



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 10:21 AM UTC

PDB ID : 1DGH / pdb_00001dgh
Title : HUMAN ERYTHROCYTE CATALASE 3-AMINO-1,2,4-TRIAZOLE COM-
PLEX
Authors : Putnam, C.D.; Arvai, A.S.; Bourne, Y.; Tainer, J.A.
Deposited on : 1999-11-24
Resolution : 2.00 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	NOT EXECUTED
Xtriage (Phenix)	:	2.0
EDS	:	NOT EXECUTED
Buster-report	:	NOT EXECUTED
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

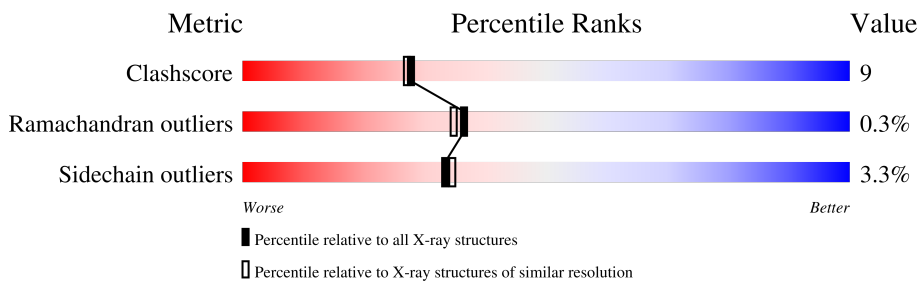
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.00 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	190562	11152 (2.00-2.00)
Ramachandran outliers	187476	11031 (2.00-2.00)
Sidechain outliers	187428	11029 (2.00-2.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	498	81% 17% .
1	C	498	79% 19% .
2	B	498	78% 20% .
2	D	498	84% 14% .

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 17815 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 (CATALASE).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	497	Total	C	N	O	S	0	2	0
			4012	2548	712	739	13			
1	C	498	Total	C	N	O	S	0	2	0
			4018	2551	713	741	13			

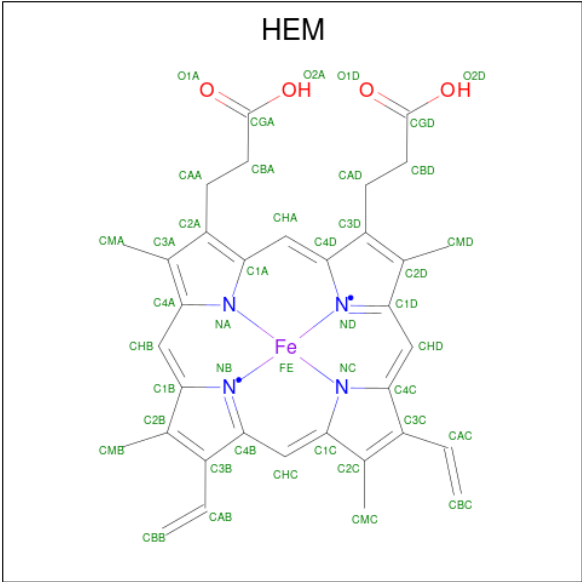
- Molecule 2 is a protein called PROTEIN (CATALASE).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	498	Total	C	N	O	S	0	2	0
			4024	2553	717	741	13			
2	D	498	Total	C	N	O	S	0	2	0
			4024	2553	717	741	13			

There are 2 discrepancies between the modelled and reference sequences:

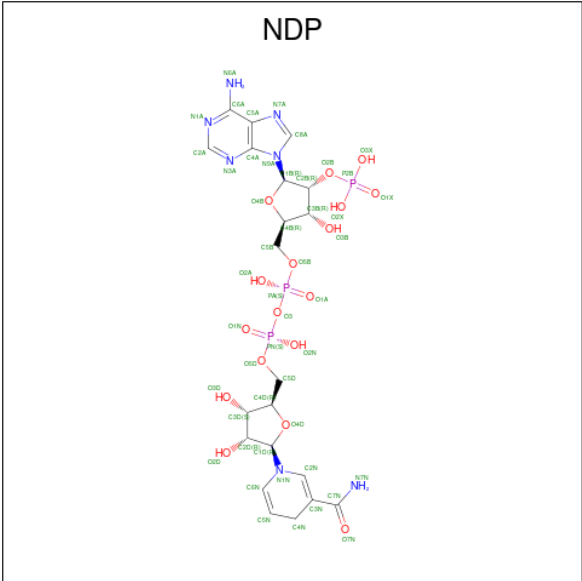
Chain	Residue	Modelled	Actual	Comment	Reference
B	75	3AH	HIS	modified residue	UNP P04040
D	75	3AH	HIS	modified residue	UNP P04040

- Molecule 3 is PROTOPORPHYRIN IX CONTAINING FE (CCD ID: HEM) (formula: $C_{34}H_{32}FeN_4O_4$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total 43	C 34	Fe 1	N 4	O 4	0	0
3	B	1	Total 43	C 34	Fe 1	N 4	O 4	0	0
3	C	1	Total 43	C 34	Fe 1	N 4	O 4	0	0
3	D	1	Total 43	C 34	Fe 1	N 4	O 4	0	0

- Molecule 4 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (CCD ID: NDP) (formula: C₂₁H₃₀N₇O₁₇P₃).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
4	C	1	Total	C	N	O	P	0	0
			48	21	7	17	3		

- Molecule 5 is water.

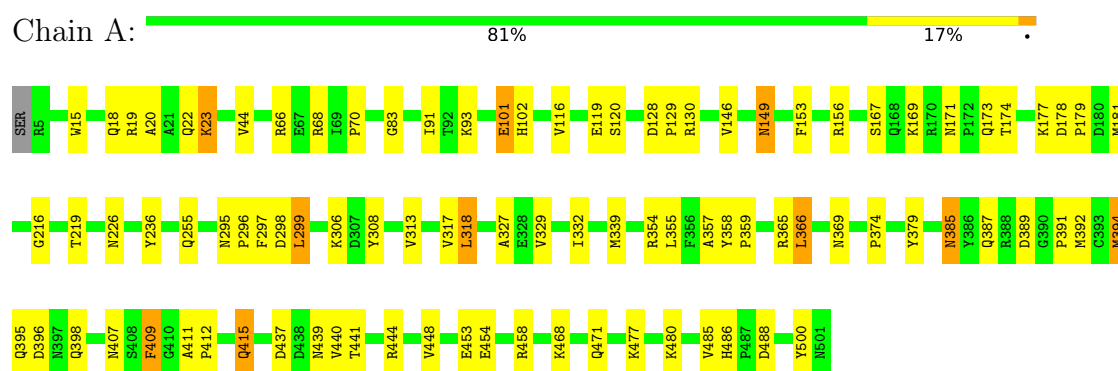
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	380	Total	O	0	0
			380	380		
5	B	357	Total	O	0	0
			357	357		
5	C	384	Total	O	0	0
			384	384		
5	D	348	Total	O	0	0
			348	348		

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. 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.

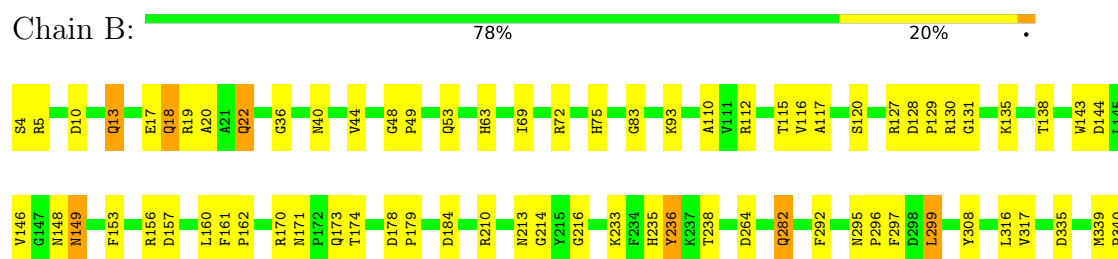
• Molecule 1: PROTEIN (CATALASE)

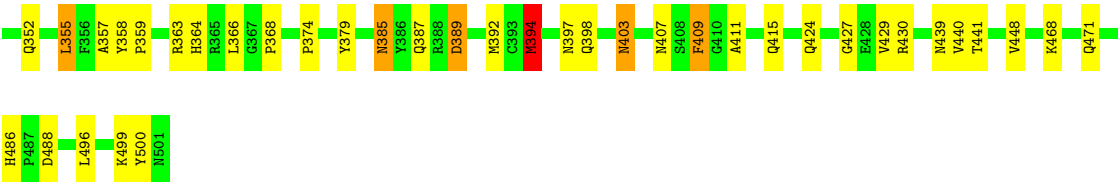


• Molecule 1: PROTEIN (CATALASE)

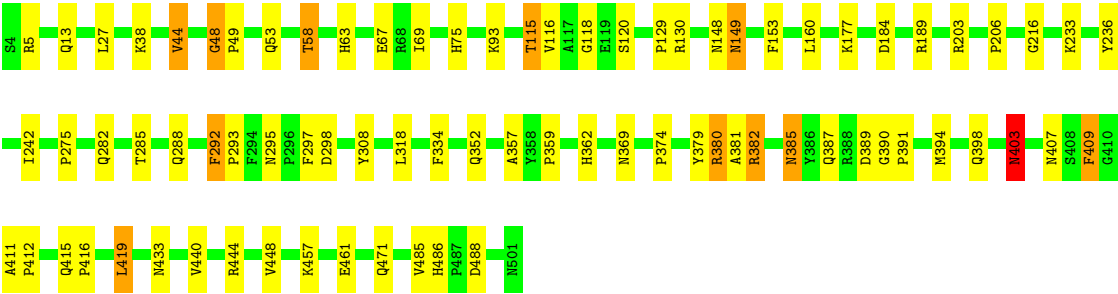
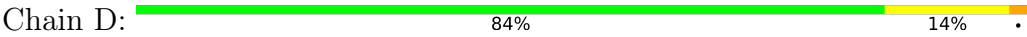


• Molecule 2: PROTEIN (CATALASE)





• Molecule 2: PROTEIN (CATALASE)



4 Data and refinement statistics

EDS was not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	84.03Å 140.64Å 231.35Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	20.00 – 2.00	Depositor
% Data completeness (in resolution range)	(Not available) (20.00-2.00)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.05	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.74 (at 2.01Å)	Xtriage
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.173 , 0.210	Depositor
Wilson B-factor (Å ²)	42.4	Xtriage
Anisotropy	0.040	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	17815	wwPDB-VP
Average B, all atoms (Å ²)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.40% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: NDP, HEM, 3AH

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	0.42	0/4131	0.97	21/5611 (0.4%)
1	C	0.42	0/4137	0.98	17/5619 (0.3%)
2	B	0.41	0/4125	0.97	24/5601 (0.4%)
2	D	0.42	0/4125	0.97	22/5601 (0.4%)
All	All	0.42	0/16518	0.97	84/22432 (0.4%)

There are no bond length outliers.

All (84) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	101	GLU	N-CA-C	8.49	121.47	111.71
2	B	357	ALA	N-CA-C	8.36	121.14	111.11
1	C	357	ALA	N-CA-C	8.23	121.29	111.33
1	C	101	GLU	N-CA-C	7.98	121.97	111.75
1	A	357	ALA	N-CA-C	7.63	120.27	111.11
2	D	448	VAL	N-CA-C	7.27	117.88	110.82
1	A	448	VAL	N-CA-C	7.25	117.85	110.82
1	C	394	MET	N-CA-C	7.16	121.67	113.15
2	D	357	ALA	N-CA-C	7.15	119.99	111.33
1	C	389	ASP	N-CA-C	6.99	118.35	108.00
2	D	48	GLY	CA-C-N	6.94	127.34	119.92
2	D	48	GLY	C-N-CA	6.94	127.34	119.92
2	B	394	MET	N-CA-C	6.84	120.22	112.97
1	C	308	TYR	CA-C-N	6.76	126.74	119.78
1	C	308	TYR	C-N-CA	6.76	126.74	119.78
2	B	117	ALA	N-CA-C	6.74	119.97	111.69
2	D	389	ASP	N-CA-C	6.73	117.97	108.00
1	A	415	GLN	CA-C-N	6.72	127.26	119.47
1	A	415	GLN	C-N-CA	6.72	127.26	119.47
1	A	216	GLY	N-CA-C	-6.61	106.47	114.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	437	ASP	N-CA-C	-6.42	102.51	110.41
2	B	216	GLY	N-CA-C	-6.42	106.70	114.66
1	C	403	ASN	N-CA-C	6.38	120.00	112.72
1	C	216	GLY	N-CA-C	-6.25	106.91	114.66
1	C	449	ASN	N-CA-C	6.21	121.08	112.45
1	A	379	TYR	N-CA-C	6.19	120.30	112.87
2	B	128	ASP	CA-C-N	-6.19	114.26	120.21
2	B	128	ASP	C-N-CA	-6.19	114.26	120.21
2	D	390	GLY	CA-C-N	5.98	126.00	119.90
2	D	390	GLY	C-N-CA	5.98	126.00	119.90
2	D	292	PHE	CA-C-N	5.96	126.39	119.47
2	D	292	PHE	C-N-CA	5.96	126.39	119.47
2	B	441	THR	N-CA-C	5.92	118.25	111.02
2	B	409	PHE	N-CA-C	5.86	120.03	112.41
2	B	448	VAL	N-CA-C	5.80	116.44	110.82
2	D	189	ARG	CA-C-N	5.77	125.48	119.82
2	D	189	ARG	C-N-CA	5.77	125.48	119.82
1	C	117	ALA	N-CA-C	5.74	117.62	111.36
2	B	146	VAL	N-CA-C	5.70	112.31	106.21
1	A	68	ARG	N-CA-C	5.69	119.19	110.20
1	A	308	TYR	CA-C-N	5.67	125.62	119.78
1	A	308	TYR	C-N-CA	5.67	125.62	119.78
2	B	184	ASP	N-CA-C	-5.62	105.24	111.36
2	D	216	GLY	N-CA-C	-5.60	107.72	114.66
2	B	292	PHE	CA-C-N	5.55	125.22	119.56
2	B	292	PHE	C-N-CA	5.55	125.22	119.56
1	C	48	GLY	CA-C-N	5.55	125.52	120.03
1	C	48	GLY	C-N-CA	5.55	125.52	120.03
1	C	282	GLN	N-CA-C	-5.52	100.70	109.59
2	D	403	ASN	N-CA-C	5.49	118.98	112.72
1	A	441	THR	N-CA-C	5.48	117.71	111.02
2	D	440	VAL	N-CA-C	5.48	120.73	109.34
1	A	440	VAL	N-CA-C	5.47	120.73	109.34
2	D	308	TYR	CA-C-N	5.42	125.36	119.78
2	D	308	TYR	C-N-CA	5.42	125.36	119.78
2	D	115	THR	N-CA-C	-5.42	101.43	109.94
2	B	157	ASP	CA-C-N	5.38	125.20	119.28
2	B	157	ASP	C-N-CA	5.38	125.20	119.28
1	A	128	ASP	CA-C-N	-5.36	115.06	120.21
1	A	128	ASP	C-N-CA	-5.36	115.06	120.21
2	D	118	GLY	N-CA-C	5.33	118.06	111.93
1	A	389	ASP	N-CA-C	5.30	117.92	109.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	409	PHE	N-CA-C	5.27	119.02	112.59
2	B	389	ASP	N-CA-C	5.27	117.87	109.02
2	D	409	PHE	N-CA-C	5.25	119.24	112.41
1	C	219	THR	N-CA-C	-5.25	100.74	109.46
1	A	453	GLU	N-CA-C	5.24	117.00	111.28
2	D	177	LYS	N-CA-C	-5.23	102.54	110.28
1	A	327	ALA	N-CA-C	5.22	117.05	111.36
1	A	177	LYS	N-CA-C	-5.21	102.68	110.23
2	D	184	ASP	N-CA-C	-5.19	105.70	111.36
1	C	448	VAL	N-CA-C	5.16	115.82	110.82
2	B	170	ARG	N-CA-C	5.14	118.50	110.32
2	B	282	GLN	N-CA-C	-5.13	101.34	109.59
2	B	415	GLN	CA-C-N	5.12	126.25	119.84
2	B	415	GLN	C-N-CA	5.12	126.25	119.84
2	B	308	TYR	CA-C-N	5.09	125.03	119.78
2	B	308	TYR	C-N-CA	5.09	125.03	119.78
2	B	379	TYR	N-CA-C	5.06	118.94	112.87
2	D	379	TYR	N-CA-C	5.06	118.94	112.87
1	C	180	ASP	N-CA-C	-5.05	105.85	111.36
1	A	219	THR	N-CA-C	-5.05	101.08	109.46
2	B	440	VAL	N-CA-C	5.04	119.81	109.34
1	A	409	PHE	N-CA-C	5.01	118.93	112.41

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	4012	0	3840	72	0
1	C	4018	0	3845	93	0
2	B	4024	0	3846	93	0
2	D	4024	0	3846	80	0
3	A	43	0	30	0	0
3	B	43	0	30	1	0
3	C	43	0	30	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	D	43	0	30	0	0
4	A	48	0	26	0	0
4	C	48	0	26	1	0
5	A	380	0	0	6	0
5	B	357	0	0	6	0
5	C	384	0	0	11	0
5	D	348	0	0	9	0
All	All	17815	0	15549	288	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 9.

All (288) 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:D:382:ARG:H	2:D:382:ARG:HD3	1.07	1.14
2:B:13:GLN:HG2	2:D:471:GLN:HE22	1.36	0.90
2:B:156:ARG:HH12	2:B:439:ASN:HD21	1.18	0.90
1:C:392:MET:HE3	1:C:394:MET:HE1	1.52	0.89
1:A:156:ARG:HH22	1:A:439:ASN:HD21	1.21	0.88
1:A:407:ASN:HD22	1:A:409:PHE:H	1.20	0.88
2:B:385:ASN:H	2:B:398:GLN:HE22	1.23	0.87
2:B:424:GLN:HE21	1:C:427:GLY:H	1.21	0.87
2:B:120[B]:SER:O	2:D:120[B]:SER:O	1.93	0.86
2:B:471:GLN:HE22	2:D:13:GLN:HE21	1.19	0.86
1:C:156:ARG:HH12	1:C:439:ASN:HD21	1.21	0.84
2:D:382:ARG:HD3	2:D:382:ARG:N	1.91	0.84
2:D:486:HIS:HD2	2:D:488:ASP:H	1.24	0.84
1:C:385:ASN:H	1:C:398:GLN:HE22	1.23	0.84
1:C:63:HIS:HE1	2:D:369:ASN:HD21	1.27	0.83
1:A:156:ARG:HH12	1:A:439:ASN:HD22	1.22	0.83
1:A:392:MET:HE3	1:A:394:MET:HE1	1.60	0.83
1:C:34:PRO:HG3	2:D:382:ARG:HH22	1.45	0.82
1:A:385:ASN:H	1:A:398:GLN:HE22	1.23	0.81
2:D:116:VAL:HG21	2:D:129:PRO:HG2	1.62	0.80
1:C:352:GLN:HE22	2:D:53:GLN:HE21	1.30	0.79
2:D:385:ASN:H	2:D:398:GLN:HE22	1.30	0.79
2:D:382:ARG:H	2:D:382:ARG:CD	1.94	0.79
1:A:369:ASN:HD21	2:B:63:HIS:HE1	1.30	0.78
1:C:369:ASN:HD21	2:D:63:HIS:HE1	1.29	0.78
1:A:156:ARG:HH12	1:A:439:ASN:ND2	1.82	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:116:VAL:HG21	2:B:129:PRO:HG2	1.66	0.77
2:B:424:GLN:NE2	1:C:427:GLY:H	1.83	0.77
1:A:454:GLU:HB3	1:A:458:ARG:HH21	1.48	0.77
2:D:407:ASN:HD22	2:D:409:PHE:H	1.30	0.77
1:C:394:MET:HG2	2:D:394:MET:HG3	1.66	0.76
1:C:369:ASN:ND2	2:D:63:HIS:HE1	1.83	0.76
2:B:49:PRO:HB2	1:C:51:LEU:HD23	1.66	0.76
1:C:156:ARG:HH22	1:C:439:ASN:HD22	1.33	0.74
2:B:13:GLN:HG2	2:D:471:GLN:NE2	2.01	0.74
1:A:395:GLN:HG3	1:A:396:ASP:H	1.50	0.74
5:C:3380:HOH:O	2:D:382:ARG:HG2	1.87	0.74
1:A:22:GLN:O	1:A:23:LYS:HB3	1.87	0.73
2:B:75:3AH:N2	2:B:148:ASN:HB3	2.04	0.72
1:A:171:ASN:ND2	1:A:173:GLN:H	1.87	0.72
1:A:130:ARG:H	1:A:149:ASN:ND2	1.88	0.71
1:A:116:VAL:HG21	1:A:129:PRO:HG2	1.72	0.71
2:D:58:THR:HG21	5:D:2075:HOH:O	1.90	0.71
1:C:63:HIS:HE1	2:D:369:ASN:ND2	1.88	0.70
1:C:171:ASN:ND2	1:C:173:GLN:H	1.89	0.70
1:C:407:ASN:HD22	1:C:409:PHE:H	1.40	0.70
1:C:486:HIS:HD2	1:C:488:ASP:H	1.37	0.70
2:B:156:ARG:HH22	2:B:439:ASN:HD22	1.38	0.70
2:B:171:ASN:ND2	2:B:173:GLN:H	1.89	0.70
1:C:116:VAL:HG21	1:C:129:PRO:HG2	1.74	0.69
2:B:471:GLN:HE22	2:D:13:GLN:NE2	1.91	0.68
1:A:486:HIS:HD2	1:A:488:ASP:HB3	1.60	0.67
2:B:392:MET:HE3	2:B:394:MET:HE1	1.77	0.66
1:C:149:ASN:H	1:C:149:ASN:HD22	1.43	0.66
1:C:171:ASN:HD22	1:C:174:THR:H	1.41	0.66
1:A:15:TRP:O	1:A:18:GLN:HG2	1.95	0.65
1:A:120[B]:SER:O	1:C:120[B]:SER:O	2.13	0.65
2:B:427:GLY:H	1:C:424:GLN:HE21	1.42	0.65
1:C:295:ASN:ND2	1:C:297:PHE:H	1.94	0.65
1:C:34:PRO:HG3	2:D:382:ARG:NH2	2.12	0.65
1:A:369:ASN:ND2	2:B:63:HIS:HE1	1.94	0.65
2:D:486:HIS:CD2	2:D:488:ASP:H	2.13	0.65
2:B:427:GLY:H	1:C:424:GLN:NE2	1.93	0.65
1:C:63:HIS:HD2	5:C:3032:HOH:O	1.80	0.65
2:D:444:ARG:HD3	2:D:485:VAL:O	1.96	0.65
1:C:53:GLN:HE21	2:D:352:GLN:HE22	1.44	0.64
1:A:149:ASN:H	1:A:149:ASN:HD22	1.44	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:149:ASN:HD22	2:B:149:ASN:H	1.44	0.64
2:D:381:ALA:HB1	2:D:382:ARG:HH11	1.63	0.64
2:D:457:LYS:O	2:D:461:GLU:HG2	1.96	0.63
2:B:424:GLN:HE21	1:C:427:GLY:N	1.95	0.63
1:C:156:ARG:HH22	1:C:439:ASN:ND2	1.97	0.62
1:A:486:HIS:CD2	1:A:488:ASP:HB3	2.34	0.62
2:D:130:ARG:H	2:D:149:ASN:ND2	1.96	0.62
2:B:153:PHE:HB3	2:B:299:LEU:HD13	1.80	0.62
1:C:369:ASN:HD21	2:D:63:HIS:CE1	2.15	0.62
2:D:380:ARG:HB3	2:D:380:ARG:HH11	1.65	0.62
2:D:486:HIS:CD2	2:D:488:ASP:HB3	2.35	0.61
1:A:394:MET:SD	2:B:394:MET:HE2	2.39	0.61
1:A:471:GLN:NE2	1:C:13:GLN:HG2	2.16	0.61
1:A:171:ASN:HD22	1:A:173:GLN:H	1.49	0.60
2:B:171:ASN:HD22	2:B:174:THR:H	1.47	0.60
1:C:392:MET:HB3	1:C:394:MET:HE1	1.82	0.60
2:B:407:ASN:HD22	2:B:409:PHE:H	1.50	0.60
1:C:352:GLN:NE2	2:D:53:GLN:HE21	1.99	0.60
2:D:75:3AH:HN32	2:D:153:PHE:HE2	1.50	0.60
1:A:471:GLN:HE22	1:C:13:GLN:HG2	1.66	0.59
2:B:171:ASN:HD22	2:B:173:GLN:H	1.49	0.59
2:B:156:ARG:HH22	2:B:439:ASN:ND2	2.00	0.59
1:A:480:LYS:HA	5:A:3350:HOH:O	2.03	0.58
1:C:486:HIS:CD2	1:C:488:ASP:H	2.20	0.58
2:D:380:ARG:HH11	2:D:380:ARG:CB	2.17	0.58
2:B:17:GLU:C	2:B:19:ARG:H	2.10	0.58
1:C:130:ARG:H	1:C:149:ASN:ND2	2.03	0.57
1:C:149:ASN:HD22	1:C:149:ASN:N	2.02	0.57
2:D:75:3AH:N2	2:D:148:ASN:HB3	2.20	0.57
2:B:149:ASN:HD22	2:B:149:ASN:N	2.01	0.57
2:B:130:ARG:H	2:B:149:ASN:ND2	2.03	0.57
1:C:329:VAL:O	1:C:332:ILE:HG22	2.05	0.57
2:B:295:ASN:HD22	2:B:296:PRO:HD2	1.69	0.56
2:D:75:3AH:HN31	2:D:148:ASN:ND2	2.03	0.56
2:B:153:PHE:CB	2:B:299:LEU:HD13	2.35	0.56
1:A:169:LYS:HB3	5:A:3146:HOH:O	2.06	0.56
2:B:63:HIS:HD2	5:B:2013:HOH:O	1.88	0.56
2:B:496:LEU:O	2:B:499:LYS:HG2	2.06	0.56
1:C:392:MET:HE3	1:C:394:MET:CE	2.31	0.55
1:C:171:ASN:ND2	1:C:174:THR:H	2.03	0.55
1:C:237:LYS:HE2	5:C:3322:HOH:O	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:171:ASN:HD22	1:C:173:GLN:H	1.55	0.55
2:B:486:HIS:HD2	2:B:488:ASP:H	1.54	0.55
2:B:156:ARG:HH12	2:B:439:ASN:ND2	1.99	0.54
1:C:63:HIS:CE1	2:D:369:ASN:HD21	2.16	0.54
2:B:389:ASP:H	2:B:397:ASN:HD21	1.54	0.54
1:A:156:ARG:NH2	1:A:439:ASN:HD21	1.99	0.53
2:B:385:ASN:C	2:B:385:ASN:HD22	2.17	0.53
1:C:83:GLY:HA3	1:C:317:VAL:O	2.08	0.53
2:D:149:ASN:HD22	2:D:149:ASN:H	1.56	0.53
2:B:53:GLN:HB2	5:C:3018:HOH:O	2.07	0.53
2:D:44:VAL:CG1	2:D:49:PRO:HD2	2.38	0.53
1:C:295:ASN:C	1:C:295:ASN:HD22	2.17	0.52
2:D:295:ASN:ND2	2:D:297:PHE:H	2.07	0.52
2:D:385:ASN:HD22	2:D:385:ASN:C	2.18	0.52
2:B:385:ASN:ND2	2:B:387:GLN:H	2.08	0.51
2:D:380:ARG:HH11	2:D:380:ARG:CG	2.23	0.51
1:A:339:MET:HE2	5:A:3330:HOH:O	2.09	0.51
2:B:127:ARG:NH1	5:B:2274:HOH:O	2.38	0.51
1:A:295:ASN:HD22	1:A:296:PRO:HD2	1.75	0.51
2:D:295:ASN:HB3	2:D:298:ASP:HB2	1.92	0.51
1:C:385:ASN:C	1:C:385:ASN:HD22	2.19	0.51
2:B:352:GLN:HA	2:B:355:LEU:HD22	1.93	0.50
2:D:63:HIS:HD2	5:D:2038:HOH:O	1.92	0.50
1:A:394:MET:HE2	2:B:394:MET:HB2	1.93	0.50
2:B:19:ARG:HB2	2:B:22:GLN:NE2	2.26	0.50
2:D:385:ASN:ND2	2:D:387:GLN:H	2.09	0.50
2:D:44:VAL:O	2:D:48:GLY:HA3	2.10	0.50
2:D:416:PRO:O	2:D:419:LEU:HB2	2.11	0.50
2:B:161:PHE:HB3	2:B:162:PRO:HD3	1.93	0.50
1:C:484:GLU:HG3	5:C:3349:HOH:O	2.12	0.50
2:D:419:LEU:HD12	5:D:2224:HOH:O	2.11	0.50
2:D:486:HIS:HD2	2:D:488:ASP:N	2.01	0.50
2:B:156:ARG:NH1	2:B:439:ASN:HD21	1.99	0.50
2:D:203:ARG:NH1	2:D:242:ILE:HD13	2.27	0.49
2:D:381:ALA:HB1	2:D:382:ARG:NH1	2.27	0.49
2:B:171:ASN:ND2	2:B:174:THR:H	2.09	0.49
1:C:454:GLU:CD	1:C:454:GLU:H	2.19	0.49
1:A:171:ASN:HD22	1:A:174:THR:H	1.60	0.49
2:B:44:VAL:O	2:B:48:GLY:HA3	2.12	0.49
2:D:285:THR:OG1	2:D:288:GLN:HG3	2.12	0.49
2:D:44:VAL:HG13	2:D:49:PRO:HD2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:385:ASN:ND2	1:A:387:GLN:H	2.11	0.49
1:C:21:ALA:O	1:C:23:LYS:N	2.42	0.49
2:B:210:ARG:HD3	2:B:264:ASP:OD2	2.12	0.49
2:D:130:ARG:O	2:D:148:ASN:HB2	2.13	0.49
2:B:364:HIS:HD2	5:C:3095:HOH:O	1.95	0.48
1:C:55:VAL:HG22	5:D:2088:HOH:O	2.12	0.48
2:D:149:ASN:HD22	2:D:149:ASN:N	2.09	0.48
2:D:75:3AH:HA	2:D:115:THR:O	2.12	0.48
2:D:352:GLN:HG3	5:D:2021:HOH:O	2.12	0.48
2:B:430:ARG:HB3	1:C:422:SER:HB3	1.95	0.48
2:D:116:VAL:CG2	2:D:129:PRO:HG2	2.40	0.48
1:C:177:LYS:HE2	5:C:3097:HOH:O	2.13	0.48
1:C:110:ALA:HB3	1:C:135:LYS:HB3	1.96	0.48
2:B:18:GLN:NE2	5:B:2021:HOH:O	2.44	0.48
2:B:83:GLY:HA3	2:B:317:VAL:O	2.13	0.48
2:B:392:MET:CE	2:B:394:MET:HE1	2.43	0.48
1:A:477:LYS:HZ3	1:A:480:LYS:HE3	1.79	0.47
1:A:295:ASN:ND2	1:A:297:PHE:H	2.12	0.47
1:A:385:ASN:C	1:A:385:ASN:HD22	2.22	0.47
1:C:36:GLY:HA2	2:D:415:GLN:O	2.14	0.47
1:A:415:GLN:O	2:B:36:GLY:HA2	2.14	0.47
2:B:75:3AH:HA	2:B:115:THR:O	2.14	0.47
1:C:14:HIS:HD2	5:C:3298:HOH:O	1.96	0.47
2:D:233:LYS:HB2	2:D:282:GLN:HB2	1.96	0.47
2:B:468:LYS:HD3	2:B:500:TYR:CD1	2.50	0.47
2:B:72:ARG:HG3	2:B:72:ARG:HH11	1.80	0.47
2:B:403:ASN:HD21	1:C:181:MET:HE3	1.80	0.47
1:C:156:ARG:HH12	1:C:439:ASN:ND2	2.01	0.47
1:A:407:ASN:HD21	1:A:411:ALA:H	1.62	0.47
1:A:329:VAL:O	1:A:332:ILE:HG22	2.16	0.46
1:A:411:ALA:HB1	1:A:412:PRO:HD2	1.97	0.46
1:C:223:VAL:HG11	5:C:3374:HOH:O	2.14	0.46
1:A:119:GLU:HB2	1:C:120[B]:SER:O	2.15	0.46
1:C:403:ASN:C	1:C:403:ASN:HD22	2.22	0.46
1:C:295:ASN:HD22	1:C:296:PRO:N	2.14	0.46
1:C:411:ALA:HB1	1:C:412:PRO:HD2	1.98	0.46
2:B:295:ASN:ND2	2:B:297:PHE:H	2.14	0.46
1:A:91:ILE:HG21	1:A:313:VAL:HG22	1.96	0.46
1:A:394:MET:HG2	2:B:394:MET:HG2	1.97	0.46
2:B:295:ASN:HD22	2:B:296:PRO:CD	2.28	0.46
2:B:352:GLN:O	2:B:355:LEU:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:407:ASN:HD21	2:B:411:ALA:H	1.64	0.46
1:A:394:MET:HE2	2:B:394:MET:SD	2.57	0.45
1:A:19:ARG:HD2	5:A:3355:HOH:O	2.14	0.45
2:B:143:TRP:HB2	2:B:340:PRO:HD3	1.97	0.45
1:C:388:ARG:O	2:D:67:GLU:HG2	2.17	0.45
1:A:295:ASN:HB3	1:A:298:ASP:HB2	1.98	0.45
1:A:385:ASN:HD22	1:A:387:GLN:H	1.64	0.45
2:D:275:PRO:HG2	2:D:318:LEU:HB2	1.99	0.45
1:A:407:ASN:HD22	1:A:409:PHE:N	2.02	0.45
1:C:19:ARG:NH2	1:C:24:ALA:HA	2.31	0.45
2:B:4:SER:HB2	2:B:10:ASP:OD2	2.16	0.45
1:A:468:LYS:HD3	1:A:500:TYR:HB3	1.99	0.45
1:C:109:ILE:HA	1:C:135:LYS:O	2.17	0.44
1:A:444:ARG:HD3	1:A:485:VAL:O	2.17	0.44
2:B:149:ASN:H	2:B:149:ASN:ND2	2.13	0.44
2:B:427:GLY:N	1:C:424:GLN:HE21	2.12	0.44
1:C:75:HIS:CE1	1:C:116:VAL:HG22	2.52	0.44
1:C:446:PHE:HB2	4:C:3001:NDP:O2D	2.16	0.44
2:D:27:LEU:HD21	2:D:38:LYS:HD3	1.98	0.44
2:D:359:PRO:HG2	5:D:2084:HOH:O	2.17	0.44
1:C:93:LYS:HE3	1:C:94:TYR:CZ	2.53	0.44
1:C:129:PRO:HD3	1:C:199:LEU:HD13	1.98	0.44
2:B:144:ASP:HB2	2:B:335:ASP:O	2.17	0.44
2:B:235:HIS:NE2	2:B:282:GLN:NE2	2.65	0.44
1:A:101:GLU:HG3	1:A:102:HIS:HD2	1.83	0.44
1:A:306:LYS:HB2	5:A:3327:HOH:O	2.17	0.44
1:C:19:ARG:HH22	1:C:24:ALA:HA	1.82	0.44
1:C:233:LYS:O	1:C:281:ILE:HA	2.17	0.44
1:A:101:GLU:HG3	1:A:102:HIS:CD2	2.53	0.44
1:C:207:ASP:HA	1:C:245:LEU:HG	1.99	0.44
1:A:171:ASN:ND2	1:A:174:THR:H	2.15	0.43
1:A:369:ASN:HD21	2:B:63:HIS:CE1	2.21	0.43
2:D:206:PRO:HG3	5:D:2201:HOH:O	2.17	0.43
1:A:66:ARG:HD3	2:B:368:PRO:HG3	2.00	0.43
2:B:358:TYR:HB2	2:B:359:PRO:HD3	1.99	0.43
1:C:171:ASN:HB3	1:C:174:THR:OG1	2.19	0.43
2:D:203:ARG:NH2	5:D:2282:HOH:O	2.52	0.43
2:D:292:PHE:HA	2:D:293:PRO:HD3	1.85	0.43
1:A:411:ALA:HB1	1:A:412:PRO:CD	2.48	0.43
2:B:116:VAL:CG2	2:B:129:PRO:HG2	2.43	0.43
1:A:255:GLN:HG3	1:C:251:ALA:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:75:3AH:N2	2:D:148:ASN:CB	2.81	0.43
1:C:156:ARG:NH1	1:C:439:ASN:HD21	2.03	0.43
2:B:20:ALA:O	2:B:22:GLN:N	2.50	0.43
1:C:69:ILE:HG22	2:D:391:PRO:HG3	2.01	0.43
1:C:454:GLU:CD	1:C:454:GLU:N	2.76	0.43
2:D:407:ASN:HD21	2:D:411:ALA:H	1.66	0.43
1:C:405:TYR:CD1	1:C:406:PRO:HA	2.53	0.42
2:D:403:ASN:C	2:D:403:ASN:HD22	2.26	0.42
1:A:391:PRO:HG3	2:B:69:ILE:HG22	2.00	0.42
2:B:171:ASN:HD22	2:B:173:GLN:N	2.16	0.42
1:A:153:PHE:CB	1:A:299:LEU:HD13	2.49	0.42
2:B:112:ARG:HD3	3:B:2001:HEM:O1D	2.18	0.42
1:C:74:VAL:O	1:C:75:HIS:HB2	2.19	0.42
1:C:444:ARG:HD3	1:C:485:VAL:O	2.18	0.42
1:A:149:ASN:HD22	1:A:149:ASN:N	2.09	0.42
2:B:233:LYS:HB2	2:B:282:GLN:HB2	2.00	0.42
1:A:178:ASP:HA	1:A:179:PRO:HD2	1.92	0.42
2:D:411:ALA:HB1	2:D:412:PRO:CD	2.50	0.42
1:A:153:PHE:HB2	1:A:299:LEU:HD13	2.02	0.42
1:A:365:ARG:HG2	1:A:366:LEU:HD13	2.01	0.42
2:B:110:ALA:HB3	2:B:135:LYS:HB3	2.02	0.42
1:A:318:LEU:HD12	1:A:318:LEU:HA	1.84	0.42
2:B:178:ASP:HA	2:B:179:PRO:HD2	1.97	0.42
2:B:17:GLU:C	2:B:19:ARG:N	2.77	0.41
2:B:214:GLY:HA3	2:B:236:TYR:CE1	2.55	0.41
1:C:295:ASN:ND2	1:C:295:ASN:C	2.76	0.41
1:C:499:LYS:HE3	1:C:500:TYR:HE1	1.85	0.41
1:A:395:GLN:HG3	1:A:396:ASP:N	2.28	0.41
2:D:411:ALA:HB1	2:D:412:PRO:HD2	2.03	0.41
1:C:352:GLN:HG3	5:C:3291:HOH:O	2.20	0.41
1:C:391:PRO:HG3	2:D:69:ILE:HG22	2.03	0.41
1:A:70:PRO:HD3	1:C:70:PRO:HG3	2.02	0.41
2:B:179:PRO:HG2	5:B:2092:HOH:O	2.21	0.41
2:D:53:GLN:NE2	5:D:2265:HOH:O	2.52	0.41
1:A:146:VAL:HB	1:A:354:ARG:HH22	1.86	0.41
2:B:385:ASN:HD22	2:B:387:GLN:H	1.69	0.41
5:B:2156:HOH:O	1:C:422:SER:HA	2.20	0.41
1:C:392:MET:HE1	2:D:369:ASN:O	2.21	0.41
2:B:213:ASN:OD1	2:B:238:THR:HG22	2.21	0.41
2:D:334:PHE:O	2:D:362:HIS:HE1	2.04	0.41
1:A:83:GLY:HA3	1:A:317:VAL:O	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:75:3AH:N2	2:B:148:ASN:CB	2.80	0.40
2:D:385:ASN:HD22	2:D:387:GLN:H	1.69	0.40
1:A:255:GLN:HB2	1:C:255:GLN:HB2	2.02	0.40
1:A:295:ASN:HD22	1:A:296:PRO:CD	2.34	0.40
2:B:339:MET:HE2	5:B:2111:HOH:O	2.20	0.40
2:B:429:VAL:O	2:B:429:VAL:HG12	2.22	0.40
1:C:394:MET:HG2	2:D:394:MET:CG	2.43	0.40
1:A:179:PRO:HG2	5:A:3253:HOH:O	2.20	0.40
1:A:358:TYR:HB2	1:A:359:PRO:HD3	2.03	0.40
2:B:75:3AH:HN1	2:B:131:GLY:HA2	1.87	0.40
1:C:385:ASN:ND2	1:C:387:GLN:H	2.18	0.40
1:A:167:SER:HA	1:A:181:MET:HE2	2.04	0.40
2:B:40:ASN:ND2	2:D:433:ASN:HA	2.37	0.40
2:B:359:PRO:O	2:B:363:ARG:HG3	2.22	0.40
1:C:33:ASN:HA	1:C:34:PRO:HD3	1.95	0.40
1:C:206:PRO:HG3	5:C:3163:HOH:O	2.22	0.40

There are no symmetry-related clashes.

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	497/498 (100%)	476 (96%)	19 (4%)	2 (0%)	30	27
1	C	498/498 (100%)	470 (94%)	26 (5%)	2 (0%)	30	27
2	B	497/498 (100%)	471 (95%)	24 (5%)	2 (0%)	30	27
2	D	497/498 (100%)	475 (96%)	22 (4%)	0	100	100
All	All	1989/1992 (100%)	1892 (95%)	91 (5%)	6 (0%)	36	35

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	22	GLN
2	B	22	GLN
1	C	438	ASP
1	A	20	ALA
1	A	23	LYS
2	B	18	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	429/429 (100%)	417 (97%)	12 (3%)	38	41
1	C	430/429 (100%)	413 (96%)	17 (4%)	28	27
2	B	429/428 (100%)	414 (96%)	15 (4%)	32	32
2	D	429/428 (100%)	416 (97%)	13 (3%)	36	38
All	All	1717/1714 (100%)	1660 (97%)	57 (3%)	33	34

All (57) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	44	VAL
1	A	93	LYS
1	A	149	ASN
1	A	226	ASN
1	A	236	TYR
1	A	299	LEU
1	A	318	LEU
1	A	355	LEU
1	A	366	LEU
1	A	374	PRO
1	A	385	ASN
1	A	394	MET
2	B	5	ARG
2	B	13	GLN
2	B	93	LYS
2	B	138	THR

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Mol	Chain	Res	Type
2	B	149	ASN
2	B	160	LEU
2	B	236	TYR
2	B	299	LEU
2	B	316	LEU
2	B	355	LEU
2	B	366	LEU
2	B	374	PRO
2	B	385	ASN
2	B	394	MET
2	B	403	ASN
1	C	5	ARG
1	C	13	GLN
1	C	41	VAL
1	C	93	LYS
1	C	138	THR
1	C	149	ASN
1	C	160	LEU
1	C	188	LEU
1	C	236	TYR
1	C	242	ILE
1	C	295	ASN
1	C	318	LEU
1	C	385	ASN
1	C	403	ASN
1	C	415	GLN
1	C	426	SER
1	C	453	GLU
2	D	5	ARG
2	D	44	VAL
2	D	58	THR
2	D	93	LYS
2	D	149	ASN
2	D	160	LEU
2	D	236	TYR
2	D	374	PRO
2	D	380	ARG
2	D	382	ARG
2	D	385	ASN
2	D	403	ASN
2	D	419	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (93)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	13	GLN
1	A	102	HIS
1	A	149	ASN
1	A	168	GLN
1	A	171	ASN
1	A	282	GLN
1	A	295	ASN
1	A	338	ASN
1	A	369	ASN
1	A	385	ASN
1	A	398	GLN
1	A	407	ASN
1	A	421	HIS
1	A	433	ASN
1	A	439	ASN
1	A	449	ASN
1	A	471	GLN
1	A	475	GLN
1	A	486	HIS
1	A	501	ASN
2	B	13	GLN
2	B	18	GLN
2	B	40	ASN
2	B	63	HIS
2	B	149	ASN
2	B	168	GLN
2	B	171	ASN
2	B	226	ASN
2	B	282	GLN
2	B	287	ASN
2	B	295	ASN
2	B	338	ASN
2	B	364	HIS
2	B	385	ASN
2	B	397	ASN
2	B	398	GLN
2	B	403	ASN
2	B	407	ASN
2	B	421	HIS
2	B	424	GLN
2	B	433	ASN
2	B	439	ASN

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Mol	Chain	Res	Type
2	B	475	GLN
2	B	486	HIS
2	B	501	ASN
1	C	14	HIS
1	C	40	ASN
1	C	53	GLN
1	C	63	HIS
1	C	149	ASN
1	C	168	GLN
1	C	171	ASN
1	C	226	ASN
1	C	255	GLN
1	C	282	GLN
1	C	295	ASN
1	C	369	ASN
1	C	385	ASN
1	C	395	GLN
1	C	398	GLN
1	C	403	ASN
1	C	407	ASN
1	C	421	HIS
1	C	424	GLN
1	C	439	ASN
1	C	449	ASN
1	C	471	GLN
1	C	475	GLN
1	C	486	HIS
1	C	501	ASN
2	D	11	GLN
2	D	13	GLN
2	D	40	ASN
2	D	53	GLN
2	D	63	HIS
2	D	148	ASN
2	D	149	ASN
2	D	168	GLN
2	D	226	ASN
2	D	244	ASN
2	D	255	GLN
2	D	295	ASN
2	D	338	ASN
2	D	369	ASN

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Mol	Chain	Res	Type
2	D	385	ASN
2	D	398	GLN
2	D	403	ASN
2	D	407	ASN
2	D	421	HIS
2	D	471	GLN
2	D	475	GLN
2	D	486	HIS
2	D	501	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

Mogul was not executed - this section is therefore empty.

5.5 Carbohydrates [i](#)

Mogul was not executed - this section is therefore empty.

5.6 Ligand geometry [i](#)

Mogul was not executed - this section is therefore empty.

5.7 Other polymers [i](#)

Mogul was not executed - this section is therefore empty.

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

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.

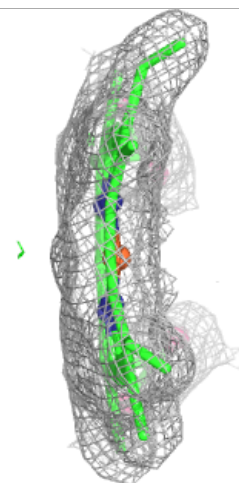
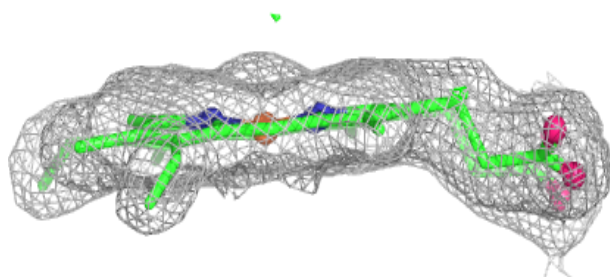
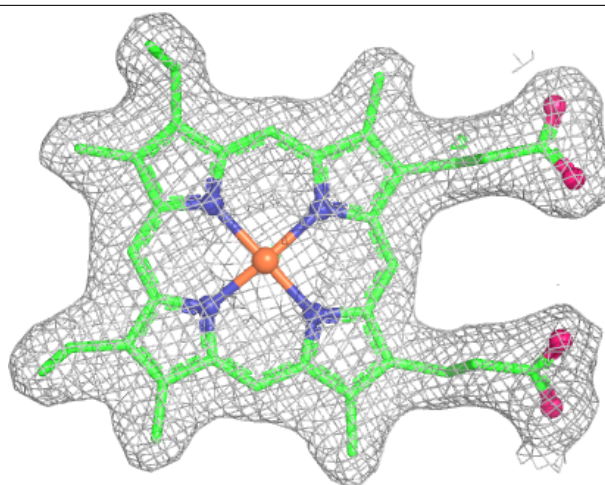
6.4 Ligands

EDS was not executed - this section is therefore empty.

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

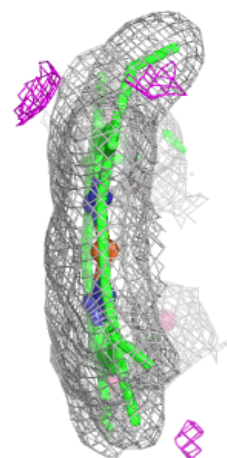
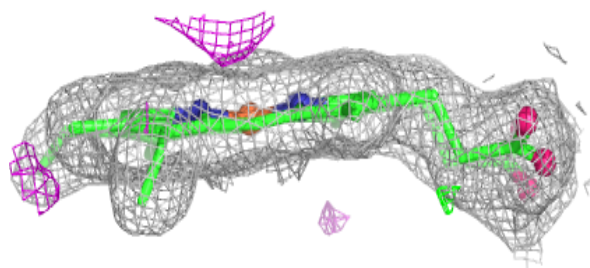
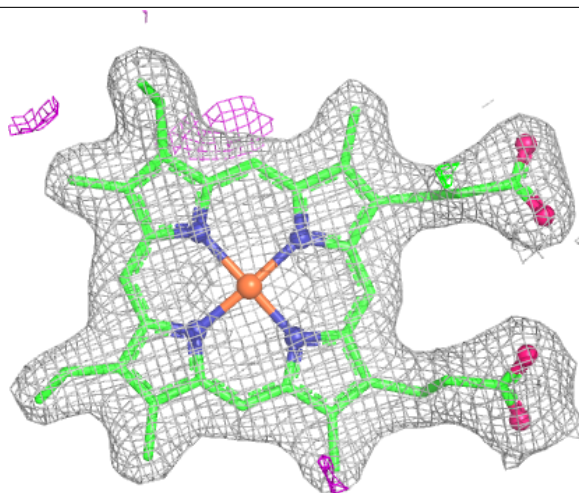
Electron density around HEM A 2000:

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



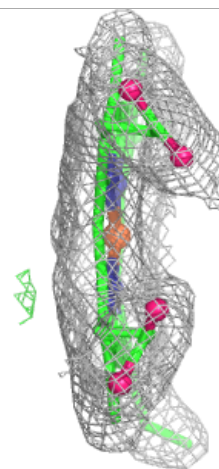
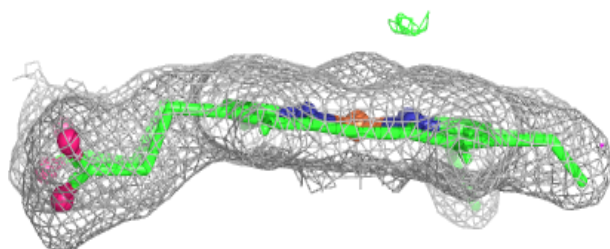
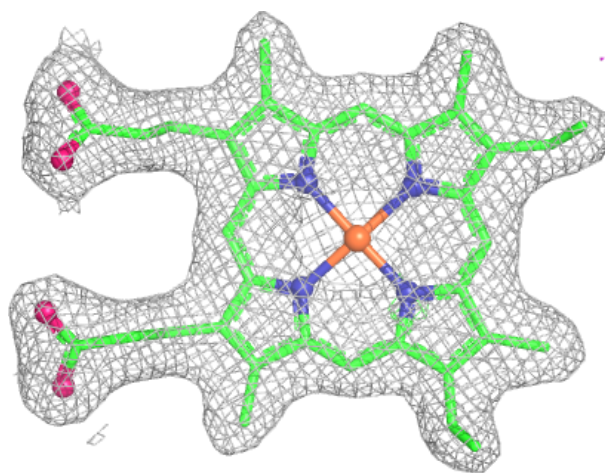
Electron density around HEM B 2001:

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



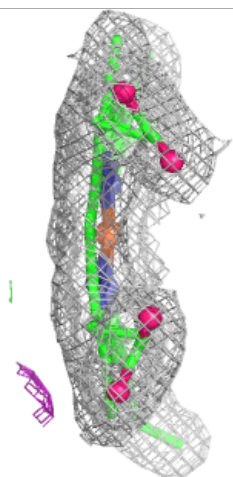
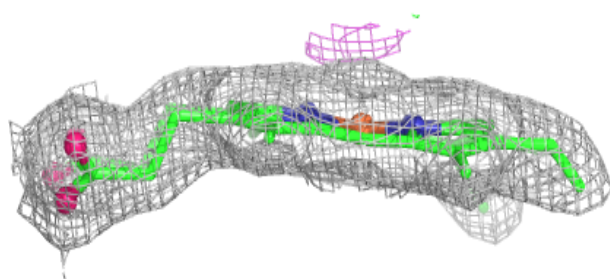
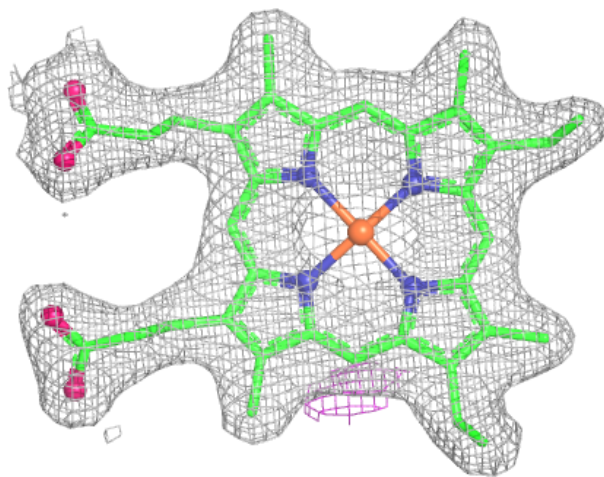
Electron density around HEM C 2002:

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



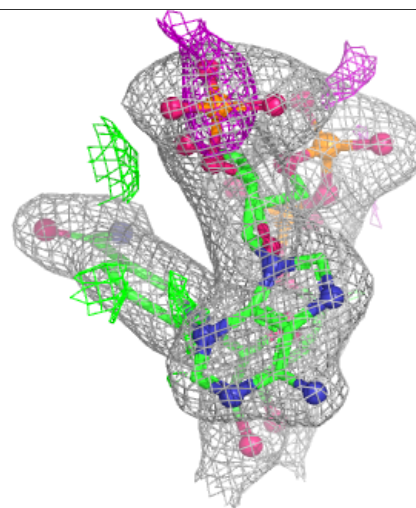
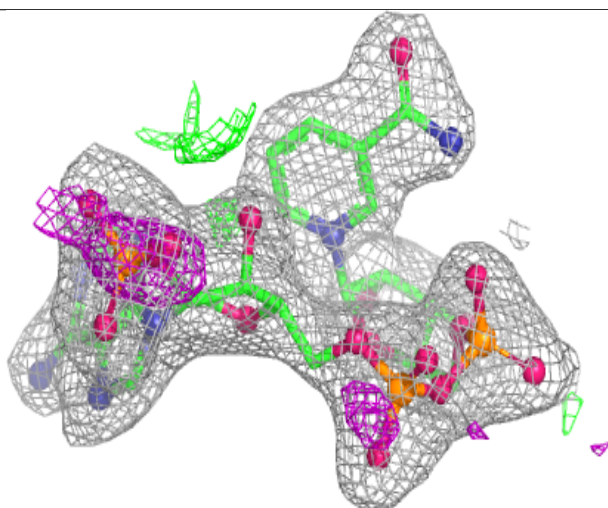
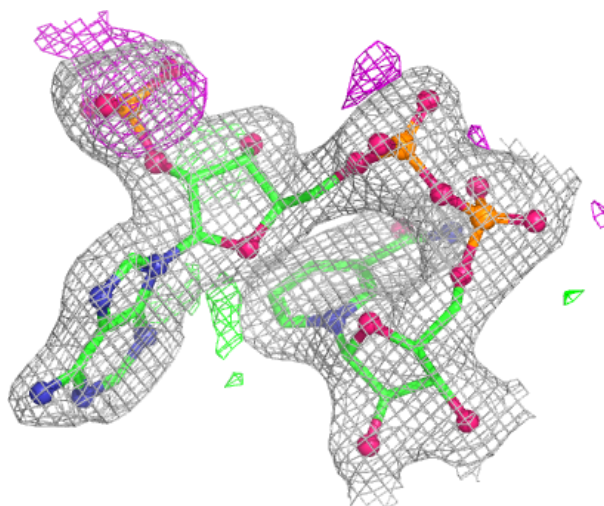
Electron density around HEM D 2003:

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



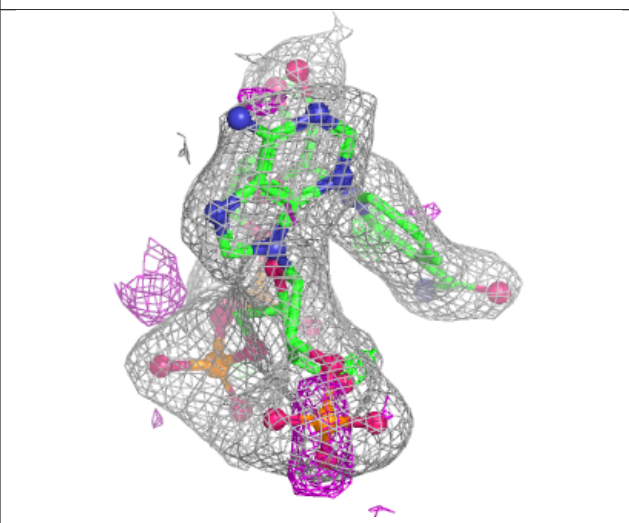
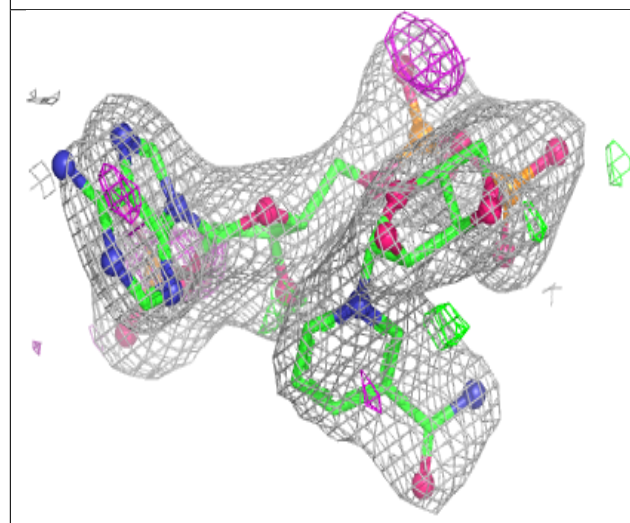
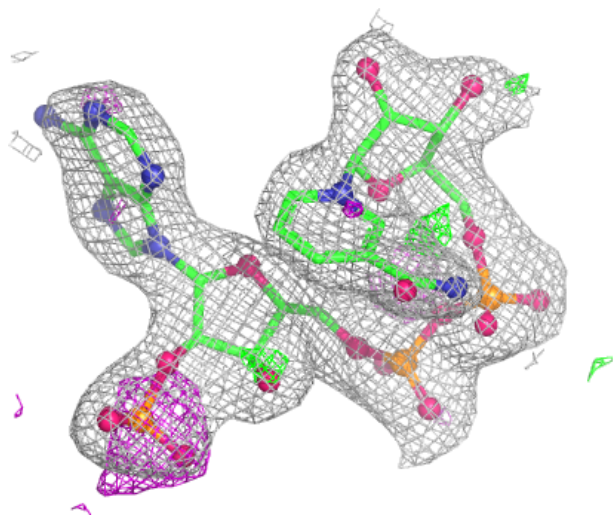
Electron density around NDP A 3000:

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



Electron density around NDP C 3001:

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



6.5 Other polymers [i](#)

EDS was not executed - this section is therefore empty.