C:505:LEU:HD13	1:C:509:GLY:O	2.19	0.42
1:C:512:VAL:HG23	1:C:513:LYS:H	1.83	0.42
1:D:289:LYS:HD3	1:D:338:ALA:CB	2.50	0.42
1:D:453:VAL:O	1:D:457:LEU:HD12	2.20	0.42
1:A:155:PRO:HD2	1:A:158:LYS:HD3	2.02	0.42
1:A:213:GLN:HA	1:A:218:LYS:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:274:SER:HB3	1:C:278:THR:HG21	2.01	0.42
1:C:286:SER:HB2	1:C:289:LYS:HD2	2.01	0.42
1:A:229:SER:HA	1:A:232:ASP:OD2	2.20	0.42
1:C:362:LEU:HD13	1:C:420:ILE:HG21	2.01	0.42
1:D:511:SER:O	1:D:515:ILE:N	2.51	0.42
1:B:263:VAL:N	1:B:278:THR:HG22	2.35	0.42
1:B:227:PHE:CZ	1:B:496:MET:CE	3.00	0.42
1:A:169:ARG:HH21	1:A:272:ARG:HB3	1.85	0.42
1:B:289:LYS:HE3	1:B:338:ALA:CB	2.50	0.42
1:C:162:ALA:HB1	1:C:215:PHE:HE1	1.84	0.42
1:C:533:LEU:HA	1:C:533:LEU:HD23	1.70	0.42
1:D:382:ARG:HH22	1:D:412:ASP:CG	2.23	0.42
1:B:347:GLN:HE21	1:B:347:GLN:HB3	1.69	0.41
1:C:392:GLY:C	1:C:407:MET:CE	2.88	0.41
1:A:355:PHE:HD1	1:A:413:PHE:HE1	1.67	0.41
1:B:489:LEU:HA	1:B:499:MET:HE2	2.03	0.41
1:D:204:VAL:HB	1:D:211:LEU:HD13	2.01	0.41
1:D:451:GLU:H	1:D:451:GLU:CD	2.23	0.41
1:D:525:CYS:O	1:D:527:PHE:N	2.48	0.41
1:A:370:TYR:OH	1:A:372:GLY:HA3	2.20	0.41
1:B:271:GLN:H	1:B:271:GLN:HG3	1.69	0.41
1:C:147:ILE:HD12	1:C:147:ILE:H	1.86	0.41
1:C:238:ALA:O	1:C:513:LYS:HD3	2.20	0.41
1:D:143:LEU:O	1:D:147:ILE:HG22	2.20	0.41
1:D:397:GLU:O	1:D:399:LYS:HE2	2.20	0.41
1:A:417:LEU:HD23	1:A:417:LEU:HA	1.87	0.41
1:A:525:CYS:C	1:A:527:PHE:N	2.73	0.41
1:C:326:ASP:N	1:C:326:ASP:OD2	2.53	0.41
1:D:163:LEU:O	1:D:166:THR:HG22	2.20	0.41
1:C:349:VAL:HG12	1:C:350:ASN:N	2.35	0.41
1:A:373:PHE:N	1:A:421:GLU:HB2	2.34	0.41
1:A:427:ALA:HB3	1:A:499:MET:HG2	2.03	0.41
1:B:182:LEU:CD1	1:B:203:CYS:CB	2.98	0.41
1:B:234:LEU:HB2	1:B:517:PHE:CE2	2.56	0.41
1:C:260:LEU:HD13	1:C:501:TRP:HH2	1.84	0.41
1:D:286:SER:C	1:D:288:VAL:H	2.23	0.41
1:B:202:LYS:O	1:B:202:LYS:HG2	2.20	0.41
1:B:346:LYS:HB3	1:B:349:VAL:HG22	2.03	0.41
1:C:407:MET:HE2	1:C:407:MET:HB2	1.78	0.41
1:A:154:ILE:HG22	1:A:155:PRO:O	2.21	0.41
1:A:366:ALA:HA	1:A:429:VAL:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:377:THR:CG2	1:B:419:SER:HB3	2.51	0.41
1:C:137:PRO:O	1:C:138:SER:OG	2.38	0.41
1:D:283:CYS:HA	1:D:420:ILE:O	2.20	0.41
1:A:312:GLU:HB3	1:A:313:PRO:CD	2.50	0.41
1:B:181:MET:O	1:B:185:THR:OG1	2.35	0.41
1:B:284:LEU:HD23	1:B:284:LEU:HA	1.99	0.41
1:B:323:LEU:HD13	1:B:327:ASP:C	2.42	0.41
1:B:336:ALA:HA	1:B:391:ILE:HG21	2.02	0.41
1:C:526:ASN:HA	1:C:531:ASP:OD2	2.21	0.41
1:D:456:THR:HG22	1:D:460:MET:SD	2.61	0.41
1:B:173:PRO:HD2	1:B:442:ILE:O	2.21	0.40
1:C:267:THR:HG21	1:C:271:GLN:OE1	2.21	0.40
1:D:248:ASP:OD1	1:D:248:ASP:N	2.54	0.40
1:D:512:VAL:O	1:D:515:ILE:N	2.53	0.40
1:A:286:SER:O	1:A:289:LYS:HG3	2.20	0.40
1:A:405:THR:HG22	1:A:410:ILE:HG13	2.03	0.40
1:A:476:VAL:O	1:A:522:VAL:HG11	2.21	0.40
1:C:318:PHE:HE2	1:C:321:LEU:HD11	1.81	0.40
1:D:361:PHE:CE2	1:D:447:VAL:HG12	2.57	0.40
1:B:219:PHE:HA	1:B:269:ASP:OD2	2.20	0.40
1:C:417:LEU:HA	1:C:417:LEU:HD23	1.79	0.40
1:D:319:ASN:OD1	1:D:319:ASN:N	2.52	0.40
1:A:147:ILE:HD13	1:A:159:PHE:HD1	1.87	0.40
1:A:323:LEU:HD23	1:A:394:TYR:HE2	1.86	0.40
1:A:492:VAL:HG11	1:A:527:PHE:CG	2.56	0.40
1:D:375:ASN:O	1:D:378:PHE:HB3	2.21	0.40
1:A:335:ASN:OD1	1:A:414:TYR:OH	2.32	0.40
1:C:192:GLY:N	1:C:193:VAL:HA	2.36	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	398/491 (81%)	351 (88%)	39 (10%)	8 (2%)	7 34
1	B	399/491 (81%)	345 (86%)	46 (12%)	8 (2%)	7 34
1	C	399/491 (81%)	351 (88%)	45 (11%)	3 (1%)	19 57
1	D	398/491 (81%)	350 (88%)	42 (11%)	6 (2%)	10 42
All	All	1594/1964 (81%)	1397 (88%)	172 (11%)	25 (2%)	9 40

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	316	LEU
1	B	138	SER
1	B	149	GLU
1	C	314	SER
1	C	316	LEU
1	D	149	GLU
1	B	193	VAL
1	B	347	GLN
1	C	319	ASN
1	D	150	GLY
1	A	191	ASP
1	A	526	ASN
1	A	529	ASN
1	B	529	ASN
1	D	287	CYS
1	A	197	LYS
1	A	314	SER
1	B	399	LYS
1	D	512	VAL
1	A	425	GLU
1	A	451	GLU
1	D	268	VAL
1	B	222	PRO
1	B	449	SER
1	D	222	PRO

5.3.2 Protein sidechains (i)

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

The Analysed column shows the number of residues for which the sidechain conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	328/417 (79%)	314 (96%)	14 (4%)	29	66
1	B	325/417 (78%)	316 (97%)	9 (3%)	43	77
1	C	333/417 (80%)	321 (96%)	12 (4%)	35	70
1	D	328/417 (79%)	314 (96%)	14 (4%)	29	66
All	All	1314/1668 (79%)	1265 (96%)	49 (4%)	34	70

All (49) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	198	ASP
1	A	237	SER
1	A	255	LYS
1	A	314	SER
1	A	316	LEU
1	A	317	ARG
1	A	321	LEU
1	A	346	LYS
1	A	361	PHE
1	A	365	MET
1	A	374	SER
1	A	384	SER
1	A	524	LEU
1	A	534	ARG
1	B	207	ASN
1	B	237	SER
1	B	374	SER
1	B	399	LYS
1	B	402	PRO
1	B	436	ASN
1	B	449	SER
1	B	489	LEU
1	B	543	ARG
1	C	196	ASP
1	C	207	ASN
1	C	237	SER
1	C	242	SER
1	C	245	LYS
1	C	257	SER
1	C	264	SER
1	C	328	LYS

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Mol	Chain	Res	Type
1	C	343	SER
1	C	361	PHE
1	C	374	SER
1	C	502	SER
1	D	182	LEU
1	D	187	GLN
1	D	197	LYS
1	D	205	GLN
1	D	216	ARG
1	D	217	ARG
1	D	361	PHE
1	D	374	SER
1	D	380	SER
1	D	382	ARG
1	D	398	LYS
1	D	446	ARG
1	D	482	SER
1	D	502	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	207	ASN
1	B	351	ASN
1	B	436	ASN
1	C	151	GLN
1	C	241	GLN
1	C	455	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

2 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	$\#\|Z\| > 2$
2	04A	A	601	-	32,38,38	3.81	9 (28%)	29,49,49	1.72	7 (24%)
2	04A	D	601	-	32,38,38	3.82	11 (34%)	29,49,49	1.63	9 (31%)

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	04A	A	601	-	-	5/18/24/24	0/4/4/4
2	04A	D	601	-	-	6/18/24/24	0/4/4/4

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	601	04A	NAU-NAS	11.46	1.60	1.37
2	D	601	04A	NAV-NAT	11.12	1.59	1.37
2	A	601	04A	NAV-NAT	10.99	1.59	1.37
2	D	601	04A	NAU-NAS	10.97	1.59	1.37
2	A	601	04A	CBF-SAZ	-6.70	1.53	1.73
2	A	601	04A	CBG-SBA	-6.55	1.53	1.73
2	D	601	04A	CBG-SBA	-6.44	1.53	1.73
2	D	601	04A	CBF-SAZ	-6.08	1.54	1.73
2	D	601	04A	CBH-NAW	5.41	1.46	1.36
2	A	601	04A	CBI-NAX	5.20	1.45	1.36
2	D	601	04A	CBI-NAX	4.83	1.45	1.36
2	A	601	04A	CBC-NAX	4.83	1.46	1.35
2	D	601	04A	CBB-NAW	4.79	1.46	1.35
2	A	601	04A	CBH-NAW	4.79	1.45	1.36
2	A	601	04A	CBB-NAW	4.65	1.45	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	601	04A	CAP-CBG	4.61	1.52	1.49
2	D	601	04A	CBC-NAX	4.46	1.45	1.35
2	A	601	04A	CAO-CBF	4.20	1.52	1.49
2	D	601	04A	CAO-CBF	3.18	1.51	1.49
2	D	601	04A	CAR-CBE	2.21	1.55	1.51

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	601	04A	CBH-NAW-CBB	-4.11	118.45	129.54
2	D	601	04A	CBH-NAW-CBB	-4.07	118.55	129.54
2	A	601	04A	CAO-CAM-SAY	-4.04	103.27	113.84
2	D	601	04A	CAO-CAM-SAY	-3.32	105.13	113.84
2	A	601	04A	CAP-CAN-SAY	-3.08	105.78	113.84
2	A	601	04A	CAN-SAY-CAM	2.91	110.71	101.87
2	D	601	04A	CAR-CBE-CAK	-2.86	116.80	120.89
2	D	601	04A	CAR-CBE-CAL	2.86	124.98	120.89
2	A	601	04A	CAQ-CBB-NAW	2.55	120.03	114.77
2	A	601	04A	CBI-NAX-CBC	-2.53	122.72	129.54
2	D	601	04A	CAR-CBC-NAX	2.23	119.38	114.77
2	D	601	04A	OAA-CBB-NAW	-2.22	119.57	123.63
2	A	601	04A	CAR-CBC-NAX	2.13	119.17	114.77
2	D	601	04A	CAN-SAY-CAM	2.08	108.18	101.87
2	D	601	04A	CAQ-CBB-NAW	2.02	118.94	114.77
2	D	601	04A	OAB-CBC-NAX	-2.00	119.98	123.63

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	601	04A	CBB-CAQ-CBD-CAI
2	D	601	04A	CBB-CAQ-CBD-CAJ
2	A	601	04A	CBE-CAR-CBC-OAB
2	D	601	04A	CBC-CAR-CBE-CAK
2	D	601	04A	CBC-CAR-CBE-CAL
2	A	601	04A	CBD-CAQ-CBB-OAA
2	D	601	04A	CBE-CAR-CBC-OAB
2	A	601	04A	CBD-CAQ-CBB-NAW
2	D	601	04A	CBE-CAR-CBC-NAX
2	A	601	04A	CBE-CAR-CBC-NAX
2	A	601	04A	SAY-CAN-CAP-CBG

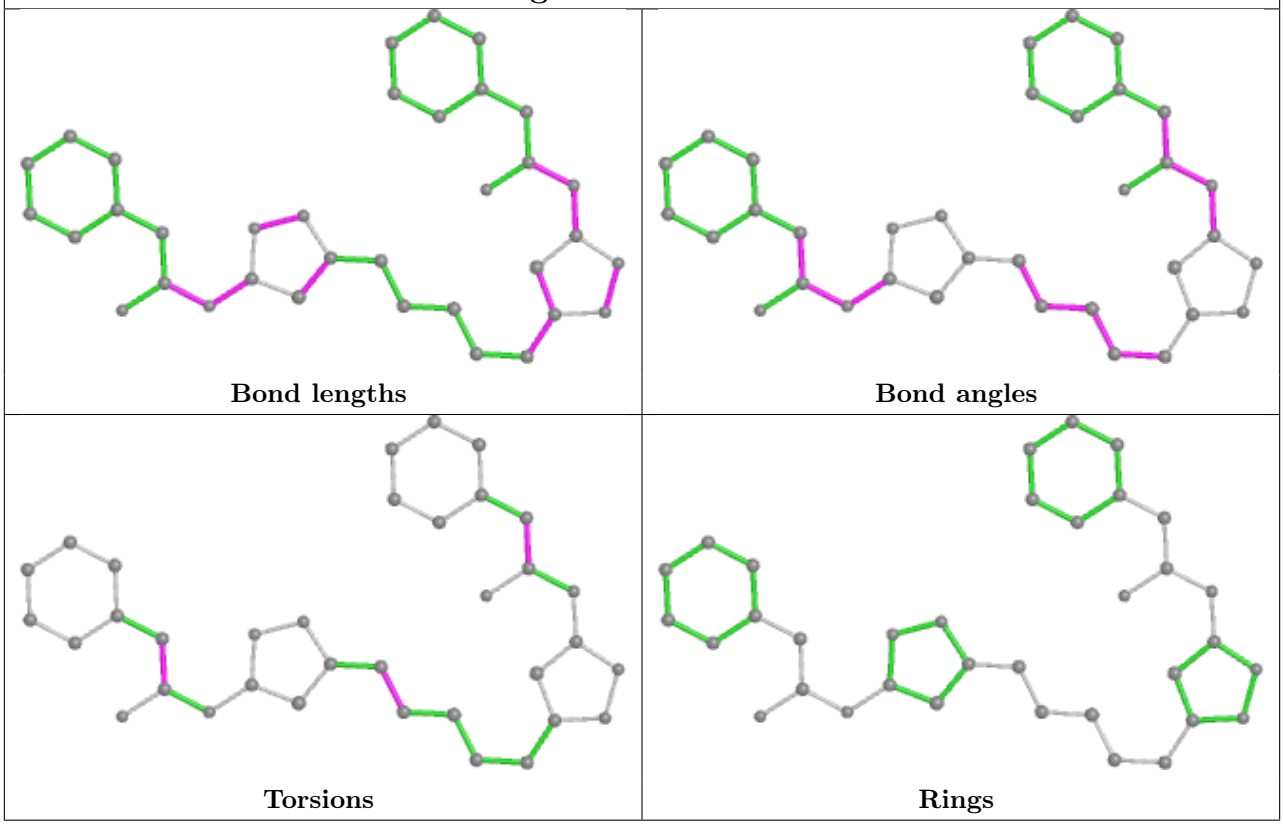
There are no ring outliers.

2 monomers are involved in 21 short contacts:

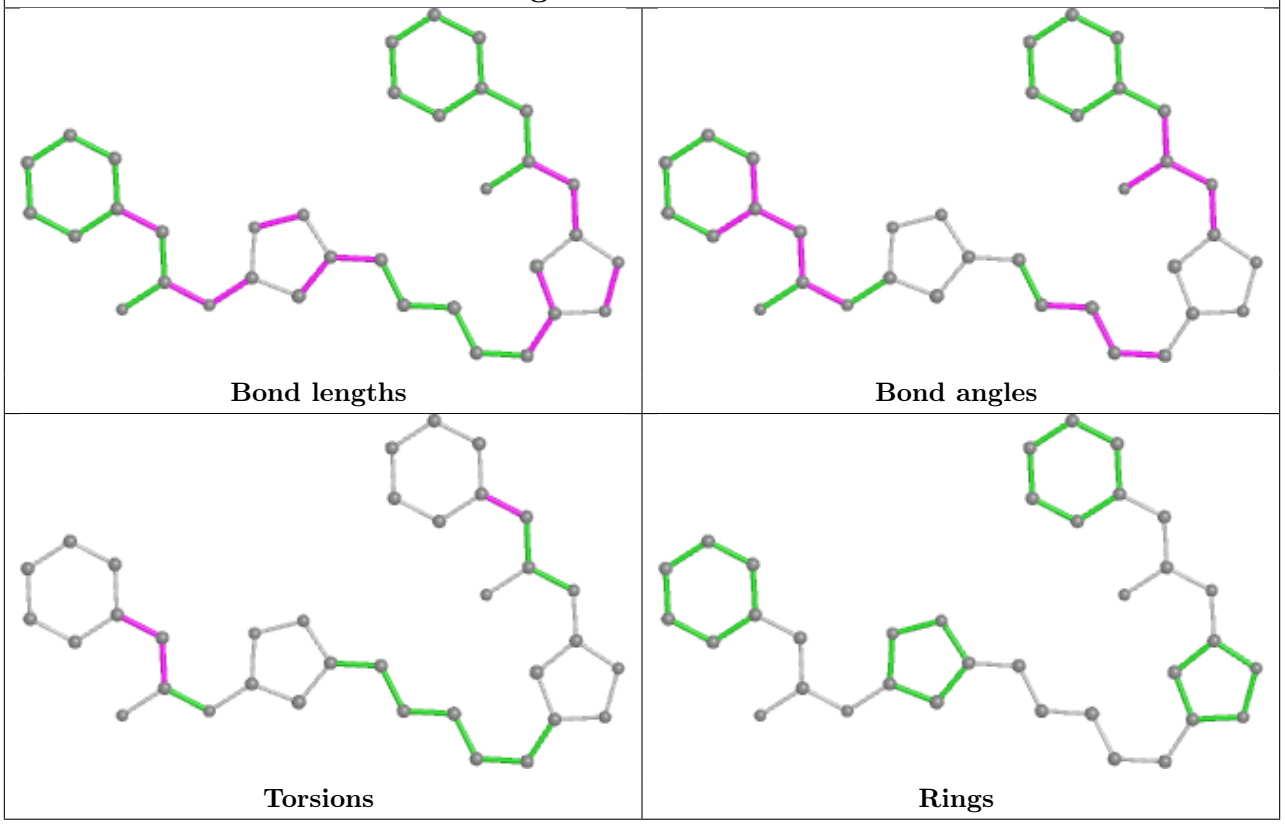
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	601	04A	16	0
2	D	601	04A	5	0

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

Ligand 04A A 601



Ligand 04A D 601



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	402/491 (81%)	-0.03	15 (3%)	41	17	49, 83, 139, 223	0
1	B	403/491 (82%)	0.03	24 (5%)	21	7	53, 83, 150, 263	0
1	C	403/491 (82%)	-0.05	13 (3%)	47	20	52, 83, 147, 210	0
1	D	402/491 (81%)	0.01	14 (3%)	44	18	51, 85, 149, 245	0
All	All	1610/1964 (81%)	-0.01	66 (4%)	37	14	49, 84, 147, 263	0

All (66) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	190	SER	8.4
1	A	190	SER	4.8
1	D	138	SER	4.7
1	B	145	TYR	4.6
1	A	317	ARG	4.6
1	D	375	ASN	4.5
1	A	188	THR	4.5
1	B	191	ASP	4.2
1	B	192	GLY	4.2
1	B	150	GLY	3.9
1	D	191	ASP	3.9
1	A	150	GLY	3.8
1	C	150	GLY	3.8
1	C	348	GLY	3.6
1	D	152	GLU	3.4
1	D	151	GLN	3.3
1	D	317	ARG	3.3
1	B	319	ASN	3.2
1	B	248	ASP	3.2
1	A	149	GLU	3.2
1	B	165	SER	3.1

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Mol	Chain	Res	Type	RSRZ
1	C	137	PRO	3.1
1	C	319	ASN	3.1
1	B	149	GLU	3.0
1	C	165	SER	3.0
1	B	317	ARG	2.9
1	C	138	SER	2.8
1	D	538	LYS	2.8
1	B	157	HIS	2.8
1	A	247	ALA	2.8
1	A	348	GLY	2.7
1	A	151	GLN	2.7
1	B	262	GLY	2.7
1	A	191	ASP	2.6
1	A	187	GLN	2.6
1	A	539	LYS	2.5
1	B	241	GLN	2.5
1	B	188	THR	2.5
1	D	403	GLU	2.5
1	C	375	ASN	2.5
1	B	138	SER	2.4
1	C	376	ALA	2.4
1	A	375	ASN	2.4
1	B	534	ARG	2.4
1	D	187	GLN	2.3
1	B	500	CYS	2.3
1	D	190	SER	2.3
1	A	189	THR	2.3
1	C	248	ASP	2.3
1	A	402	PRO	2.2
1	A	262	GLY	2.2
1	B	502	SER	2.2
1	C	509	GLY	2.2
1	D	259	ASP	2.2
1	B	146	THR	2.2
1	D	258	PRO	2.1
1	B	256	PHE	2.1
1	B	348	GLY	2.1
1	D	500	CYS	2.1
1	B	148	ALA	2.1
1	D	402	PRO	2.1
1	B	196	ASP	2.1
1	B	137	PRO	2.0

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Mol	Chain	Res	Type	RSRZ
1	C	242	SER	2.0
1	C	193	VAL	2.0
1	C	316	LEU	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

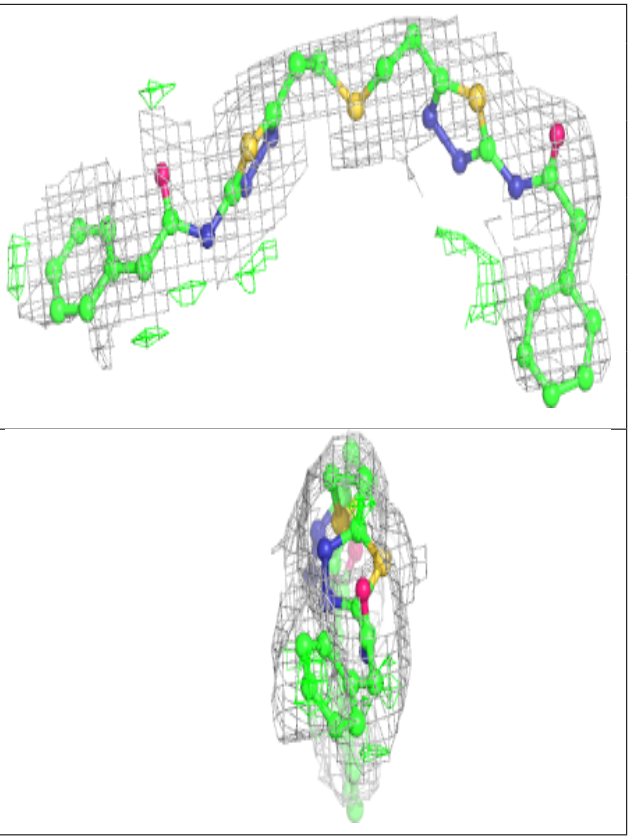
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	04A	D	601	35/35	0.77	0.25	84,128,139,143	0
2	04A	A	601	35/35	0.80	0.25	90,131,149,150	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.

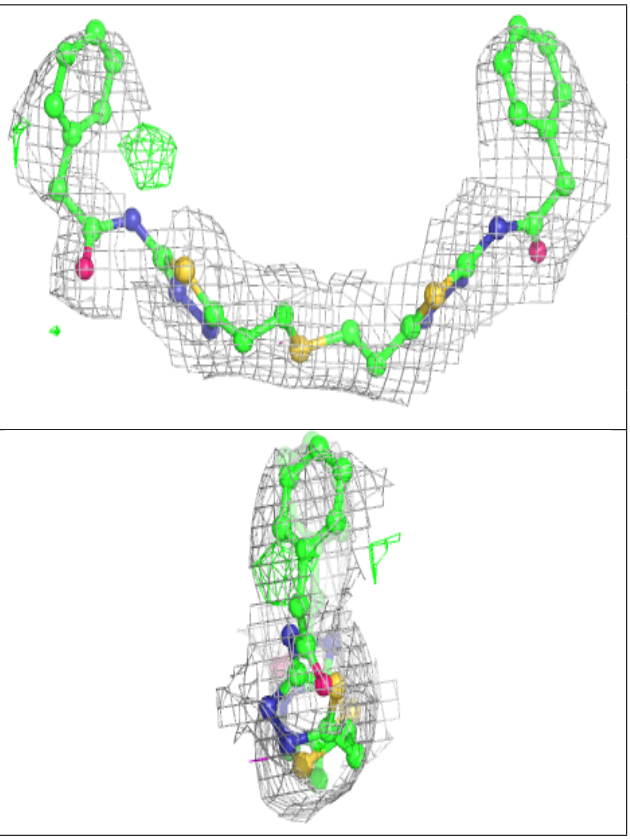
Electron density around 04A D 601:

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



Electron density around 04A A 601:

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



6.5 Other polymers (i)

There are no such residues in this entry.