Full wwPDB X-ray Structure Validation Report (i)

Nov 1, 2021 – 06:35 PM EDT

PDB ID	:	3CKR
Title	:	Crystal structure of BACE-1 in complex with inhibitor
Authors	:	Min, K.
Deposited on	:	2008-03-16
Resolution	:	2.70 Å(reported)

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

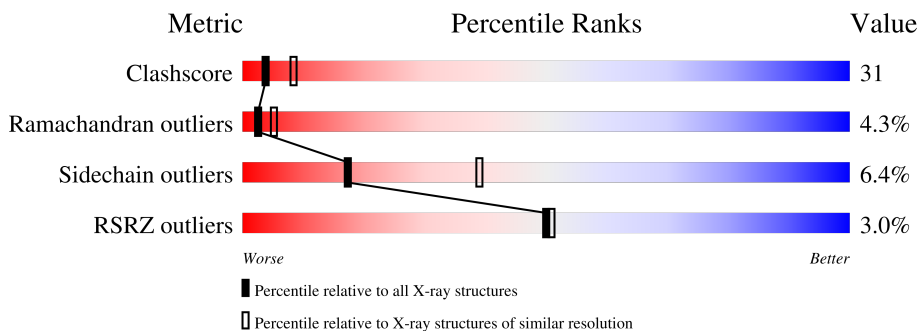|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

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 2.70 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
Clashscore		31
Ramachandran outliers		4.3%
Sidechain outliers		6.4%
RSRZ outliers		3.0%

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))
Clashscore	141614	3122 (2.70-2.70)
Ramachandran outliers	138981	3069 (2.70-2.70)
Sidechain outliers	138945	3069 (2.70-2.70)
RSRZ outliers	127900	2737 (2.70-2.70)

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	412	2% / 49% 40% • 8%
1	B	412	2% / 48% 39% • • 8%
1	C	412	4% / 37% 47% 8% 8%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 9135 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 Beta-secretase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	379	Total	C	N	O	S	0	0	0
			2974	1904	496	560	14			
1	B	377	Total	C	N	O	S	0	0	0
			2968	1901	493	560	14			
1	C	377	Total	C	N	O	S	0	0	0
			2967	1900	494	559	14			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	LYS	ARG	engineered mutation	UNP P56817
A	-5	LYS	ARG	engineered mutation	UNP P56817
B	-6	LYS	ARG	engineered mutation	UNP P56817
B	-5	LYS	ARG	engineered mutation	UNP P56817
C	-6	LYS	ARG	engineered mutation	UNP P56817
C	-5	LYS	ARG	engineered mutation	UNP P56817

- Molecule 2 is (4S)-1,4-dibenzyl-N-[(1S,2R)-1-benzyl-3-{[3-(dimethylamino)benzyl]amino }-2-hydroxypropyl]-2-oxoimidazolidine-4-carboxamide (three-letter code: 009) (formula: $C_{37}H_{43}N_5O_3$).
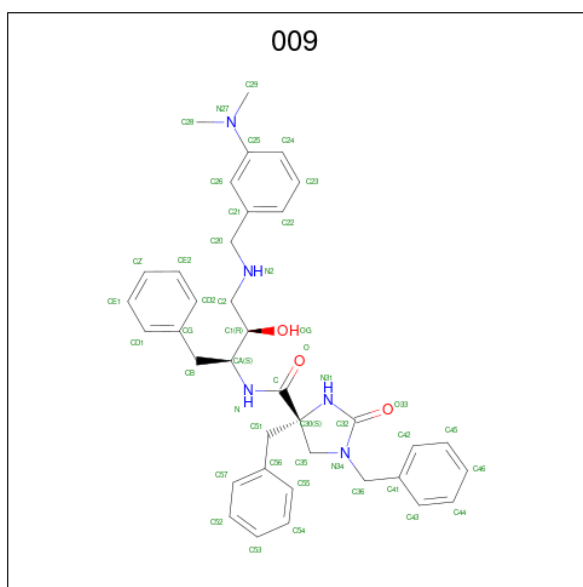
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			45	37	5	3		
2	B	1	Total	C	N	O	0	0
			45	37	5	3		
2	C	1	Total	C	N	O	0	0
			45	37	5	3		

• Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	38	Total	O	0	0
			38	38		
3	B	35	Total	O	0	0
			35	35		
3	C	18	Total	O	0	0
			18	18		

3 Residue-property plots ⓘ

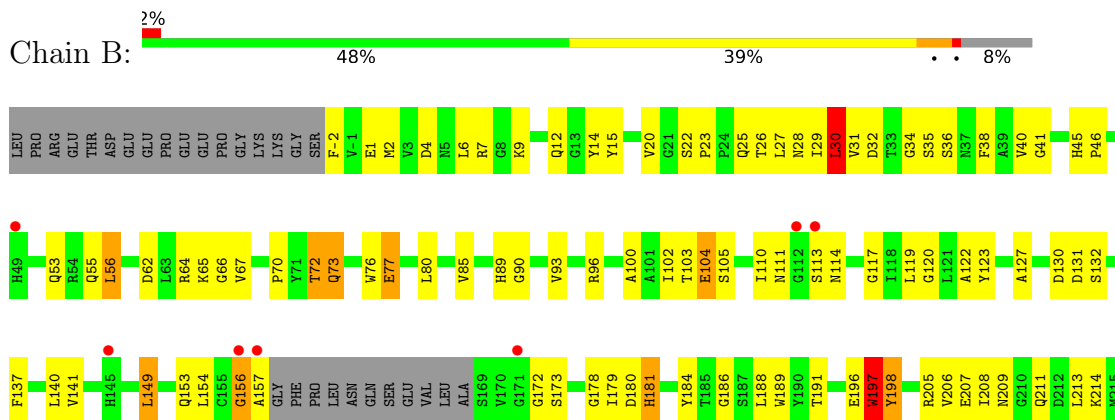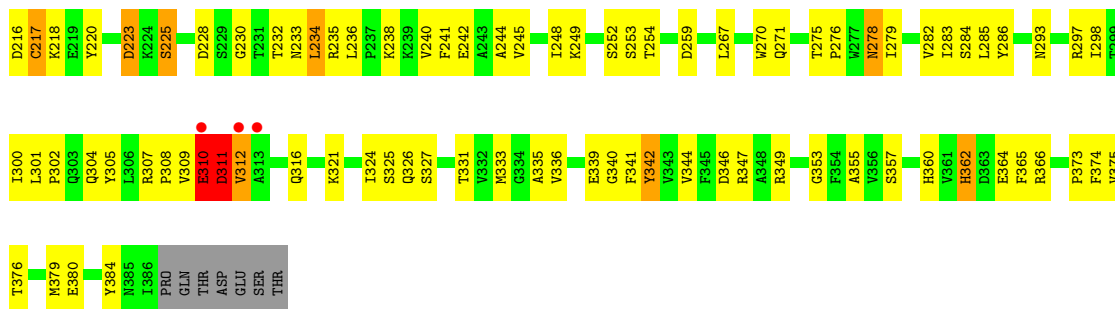These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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.
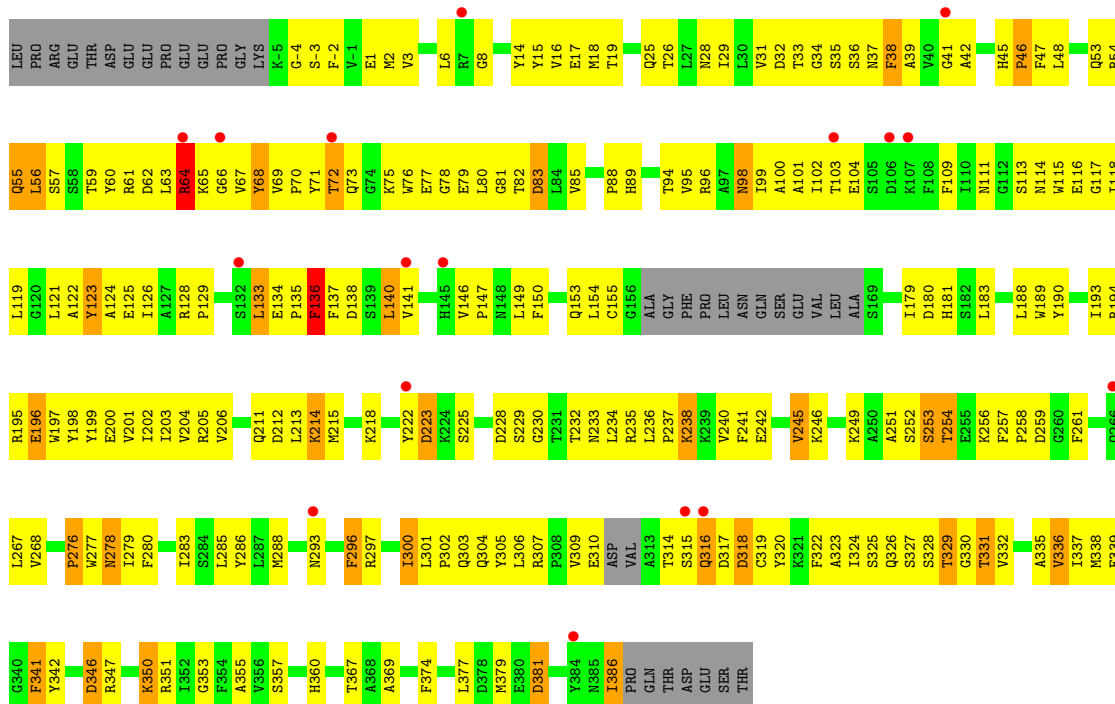
- Molecule 1: Beta-secretase 1

- Molecule 1: Beta-secretase 1

D216 C217 K218 E219 Y220 D223 K224 S225 D228 S229 G230 T231 T232 N233 L234 R235 L236 P237 K238 K239 V240 F241 E242 A243 A244 V245 I248 K249 S252 S253 T254 D259 L267 W270 Q271 T275 P276 W277 N278 I279 V282 I283 S284 L285 Y286 N293 R297 I298 T299

I300 L301 P302 Q303 Q304 Y305 L306 R307 P308 V309 E310 D311 V312 A313 Q316 K321 I324 S325 Q326 S327 T331 V332 M333 G334 A335 V336 E339 G340 F341 Y342 V343 V344 F345 D346 R347 A348 R349 G353 F354 A355 V356 S357 H360 V361 H362 D363 E364 F365 R366 P373 F374 V375

T376 M379 E380 Y384 N385 I386 PRO GLN THR ASP SER THR

• Molecule 1: Beta-secretase 1

Chain C:

LEU PRO ARG GLU THR ASP GLU GLU PRO GLU GLU PRO GLY LYS K-5 G-4 S-3 F-2 V-1 E1 M2 V3 L6 R7 G8 Y14 Y15 V16 E17 M18 T19 Q25 T26 L27 N28 I29 L30 V31 D32 T33 G34 S35 S36 N37 F38 A39 V40 G41 A42 H45 P46 F47 L48 Q53 R54

Q55 L56 S57 S58 T59 Y60 R61 D62 L63 R64 K65 G66 V67 Y68 V69 P70 Y71 T72 Q73 G74 K75 W76 E77 G78 E79 L80 G81 T82 D83 L84 V85 P88 H89 T94 V95 R96 A97 N98 I99 A100 A101 I102 T103 E104 S105 D106 K107 F108 F109 I110 N111 G112 S113 N114 W115 E116 G117 I118

L119 G120 L121 A122 Y123 A124 E125 I126 A127 R128 P129 S132 L133 E134 P135 F136 F137 D138 S139 L140 V141 H145 V146 P147 N148 L149 F150 Q153 L154 C155 G156 ALA GLY PHE PRO LEU ASN GLN SER GLU VAL LEU ALA S169 I179 D180 H181 S182 L183 L188 W189 Y190 I193 R194

R195 E196 W197 Y198 Y199 E200 V201 I202 I203 V204 R205 V206 Q211 D212 L213 K214 M215 K218 Y222 D223 K224 S225 D228 S229 G230 T231 T232 N233 L234 R235 L236 P237 K238 K239 V240 F241 E242 V245 K246 K249 A250 A251 S252 S253 T254 E255 K256 F257 P258 D259 G260 F261 Q266

L267 V268 P276 W277 N278 I279 F280 I283 S284 L285 Y286 L287 M288 N293 F296 R297 I300 L301 P302 Q303 Q304 Y305 L306 R307 P308 V309 E310 ASP VAL A313 T314 S315 Q316 D317 D318 C319 Y320 K321 F322 A323 I324 S325 Q326 S327 T328 T329 G330 T331 V332 A335 V336 I337 M338 E339

G340 F341 Y342 D346 R347 K350 R351 I352 G353 F354 A355 V356 S357 H360 T367 A368 A369 F374 L377 D378 M379 E380 D381 Y384 N385 I386 PRO GLN THR ASP GLU SER THR

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	224.46Å 108.13Å 61.13Å 90.00° 100.87° 90.00°	Depositor
Resolution (Å)	19.96 – 2.70 20.14 – 2.70	Depositor EDS
% Data completeness (in resolution range)	84.2 (19.96-2.70) 85.0 (20.14-2.70)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.17 (at 2.71Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.251 , 0.257 0.242 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	43.5	Xtriage
Anisotropy	0.911	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.30 , 57.2	EDS
L-test for twinning[2]	$< |L| > = 0.48, < L^2 > = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	9135	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.89% 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 $< |L| >$, $< L^2 >$ 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: 009

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	0.48	0/3048	0.74	0/4138
1	B	0.48	0/3043	0.75	4/4136 (0.1%)
1	C	0.43	0/3041	0.70	0/4129
All	All	0.46	0/9132	0.73	4/12403 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	198	TYR	N-CA-C	-5.76	95.45	111.00
1	B	30	LEU	CA-CB-CG	5.71	128.44	115.30
1	B	342	TYR	N-CA-C	-5.19	97.00	111.00
1	B	38	PHE	N-CA-C	-5.18	97.00	111.00

There are no chirality outliers.

There are no planarity outliers.

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	2974	0	2889	157	1
1	B	2968	0	2884	160	0
1	C	2967	0	2886	246	1
2	A	45	0	43	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	45	0	43	2	0
2	C	45	0	43	1	0
3	A	38	0	0	4	0
3	B	35	0	0	1	0
3	C	18	0	0	2	0
All	All	9135	0	8788	551	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 31.

All (551) 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:B:53:GLN:HB3	1:B:55:GLN:HE22	1.21	1.02
1:C:41:GLY:HA2	1:C:102:ILE:HB	1.42	1.01
1:B:73:GLN:HA	1:B:73:GLN:HE21	1.24	1.01
1:C:55:GLN:H	1:C:55:GLN:HE21	1.09	0.97
1:C:267:LEU:HD13	1:C:319:CYS:HB3	1.44	0.96
1:B:53:GLN:HB3	1:B:55:GLN:NE2	1.81	0.95
1:C:55:GLN:HG2	1:C:56:LEU:HD12	1.51	0.92
1:C:68:TYR:HB2	1:C:77:GLU:HG2	1.49	0.92
1:B:9:LYS:HD3	1:B:12:GLN:OE1	1.72	0.89
1:B:279:ILE:HG22	1:C:211:GLN:HE21	1.36	0.88
1:B:55:GLN:HG2	1:B:56:LEU:HD23	1.54	0.88
1:B:340:GLY:HA2	1:B:360:HIS:HB2	1.58	0.86
1:B:357:SER:HB3	1:B:360:HIS:HB3	1.58	0.85
1:C:45:HIS:HD2	1:C:46:PRO:HD2	1.42	0.84
1:A:267:LEU:HD13	1:A:319:CYS:HB3	1.60	0.84
1:B:29:ILE:HD12	1:B:117:GLY:HA3	1.61	0.83
1:B:309:VAL:C	1:B:311:ASP:H	1.79	0.83
1:A:245:VAL:O	1:A:249:LYS:HB2	1.80	0.81
1:A:180:ASP:HB3	1:A:183:LEU:HG	1.62	0.80
1:B:73:GLN:HA	1:B:73:GLN:NE2	1.97	0.80
1:A:70:PRO:HD2	1:A:128:ARG:NH1	1.95	0.80
1:C:241:PHE:HE1	1:C:324:ILE:O	1.63	0.80
1:A:95:VAL:HG11	1:A:140:LEU:HA	1.64	0.79
1:C:67:VAL:HG23	1:C:129:PRO:HG3	1.62	0.79
1:A:304:GLN:O	1:A:336:VAL:HG12	1.83	0.79
1:A:18:MET:SD	1:A:29:ILE:HG13	2.23	0.79
1:A:53:GLN:HB3	1:A:55:GLN:HE22	1.48	0.78
1:C:32:ASP:OD1	1:C:230:GLY:HA3	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:322:PHE:CZ	1:C:324:ILE:HB	2.18	0.78
1:B:279:ILE:HG22	1:C:211:GLN:NE2	1.99	0.77
1:C:301:LEU:HD11	1:C:367:THR:HA	1.65	0.77
1:B:113:SER:O	1:B:114:ASN:HB2	1.84	0.76
1:A:261:PHE:CD1	1:A:268:VAL:HG23	2.21	0.76
1:C:65:LYS:HE3	1:C:80:LEU:HD12	1.68	0.76
1:C:77:GLU:HB2	1:C:104:GLU:HB2	1.68	0.76
1:A:35:SER:O	1:A:122:ALA:HB3	1.86	0.76
1:A:168:ALA:O	1:A:169:SER:HB2	1.86	0.76
1:C:55:GLN:H	1:C:55:GLN:NE2	1.81	0.75
1:B:285:LEU:HD12	1:B:298:ILE:HD11	1.68	0.75
1:B:271:GLN:CD	1:B:271:GLN:H	1.90	0.75
1:A:93:VAL:HB	1:A:144:THR:HG21	1.67	0.74
1:C:193:ILE:HD12	1:C:350:LYS:HA	1.68	0.74
1:C:195:ARG:O	1:C:197:TRP:HD1	1.70	0.73
1:A:67:VAL:HG23	1:A:129:PRO:HG3	1.70	0.73
1:C:245:VAL:O	1:C:249:LYS:HB2	1.89	0.73
1:B:188:LEU:HD23	1:B:355:ALA:HB2	1.71	0.72
1:C:203:ILE:HD13	1:C:285:LEU:HD22	1.71	0.71
1:A:235:ARG:HB2	1:A:332:VAL:HB	1.72	0.71
1:A:322:PHE:CE2	1:A:324:ILE:HB	2.24	0.71
1:C:335:ALA:O	1:C:339:GLU:HG3	1.90	0.70
1:C:69:VAL:HG22	1:C:128:ARG:HB2	1.73	0.70
1:C:68:TYR:CB	1:C:77:GLU:HG2	2.21	0.70
1:C:37:ASN:HD21	1:C:128:ARG:H	1.38	0.70
1:B:238:LYS:O	1:B:242:GLU:HG3	1.91	0.69
1:C:70:PRO:HA	1:C:75:LYS:HB3	1.74	0.69
1:C:29:ILE:HD12	1:C:117:GLY:HA3	1.73	0.69
1:B:301:LEU:HB3	1:B:302:PRO:HD2	1.73	0.69
1:C:-4:GLY:O	1:C:180:ASP:HA	1.92	0.69
1:B:31:VAL:HG12	1:B:31:VAL:O	1.92	0.68
1:B:211:GLN:HE22	1:C:254:THR:HG21	1.55	0.68
1:B:236:LEU:HD13	1:B:240:VAL:HG12	1.74	0.68
1:C:341:PHE:HB3	1:C:355:ALA:O	1.93	0.68
1:A:82:THR:O	1:A:83:ASP:HB2	1.93	0.68
1:C:267:LEU:HD22	1:C:309:VAL:HG21	1.75	0.68
1:B:4:ASP:H	1:B:173:SER:HB3	1.58	0.68
1:C:38:PHE:HD2	1:C:39:ALA:N	1.92	0.68
1:C:55:GLN:HE21	1:C:55:GLN:N	1.87	0.68
1:C:61:ARG:HB2	1:C:82:THR:OG1	1.93	0.68
1:C:301:LEU:H	1:C:304:GLN:NE2	1.91	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:53:GLN:HB3	1:A:55:GLN:NE2	2.09	0.68
1:B:53:GLN:CB	1:B:55:GLN:HE22	2.03	0.68
1:A:12:GLN:HE22	1:A:113:SER:HA	1.58	0.68
1:A:70:PRO:HD2	1:A:128:ARG:HH12	1.58	0.68
1:A:152:LEU:HD12	1:A:345:PHE:CE2	2.29	0.67
1:A:217:CYS:HA	1:A:220:TYR:CD1	2.28	0.67
1:A:384:TYR:OH	1:A:386:ILE:HD13	1.94	0.67
1:B:179:ILE:HD11	1:B:344:VAL:HG11	1.76	0.67
1:C:68:TYR:HB2	1:C:77:GLU:CG	2.24	0.67
1:C:69:VAL:O	1:C:75:LYS:HB2	1.95	0.67
1:C:149:LEU:HD23	1:C:149:LEU:C	2.15	0.67
1:B:234:LEU:HB2	1:B:336:VAL:CG2	2.24	0.67
1:B:282:VAL:HG13	1:B:366:ARG:NH1	2.10	0.67
1:A:146:VAL:HG11	1:A:176:ILE:HG22	1.76	0.66
1:A:107:LYS:HE2	1:A:107:LYS:H	1.60	0.66
1:C:242:GLU:O	1:C:245:VAL:HG23	1.95	0.66
1:A:367:THR:HG23	1:A:368:ALA:O	1.95	0.66
1:C:123:TYR:CD2	1:C:196:GLU:HB3	2.31	0.66
1:C:235:ARG:HE	1:C:332:VAL:HG21	1.59	0.66
1:A:278:ASN:HA	1:A:366:ARG:HH12	1.60	0.66
1:B:4:ASP:N	1:B:173:SER:HB3	2.11	0.66
1:B:40:VAL:HG12	1:B:117:GLY:HA3	1.79	0.65
1:A:22:SER:HB2	1:A:59:THR:HG23	1.79	0.65
1:A:183:LEU:HD12	1:A:342:TYR:CE1	2.31	0.65
1:B:76:TRP:HB2	1:B:102:ILE:HG23	1.77	0.65
1:C:70:PRO:HD2	1:C:128:ARG:NH1	2.11	0.65
1:A:302:PRO:HG2	1:A:303:GLN:OE1	1.97	0.65
1:C:69:VAL:HG22	1:C:128:ARG:CB	2.27	0.65
1:C:301:LEU:HB3	1:C:302:PRO:HD2	1.76	0.65
1:C:233:ASN:HA	1:C:336:VAL:CG1	2.27	0.65
1:A:12:GLN:NE2	1:A:113:SER:HA	2.12	0.64
1:A:15:TYR:HB2	1:A:29:ILE:O	1.98	0.64
1:C:267:LEU:CD1	1:C:319:CYS:HB3	2.24	0.63
1:A:36:SER:HB2	1:A:127:ALA:HB2	1.80	0.63
1:C:113:SER:OG	1:C:115:TRP:NE1	2.31	0.63
1:A:219:GLU:HG3	1:A:239:LYS:HD3	1.79	0.63
1:A:305:TYR:HA	1:A:336:VAL:CG1	2.29	0.63
1:A:55:GLN:O	1:A:56:LEU:HD23	2.00	0.62
1:B:29:ILE:HD12	1:B:117:GLY:CA	2.28	0.62
1:C:251:ALA:HB2	3:C:504:HOH:O	1.99	0.62
1:B:2:MET:HG2	1:B:90:GLY:HA2	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:149:LEU:HD23	1:A:149:LEU:C	2.20	0.62
1:B:184:TYR:CE2	1:B:188:LEU:HG	2.35	0.62
1:B:279:ILE:CG2	1:C:211:GLN:HE21	2.12	0.62
1:B:309:VAL:O	1:B:311:ASP:N	2.32	0.62
1:B:316:GLN:NE2	1:B:316:GLN:HA	2.15	0.62
1:B:309:VAL:C	1:B:311:ASP:N	2.52	0.61
1:C:136:PHE:HD2	1:C:136:PHE:C	2.04	0.61
1:A:305:TYR:HA	1:A:336:VAL:HG12	1.83	0.61
1:C:180:ASP:OD2	1:C:183:LEU:HG	2.00	0.61
1:B:211:GLN:HA	1:C:278:ASN:OD1	2.00	0.61
1:C:8:GLY:HA2	1:C:15:TYR:CE2	2.35	0.61
1:C:341:PHE:HA	1:C:357:SER:HB2	1.83	0.60
1:C:386:ILE:HD13	1:C:386:ILE:C	2.21	0.60
1:C:2:MET:HG2	1:C:89:HIS:O	2.00	0.60
1:C:15:TYR:OH	1:C:114:ASN:ND2	2.29	0.60
1:C:55:GLN:C	1:C:57:SER:H	2.05	0.60
1:A:72:THR:HB	2:A:501:009:H51	1.83	0.60
1:B:278:ASN:H	1:B:278:ASN:ND2	2.00	0.60
1:A:357:SER:HB3	1:A:360:HIS:HB3	1.84	0.60
1:A:107:LYS:HE2	1:A:107:LYS:N	2.17	0.59
1:C:83:ASP:O	1:C:96:ARG:HG3	2.01	0.59
1:C:193:ILE:HG13	1:C:350:LYS:C	2.23	0.59
1:A:17:GLU:OE2	1:A:88:PRO:HG2	2.01	0.59
1:A:63:LEU:HD21	1:C:-3:SER:HB2	1.85	0.59
1:A:179:ILE:HG23	1:A:342:TYR:HE2	1.67	0.59
1:A:215:MET:CE	1:A:240:VAL:HG22	2.32	0.59
1:C:136:PHE:C	1:C:136:PHE:CD2	2.75	0.59
1:A:315:SER:HB2	1:A:316:GLN:NE2	2.17	0.59
1:B:55:GLN:HE21	1:B:56:LEU:CD2	2.15	0.59
1:B:376:THR:HG22	1:B:379:MET:HG2	1.83	0.59
1:A:303:GLN:OE1	1:A:303:GLN:N	2.34	0.59
1:C:42:ALA:HB3	1:C:101:ALA:HB1	1.84	0.59
1:C:180:ASP:HB3	1:C:183:LEU:CD1	2.33	0.59
1:C:193:ILE:N	1:C:350:LYS:O	2.31	0.59
1:C:225:SER:OG	1:C:331:THR:HB	2.03	0.59
1:C:276:PRO:O	1:C:279:ILE:HG12	2.02	0.59
1:C:37:ASN:ND2	1:C:128:ARG:H	2.01	0.58
1:A:143:GLN:HG3	1:C:1:GLU:OE1	2.04	0.58
1:C:25:GLN:HE22	1:C:53:GLN:H	1.50	0.58
1:C:124:ALA:O	1:C:126:ILE:N	2.36	0.58
1:C:283:ILE:N	1:C:283:ILE:HD12	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:22:SER:HA	1:A:23:PRO:C	2.24	0.58
1:C:202:ILE:HD13	1:C:288:MET:HE1	1.86	0.58
1:B:65:LYS:HD3	1:B:66:GLY:H	1.69	0.58
1:B:245:VAL:O	1:B:249:LYS:HG3	2.03	0.58
1:C:45:HIS:O	1:C:47:PHE:N	2.37	0.58
1:B:211:GLN:NE2	1:C:254:THR:HG21	2.19	0.58
1:B:241:PHE:HE1	1:B:324:ILE:O	1.87	0.58
1:C:55:GLN:HG2	1:C:56:LEU:N	2.18	0.58
1:C:204:VAL:HG11	1:C:379:MET:CG	2.33	0.58
1:B:26:THR:O	1:B:27:LEU:HG	2.04	0.57
1:C:232:THR:HG21	1:C:307:ARG:CZ	2.34	0.57
1:C:301:LEU:H	1:C:304:GLN:HE21	1.50	0.57
1:B:110:ILE:HB	1:B:113:SER:HB3	1.85	0.57
1:B:311:ASP:O	1:B:312:VAL:HB	2.04	0.57
1:B:29:ILE:HG23	1:B:117:GLY:C	2.24	0.57
1:C:82:THR:O	1:C:83:ASP:HB2	2.05	0.57
1:C:204:VAL:HG11	1:C:379:MET:SD	2.45	0.57
1:C:241:PHE:CE1	1:C:325:SER:HA	2.40	0.57
1:A:60:TYR:CG	1:A:61:ARG:N	2.73	0.56
1:B:197:TRP:CD1	1:B:198:TYR:N	2.66	0.56
1:B:341:PHE:CA	1:B:357:SER:HB2	2.35	0.56
1:A:74:GLY:HA3	1:A:107:LYS:O	2.05	0.56
1:C:78:GLY:HA3	1:C:101:ALA:O	2.05	0.56
1:C:302:PRO:O	1:C:306:LEU:HB2	2.06	0.56
1:B:186:GLY:HA3	3:B:513:HOH:O	2.06	0.56
1:C:71:TYR:O	1:C:73:GLN:N	2.39	0.56
1:C:48:LEU:HD22	1:C:116:GLU:HB3	1.86	0.56
1:C:135:PRO:HD2	1:C:138:ASP:OD2	2.06	0.56
1:A:297:ARG:HG2	1:A:374:PHE:CE1	2.40	0.56
1:B:309:VAL:O	1:B:309:VAL:HG23	2.06	0.56
1:A:241:PHE:O	1:A:245:VAL:HG23	2.06	0.56
1:A:346:ASP:OD1	1:A:346:ASP:C	2.45	0.56
1:C:188:LEU:HD23	1:C:355:ALA:HB2	1.88	0.56
1:C:241:PHE:CE1	1:C:324:ILE:O	2.53	0.55
1:A:316:GLN:CD	1:A:316:GLN:H	2.10	0.55
1:C:261:PHE:CD1	1:C:268:VAL:HG23	2.40	0.55
1:A:216:ASP:O	1:A:218:LYS:N	2.39	0.55
1:C:341:PHE:CA	1:C:357:SER:HB2	2.37	0.55
1:A:276:PRO:O	1:A:279:ILE:HG12	2.07	0.55
1:C:235:ARG:HB2	1:C:332:VAL:HG23	1.87	0.55
1:C:38:PHE:HD2	1:C:39:ALA:H	1.55	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:241:PHE:O	1:C:245:VAL:HG22	2.06	0.55
1:A:193:ILE:HG13	1:A:351:ARG:HA	1.89	0.55
1:B:205:ARG:NE	1:B:207:GLU:OE2	2.40	0.55
1:B:276:PRO:O	1:B:279:ILE:HG12	2.07	0.55
1:B:346:ASP:OD2	1:B:349:ARG:HB2	2.07	0.55
1:C:300:ILE:HD12	1:C:304:GLN:HB3	1.88	0.55
1:A:38:PHE:HE1	1:A:85:VAL:HG21	1.73	0.54
1:B:233:ASN:HA	1:B:336:VAL:HG13	1.87	0.54
1:C:71:TYR:O	1:C:72:THR:C	2.45	0.54
1:C:232:THR:HG21	1:C:307:ARG:NH2	2.21	0.54
1:C:69:VAL:HG22	1:C:128:ARG:CG	2.37	0.54
1:C:136:PHE:HE2	1:C:140:LEU:HB2	1.72	0.54
1:C:300:ILE:HG21	1:C:337:ILE:HD13	1.89	0.54
1:C:267:LEU:C	1:C:267:LEU:HD12	2.28	0.54
1:A:225:SER:OG	1:A:331:THR:HB	2.08	0.54
1:C:37:ASN:HD21	1:C:128:ARG:N	2.04	0.54
1:C:70:PRO:CD	1:C:128:ARG:NH1	2.71	0.54
1:B:271:GLN:CD	1:B:271:GLN:N	2.57	0.54
1:B:4:ASP:CG	1:B:7:ARG:HH12	2.12	0.54
1:A:298:ILE:HB	1:A:341:PHE:CZ	2.43	0.53
1:C:69:VAL:HG22	1:C:128:ARG:HG3	1.90	0.53
1:A:29:ILE:HG21	1:A:119:LEU:HB2	1.88	0.53
1:C:267:LEU:HD22	1:C:309:VAL:CG2	2.39	0.53
1:B:181:HIS:HA	1:B:184:TYR:HE1	1.73	0.53
1:B:244:ALA:O	1:B:248:ILE:HG13	2.07	0.53
1:B:55:GLN:HG2	1:B:56:LEU:CD2	2.34	0.53
1:C:267:LEU:HB2	1:C:320:TYR:O	2.09	0.53
1:A:42:ALA:CB	1:A:101:ALA:HB1	2.39	0.53
1:C:257:PHE:HB3	1:C:258:PRO:HD2	1.90	0.53
1:B:205:ARG:NH2	1:B:207:GLU:OE2	2.41	0.53
1:C:341:PHE:C	1:C:357:SER:HB2	2.29	0.53
1:C:45:HIS:HD2	1:C:46:PRO:CD	2.20	0.53
1:C:99:ILE:HG22	1:C:100:ALA:N	2.24	0.53
1:B:207:GLU:O	1:B:208:ILE:HD13	2.08	0.52
1:B:270:TRP:CE3	1:B:275:THR:HG23	2.44	0.52
1:C:314:THR:HG21	1:C:316:GLN:HE21	1.74	0.52
1:C:222:TYR:O	1:C:223:ASP:CB	2.58	0.52
1:B:234:LEU:HB2	1:B:336:VAL:HG21	1.92	0.52
1:B:297:ARG:NH1	1:B:374:PHE:CZ	2.76	0.52
1:C:346:ASP:OD1	1:C:346:ASP:O	2.27	0.52
1:B:137:PHE:HD2	1:B:347:ARG:NH1	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:222:TYR:O	1:A:223:ASP:CB	2.57	0.52
1:B:180:ASP:C	1:B:180:ASP:OD2	2.48	0.52
1:C:76:TRP:O	1:C:77:GLU:HG3	2.10	0.52
1:C:149:LEU:HD23	1:C:150:PHE:N	2.25	0.52
1:C:252:SER:O	1:C:254:THR:N	2.42	0.52
1:B:6:LEU:HB2	1:B:172:GLY:O	2.09	0.52
1:B:28:ASN:O	1:B:29:ILE:HD13	2.10	0.51
1:B:225:SER:OG	1:B:331:THR:HB	2.11	0.51
1:B:228:ASP:OD1	1:B:230:GLY:N	2.43	0.51
1:C:48:LEU:HD22	1:C:116:GLU:CB	2.40	0.51
1:A:257:PHE:HD1	1:A:262:TRP:CZ2	2.28	0.51
1:A:322:PHE:CZ	1:A:324:ILE:HB	2.45	0.51
1:C:277:TRP:CH2	1:C:303:GLN:HG3	2.45	0.51
1:C:304:GLN:HB3	1:C:336:VAL:O	2.09	0.51
1:B:65:LYS:HD3	1:B:66:GLY:N	2.25	0.51
1:C:33:THR:HG23	1:C:229:SER:OG	2.09	0.51
1:B:197:TRP:CG	1:B:198:TYR:N	2.78	0.51
1:B:252:SER:O	1:B:254:THR:N	2.44	0.51
1:C:17:GLU:O	1:C:88:PRO:HD2	2.10	0.51
1:C:300:ILE:HG21	1:C:337:ILE:CD1	2.41	0.51
1:A:125:GLU:HB2	1:A:197:TRP:HA	1.92	0.51
1:C:55:GLN:O	1:C:57:SER:N	2.44	0.51
1:C:77:GLU:N	1:C:104:GLU:O	2.43	0.51
1:A:60:TYR:OH	1:A:62:ASP:HB2	2.11	0.51
1:A:146:VAL:HG13	1:A:177:GLY:HA3	1.93	0.51
1:C:35:SER:O	1:C:122:ALA:HB3	2.10	0.51
1:A:36:SER:CB	1:A:127:ALA:HB2	2.40	0.51
1:B:153:GLN:HB2	1:B:342:TYR:HD1	1.76	0.51
1:C:55:GLN:CG	1:C:56:LEU:HD12	2.33	0.51
1:A:130:ASP:O	1:A:132:SER:N	2.44	0.50
1:C:66:GLY:HA2	1:C:79:GLU:HA	1.93	0.50
1:C:123:TYR:CE2	1:C:196:GLU:HB3	2.46	0.50
1:C:304:GLN:O	1:C:336:VAL:HB	2.10	0.50
1:A:72:THR:HB	2:A:501:009:C51	2.41	0.50
1:A:9:LYS:O	1:A:12:GLN:HB2	2.11	0.50
1:B:156:GLY:O	1:B:157:ALA:HB2	2.11	0.50
1:A:110:ILE:HB	1:A:113:SER:HB3	1.93	0.50
1:A:183:LEU:HA	3:A:525:HOH:O	2.12	0.50
1:B:55:GLN:HE21	1:B:56:LEU:HG	1.77	0.50
1:B:76:TRP:HA	1:B:104:GLU:O	2.12	0.50
1:C:63:LEU:O	1:C:64:ARG:C	2.50	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:369:ALA:HA	3:C:515:HOH:O	2.11	0.50
1:C:36:SER:OG	1:C:123:TYR:O	2.28	0.49
1:C:42:ALA:CB	1:C:101:ALA:HB1	2.41	0.49
1:A:295:SER:HB3	1:A:379:MET:SD	2.52	0.49
1:A:63:LEU:O	1:C:181:HIS:HD2	1.95	0.49
1:B:267:LEU:CD2	1:B:321:LYS:HG3	2.42	0.49
1:C:69:VAL:CG2	1:C:128:ARG:HB2	2.41	0.49
1:C:189:TRP:O	1:C:353:GLY:HA2	2.12	0.49
1:A:245:VAL:HG12	1:A:249:LYS:HE3	1.93	0.49
1:A:301:LEU:HB3	1:A:302:PRO:HD2	1.94	0.49
1:C:113:SER:OG	1:C:115:TRP:CD1	2.64	0.49
1:A:6:LEU:HB2	1:A:172:GLY:O	2.13	0.49
1:A:14:TYR:O	1:A:30:LEU:HD12	2.13	0.49
1:B:15:TYR:O	1:B:15:TYR:CD1	2.66	0.49
1:B:40:VAL:O	1:B:102:ILE:HG13	2.13	0.49
1:B:301:LEU:H	1:B:304:GLN:HE21	1.61	0.49
1:C:123:TYR:HE1	1:C:199:TYR:CE2	2.31	0.49
1:C:233:ASN:HB3	1:C:323:ALA:O	2.13	0.49
1:C:38:PHE:CD2	1:C:39:ALA:N	2.77	0.49
1:C:140:LEU:HD12	1:C:140:LEU:O	2.12	0.49
1:B:316:GLN:HA	1:B:316:GLN:HE21	1.76	0.49
1:C:320:TYR:N	1:C:320:TYR:CD1	2.81	0.49
1:A:215:MET:HE2	1:A:240:VAL:HG22	1.93	0.49
1:C:234:LEU:HD23	1:C:337:ILE:HG13	1.95	0.49
1:A:194:ARG:HD2	1:A:202:ILE:HD11	1.95	0.48
1:B:235:ARG:CZ	2:B:502:009:H54	2.43	0.48
1:A:294:GLN:HG3	1:A:373:PRO:HB2	1.94	0.48
1:B:340:GLY:HA2	1:B:360:HIS:CB	2.37	0.48
1:C:33:THR:O	1:C:199:TYR:HD1	1.96	0.48
1:C:300:ILE:HG13	1:C:304:GLN:HB2	1.95	0.48
1:A:123:TYR:HB2	1:A:197:TRP:O	2.13	0.48
1:A:252:SER:O	1:A:254:THR:N	2.47	0.48
1:C:70:PRO:HG2	1:C:128:ARG:HH22	1.78	0.48
1:B:1:GLU:OE2	1:B:89:HIS:HA	2.13	0.48
1:B:181:HIS:HA	1:B:184:TYR:CE1	2.48	0.48
1:B:279:ILE:HA	1:C:211:GLN:HE21	1.78	0.48
1:A:301:LEU:H	1:A:304:GLN:NE2	2.11	0.48
1:C:300:ILE:HD11	1:C:305:TYR:HB3	1.96	0.48
1:C:314:THR:HG22	1:C:315:SER:N	2.28	0.48
1:C:33:THR:HA	1:C:121:LEU:HB2	1.96	0.48
1:B:73:GLN:HE21	1:B:73:GLN:CA	2.00	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:190:TYR:CD2	1:A:351:ARG:HD2	2.48	0.48
1:A:234:LEU:HD11	1:A:236:LEU:HD21	1.96	0.48
1:B:20:VAL:HG12	1:B:85:VAL:HG13	1.96	0.47
1:A:216:ASP:C	1:A:218:LYS:H	2.17	0.47
1:C:153:GLN:HB2	1:C:342:TYR:HD1	1.80	0.47
1:A:151:SER:OG	1:A:175:ILE:HB	2.14	0.47
1:A:283:ILE:O	1:A:299:THR:HA	2.13	0.47
1:B:311:ASP:O	1:B:312:VAL:CB	2.61	0.47
1:C:48:LEU:HD22	1:C:116:GLU:CG	2.45	0.47
1:B:375:VAL:HG12	1:B:375:VAL:O	2.13	0.47
1:A:197:TRP:CG	1:A:198:TYR:N	2.82	0.47
1:C:102:ILE:HD12	1:C:109:PHE:HZ	1.80	0.47
1:C:136:PHE:CE2	1:C:140:LEU:HB2	2.49	0.47
1:B:62:ASP:OD1	1:B:64:ARG:N	2.39	0.47
1:B:217:CYS:HA	1:B:220:TYR:CE1	2.49	0.47
1:C:83:ASP:O	1:C:96:ARG:HA	2.15	0.47
1:B:205:ARG:HB3	1:B:286:TYR:HB2	1.95	0.47
1:B:217:CYS:HA	1:B:220:TYR:CD1	2.49	0.47
1:B:335:ALA:O	1:B:339:GLU:HG3	2.15	0.47
1:A:302:PRO:CD	1:A:366:ARG:HH21	2.28	0.47
1:A:335:ALA:O	1:A:339:GLU:HG3	2.15	0.47
1:B:232:THR:O	1:B:336:VAL:HG13	2.15	0.47
1:C:85:VAL:N	1:C:95:VAL:O	2.39	0.47
1:C:302:PRO:HA	1:C:305:TYR:CE2	2.50	0.47
1:A:326:GLN:HG2	1:A:327:SER:N	2.30	0.47
1:B:346:ASP:OD1	1:B:346:ASP:C	2.54	0.47
1:C:235:ARG:HB2	1:C:332:VAL:CG2	2.44	0.47
1:C:133:LEU:O	1:C:135:PRO:HD3	2.15	0.46
1:C:205:ARG:HG2	1:C:206:VAL:N	2.29	0.46
1:A:386:ILE:O	1:A:386:ILE:HG23	2.16	0.46
1:B:32:ASP:O	1:B:120:GLY:HA2	2.15	0.46
1:B:72:THR:OG1	2:B:502:009:H51	2.14	0.46
1:C:70:PRO:HA	1:C:75:LYS:CB	2.43	0.46
1:B:137:PHE:O	1:B:141:VAL:HG23	2.15	0.46
1:B:376:THR:CG2	1:B:379:MET:HG2	2.45	0.46
1:A:32:ASP:OD2	1:A:35:SER:OG	2.34	0.46
1:A:209:ASN:OD1	1:A:281:PRO:HA	2.16	0.46
1:A:234:LEU:N	1:A:336:VAL:HG21	2.30	0.46
1:B:65:LYS:HB3	1:B:80:LEU:HD12	1.97	0.46
1:C:214:LYS:O	1:C:215:MET:HG3	2.15	0.46
1:C:235:ARG:HH12	1:C:329:THR:CG2	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:286:TYR:OH	1:C:297:ARG:NH1	2.48	0.46
1:A:21:GLY:HA2	1:A:83:ASP:OD1	2.14	0.46
1:A:70:PRO:CD	1:A:128:ARG:HH12	2.27	0.46
1:A:93:VAL:CB	1:A:144:THR:HG21	2.40	0.46
1:B:35:SER:O	1:B:122:ALA:HB3	2.14	0.46
1:B:153:GLN:HB2	1:B:342:TYR:CD1	2.50	0.46
1:C:267:LEU:HD12	1:C:267:LEU:O	2.14	0.46
1:B:341:PHE:N	1:B:357:SER:HB2	2.30	0.46
1:B:123:TYR:CZ	1:B:196:GLU:HG2	2.51	0.46
1:B:235:ARG:NH2	1:B:326:GLN:O	2.48	0.46
1:C:268:VAL:O	1:C:319:CYS:HA	2.15	0.46
1:A:215:MET:HE1	1:A:240:VAL:HG22	1.97	0.46
1:A:95:VAL:HB	1:A:143:GLN:OE1	2.16	0.46
1:A:326:GLN:HG2	1:A:327:SER:H	1.81	0.46
1:B:15:TYR:CE2	1:B:114:ASN:HB3	2.51	0.46
1:A:222:TYR:O	1:A:223:ASP:HB2	2.16	0.45
1:A:292:THR:HA	3:A:516:HOH:O	2.16	0.45
1:B:41:GLY:HA2	1:B:102:ILE:HB	1.98	0.45
1:B:297:ARG:HG2	1:B:374:PHE:CE1	2.51	0.45
1:C:54:ARG:HB3	1:C:60:TYR:CD2	2.51	0.45
1:A:217:CYS:HA	1:A:220:TYR:CE1	2.50	0.45
1:A:234:LEU:HB2	1:A:336:VAL:CG2	2.46	0.45
1:C:236:LEU:O	1:C:326:GLN:HA	2.16	0.45
1:C:277:TRP:CE3	1:C:302:PRO:HG2	2.51	0.45
1:A:32:ASP:OD2	2:A:501:009:HB	2.17	0.45
1:C:179:ILE:HG23	1:C:342:TYR:CE2	2.52	0.45
1:B:300:ILE:HG22	1:B:341:PHE:CE1	2.52	0.45
1:B:123:TYR:CE1	1:B:196:GLU:HG2	2.52	0.45
1:B:208:ILE:O	1:B:209:ASN:C	2.54	0.45
1:C:14:TYR:CE2	1:C:154:LEU:HB3	2.52	0.45
1:C:31:VAL:HG13	1:C:121:LEU:HD11	1.98	0.45
1:C:55:GLN:C	1:C:57:SER:N	2.68	0.45
1:C:62:ASP:OD1	1:C:63:LEU:N	2.50	0.45
1:C:225:SER:HA	1:C:331:THR:O	2.17	0.45
1:C:240:VAL:O	1:C:241:PHE:C	2.54	0.45
1:B:365:PHE:CE1	1:C:205:ARG:NH1	2.84	0.45
1:C:19:THR:HG22	1:C:26:THR:HA	1.98	0.45
1:C:318:ASP:N	1:C:318:ASP:OD2	2.49	0.45
1:A:55:GLN:C	1:A:56:LEU:HD23	2.37	0.45
1:C:37:ASN:HD21	1:C:128:ARG:HB2	1.82	0.45
1:C:237:PRO:HD3	1:C:331:THR:OG1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:296:PHE:CD1	1:C:296:PHE:C	2.89	0.45
1:C:327:SER:OG	1:C:330:GLY:O	2.29	0.45
1:B:149:LEU:HB2	1:B:346:ASP:HA	1.98	0.45
1:A:130:ASP:C	1:A:132:SER:H	2.20	0.45
1:B:206:VAL:HG11	1:B:213:LEU:HD22	1.99	0.45
1:B:307:ARG:HG2	1:B:307:ARG:HH11	1.81	0.45
1:C:70:PRO:HG2	1:C:128:ARG:NH2	2.32	0.45
1:C:237:PRO:O	1:C:238:LYS:C	2.55	0.45
1:C:15:TYR:O	1:C:15:TYR:CD1	2.70	0.45
1:C:19:THR:HA	1:C:25:GLN:O	2.16	0.45
1:A:305:TYR:HA	1:A:336:VAL:HG11	1.97	0.44
1:C:218:LYS:HG2	1:C:381:ASP:O	2.17	0.44
1:C:180:ASP:HB3	1:C:183:LEU:HG	1.99	0.44
1:C:337:ILE:HD13	1:C:337:ILE:HA	1.86	0.44
1:B:-2:PHE:CZ	1:B:178:GLY:HA3	2.51	0.44
1:B:284:SER:HA	1:B:298:ILE:O	2.17	0.44
1:C:134:GLU:HG3	1:C:138:ASP:HB2	2.00	0.44
1:A:338:MET:C	1:A:340:GLY:H	2.21	0.44
1:C:6:LEU:CD2	1:C:16:VAL:HB	2.47	0.44
1:C:253:SER:HA	1:C:256:LYS:HD3	1.99	0.44
1:A:35:SER:O	1:A:122:ALA:CB	2.63	0.44
1:B:73:GLN:NE2	1:B:73:GLN:CA	2.68	0.44
1:C:14:TYR:CD2	1:C:154:LEU:HD22	2.53	0.44
1:A:234:LEU:N	1:A:336:VAL:CG2	2.81	0.44
1:A:294:GLN:N	1:A:379:MET:HE1	2.32	0.44
1:B:45:HIS:ND1	1:B:46:PRO:HD2	2.33	0.44
1:B:223:ASP:CA	1:B:384:TYR:HD2	2.31	0.44
1:C:277:TRP:CZ3	1:C:303:GLN:HG3	2.52	0.44
1:B:191:THR:HG23	1:B:191:THR:O	2.17	0.44
1:B:233:ASN:HA	1:B:336:VAL:CG1	2.48	0.44
1:C:-2:PHE:O	1:C:3:VAL:HG23	2.17	0.44
1:A:107:LYS:HE2	1:A:107:LYS:CA	2.48	0.44
1:C:32:ASP:C	1:C:34:GLY:H	2.18	0.44
1:A:32:ASP:OD2	1:A:118:ILE:HD11	2.17	0.44
1:A:110:ILE:CD1	2:A:501:009:H44	2.47	0.44
1:A:29:ILE:CG2	1:A:119:LEU:HB2	2.47	0.43
1:C:28:ASN:O	1:C:29:ILE:HD13	2.17	0.43
1:C:280:PHE:HB3	1:C:305:TYR:OH	2.18	0.43
1:A:316:GLN:NE2	1:A:316:GLN:H	2.16	0.43
1:B:223:ASP:HA	1:B:384:TYR:HD2	1.82	0.43
1:A:323:ALA:HB3	1:A:336:VAL:HG11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:381:ASP:N	1:C:381:ASP:OD1	2.51	0.43
1:A:63:LEU:CD2	1:C:-3:SER:HB2	2.49	0.43
1:A:241:PHE:CE2	1:A:245:VAL:HG21	2.53	0.43
1:C:149:LEU:C	1:C:149:LEU:CD2	2.85	0.43
1:C:351:ARG:O	1:C:351:ARG:HG3	2.18	0.43
1:B:20:VAL:O	1:B:25:GLN:HB2	2.18	0.43
1:B:22:SER:HA	1:B:23:PRO:C	2.38	0.43
1:B:267:LEU:HD23	1:B:321:LYS:HG3	2.00	0.43
1:C:18:MET:HE1	1:C:119:LEU:HD22	2.00	0.43
1:A:123:TYR:CE1	1:A:199:TYR:CE2	3.07	0.43
1:B:30:LEU:HD22	1:B:31:VAL:N	2.34	0.43
1:C:41:GLY:HA3	1:C:48:LEU:HD11	2.01	0.43
1:A:18:MET:SD	1:A:29:ILE:CG1	3.00	0.43
1:C:34:GLY:HA3	1:C:228:ASP:OD1	2.19	0.43
1:C:204:VAL:O	1:C:205:ARG:HB2	2.19	0.43
1:A:63:LEU:H	1:A:81:GLY:HA2	1.83	0.43
1:A:300:ILE:HD11	1:A:305:TYR:HD2	1.84	0.43
1:C:28:ASN:C	1:C:29:ILE:HD13	2.39	0.43
1:B:307:ARG:HA	1:B:308:PRO:HD3	1.89	0.42
1:B:310:GLU:C	1:B:311:ASP:OD1	2.57	0.42
1:A:267:LEU:HD12	1:A:267:LEU:O	2.19	0.42
1:C:32:ASP:CB	1:C:118:ILE:HD11	2.50	0.42
1:C:67:VAL:CG2	1:C:129:PRO:HG3	2.41	0.42
1:C:235:ARG:HB2	1:C:332:VAL:HB	2.00	0.42
1:C:301:LEU:HD11	1:C:367:THR:CA	2.45	0.42
1:A:26:THR:O	1:A:27:LEU:HD23	2.19	0.42
1:A:168:ALA:O	1:A:169:SER:CB	2.62	0.42
1:C:238:LYS:HA	1:C:326:GLN:HB2	2.00	0.42
1:A:54:ARG:HD3	3:A:518:HOH:O	2.18	0.42
1:B:36:SER:HB2	1:B:127:ALA:HA	2.01	0.42
1:B:55:GLN:HE21	1:B:56:LEU:CG	2.33	0.42
1:B:119:LEU:O	1:B:119:LEU:HG	2.19	0.42
1:B:267:LEU:HD21	1:B:321:LYS:HE3	2.01	0.42
1:C:146:VAL:HA	1:C:147:PRO:HD3	1.85	0.42
1:C:180:ASP:HB3	1:C:183:LEU:HD12	1.99	0.42
1:C:277:TRP:HE3	1:C:302:PRO:HG2	1.85	0.42
1:A:234:LEU:H	1:A:336:VAL:HG21	1.84	0.42
1:B:205:ARG:HB3	1:B:286:TYR:CG	2.55	0.42
1:B:316:GLN:HE21	1:B:316:GLN:CA	2.30	0.42
1:C:45:HIS:CD2	1:C:46:PRO:HD2	2.34	0.42
1:A:28:ASN:HD22	1:A:28:ASN:HA	1.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:41:GLY:O	1:A:51:TYR:HB2	2.19	0.42
1:A:268:VAL:O	1:A:319:CYS:HA	2.19	0.42
1:C:59:THR:O	1:C:96:ARG:NH1	2.45	0.42
1:A:150:PHE:HE2	1:A:152:LEU:HD11	1.84	0.42
1:B:205:ARG:HB3	1:B:286:TYR:CB	2.50	0.42
1:B:32:ASP:CG	1:B:34:GLY:H	2.23	0.42
1:C:233:ASN:ND2	1:C:323:ALA:HA	2.35	0.42
1:B:341:PHE:C	1:B:357:SER:HB2	2.39	0.42
1:C:235:ARG:HB2	1:C:332:VAL:CB	2.50	0.42
1:B:76:TRP:HB2	1:B:102:ILE:CG2	2.46	0.42
1:B:77:GLU:HB3	1:B:104:GLU:HB3	2.02	0.42
1:B:184:TYR:HD2	1:B:355:ALA:HB1	1.85	0.42
1:C:14:TYR:CG	1:C:154:LEU:HD22	2.55	0.42
1:C:35:SER:O	1:C:122:ALA:N	2.47	0.42
1:C:63:LEU:HD12	1:C:81:GLY:HA2	2.02	0.42
1:A:216:ASP:C	1:A:218:LYS:N	2.73	0.41
1:B:67:VAL:HG11	1:B:100:ALA:HB1	2.01	0.41
1:B:283:ILE:HD12	1:B:305:TYR:CD2	2.55	0.41
1:B:234:LEU:HB2	1:B:336:VAL:HG22	1.99	0.41
1:C:154:LEU:HD12	1:C:338:MET:HB3	2.02	0.41
1:C:202:ILE:HG21	1:C:288:MET:HE1	2.02	0.41
1:A:226:ILE:HD12	1:A:228:ASP:HB2	2.02	0.41
1:B:14:TYR:CZ	1:B:154:LEU:HB3	2.55	0.41
1:C:195:ARG:NH1	1:C:197:TRP:CD2	2.88	0.41
1:C:235:ARG:O	1:C:331:THR:HA	2.20	0.41
1:A:297:ARG:HG2	1:A:374:PHE:HE1	1.83	0.41
1:A:333:MET:HE3	1:A:333:MET:HB3	1.92	0.41
1:A:338:MET:O	1:A:340:GLY:N	2.53	0.41
1:B:130:ASP:O	1:B:132:SER:N	2.54	0.41
1:C:76:TRP:C	1:C:77:GLU:HG3	2.40	0.41
1:C:137:PHE:O	1:C:141:VAL:HG23	2.19	0.41
1:C:297:ARG:NH1	1:C:374:PHE:CZ	2.88	0.41
1:C:346:ASP:HB3	1:C:351:ARG:O	2.21	0.41
1:A:32:ASP:OD1	1:A:32:ASP:C	2.58	0.41
1:A:146:VAL:CG1	1:A:177:GLY:HA3	2.50	0.41
1:A:212:ASP:OD1	1:A:214:LYS:N	2.48	0.41
1:A:241:PHE:CE1	1:A:325:SER:HA	2.55	0.41
1:B:216:ASP:O	1:B:218:LYS:N	2.53	0.41
1:C:200:GLU:HG3	1:C:201:VAL:N	2.34	0.41
1:A:201:VAL:O	1:A:202:ILE:HG13	2.21	0.41
1:B:300:ILE:HG22	1:B:341:PHE:HE1	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:203:ILE:N	1:A:203:ILE:HD12	2.36	0.41
1:C:98:ASN:C	1:C:99:ILE:HG13	2.41	0.41
1:A:386:ILE:HD12	3:A:527:HOH:O	2.20	0.41
1:B:235:ARG:NH1	1:B:327:SER:HB2	2.36	0.41
1:A:179:ILE:HG23	1:A:342:TYR:CE2	2.52	0.41
1:B:189:TRP:O	1:B:353:GLY:HA2	2.21	0.41
1:B:293:ASN:HA	1:B:376:THR:O	2.21	0.41
1:C:45:HIS:C	1:C:47:PHE:N	2.74	0.41
1:C:232:THR:CG2	1:C:307:ARG:NE	2.83	0.41
1:C:179:ILE:HG23	1:C:342:TYR:HE2	1.86	0.41
1:C:212:ASP:OD1	1:C:213:LEU:N	2.54	0.41
1:B:362:HIS:ND1	1:B:362:HIS:N	2.70	0.40
1:C:283:ILE:CD1	1:C:305:TYR:CE2	3.04	0.40
1:A:237:PRO:HD3	1:A:331:THR:OG1	2.21	0.40
1:B:96:ARG:NH1	1:B:96:ARG:HG3	2.36	0.40
1:C:70:PRO:HD2	1:C:128:ARG:CZ	2.50	0.40
1:C:71:TYR:HB3	2:C:503:009:HD2	2.03	0.40
1:C:189:TRP:O	1:C:353:GLY:CA	2.69	0.40
1:C:190:TYR:CD2	1:C:353:GLY:N	2.89	0.40
1:C:293:ASN:HB3	1:C:377:LEU:CD2	2.51	0.40
1:A:77:GLU:N	1:A:104:GLU:O	2.47	0.40
1:C:29:ILE:HD12	1:C:117:GLY:CA	2.48	0.40
1:C:54:ARG:HG2	1:C:60:TYR:CE1	2.56	0.40
1:A:356:VAL:HG22	1:A:369:ALA:HA	2.02	0.40
1:B:36:SER:HB3	1:B:127:ALA:HB2	2.03	0.40
1:B:93:VAL:HG21	1:B:140:LEU:HD11	2.02	0.40
1:C:47:PHE:HD1	1:C:109:PHE:O	2.05	0.40
1:A:-2:PHE:CD1	1:A:-2:PHE:N	2.90	0.40
1:A:26:THR:HG22	1:A:27:LEU:N	2.36	0.40
1:A:261:PHE:CD1	1:A:268:VAL:CG2	3.00	0.40
1:C:357:SER:HB3	1:C:360:HIS:HB3	2.03	0.40

All (1) 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:A:68:TYR:OH	1:C:68:TYR:O[4_555]	2.04	0.16

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	373/412 (90%)	320 (86%)	40 (11%)	13 (4%)	3	8
1	B	373/412 (90%)	328 (88%)	32 (9%)	13 (4%)	3	8
1	C	371/412 (90%)	309 (83%)	40 (11%)	22 (6%)	1	2
All	All	1117/1236 (90%)	957 (86%)	112 (10%)	48 (4%)	2	5

All (48) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	10	SER
1	A	131	ASP
1	A	223	ASP
1	A	253	SER
1	B	223	ASP
1	B	253	SER
1	B	312	VAL
1	C	72	THR
1	C	123	TYR
1	C	125	GLU
1	C	133	LEU
1	C	223	ASP
1	C	238	LYS
1	C	253	SER
1	C	316	GLN
1	A	83	ASP
1	A	169	SER
1	A	217	CYS
1	B	214	LYS
1	B	259	ASP
1	B	310	GLU
1	B	311	ASP
1	C	56	LEU
1	C	194	ARG

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Mol	Chain	Res	Type
1	C	214	LYS
1	C	350	LYS
1	A	339	GLU
1	C	136	PHE
1	C	196	GLU
1	C	347	ARG
1	A	272	ALA
1	B	131	ASP
1	B	197	TRP
1	C	64	ARG
1	C	83	ASP
1	C	98	ASN
1	C	140	LEU
1	C	346	ASP
1	A	149	LEU
1	B	70	PRO
1	B	156	GLY
1	C	46	PRO
1	A	156	GLY
1	A	278	ASN
1	B	181	HIS
1	B	217	CYS
1	C	276	PRO
1	A	237	PRO

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	321/353 (91%)	308 (96%)	13 (4%)	31	60
1	B	322/353 (91%)	300 (93%)	22 (7%)	16	36
1	C	322/353 (91%)	295 (92%)	27 (8%)	11	25
All	All	965/1059 (91%)	903 (94%)	62 (6%)	17	39

All (62) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	VAL
1	A	111	ASN
1	A	125	GLU
1	A	130	ASP
1	A	149	LEU
1	A	188	LEU
1	A	191	THR
1	A	197	TRP
1	A	234	LEU
1	A	237	PRO
1	A	304	GLN
1	A	329	THR
1	A	336	VAL
1	B	30	LEU
1	B	56	LEU
1	B	72	THR
1	B	73	GLN
1	B	77	GLU
1	B	103	THR
1	B	104	GLU
1	B	105	SER
1	B	111	ASN
1	B	149	LEU
1	B	197	TRP
1	B	225	SER
1	B	234	LEU
1	B	278	ASN
1	B	310	GLU
1	B	311	ASP
1	B	325	SER
1	B	333	MET
1	B	362	HIS
1	B	364	GLU
1	B	373	PRO
1	B	380	GLU
1	C	38	PHE
1	C	55	GLN
1	C	64	ARG
1	C	68	TYR
1	C	94	THR
1	C	103	THR
1	C	111	ASN
1	C	136	PHE

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Mol	Chain	Res	Type
1	C	155	CYS
1	C	198	TYR
1	C	245	VAL
1	C	246	LYS
1	C	254	THR
1	C	259	ASP
1	C	278	ASN
1	C	296	PHE
1	C	300	ILE
1	C	310	GLU
1	C	317	ASP
1	C	318	ASP
1	C	328	SER
1	C	329	THR
1	C	331	THR
1	C	336	VAL
1	C	341	PHE
1	C	381	ASP
1	C	386	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (30) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	12	GLN
1	A	28	ASN
1	A	73	GLN
1	A	111	ASN
1	A	266	GLN
1	A	316	GLN
1	A	326	GLN
1	B	28	ASN
1	B	55	GLN
1	B	73	GLN
1	B	92	ASN
1	B	111	ASN
1	B	211	GLN
1	B	278	ASN
1	B	294	GLN
1	B	304	GLN
1	B	316	GLN
1	C	25	GLN
1	C	28	ASN

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Mol	Chain	Res	Type
1	C	37	ASN
1	C	45	HIS
1	C	55	GLN
1	C	73	GLN
1	C	111	ASN
1	C	114	ASN
1	C	181	HIS
1	C	211	GLN
1	C	266	GLN
1	C	304	GLN
1	C	316	GLN

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 ⓘ

3 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	009	C	503	-	48,49,49	1.58	6 (12%)	59,67,67	2.02	7 (11%)
2	009	A	501	-	48,49,49	1.66	9 (18%)	59,67,67	1.95	9 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
2	009	B	502	-	48,49,49	1.39	6 (12%)	59,67,67	2.08	7 (11%)

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	009	C	503	-	-	10/37/51/51	0/5/5/5
2	009	A	501	-	-	8/37/51/51	0/5/5/5
2	009	B	502	-	-	6/37/51/51	0/5/5/5

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	501	009	C32-N34	4.16	1.43	1.37
2	C	503	009	C51-C30	3.97	1.60	1.55
2	A	501	009	C51-C30	3.68	1.60	1.55
2	C	503	009	C32-N34	3.57	1.42	1.37
2	B	502	009	C32-N34	3.17	1.42	1.37
2	A	501	009	C36-N34	2.86	1.51	1.46
2	A	501	009	C30-C	2.76	1.59	1.53
2	B	502	009	C36-N34	2.69	1.51	1.46
2	A	501	009	C57-C56	2.67	1.44	1.38
2	B	502	009	C51-C30	2.38	1.58	1.55
2	A	501	009	CA-N	2.34	1.50	1.46
2	C	503	009	C51-C56	2.33	1.55	1.51
2	C	503	009	C57-C56	2.31	1.43	1.38
2	A	501	009	C24-C25	2.20	1.43	1.39
2	C	503	009	C26-C21	2.18	1.43	1.39
2	A	501	009	C-N	2.14	1.38	1.34
2	A	501	009	C26-C21	2.11	1.42	1.39
2	C	503	009	C55-C56	2.08	1.43	1.38
2	B	502	009	C26-C21	2.06	1.42	1.39
2	B	502	009	C42-C41	2.03	1.43	1.38
2	B	502	009	C57-C56	2.02	1.43	1.38

All (23) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	C	503	009	C30-N31-C32	-9.58	107.59	113.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	A	501	009	C30-N31-C32	-9.49	107.65	113.48
2	B	502	009	C30-N31-C32	-8.72	108.12	113.48
2	C	503	009	C35-N34-C32	-8.14	100.77	111.44
2	B	502	009	C35-N34-C32	-7.82	101.19	111.44
2	A	501	009	C35-N34-C32	-7.78	101.25	111.44
2	B	502	009	N31-C32-N34	5.71	114.15	108.43
2	B	502	009	C41-C36-N34	5.61	122.15	113.13
2	C	503	009	N31-C32-N34	4.78	113.22	108.43
2	A	501	009	N31-C32-N34	4.65	113.09	108.43
2	C	503	009	C41-C36-N34	3.70	119.08	113.13
2	A	501	009	C41-C36-N34	3.53	118.81	113.13
2	C	503	009	C1-C2-N2	-3.18	107.61	111.97
2	B	502	009	C30-C51-C56	2.79	119.19	115.00
2	B	502	009	O33-C32-N34	-2.62	121.53	125.14
2	B	502	009	CB-CA-N	-2.42	106.54	110.07
2	A	501	009	CG-CB-CA	-2.29	109.36	113.33
2	A	501	009	CB-CA-N	-2.15	106.93	110.07
2	A	501	009	O33-C32-N34	-2.14	122.20	125.14
2	A	501	009	C21-C20-N2	-2.13	107.27	112.80
2	C	503	009	C30-C-N	-2.13	112.83	116.58
2	C	503	009	C30-C51-C56	2.07	118.11	115.00
2	A	501	009	C30-C51-C56	2.05	118.08	115.00

There are no chirality outliers.

All (24) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	C	503	009	CA-C1-C2-N2
2	C	503	009	OG-C1-C2-N2
2	C	503	009	C35-C30-C51-C56
2	B	502	009	C24-C25-N27-C29
2	B	502	009	C26-C25-N27-C28
2	C	503	009	C24-C25-N27-C29
2	C	503	009	C26-C25-N27-C28
2	B	502	009	C24-C25-N27-C28
2	B	502	009	C26-C25-N27-C29
2	C	503	009	C24-C25-N27-C28
2	C	503	009	C26-C25-N27-C29
2	A	501	009	C24-C25-N27-C29
2	A	501	009	C26-C25-N27-C28
2	A	501	009	C24-C25-N27-C28
2	A	501	009	C26-C25-N27-C29

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Mol	Chain	Res	Type	Atoms
2	A	501	009	C41-C36-N34-C35
2	C	503	009	C21-C20-N2-C2
2	C	503	009	C41-C36-N34-C35
2	A	501	009	CA-C1-C2-N2
2	B	502	009	CA-C1-C2-N2
2	A	501	009	C21-C20-N2-C2
2	C	503	009	C-C30-C51-C56
2	A	501	009	OG-C1-C2-N2
2	B	502	009	OG-C1-C2-N2

There are no ring outliers.

3 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	C	503	009	1	0
2	A	501	009	4	0
2	B	502	009	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 009 C 503

Bond lengths

Bond angles

Torsions

Rings

Ligand 009 A 501

Bond lengths

Bond angles

Torsions

Rings

Ligand 009 B 502

Bond lengths

Bond angles

Torsions

Rings
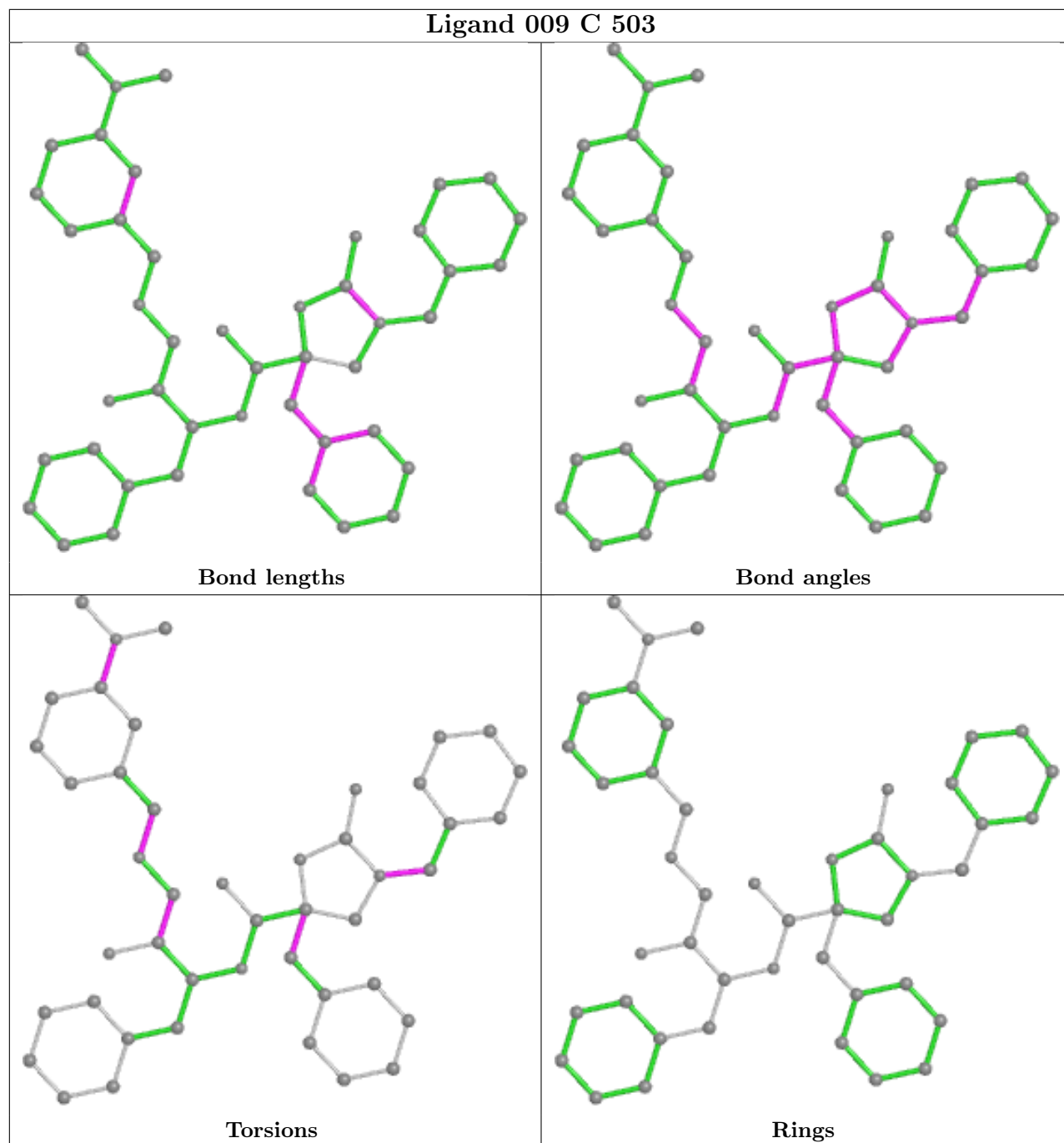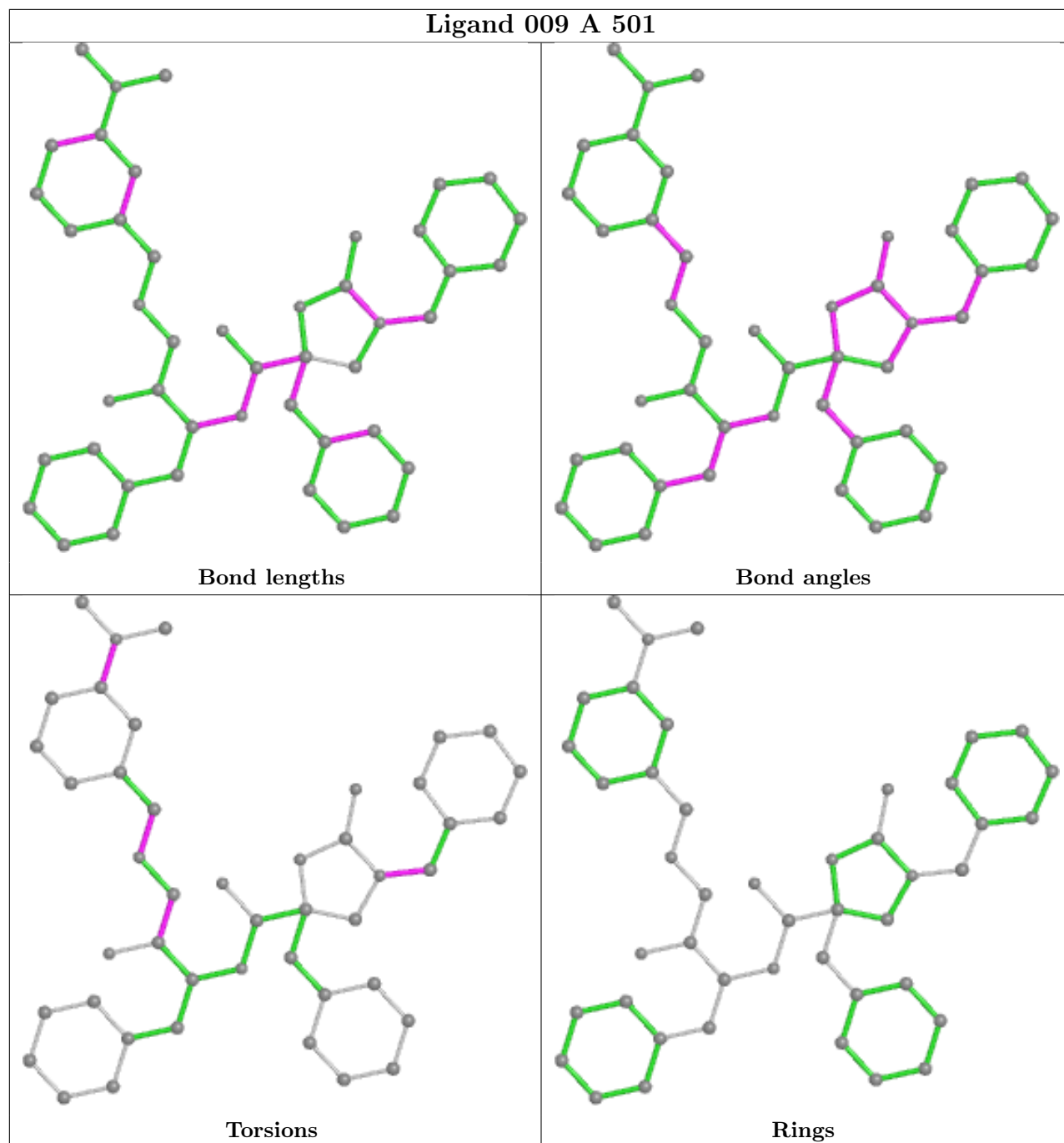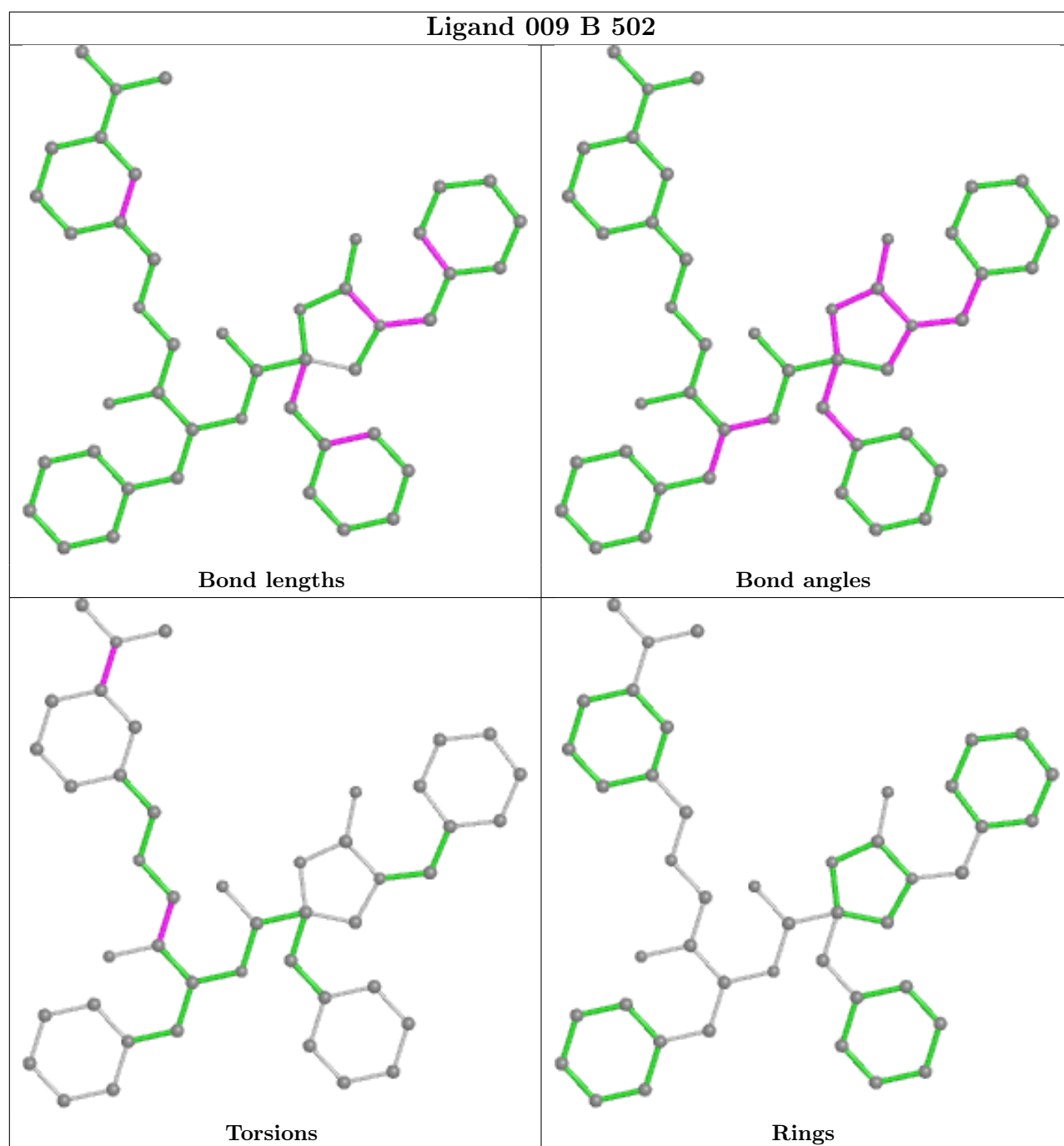
5.7 Other polymers ⓘ

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	379/412 (91%)	-0.08	7 (1%)	68	70	19, 41, 69, 114	0
1	B	377/412 (91%)	0.00	10 (2%)	54	55	25, 45, 79, 99	0
1	C	377/412 (91%)	0.43	17 (4%)	33	31	27, 64, 89, 132	0
All	All	1133/1236 (91%)	0.12	34 (3%)	50	51	19, 48, 84, 132	0

All (34) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	315	SER	5.3
1	A	377	LEU	4.6
1	B	157	ALA	4.4
1	C	316	GLN	3.9
1	C	222	TYR	3.9
1	C	145	HIS	3.7
1	C	66	GLY	3.5
1	A	310	GLU	3.2
1	C	132	SER	3.0
1	B	310	GLU	3.0
1	A	316	GLN	3.0
1	C	384	TYR	2.9
1	A	381	ASP	2.8
1	C	107	LYS	2.8
1	A	-5	LYS	2.8
1	C	72	THR	2.6
1	C	64	ARG	2.5
1	C	41	GLY	2.5
1	B	171	GLY	2.5
1	A	386	ILE	2.5
1	B	312	VAL	2.4
1	B	113	SER	2.4
1	B	313	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	145	HIS	2.4
1	C	293	ASN	2.3
1	C	266	GLN	2.3
1	B	49	HIS	2.2
1	B	112	GLY	2.2
1	C	141	VAL	2.2
1	C	103	THR	2.1
1	B	156	GLY	2.1
1	C	106	ASP	2.1
1	A	380	GLU	2.0
1	C	7	ARG	2.0

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

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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.

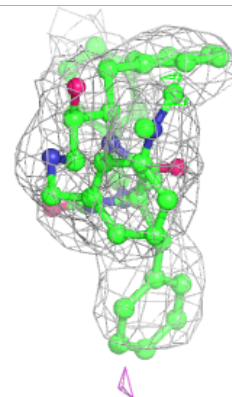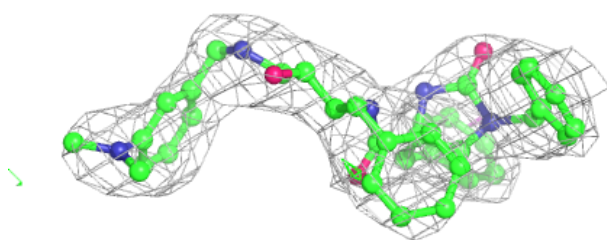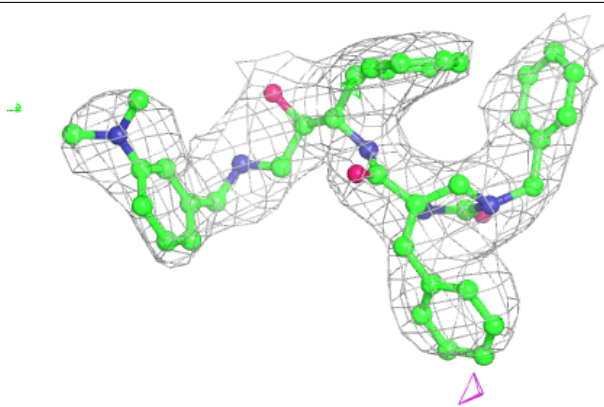| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	009	C	503	45/45	0.83	0.28	69,72,82,83	0
2	009	B	502	45/45	0.89	0.21	42,48,55,56	0
2	009	A	501	45/45	0.89	0.24	38,45,56,56	0

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.
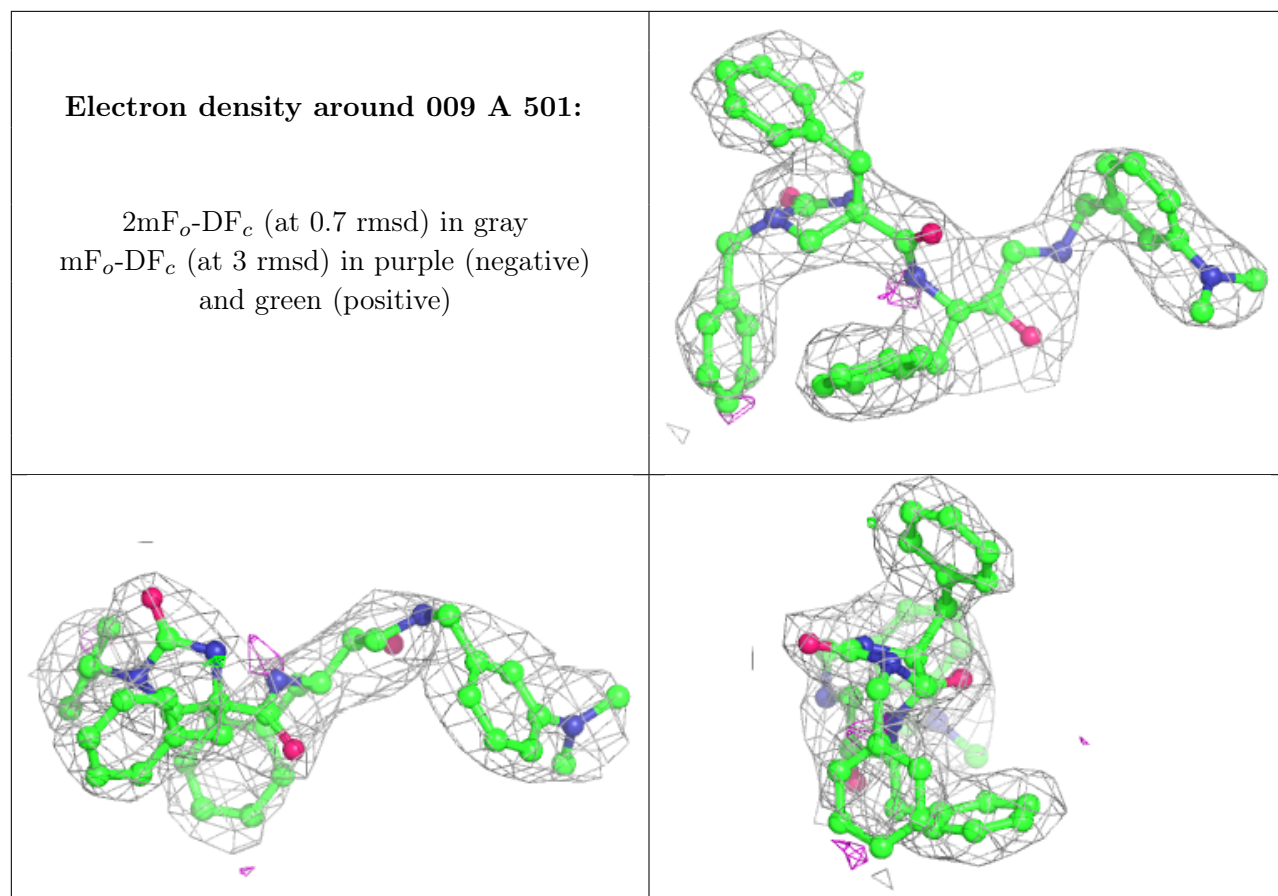
WORLDWIDE
wwPDB
PROTEIN DATA BANK

Electron density around 009 C 503:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
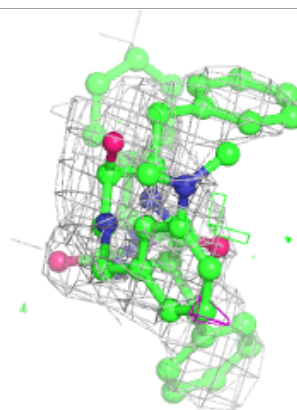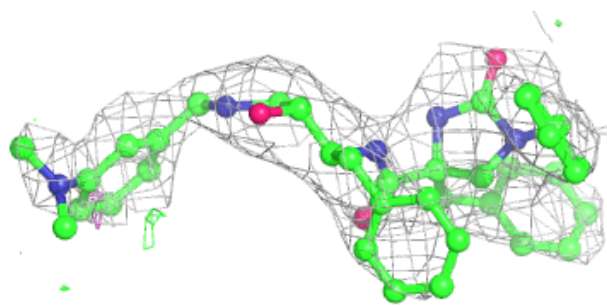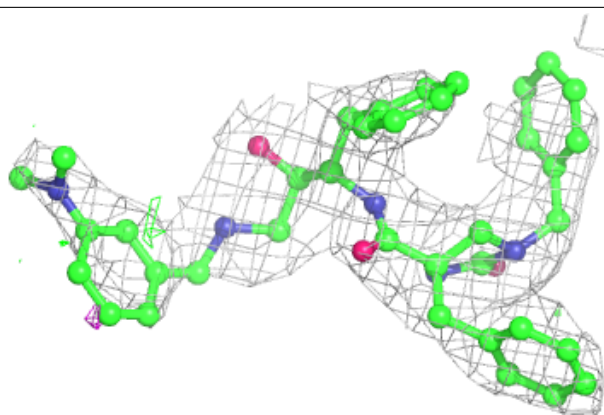
Electron density around 009 B 502:

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

Electron density around 009 A 501:

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

6.5 Other polymers ⓘ

There are no such residues in this entry.