Full wwPDB X-ray Structure Validation Report ⓘ

Mar 8, 2026 – 12:43 PM UTC

PDB ID	:	6P70 / pdb_00006p70
Title	:	X-ray crystal structure of bacterial RNA polymerase and pyrBI promoter complex
Authors	:	Shin, Y.; Murakami, K.S.
Deposited on	:	2019-06-04
Resolution	:	3.05 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:

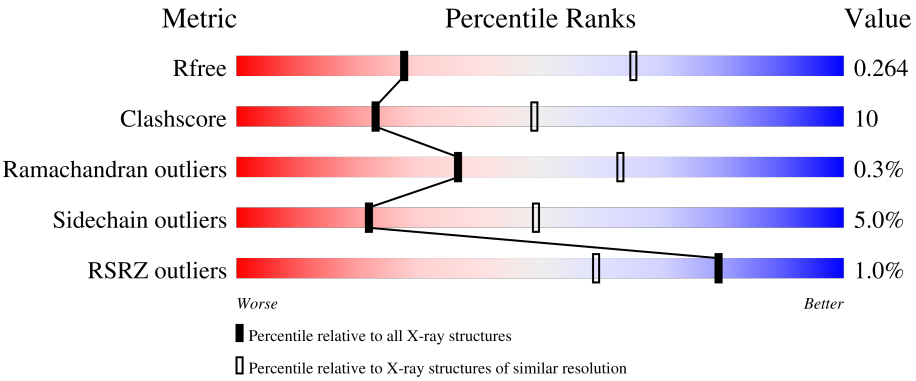
MolProbity	:	4-5-2 with Phenix2.0
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

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 3.05 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}	180053	2469 (3.10-3.02)
Clashscore	190562	2569 (3.10-3.02)
Ramachandran outliers	187476	2424 (3.10-3.02)
Sidechain outliers	187428	2423 (3.10-3.02)
RSRZ outliers	180081	2469 (3.10-3.02)

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	315	54% 17% 28%
1	B	315	55% 15% 30%
2	C	1119	% 72% 25%
3	D	1524	72% 24%
4	E	99	77% 17% 5%

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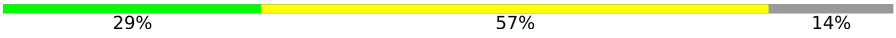
Mol	Chain	Length	Quality of chain
5	F	423	
6	G	21	
7	H	27	

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 28421 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 DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	226	Total	C	N	O	S	0	0	0
			1782	1138	310	332	2			
1	B	222	Total	C	N	O	S	0	0	0
			1750	1118	304	326	2			

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	1111	Total	C	N	O	S	0	0	0
			8764	5545	1561	1634	24			

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	1486	Total	C	N	O	S	0	0	0
			11738	7440	2067	2195	36			

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	94	Total	C	N	O	S	0	0	0
			761	486	132	139	4			

- Molecule 5 is a protein called RNA polymerase sigma factor SigA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	346	Total	C	N	O	S	0	0	0
			2807	1770	509	524	4			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	46	THR	ALA	conflict	UNP Q72L95

- Molecule 6 is a DNA chain called DNA (5'-D(P*TP*CP*CP*CP*GP*GP*CP*AP*AP*AP *TP*TP*GP*TP*CP*CP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	G	18	Total	C	N	O	P	0	0	0
			364	173	64	109	18			

- Molecule 7 is a DNA chain called DNA (5'-D(*TP*AP*TP*AP*AP*TP*CP*GP*AP*TP* CP*TP*TP*TP*GP*CP*CP*GP*GP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	H	22	Total	C	N	O	P	0	0	0
			450	216	81	132	21			

- Molecule 8 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	B	1	Total	Mg	0	0
			1	1		
8	D	1	Total	Mg	0	0
			1	1		
8	G	1	Total	Mg	0	0
			1	1		

- Molecule 9 is ZINC ION (CCD ID: ZN) (formula: Zn).

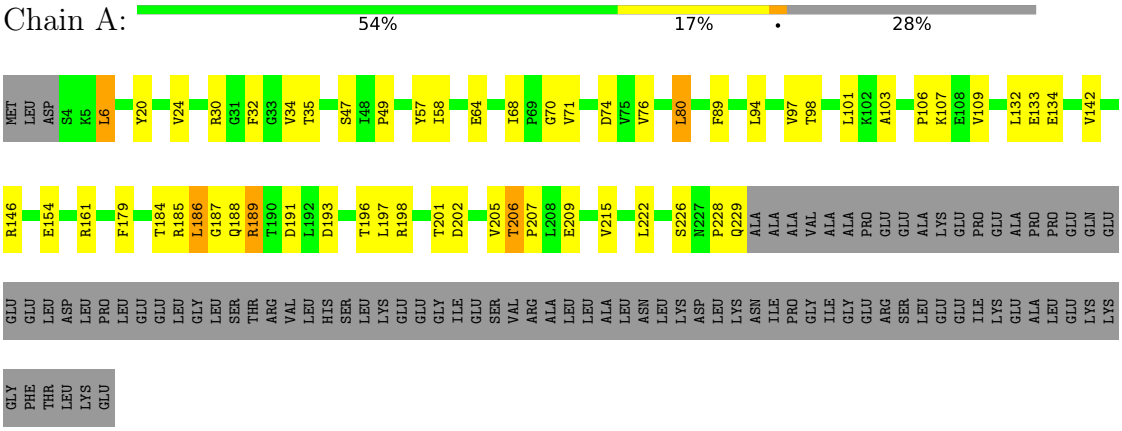
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	D	2	Total	Zn	0	0
			2	2		

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.

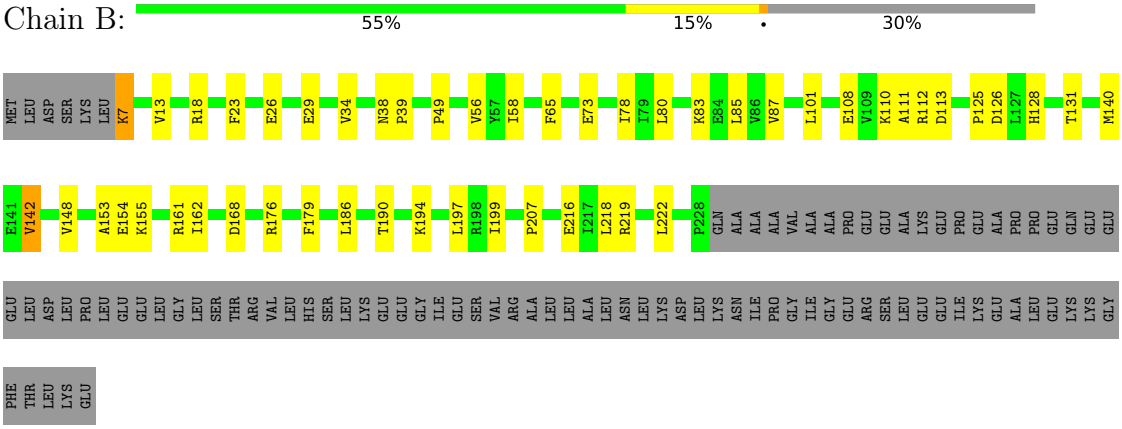
• Molecule 1: DNA-directed RNA polymerase subunit alpha

Chain A:



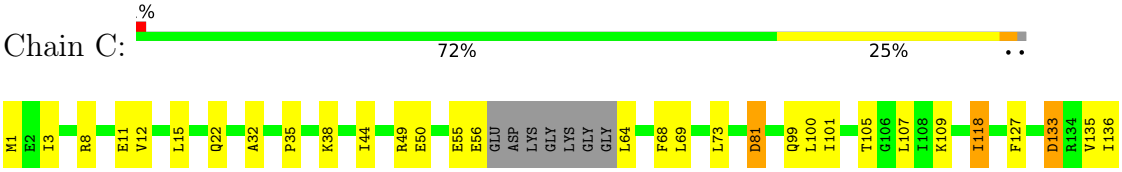
• Molecule 1: DNA-directed RNA polymerase subunit alpha

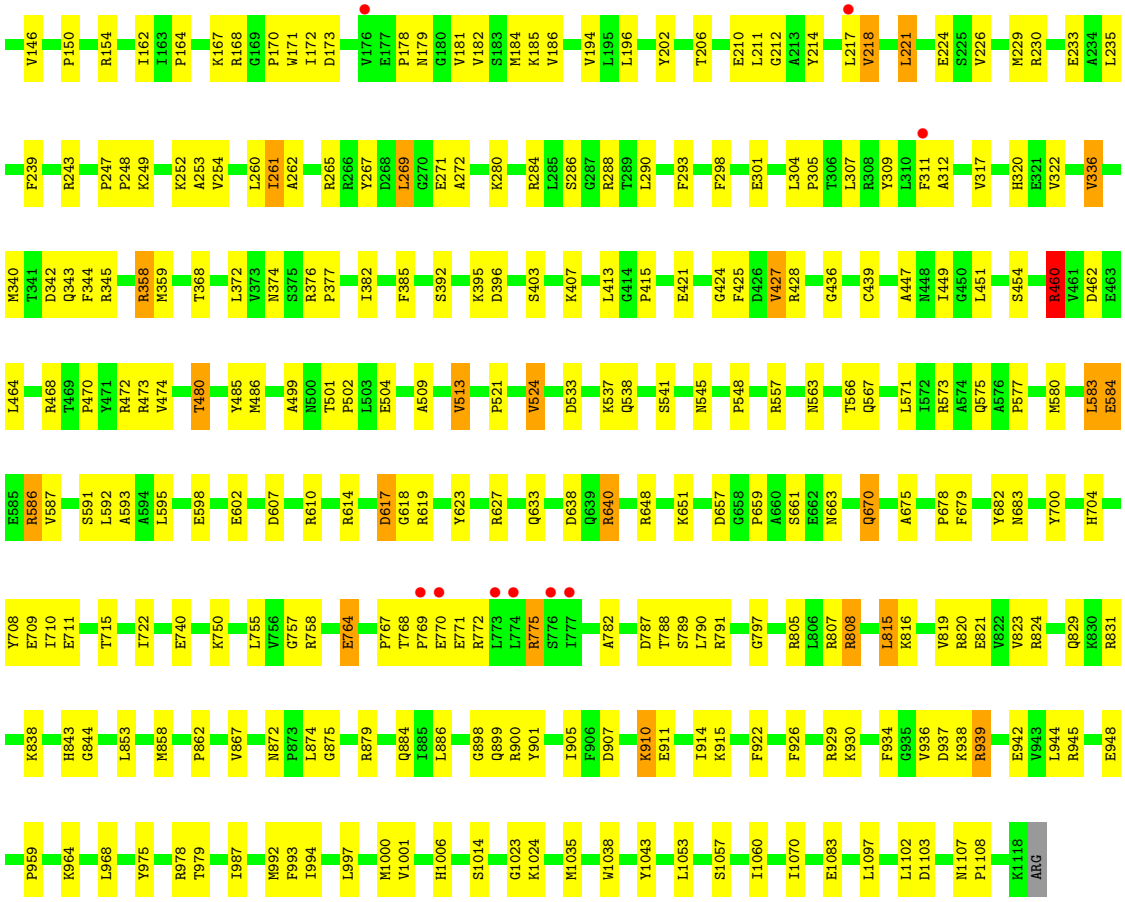
Chain B:



• Molecule 2: DNA-directed RNA polymerase subunit beta

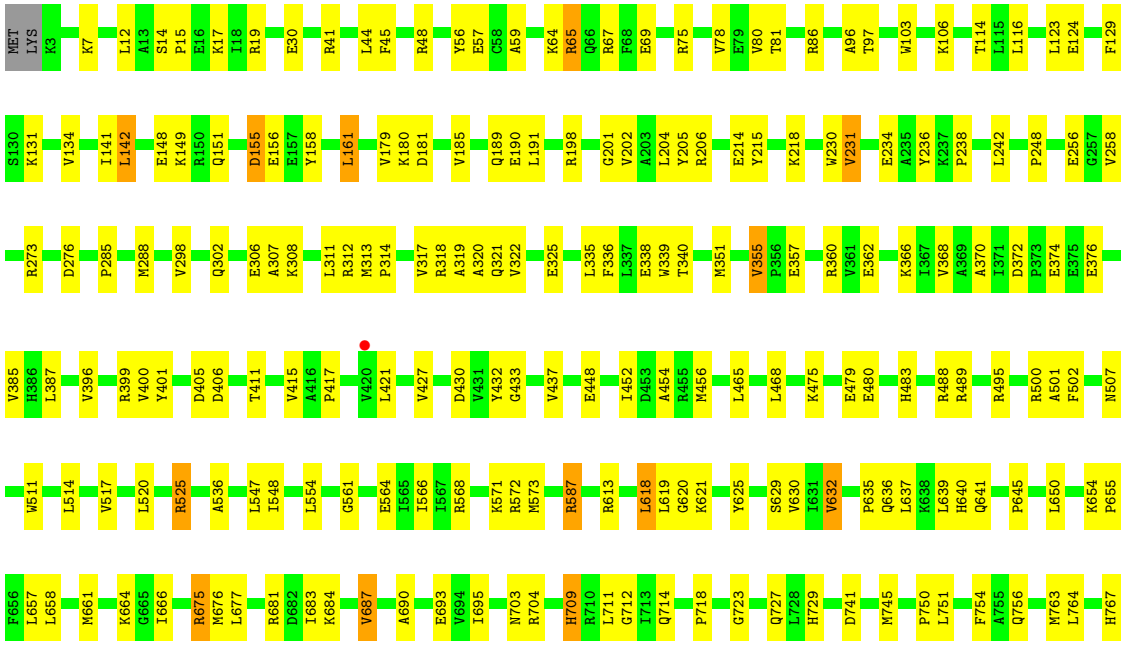
Chain C:

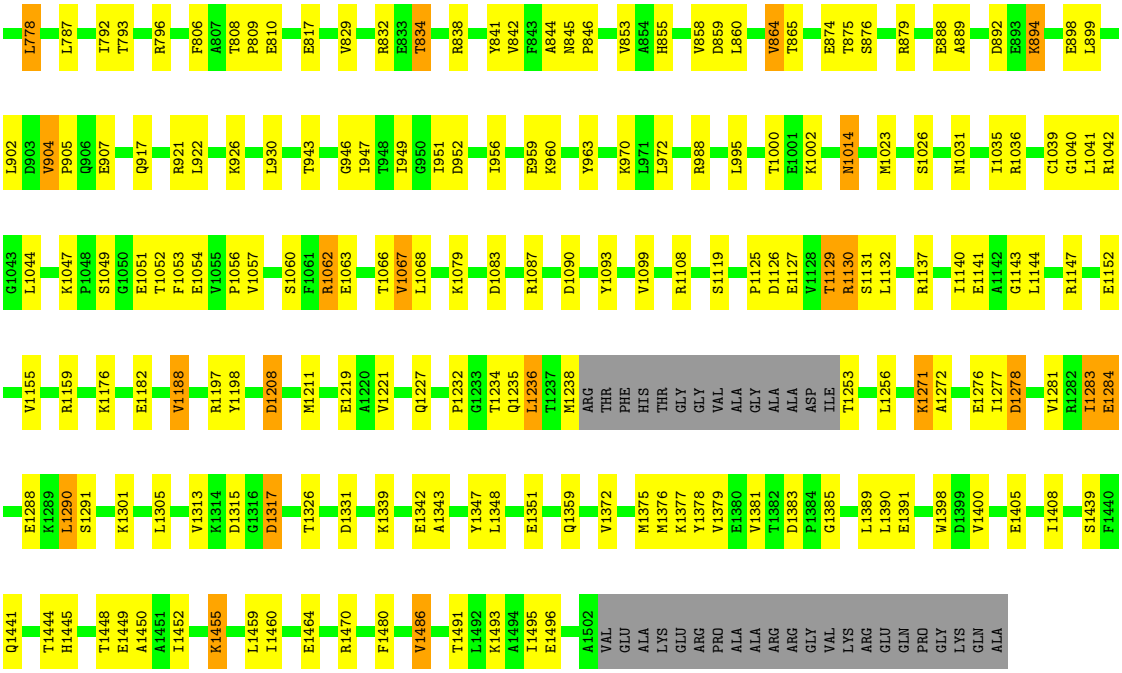




• Molecule 3: DNA-directed RNA polymerase subunit beta'

Chain D:



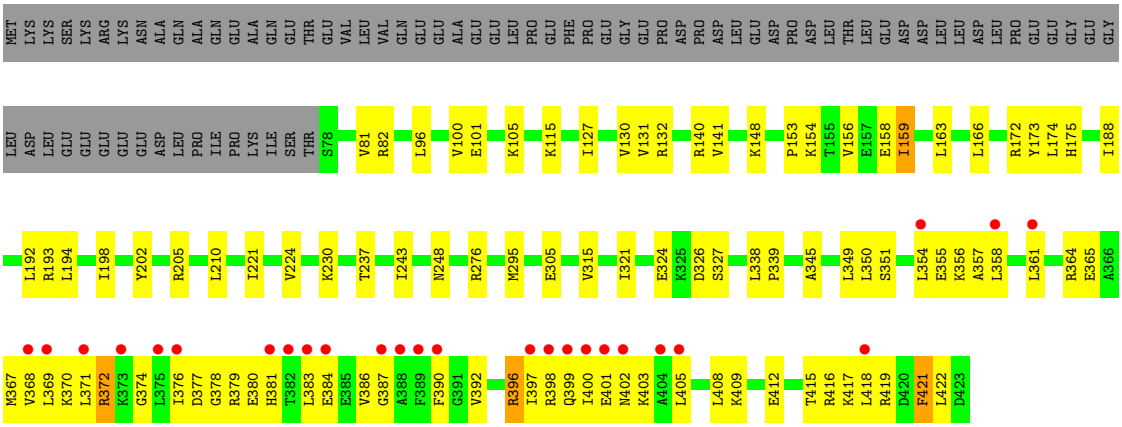


• Molecule 4: DNA-directed RNA polymerase subunit omega

Chain E:

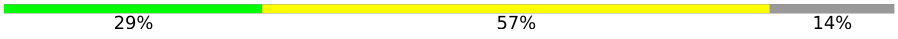
• Molecule 5: RNA polymerase sigma factor SigA

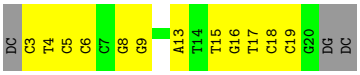
Chain F:



• Molecule 6: DNA (5'-D(P*TP*CP*CP*CP*GP*GP*CP*AP*AP*AP*TP*TP*GP*TP*CP*CP*G)-3')

Chain G:





• Molecule 7: DNA (5'-D(*TP*AP*TP*AP*AP*TP*CP*GP*AP*TP*CP*TP*TP*TP*GP*CP *CP*GP*GP*G)-3')

Chain H:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	185.18Å 100.84Å 294.87Å 90.00° 98.81° 90.00°	Depositor
Resolution (Å)	46.06 – 3.05 46.06 – 3.05	Depositor EDS
% Data completeness (in resolution range)	99.1 (46.06-3.05) 99.1 (46.06-3.05)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.70 (at 3.06Å)	Xtriage
Refinement program	PHENIX (1.14_3260)	Depositor
R, R_{free}	0.207 , 0.252 (Not available) , 0.264	Depositor DCC
R_{free} test set	2002 reflections (1.95%)	wwPDB-VP
Wilson B-factor (Å^2)	87.8	Xtriage
Anisotropy	0.519	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 44.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	28421	wwPDB-VP
Average B, all atoms (Å^2)	100.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.89% 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: ZN, MG

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	0/1814	0.81	0/2466
1	B	0.50	0/1782	0.81	0/2424
2	C	0.49	0/8931	0.83	3/12080 (0.0%)
3	D	0.53	0/11944	0.87	5/16148 (0.0%)
4	E	0.47	0/775	0.80	0/1045
5	F	0.54	1/2852 (0.0%)	0.95	4/3837 (0.1%)
6	G	0.56	0/406	0.59	0/623
7	H	0.81	1/503 (0.2%)	0.66	1/773 (0.1%)
All	All	0.52	2/29007 (0.0%)	0.85	13/39396 (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
3	D	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	H	23	DG	O3'-P	-13.77	1.40	1.61
5	F	387	GLY	C-N	5.30	1.41	1.33

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	775	ARG	CB-CG-CD	-7.72	93.55	111.30
5	F	387	GLY	CA-C-N	6.80	134.52	121.54
5	F	387	GLY	C-N-CA	6.80	134.52	121.54

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	F	374	GLY	N-CA-C	6.36	125.51	115.08
7	H	23	DG	P-O3'-C3'	6.35	129.72	120.20
3	D	65	ARG	N-CA-CB	-6.00	101.90	111.62
5	F	396	ARG	CG-CD-NE	-5.46	99.98	112.00
3	D	433	GLY	N-CA-C	5.45	118.55	110.42
2	C	269	LEU	N-CA-C	-5.25	103.60	110.53
3	D	360	ARG	CB-CG-CD	5.14	123.11	111.30
2	C	460	ARG	CB-CA-C	5.12	120.94	109.56
3	D	1129	THR	CA-C-N	5.02	131.13	121.54
3	D	1129	THR	C-N-CA	5.02	131.13	121.54

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	D	620	GLY	Mainchain

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	1782	0	1834	38	0
1	B	1750	0	1797	33	0
2	C	8764	0	8863	216	1
3	D	11738	0	11969	259	0
4	E	761	0	778	11	0
5	F	2807	0	2882	82	1
6	G	364	0	203	12	0
7	H	450	0	252	13	0
8	B	1	0	0	0	0
8	D	1	0	0	0	0
8	G	1	0	0	0	0
9	D	2	0	0	0	0
All	All	28421	0	28578	592	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 10.

All (592) 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:C:775:ARG:HE	2:C:782:ALA:HB2	1.28	0.98
5:F:372:ARG:HG2	5:F:386:VAL:HG21	1.47	0.97
3:D:218:LYS:HG2	3:D:338:GLU:HG2	1.44	0.97
3:D:949:ILE:HD11	3:D:1023:MET:HE1	1.51	0.93
5:F:193:ARG:HB3	7:H:7:DC:H5”	1.52	0.92
2:C:709:GLU:OE2	2:C:824:ARG:NH1	2.07	0.88
5:F:371:LEU:O	5:F:381:HIS:ND1	2.07	0.88
1:B:38:ASN:HD21	2:C:979:THR:HG22	1.40	0.86
3:D:238:PRO:HD3	3:D:318:ARG:HG3	1.58	0.84
2:C:768:THR:OG1	2:C:771:GLU:OE1	1.97	0.82
1:A:206:THR:HG22	1:A:209:GLU:H	1.45	0.80
2:C:683:ASN:HB3	2:C:872:ASN:HD22	1.45	0.78
2:C:56:GLU:HG3	2:C:359:MET:HE3	1.64	0.78
3:D:65:ARG:NH1	5:F:378:GLY:O	2.18	0.76
5:F:368:VAL:HG13	5:F:397:ILE:HG23	1.68	0.76
3:D:520:LEU:O	3:D:525:ARG:NH1	2.19	0.75
5:F:386:VAL:HB	5:F:397:ILE:HG21	1.68	0.75
3:D:960:LYS:NZ	3:D:1063:GLU:OE1	2.19	0.75
2:C:853:LEU:HB2	2:C:858:MET:HE1	1.69	0.75
3:D:1126:ASP:O	3:D:1130:ARG:HA	1.86	0.75
3:D:657:LEU:HG	3:D:661:MET:HE2	1.66	0.75
5:F:365:GLU:OE2	5:F:403:LYS:NZ	2.20	0.75
3:D:1044:LEU:HD23	3:D:1056:PRO:HB3	1.69	0.74
3:D:1108:ARG:NH2	3:D:1198:TYR:O	2.19	0.74
2:C:55:GLU:O	2:C:56:GLU:HB2	1.87	0.74
2:C:229:MET:HB2	2:C:233:GLU:HB2	1.69	0.74
2:C:571:LEU:HD22	2:C:700:TYR:HA	1.69	0.74
2:C:602:GLU:HB2	2:C:648:ARG:HH11	1.52	0.74
3:D:65:ARG:HD3	5:F:378:GLY:O	1.87	0.73
1:B:176:ARG:NH2	3:D:888:GLU:OE1	2.22	0.73
5:F:419:ARG:HD3	5:F:422:LEU:HD12	1.71	0.73
5:F:383:LEU:HD21	5:F:398:ARG:HB2	1.70	0.72
5:F:372:ARG:NH1	5:F:381:HIS:O	2.22	0.72
2:C:109:LYS:HG2	2:C:368:THR:HG22	1.70	0.72
2:C:769:PRO:HG3	3:D:65:ARG:NH1	2.05	0.71
1:A:185:ARG:HE	1:A:187:GLY:HA2	1.54	0.71
2:C:758:ARG:HH21	2:C:788:THR:HB	1.55	0.71
2:C:704:HIS:CD2	2:C:831:ARG:HD2	2.26	0.70
2:C:815:LEU:HD23	2:C:819:VAL:HG12	1.74	0.70
3:D:806:PHE:HB2	3:D:829:VAL:HG22	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:405:LEU:O	5:F:409:LYS:HG3	1.92	0.69
1:B:83:LYS:HE2	1:B:168:ASP:HB2	1.74	0.69
1:A:97:VAL:HG12	1:A:98:THR:H	1.56	0.68
3:D:96:ALA:HB3	3:D:554:LEU:HD23	1.75	0.68
2:C:249:LYS:HB3	2:C:252:LYS:HB2	1.76	0.68
3:D:500:ARG:NH1	3:D:1390:LEU:HD21	2.09	0.68
3:D:180:LYS:NZ	3:D:357:GLU:OE1	2.26	0.68
3:D:437:VAL:HG11	5:F:175:HIS:CD2	2.28	0.68
6:G:4:DT:H2"	6:G:5:DC:OP2	1.93	0.68
5:F:321:ILE:O	5:F:327:SER:OG	2.12	0.67
2:C:911:GLU:OE1	3:D:1062:ARG:NH1	2.27	0.67
1:A:222:LEU:HD21	1:B:218:LEU:HD23	1.77	0.67
1:B:112:ARG:NH1	1:B:126:ASP:OD1	2.28	0.67
2:C:936:VAL:HG11	2:C:959:PRO:HB2	1.75	0.67
2:C:118:ILE:HD11	2:C:382:ILE:HD13	1.75	0.67
1:A:206:THR:HG22	1:A:209:GLU:HG3	1.76	0.67
2:C:808:ARG:NH2	5:F:305:GLU:OE2	2.28	0.67
2:C:770:GLU:OE2	5:F:351:SER:OG	2.10	0.67
2:C:358:ARG:HB3	2:C:372:LEU:HD12	1.78	0.66
2:C:49:ARG:CZ	2:C:49:ARG:HB3	2.26	0.65
2:C:214:TYR:O	2:C:218:VAL:HG23	1.96	0.65
1:A:215:VAL:HG13	1:B:222:LEU:HD22	1.79	0.65
6:G:6:DC:N4	7:H:22:DG:O6	2.20	0.65
1:A:179:PHE:HB3	1:A:197:LEU:HD23	1.77	0.65
3:D:704:ARG:HB2	3:D:745:MET:HG2	1.77	0.65
2:C:607:ASP:HB2	2:C:610:ARG:NH1	2.12	0.64
2:C:711:GLU:OE2	2:C:816:LYS:NZ	2.27	0.64
2:C:853:LEU:HB2	2:C:858:MET:CE	2.27	0.64
2:C:937:ASP:OD1	2:C:939:ARG:HG2	1.98	0.64
5:F:392:VAL:HG21	5:F:396:ARG:HB2	1.78	0.64
3:D:711:LEU:HB3	3:D:714:GLN:HE21	1.63	0.64
1:B:216:GLU:OE1	1:B:219:ARG:NH2	2.31	0.64
2:C:168:ARG:NH1	2:C:345:ARG:HD3	2.13	0.64
3:D:959:GLU:HB3	3:D:963:TYR:CE1	2.33	0.64
2:C:49:ARG:HB3	2:C:49:ARG:NH1	2.13	0.63
3:D:1283:ILE:HG12	3:D:1315:ASP:CG	2.23	0.63
3:D:45:PHE:O	3:D:86:ARG:NH2	2.31	0.63
3:D:1276:GLU:CD	3:D:1301:LYS:HZ3	2.06	0.63
2:C:571:LEU:CD2	2:C:700:TYR:HA	2.28	0.62
3:D:318:ARG:NH1	3:D:338:GLU:OE1	2.31	0.62
2:C:271:GLU:OE1	2:C:288:ARG:NH1	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1143:GLY:O	3:D:1147:ARG:HD2	1.99	0.62
2:C:428:ARG:NH2	2:C:447:ALA:O	2.33	0.61
2:C:230:ARG:HG3	2:C:233:GLU:HG3	1.83	0.61
3:D:1083:ASP:OD1	3:D:1238:MET:HB3	2.00	0.61
5:F:364:ARG:O	5:F:368:VAL:N	2.31	0.61
3:D:1277:ILE:HG13	3:D:1278:ASP:H	1.65	0.61
1:A:24:VAL:HG22	1:A:196:THR:HG23	1.83	0.61
3:D:898:GLU:OE2	3:D:921:ARG:NH2	2.33	0.61
3:D:317:VAL:HG23	3:D:339:TRP:HB3	1.83	0.61
2:C:150:PRO:HD3	2:C:322:VAL:HG11	1.82	0.61
1:B:108:GLU:HG2	1:B:131:THR:HG22	1.83	0.60
2:C:172:ILE:HG12	2:C:186:VAL:HG22	1.82	0.60
2:C:1070:ILE:HG21	3:D:655:PRO:HB2	1.83	0.60
3:D:234:GLU:O	3:D:234:GLU:HG3	2.00	0.60
5:F:397:ILE:HD13	5:F:400:ILE:HD11	1.82	0.60
2:C:172:ILE:HD13	2:C:184:MET:HE3	1.83	0.60
2:C:221:LEU:HD11	2:C:307:LEU:HD21	1.82	0.60
2:C:704:HIS:CE1	2:C:1000:MET:HE1	2.36	0.60
1:A:89:PHE:HB2	1:A:146:ARG:NH2	2.16	0.60
2:C:587:VAL:O	2:C:591:SER:HB3	2.02	0.60
2:C:915:LYS:NZ	3:D:952:ASP:OD2	2.33	0.60
2:C:627:ARG:HD2	2:C:638:ASP:OD1	2.01	0.59
2:C:11:GLU:OE2	2:C:537:LYS:HE2	2.02	0.59
3:D:959:GLU:HB3	3:D:963:TYR:HE1	1.66	0.59
5:F:338:LEU:HD23	5:F:339:PRO:HD2	1.84	0.59
2:C:805:ARG:HG3	2:C:823:VAL:HG22	1.85	0.59
3:D:664:LYS:NZ	3:D:693:GLU:OE1	2.21	0.59
3:D:56:TYR:HE1	3:D:69:GLU:HG3	1.67	0.58
2:C:462:ASP:HB3	2:C:468:ARG:HD2	1.85	0.58
2:C:771:GLU:HG3	2:C:775:ARG:HH22	1.68	0.58
5:F:398:ARG:O	5:F:402:ASN:ND2	2.30	0.58
3:D:97:THR:OG1	3:D:571:LYS:HE2	2.04	0.58
3:D:704:ARG:HB2	3:D:745:MET:HE2	1.85	0.58
3:D:231:VAL:O	3:D:236:TYR:OH	2.20	0.58
3:D:1087:ARG:HG3	3:D:1256:LEU:HD23	1.86	0.58
5:F:372:ARG:HB3	5:F:372:ARG:CZ	2.25	0.58
1:A:186:LEU:HB3	1:A:188:GLN:OE1	2.04	0.58
3:D:181:ASP:HB2	3:D:205:TYR:CD1	2.39	0.58
1:B:18:ARG:O	1:B:207:PRO:HD3	2.02	0.58
3:D:500:ARG:HH12	3:D:1390:LEU:HD21	1.68	0.58
3:D:845:ASN:HB2	3:D:846:PRO:HD2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:907:GLU:HB2	3:D:1026:SER:HA	1.86	0.58
5:F:368:VAL:HG11	5:F:400:ILE:HG13	1.84	0.58
1:B:216:GLU:CD	1:B:219:ARG:HH21	2.11	0.57
1:A:58:ILE:HG21	1:A:68:ILE:HD11	1.86	0.57
2:C:226:VAL:HA	2:C:229:MET:HE2	1.86	0.57
3:D:236:TYR:CZ	3:D:242:LEU:HD12	2.39	0.57
5:F:153:PRO:HA	5:F:156:VAL:HG22	1.85	0.57
1:A:103:ALA:HB1	1:A:107:LYS:HE3	1.86	0.57
2:C:421:GLU:HB2	6:G:13:DA:C2	2.39	0.57
2:C:210:GLU:HB3	2:C:211:LEU:HD12	1.85	0.57
3:D:1284:GLU:HG2	3:D:1291:SER:HB3	1.87	0.57
5:F:321:ILE:HG22	6:G:19:DC:H2"	1.86	0.57
3:D:860:LEU:O	3:D:876:SER:HB2	2.03	0.57
2:C:577:PRO:HB3	2:C:993:PHE:CG	2.40	0.57
1:B:80:LEU:HD22	3:D:844:ALA:HA	1.85	0.56
2:C:573:ARG:HB2	2:C:670:GLN:HE22	1.70	0.56
3:D:1459:LEU:HD23	3:D:1464:GLU:HB3	1.87	0.56
1:A:70:GLY:N	2:C:607:ASP:OD1	2.35	0.56
3:D:1137:ARG:O	3:D:1141:GLU:HG3	2.05	0.56
2:C:212:GLY:HA2	2:C:218:VAL:HG21	1.87	0.56
5:F:82:ARG:HB2	7:H:8:DG:O6	2.05	0.56
5:F:202:TYR:HE2	5:F:248:ASN:HD21	1.51	0.56
3:D:1450:ALA:HA	3:D:1455:LYS:HD2	1.86	0.56
2:C:413:LEU:HD21	2:C:451:LEU:HD13	1.88	0.56
3:D:1379:VAL:HG21	3:D:1400:VAL:HG11	1.88	0.56
2:C:787:ASP:OD2	2:C:791:ARG:NH2	2.39	0.56
3:D:1152:GLU:OE1	3:D:1159:ARG:NH1	2.39	0.56
3:D:787:LEU:HD21	3:D:947:ILE:HG21	1.86	0.56
2:C:167:LYS:HD3	7:H:12:DT:H72	1.88	0.55
2:C:499:ALA:HB2	2:C:533:ASP:HB2	1.88	0.55
1:A:201:THR:HG21	1:A:205:VAL:O	2.06	0.55
3:D:242:LEU:HB3	3:D:311:LEU:HD12	1.88	0.55
1:B:49:PRO:HA	1:B:148:VAL:HG12	1.89	0.55
2:C:3:ILE:HD13	2:C:900:ARG:HB2	1.88	0.55
3:D:475:LYS:O	3:D:479:GLU:HG2	2.07	0.55
3:D:514:LEU:HD13	3:D:517:VAL:HG22	1.89	0.55
3:D:44:LEU:HB3	3:D:525:ARG:HH21	1.72	0.55
3:D:750:PRO:O	3:D:756:GLN:NE2	2.40	0.55
3:D:922:LEU:HB3	3:D:926:LYS:HD2	1.87	0.55
2:C:513:VAL:HG22	2:C:524:VAL:HG12	1.88	0.54
3:D:181:ASP:HB2	3:D:205:TYR:CG	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:369:LEU:HD13	5:F:401:GLU:HG3	1.88	0.54
2:C:395:LYS:HE2	2:C:403:SER:HB2	1.89	0.54
3:D:796:ARG:NH2	3:D:859:ASP:OD2	2.35	0.54
3:D:1147:ARG:HD3	3:D:1188:VAL:HG11	1.88	0.54
2:C:286:SER:OG	2:C:301:GLU:OE2	2.15	0.54
3:D:322:VAL:HG22	3:D:335:LEU:CD2	2.38	0.54
3:D:1272:ALA:HA	3:D:1326:THR:HB	1.89	0.54
2:C:135:VAL:HG23	2:C:395:LYS:HG3	1.90	0.54
2:C:504:GLU:HG2	2:C:509:ALA:HB2	1.89	0.54
1:B:56:VAL:HG23	1:B:142:VAL:HG12	1.89	0.54
2:C:567:GLN:HB2	2:C:997:LEU:HD22	1.88	0.54
2:C:767:PRO:HB2	2:C:771:GLU:HB3	1.89	0.54
3:D:351:MET:HG2	3:D:370:ALA:HB2	1.90	0.54
2:C:595:LEU:HD21	2:C:623:TYR:HB3	1.89	0.54
3:D:1042:ARG:HB3	3:D:1057:VAL:HB	1.89	0.54
2:C:343:GLN:HG3	2:C:385:PHE:HB2	1.90	0.53
2:C:614:ARG:NH2	2:C:618:GLY:O	2.38	0.53
3:D:248:PRO:HG3	3:D:308:LYS:HG3	1.89	0.53
1:A:191:ASP:OD1	2:C:938:LYS:NZ	2.41	0.53
3:D:288:MET:HG2	3:D:307:ALA:HB2	1.91	0.53
3:D:134:VAL:HG23	3:D:149:LYS:HA	1.91	0.53
3:D:405:ASP:CG	3:D:406:ASP:H	2.17	0.53
3:D:1276:GLU:OE2	3:D:1301:LYS:NZ	2.40	0.53
1:A:97:VAL:HG12	1:A:98:THR:N	2.22	0.53
3:D:892:ASP:OD1	3:D:894:LYS:HD2	2.09	0.53
1:A:89:PHE:HB2	1:A:146:ARG:HH22	1.73	0.53
3:D:658:LEU:HD23	3:D:661:MET:CE	2.38	0.53
3:D:1049:SER:OG	3:D:1051:GLU:HG2	2.09	0.53
3:D:114:THR:HG23	3:D:495:ARG:HG2	1.91	0.53
3:D:489:ARG:NH1	3:D:1391:GLU:OE2	2.42	0.53
5:F:383:LEU:CD2	5:F:398:ARG:HB2	2.39	0.53
2:C:722:ILE:HD12	2:C:821:GLU:HG3	1.91	0.52
2:C:922:PHE:CE2	2:C:964:LYS:HB2	2.43	0.52
2:C:750:LYS:HD2	3:D:681:ARG:HE	1.74	0.52
2:C:838:LYS:HE3	3:D:741:ASP:O	2.10	0.52
2:C:1023:GLY:HA2	6:G:18:DC:OP2	2.09	0.52
3:D:1339:LYS:HB3	3:D:1343:ALA:CB	2.39	0.52
2:C:239:PHE:CD2	2:C:253:ALA:HA	2.45	0.52
3:D:314:PRO:HB2	3:D:317:VAL:HG12	1.92	0.52
2:C:875:GLY:O	2:C:879:ARG:HD3	2.09	0.52
1:B:38:ASN:ND2	2:C:979:THR:HG22	2.19	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1197:ARG:HB2	3:D:1398:TRP:CZ2	2.45	0.52
3:D:134:VAL:HG22	3:D:151:GLN:H	1.74	0.52
1:B:80:LEU:HD22	3:D:844:ALA:CA	2.40	0.52
3:D:59:ALA:HB2	3:D:78:VAL:HG21	1.93	0.51
3:D:124:GLU:OE2	3:D:587:ARG:NH2	2.43	0.51
3:D:683:ILE:HG23	3:D:687:VAL:HG21	1.92	0.51
2:C:617:ASP:OD2	2:C:619:ARG:NE	2.31	0.51
2:C:807:ARG:HG2	2:C:821:GLU:HB3	1.91	0.51
2:C:858:MET:HG2	2:C:867:VAL:O	2.09	0.51
3:D:640:HIS:CD2	3:D:641:GLN:HG3	2.45	0.51
2:C:1006:HIS:HB2	2:C:1024:LYS:HG3	1.92	0.51
3:D:142:LEU:HB2	3:D:161:LEU:HD11	1.93	0.51
2:C:22:GLN:HG3	2:C:407:LYS:HB3	1.91	0.51
1:A:57:TYR:CD1	1:A:161:ARG:HD2	2.46	0.51
2:C:171:TRP:CH2	7:H:12:DT:H2"	2.46	0.51
3:D:202:VAL:HG21	3:D:400:VAL:HG13	1.93	0.51
3:D:1281:VAL:HG23	3:D:1317:ASP:O	2.10	0.51
2:C:470:PRO:HD3	2:C:485:TYR:CE2	2.46	0.51
3:D:1031:ASN:O	3:D:1035:ILE:HG12	2.10	0.51
5:F:376:ILE:HG22	5:F:377:ASP:OD2	2.10	0.51
2:C:1038:TRP:NE1	3:D:1099:VAL:HG11	2.26	0.51
2:C:1103:ASP:OD2	2:C:1107:ASN:HB2	2.11	0.51
5:F:367:MET:HG3	5:F:390:PHE:HZ	1.76	0.51
2:C:272:ALA:HA	2:C:464:LEU:HD13	1.92	0.51
2:C:374:ASN:OD1	5:F:276:ARG:HD2	2.11	0.51
3:D:666:ILE:HG22	3:D:676:MET:HE1	1.93	0.51
5:F:130:VAL:HG21	5:F:159:ILE:HG21	1.92	0.51
3:D:321:GLN:HB2	3:D:336:PHE:CD2	2.46	0.50
3:D:963:TYR:CE2	3:D:1002:LYS:HD3	2.45	0.50
3:D:1271:LYS:HD3	3:D:1331:ASP:HB2	1.93	0.50
5:F:193:ARG:HB3	7:H:7:DC:C5'	2.33	0.50
5:F:193:ARG:NH1	7:H:7:DC:H5	2.09	0.50
5:F:202:TYR:HE2	5:F:248:ASN:ND2	2.09	0.50
5:F:396:ARG:HG2	5:F:399:GLN:NE2	2.26	0.50
1:A:198:ARG:HD3	2:C:934:PHE:CZ	2.46	0.50
2:C:211:LEU:HD23	2:C:311:PHE:CD2	2.46	0.50
3:D:564:GLU:OE2	5:F:140:ARG:NH2	2.43	0.50
2:C:563:ASN:O	2:C:566:THR:HB	2.11	0.50
3:D:131:LYS:O	3:D:456:MET:HG2	2.11	0.50
3:D:483:HIS:CE1	3:D:488:ARG:HG3	2.46	0.50
3:D:1342:GLU:CD	3:D:1342:GLU:H	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:64:GLU:HG2	1:A:76:VAL:HG22	1.93	0.50
2:C:1043:TYR:CG	3:D:763:MET:HG2	2.47	0.50
3:D:675:ARG:CB	3:D:675:ARG:HH11	2.25	0.50
5:F:141:VAL:HG21	5:F:153:PRO:HD3	1.94	0.50
1:A:193:ASP:OD1	2:C:938:LYS:NZ	2.41	0.49
2:C:757:GLY:HA2	2:C:789:SER:OG	2.11	0.49
3:D:639:LEU:HA	3:D:729:HIS:CD2	2.46	0.49
1:B:38:ASN:HB3	1:B:39:PRO:HD3	1.93	0.49
2:C:154:ARG:HH12	2:C:178:PRO:HB3	1.76	0.49
2:C:740:GLU:HB3	2:C:805:ARG:HH12	1.77	0.49
2:C:1102:LEU:HD23	2:C:1108:PRO:HA	1.95	0.49
2:C:194:VAL:HG22	2:C:221:LEU:HD23	1.93	0.49
3:D:502:PHE:HD2	3:D:507:ASN:O	1.95	0.49
3:D:899:LEU:HD22	3:D:917:GLN:HB3	1.93	0.49
3:D:1271:LYS:HG3	3:D:1272:ALA:O	2.13	0.49
3:D:201:GLY:HA3	3:D:396:VAL:O	2.13	0.49
3:D:1040:GLY:O	3:D:1060:SER:HB3	2.12	0.49
2:C:50:GLU:OE1	2:C:345:ARG:NE	2.44	0.49
2:C:312:ALA:HB1	2:C:317:VAL:HB	1.94	0.49
3:D:155:ASP:OD1	3:D:568:ARG:NH1	2.44	0.49
3:D:238:PRO:CD	3:D:318:ARG:HG3	2.36	0.49
3:D:351:MET:HE2	3:D:368:VAL:CG1	2.43	0.49
5:F:154:LYS:O	5:F:158:GLU:HG3	2.13	0.49
2:C:436:GLY:HA2	2:C:538:GLN:O	2.13	0.49
2:C:44:ILE:HD11	2:C:340:MET:HE1	1.94	0.49
2:C:64:LEU:HD22	2:C:100:LEU:HD11	1.94	0.49
2:C:472:ARG:HD2	2:C:480:THR:O	2.11	0.49
3:D:14:SER:HB3	3:D:511:TRP:CZ2	2.47	0.49
3:D:1290:LEU:HD12	3:D:1291:SER:H	1.78	0.49
2:C:1053:LEU:HA	3:D:621:LYS:HD2	1.95	0.49
6:G:3:DC:H2"	6:G:4:DT:H5'	1.94	0.49
2:C:1102:LEU:HB2	3:D:7:LYS:HB2	1.95	0.48
2:C:815:LEU:HD23	2:C:819:VAL:CG1	2.42	0.48
1:A:106:PRO:HG3	1:A:134:GLU:HG2	1.94	0.48
5:F:392:VAL:CG1	5:F:396:ARG:HD2	2.44	0.48
1:A:94:LEU:O	1:A:146:ARG:NH1	2.47	0.48
2:C:573:ARG:HB2	2:C:670:GLN:NE2	2.27	0.48
3:D:298:VAL:HA	3:D:302:GLN:OE1	2.13	0.48
3:D:307:ALA:HB1	3:D:311:LEU:HD23	1.95	0.48
3:D:806:PHE:O	3:D:829:VAL:HA	2.14	0.48
3:D:1347:TYR:CZ	3:D:1351:GLU:HG3	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:12:VAL:HG11	2:C:472:ARG:HD3	1.95	0.48
2:C:470:PRO:HD3	2:C:485:TYR:HE2	1.77	0.48
3:D:214:GLU:HB3	3:D:340:THR:HB	1.95	0.48
3:D:636:GLN:NE2	3:D:637:LEU:HG	2.29	0.48
2:C:118:ILE:CD1	2:C:382:ILE:HD13	2.43	0.48
3:D:322:VAL:HG22	3:D:335:LEU:HD21	1.96	0.48
3:D:1276:GLU:CD	3:D:1301:LYS:NZ	2.72	0.48
3:D:561:GLY:HA3	5:F:132:ARG:HD3	1.96	0.48
5:F:96:LEU:O	5:F:100:VAL:HG23	2.14	0.48
2:C:1035:MET:HA	2:C:1038:TRP:CE3	2.49	0.48
3:D:841:TYR:HB2	3:D:864:VAL:HG22	1.95	0.48
5:F:188:ILE:HG12	5:F:224:VAL:HG21	1.94	0.48
1:B:26:GLU:HB3	1:B:194:LYS:HG3	1.96	0.48
1:B:161:ARG:HG3	1:B:162:ILE:O	2.14	0.48
3:D:158:TYR:CE1	3:D:454:ALA:HB3	2.49	0.48
3:D:258:VAL:HG12	3:D:273:ARG:O	2.13	0.48
5:F:361:LEU:HD13	5:F:365:GLU:HG3	1.96	0.48
1:B:179:PHE:HB3	1:B:197:LEU:HD12	1.96	0.47
2:C:926:PHE:CZ	2:C:930:LYS:HD3	2.49	0.47
1:A:30:ARG:HH22	3:D:855:HIS:HD2	1.61	0.47
1:B:101:LEU:HD11	1:B:113:ASP:HB2	1.96	0.47
3:D:661:MET:HE1	3:D:677:LEU:HD11	1.96	0.47
4:E:70:THR:OG1	4:E:72:ARG:HG3	2.13	0.47
1:A:74:ASP:OD1	1:A:76:VAL:HB	2.14	0.47
2:C:146:VAL:HG22	2:C:162:ILE:HG12	1.96	0.47
3:D:1450:ALA:HA	3:D:1455:LYS:CD	2.44	0.47
3:D:658:LEU:HD23	3:D:661:MET:HE3	1.94	0.47
5:F:188:ILE:HD13	5:F:221:ILE:HG12	1.96	0.47
5:F:237:THR:OG1	7:H:4:DA:H2'	2.15	0.47
3:D:14:SER:HB3	3:D:511:TRP:CE2	2.49	0.47
3:D:116:LEU:HD21	3:D:465:LEU:HD23	1.96	0.47
3:D:242:LEU:HD23	3:D:285:PRO:HG3	1.97	0.47
3:D:1444:THR:O	3:D:1448:THR:HG23	2.14	0.47
5:F:193:ARG:NH1	7:H:7:DC:C5	2.83	0.47
2:C:905:ILE:C	2:C:907:ASP:H	2.23	0.47
5:F:194:LEU:HB2	7:H:6:DT:C2	2.50	0.47
5:F:355:GLU:OE2	5:F:370:LYS:NZ	2.42	0.47
2:C:35:PRO:HG2	2:C:38:LYS:HD3	1.97	0.47
2:C:910:LYS:O	2:C:914:ILE:HG13	2.15	0.47
6:G:17:DT:H71	6:G:18:DC:N4	2.30	0.47
2:C:1:MET:HB2	2:C:898:GLY:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:243:ARG:HH21	7:H:9:DA:N6	2.12	0.46
3:D:156:GLU:CD	3:D:156:GLU:H	2.23	0.46
3:D:236:TYR:HB2	3:D:319:ALA:HB3	1.96	0.46
3:D:355:VAL:HG11	3:D:385:VAL:HG21	1.97	0.46
6:G:3:DC:H2'	6:G:4:DT:H72	1.97	0.46
2:C:69:LEU:HD23	2:C:69:LEU:HA	1.78	0.46
3:D:619:LEU:HD11	3:D:1439:SER:HB2	1.96	0.46
2:C:206:THR:O	2:C:210:GLU:HB2	2.14	0.46
2:C:210:GLU:HG2	2:C:304:LEU:HD21	1.96	0.46
2:C:548:PRO:O	2:C:843:HIS:HE1	1.98	0.46
4:E:46:PRO:HD2	4:E:63:TRP:CE2	2.50	0.46
2:C:224:GLU:H	2:C:224:GLU:CD	2.23	0.46
2:C:580:MET:HB3	2:C:584:GLU:CD	2.41	0.46
3:D:904:VAL:HG22	3:D:905:PRO:HD2	1.97	0.46
5:F:368:VAL:HG21	5:F:400:ILE:CD1	2.45	0.46
2:C:150:PRO:HD3	2:C:322:VAL:CG1	2.43	0.46
5:F:357:ALA:HB1	5:F:408:LEU:HD22	1.97	0.46
2:C:235:LEU:HD21	2:C:254:VAL:HG22	1.96	0.46
2:C:1043:TYR:CD1	3:D:763:MET:HG2	2.50	0.46
3:D:67:ARG:HH11	5:F:379:ARG:HD3	1.81	0.46
1:A:6:LEU:HD23	1:A:189:ARG:CZ	2.46	0.46
1:A:206:THR:CG2	1:A:209:GLU:HG3	2.44	0.46
2:C:775:ARG:NE	2:C:782:ALA:HB2	2.12	0.46
3:D:566:ILE:HD11	5:F:192:LEU:HD21	1.97	0.46
3:D:879:ARG:HB3	3:D:902:LEU:CD1	2.45	0.46
3:D:206:ARG:HD2	3:D:206:ARG:HA	1.76	0.46
3:D:480:GLU:OE2	3:D:488:ARG:HD2	2.15	0.46
1:B:73:GLU:OE1	1:B:73:GLU:N	2.37	0.46
3:D:236:TYR:CE1	3:D:242:LEU:HA	2.51	0.46
3:D:711:LEU:HD13	3:D:778:LEU:HD13	1.97	0.46
1:A:20:TYR:C	1:A:207:PRO:HG2	2.41	0.45
1:A:101:LEU:HD21	1:A:109:VAL:HG11	1.98	0.45
2:C:280:LYS:HE3	2:C:309:TYR:CZ	2.51	0.45
2:C:591:SER:O	2:C:592:LEU:HB2	2.15	0.45
2:C:164:PRO:HA	2:C:269:LEU:HD12	1.99	0.45
2:C:617:ASP:OD1	2:C:617:ASP:N	2.49	0.45
2:C:1070:ILE:CG2	3:D:655:PRO:HB2	2.45	0.45
3:D:1277:ILE:HG13	3:D:1278:ASP:N	2.31	0.45
2:C:425:PHE:CD1	3:D:1079:LYS:HE3	2.51	0.45
5:F:127:ILE:O	5:F:131:VAL:HG23	2.17	0.45
6:G:8:DG:H2"	6:G:9:DG:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:226:SER:O	1:A:228:PRO:HD3	2.16	0.45
3:D:215:TYR:O	3:D:340:THR:HA	2.15	0.45
3:D:1211:MET:SD	4:E:16:LYS:HE2	2.56	0.45
6:G:15:DT:H2'	6:G:16:DG:C8	2.51	0.45
2:C:173:ASP:HB2	2:C:185:LYS:HB3	1.99	0.45
2:C:202:TYR:CE1	2:C:304:LEU:HD22	2.51	0.45
2:C:708:TYR:HB3	2:C:790:LEU:HD21	1.98	0.45
3:D:452:ILE:HD13	3:D:452:ILE:HG21	1.73	0.45
3:D:1047:LYS:HG2	3:D:1053:PHE:CE1	2.52	0.45
3:D:1125:PRO:HB2	3:D:1130:ARG:HH22	1.81	0.45
3:D:1198:TYR:CE1	3:D:1460:ILE:HD13	2.51	0.45
5:F:421:PHE:N	5:F:421:PHE:CD2	2.85	0.45
2:C:1035:MET:HG2	2:C:1038:TRP:CZ3	2.52	0.45
3:D:645:PRO:HB3	3:D:723:GLY:O	2.16	0.45
3:D:1087:ARG:HG3	3:D:1256:LEU:CD2	2.46	0.45
2:C:424:GLY:O	2:C:427:VAL:HG23	2.17	0.45
3:D:417:PRO:HB3	3:D:430:ASP:O	2.17	0.45
3:D:1383:ASP:OD2	3:D:1385:GLY:N	2.48	0.45
1:B:65:PHE:CD2	3:D:809:PRO:HB2	2.51	0.45
2:C:293:PHE:HD1	2:C:298:PHE:CE2	2.34	0.45
2:C:396:ASP:HA	2:C:633:GLN:NE2	2.32	0.45
3:D:465:LEU:HD23	3:D:465:LEU:HA	1.72	0.45
2:C:312:ALA:HB3	2:C:320:HIS:CD2	2.52	0.44
2:C:396:ASP:HA	2:C:633:GLN:HE22	1.82	0.44
2:C:1038:TRP:CE2	3:D:1099:VAL:HG11	2.52	0.44
2:C:267:TYR:CE2	2:C:290:LEU:HG	2.52	0.44
3:D:876:SER:OG	3:D:879:ARG:HG3	2.17	0.44
3:D:1445:HIS:HE1	3:D:1449:GLU:OE1	2.00	0.44
3:D:1491:THR:HG21	4:E:89:MET:HG2	1.99	0.44
4:E:12:MET:HE1	4:E:68:LEU:O	2.17	0.44
1:A:201:THR:HG22	1:A:202:ASP:N	2.32	0.44
2:C:425:PHE:HD1	3:D:1079:LYS:HE3	1.82	0.44
3:D:44:LEU:O	3:D:525:ARG:NH2	2.50	0.44
3:D:536:ALA:HA	5:F:315:VAL:O	2.17	0.44
3:D:654:LYS:HB3	3:D:655:PRO:HD3	1.99	0.44
3:D:129:PHE:CZ	3:D:571:LYS:HB3	2.53	0.44
3:D:632:VAL:O	3:D:727:GLN:HA	2.17	0.44
4:E:46:PRO:HB2	4:E:57:ASP:CB	2.47	0.44
2:C:118:ILE:HD12	2:C:118:ILE:HG23	1.79	0.44
2:C:473:ARG:HG3	2:C:474:VAL:N	2.33	0.44
2:C:521:PRO:HB3	3:D:1068:LEU:HD21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:764:LEU:HD23	3:D:767:HIS:CD2	2.52	0.44
1:A:32:PHE:HA	1:A:35:THR:HB	2.00	0.44
2:C:592:LEU:HD23	2:C:592:LEU:HA	1.82	0.44
5:F:166:LEU:HD23	5:F:166:LEU:HA	1.84	0.44
5:F:365:GLU:HA	5:F:368:VAL:HB	2.00	0.44
2:C:170:PRO:HD2	2:C:267:TYR:CE1	2.53	0.44
2:C:194:VAL:HG13	2:C:221:LEU:HD23	1.99	0.44
3:D:1000:THR:HG23	3:D:1036:ARG:HD2	1.99	0.44
3:D:1208:ASP:OD1	3:D:1208:ASP:C	2.61	0.44
3:D:1405:GLU:HA	3:D:1408:ILE:HG22	2.00	0.44
2:C:557:ARG:HG3	2:C:844:GLY:HA3	2.00	0.44
3:D:1376:MET:HE3	3:D:1376:MET:HB3	1.80	0.44
3:D:1480:PHE:O	4:E:18:ARG:NH2	2.51	0.44
2:C:797:GLY:O	2:C:829:GLN:NE2	2.51	0.43
2:C:1060:ILE:HD11	2:C:1083:GLU:HG2	1.99	0.43
3:D:838:ARG:HD3	3:D:874:GLU:CD	2.43	0.43
2:C:439:CYS:HB2	2:C:541:SER:HB3	1.99	0.43
3:D:357:GLU:HB2	3:D:387:LEU:HD23	1.99	0.43
3:D:468:LEU:HA	3:D:468:LEU:HD23	1.63	0.43
3:D:1493:LYS:HA	3:D:1496:GLU:OE1	2.18	0.43
2:C:683:ASN:HB3	2:C:872:ASN:HB2	2.00	0.43
3:D:703:ASN:HA	3:D:712:GLY:O	2.18	0.43
3:D:1093:TYR:OH	3:D:1441:GLN:NE2	2.51	0.43
3:D:1377:LYS:HE3	3:D:1378:TYR:CZ	2.53	0.43
5:F:81:VAL:HG23	5:F:210:LEU:HD11	2.00	0.43
2:C:468:ARG:HA	2:C:486:MET:O	2.17	0.43
3:D:1459:LEU:CD2	3:D:1464:GLU:HB3	2.48	0.43
2:C:136:ILE:HB	2:C:336:VAL:HG13	2.00	0.43
2:C:926:PHE:HE1	2:C:929:ARG:HH11	1.65	0.43
3:D:17:LYS:HB2	3:D:17:LYS:HE2	1.74	0.43
5:F:324:GLU:HB2	5:F:326:ASP:OD1	2.19	0.43
5:F:198:ILE:HD12	5:F:243:ILE:HG21	1.99	0.43
1:B:111:ALA:HB3	1:B:125:PRO:HA	2.01	0.43
2:C:678:PRO:HA	2:C:683:ASN:HD22	1.82	0.43
2:C:772:ARG:NE	5:F:380:GLU:OE1	2.52	0.43
3:D:889:ALA:HB1	3:D:930:LEU:HA	1.99	0.43
3:D:1129:THR:C	3:D:1131:SER:H	2.27	0.43
1:A:6:LEU:HD23	1:A:189:ARG:NH2	2.33	0.43
1:A:106:PRO:CG	1:A:134:GLU:HG2	2.48	0.43
1:B:65:PHE:HD2	3:D:809:PRO:HB2	1.83	0.43
2:C:133:ASP:HB3	2:C:395:LYS:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:170:PRO:HD2	2:C:267:TYR:HE1	1.83	0.43
3:D:56:TYR:CE1	3:D:69:GLU:HG3	2.51	0.43
5:F:408:LEU:HA	5:F:408:LEU:HD23	1.67	0.43
1:A:80:LEU:HD12	1:A:80:LEU:HA	1.88	0.43
2:C:879:ARG:HD2	2:C:879:ARG:N	2.34	0.43
3:D:123:LEU:HA	3:D:123:LEU:HD12	1.72	0.43
3:D:693:GLU:HB3	4:E:48:MET:HE1	2.00	0.43
5:F:130:VAL:HG11	5:F:159:ILE:HG22	2.00	0.43
5:F:415:THR:HB	5:F:417:LYS:HE3	2.01	0.43
1:B:85:LEU:HG	1:B:87:VAL:HG23	2.01	0.43
2:C:12:VAL:HG21	2:C:472:ARG:HD3	2.00	0.43
2:C:376:ARG:HB2	2:C:377:PRO:HD3	2.01	0.43
3:D:684:LYS:HB3	3:D:684:LYS:HE2	1.55	0.43
3:D:1232:PRO:O	3:D:1235:GLN:HB2	2.18	0.43
3:D:1339:LYS:HB3	3:D:1343:ALA:HB3	2.01	0.43
5:F:321:ILE:CG2	6:G:19:DC:H2"	2.49	0.43
2:C:260:LEU:O	2:C:261:ILE:HD12	2.19	0.42
3:D:103:TRP:HB3	3:D:1448:THR:HG21	2.00	0.42
3:D:399:ARG:HB2	3:D:401:TYR:CE1	2.53	0.42
3:D:1127:GLU:HA	3:D:1130:ARG:HE	1.84	0.42
5:F:163:LEU:HD13	5:F:174:LEU:HD13	2.01	0.42
3:D:15:PRO:O	3:D:19:ARG:HG3	2.18	0.42
3:D:573:MET:SD	5:F:210:LEU:HB3	2.59	0.42
3:D:796:ARG:HH22	3:D:859:ASP:CG	2.26	0.42
3:D:1014:ASN:OD1	3:D:1014:ASN:N	2.52	0.42
3:D:613:ARG:HG3	3:D:618:LEU:HD23	2.01	0.42
3:D:1486:VAL:HG22	4:E:22:VAL:HG13	2.02	0.42
3:D:1495:ILE:HG12	4:E:88:GLU:CG	2.49	0.42
7:H:8:DG:C5	7:H:9:DA:C6	3.08	0.42
2:C:214:TYR:HB3	2:C:217:LEU:HD12	2.00	0.42
3:D:1052:THR:HG22	3:D:1053:PHE:O	2.19	0.42
5:F:358:LEU:HD23	5:F:358:LEU:HA	1.83	0.42
1:B:222:LEU:HA	1:B:222:LEU:HD23	1.85	0.42
2:C:545:ASN:HB3	2:C:583:LEU:HD22	2.01	0.42
2:C:638:ASP:OD2	2:C:640:ARG:HD2	2.19	0.42
2:C:862:PRO:HA	2:C:975:TYR:CE2	2.55	0.42
2:C:942:GLU:HG2	2:C:945:ARG:HH21	1.84	0.42
2:C:81:ASP:OD1	2:C:81:ASP:N	2.43	0.42
2:C:586:ARG:HD2	2:C:586:ARG:HA	1.74	0.42
2:C:679:PHE:HA	3:D:943:THR:HG23	2.00	0.42
2:C:886:LEU:HD21	3:D:951:ILE:HG12	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:110:LYS:HD2	1:B:128:HIS:HA	2.02	0.42
2:C:32:ALA:HB2	2:C:73:LEU:HD12	2.02	0.42
2:C:118:ILE:HA	2:C:118:ILE:HD13	1.69	0.42
2:C:755:LEU:HA	2:C:755:LEU:HD23	1.81	0.42
2:C:944:LEU:HA	2:C:944:LEU:HD23	1.77	0.42
5:F:367:MET:CG	5:F:390:PHE:HZ	2.33	0.42
1:B:153:ALA:C	1:B:155:LYS:H	2.27	0.42
2:C:884:GLN:HB2	2:C:992:MET:CE	2.50	0.42
3:D:134:VAL:CG2	3:D:151:GLN:H	2.33	0.42
1:B:78:ILE:HG21	1:B:140:MET:HE1	2.02	0.42
3:D:236:TYR:HB3	3:D:313:MET:HG3	2.00	0.42
3:D:654:LYS:O	3:D:658:LEU:HG	2.18	0.42
7:H:7:DC:H6	7:H:7:DC:H5'	1.84	0.42
1:A:47:SER:O	1:A:49:PRO:HD3	2.20	0.42
2:C:127:PHE:O	2:C:133:ASP:HA	2.19	0.42
2:C:179:ASN:OD1	2:C:181:VAL:HG12	2.19	0.42
2:C:261:ILE:HG22	2:C:262:ALA:N	2.34	0.42
2:C:657:ASP:OD2	2:C:663:ASN:N	2.48	0.42
3:D:1068:LEU:HD12	3:D:1068:LEU:HA	1.85	0.42
3:D:1236:LEU:HA	3:D:1359:GLN:HG3	2.01	0.42
1:B:58:ILE:HG12	1:B:140:MET:HE2	2.01	0.41
2:C:168:ARG:O	2:C:267:TYR:HA	2.19	0.41
2:C:247:PRO:HA	2:C:248:PRO:HD3	1.80	0.41
2:C:344:PHE:CD2	2:C:382:ILE:HD11	2.54	0.41
2:C:682:TYR:CE1	3:D:635:PRO:HD2	2.55	0.41
3:D:1144:LEU:HA	3:D:1144:LEU:HD23	1.73	0.41
5:F:295:MET:HE3	5:F:295:MET:HB3	1.97	0.41
2:C:460:ARG:HD2	2:C:485:TYR:CZ	2.54	0.41
2:C:767:PRO:HB2	2:C:771:GLU:CB	2.50	0.41
3:D:842:VAL:HG22	3:D:865:THR:HB	2.01	0.41
3:D:879:ARG:HB3	3:D:902:LEU:HD11	2.02	0.41
3:D:970:LYS:HD2	3:D:970:LYS:HA	1.93	0.41
3:D:1377:LYS:HE3	3:D:1378:TYR:OH	2.19	0.41
1:B:7:LYS:HE3	1:B:7:LYS:HB2	1.88	0.41
3:D:44:LEU:HB3	3:D:525:ARG:NH2	2.34	0.41
3:D:625:TYR:CE1	3:D:751:LEU:HD11	2.55	0.41
3:D:1359:GLN:HA	3:D:1359:GLN:NE2	2.35	0.41
1:B:38:ASN:HD21	2:C:979:THR:CG2	2.22	0.41
2:C:99:GLN:OE1	2:C:101:ILE:HD11	2.20	0.41
2:C:598:GLU:O	2:C:651:LYS:HG3	2.21	0.41
2:C:770:GLU:HB3	5:F:350:LEU:CD2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:374:GLU:C	3:D:376:GLU:H	2.29	0.41
3:D:687:VAL:O	3:D:690:ALA:HB3	2.20	0.41
3:D:1348:LEU:HD23	3:D:1348:LEU:HA	1.82	0.41
2:C:874:LEU:HA	2:C:874:LEU:HD23	1.89	0.41
2:C:269:LEU:HD12	2:C:269:LEU:HA	1.92	0.41
2:C:675:ALA:HB2	2:C:867:VAL:HG11	2.03	0.41
2:C:807:ARG:HG2	2:C:821:GLU:OE1	2.21	0.41
2:C:1097:LEU:HD11	3:D:103:TRP:CZ3	2.55	0.41
5:F:115:LYS:HG2	5:F:173:TYR:CE1	2.55	0.41
3:D:75:ARG:HE	3:D:75:ARG:HB2	1.73	0.41
3:D:1140:ILE:CG2	3:D:1144:LEU:HD12	2.51	0.41
4:E:36:LYS:CG	4:E:93:TYR:HB3	2.51	0.41
3:D:57:GLU:OE2	3:D:64:LYS:HE2	2.21	0.41
3:D:547:LEU:HD12	3:D:547:LEU:HA	1.77	0.41
3:D:988:ARG:NH2	3:D:1054:GLU:OE2	2.54	0.41
1:B:13:VAL:HG13	1:B:23:PHE:CE1	2.56	0.41
2:C:99:GLN:O	2:C:99:GLN:HG3	2.21	0.41
2:C:593:ALA:HB1	2:C:659:PRO:HD2	2.02	0.41
2:C:899:GLN:HG3	2:C:901:TYR:CZ	2.55	0.41
3:D:185:VAL:HG13	3:D:189:GLN:HB3	2.02	0.41
3:D:501:ALA:HB1	3:D:1452:ILE:HG22	2.02	0.41
3:D:963:TYR:HE2	3:D:1002:LYS:HD3	1.86	0.41
3:D:1125:PRO:HA	3:D:1132:LEU:HD23	2.03	0.41
5:F:412:GLU:OE1	5:F:418:LEU:HB2	2.21	0.41
2:C:767:PRO:CB	2:C:771:GLU:HB3	2.50	0.41
3:D:12:LEU:HD23	3:D:12:LEU:HA	1.78	0.41
3:D:41:ARG:NH1	3:D:48:ARG:NH1	2.69	0.41
3:D:366:LYS:HB2	3:D:366:LYS:HE3	1.83	0.41
3:D:625:TYR:CD1	3:D:751:LEU:HD11	2.56	0.41
3:D:1208:ASP:OD2	3:D:1211:MET:HE2	2.21	0.41
3:D:1381:VAL:HG21	3:D:1389:LEU:HD23	2.03	0.41
5:F:354:LEU:HD23	5:F:354:LEU:HA	1.94	0.41
2:C:740:GLU:HB3	2:C:805:ARG:NH1	2.36	0.40
3:D:709:HIS:HA	3:D:1227:GLN:HB3	2.03	0.40
3:D:792:ILE:HG13	3:D:793:THR:HG23	2.02	0.40
3:D:834:THR:OG1	3:D:838:ARG:HD2	2.21	0.40
6:G:4:DT:C2'	6:G:5:DC:OP2	2.65	0.40
2:C:304:LEU:HB3	2:C:305:PRO:HD3	2.03	0.40
3:D:67:ARG:HB3	5:F:377:ASP:O	2.22	0.40
3:D:432:TYR:O	3:D:448:GLU:HA	2.21	0.40
3:D:1372:VAL:HA	3:D:1375:MET:HE3	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:392:VAL:CG2	5:F:396:ARG:HB2	2.49	0.40
2:C:700:TYR:OH	2:C:994:ILE:O	2.34	0.40
3:D:288:MET:HA	3:D:306:GLU:O	2.20	0.40
3:D:695:ILE:HD12	3:D:718:PRO:HG2	2.04	0.40
3:D:853:VAL:HG22	3:D:858:VAL:HG23	2.03	0.40
3:D:1090:ASP:OD2	3:D:1238:MET:HE1	2.21	0.40
2:C:154:ARG:NH1	2:C:178:PRO:HB3	2.37	0.40
2:C:501:THR:HA	2:C:502:PRO:HD3	1.97	0.40
5:F:101:GLU:HG2	5:F:105:LYS:HE2	2.04	0.40
5:F:392:VAL:CG2	5:F:397:ILE:HG12	2.51	0.40
1:A:71:VAL:HG22	1:A:132:LEU:HG	2.02	0.40
1:A:154:GLU:H	1:A:154:GLU:CD	2.29	0.40
2:C:136:ILE:HD13	2:C:392:SER:HA	2.03	0.40
2:C:710:ILE:HD12	2:C:790:LEU:HB2	2.03	0.40
2:C:987:ILE:HD11	3:D:946:GLY:HA2	2.03	0.40
3:D:629:SER:OG	3:D:630:VAL:N	2.54	0.40
3:D:1066:THR:O	3:D:1067:VAL:C	2.64	0.40
5:F:345:ALA:O	5:F:349:LEU:HG	2.22	0.40
5:F:396:ARG:HA	5:F:399:GLN:HG2	2.01	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)
2:C:68:PHE:O	5:F:396:ARG:NH2[1_545]	1.84	0.36

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	224/315 (71%)	222 (99%)	2 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	220/315 (70%)	209 (95%)	10 (4%)	1 (0%)	24	52
2	C	1107/1119 (99%)	1077 (97%)	27 (2%)	3 (0%)	36	63
3	D	1482/1524 (97%)	1444 (97%)	35 (2%)	3 (0%)	43	70
4	E	92/99 (93%)	89 (97%)	2 (2%)	1 (1%)	11	34
5	F	344/423 (81%)	327 (95%)	14 (4%)	3 (1%)	14	39
All	All	3469/3795 (91%)	3368 (97%)	90 (3%)	11 (0%)	36	63

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	1130	ARG
1	B	154	GLU
2	C	764	GLU
3	D	1236	LEU
5	F	356	LYS
2	C	105	THR
5	F	384	GLU
3	D	320	ALA
5	F	148	LYS
4	E	94	PRO
2	C	415	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	199/273 (73%)	189 (95%)	10 (5%)	22	49
1	B	195/273 (71%)	188 (96%)	7 (4%)	31	58
2	C	935/941 (99%)	891 (95%)	44 (5%)	23	51
3	D	1253/1279 (98%)	1175 (94%)	78 (6%)	16	42
4	E	83/88 (94%)	80 (96%)	3 (4%)	31	58
5	F	301/371 (81%)	294 (98%)	7 (2%)	44	66

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2966/3225 (92%)	2817 (95%)	149 (5%)	22 49

All (149) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	6	LEU
1	A	34	VAL
1	A	80	LEU
1	A	133	GLU
1	A	142	VAL
1	A	184	THR
1	A	186	LEU
1	A	189	ARG
1	A	206	THR
1	A	229	GLN
1	B	7	LYS
1	B	29	GLU
1	B	34	VAL
1	B	142	VAL
1	B	186	LEU
1	B	190	THR
1	B	199	ILE
2	C	8	ARG
2	C	15	LEU
2	C	81	ASP
2	C	107	LEU
2	C	118	ILE
2	C	133	ASP
2	C	182	VAL
2	C	196	LEU
2	C	218	VAL
2	C	221	LEU
2	C	261	ILE
2	C	265	ARG
2	C	284	ARG
2	C	336	VAL
2	C	342	ASP
2	C	358	ARG
2	C	427	VAL
2	C	449	ILE
2	C	454	SER
2	C	460	ARG

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Mol	Chain	Res	Type
2	C	480	THR
2	C	513	VAL
2	C	524	VAL
2	C	575	GLN
2	C	583	LEU
2	C	584	GLU
2	C	586	ARG
2	C	617	ASP
2	C	640	ARG
2	C	661	SER
2	C	670	GLN
2	C	715	THR
2	C	764	GLU
2	C	808	ARG
2	C	815	LEU
2	C	820	ARG
2	C	910	LYS
2	C	939	ARG
2	C	948	GLU
2	C	968	LEU
2	C	978	ARG
2	C	1001	VAL
2	C	1014	SER
2	C	1057	SER
3	D	30	GLU
3	D	80	VAL
3	D	81	THR
3	D	106	LYS
3	D	141	ILE
3	D	142	LEU
3	D	148	GLU
3	D	155	ASP
3	D	161	LEU
3	D	179	VAL
3	D	190	GLU
3	D	191	LEU
3	D	198	ARG
3	D	204	LEU
3	D	230	TRP
3	D	231	VAL
3	D	256	GLU
3	D	276	ASP

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Mol	Chain	Res	Type
3	D	312	ARG
3	D	325	GLU
3	D	355	VAL
3	D	362	GLU
3	D	372	ASP
3	D	411	THR
3	D	415	VAL
3	D	421	LEU
3	D	427	VAL
3	D	525	ARG
3	D	548	ILE
3	D	572	ARG
3	D	587	ARG
3	D	618	LEU
3	D	632	VAL
3	D	650	LEU
3	D	675	ARG
3	D	687	VAL
3	D	709	HIS
3	D	754	PHE
3	D	778	LEU
3	D	808	THR
3	D	810	GLU
3	D	817	GLU
3	D	832	ARG
3	D	834	THR
3	D	864	VAL
3	D	875	THR
3	D	894	LYS
3	D	904	VAL
3	D	956	ILE
3	D	972	LEU
3	D	995	LEU
3	D	1014	ASN
3	D	1039	CYS
3	D	1041	LEU
3	D	1062	ARG
3	D	1067	VAL
3	D	1119	SER
3	D	1155	VAL
3	D	1176	LYS
3	D	1182	GLU

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Mol	Chain	Res	Type
3	D	1188	VAL
3	D	1208	ASP
3	D	1219	GLU
3	D	1221	VAL
3	D	1234	THR
3	D	1253	THR
3	D	1271	LYS
3	D	1278	ASP
3	D	1283	ILE
3	D	1284	GLU
3	D	1288	GLU
3	D	1290	LEU
3	D	1305	LEU
3	D	1313	VAL
3	D	1317	ASP
3	D	1455	LYS
3	D	1470	ARG
3	D	1486	VAL
4	E	50	THR
4	E	77	GLU
4	E	89	MET
5	F	159	ILE
5	F	172	ARG
5	F	205	ARG
5	F	230	LYS
5	F	372	ARG
5	F	416	ARG
5	F	421	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	221	HIS
1	B	38	ASN
1	B	95	GLN
2	C	91	GLN
2	C	565	GLN
2	C	567	GLN
2	C	683	ASN
2	C	834	GLN
2	C	1019	GLN
3	D	636	GLN

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Mol	Chain	Res	Type
3	D	640	HIS
3	D	641	GLN
3	D	714	GLN
3	D	724	GLN
3	D	909	ASN
3	D	994	GLN
3	D	1359	GLN
3	D	1445	HIS
5	F	170	HIS
5	F	248	ASN
5	F	399	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 oligosaccharides in this entry.

5.6 Ligand geometry

Of 5 ligands modelled in this entry, 5 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

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	226/315 (71%)	-0.38	0 100 100	70, 93, 114, 122	0
1	B	222/315 (70%)	-0.29	0 100 100	68, 96, 123, 140	0
2	C	1111/1119 (99%)	-0.32	9 (0%) 82 63	53, 93, 163, 194	0
3	D	1486/1524 (97%)	-0.37	1 (0%) 92 86	49, 87, 150, 181	0
4	E	94/99 (94%)	-0.22	0 100 100	66, 95, 132, 147	0
5	F	346/423 (81%)	0.07	26 (7%) 20 10	62, 107, 194, 203	0
6	G	18/21 (85%)	0.15	0 100 100	98, 119, 167, 170	0
7	H	22/27 (81%)	-0.01	0 100 100	88, 126, 166, 182	0
All	All	3525/3843 (91%)	-0.30	36 (1%) 79 59	49, 93, 161, 203	0

All (36) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	C	773	LEU	5.3
5	F	382	THR	5.0
2	C	769	PRO	4.6
5	F	400	ILE	4.3
5	F	383	LEU	3.9
2	C	776	SER	3.9
5	F	402	ASN	3.9
5	F	358	LEU	3.8
5	F	404	ALA	3.6
5	F	405	LEU	3.5
5	F	373	LYS	3.5
5	F	397	ILE	3.4
5	F	376	ILE	3.3
5	F	401	GLU	3.3
5	F	389	PHE	3.1
2	C	770	GLU	3.0

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Mol	Chain	Res	Type	RSRZ
5	F	381	HIS	3.0
5	F	398	ARG	2.7
5	F	375	LEU	2.7
2	C	774	LEU	2.6
2	C	311	PHE	2.6
5	F	384	GLU	2.6
2	C	176	VAL	2.6
5	F	368	VAL	2.6
5	F	387	GLY	2.5
2	C	777	ILE	2.4
5	F	388	ALA	2.4
5	F	390	PHE	2.4
5	F	399	GLN	2.3
5	F	369	LEU	2.3
2	C	217	LEU	2.2
3	D	420	VAL	2.2
5	F	354	LEU	2.1
5	F	418	LEU	2.1
5	F	361	LEU	2.0
5	F	371	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 oligosaccharides 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
8	MG	G	101	1/1	0.73	0.17	113,113,113,113	0
8	MG	B	401	1/1	0.94	0.20	69,69,69,69	0
8	MG	D	2003	1/1	0.96	0.11	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
9	ZN	D	2001	1/1	0.99	0.03	96,96,96,96	0
9	ZN	D	2002	1/1	1.00	0.01	124,124,124,124	0

6.5 Other polymers (i)

There are no such residues in this entry.