Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 09:28 AM EDT

|		
PDB ID	:	1X81
Title	:	Farnesyl transferase structure of Jansen compound
Authors	:	Li, Q.; Claiborne, A.; Li, T.; Hasvold, L.; Stoll, V.S.; Muchmore, S.; Jakob, C.G.; Gu, W.; Cohen, J.; Hutchins, C.; Frost, D.; Rosenberg, S.H.; Sham, H.L.
Deposited on	:	2004-08-16
Resolution	:	3.50 Å(reported)

---

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 3.50 Å.

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

Metric	Percentile Ranks	Value
Clashscore		36
Ramachandran outliers		3.5%
Sidechain outliers		3.5%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
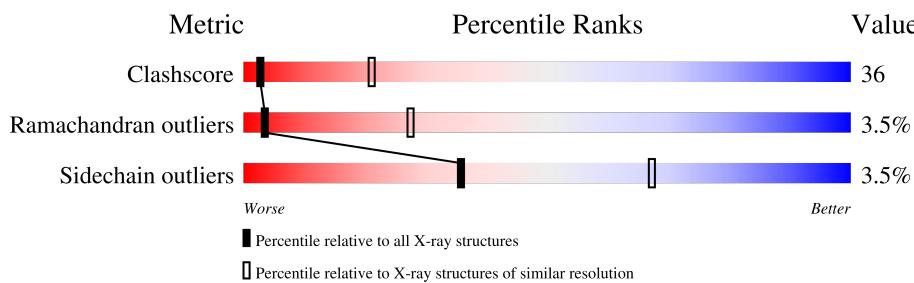
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	1036 (3.58-3.42)
Ramachandran outliers	138981	1005 (3.58-3.42)
Sidechain outliers	138945	1006 (3.58-3.42)

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%

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	315	44% 51% 5%
2	B	397	43% 52% · ·

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 5849 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 Protein farnesyltransferase/geranylgeranyltransferase type I alpha subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	315	2689	1712	473	499	5	0	0	0

- Molecule 2 is a protein called Protein farnesyltransferase beta subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	397	3125	1995	539	568	23	0	0	0

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Zn		
3	B	1	1	1	0	0

- Molecule 4 is 6-[(S)-AMINO(4-CHLOROPHENYL)(1-METHYL-1H-IMIDAZOL-5-YL)METHYL]-4-(3-CHLOROPHENYL)-1-METHYLQUINOLIN-2(1H)-ONE (three-letter code: JAN) (formula: $C_{27}H_{22}Cl_2N_4O$).

JAN
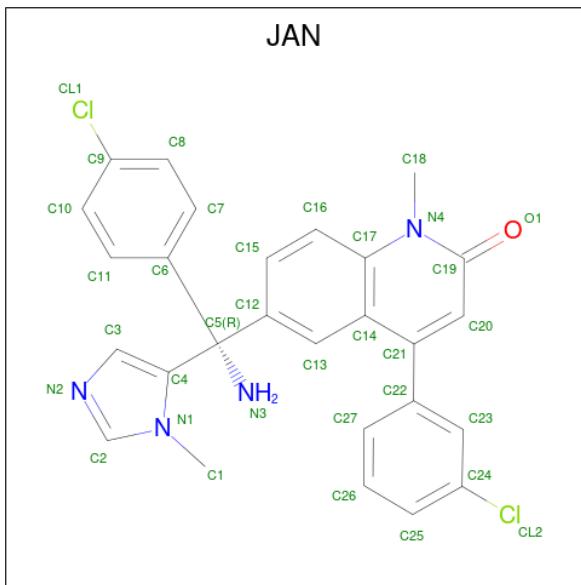
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	B	1	Total	C	Cl	N	O	0	0
			34	27	2	4	1		

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. 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. 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.

Note EDS was not executed.

• Molecule 1: Protein farnesyltransferase/geranylgeranyltransferase type I alpha subunit

Chain A:

• Molecule 2: Protein farnesyltransferase beta subunit

Chain B:

H316 A317 Q318 G319 D320 L323 S324 M325 W328 M329 F330 H331 Q332 Q333 A334 L335 Q336 M341 C342 C343 Q344 C345 G349 L350 L351 D352 K353 P354 G355 K356 S357 R358 D359 F360 Y361 H362 T363 L367 S368 G369 L370 S371 I372 A373 Q374 H375 F376 H383 V386 V389 P390 E391

N392 V393 L394 Q395 P396 T397 V400 Y401 N402 I403 A411 H414 F415 L416 Q417 K418
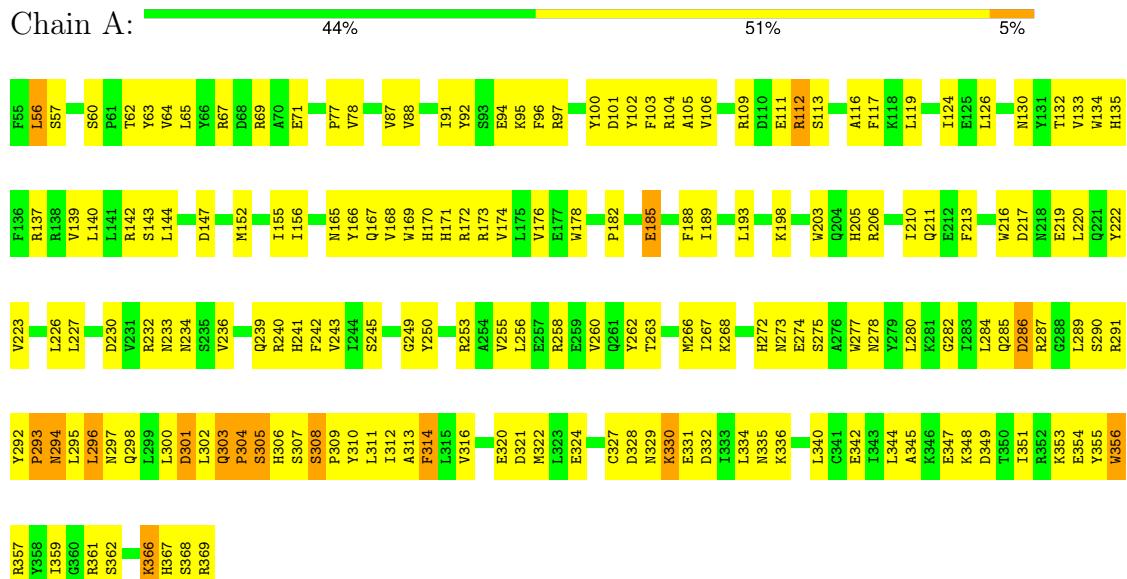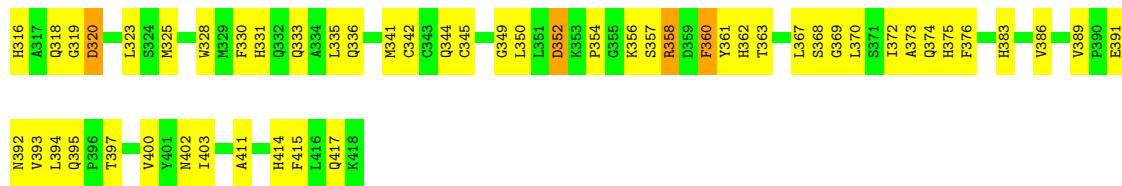
4 Data and refinement statistics (i)

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 61	Depositor
Cell constants a, b, c, α, β, γ	170.09Å 170.09Å 69.13Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	50.00 – 3.50	Depositor
% Data completeness (in resolution range)	(Not available) (50.00-3.50)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	X-PLOR 98.0	Depositor
R, R_{free}	0.223 , 0.292	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	5849	wwPDB-VP
Average B, all atoms (Å^2)	25.0	wwPDB-VP

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: JAN, ZN

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	0.53	0/2755	0.73	0/3738
2	B	0.50	0/3208	0.81	0/4353
All	All	0.51	0/5963	0.78	0/8091

There are no bond length outliers.

There are no bond angle outliers.

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	2689	0	2614	180	0
2	B	3125	0	3059	251	0
3	B	1	0	0	0	0
4	B	34	0	22	0	0
All	All	5849	0	5695	411	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 36.

All (411) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:280:ARG:HH11	2:B:280:ARG:HA	1.19	1.03
2:B:119:PRO:HB2	2:B:122:VAL:HG23	1.47	0.96
2:B:308:LEU:HD12	2:B:330:PHE:HD1	1.31	0.94
2:B:192:LEU:HA	2:B:199:VAL:HG12	1.51	0.93
1:A:69:ARG:HB3	1:A:71:GLU:OE2	1.70	0.92
2:B:73:LEU:HD12	2:B:344:GLN:NE2	1.88	0.89
1:A:287:ARG:H	1:A:287:ARG:HD2	1.38	0.87
2:B:34:ARG:HH11	2:B:34:ARG:HB3	1.41	0.86
2:B:285:GLU:HG2	2:B:296:VAL:HG11	1.59	0.84
2:B:73:LEU:HA	2:B:344:GLN:HE22	1.41	0.83
1:A:334:LEU:HD21	1:A:368:SER:HB3	1.60	0.83
2:B:66:HIS:HA	2:B:70:ARG:HD2	1.60	0.83
2:B:308:LEU:HD12	2:B:330:PHE:CD1	2.12	0.83
1:A:282:GLY:HA2	1:A:285:GLN:HE21	1.41	0.83
2:B:67:LEU:HD12	2:B:67:LEU:H	1.42	0.82
2:B:280:ARG:HA	2:B:280:ARG:NH1	1.94	0.82
1:A:287:ARG:HD2	1:A:287:ARG:N	1.95	0.82
2:B:361:TYR:CD2	2:B:362:HIS:HD2	1.98	0.81
1:A:170:HIS:O	1:A:174:VAL:HG23	1.83	0.79
1:A:362:SER:O	1:A:366:LYS:HG2	1.82	0.78
1:A:260:VAL:HG13	1:A:280:LEU:HD11	1.63	0.78
1:A:334:LEU:HD22	1:A:367:HIS:O	1.84	0.77
1:A:189:ILE:HG21	1:A:206:ARG:HB2	1.65	0.77
2:B:193:MET:HA	2:B:193:MET:HE3	1.68	0.76
2:B:349:GLY:HA2	2:B:363:THR:HG23	1.66	0.76
2:B:62:TYR:HA	2:B:70:ARG:NH1	2.01	0.75
2:B:304:GLN:HA	2:B:304:GLN:HE21	1.53	0.74
2:B:35:LEU:HD12	2:B:36:GLN:N	2.04	0.73
2:B:101:PRO:HD3	2:B:142:GLY:O	1.89	0.73
2:B:361:TYR:CD2	2:B:362:HIS:CD2	2.78	0.72
1:A:347:GLU:OE1	1:A:348:LYS:HG2	1.88	0.71
2:B:124:THR:HG23	2:B:167:GLU:OE2	1.91	0.71
2:B:193:MET:HA	2:B:193:MET:CE	2.20	0.71
2:B:62:TYR:HA	2:B:70:ARG:HH12	1.55	0.71
2:B:202:ARG:HH11	2:B:202:ARG:HB3	1.55	0.71
1:A:173:ARG:HE	2:B:198:GLU:CD	1.95	0.70
1:A:334:LEU:CD2	1:A:368:SER:HB3	2.21	0.70
1:A:282:GLY:HA2	1:A:285:GLN:NE2	2.06	0.70
1:A:71:GLU:CD	1:A:71:GLU:H	1.96	0.69
1:A:303:GLN:O	1:A:307:SER:HB2	1.92	0.69
2:B:119:PRO:HD2	2:B:122:VAL:HG21	1.75	0.68
2:B:370:LEU:HD23	2:B:394:LEU:HD11	1.76	0.68

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:69:PRO:HB2	2:B:389:VAL:HG12	1.75	0.67
1:A:112:ARG:HA	1:A:140:LEU:HD21	1.76	0.67
1:A:293:PRO:HG2	1:A:294:ASN:H	1.60	0.67
2:B:60:SER:O	2:B:63:LYS:HB2	1.95	0.67
2:B:34:ARG:HB3	2:B:34:ARG:NH1	2.09	0.67
1:A:223:VAL:HG11	1:A:240:ARG:HB2	1.77	0.66
2:B:361:TYR:HD2	2:B:362:HIS:CD2	2.12	0.66
2:B:266:ARG:HG2	2:B:318:GLN:HE21	1.61	0.66
1:A:357:ARG:HB3	1:A:361:ARG:HH12	1.59	0.66
2:B:266:ARG:HG2	2:B:318:GLN:NE2	2.10	0.66
2:B:185:LYS:NZ	2:B:189:GLY:HA2	2.11	0.66
1:A:132:THR:HG23	2:B:147:TYR:CD2	2.31	0.65
2:B:308:LEU:CD1	2:B:330:PHE:HB3	2.25	0.65
1:A:65:LEU:O	1:A:69:ARG:HG3	1.96	0.65
1:A:170:HIS:ND1	2:B:198:GLU:HG3	2.12	0.65
1:A:303:GLN:HE22	1:A:312:ILE:CD1	2.08	0.65
1:A:77:PRO:HB3	1:A:102:TYR:CE1	2.32	0.64
2:B:25:SER:HA	2:B:30:HIS:CE1	2.32	0.64
1:A:77:PRO:HB3	1:A:102:TYR:CD1	2.32	0.64
2:B:73:LEU:HD12	2:B:344:GLN:HE21	1.61	0.64
2:B:202:ARG:NH1	2:B:202:ARG:CB	2.61	0.64
2:B:282:MET:HG3	2:B:296:VAL:HB	1.79	0.64
1:A:152:MET:O	1:A:156:ILE:HG13	1.98	0.64
2:B:246:GLU:OE1	2:B:291:ARG:HD2	1.98	0.64
1:A:263:THR:HG21	1:A:280:LEU:HB2	1.78	0.64
2:B:283:ARG:HG2	2:B:283:ARG:HH11	1.63	0.64
2:B:68:VAL:HB	2:B:69:PRO:CD	2.28	0.64
1:A:211:GLN:HG3	1:A:242:PHE:HZ	1.63	0.63
1:A:165:ASN:ND2	1:A:167:GLN:H	1.97	0.63
2:B:297:ASP:HB3	2:B:300:TYR:HD2	1.63	0.63
2:B:345:CYS:SG	2:B:358:ARG:HD2	2.37	0.63
1:A:312:ILE:O	1:A:316:VAL:HG23	1.99	0.62
1:A:232:ARG:CZ	2:B:45:SER:HB2	2.29	0.62
1:A:165:ASN:HB3	1:A:168:VAL:HG12	1.80	0.62
2:B:185:LYS:HZ1	2:B:189:GLY:HA2	1.65	0.62
2:B:199:VAL:HG23	2:B:199:VAL:O	1.99	0.62
1:A:369:ARG:HG3	1:A:369:ARG:O	2.00	0.62
2:B:60:SER:HA	2:B:63:LYS:HD2	1.82	0.62
2:B:273:LEU:HD23	2:B:311:LEU:HD21	1.82	0.62
2:B:105:TYR:OH	2:B:402:ASN:ND2	2.33	0.61
1:A:263:THR:CG2	1:A:280:LEU:HB2	2.31	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:78:VAL:O	1:A:104:ARG:HD2	2.00	0.61
2:B:248:HIS:CE1	2:B:300:TYR:OH	2.54	0.61
1:A:198:LYS:NZ	2:B:293:ASN:O	2.33	0.60
1:A:260:VAL:HG13	1:A:280:LEU:CD1	2.32	0.60
2:B:50:LYS:O	2:B:54:LYS:HG3	2.01	0.60
2:B:82:LEU:HD12	2:B:111:LEU:HD23	1.84	0.60
2:B:265:GLU:CD	2:B:265:GLU:H	2.05	0.60
2:B:281:GLN:HB2	2:B:288:PHE:CE2	2.36	0.60
2:B:61:SER:C	2:B:63:LYS:H	2.05	0.60
2:B:316:HIS:HB2	2:B:323:LEU:HD12	1.84	0.60
2:B:227:GLU:O	2:B:231:ARG:HG3	2.02	0.59
2:B:201:VAL:HA	2:B:228:TRP:HZ3	1.67	0.59
1:A:256:LEU:O	1:A:260:VAL:HG23	2.03	0.59
1:A:255:VAL:HG13	1:A:258:ARG:NH2	2.17	0.58
1:A:320:GLU:O	1:A:324:GLU:HG2	2.03	0.58
2:B:35:LEU:HD12	2:B:36:GLN:H	1.67	0.58
2:B:281:GLN:HB2	2:B:288:PHE:CZ	2.39	0.58
2:B:149:HIS:O	2:B:153:THR:OG1	2.19	0.58
2:B:256:LEU:O	2:B:260:VAL:HG23	2.03	0.58
1:A:100:TYR:O	1:A:104:ARG:HG3	2.03	0.58
2:B:112:GLU:OE2	2:B:162:ILE:HG23	2.04	0.58
2:B:335:LEU:HD23	2:B:373:ALA:HB2	1.85	0.58
2:B:79:PHE:CE2	2:B:83:LYS:HD2	2.39	0.58
2:B:247:ALA:O	2:B:291:ARG:HG2	2.05	0.57
2:B:370:LEU:O	2:B:374:GLN:HG3	2.04	0.57
2:B:257:ALA:O	2:B:261:ILE:HG13	2.04	0.57
2:B:202:ARG:NH2	2:B:251:TYR:CE1	2.73	0.57
2:B:202:ARG:HH11	2:B:202:ARG:CB	2.17	0.57
1:A:356:TRP:HA	1:A:356:TRP:CE3	2.40	0.57
2:B:138:GLY:HA3	2:B:176:LYS:O	2.05	0.56
1:A:298:GLN:O	1:A:301:ASP:HB2	2.05	0.56
2:B:69:PRO:CB	2:B:389:VAL:HG12	2.35	0.56
1:A:334:LEU:HD21	1:A:368:SER:CB	2.35	0.56
1:A:307:SER:HA	1:A:311:LEU:HD13	1.87	0.56
1:A:357:ARG:HB3	1:A:361:ARG:NH1	2.21	0.56
1:A:170:HIS:HD1	2:B:198:GLU:HG3	1.71	0.56
1:A:344:LEU:HD13	1:A:356:TRP:CE2	2.41	0.56
2:B:134:GLN:HE22	2:B:173:ASN:H	1.54	0.56
2:B:386:VAL:HG21	2:B:393:VAL:HG22	1.87	0.56
2:B:389:VAL:H	2:B:392:ASN:ND2	2.04	0.56
1:A:328:ASP:O	1:A:329:ASN:HB2	2.06	0.55

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:342:GLU:OE1	1:A:342:GLU:HA	2.06	0.55
1:A:262:TYR:O	1:A:266:MET:HB2	2.07	0.55
2:B:202:ARG:HB3	2:B:202:ARG:NH1	2.20	0.55
1:A:65:LEU:N	1:A:65:LEU:HD22	2.21	0.55
2:B:368:SER:O	2:B:372:ILE:HG12	2.05	0.55
1:A:232:ARG:NH1	2:B:42:THR:OG1	2.40	0.55
1:A:256:LEU:O	1:A:256:LEU:HD23	2.07	0.55
2:B:280:ARG:NH1	2:B:289:GLN:NE2	2.55	0.55
2:B:118:ILE:HD12	2:B:118:ILE:N	2.21	0.55
1:A:347:GLU:OE1	1:A:348:LYS:HE3	2.07	0.54
2:B:64:PHE:O	2:B:64:PHE:CD1	2.60	0.54
2:B:299:CYS:C	2:B:301:SER:H	2.11	0.54
1:A:165:ASN:O	1:A:169:TRP:HD1	1.90	0.54
2:B:33:GLU:O	2:B:284:PHE:HB2	2.07	0.54
2:B:350:LEU:HD12	2:B:350:LEU:N	2.21	0.54
1:A:97:ARG:HG2	1:A:101:ASP:OD2	2.06	0.54
2:B:252:THR:HG22	2:B:307:LEU:HD11	1.90	0.54
1:A:111:GLU:HG2	1:A:113:SER:OG	2.08	0.54
1:A:168:VAL:HG22	1:A:168:VAL:O	2.08	0.54
1:A:268:LYS:HE2	1:A:302:LEU:HD21	1.90	0.54
2:B:86:LEU:HB2	2:B:107:ILE:HG21	1.90	0.54
1:A:106:VAL:HG11	1:A:116:ALA:HB1	1.91	0.53
1:A:294:ASN:O	1:A:298:GLN:HG3	2.07	0.53
1:A:334:LEU:CD2	1:A:367:HIS:O	2.53	0.53
2:B:308:LEU:HD11	2:B:330:PHE:HB3	1.90	0.53
2:B:140:PHE:HD1	2:B:153:THR:HG23	1.73	0.53
2:B:352:ASP:HB3	2:B:356:LYS:HG2	1.91	0.53
1:A:331:GLU:H	1:A:331:GLU:CD	2.11	0.53
2:B:48:GLN:HE21	2:B:52:GLU:HG3	1.73	0.53
2:B:166:GLU:HG2	2:B:170:ASN:OD1	2.09	0.53
2:B:302:PHE:O	2:B:306:GLY:HA3	2.08	0.53
2:B:87:ARG:HH22	2:B:125:ASP:CG	2.12	0.53
2:B:308:LEU:HD12	2:B:330:PHE:HB3	1.89	0.52
1:A:263:THR:O	1:A:267:ILE:HG13	2.10	0.52
1:A:292:TYR:CD1	1:A:292:TYR:N	2.76	0.52
1:A:311:LEU:HD22	1:A:312:ILE:HD13	1.91	0.52
2:B:27:ARG:HG2	2:B:27:ARG:HH11	1.74	0.52
1:A:165:ASN:ND2	1:A:166:TYR:N	2.58	0.52
1:A:239:GLN:HE21	1:A:239:GLN:HA	1.75	0.52
2:B:67:LEU:HD12	2:B:67:LEU:N	2.19	0.52
2:B:192:LEU:HA	2:B:199:VAL:CG1	2.33	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:78:HIS:O	2:B:82:LEU:HG	2.10	0.52
2:B:79:PHE:CZ	2:B:83:LYS:HD2	2.45	0.52
2:B:192:LEU:HD22	2:B:197:GLY:O	2.10	0.52
1:A:65:LEU:HD22	1:A:65:LEU:H	1.75	0.52
1:A:290:SER:OG	1:A:322:MET:HA	2.10	0.51
2:B:192:LEU:CA	2:B:199:VAL:HG12	2.31	0.51
2:B:285:GLU:HG2	2:B:296:VAL:CG1	2.38	0.51
2:B:29:GLU:CD	2:B:29:GLU:H	2.13	0.51
2:B:151:ALA:HB3	2:B:152:PRO:CD	2.40	0.51
1:A:172:ARG:O	1:A:176:VAL:HG23	2.10	0.51
2:B:202:ARG:NH1	2:B:202:ARG:HB2	2.25	0.51
1:A:100:TYR:C	1:A:104:ARG:NH1	2.64	0.51
2:B:154:TYR:O	2:B:158:ASN:HB2	2.11	0.51
1:A:344:LEU:HB3	1:A:356:TRP:CD1	2.46	0.51
1:A:245:SER:HA	1:A:249:GLY:HA2	1.93	0.51
2:B:253:PHE:HA	2:B:307:LEU:HD21	1.92	0.51
1:A:155:ILE:HD13	1:A:171:HIS:HD2	1.76	0.50
1:A:170:HIS:CE1	2:B:198:GLU:HG3	2.45	0.50
1:A:303:GLN:HE22	1:A:312:ILE:HD11	1.77	0.50
2:B:298:GLY:C	2:B:299:CYS:O	2.48	0.50
2:B:299:CYS:C	2:B:301:SER:N	2.63	0.50
2:B:316:HIS:HB2	2:B:323:LEU:CD1	2.41	0.50
1:A:65:LEU:H	1:A:65:LEU:CD2	2.24	0.50
1:A:112:ARG:HA	1:A:140:LEU:CD2	2.41	0.50
1:A:165:ASN:HD22	1:A:166:TYR:N	2.10	0.50
1:A:273:ASN:O	1:A:277:TRP:HD1	1.94	0.50
2:B:291:ARG:NH2	2:B:294:LYS:HD2	2.26	0.50
1:A:293:PRO:O	1:A:295:LEU:N	2.45	0.50
2:B:119:PRO:HD2	2:B:122:VAL:CG2	2.41	0.50
1:A:87:VAL:O	1:A:88:VAL:C	2.51	0.50
2:B:113:LEU:HA	2:B:395:GLN:HB2	1.93	0.50
2:B:135:SER:C	2:B:137:ASP:H	2.13	0.50
1:A:67:ARG:HA	1:A:102:TYR:OH	2.11	0.49
2:B:113:LEU:HD13	2:B:367:LEU:O	2.12	0.49
2:B:248:HIS:CE1	2:B:250:GLY:H	2.29	0.49
2:B:77:LYS:HE2	2:B:77:LYS:HA	1.94	0.49
2:B:389:VAL:H	2:B:392:ASN:HD21	1.58	0.49
1:A:289:LEU:HD11	1:A:314:PHE:HE1	1.78	0.49
2:B:124:THR:O	2:B:128:GLN:HG3	2.13	0.49
1:A:193:LEU:HD13	1:A:203:TRP:CZ2	2.48	0.49
2:B:75:ARG:NH1	2:B:114:LEU:O	2.46	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:165:ASN:HD22	1:A:166:TYR:H	1.60	0.49
1:A:206:ARG:O	1:A:210:ILE:HG13	2.13	0.49
1:A:274:GLU:O	1:A:278:ASN:OD1	2.30	0.49
2:B:78:HIS:HD1	2:B:349:GLY:N	2.10	0.49
2:B:93:TYR:HD2	2:B:96:LEU:HD12	1.78	0.49
1:A:91:ILE:HG22	1:A:91:ILE:O	2.13	0.48
1:A:219:GLU:O	1:A:223:VAL:HG23	2.13	0.48
2:B:192:LEU:HD23	2:B:199:VAL:HG13	1.93	0.48
1:A:103:PHE:O	1:A:104:ARG:C	2.51	0.48
1:A:165:ASN:HB3	1:A:168:VAL:CG1	2.43	0.48
2:B:34:ARG:HH11	2:B:34:ARG:CB	2.21	0.48
2:B:143:GLY:N	2:B:146:GLN:NE2	2.61	0.48
2:B:296:VAL:HG22	2:B:297:ASP:N	2.28	0.48
1:A:241:HIS:HA	1:A:250:TYR:OH	2.13	0.48
1:A:56:LEU:HB3	1:A:57:SER:H	1.43	0.48
1:A:309:PRO:O	1:A:313:ALA:HB2	2.14	0.48
2:B:55:ILE:O	2:B:55:ILE:HG22	2.14	0.48
2:B:130:LEU:HD13	2:B:160:LEU:HG	1.96	0.48
1:A:329:ASN:HB3	1:A:332:ASP:HB3	1.94	0.48
2:B:304:GLN:HA	2:B:304:GLN:NE2	2.23	0.48
1:A:239:GLN:O	1:A:243:VAL:HG23	2.14	0.48
1:A:322:MET:HB3	1:A:327:CYS:SG	2.54	0.47
2:B:189:GLY:O	2:B:225:THR:HA	2.14	0.47
2:B:214:THR:O	2:B:215:ASN:HB3	2.14	0.47
2:B:89:LEU:CD1	2:B:103:LEU:HD13	2.44	0.47
2:B:233:GLN:HG3	2:B:238:GLY:O	2.13	0.47
2:B:280:ARG:NH1	2:B:289:GLN:HE21	2.11	0.47
2:B:92:ALA:O	2:B:94:GLU:N	2.45	0.47
2:B:336:GLN:HG2	2:B:370:LEU:HD12	1.96	0.47
2:B:372:ILE:HD11	2:B:397:THR:HG23	1.96	0.47
1:A:222:TYR:CZ	1:A:226:LEU:HD11	2.50	0.47
2:B:302:PHE:CZ	2:B:402:ASN:HB2	2.50	0.47
1:A:284:LEU:C	1:A:286:ASP:H	2.17	0.47
1:A:291:ARG:NH1	1:A:291:ARG:HB3	2.29	0.47
1:A:336:LYS:O	1:A:340:LEU:HG	2.14	0.47
1:A:351:ILE:O	2:B:331:HIS:HB2	2.15	0.47
2:B:51:VAL:HG21	2:B:295:LEU:HD13	1.96	0.47
2:B:91:ASP:O	2:B:94:GLU:HB2	2.15	0.47
1:A:147:ASP:OD2	1:A:147:ASP:C	2.53	0.47
2:B:51:VAL:HG21	2:B:295:LEU:HD22	1.96	0.47
2:B:315:LEU:O	2:B:320:ASP:HB3	2.14	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:70:ARG:HE	2:B:70:ARG:HB2	1.55	0.47
2:B:246:GLU:CD	2:B:291:ARG:HD2	2.34	0.47
2:B:280:ARG:O	2:B:289:GLN:HG2	2.15	0.47
2:B:282:MET:SD	2:B:289:GLN:HB3	2.55	0.47
1:A:112:ARG:O	1:A:144:LEU:HD21	2.14	0.46
1:A:64:VAL:HG23	1:A:69:ARG:HE	1.80	0.46
2:B:82:LEU:CD1	2:B:111:LEU:HD23	2.45	0.46
2:B:231:ARG:HE	2:B:231:ARG:HB3	1.47	0.46
2:B:24:TYR:HB2	2:B:333:GLN:NE2	2.31	0.46
2:B:280:ARG:HH11	2:B:289:GLN:HE21	1.63	0.46
2:B:78:HIS:HD1	2:B:349:GLY:H	1.64	0.46
2:B:122:VAL:O	2:B:126:VAL:HG23	2.16	0.46
2:B:239:ILE:HB	2:B:252:THR:HA	1.97	0.46
1:A:227:LEU:HG	1:A:236:VAL:CG1	2.46	0.46
2:B:100:ARG:O	2:B:101:PRO:C	2.53	0.46
1:A:277:TRP:CE3	1:A:314:PHE:HD2	2.33	0.46
1:A:329:ASN:O	1:A:332:ASP:HB3	2.16	0.46
2:B:325:MET:O	2:B:376:PHE:CE1	2.69	0.46
1:A:268:LYS:HA	1:A:306:HIS:HD2	1.80	0.46
2:B:202:ARG:HB2	2:B:202:ARG:CZ	2.46	0.46
1:A:96:PHE:CD2	1:A:126:LEU:HB3	2.51	0.46
1:A:185:GLU:O	1:A:188:PHE:HB3	2.16	0.46
2:B:297:ASP:OD1	2:B:298:GLY:N	2.49	0.46
1:A:105:ALA:O	1:A:109:ARG:HG2	2.16	0.46
1:A:232:ARG:HH21	2:B:37:ASP:HA	1.80	0.46
2:B:319:GLY:O	2:B:320:ASP:C	2.55	0.46
2:B:68:VAL:HB	2:B:69:PRO:HD3	1.98	0.46
1:A:152:MET:O	1:A:155:ILE:HG22	2.16	0.45
1:A:185:GLU:OE1	1:A:205:HIS:HE1	1.99	0.45
2:B:174:ARG:HD2	2:B:415:PHE:CE1	2.51	0.45
1:A:268:LYS:HA	1:A:306:HIS:CD2	2.51	0.45
2:B:94:GLU:O	2:B:97:ASP:HB2	2.16	0.45
2:B:105:TYR:HE1	2:B:158:ASN:HD22	1.61	0.45
1:A:60:SER:HB2	1:A:62:THR:HG22	1.97	0.45
1:A:324:GLU:HA	1:A:324:GLU:OE2	2.17	0.45
2:B:35:LEU:HB3	2:B:52:GLU:OE1	2.16	0.45
2:B:248:HIS:HB3	2:B:251:TYR:HD2	1.80	0.45
2:B:288:PHE:HB2	2:B:300:TYR:O	2.15	0.45
2:B:114:LEU:HG	2:B:367:LEU:HD13	1.97	0.45
1:A:116:ALA:O	1:A:119:LEU:N	2.49	0.45
1:A:274:GLU:HG2	1:A:278:ASN:OD1	2.17	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:184:LEU:HD13	2:B:192:LEU:O	2.17	0.45
1:A:253:ARG:HA	1:A:253:ARG:HD3	1.80	0.45
2:B:282:MET:HB2	2:B:285:GLU:HB2	1.98	0.45
2:B:61:SER:C	2:B:63:LYS:N	2.70	0.45
2:B:105:TYR:CD1	2:B:158:ASN:HB3	2.52	0.45
2:B:167:GLU:O	2:B:171:VAL:HG23	2.17	0.45
2:B:248:HIS:HE1	2:B:300:TYR:OH	1.99	0.45
1:A:116:ALA:O	1:A:117:PHE:C	2.54	0.45
1:A:140:LEU:O	1:A:144:LEU:HB2	2.17	0.45
2:B:411:ALA:O	2:B:414:HIS:HB3	2.17	0.45
1:A:139:VAL:O	1:A:142:ARG:HG3	2.17	0.44
2:B:79:PHE:CD1	2:B:116:GLU:HG3	2.51	0.44
2:B:389:VAL:N	2:B:392:ASN:ND2	2.66	0.44
1:A:272:HIS:NE2	2:B:36:GLN:NE2	2.65	0.44
1:A:334:LEU:O	1:A:334:LEU:HD12	2.17	0.44
1:A:302:LEU:HB3	1:A:306:HIS:HB2	1.99	0.44
2:B:27:ARG:HB3	2:B:29:GLU:OE1	2.18	0.44
2:B:191:PHE:O	2:B:199:VAL:HG12	2.16	0.44
1:A:156:ILE:HG23	1:A:188:PHE:CE1	2.53	0.44
1:A:344:LEU:HD13	1:A:356:TRP:CZ2	2.53	0.44
2:B:40:VAL:HG12	2:B:40:VAL:O	2.17	0.44
2:B:51:VAL:O	2:B:55:ILE:HG12	2.17	0.44
2:B:376:PHE:CD1	2:B:376:PHE:C	2.91	0.44
2:B:22:PRO:HG2	2:B:23:LEU:H	1.83	0.44
1:A:135:HIS:CD2	2:B:147:TYR:CE2	3.06	0.44
1:A:275:SER:C	1:A:277:TRP:H	2.20	0.44
2:B:98:ALA:HA	2:B:146:GLN:HE22	1.82	0.44
2:B:389:VAL:HG22	2:B:392:ASN:ND2	2.33	0.44
2:B:64:PHE:O	2:B:65:ASN:OD1	2.35	0.44
2:B:119:PRO:O	2:B:121:ILE:N	2.51	0.44
2:B:304:GLN:O	2:B:307:LEU:HB2	2.18	0.44
2:B:298:GLY:O	2:B:299:CYS:O	2.35	0.43
2:B:305:ALA:O	2:B:309:PRO:HD3	2.18	0.43
1:A:96:PHE:CE2	1:A:126:LEU:HB3	2.54	0.43
1:A:234:ASN:ND2	2:B:246:GLU:OE2	2.44	0.43
1:A:239:GLN:HA	1:A:239:GLN:NE2	2.33	0.43
1:A:282:GLY:HA2	1:A:285:GLN:HG2	2.00	0.43
1:A:331:GLU:O	1:A:335:ASN:ND2	2.51	0.43
1:A:357:ARG:CB	1:A:361:ARG:HH12	2.29	0.43
2:B:304:GLN:HE21	2:B:304:GLN:CA	2.19	0.43
1:A:356:TRP:HA	1:A:356:TRP:HE3	1.79	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:26:LEU:HD12	2:B:26:LEU:N	2.32	0.43
2:B:362:HIS:CD2	2:B:362:HIS:N	2.85	0.43
1:A:124:ILE:HD11	1:A:137:ARG:HD2	2.00	0.43
1:A:189:ILE:HB	1:A:206:ARG:NH1	2.34	0.43
1:A:354:GLU:HG2	2:B:328:TRP:O	2.18	0.43
2:B:128:GLN:O	2:B:131:GLU:HB3	2.17	0.43
2:B:149:HIS:ND1	2:B:152:PRO:HD2	2.33	0.43
2:B:35:LEU:H	2:B:52:GLU:CD	2.22	0.43
2:B:109:HIS:CE1	2:B:402:ASN:O	2.71	0.43
2:B:48:GLN:HE21	2:B:52:GLU:CG	2.32	0.43
2:B:301:SER:O	2:B:369:GLY:CA	2.67	0.43
1:A:155:ILE:HD13	1:A:171:HIS:CD2	2.54	0.43
2:B:77:LYS:HE2	2:B:80:HIS:CD2	2.54	0.43
1:A:274:GLU:O	1:A:274:GLU:HG2	2.19	0.43
1:A:349:ASP:OD1	2:B:283:ARG:NH2	2.51	0.42
2:B:82:LEU:O	2:B:83:LYS:C	2.58	0.42
2:B:101:PRO:O	2:B:104:CYS:HB2	2.18	0.42
2:B:342:CYS:O	2:B:354:PRO:HG3	2.19	0.42
1:A:353:LYS:HE3	2:B:331:HIS:NE2	2.34	0.42
2:B:31:ALA:O	2:B:34:ARG:HG2	2.19	0.42
1:A:103:PHE:HA	1:A:119:LEU:HD21	2.00	0.42
1:A:291:ARG:NH1	1:A:291:ARG:CB	2.82	0.42
1:A:307:SER:O	1:A:308:SER:HB3	2.19	0.42
2:B:295:LEU:HA	2:B:295:LEU:HD23	1.75	0.42
1:A:166:TYR:OH	2:B:198:GLU:HB2	2.20	0.42
1:A:345:ALA:HB2	1:A:356:TRP:HB3	2.01	0.42
2:B:158:ASN:ND2	2:B:403:ILE:HG23	2.35	0.42
2:B:341:MET:HB2	2:B:341:MET:HE2	1.86	0.42
1:A:176:VAL:HG21	1:A:185:GLU:OE1	2.20	0.42
1:A:303:GLN:NE2	1:A:312:ILE:HD11	2.34	0.42
1:A:356:TRP:CZ3	1:A:359:ILE:HG13	2.54	0.42
2:B:200:ASP:OD1	2:B:202:ARG:NH1	2.52	0.42
2:B:376:PHE:HB3	2:B:383:HIS:O	2.20	0.42
1:A:220:LEU:O	1:A:223:VAL:HB	2.19	0.42
2:B:71:LEU:HD21	2:B:341:MET:HE2	2.01	0.42
2:B:328:TRP:CZ2	2:B:376:PHE:HA	2.55	0.42
2:B:349:GLY:C	2:B:350:LEU:HD12	2.40	0.42
1:A:291:ARG:CB	1:A:291:ARG:HH11	2.33	0.42
1:A:304:PRO:HB2	1:A:305:SER:H	1.73	0.42
2:B:158:ASN:ND2	2:B:403:ILE:CG2	2.83	0.42
2:B:177:LEU:HD21	2:B:210:VAL:CG1	2.50	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:119:PRO:C	2:B:121:ILE:N	2.72	0.42
2:B:177:LEU:HD21	2:B:210:VAL:HG12	2.02	0.42
2:B:301:SER:O	2:B:369:GLY:HA3	2.20	0.41
2:B:164:GLY:HA2	2:B:169:TYR:CZ	2.55	0.41
2:B:257:ALA:HB1	2:B:400:VAL:HG13	2.01	0.41
1:A:185:GLU:OE1	1:A:205:HIS:CE1	2.73	0.41
2:B:415:PHE:C	2:B:417:GLN:H	2.22	0.41
1:A:130:ASN:ND2	2:B:98:ALA:HB2	2.35	0.41
1:A:329:ASN:O	1:A:330:LYS:C	2.58	0.41
2:B:199:VAL:O	2:B:199:VAL:CG2	2.67	0.41
2:B:316:HIS:ND1	2:B:316:HIS:C	2.74	0.41
1:A:63:TYR:CE2	1:A:95:LYS:HE3	2.56	0.41
1:A:101:ASP:HA	1:A:104:ARG:HH11	1.86	0.41
1:A:296:LEU:HD22	1:A:322:MET:SD	2.60	0.41
2:B:216:ILE:O	2:B:216:ILE:HG13	2.20	0.41
2:B:389:VAL:HG23	2:B:391:GLU:H	1.85	0.41
1:A:103:PHE:CE2	1:A:133:VAL:HG22	2.56	0.41
1:A:134:TRP:HZ3	1:A:171:HIS:CD2	2.38	0.41
1:A:142:ARG:HD2	1:A:143:SER:N	2.35	0.41
1:A:106:VAL:HG13	1:A:111:GLU:HB3	2.03	0.41
1:A:112:ARG:HG2	1:A:112:ARG:HH11	1.86	0.41
1:A:297:ASN:O	1:A:300:LEU:N	2.53	0.41
2:B:25:SER:HA	2:B:30:HIS:ND1	2.36	0.41
2:B:64:PHE:O	2:B:64:PHE:HD1	2.03	0.41
2:B:93:TYR:CE2	2:B:360:PHE:HD2	2.39	0.41
2:B:181:LEU:CD1	2:B:211:ALA:HB2	2.51	0.41
2:B:266:ARG:CG	2:B:318:GLN:HE21	2.32	0.41
1:A:198:LYS:HE2	1:A:233:ASN:HA	2.02	0.41
1:A:290:SER:HB2	1:A:321:ASP:CG	2.41	0.41
2:B:62:TYR:HE2	2:B:71:LEU:HD23	1.86	0.41
2:B:225:THR:O	2:B:226:ALA:C	2.59	0.41
1:A:213:PHE:CD1	1:A:213:PHE:N	2.89	0.40
1:A:308:SER:C	1:A:310:TYR:H	2.25	0.40
2:B:89:LEU:HD11	2:B:103:LEU:HD13	2.02	0.40
2:B:241:GLY:HA2	2:B:251:TYR:CD1	2.56	0.40
1:A:210:ILE:HD13	1:A:219:GLU:HG2	2.03	0.40
1:A:275:SER:C	1:A:277:TRP:N	2.75	0.40
2:B:115:ASP:O	2:B:115:ASP:OD1	2.39	0.40
2:B:118:ILE:N	2:B:118:ILE:CD1	2.85	0.40
1:A:170:HIS:HD1	2:B:198:GLU:CG	2.34	0.40
1:A:355:TYR:OH	2:B:275:GLN:HG2	2.21	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	313/315 (99%)	257 (82%)	42 (13%)	14 (4%)	2	21
2	B	395/397 (100%)	334 (85%)	50 (13%)	11 (3%)	5	32
All	All	708/712 (99%)	591 (84%)	92 (13%)	25 (4%)	3	27

All (25) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	56	LEU
1	A	185	GLU
1	A	294	ASN
1	A	304	PRO
2	B	66	HIS
1	A	217	ASP
2	B	299	CYS
2	B	360	PHE
1	A	216	TRP
1	A	296	LEU
2	B	93	TYR
1	A	92	TYR
1	A	230	ASP
1	A	293	PRO
1	A	305	SER
1	A	308	SER
1	A	330	LYS
2	B	320	ASP
2	B	68	VAL
2	B	74	GLN
2	B	75	ARG
2	B	83	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	352	ASP
2	B	357	SER
1	A	303	GLN

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	294/294 (100%)	285 (97%)	9 (3%)	40	70
2	B	335/335 (100%)	322 (96%)	13 (4%)	32	64
All	All	629/629 (100%)	607 (96%)	22 (4%)	36	67

All (22) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	94	GLU
1	A	112	ARG
1	A	178	TRP
1	A	182	PRO
1	A	286	ASP
1	A	301	ASP
1	A	314	PHE
1	A	356	TRP
1	A	366	LYS
2	B	34	ARG
2	B	67	LEU
2	B	68	VAL
2	B	91	ASP
2	B	99	SER
2	B	158	ASN
2	B	193	MET
2	B	280	ARG
2	B	283	ARG
2	B	299	CYS
2	B	304	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	358	ARG
2	B	375	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	80	GLN
1	A	135	HIS
1	A	165	ASN
1	A	167	GLN
1	A	195	GLN
1	A	218	ASN
1	A	221	GLN
1	A	239	GLN
1	A	285	GLN
1	A	298	GLN
1	A	303	GLN
1	A	325	ASN
1	A	335	ASN
1	A	364	GLN
2	B	36	GLN
2	B	48	GLN
2	B	80	HIS
2	B	134	GLN
2	B	146	GLN
2	B	289	GLN
2	B	293	ASN
2	B	304	GLN
2	B	318	GLN
2	B	333	GLN
2	B	344	GLN
2	B	362	HIS
2	B	383	HIS
2	B	417	GLN

5.3.3 RNA (i)

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 ⓘ

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
4	JAN	B	1	-	33,38,38	3.92	18 (54%)	47,57,57	1.60	9 (19%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	JAN	B	1	-	-	0/12/22/22	0/5/5/5

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1	JAN	C5-C6	13.90	1.60	1.54
4	B	1	JAN	C14-C17	9.09	1.57	1.41
4	B	1	JAN	C5-C12	4.99	1.56	1.54
4	B	1	JAN	C23-C24	4.65	1.45	1.36
4	B	1	JAN	C7-C6	4.53	1.46	1.39
4	B	1	JAN	C19-N4	4.07	1.44	1.38
4	B	1	JAN	C25-C24	3.99	1.45	1.38
4	B	1	JAN	C26-C27	3.91	1.44	1.36

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1	JAN	C11-C6	3.81	1.45	1.39
4	B	1	JAN	C20-C19	3.81	1.41	1.37
4	B	1	JAN	C26-C25	3.64	1.45	1.38
4	B	1	JAN	C8-C7	3.34	1.44	1.38
4	B	1	JAN	C15-C12	3.32	1.44	1.39
4	B	1	JAN	C10-C9	3.32	1.44	1.38
4	B	1	JAN	C16-C15	3.12	1.43	1.36
4	B	1	JAN	C20-C21	2.51	1.44	1.39
4	B	1	JAN	C8-C9	2.47	1.42	1.38
4	B	1	JAN	C24-CL2	-2.10	1.69	1.74

All (9) bond angle outliers are listed below:

| Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	B	1	JAN	C1-N1-C4	6.00	131.75	124.35
4	B	1	JAN	C6-C5-N3	2.66	111.87	108.36
4	B	1	JAN	C21-C20-C19	2.65	123.90	120.96
4	B	1	JAN	C16-C17-N4	2.64	123.97	121.79
4	B	1	JAN	C12-C13-C14	2.56	125.13	122.48
4	B	1	JAN	C13-C14-C21	2.53	125.72	121.81
4	B	1	JAN	C4-C5-N3	-2.43	104.66	108.55
4	B	1	JAN	C16-C17-C14	-2.41	117.14	120.05
4	B	1	JAN	C12-C5-N3	2.37	111.49	108.36

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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 JAN B 1

Bond lengths

Bond angles

Torsions

Rings
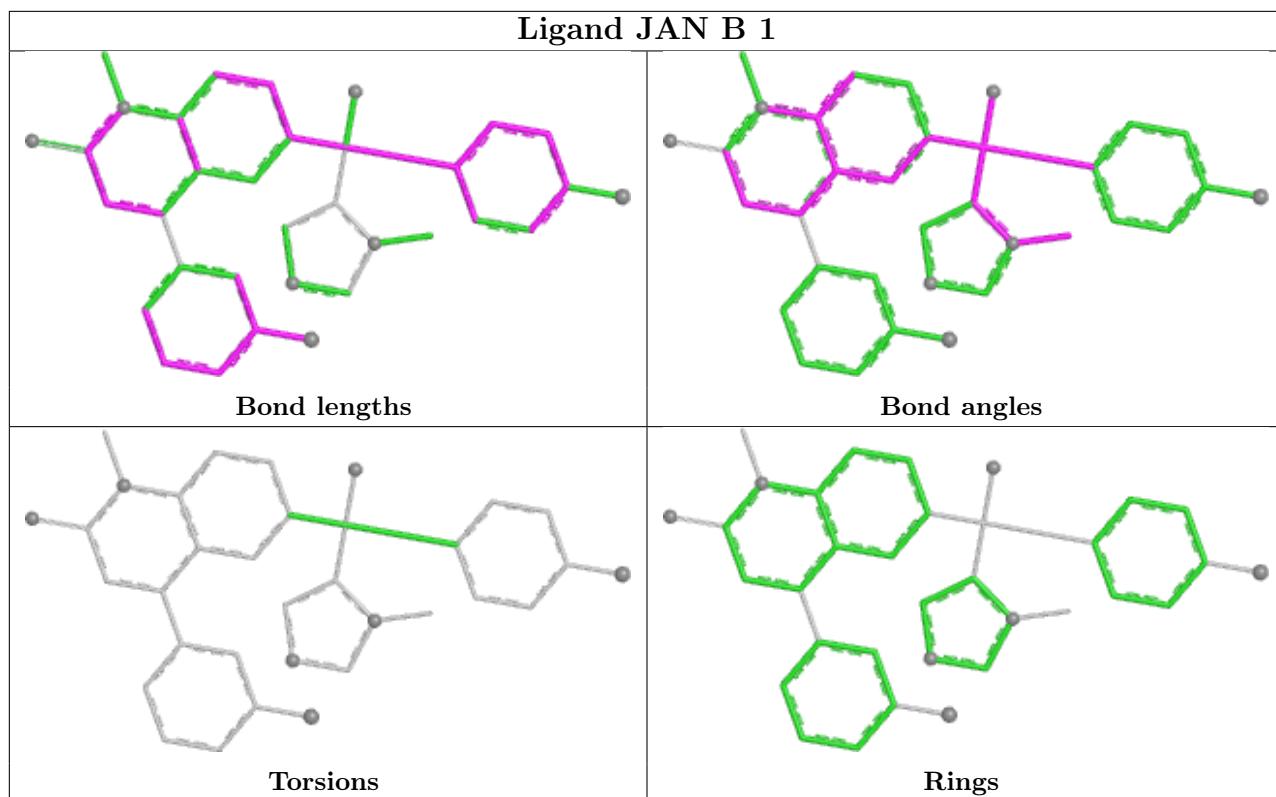
5.7 Other polymers ⓘ

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 ⓘ

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates ⓘ

EDS was not executed - this section is therefore empty.

6.4 Ligands ⓘ

EDS was not executed - this section is therefore empty.

6.5 Other polymers ⓘ

EDS was not executed - this section is therefore empty.