



wwPDB X-ray Structure Validation Summary Report ⓘ

Nov 6, 2023 – 03:55 PM EST

PDB ID : 5EXU
Title : Reversibly photoswitching protein Dathail, Ensemble refinement
Authors : Close, D.W.; Langan, P.S.; Bradbury, A.R.M.
Deposited on : 2015-11-24
Resolution : 1.65 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

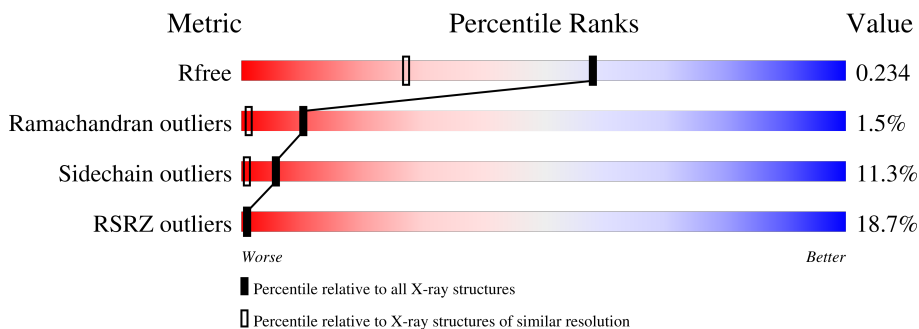
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.65 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1827 (1.66-1.66)
Ramachandran outliers	138981	1891 (1.66-1.66)
Sidechain outliers	138945	1891 (1.66-1.66)
RSRZ outliers	127900	1791 (1.66-1.66)

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 $\leq 5\%$. 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	1-A	229	 17% (Poor fit) 82% (0-3 outliers) 10% (1 outlier) 7% (2-3 outliers)
1	10-A	229	 17% (Poor fit) 83% (0-3 outliers) 10% (1 outlier) 7% (2-3 outliers)
1	11-A	229	 17% (Poor fit) 80% (0-3 outliers) 13% (1 outlier) 7% (2-3 outliers)
1	12-A	229	 17% (Poor fit) 80% (0-3 outliers) 11% (1 outlier) 7% (2-3 outliers)
1	13-A	229	 17% (Poor fit) 83% (0-3 outliers) 10% (1 outlier) 7% (2-3 outliers)
1	14-A	229	 17% (Poor fit) 81% (0-3 outliers) 10% (1 outlier) 7% (2-3 outliers)
1	15-A	229	 17% (Poor fit) 85% (0-3 outliers) 8% (1 outlier) 7% (2-3 outliers)

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Mol	Chain	Length	Quality of chain
1	16-A	229	17% 83% 10% • 7%
1	17-A	229	17% 78% 14% •• 7%
1	18-A	229	17% 78% 14% • 7%
1	19-A	229	17% 83% 10% • 7%
1	2-A	229	17% 81% 12% 7%
1	20-A	229	17% 82% 10% • 7%
1	21-A	229	17% 81% 12% 7%
1	22-A	229	17% 82% 11% • 7%
1	23-A	229	17% 80% 12% • 7%
1	24-A	229	17% 83% 10% 7%
1	25-A	229	17% 82% 10% • 7%
1	26-A	229	17% 82% 9% • 7%
1	27-A	229	17% 79% 14% • 7%
1	28-A	229	17% 81% 11% • 7%
1	29-A	229	17% 81% 12% • 7%
1	3-A	229	17% 78% 14% • 7%
1	30-A	229	17% 82% 10% • 7%
1	31-A	229	17% 86% 6% • 7%
1	32-A	229	17% 84% 8% • 7%
1	33-A	229	17% 81% 11% • 7%
1	34-A	229	17% 82% 10% • 7%
1	35-A	229	17% 84% 9% 7%
1	36-A	229	17% 83% 10% 7%
1	37-A	229	17% 78% 14% • 7%
1	38-A	229	17% 80% 12% • 7%

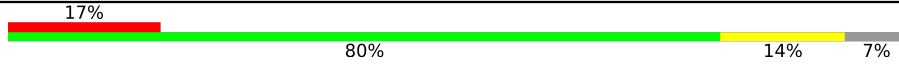


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Mol	Chain	Length	Quality of chain
1	39-A	229	17% 79% 13% • 7%
1	4-A	229	17% 81% 11% • 7%
1	40-A	229	17% 81% 11% • 7%
1	41-A	229	17% 80% 13% 7%
1	42-A	229	17% 79% 14% • 7%
1	43-A	229	17% 81% 12% • 7%
1	44-A	229	17% 83% 9% • 7%
1	45-A	229	17% 83% 10% • 7%
1	46-A	229	17% 83% 10% 7%
1	47-A	229	17% 84% 9% 7%
1	48-A	229	17% 84% 9% 7%
1	49-A	229	17% 84% 9% 7%
1	5-A	229	17% 83% 9% • 7%
1	50-A	229	17% 84% 7% • 7%
1	51-A	229	17% 82% 9% • 7%
1	52-A	229	17% 82% 11% • 7%
1	53-A	229	17% 83% 10% 7%
1	54-A	229	17% 80% 12% • 7%
1	55-A	229	17% 80% 13% 7%
1	56-A	229	17% 81% 11% • 7%
1	57-A	229	17% 81% 11% • 7%
1	58-A	229	17% 81% 12% 7%
1	59-A	229	17% 83% 9% • 7%
1	6-A	229	17% 83% 9% • 7%
1	60-A	229	17% 80% 13% • 7%

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Mol	Chain	Length	Quality of chain
1	61-A	229	 <p>17% 80% 14% 7%</p>
1	62-A	229	 <p>17% 82% 10% 7%</p>
1	63-A	229	 <p>17% 80% 13% 7%</p>
1	7-A	229	 <p>17% 81% 11% 7%</p>
1	8-A	229	 <p>17% 83% 10% 7%</p>
1	9-A	229	 <p>17% 81% 12% 7%</p>

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 224314 atoms, of which 105273 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 Reversibly photoswitching protein Dathail.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	H	N	O				S
1	1-A	214	3416	1118	1671	286	331	10	0	0	0
1	2-A	214	3416	1118	1671	286	331	10	0	0	0
1	3-A	214	3416	1118	1671	286	331	10	0	0	0
1	4-A	214	3416	1118	1671	286	331	10	0	0	0
1	5-A	214	3416	1118	1671	286	331	10	0	0	0
1	6-A	214	3416	1118	1671	286	331	10	0	0	0
1	7-A	214	3416	1118	1671	286	331	10	0	0	0
1	8-A	214	3416	1118	1671	286	331	10	0	0	0
1	9-A	214	3416	1118	1671	286	331	10	0	0	0
1	10-A	214	3416	1118	1671	286	331	10	0	0	0
1	11-A	214	3416	1118	1671	286	331	10	0	0	0
1	12-A	214	3416	1118	1671	286	331	10	0	0	0
1	13-A	214	3416	1118	1671	286	331	10	0	0	0
1	14-A	214	3416	1118	1671	286	331	10	0	0	0
1	15-A	214	3416	1118	1671	286	331	10	0	0	0
1	16-A	214	3416	1118	1671	286	331	10	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
1	17-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	18-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	19-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	20-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	21-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	22-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	23-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	24-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	25-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	26-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	27-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	28-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	29-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	30-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	31-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	32-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	33-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	34-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	35-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	36-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	37-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
1	38-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	39-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	40-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	41-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	42-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	43-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	44-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	45-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	46-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	47-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	48-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	49-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	50-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	51-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	52-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	53-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	54-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	55-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	56-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	57-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	58-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
1	59-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	60-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	61-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	62-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			
1	63-A	214	Total	C	H	N	O	S	0	0	0
			3416	1118	1671	286	331	10			

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	1-A	126	Total	O	0	0
			126	126		
2	2-A	135	Total	O	0	0
			135	135		
2	3-A	140	Total	O	0	0
			140	140		
2	4-A	163	Total	O	0	0
			163	163		
2	5-A	146	Total	O	0	0
			146	146		
2	6-A	126	Total	O	0	0
			126	126		
2	7-A	124	Total	O	0	0
			124	124		
2	8-A	134	Total	O	0	0
			134	134		
2	9-A	139	Total	O	0	0
			139	139		
2	10-A	144	Total	O	0	0
			144	144		
2	11-A	140	Total	O	0	0
			140	140		
2	12-A	145	Total	O	0	0
			145	145		
2	13-A	142	Total	O	0	0
			142	142		
2	14-A	144	Total	O	0	0
			144	144		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	15-A	143	Total 143	O 143	0	0
2	16-A	144	Total 144	O 144	0	0
2	17-A	140	Total 140	O 140	0	0
2	18-A	137	Total 137	O 137	0	0
2	19-A	160	Total 160	O 160	0	0
2	20-A	161	Total 161	O 161	0	0
2	21-A	137	Total 137	O 137	0	0
2	22-A	124	Total 124	O 124	0	0
2	23-A	123	Total 123	O 123	0	0
2	24-A	148	Total 148	O 148	0	0
2	25-A	162	Total 162	O 162	0	0
2	26-A	160	Total 160	O 160	0	0
2	27-A	143	Total 143	O 143	0	0
2	28-A	140	Total 140	O 140	0	0
2	29-A	140	Total 140	O 140	0	0
2	30-A	155	Total 155	O 155	0	0
2	31-A	171	Total 171	O 171	0	0
2	32-A	143	Total 143	O 143	0	0
2	33-A	139	Total 139	O 139	0	0
2	34-A	134	Total 134	O 134	0	0
2	35-A	149	Total 149	O 149	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	36-A	149	Total 149	O 149	0	0
2	37-A	153	Total 153	O 153	0	0
2	38-A	160	Total 160	O 160	0	0
2	39-A	140	Total 140	O 140	0	0
2	40-A	139	Total 139	O 139	0	0
2	41-A	151	Total 151	O 151	0	0
2	42-A	158	Total 158	O 158	0	0
2	43-A	152	Total 152	O 152	0	0
2	44-A	140	Total 140	O 140	0	0
2	45-A	146	Total 146	O 146	0	0
2	46-A	137	Total 137	O 137	0	0
2	47-A	138	Total 138	O 138	0	0
2	48-A	140	Total 140	O 140	0	0
2	49-A	152	Total 152	O 152	0	0
2	50-A	146	Total 146	O 146	0	0
2	51-A	158	Total 158	O 158	0	0
2	52-A	136	Total 136	O 136	0	0
2	53-A	134	Total 134	O 134	0	0
2	54-A	139	Total 139	O 139	0	0
2	55-A	139	Total 139	O 139	0	0
2	56-A	138	Total 138	O 138	0	0

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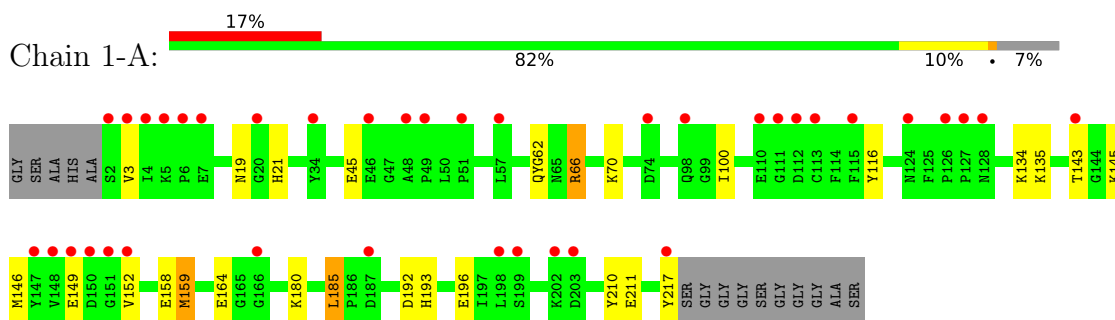
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	57-A	152	Total 152	O 152	0	0
2	58-A	150	Total 150	O 150	0	0
2	59-A	152	Total 152	O 152	0	0
2	60-A	141	Total 141	O 141	0	0
2	61-A	167	Total 167	O 167	0	0
2	62-A	155	Total 155	O 155	0	0
2	63-A	143	Total 143	O 143	0	0

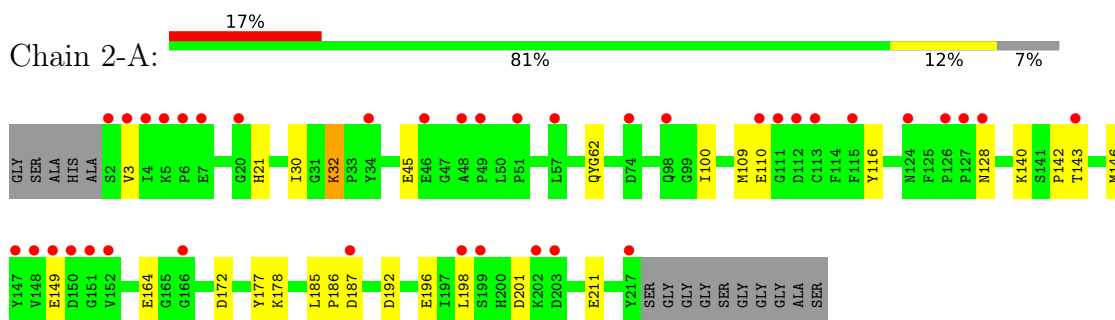
3 Residue-property plots [i](#)

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

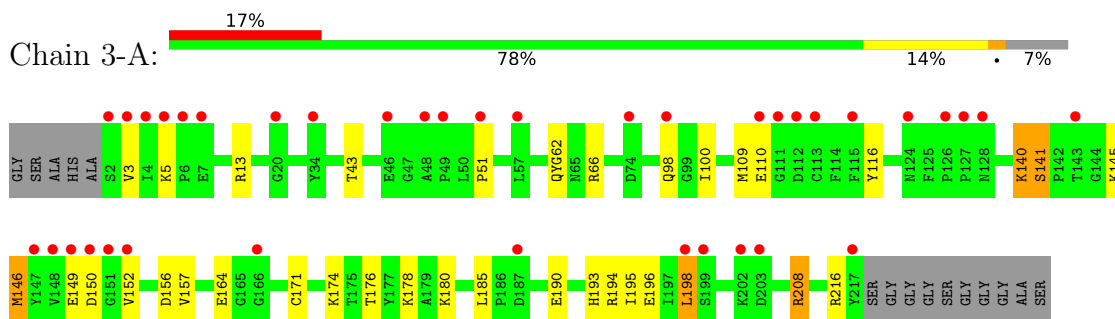
- Molecule 1: Reversibly photoswitching protein Dathail



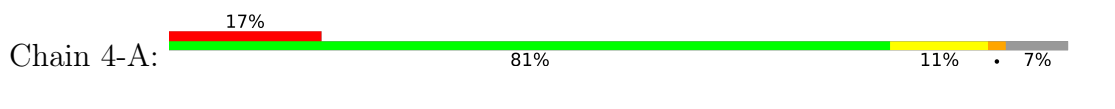
- Molecule 1: Reversibly photoswitching protein Dathail

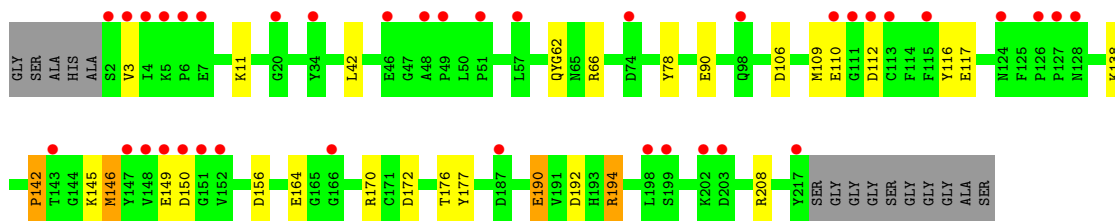


- Molecule 1: Reversibly photoswitching protein Dathail

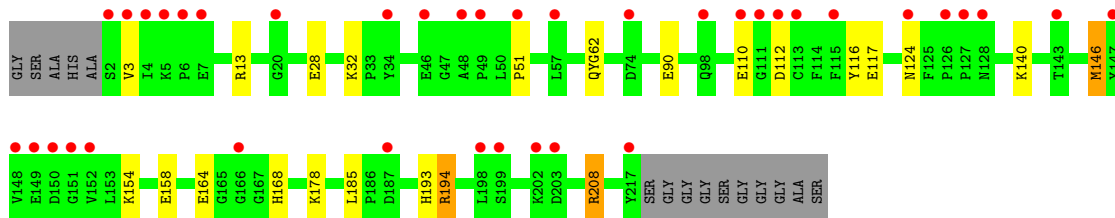
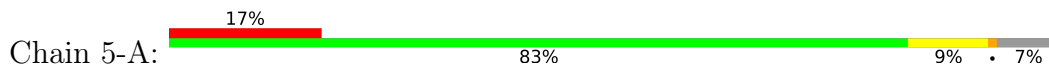


- Molecule 1: Reversibly photoswitching protein Dathail

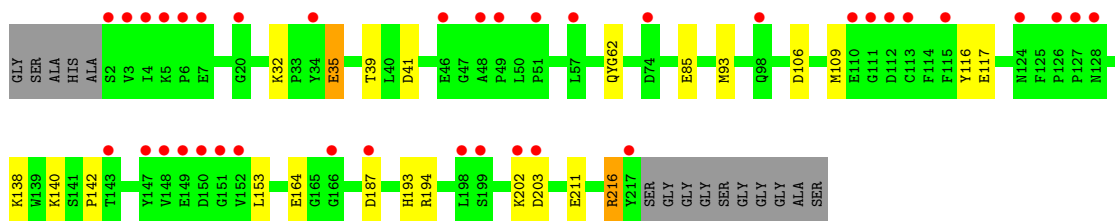
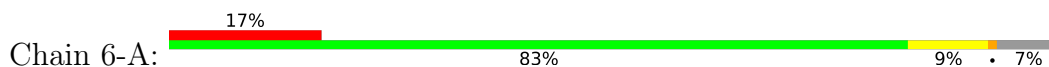




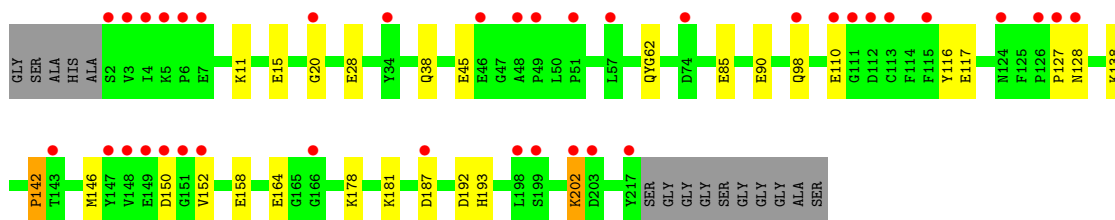
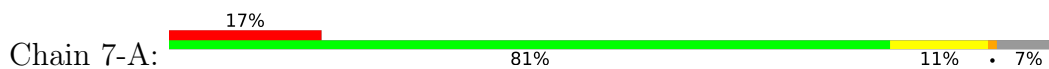
- Molecule 1: Reversibly photoswitching protein Dathail



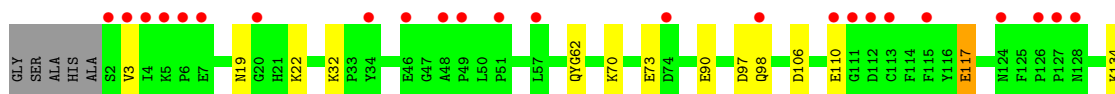
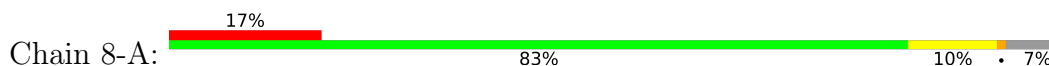
- Molecule 1: Reversibly photoswitching protein Dathail



- Molecule 1: Reversibly photoswitching protein Dathail

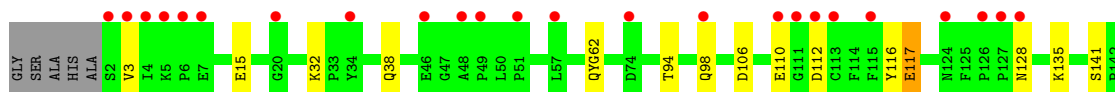
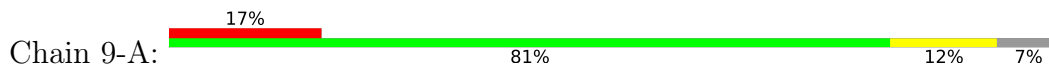


- Molecule 1: Reversibly photoswitching protein Dathail

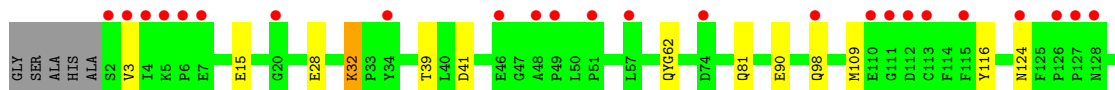
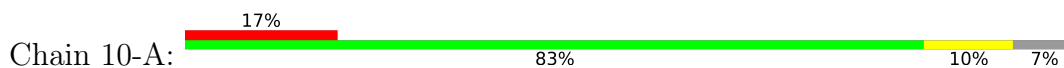




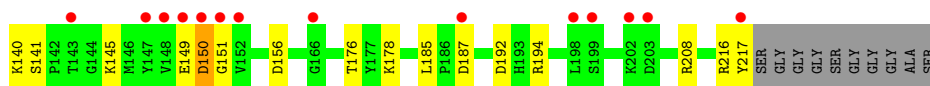
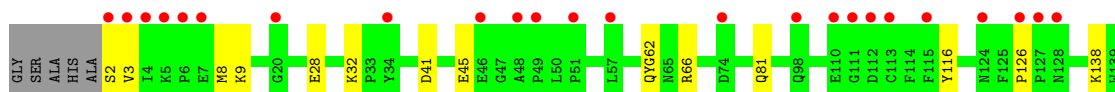
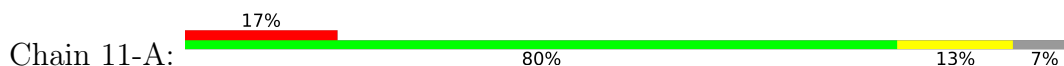
- Molecule 1: Reversibly photoswitching protein Dathail



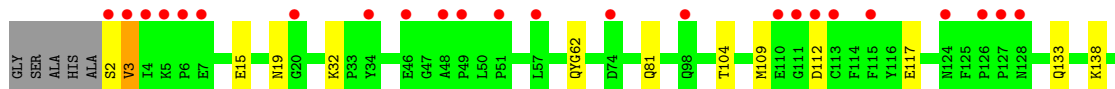
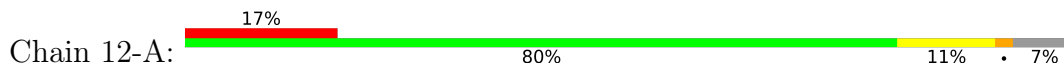
- Molecule 1: Reversibly photoswitching protein Dathail




- Molecule 1: Reversibly photoswitching protein Dathail

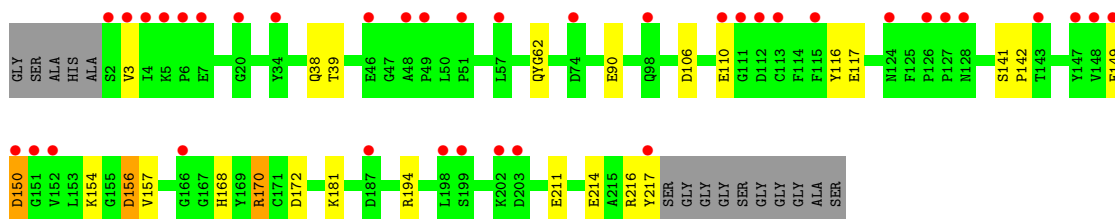


- Molecule 1: Reversibly photoswitching protein Dathail




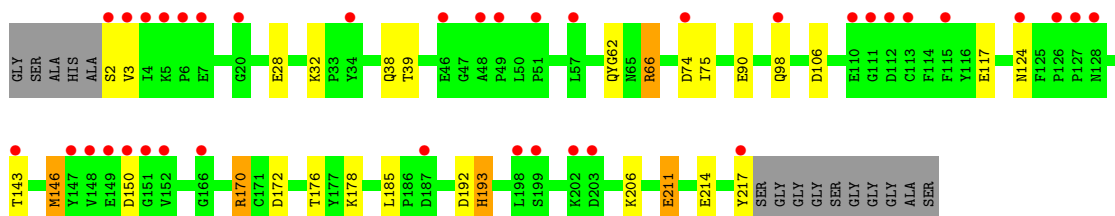
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 13-A: 




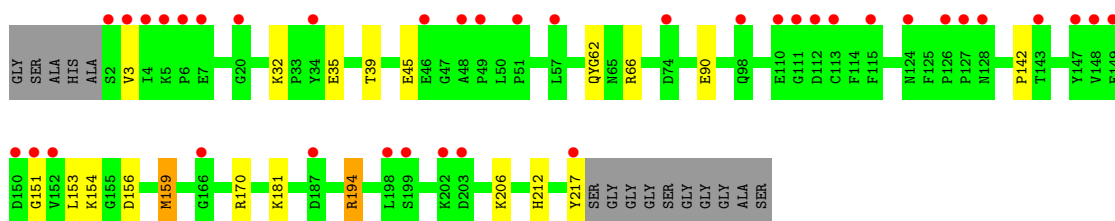
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 14-A: 




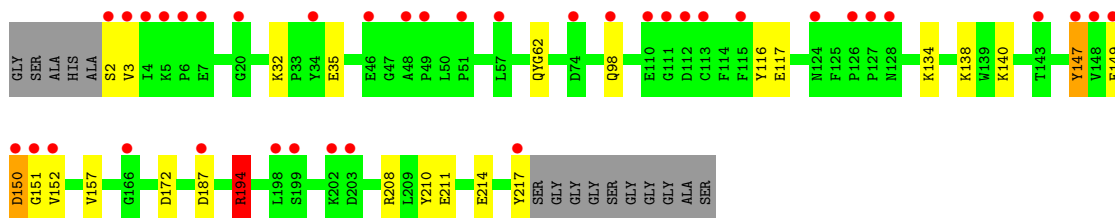
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 15-A: 




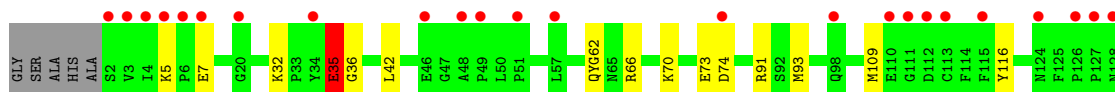
• Molecule 1: Reversibly photoswitching protein Dathail

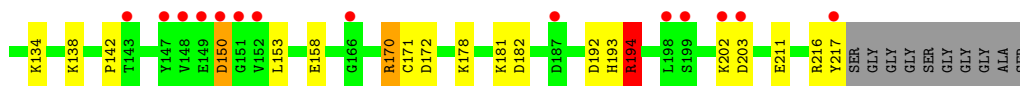
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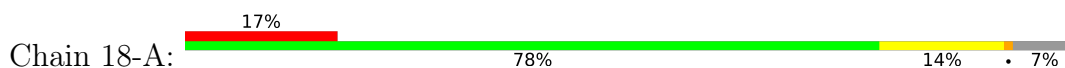
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 17-A: 

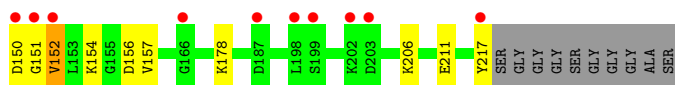
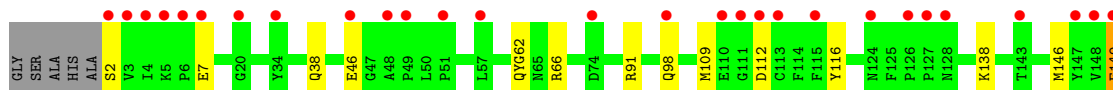
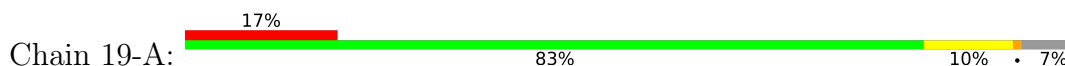




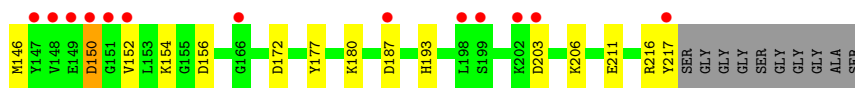
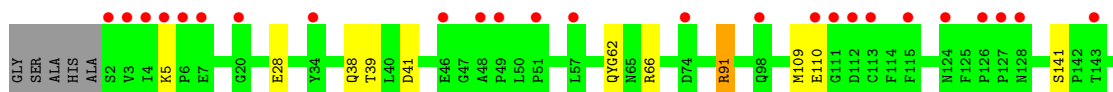
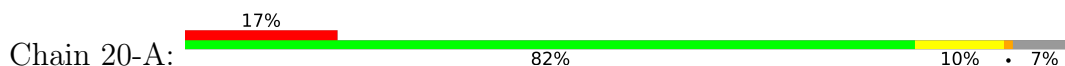
- Molecule 1: Reversibly photoswitching protein Dathail



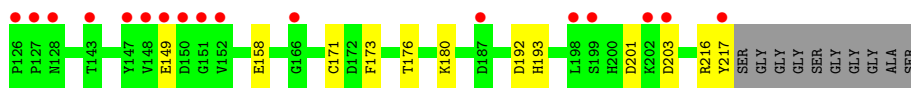
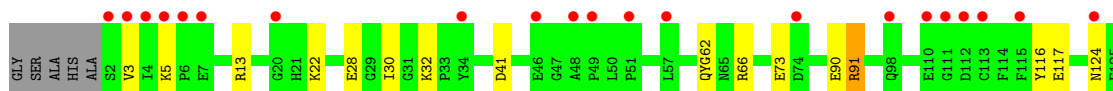
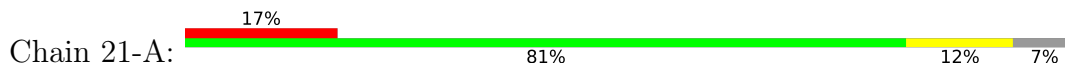
- Molecule 1: Reversibly photoswitching protein Dathail




- Molecule 1: Reversibly photoswitching protein Dathail

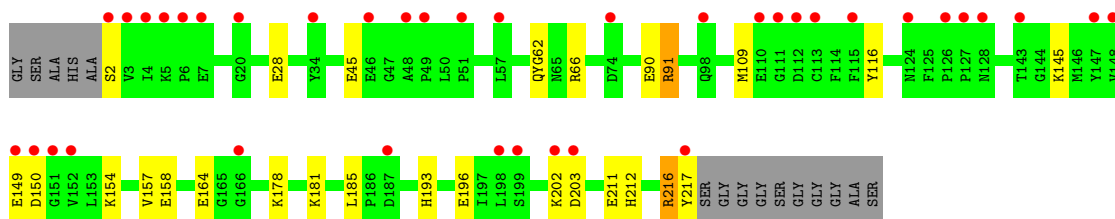


- Molecule 1: Reversibly photoswitching protein Dathail




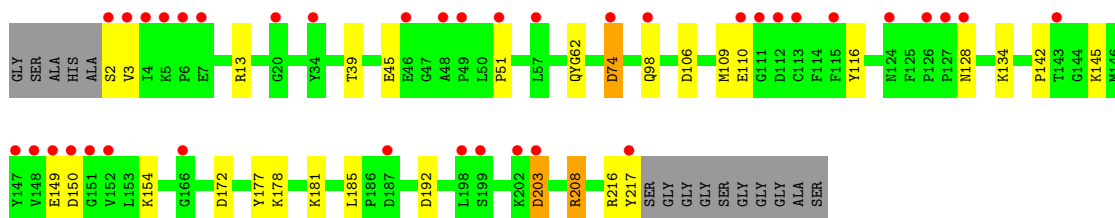
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 22-A: 




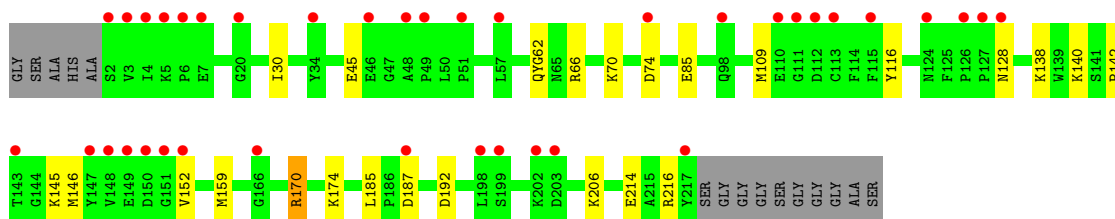
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 23-A: 




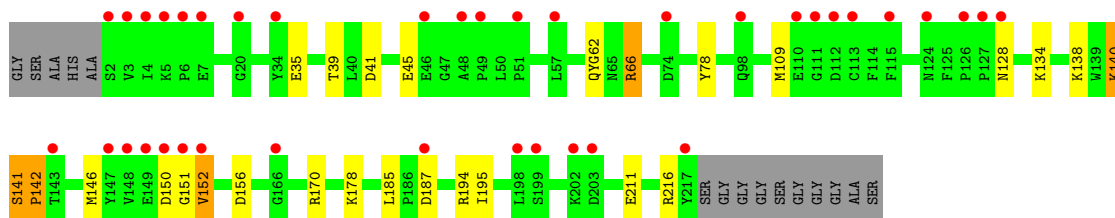
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 24-A: 




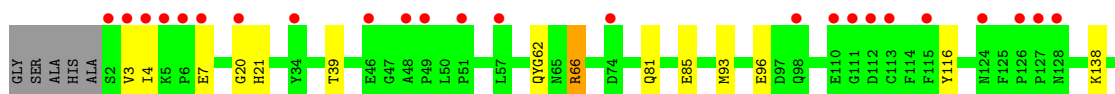
• Molecule 1: Reversibly photoswitching protein Dathail

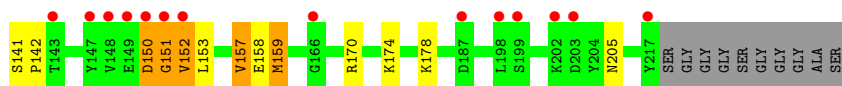
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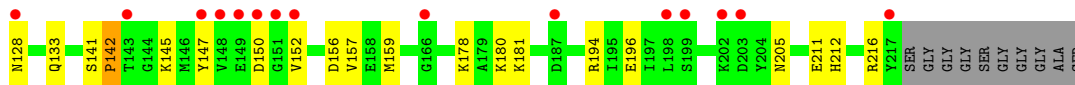
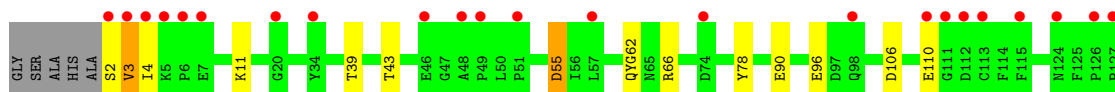
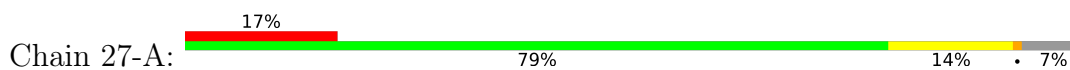
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 26-A: 

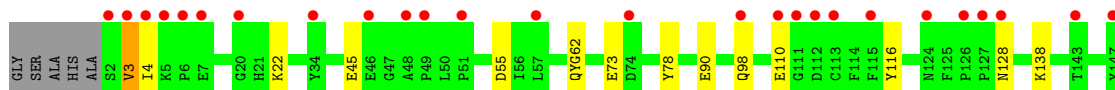
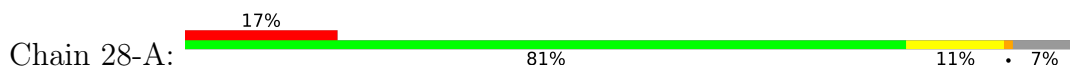




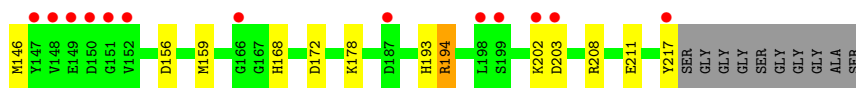
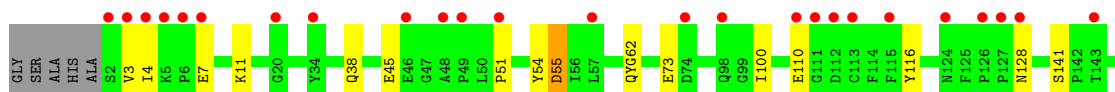
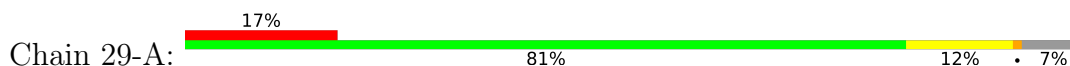
- Molecule 1: Reversibly photoswitching protein Dathail



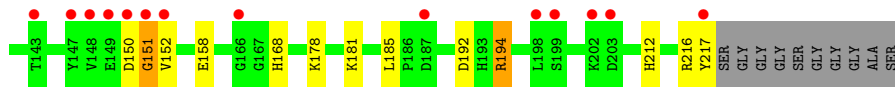
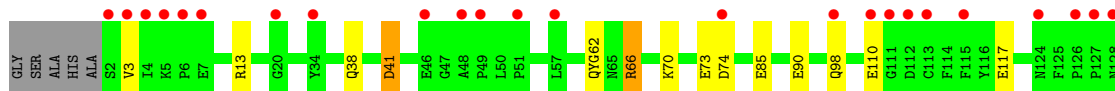
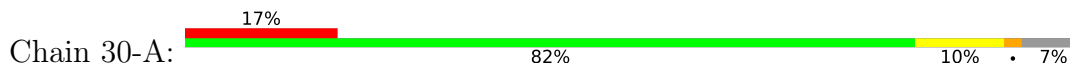
- Molecule 1: Reversibly photoswitching protein Dathail




- Molecule 1: Reversibly photoswitching protein Dathail

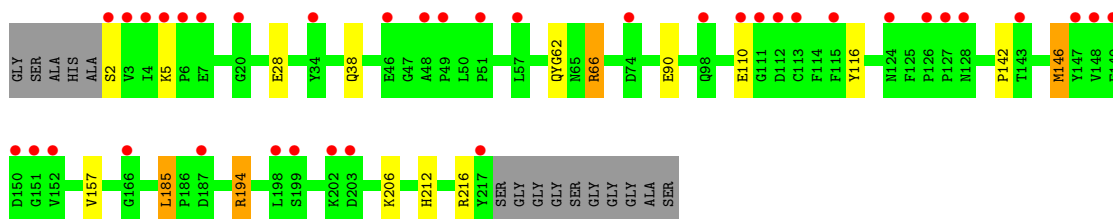


- Molecule 1: Reversibly photoswitching protein Dathail




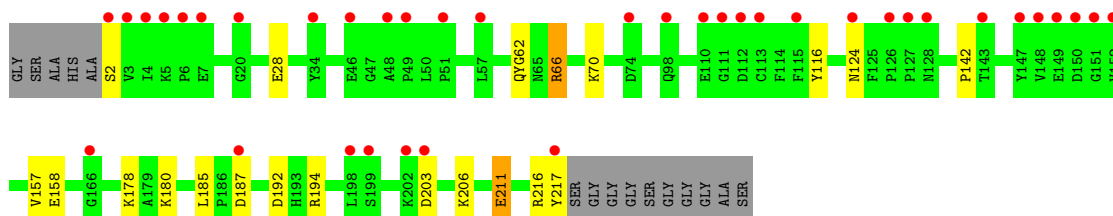
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 31-A: 




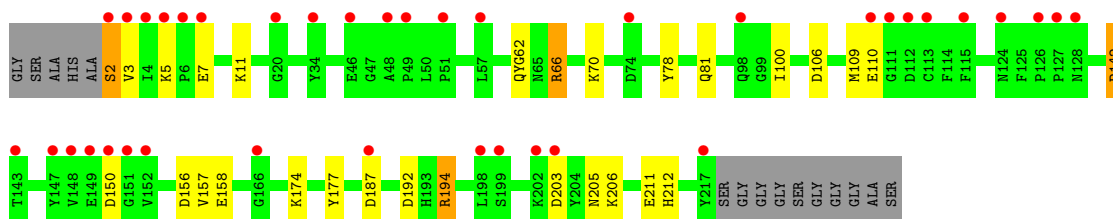
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 32-A: 




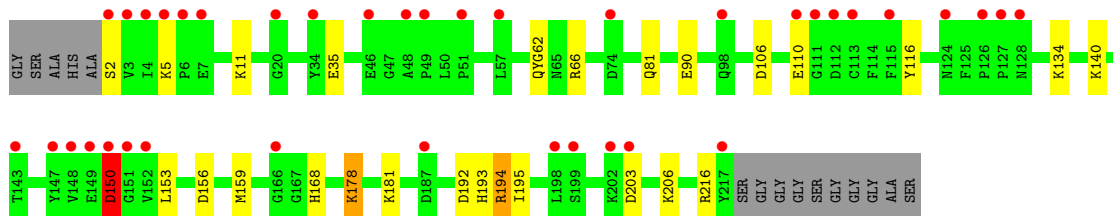
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 33-A: 




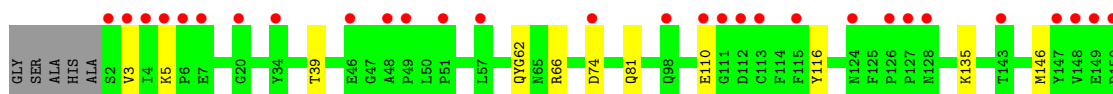
- Molecule 1: Reversibly photoswitching protein Dathail

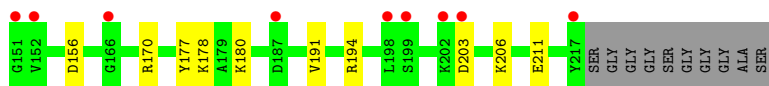
Chain 34-A: 



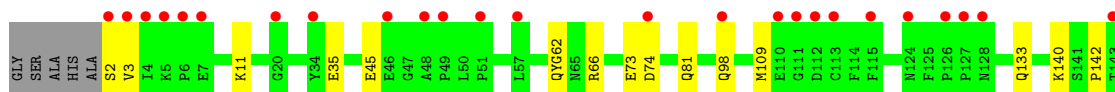
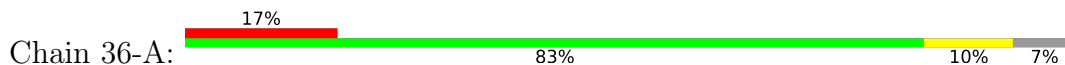
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 35-A: 

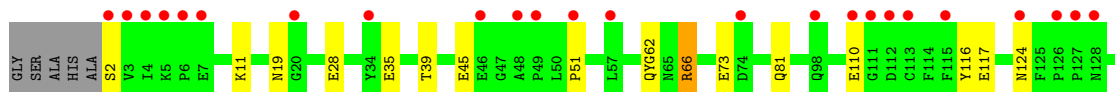
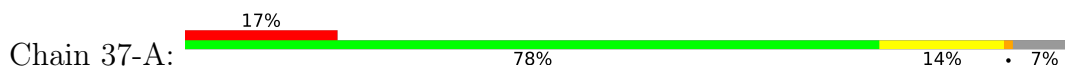




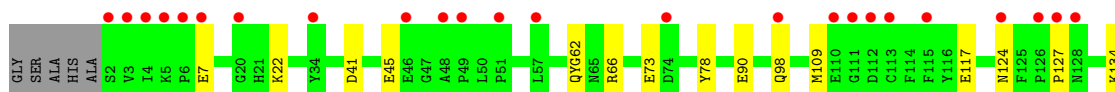
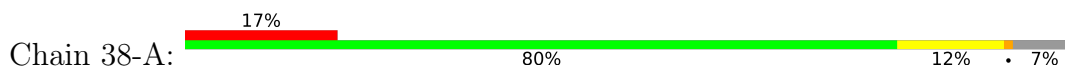
- Molecule 1: Reversibly photoswitching protein Dathail



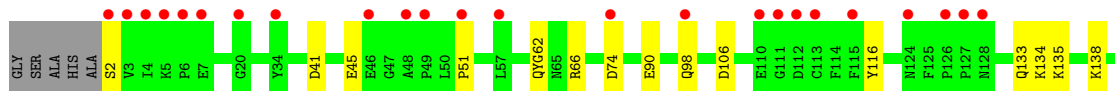
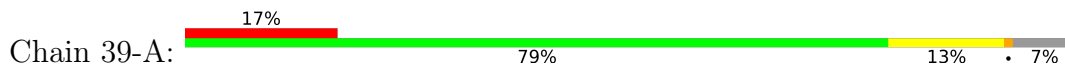
- Molecule 1: Reversibly photoswitching protein Dathail



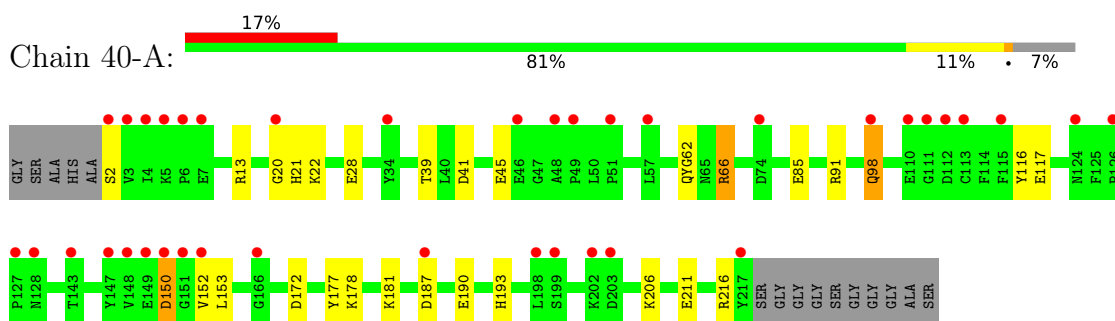
- Molecule 1: Reversibly photoswitching protein Dathail



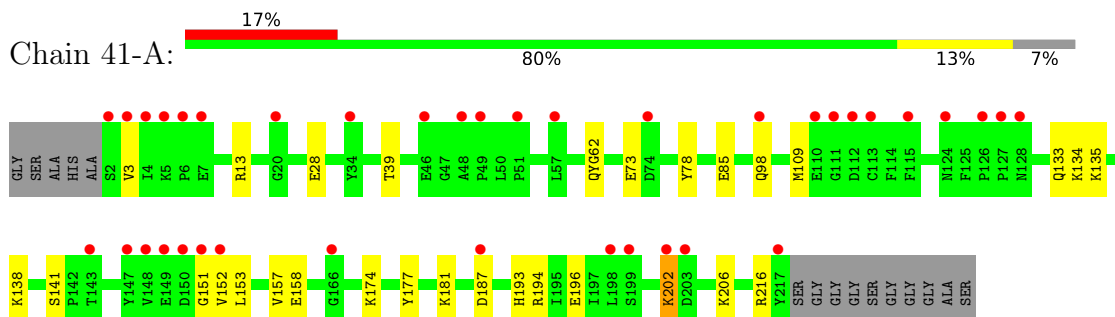
- Molecule 1: Reversibly photoswitching protein Dathail



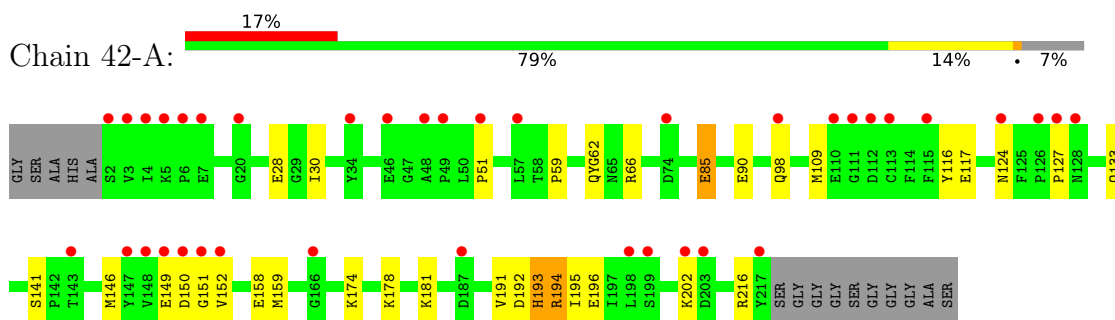
- Molecule 1: Reversibly photoswitching protein Dathail



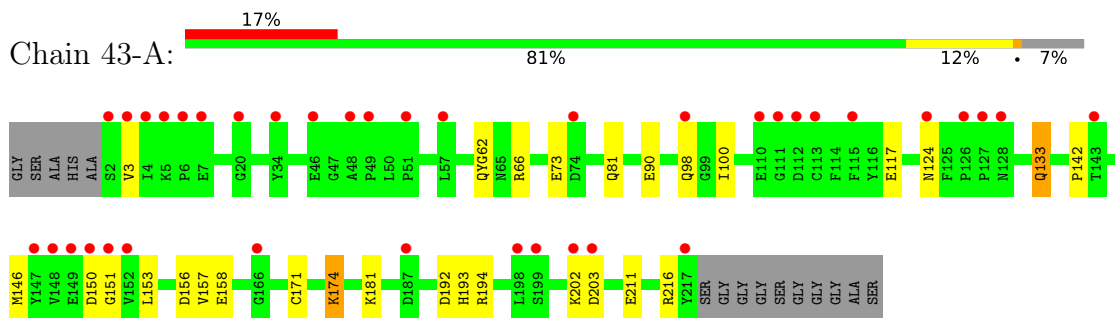
- Molecule 1: Reversibly photoswitching protein Dathail



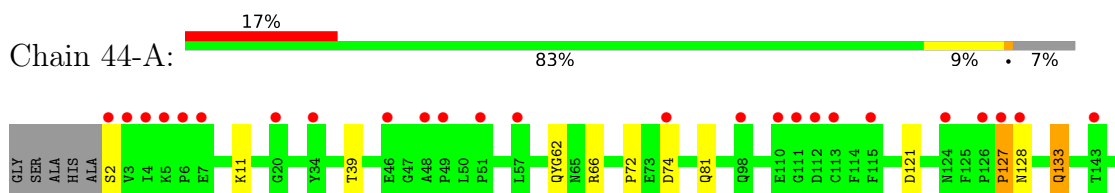
- Molecule 1: Reversibly photoswitching protein Dathail

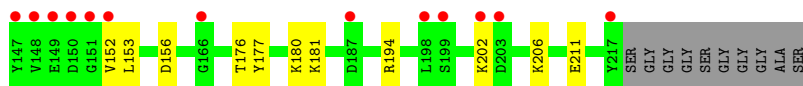


- Molecule 1: Reversibly photoswitching protein Dathail

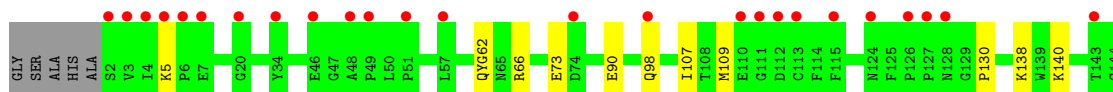
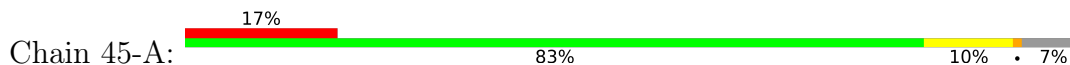


- Molecule 1: Reversibly photoswitching protein Dathail

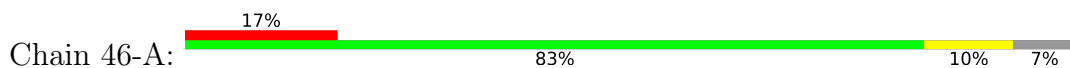




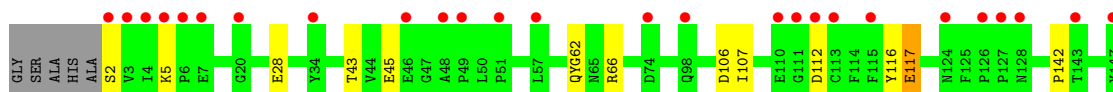
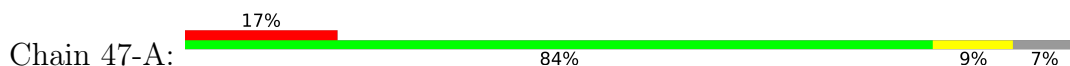
- Molecule 1: Reversibly photoswitching protein Dathail



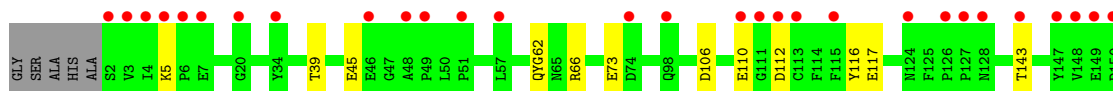
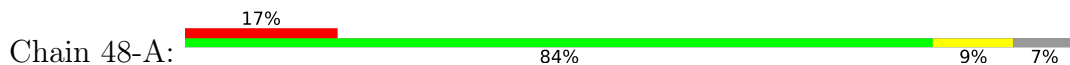
- Molecule 1: Reversibly photoswitching protein Dathail



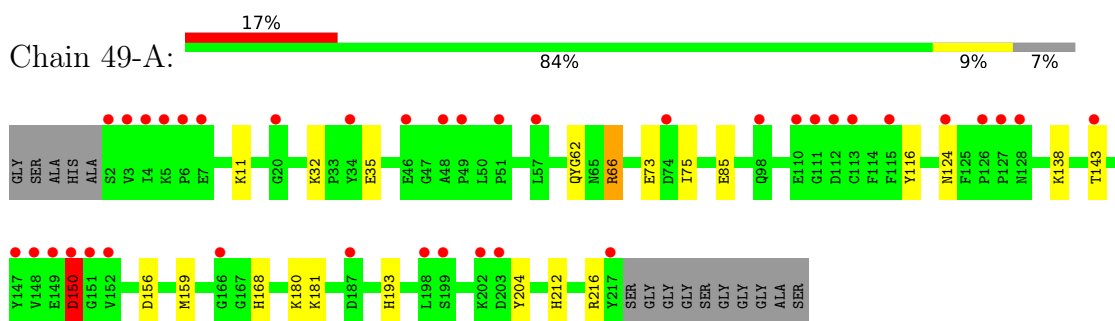
- Molecule 1: Reversibly photoswitching protein Dathail



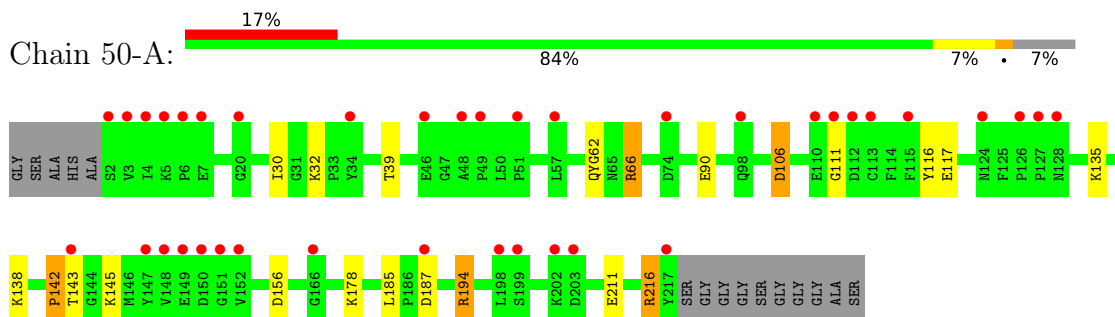
- Molecule 1: Reversibly photoswitching protein Dathail



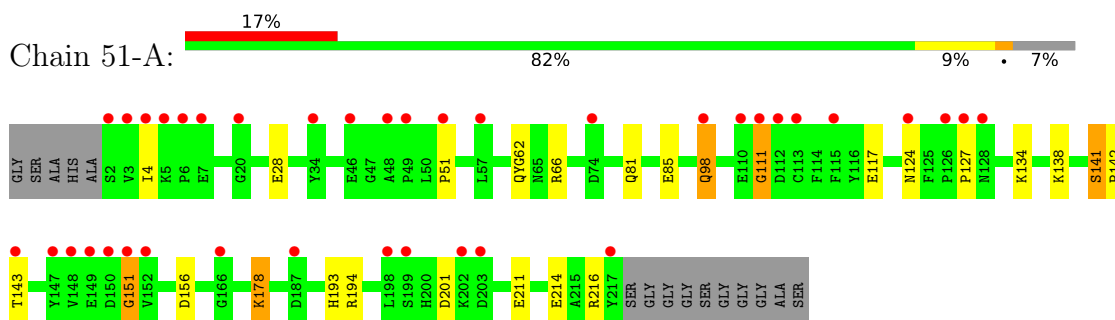
- Molecule 1: Reversibly photoswitching protein Dathail



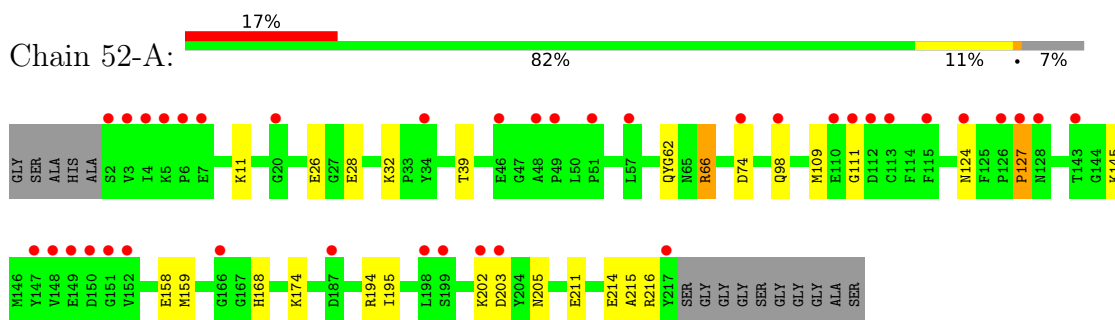
- Molecule 1: Reversibly photoswitching protein Dathail



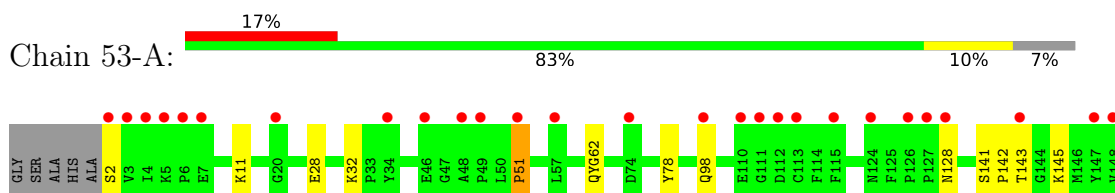
- Molecule 1: Reversibly photoswitching protein Dathail

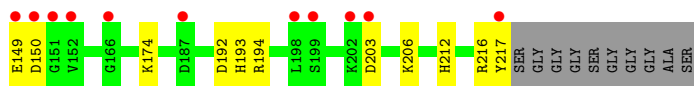


- Molecule 1: Reversibly photoswitching protein Dathail

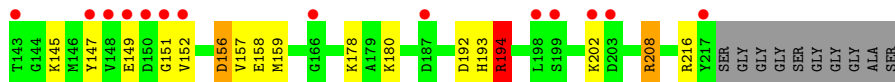
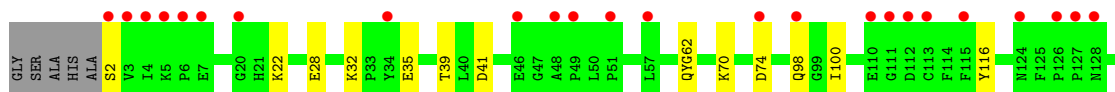
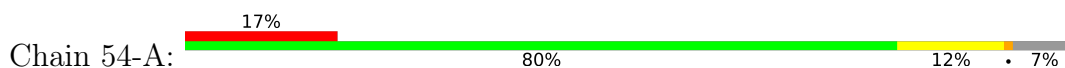


- Molecule 1: Reversibly photoswitching protein Dathail

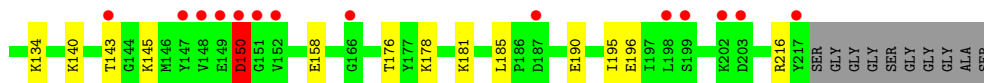
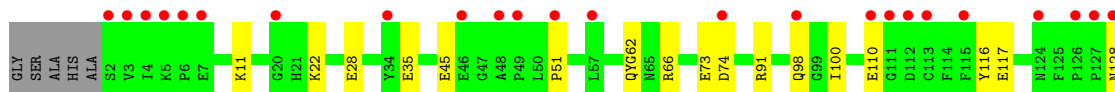
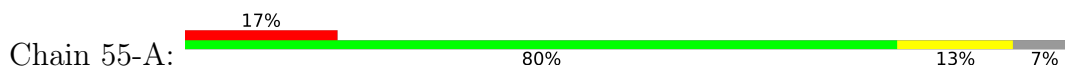




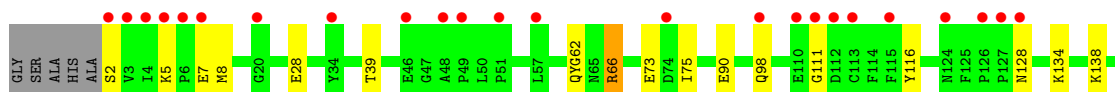
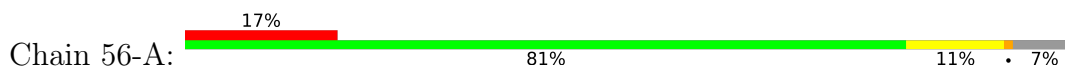
- Molecule 1: Reversibly photoswitching protein Dathail



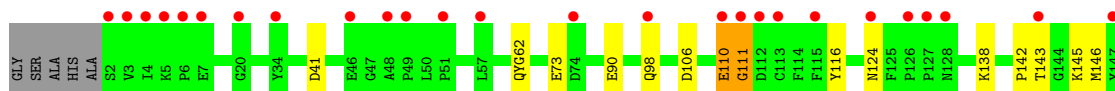
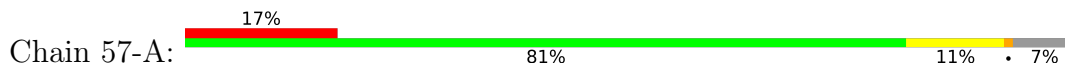
- Molecule 1: Reversibly photoswitching protein Dathail




- Molecule 1: Reversibly photoswitching protein Dathail

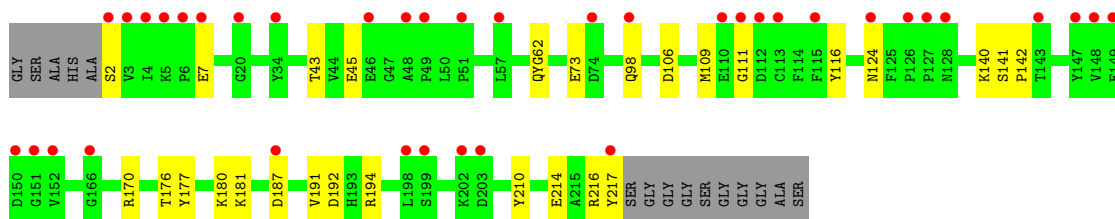


- Molecule 1: Reversibly photoswitching protein Dathail




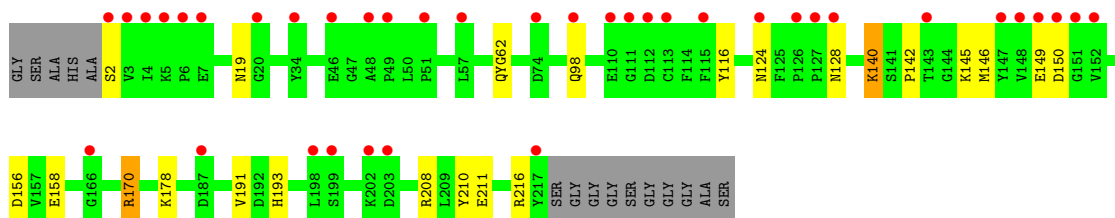
- Molecule 1: Reversibly photoswitching protein Dathail

Chain 58-A: 




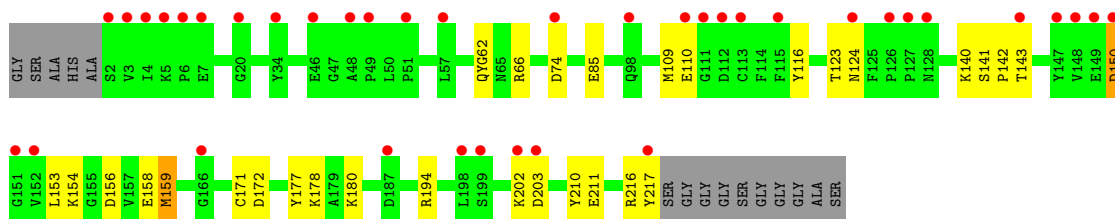
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 59-A: 




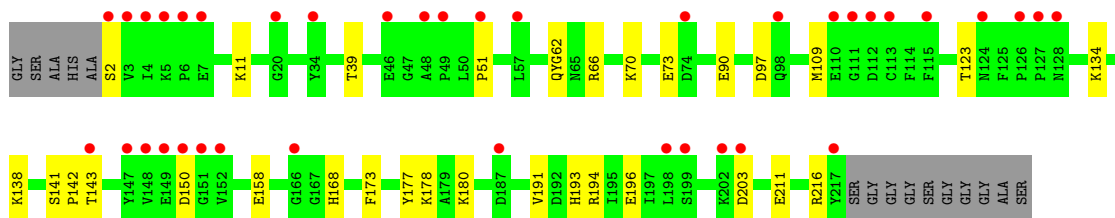
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 60-A: 




• Molecule 1: Reversibly photoswitching protein Dathail

Chain 61-A: 



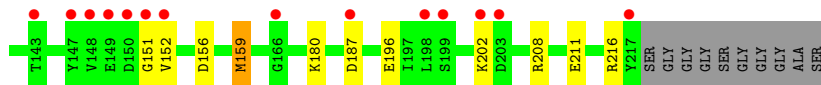
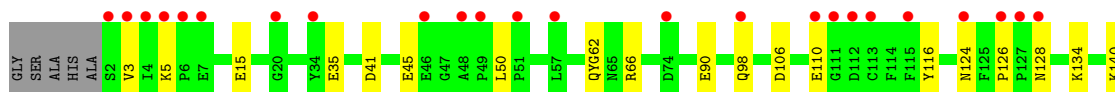
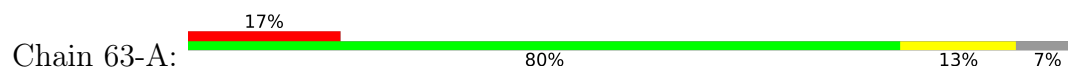
• Molecule 1: Reversibly photoswitching protein Dathail

Chain 62-A: 





- Molecule 1: Reversibly photoswitching protein Dathail



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	76.25Å 81.18Å 39.47Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	32.18 – 1.65 32.18 – 1.65	Depositor EDS
% Data completeness (in resolution range)	97.6 (32.18-1.65) 94.2 (32.18-1.65)	Depositor EDS
R_{merge}	0.06	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.84 (at 1.65Å)	Xtrriage
Refinement program	PHENIX 1.10.1_2155	Depositor
R, R_{free}	0.168 , 0.210 0.188 , 0.234	Depositor DCC
R_{free} test set	2264 reflections (7.59%)	wwPDB-VP
Wilson B-factor (Å ²)	24.8	Xtrriage
Anisotropy	0.565	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 570.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	224314	wwPDB-VP
Average B, all atoms (Å ²)	26.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.76% 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: CRQ

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	1-A	0.85	3/1766 (0.2%)	0.89	5/2382 (0.2%)
1	2-A	0.84	4/1766 (0.2%)	0.86	1/2382 (0.0%)
1	3-A	0.75	3/1766 (0.2%)	0.89	6/2382 (0.3%)
1	4-A	0.84	5/1766 (0.3%)	1.00	7/2382 (0.3%)
1	5-A	0.77	2/1766 (0.1%)	0.91	5/2382 (0.2%)
1	6-A	0.81	5/1766 (0.3%)	0.91	6/2382 (0.3%)
1	7-A	0.78	3/1766 (0.2%)	0.88	1/2382 (0.0%)
1	8-A	0.81	5/1766 (0.3%)	0.89	5/2382 (0.2%)
1	9-A	0.83	2/1766 (0.1%)	0.88	1/2382 (0.0%)
1	10-A	0.77	2/1766 (0.1%)	0.88	2/2382 (0.1%)
1	11-A	0.73	0/1766	0.88	2/2382 (0.1%)
1	12-A	0.76	3/1766 (0.2%)	0.87	2/2382 (0.1%)
1	13-A	0.73	2/1766 (0.1%)	0.87	1/2382 (0.0%)
1	14-A	0.72	0/1766	0.92	7/2382 (0.3%)
1	15-A	0.70	0/1766	0.90	6/2382 (0.3%)
1	16-A	0.71	4/1766 (0.2%)	0.89	4/2382 (0.2%)
1	17-A	0.79	4/1766 (0.2%)	0.92	5/2382 (0.2%)
1	18-A	0.75	2/1766 (0.1%)	0.86	2/2382 (0.1%)
1	19-A	0.68	0/1766	0.85	1/2382 (0.0%)
1	20-A	0.79	5/1766 (0.3%)	0.88	4/2382 (0.2%)
1	21-A	0.76	1/1766 (0.1%)	0.91	5/2382 (0.2%)
1	22-A	0.74	0/1766	0.85	1/2382 (0.0%)
1	23-A	0.70	2/1766 (0.1%)	0.92	6/2382 (0.3%)
1	24-A	0.72	1/1766 (0.1%)	0.85	3/2382 (0.1%)
1	25-A	0.72	1/1766 (0.1%)	0.91	5/2382 (0.2%)
1	26-A	0.71	1/1766 (0.1%)	0.84	2/2382 (0.1%)
1	27-A	0.76	1/1766 (0.1%)	0.91	4/2382 (0.2%)
1	28-A	0.71	0/1766	0.85	2/2382 (0.1%)
1	29-A	0.73	2/1766 (0.1%)	0.90	7/2382 (0.3%)
1	30-A	0.70	2/1766 (0.1%)	0.92	3/2382 (0.1%)
1	31-A	0.78	1/1766 (0.1%)	0.93	5/2382 (0.2%)
1	32-A	0.77	3/1766 (0.2%)	0.86	1/2382 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	33-A	0.72	3/1766 (0.2%)	0.88	1/2382 (0.0%)
1	34-A	0.72	1/1766 (0.1%)	0.85	0/2382
1	35-A	0.72	2/1766 (0.1%)	0.86	2/2382 (0.1%)
1	36-A	0.70	0/1766	0.84	0/2382
1	37-A	0.77	2/1766 (0.1%)	0.90	4/2382 (0.2%)
1	38-A	0.73	2/1766 (0.1%)	0.87	3/2382 (0.1%)
1	39-A	0.74	0/1766	0.85	0/2382
1	40-A	0.72	1/1766 (0.1%)	0.94	4/2382 (0.2%)
1	41-A	0.74	2/1766 (0.1%)	0.87	0/2382
1	42-A	0.89	7/1766 (0.4%)	0.93	4/2382 (0.2%)
1	43-A	0.76	4/1766 (0.2%)	0.88	1/2382 (0.0%)
1	44-A	0.70	1/1766 (0.1%)	0.86	1/2382 (0.0%)
1	45-A	0.71	2/1766 (0.1%)	0.83	1/2382 (0.0%)
1	46-A	0.68	1/1766 (0.1%)	0.85	3/2382 (0.1%)
1	47-A	0.72	2/1766 (0.1%)	0.83	1/2382 (0.0%)
1	48-A	0.74	0/1766	0.87	2/2382 (0.1%)
1	49-A	0.67	0/1766	0.88	2/2382 (0.1%)
1	50-A	0.72	1/1766 (0.1%)	0.90	5/2382 (0.2%)
1	51-A	0.69	0/1766	0.84	1/2382 (0.0%)
1	52-A	0.74	0/1766	0.83	0/2382
1	53-A	0.72	0/1766	0.84	0/2382
1	54-A	0.71	1/1766 (0.1%)	0.88	3/2382 (0.1%)
1	55-A	0.75	1/1766 (0.1%)	0.93	4/2382 (0.2%)
1	56-A	0.72	2/1766 (0.1%)	0.86	5/2382 (0.2%)
1	57-A	0.76	3/1766 (0.2%)	0.92	4/2382 (0.2%)
1	58-A	0.73	1/1766 (0.1%)	0.85	0/2382
1	59-A	0.77	1/1766 (0.1%)	0.91	4/2382 (0.2%)
1	60-A	0.72	2/1766 (0.1%)	0.88	4/2382 (0.2%)
1	61-A	0.80	5/1766 (0.3%)	0.90	2/2382 (0.1%)
1	62-A	0.76	1/1766 (0.1%)	0.91	7/2382 (0.3%)
1	63-A	0.73	2/1766 (0.1%)	0.88	3/2382 (0.1%)
All	All	0.75	119/111258 (0.1%)	0.88	188/150066 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	1-A	0	1
1	2-A	0	3
1	3-A	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
1	4-A	0	1
1	5-A	0	1
1	7-A	0	1
1	8-A	0	2
1	10-A	0	1
1	13-A	0	2
1	14-A	0	1
1	17-A	0	2
1	18-A	0	1
1	19-A	0	1
1	22-A	0	1
1	23-A	0	2
1	24-A	0	1
1	25-A	0	1
1	26-A	0	3
1	27-A	0	1
1	28-A	0	1
1	30-A	0	3
1	32-A	0	1
1	33-A	0	1
1	34-A	0	1
1	35-A	0	1
1	36-A	0	2
1	38-A	0	2
1	39-A	0	3
1	40-A	0	2
1	41-A	0	1
1	42-A	0	1
1	43-A	0	2
1	44-A	0	3
1	45-A	0	1
1	50-A	0	2
1	51-A	0	3
1	52-A	0	3
1	53-A	0	2
1	54-A	0	1
1	55-A	0	1
1	56-A	0	2
1	57-A	0	1
1	58-A	0	2
1	59-A	0	1
All	All	0	71

The worst 5 of 119 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	42-A	196	GLU	CG-CD	12.80	1.71	1.51
1	2-A	164	GLU	CG-CD	12.68	1.71	1.51
1	1-A	164	GLU	CG-CD	10.39	1.67	1.51
1	2-A	32	LYS	CB-CG	-8.92	1.28	1.52
1	1-A	196	GLU	CB-CG	8.86	1.69	1.52

The worst 5 of 188 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	55-A	91	ARG	NE-CZ-NH1	13.52	127.06	120.30
1	31-A	66	ARG	NE-CZ-NH1	12.32	126.46	120.30
1	21-A	91	ARG	NE-CZ-NH1	11.20	125.90	120.30
1	30-A	194	ARG	NE-CZ-NH1	11.17	125.88	120.30
1	40-A	66	ARG	NE-CZ-NH1	11.06	125.83	120.30

There are no chirality outliers.

5 of 71 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1-A	159	MET	Peptide
1	2-A	142	PRO	Peptide
1	2-A	186	PRO	Peptide
1	2-A	201	ASP	Peptide
1	3-A	140	LYS	Peptide

5.2 Too-close contacts [\(i\)](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	1-A	1745	1671	1676	0	0
1	2-A	1745	1671	1676	0	0
1	3-A	1745	1671	1676	0	0
1	4-A	1745	1671	1676	0	0
1	5-A	1745	1671	1676	0	0
1	6-A	1745	1671	1676	0	0
1	7-A	1745	1671	1676	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	8-A	1745	1671	1676	0	0
1	9-A	1745	1671	1676	0	0
1	10-A	1745	1671	1676	0	0
1	11-A	1745	1671	1676	0	0
1	12-A	1745	1671	1676	0	0
1	13-A	1745	1671	1676	0	0
1	14-A	1745	1671	1675	0	0
1	15-A	1745	1671	1676	0	0
1	16-A	1745	1671	1676	0	0
1	17-A	1745	1671	1676	0	0
1	18-A	1745	1671	1675	0	0
1	19-A	1745	1671	1676	0	0
1	20-A	1745	1671	1675	0	0
1	21-A	1745	1671	1675	0	0
1	22-A	1745	1671	1676	0	0
1	23-A	1745	1671	1676	0	0
1	24-A	1745	1671	1676	0	0
1	25-A	1745	1671	1676	0	0
1	26-A	1745	1671	1676	0	0
1	27-A	1745	1671	1676	0	0
1	28-A	1745	1671	1676	0	0
1	29-A	1745	1671	1676	0	0
1	30-A	1745	1671	1676	0	0
1	31-A	1745	1671	1676	0	0
1	32-A	1745	1671	1676	0	0
1	33-A	1745	1671	1675	0	0
1	34-A	1745	1671	1676	0	0
1	35-A	1745	1671	1675	0	0
1	36-A	1745	1671	1676	0	0
1	37-A	1745	1671	1676	0	0
1	38-A	1745	1671	1676	0	0
1	39-A	1745	1671	1676	0	0
1	40-A	1745	1671	1676	0	0
1	41-A	1745	1671	1676	0	0
1	42-A	1745	1671	1675	0	0
1	43-A	1745	1671	1676	0	0
1	44-A	1745	1671	1676	0	0
1	45-A	1745	1671	1676	0	0
1	46-A	1745	1671	1676	0	0
1	47-A	1745	1671	1675	0	0
1	48-A	1745	1671	1676	0	0
1	49-A	1745	1671	1676	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	50-A	1745	1671	1676	0	0
1	51-A	1745	1671	1676	0	0
1	52-A	1745	1671	1675	0	0
1	53-A	1745	1671	1675	0	0
1	54-A	1745	1671	1676	0	0
1	55-A	1745	1671	1676	0	0
1	56-A	1745	1671	1675	0	0
1	57-A	1745	1671	1676	0	0
1	58-A	1745	1671	1676	0	0
1	59-A	1745	1671	1675	0	0
1	60-A	1745	1671	1676	0	0
1	61-A	1745	1671	1676	0	0
1	62-A	1745	1671	1676	0	0
1	63-A	1745	1671	1676	0	0
2	1-A	126	0	0	0	0
2	2-A	135	0	0	0	0
2	3-A	140	0	0	0	0
2	4-A	163	0	0	0	0
2	5-A	146	0	0	0	0
2	6-A	126	0	0	0	0
2	7-A	124	0	0	0	0
2	8-A	134	0	0	0	0
2	9-A	139	0	0	0	0
2	10-A	144	0	0	0	0
2	11-A	140	0	0	0	0
2	12-A	145	0	0	0	0
2	13-A	142	0	0	0	0
2	14-A	144	0	0	0	0
2	15-A	143	0	0	0	0
2	16-A	144	0	0	0	0
2	17-A	140	0	0	0	0
2	18-A	137	0	0	0	0
2	19-A	160	0	0	0	0
2	20-A	161	0	0	0	0
2	21-A	137	0	0	0	0
2	22-A	124	0	0	0	0
2	23-A	123	0	0	0	0
2	24-A	148	0	0	0	0
2	25-A	162	0	0	0	0
2	26-A	160	0	0	0	0
2	27-A	143	0	0	0	0
2	28-A	140	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	29-A	140	0	0	0	0
2	30-A	155	0	0	0	0
2	31-A	171	0	0	0	0
2	32-A	143	0	0	0	0
2	33-A	139	0	0	0	0
2	34-A	134	0	0	0	0
2	35-A	149	0	0	0	0
2	36-A	149	0	0	0	0
2	37-A	153	0	0	0	0
2	38-A	160	0	0	0	0
2	39-A	140	0	0	0	0
2	40-A	139	0	0	0	0
2	41-A	151	0	0	0	0
2	42-A	158	0	0	0	0
2	43-A	152	0	0	0	0
2	44-A	140	0	0	0	0
2	45-A	146	0	0	0	0
2	46-A	137	0	0	0	0
2	47-A	138	0	0	0	0
2	48-A	140	0	0	0	0
2	49-A	152	0	0	0	0
2	50-A	146	0	0	0	0
2	51-A	158	0	0	0	0
2	52-A	136	0	0	0	0
2	53-A	134	0	0	0	0
2	54-A	139	0	0	0	0
2	55-A	139	0	0	0	0
2	56-A	138	0	0	0	0
2	57-A	152	0	0	0	0
2	58-A	150	0	0	0	0
2	59-A	152	0	0	0	0
2	60-A	141	0	0	0	0
2	61-A	167	0	0	0	0
2	62-A	155	0	0	0	0
2	63-A	143	0	0	0	0
All	All	119041	105273	105576	0	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). Clashscore could not be calculated for this entry.

There are no clashes within the asymmetric unit.

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	1-A	209/229 (91%)	199 (95%)	6 (3%)	4 (2%)	8	0
1	2-A	209/229 (91%)	198 (95%)	8 (4%)	3 (1%)	11	1
1	3-A	209/229 (91%)	200 (96%)	3 (1%)	6 (3%)	4	0
1	4-A	209/229 (91%)	200 (96%)	5 (2%)	4 (2%)	8	0
1	5-A	209/229 (91%)	200 (96%)	7 (3%)	2 (1%)	15	3
1	6-A	209/229 (91%)	199 (95%)	9 (4%)	1 (0%)	29	11
1	7-A	209/229 (91%)	195 (93%)	12 (6%)	2 (1%)	15	3
1	8-A	209/229 (91%)	193 (92%)	13 (6%)	3 (1%)	11	1
1	9-A	209/229 (91%)	200 (96%)	6 (3%)	3 (1%)	11	1
1	10-A	209/229 (91%)	199 (95%)	6 (3%)	4 (2%)	8	0
1	11-A	209/229 (91%)	197 (94%)	8 (4%)	4 (2%)	8	0
1	12-A	209/229 (91%)	193 (92%)	10 (5%)	6 (3%)	4	0
1	13-A	209/229 (91%)	198 (95%)	7 (3%)	4 (2%)	8	0
1	14-A	209/229 (91%)	199 (95%)	7 (3%)	3 (1%)	11	1
1	15-A	209/229 (91%)	194 (93%)	11 (5%)	4 (2%)	8	0
1	16-A	209/229 (91%)	196 (94%)	8 (4%)	5 (2%)	6	0
1	17-A	209/229 (91%)	193 (92%)	12 (6%)	4 (2%)	8	0
1	18-A	209/229 (91%)	197 (94%)	9 (4%)	3 (1%)	11	1
1	19-A	209/229 (91%)	192 (92%)	10 (5%)	7 (3%)	4	0
1	20-A	209/229 (91%)	198 (95%)	8 (4%)	3 (1%)	11	1
1	21-A	209/229 (91%)	202 (97%)	6 (3%)	1 (0%)	29	11
1	22-A	209/229 (91%)	194 (93%)	13 (6%)	2 (1%)	15	3
1	23-A	209/229 (91%)	194 (93%)	11 (5%)	4 (2%)	8	0
1	24-A	209/229 (91%)	205 (98%)	4 (2%)	0	100	100
1	25-A	209/229 (91%)	194 (93%)	10 (5%)	5 (2%)	6	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	26-A	209/229 (91%)	193 (92%)	8 (4%)	8 (4%)	3	0
1	27-A	209/229 (91%)	199 (95%)	4 (2%)	6 (3%)	4	0
1	28-A	209/229 (91%)	199 (95%)	4 (2%)	6 (3%)	4	0
1	29-A	209/229 (91%)	196 (94%)	9 (4%)	4 (2%)	8	0
1	30-A	209/229 (91%)	194 (93%)	12 (6%)	3 (1%)	11	1
1	31-A	209/229 (91%)	197 (94%)	10 (5%)	2 (1%)	15	3
1	32-A	209/229 (91%)	201 (96%)	7 (3%)	1 (0%)	29	11
1	33-A	209/229 (91%)	195 (93%)	11 (5%)	3 (1%)	11	1
1	34-A	209/229 (91%)	196 (94%)	10 (5%)	3 (1%)	11	1
1	35-A	209/229 (91%)	197 (94%)	11 (5%)	1 (0%)	29	11
1	36-A	209/229 (91%)	199 (95%)	7 (3%)	3 (1%)	11	1
1	37-A	209/229 (91%)	195 (93%)	9 (4%)	5 (2%)	6	0
1	38-A	209/229 (91%)	195 (93%)	10 (5%)	4 (2%)	8	0
1	39-A	209/229 (91%)	197 (94%)	7 (3%)	5 (2%)	6	0
1	40-A	209/229 (91%)	198 (95%)	6 (3%)	5 (2%)	6	0
1	41-A	209/229 (91%)	196 (94%)	10 (5%)	3 (1%)	11	1
1	42-A	209/229 (91%)	200 (96%)	6 (3%)	3 (1%)	11	1
1	43-A	209/229 (91%)	198 (95%)	11 (5%)	0	100	100
1	44-A	209/229 (91%)	202 (97%)	6 (3%)	1 (0%)	29	11
1	45-A	209/229 (91%)	199 (95%)	7 (3%)	3 (1%)	11	1
1	46-A	209/229 (91%)	201 (96%)	7 (3%)	1 (0%)	29	11
1	47-A	209/229 (91%)	202 (97%)	5 (2%)	2 (1%)	15	3
1	48-A	209/229 (91%)	200 (96%)	9 (4%)	0	100	100
1	49-A	209/229 (91%)	195 (93%)	11 (5%)	3 (1%)	11	1
1	50-A	209/229 (91%)	196 (94%)	11 (5%)	2 (1%)	15	3
1	51-A	209/229 (91%)	193 (92%)	9 (4%)	7 (3%)	4	0
1	52-A	209/229 (91%)	188 (90%)	17 (8%)	4 (2%)	8	0
1	53-A	209/229 (91%)	195 (93%)	10 (5%)	4 (2%)	8	0
1	54-A	209/229 (91%)	196 (94%)	8 (4%)	5 (2%)	6	0
1	55-A	209/229 (91%)	199 (95%)	7 (3%)	3 (1%)	11	1
1	56-A	209/229 (91%)	198 (95%)	8 (4%)	3 (1%)	11	1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	57-A	209/229 (91%)	199 (95%)	7 (3%)	3 (1%)	11	1
1	58-A	209/229 (91%)	202 (97%)	7 (3%)	0	100	100
1	59-A	209/229 (91%)	200 (96%)	8 (4%)	1 (0%)	29	11
1	60-A	209/229 (91%)	198 (95%)	8 (4%)	3 (1%)	11	1
1	61-A	209/229 (91%)	195 (93%)	12 (6%)	2 (1%)	15	3
1	62-A	209/229 (91%)	199 (95%)	10 (5%)	0	100	100
1	63-A	209/229 (91%)	198 (95%)	8 (4%)	3 (1%)	11	1
All	All	13167/14427 (91%)	12429 (94%)	536 (4%)	202 (2%)	10	1

5 of 202 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	2-A	3	VAL
1	2-A	140	LYS
1	3-A	3	VAL
1	3-A	140	LYS
1	3-A	150	ASP

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	1-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	2-A	184/189 (97%)	165 (90%)	19 (10%)	7	1
1	3-A	184/189 (97%)	157 (85%)	27 (15%)	3	0
1	4-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	5-A	184/189 (97%)	167 (91%)	17 (9%)	9	1
1	6-A	184/189 (97%)	168 (91%)	16 (9%)	10	1
1	7-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	8-A	184/189 (97%)	171 (93%)	13 (7%)	14	2
1	9-A	184/189 (97%)	161 (88%)	23 (12%)	4	0

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	10-A	184/189 (97%)	168 (91%)	16 (9%)	10	1
1	11-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	12-A	184/189 (97%)	162 (88%)	22 (12%)	5	0
1	13-A	184/189 (97%)	165 (90%)	19 (10%)	7	1
1	14-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	15-A	184/189 (97%)	171 (93%)	13 (7%)	14	2
1	16-A	184/189 (97%)	167 (91%)	17 (9%)	9	1
1	17-A	184/189 (97%)	156 (85%)	28 (15%)	3	0
1	18-A	184/189 (97%)	154 (84%)	30 (16%)	2	0
1	19-A	184/189 (97%)	168 (91%)	16 (9%)	10	1
1	20-A	184/189 (97%)	165 (90%)	19 (10%)	7	1
1	21-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	22-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	23-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	24-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	25-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	26-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	27-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	28-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	29-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	30-A	184/189 (97%)	164 (89%)	20 (11%)	6	1
1	31-A	184/189 (97%)	169 (92%)	15 (8%)	11	2
1	32-A	184/189 (97%)	168 (91%)	16 (9%)	10	1
1	33-A	184/189 (97%)	159 (86%)	25 (14%)	3	0
1	34-A	184/189 (97%)	159 (86%)	25 (14%)	3	0
1	35-A	184/189 (97%)	170 (92%)	14 (8%)	13	2
1	36-A	184/189 (97%)	167 (91%)	17 (9%)	9	1
1	37-A	184/189 (97%)	155 (84%)	29 (16%)	2	0
1	38-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	39-A	184/189 (97%)	157 (85%)	27 (15%)	3	0
1	40-A	184/189 (97%)	163 (89%)	21 (11%)	5	1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	41-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	42-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	43-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	44-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	45-A	184/189 (97%)	165 (90%)	19 (10%)	7	1
1	46-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	47-A	184/189 (97%)	168 (91%)	16 (9%)	10	1
1	48-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	49-A	184/189 (97%)	165 (90%)	19 (10%)	7	1
1	50-A	184/189 (97%)	167 (91%)	17 (9%)	9	1
1	51-A	184/189 (97%)	165 (90%)	19 (10%)	7	1
1	52-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	53-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	54-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	55-A	184/189 (97%)	159 (86%)	25 (14%)	3	0
1	56-A	184/189 (97%)	163 (89%)	21 (11%)	5	1
1	57-A	184/189 (97%)	164 (89%)	20 (11%)	6	1
1	58-A	184/189 (97%)	160 (87%)	24 (13%)	4	0
1	59-A	184/189 (97%)	166 (90%)	18 (10%)	8	1
1	60-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	61-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	62-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
1	63-A	184/189 (97%)	161 (88%)	23 (12%)	4	0
All	All	11592/11907 (97%)	10286 (89%)	1306 (11%)	6	1

5 of 1306 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	45-A	162	LEU
1	56-A	145	LYS
1	46-A	193	HIS
1	45-A	156	ASP
1	51-A	194	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 181 such sidechains are listed below:

Mol	Chain	Res	Type
1	39-A	98	GLN
1	48-A	124	ASN
1	41-A	98	GLN
1	43-A	193	HIS
1	49-A	205	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](#)

63 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	CRQ	34-A	62	1	24,25,26	1.89	5 (20%)	27,34,36	2.22	9 (33%)
1	CRQ	36-A	62	1	24,25,26	2.38	8 (33%)	27,34,36	2.73	9 (33%)
1	CRQ	53-A	62	1	24,25,26	2.09	8 (33%)	27,34,36	4.24	11 (40%)
1	CRQ	16-A	62	1	24,25,26	1.98	8 (33%)	27,34,36	7.73	16 (59%)
1	CRQ	17-A	62	1	24,25,26	1.84	4 (16%)	27,34,36	4.09	11 (40%)
1	CRQ	23-A	62	1	24,25,26	2.18	7 (29%)	27,34,36	3.90	14 (51%)
1	CRQ	54-A	62	1	24,25,26	1.84	6 (25%)	27,34,36	4.37	14 (51%)
1	CRQ	2-A	62	1	24,25,26	1.97	6 (25%)	27,34,36	2.48	13 (48%)
1	CRQ	10-A	62	1	24,25,26	1.85	6 (25%)	27,34,36	3.70	11 (40%)
1	CRQ	62-A	62	1	24,25,26	2.12	6 (25%)	27,34,36	2.80	8 (29%)
1	CRQ	7-A	62	1	24,25,26	2.01	5 (20%)	27,34,36	3.88	9 (33%)
1	CRQ	21-A	62	1	24,25,26	2.28	7 (29%)	27,34,36	2.53	10 (37%)
1	CRQ	6-A	62	1	24,25,26	2.17	5 (20%)	27,34,36	3.06	11 (40%)
1	CRQ	38-A	62	1	24,25,26	2.19	8 (33%)	27,34,36	2.32	8 (29%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	CRQ	55-A	62	1	24,25,26	2.32	7 (29%)	27,34,36	3.50	12 (44%)
1	CRQ	41-A	62	1	24,25,26	2.24	6 (25%)	27,34,36	3.72	12 (44%)
1	CRQ	57-A	62	1	24,25,26	2.06	7 (29%)	27,34,36	3.22	11 (40%)
1	CRQ	25-A	62	1	24,25,26	2.19	7 (29%)	27,34,36	1.80	7 (25%)
1	CRQ	1-A	62	1	24,25,26	2.01	6 (25%)	27,34,36	2.10	8 (29%)
1	CRQ	47-A	62	1	24,25,26	2.49	7 (29%)	27,34,36	4.01	11 (40%)
1	CRQ	37-A	62	1	24,25,26	2.28	5 (20%)	27,34,36	3.37	11 (40%)
1	CRQ	13-A	62	1	24,25,26	2.18	6 (25%)	27,34,36	3.55	8 (29%)
1	CRQ	8-A	62	1	24,25,26	2.16	7 (29%)	27,34,36	1.82	7 (25%)
1	CRQ	59-A	62	1	24,25,26	2.05	5 (20%)	27,34,36	3.85	14 (51%)
1	CRQ	3-A	62	1	24,25,26	3.14	8 (33%)	27,34,36	3.45	14 (51%)
1	CRQ	61-A	62	1	24,25,26	1.98	5 (20%)	27,34,36	2.31	10 (37%)
1	CRQ	22-A	62	1	24,25,26	2.05	6 (25%)	27,34,36	2.92	12 (44%)
1	CRQ	29-A	62	1	24,25,26	2.26	5 (20%)	27,34,36	4.75	10 (37%)
1	CRQ	20-A	62	1	24,25,26	2.38	10 (41%)	27,34,36	4.04	14 (51%)
1	CRQ	30-A	62	1	24,25,26	2.15	6 (25%)	27,34,36	2.44	13 (48%)
1	CRQ	56-A	62	1	24,25,26	1.89	6 (25%)	27,34,36	3.33	8 (29%)
1	CRQ	46-A	62	1	24,25,26	2.01	6 (25%)	27,34,36	2.34	7 (25%)
1	CRQ	18-A	62	1	24,25,26	1.82	5 (20%)	27,34,36	3.50	11 (40%)
1	CRQ	42-A	62	1	24,25,26	2.05	5 (20%)	27,34,36	3.56	8 (29%)
1	CRQ	31-A	62	1	24,25,26	2.26	6 (25%)	27,34,36	3.47	12 (44%)
1	CRQ	32-A	62	1	24,25,26	2.19	7 (29%)	27,34,36	2.43	8 (29%)
1	CRQ	50-A	62	1	24,25,26	2.27	5 (20%)	27,34,36	2.87	6 (22%)
1	CRQ	4-A	62	1	24,25,26	2.33	7 (29%)	27,34,36	2.74	10 (37%)
1	CRQ	27-A	62	1	24,25,26	2.00	7 (29%)	27,34,36	2.24	9 (33%)
1	CRQ	19-A	62	1	24,25,26	2.72	9 (37%)	27,34,36	2.97	16 (59%)
1	CRQ	60-A	62	1	24,25,26	2.03	7 (29%)	27,34,36	2.15	7 (25%)
1	CRQ	15-A	62	1	24,25,26	2.13	7 (29%)	27,34,36	3.24	12 (44%)
1	CRQ	58-A	62	1	24,25,26	3.31	9 (37%)	27,34,36	4.06	15 (55%)
1	CRQ	11-A	62	1	24,25,26	2.05	6 (25%)	27,34,36	2.09	8 (29%)
1	CRQ	63-A	62	1	24,25,26	2.34	4 (16%)	27,34,36	3.51	14 (51%)
1	CRQ	39-A	62	1	24,25,26	2.09	7 (29%)	27,34,36	2.07	9 (33%)
1	CRQ	12-A	62	1	24,25,26	2.56	9 (37%)	27,34,36	2.53	8 (29%)
1	CRQ	49-A	62	1	24,25,26	2.00	5 (20%)	27,34,36	2.15	8 (29%)
1	CRQ	44-A	62	1	24,25,26	2.44	6 (25%)	27,34,36	4.03	13 (48%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	CRQ	28-A	62	1	24,25,26	2.05	5 (20%)	27,34,36	1.85	8 (29%)
1	CRQ	5-A	62	1	24,25,26	2.36	7 (29%)	27,34,36	3.78	14 (51%)
1	CRQ	51-A	62	1	24,25,26	2.53	6 (25%)	27,34,36	3.95	10 (37%)
1	CRQ	52-A	62	1	24,25,26	2.21	5 (20%)	27,34,36	3.33	11 (40%)
1	CRQ	40-A	62	1	24,25,26	1.92	5 (20%)	27,34,36	2.12	7 (25%)
1	CRQ	26-A	62	1	24,25,26	2.19	7 (29%)	27,34,36	2.32	7 (25%)
1	CRQ	14-A	62	1	24,25,26	1.89	6 (25%)	27,34,36	3.82	12 (44%)
1	CRQ	33-A	62	1	24,25,26	2.15	6 (25%)	27,34,36	3.27	12 (44%)
1	CRQ	9-A	62	1	24,25,26	2.81	9 (37%)	27,34,36	2.66	13 (48%)
1	CRQ	43-A	62	1	24,25,26	2.65	7 (29%)	27,34,36	5.12	13 (48%)
1	CRQ	24-A	62	1	24,25,26	1.85	5 (20%)	27,34,36	2.98	9 (33%)
1	CRQ	45-A	62	1	24,25,26	1.90	6 (25%)	27,34,36	1.93	7 (25%)
1	CRQ	48-A	62	1	24,25,26	2.33	6 (25%)	27,34,36	1.64	6 (22%)
1	CRQ	35-A	62	1	24,25,26	1.97	5 (20%)	27,34,36	2.46	8 (29%)

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. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	CRQ	34-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	36-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	53-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	16-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	17-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	23-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	54-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	2-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	10-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	62-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	7-A	62	1	-	5/10/32/33	0/2/2/2
1	CRQ	21-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	6-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	38-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	55-A	62	1	-	6/10/32/33	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	CRQ	41-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	57-A	62	1	-	5/10/32/33	0/2/2/2
1	CRQ	25-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	1-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	47-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	37-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	13-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	8-A	62	1	-	5/10/32/33	0/2/2/2
1	CRQ	59-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	3-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	61-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	22-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	29-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	20-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	30-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	56-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	46-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	18-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	42-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	31-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	32-A	62	1	-	0/10/32/33	0/2/2/2
1	CRQ	50-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	4-A	62	1	-	6/10/32/33	0/2/2/2
1	CRQ	27-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	19-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	60-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	15-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	58-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	11-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	63-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	39-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	12-A	62	1	-	5/10/32/33	0/2/2/2
1	CRQ	49-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	44-A	62	1	-	1/10/32/33	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	CRQ	28-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	5-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	51-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	52-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	40-A	62	1	-	1/10/32/33	0/2/2/2
1	CRQ	26-A	62	1	-	5/10/32/33	0/2/2/2
1	CRQ	14-A	62	1	-	3/10/32/33	0/2/2/2
1	CRQ	33-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	9-A	62	1	-	2/10/32/33	0/2/2/2
1	CRQ	43-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	24-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	45-A	62	1	-	4/10/32/33	0/2/2/2
1	CRQ	48-A	62	1	-	1/10/32/33	0/2/2/2
1	CRQ	35-A	62	1	-	4/10/32/33	0/2/2/2

The worst 5 of 400 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	3-A	62	CRQ	CB2-CA2	12.00	1.45	1.35
1	58-A	62	CRQ	CB2-CA2	11.35	1.44	1.35
1	9-A	62	CRQ	CB2-CA2	8.68	1.42	1.35
1	63-A	62	CRQ	C1-N3	7.63	1.50	1.38
1	19-A	62	CRQ	CB2-CA2	7.52	1.41	1.35

The worst 5 of 654 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	16-A	62	CRQ	O2-C2-CA2	25.10	145.05	130.96
1	29-A	62	CRQ	CG2-CB2-CA2	-17.27	108.77	129.94
1	16-A	62	CRQ	CB2-CA2-C2	17.18	142.78	122.28
1	54-A	62	CRQ	CG2-CB2-CA2	-16.90	109.23	129.94
1	17-A	62	CRQ	CG2-CB2-CA2	-16.85	109.30	129.94

There are no chirality outliers.

5 of 226 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	1-A	62	CRQ	C3-CA3-N3-C2
1	1-A	62	CRQ	N2-CA2-CB2-CG2

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Mol	Chain	Res	Type	Atoms
1	1-A	62	CRQ	C2-CA2-CB2-CG2
1	2-A	62	CRQ	C3-CA3-N3-C1
1	2-A	62	CRQ	C3-CA3-N3-C2

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	52-A	1
1	15-A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
52	A	62:CRQ	C3	65:ASN	N	1.19
15	A	62:CRQ	C3	65:ASN	N	1.18

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	1-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	2-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	3-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	4-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	5-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	6-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	7-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	8-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	9-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	10-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	11-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	12-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	13-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	14-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	15-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	16-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	17-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	18-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	19-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	20-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	21-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	22-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	23-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	24-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2		OWAB(Å ²)	Q<0.9	
1	25-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	26-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	27-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	28-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	29-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	30-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	31-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	32-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	33-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	34-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	35-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	36-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	37-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	38-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	39-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	40-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	41-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	42-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	43-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	44-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	45-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	46-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	47-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	48-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	49-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	50-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	51-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	52-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	53-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	54-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)
1	55-A	213/229 (93%)	1.12	38 (17%)	1	1	20, 26, 34, 40	213 (100%)

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	56-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	57-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	58-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	59-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	60-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	61-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	62-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
1	63-A	213/229 (93%)	1.12	38 (17%) 1 1	20, 26, 34, 40	213 (100%)
All	All	13419/14427 (93%)	1.12	2394 (17%) 1 1	20, 26, 35, 40	13419 (100%)

The worst 5 of 2394 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	1-A	217	TYR	11.9
1	2-A	217	TYR	11.9
1	3-A	217	TYR	11.9
1	4-A	217	TYR	11.9
1	5-A	217	TYR	11.9

6.2 Non-standard residues in protein, DNA, RNA chains [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, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
1	CRQ	1-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	2-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	3-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	4-A	62	24/25	0.95	0.23	19,20,22,24	24
1	CRQ	5-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	6-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	7-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	8-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	9-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	10-A	62	24/25	0.95	0.23	20,20,22,24	24
1	CRQ	11-A	62	24/25	0.95	0.23	19,20,22,23	24

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
1	CRQ	12-A	62	24/25	0.95	0.23	20,20,22,23	24
1	CRQ	13-A	62	24/25	0.95	0.23	19,20,22,24	24
1	CRQ	14-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	15-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	16-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	17-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	18-A	62	24/25	0.95	0.23	20,20,22,23	24
1	CRQ	19-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	20-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	21-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	22-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	23-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	24-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	25-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	26-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	27-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	28-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	29-A	62	24/25	0.95	0.23	20,20,22,23	24
1	CRQ	30-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	31-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	32-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	33-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	34-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	35-A	62	24/25	0.95	0.23	20,20,22,23	24
1	CRQ	36-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	37-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	38-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	39-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	40-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	41-A	62	24/25	0.95	0.23	20,20,22,23	24
1	CRQ	42-A	62	24/25	0.95	0.23	19,20,22,24	24
1	CRQ	43-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	44-A	62	24/25	0.95	0.23	19,20,22,24	24
1	CRQ	45-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	46-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	47-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	48-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	49-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	50-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	51-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	52-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	53-A	62	24/25	0.95	0.23	19,20,22,23	24

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
1	CRQ	54-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	55-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	56-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	57-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	58-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	59-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	60-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	61-A	62	24/25	0.95	0.23	20,20,22,23	24
1	CRQ	62-A	62	24/25	0.95	0.23	19,20,22,23	24
1	CRQ	63-A	62	24/25	0.95	0.23	19,20,22,23	24

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.