Full wwPDB EM Validation Report ⓘ

Sep 8, 2025 – 12:33 PM EDT

PDB ID	:	9NGV / pdb_00009ngv
EMDB ID	:	EMD-49394
Title	:	In situ cryo-EM structure of periplasmic ring (PR) of the Legionella Dot/Icm T4SS machine.
Authors	:	Yue, J.; Jun, L.
Deposited on	:	2025-02-22
Resolution	:	3.04 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp
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:

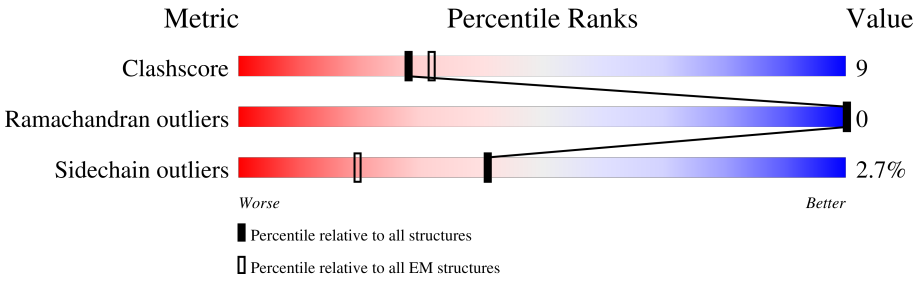
EMDB validation analysis	:	0.0.1.dev126
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.45.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.04 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)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	Aa	16	12% 69% 31%
1	Ah	16	19% 81% 19%
1	Ao	16	19% 62% 38%
1	Av	16	6% 81% 19%
1	Bc	16	12% 75% 25%
1	Bj	16	6% 75% 25%
1	Bq	16	6% 81% 19%
1	Bx	16	19% 88% 12%

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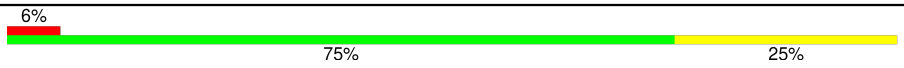
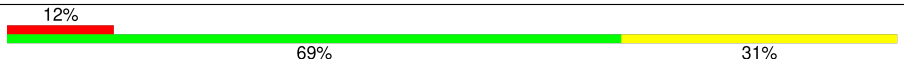
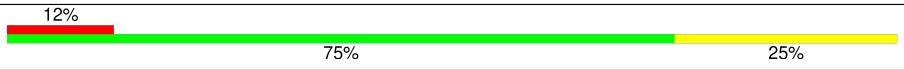
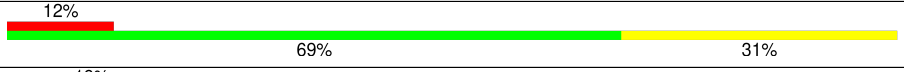
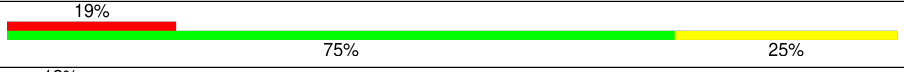
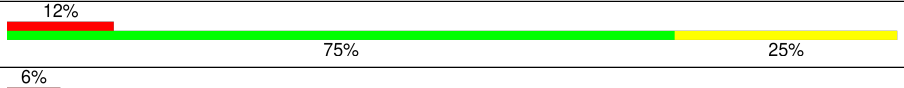
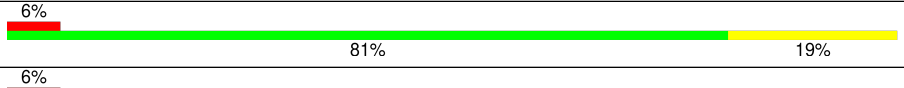
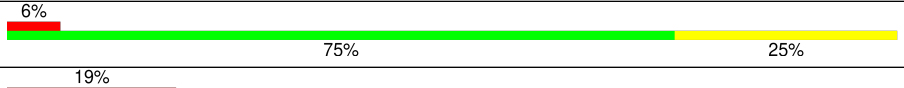
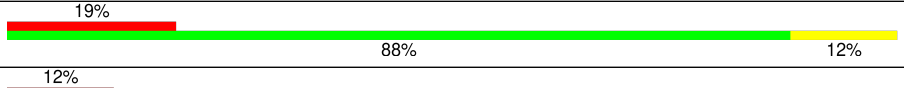
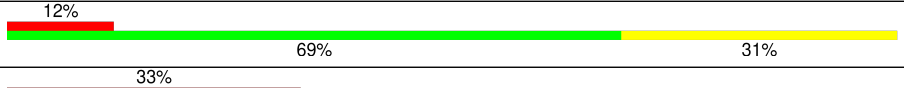
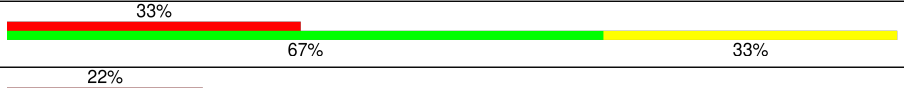
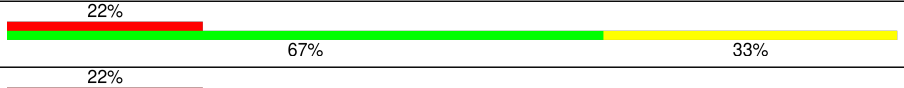
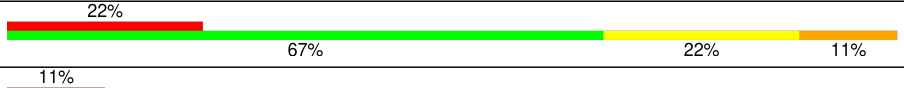
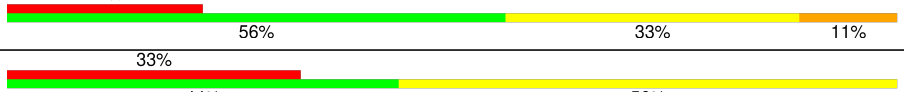
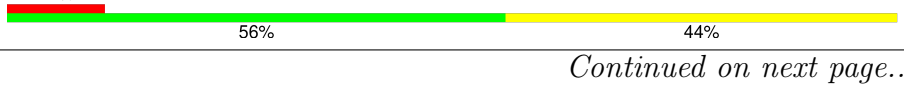
Mol	Chain	Length	Quality of chain
1	Ce	16	
1	Cl	16	
1	Cs	16	
1	Cz	16	
1	Dg	16	
1	Dn	16	
1	Du	16	
1	Eb	16	
1	Ei	16	
1	Ep	16	
2	Ab	9	
2	Ai	9	
2	Ap	9	
2	Aw	9	
2	Bd	9	
2	Bk	9	
2	Br	9	
2	By	9	
2	Cf	9	
2	Cm	9	
2	Ct	9	
2	Da	9	
2	Dh	9	
2	Do	9	
2	Dv	9	

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Mol	Chain	Length	Quality of chain
2	Ec	9	11% 67% 33%
2	Ej	9	11% 44% 33% 22%
2	Eq	9	22% 67% 33%
3	Ac	16	50% 50% 44% 6%
3	Aj	16	50% 62% 31% 6%
3	Aq	16	38% 50% 38% 12%
3	Ax	16	44% 62% 38%
3	Be	16	38% 75% 25%
3	Bl	16	44% 50% 50%
3	Bs	16	50% 75% 25%
3	Bz	16	44% 62% 31% 6%
3	Cg	16	38% 56% 31% 12%
3	Cn	16	50% 50% 44% 6%
3	Cu	16	50% 44% 50% 6%
3	Db	16	31% 44% 44% 12%
3	Di	16	44% 56% 44%
3	Dp	16	38% 56% 31% 12%
3	Dw	16	44% 62% 31% 6%
3	Ed	16	50% 69% 31%
3	Ek	16	44% 56% 38% 6%
3	Er	16	38% 50% 38% 12%
4	Ad	5	60% 60% 40%
4	Ak	5	60% 80% 20%
4	Ar	5	60% 60% 40%
4	Ay	5	60% 80% 20%

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Mol	Chain	Length	Quality of chain
4	Bf	5	60% 80% 20%
4	Bm	5	60% 80% 20%
4	Bt	5	60% 80% 20%
4	Ca	5	60% 80% 20%
4	Ch	5	40% 80% 20%
4	Co	5	40% 60% 40%
4	Cv	5	60% 80% 20%
4	Dc	5	60% 60% 40%
4	Dj	5	60% 60% 40%
4	Dq	5	60% 80% 20%
4	Dx	5	40% 80% 20%
4	Ee	5	60% 80% 20%
4	El	5	60% 60% 40%
4	Es	5	40% 80% 20%
5	Ae	269	19% 5% 77%
5	Al	269	19% 5% 77%
5	As	269	19% 5% 77%
5	Az	269	18% 6% 77%
5	Bg	269	19% 77%
5	Bn	269	19% 77%
5	Bu	269	18% 6% 77%
5	Cb	269	18% 6% 77%
5	Ci	269	19% 77%
5	Cp	269	18% 5% 77%
5	Cw	269	18% 5% 77%

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Mol	Chain	Length	Quality of chain
5	Dd	269	19% 5% 77%
5	Dk	269	18% 5% 77%
5	Dr	269	19% 5% 77%
5	Dy	269	18% 5% 77%
5	Ef	269	18% 5% 77%
5	Em	269	18% 5% 77%
5	Et	269	19% 77%
6	Af	1048	97%
6	Am	1048	97%
6	At	1048	97%
6	Ba	1048	97%
6	Bh	1048	97%
6	Bo	1048	97%
6	Bv	1048	97%
6	Cc	1048	97%
6	Cj	1048	97%
6	Cq	1048	97%
6	Cx	1048	97%
6	De	1048	97%
6	Dl	1048	97%
6	Ds	1048	97%
6	Dz	1048	97%
6	Eg	1048	97%
6	En	1048	97%
6	Eu	1048	97%

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Mol	Chain	Length	Quality of chain
7	Ag	361	33% 10% 56%
7	An	361	35% 9% 56%
7	Au	361	34% 10% 56%
7	Bb	361	36% 9% 56%
7	Bi	361	35% 9% 56%
7	Bp	361	32% 12% 56%
7	Bw	361	37% 7% 56%
7	Cd	361	34% 10% 56%
7	Ck	361	37% 7% 56%
7	Cr	361	34% 9% 56%
7	Cy	361	35% 9% 56%
7	Df	361	34% 9% 56%
7	Dm	361	35% 9% 56%
7	Dt	361	34% 9% 56%
7	Ea	361	31% 13% 56%
7	Eh	361	35% 9% 56%
7	Eo	361	34% 10% 56%
7	Ev	361	36% 8% 56%

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 42066 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 unknown peptide A.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	Aa	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Ah	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Ao	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Av	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Bc	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Bj	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Bq	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Bx	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Ce	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Cl	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Cs	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Cz	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Dg	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Dn	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Du	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Eb	16	Total	C	N	O	S	0	0
			117	71	20	25	1		
1	Ei	16	Total	C	N	O	S	0	0
			117	71	20	25	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	Ep	16	Total	C	N	O	S	0	0
			117	71	20	25	1		

- Molecule 2 is a protein called unknown peptide B.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	Ab	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Ai	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Ap	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Aw	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Bd	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Bk	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Br	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	By	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Cf	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Cm	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Ct	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Da	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Dh	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Do	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Dv	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Ec	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Ej	9	Total	C	N	O	S	0	0
			61	35	12	12	2		
2	Eq	9	Total	C	N	O	S	0	0
			61	35	12	12	2		

- Molecule 3 is a protein called unknown peptide C.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	Ac	16	Total	C	N	O	0	0
			125	78	21	26		
3	Aj	16	Total	C	N	O	0	0
			125	78	21	26		
3	Aq	16	Total	C	N	O	0	0
			125	78	21	26		
3	Ax	16	Total	C	N	O	0	0
			125	78	21	26		
3	Be	16	Total	C	N	O	0	0
			125	78	21	26		
3	Bl	16	Total	C	N	O	0	0
			125	78	21	26		
3	Bs	16	Total	C	N	O	0	0
			125	78	21	26		
3	Bz	16	Total	C	N	O	0	0
			125	78	21	26		
3	Cg	16	Total	C	N	O	0	0
			125	78	21	26		
3	Cn	16	Total	C	N	O	0	0
			125	78	21	26		
3	Cu	16	Total	C	N	O	0	0
			125	78	21	26		
3	Db	16	Total	C	N	O	0	0
			125	78	21	26		
3	Di	16	Total	C	N	O	0	0
			125	78	21	26		
3	Dp	16	Total	C	N	O	0	0
			125	78	21	26		
3	Dw	16	Total	C	N	O	0	0
			125	78	21	26		
3	Ed	16	Total	C	N	O	0	0
			125	78	21	26		
3	Ek	16	Total	C	N	O	0	0
			125	78	21	26		
3	Er	16	Total	C	N	O	0	0
			125	78	21	26		

- Molecule 4 is a protein called unknown peptide D.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	Ad	5	Total	C	N	O	0	0
			36	23	5	8		

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Mol	Chain	Residues	Atoms				AltConf	Trace
4	Ak	5	Total	C	N	O	0	0
			36	23	5	8		
4	Ar	5	Total	C	N	O	0	0
			36	23	5	8		
4	Ay	5	Total	C	N	O	0	0
			36	23	5	8		
4	Bf	5	Total	C	N	O	0	0
			36	23	5	8		
4	Bm	5	Total	C	N	O	0	0
			36	23	5	8		
4	Bt	5	Total	C	N	O	0	0
			36	23	5	8		
4	Ca	5	Total	C	N	O	0	0
			36	23	5	8		
4	Ch	5	Total	C	N	O	0	0
			36	23	5	8		
4	Co	5	Total	C	N	O	0	0
			36	23	5	8		
4	Cv	5	Total	C	N	O	0	0
			36	23	5	8		
4	Dc	5	Total	C	N	O	0	0
			36	23	5	8		
4	Dj	5	Total	C	N	O	0	0
			36	23	5	8		
4	Dq	5	Total	C	N	O	0	0
			36	23	5	8		
4	Dx	5	Total	C	N	O	0	0
			36	23	5	8		
4	Ee	5	Total	C	N	O	0	0
			36	23	5	8		
4	El	5	Total	C	N	O	0	0
			36	23	5	8		
4	Es	5	Total	C	N	O	0	0
			36	23	5	8		

- Molecule 5 is a protein called IcmG (DotF).

Mol	Chain	Residues	Atoms					AltConf	Trace
5	Ae	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Al	63	Total	C	N	O	S	0	0
			484	308	84	91	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
5	As	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Az	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Bg	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Bn	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Bu	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Cb	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Ci	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Cp	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Cw	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Dd	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Dk	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Dr	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Dy	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Ef	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Em	63	Total	C	N	O	S	0	0
			484	308	84	91	1		
5	Et	63	Total	C	N	O	S	0	0
			484	308	84	91	1		

- Molecule 6 is a protein called IcmE (DotG).

Mol	Chain	Residues	Atoms					AltConf	Trace
6	Af	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Am	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	At	34	Total	C	N	O	S	0	0
			276	168	47	60	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
6	Ba	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Bh	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Bo	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Bv	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Cc	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Cj	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Cq	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Cx	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	De	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Dl	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Ds	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Dz	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Eg	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	En	34	Total	C	N	O	S	0	0
			276	168	47	60	1		
6	Eu	34	Total	C	N	O	S	0	0
			276	168	47	60	1		

- Molecule 7 is a protein called IcmK (DotH).

Mol	Chain	Residues	Atoms					AltConf	Trace
7	Ag	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	An	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Au	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Bb	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		

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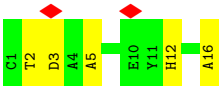
Mol	Chain	Residues	Atoms					AltConf	Trace
7	Bi	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Bp	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Bw	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Cd	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Ck	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Cr	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Cy	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Df	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Dm	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Dt	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Ea	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Eh	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Eo	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		
7	Ev	160	Total	C	N	O	S	0	0
			1238	795	207	233	3		

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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

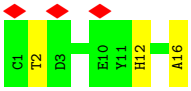
• Molecule 1: unknown peptide A

Chain Aa:



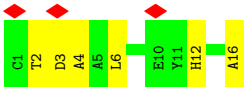
• Molecule 1: unknown peptide A

Chain Ah:



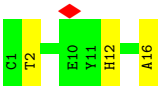
• Molecule 1: unknown peptide A

Chain Ao:



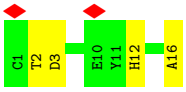
• Molecule 1: unknown peptide A

Chain Av:



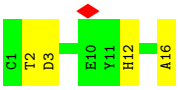
• Molecule 1: unknown peptide A

Chain Bc:



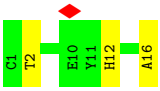
• Molecule 1: unknown peptide A

Chain Bj:



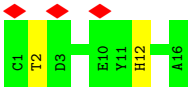
• Molecule 1: unknown peptide A

Chain Bq:



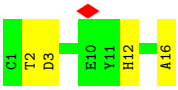
• Molecule 1: unknown peptide A

Chain Bx:



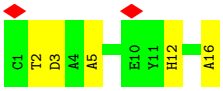
• Molecule 1: unknown peptide A

Chain Ce:



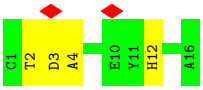
• Molecule 1: unknown peptide A

Chain Cl:



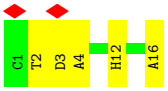
• Molecule 1: unknown peptide A

Chain Cs:



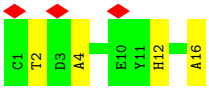
• Molecule 1: unknown peptide A

Chain Cz:



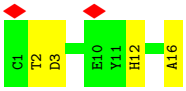
• Molecule 1: unknown peptide A

Chain Dg:



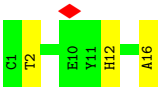
• Molecule 1: unknown peptide A

Chain Dn:



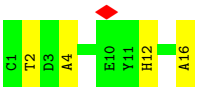
• Molecule 1: unknown peptide A

Chain Du:



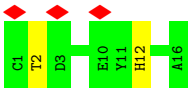
• Molecule 1: unknown peptide A

Chain Eb:



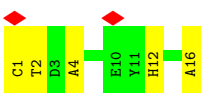
• Molecule 1: unknown peptide A

Chain Ei:



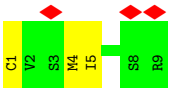
• Molecule 1: unknown peptide A

Chain Ep:



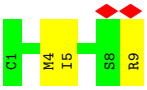
• Molecule 2: unknown peptide B

Chain Ab:



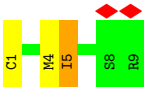
• Molecule 2: unknown peptide B

Chain Ai:



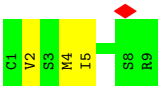
• Molecule 2: unknown peptide B

Chain Ap:



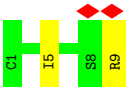
• Molecule 2: unknown peptide B

Chain Aw:



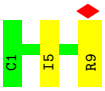
• Molecule 2: unknown peptide B

Chain Bd:



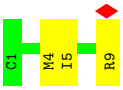
• Molecule 2: unknown peptide B

Chain Bk:



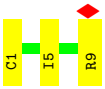
• Molecule 2: unknown peptide B

Chain Br:



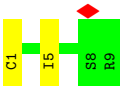
• Molecule 2: unknown peptide B

Chain By:



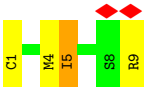
• Molecule 2: unknown peptide B

Chain Cf:



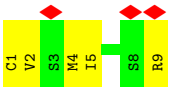
• Molecule 2: unknown peptide B

Chain Cm:



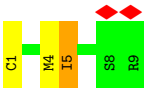
• Molecule 2: unknown peptide B

Chain Ct:



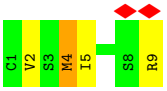
• Molecule 2: unknown peptide B

Chain Da:



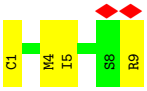
• Molecule 2: unknown peptide B

Chain Dh:



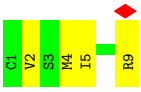
• Molecule 2: unknown peptide B

Chain Do:



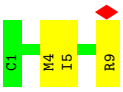
• Molecule 2: unknown peptide B

Chain Dv:



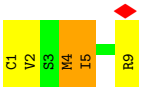
• Molecule 2: unknown peptide B

Chain Ec:



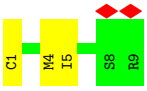
• Molecule 2: unknown peptide B

Chain Ej:



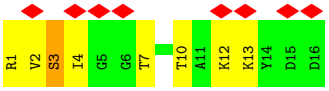
• Molecule 2: unknown peptide B

Chain Eq:



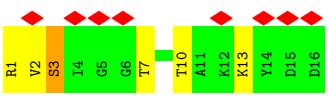
• Molecule 3: unknown peptide C

Chain Ac:



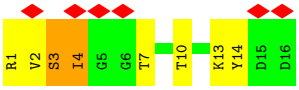
• Molecule 3: unknown peptide C

Chain Aj:



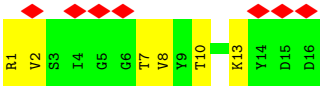
• Molecule 3: unknown peptide C

Chain Aq:



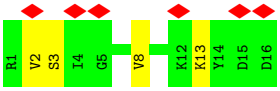
• Molecule 3: unknown peptide C

Chain Ax:



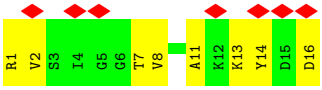
• Molecule 3: unknown peptide C

Chain Be:



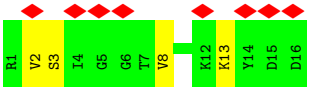
• Molecule 3: unknown peptide C

Chain Bl:



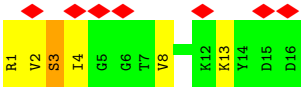
• Molecule 3: unknown peptide C

Chain Bs:



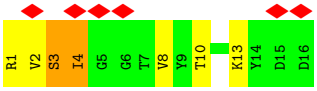
• Molecule 3: unknown peptide C

Chain Bz:



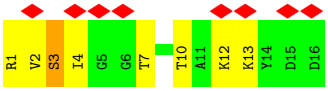
• Molecule 3: unknown peptide C

Chain Cg:



• Molecule 3: unknown peptide C

Chain Cn:

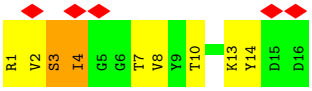


• Molecule 3: unknown peptide C

Chain Cu:

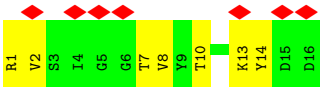
• Molecule 3: unknown peptide C

Chain Db:



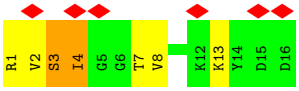
• Molecule 3: unknown peptide C

Chain Di:



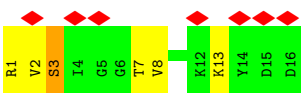
• Molecule 3: unknown peptide C

Chain Dp:



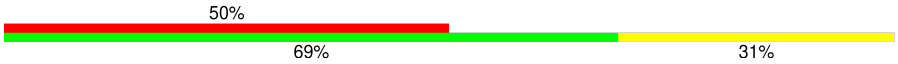
• Molecule 3: unknown peptide C

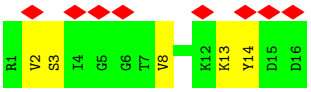
Chain Dw:



• Molecule 3: unknown peptide C

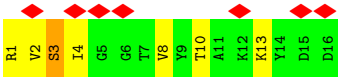
Chain Ed:





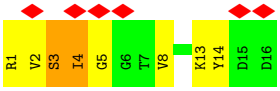
• Molecule 3: unknown peptide C

Chain Ek:



• Molecule 3: unknown peptide C

Chain Er:

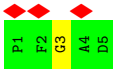


• Molecule 4: unknown peptide D

Chain Ad:

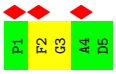
• Molecule 4: unknown peptide D

Chain Ak:



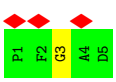
• Molecule 4: unknown peptide D

Chain Ar:



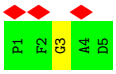
• Molecule 4: unknown peptide D

Chain Ay:



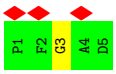
• Molecule 4: unknown peptide D

Chain Bf:



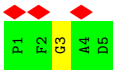
• Molecule 4: unknown peptide D

Chain Bm:



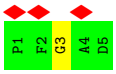
• Molecule 4: unknown peptide D

Chain Bt:



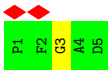
• Molecule 4: unknown peptide D

Chain Ca:



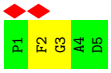
• Molecule 4: unknown peptide D

Chain Ch:



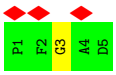
• Molecule 4: unknown peptide D

Chain Co:



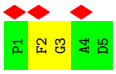
• Molecule 4: unknown peptide D

Chain Cv:



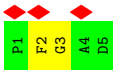
• Molecule 4: unknown peptide D

Chain Dc:



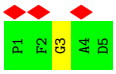
• Molecule 4: unknown peptide D

Chain Dj:



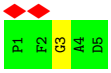
• Molecule 4: unknown peptide D

Chain Dq:



• Molecule 4: unknown peptide D

Chain Dx:

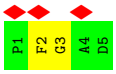


• Molecule 4: unknown peptide D

Chain Ee:

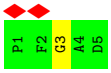
• Molecule 4: unknown peptide D

Chain El:



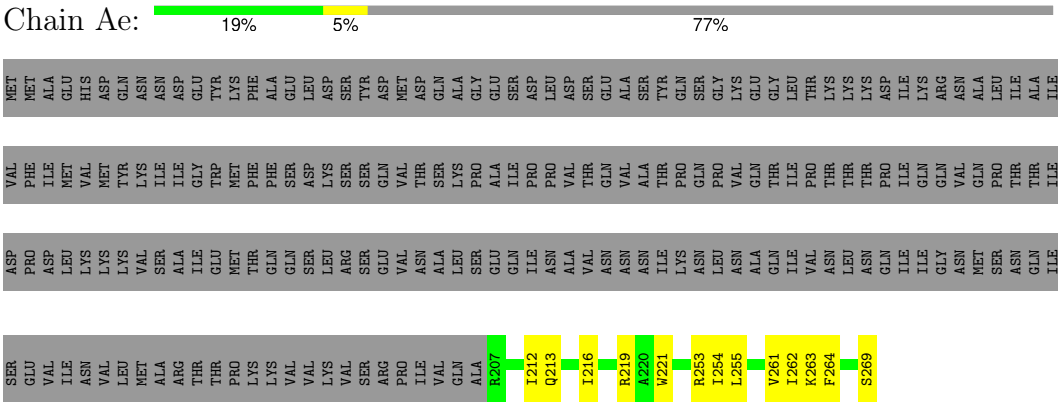
• Molecule 4: unknown peptide D

Chain Es:



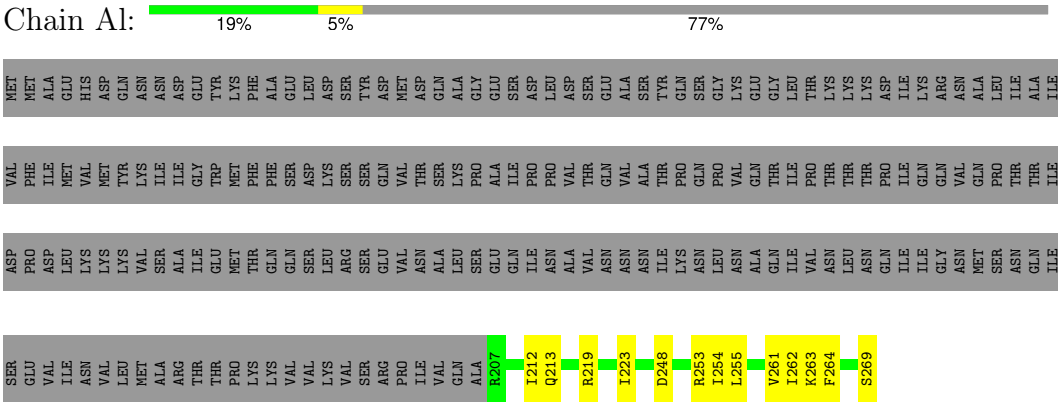
• Molecule 5: IcmG (DotF)

Chain Ae:



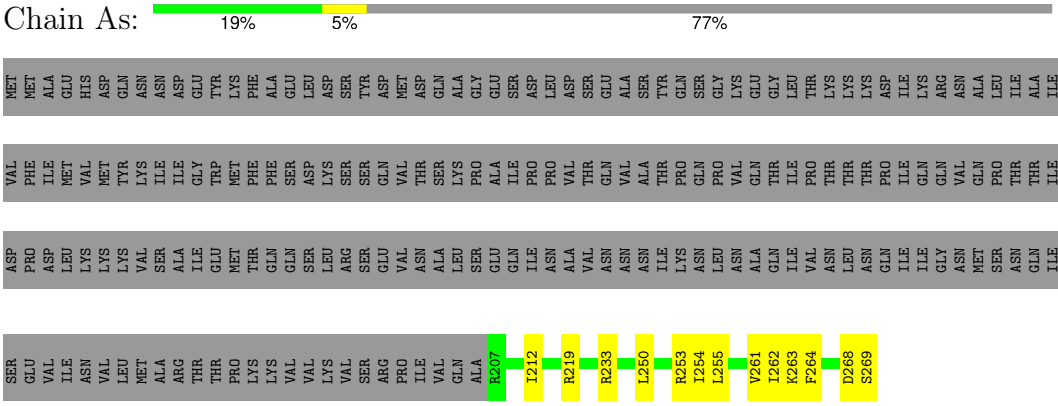
• Molecule 5: IcmG (DotF)

Chain Al:



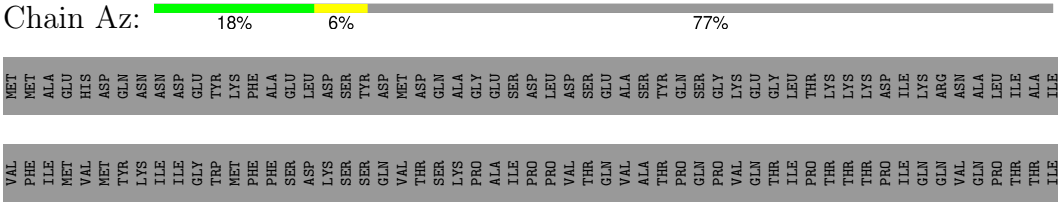
• Molecule 5: IcmG (DotF)

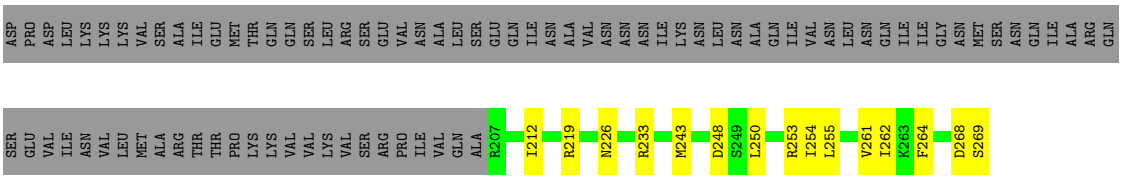
Chain As:



• Molecule 5: IcmG (DotF)

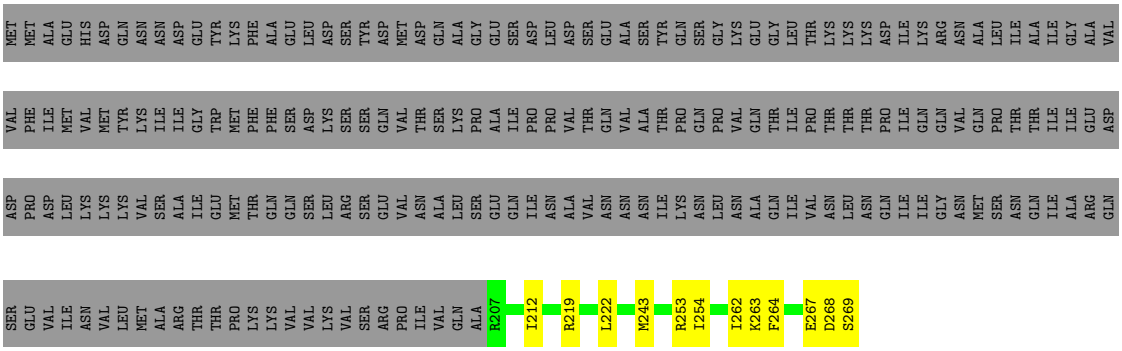
Chain Az:





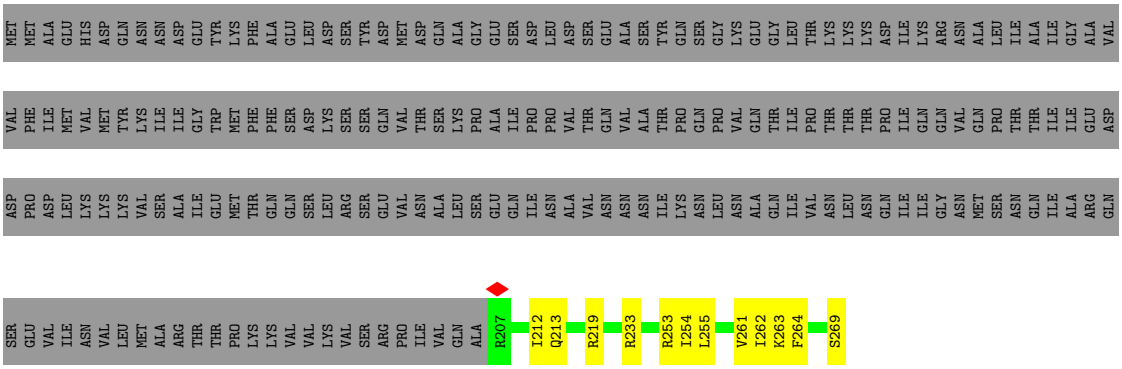
• Molecule 5: IcmG (DotF)

Chain Bg:



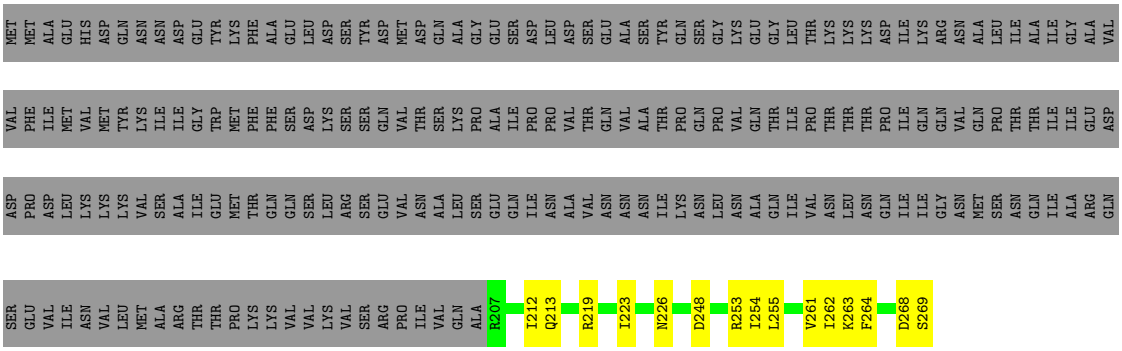
• Molecule 5: IcmG (DotF)

Chain Bn:



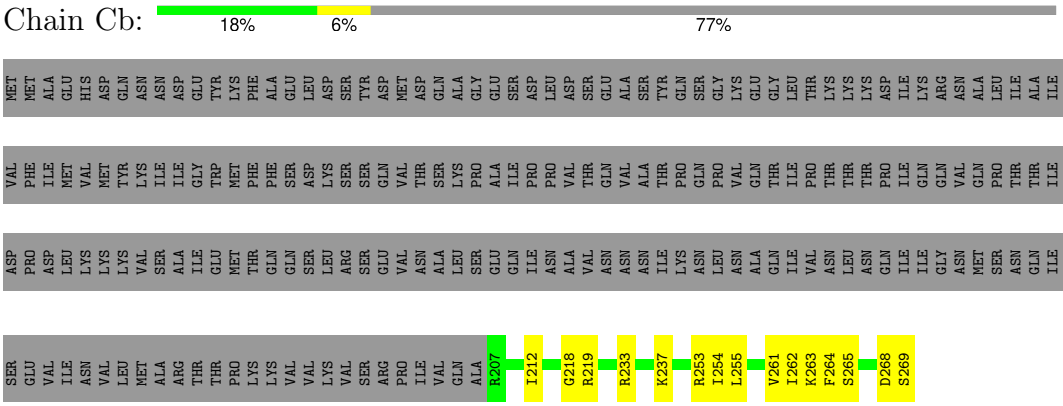
• Molecule 5: IcmG (DotF)

Chain Bu:



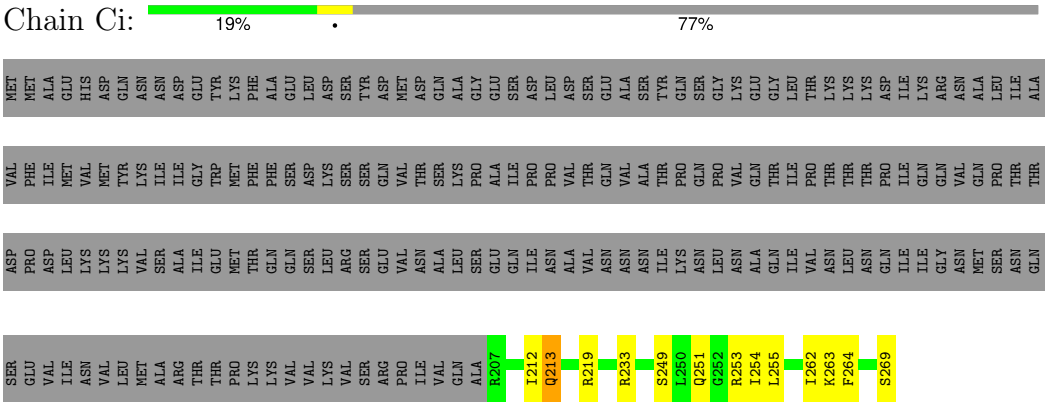
• Molecule 5: IcmG (DotF)

Chain Cb:



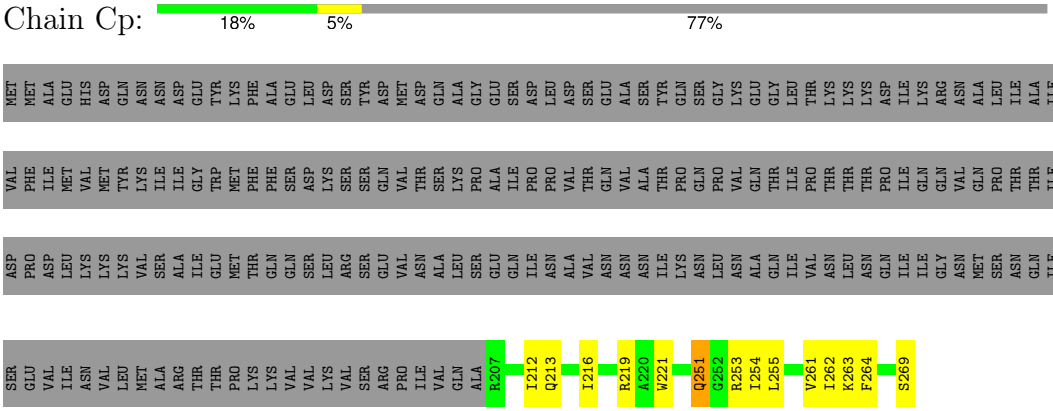
• Molecule 5: IcmG (DotF)

Chain Ci:



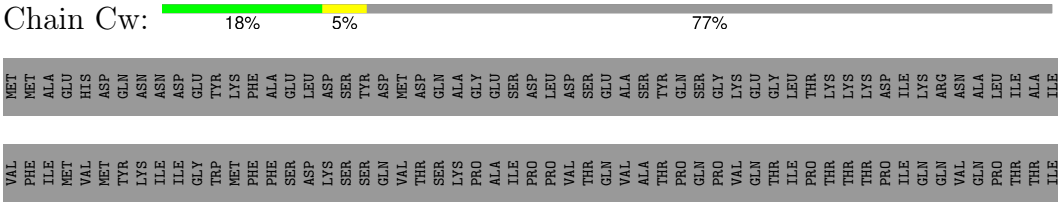
• Molecule 5: IcmG (DotF)

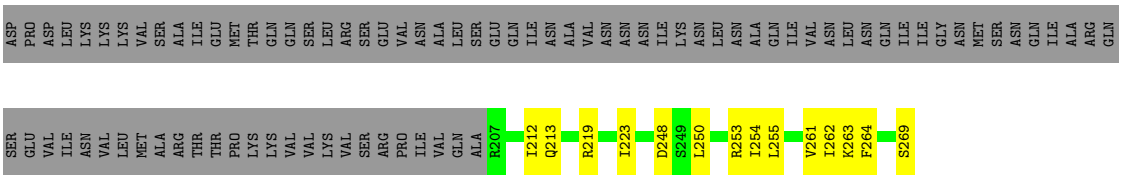
Chain Cp:



• Molecule 5: IcmG (DotF)

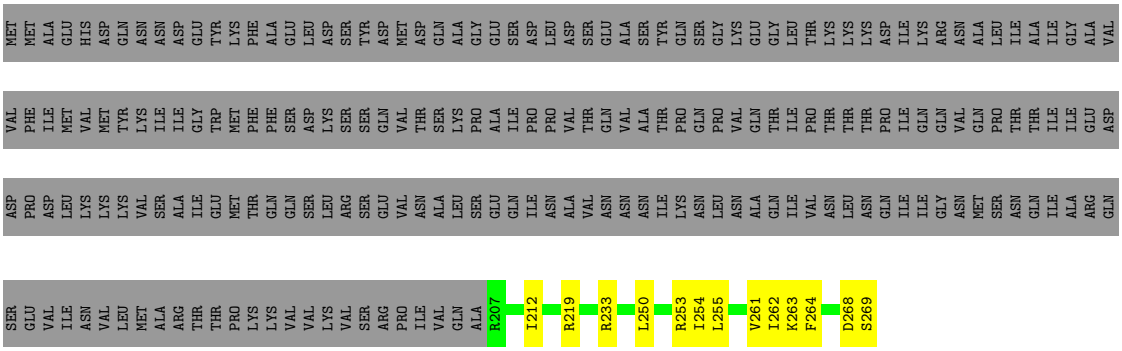
Chain Cw:





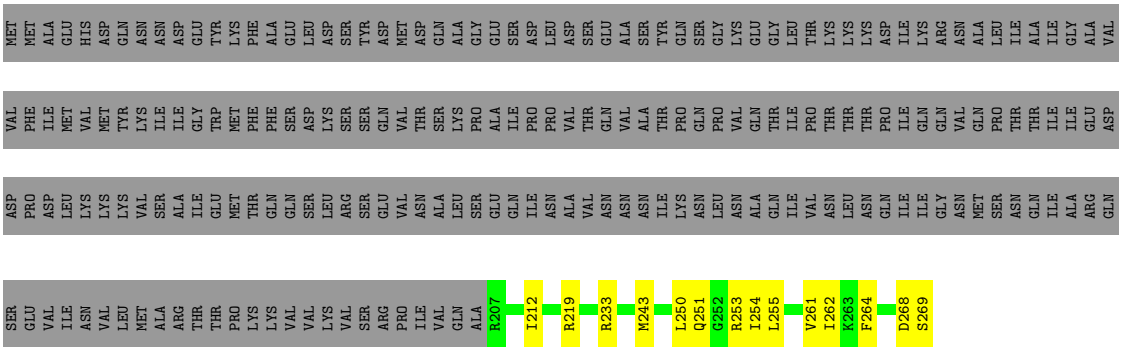
• Molecule 5: IcmG (DotF)

Chain Dd:



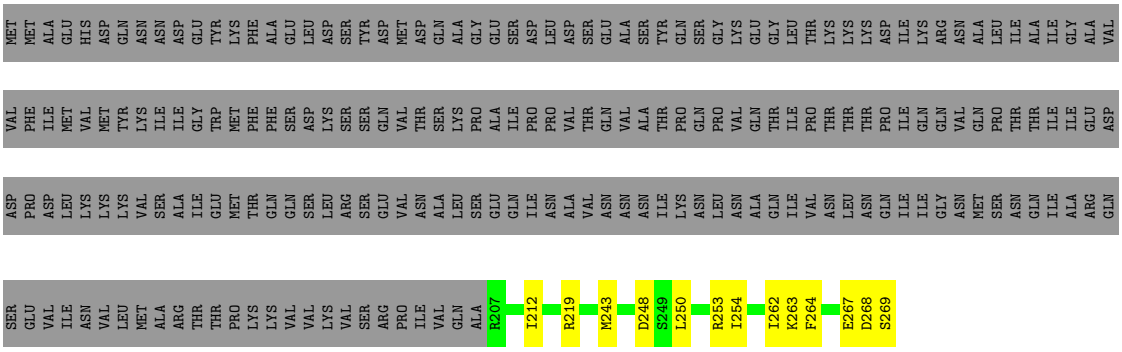
• Molecule 5: IcmG (DotF)

Chain Dk:



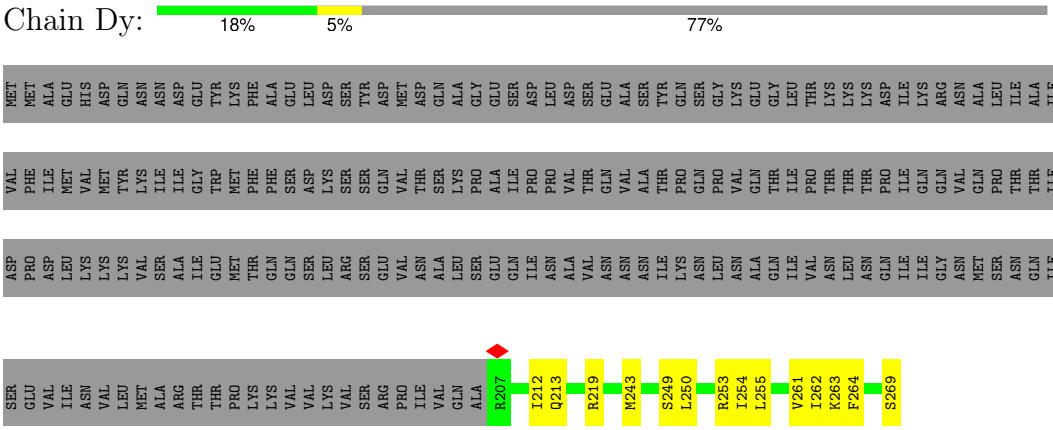
• Molecule 5: IcmG (DotF)

Chain Dr:



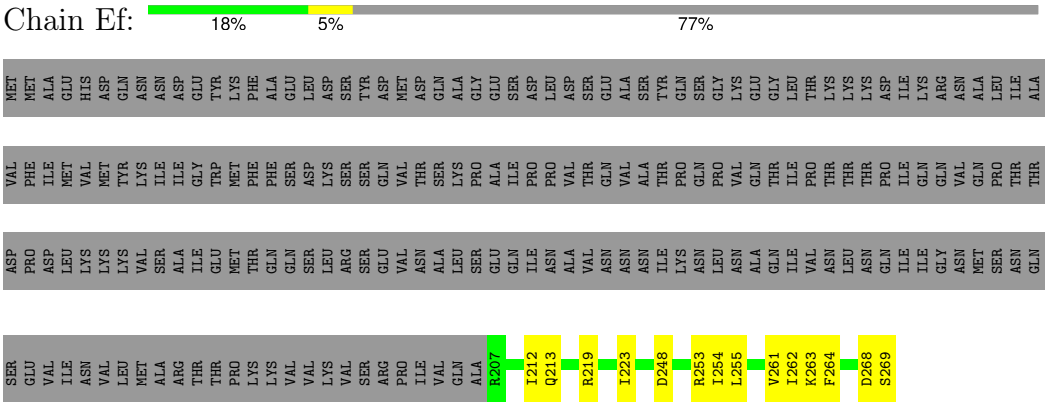
• Molecule 5: IcmG (DotF)

Chain Dy:



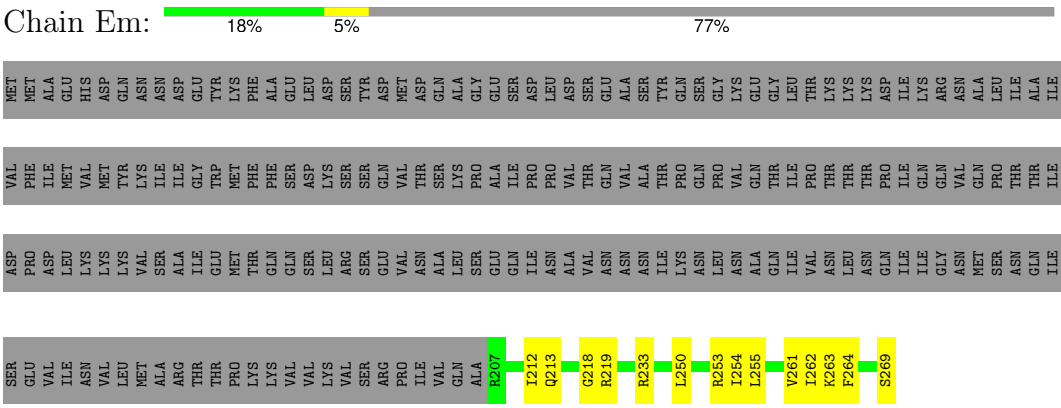
• Molecule 5: IcmG (DotF)

Chain Ef:



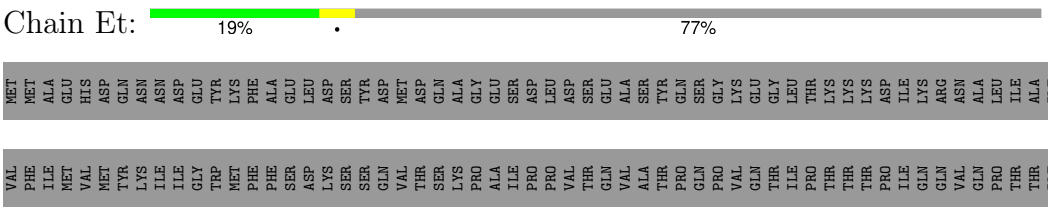
• Molecule 5: IcmG (DotF)

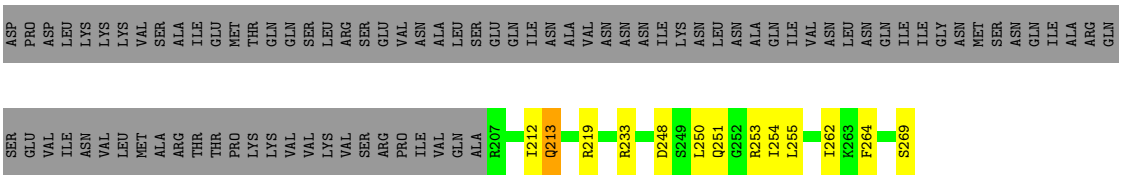
Chain Em:



• Molecule 5: IcmG (DotF)

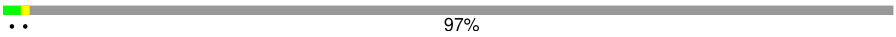
Chain Et:

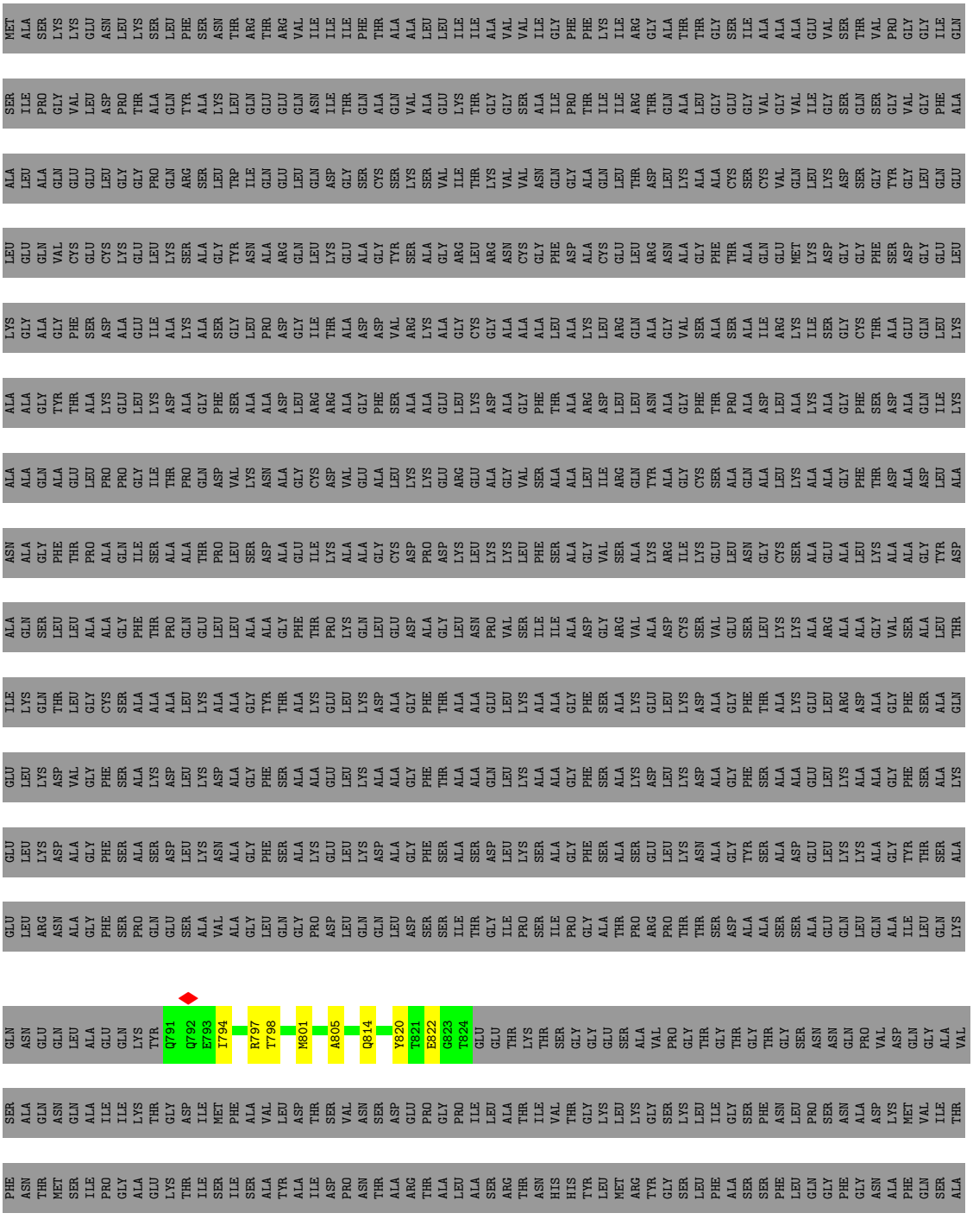


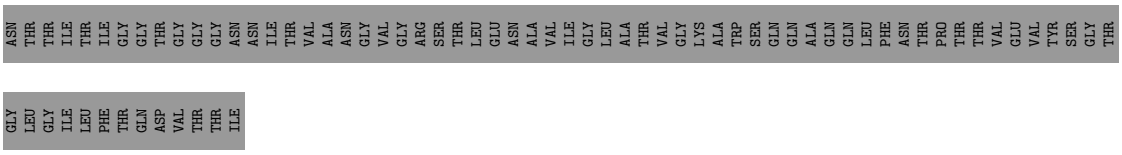


• Molecule 6: IcmE (DotG)

Chain Af:

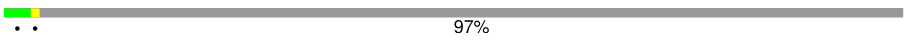


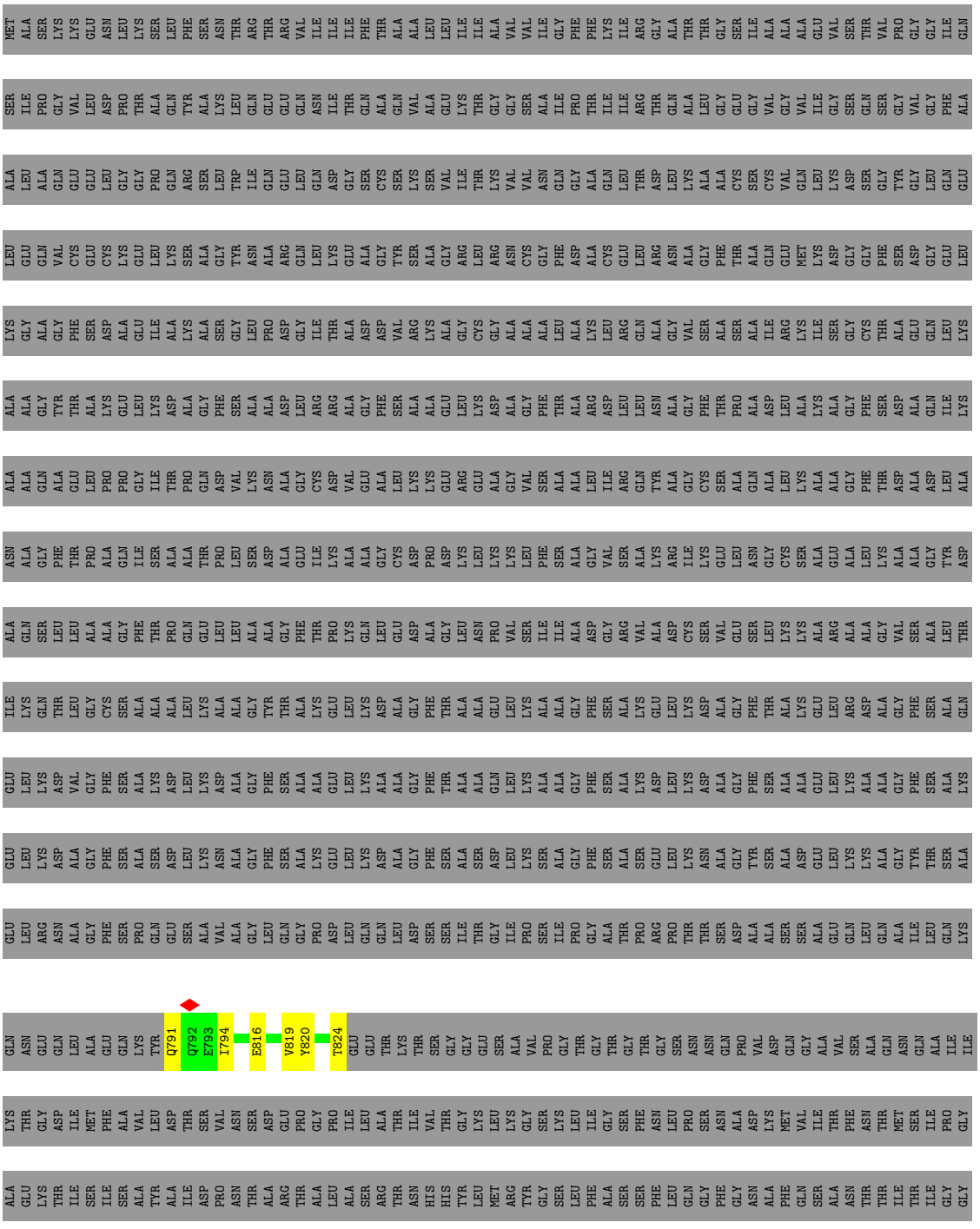


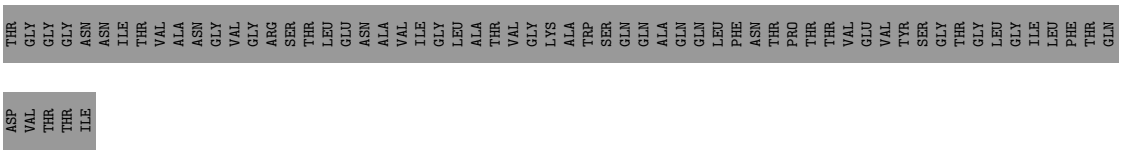


• Molecule 6: IcmE (DotG)

Chain Am:

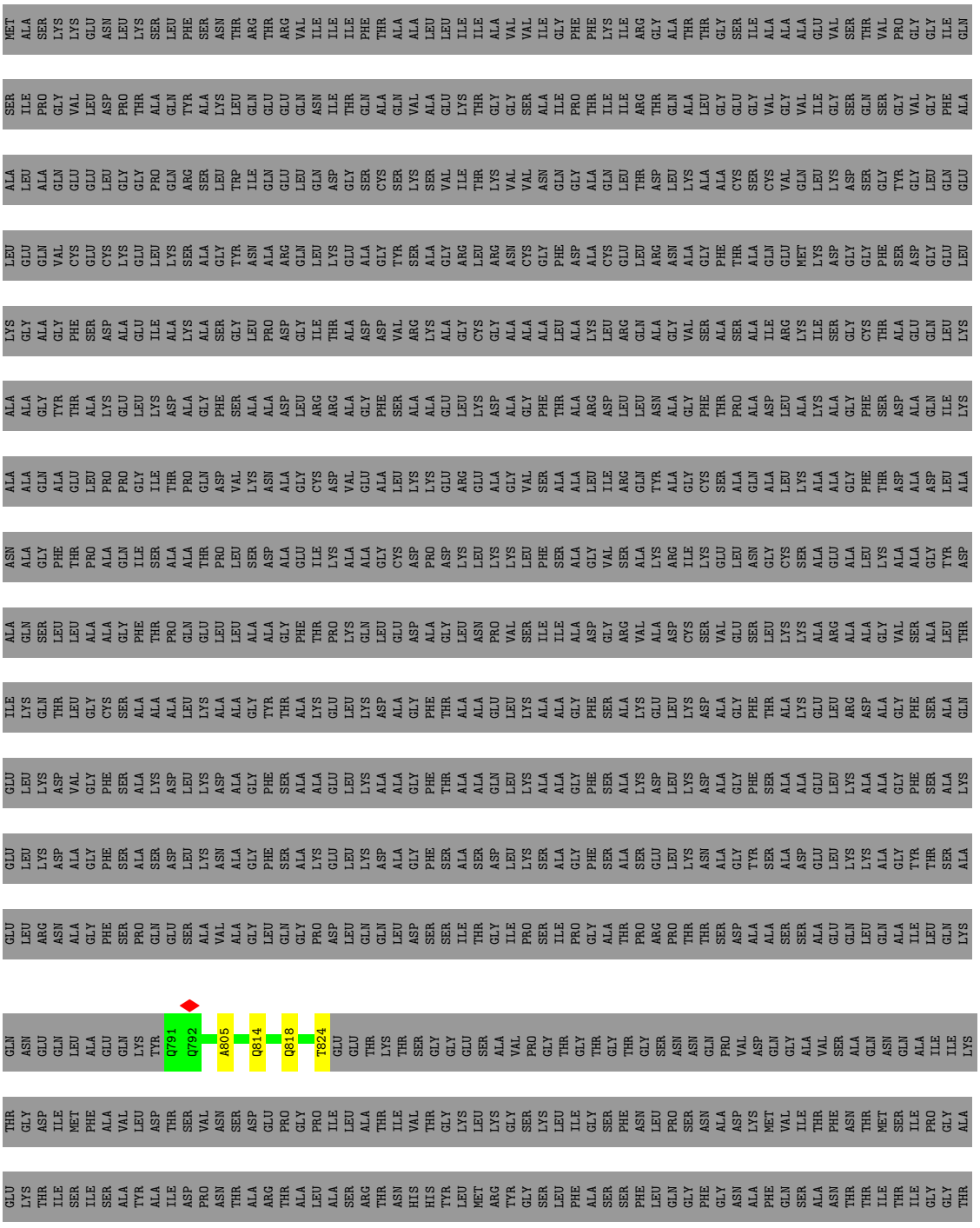


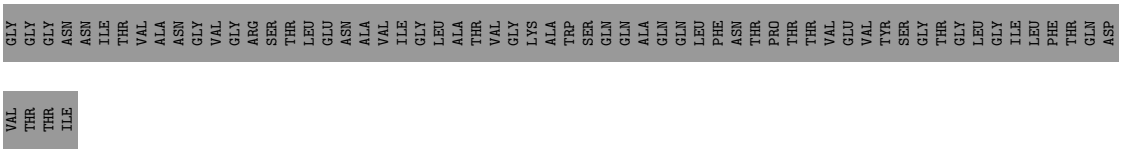




• Molecule 6: IcmE (DotG)

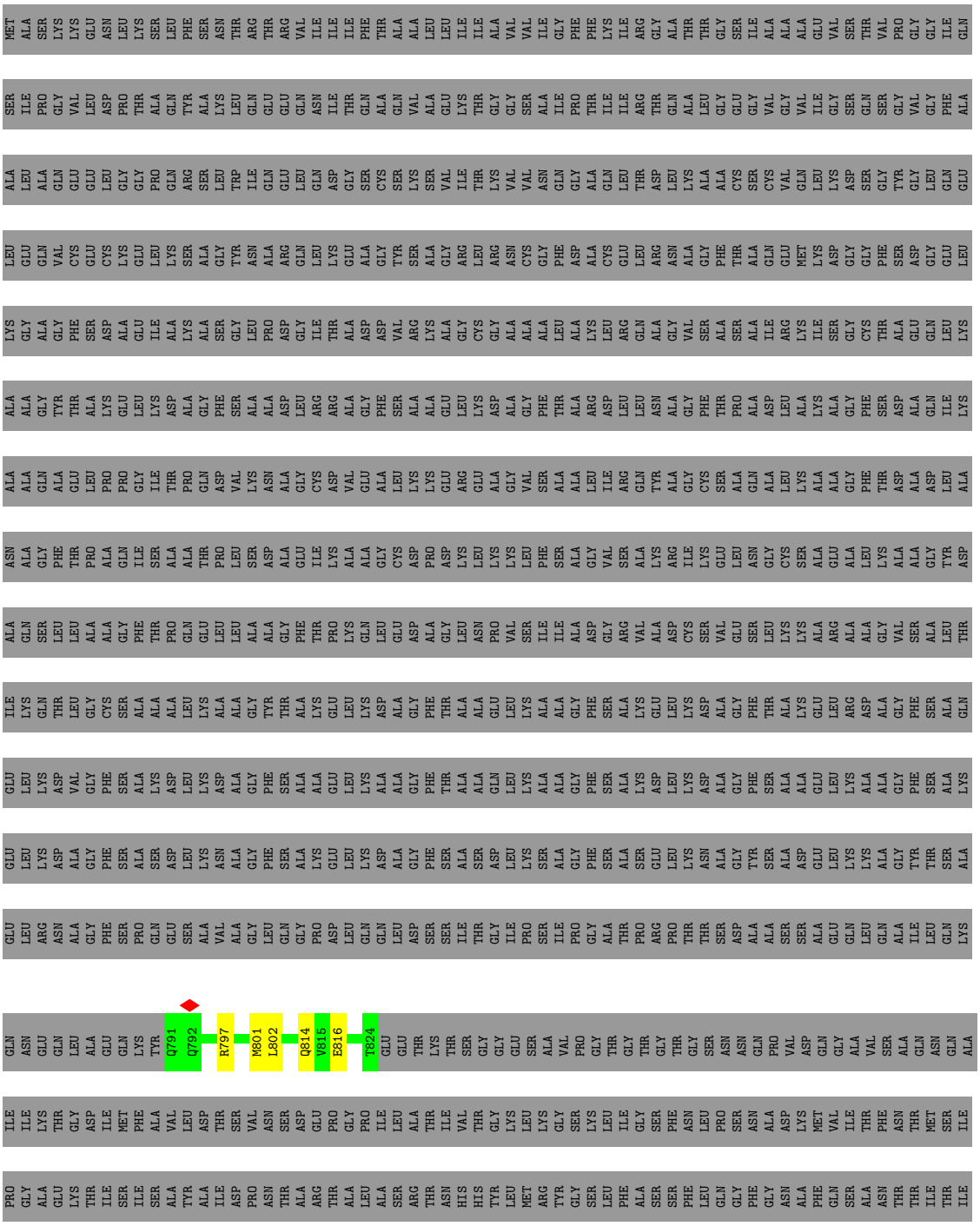
Chain At: . 97%

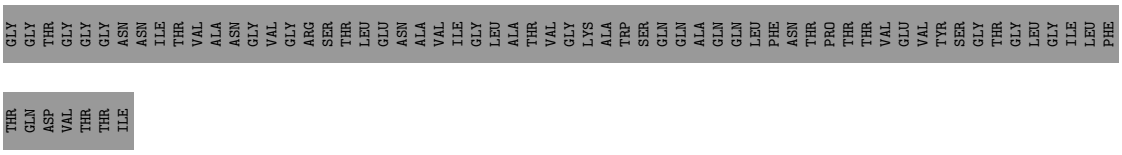




• Molecule 6: IcmE (DotG)

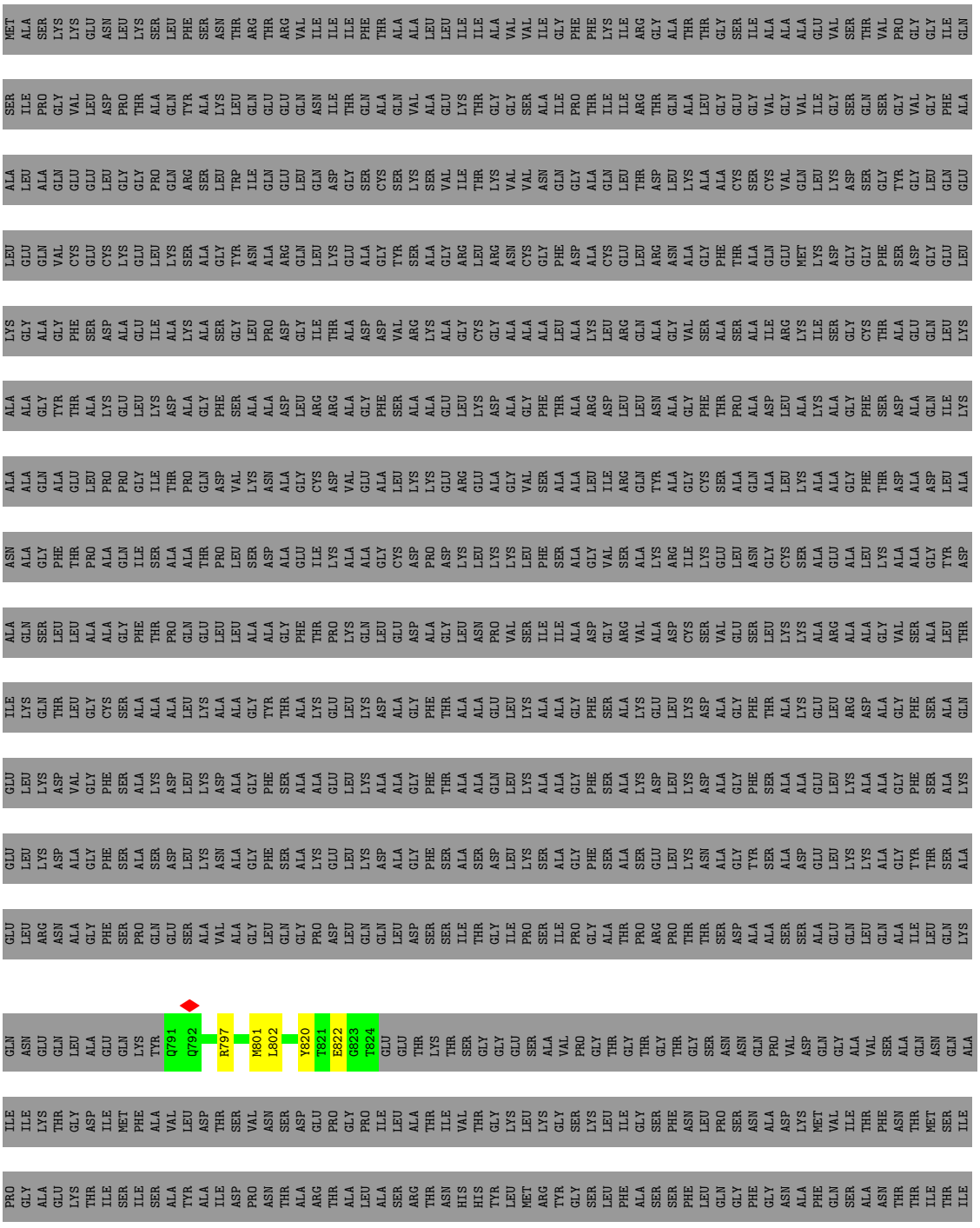
Chain Ba: 97%

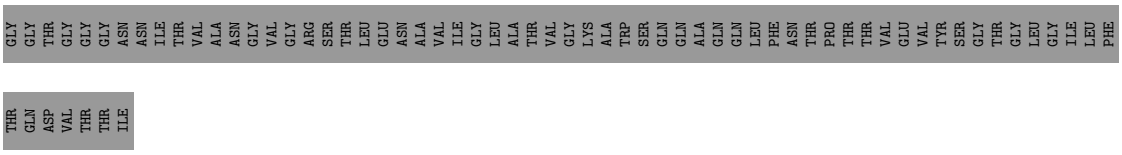




• Molecule 6: IcmE (DotG)

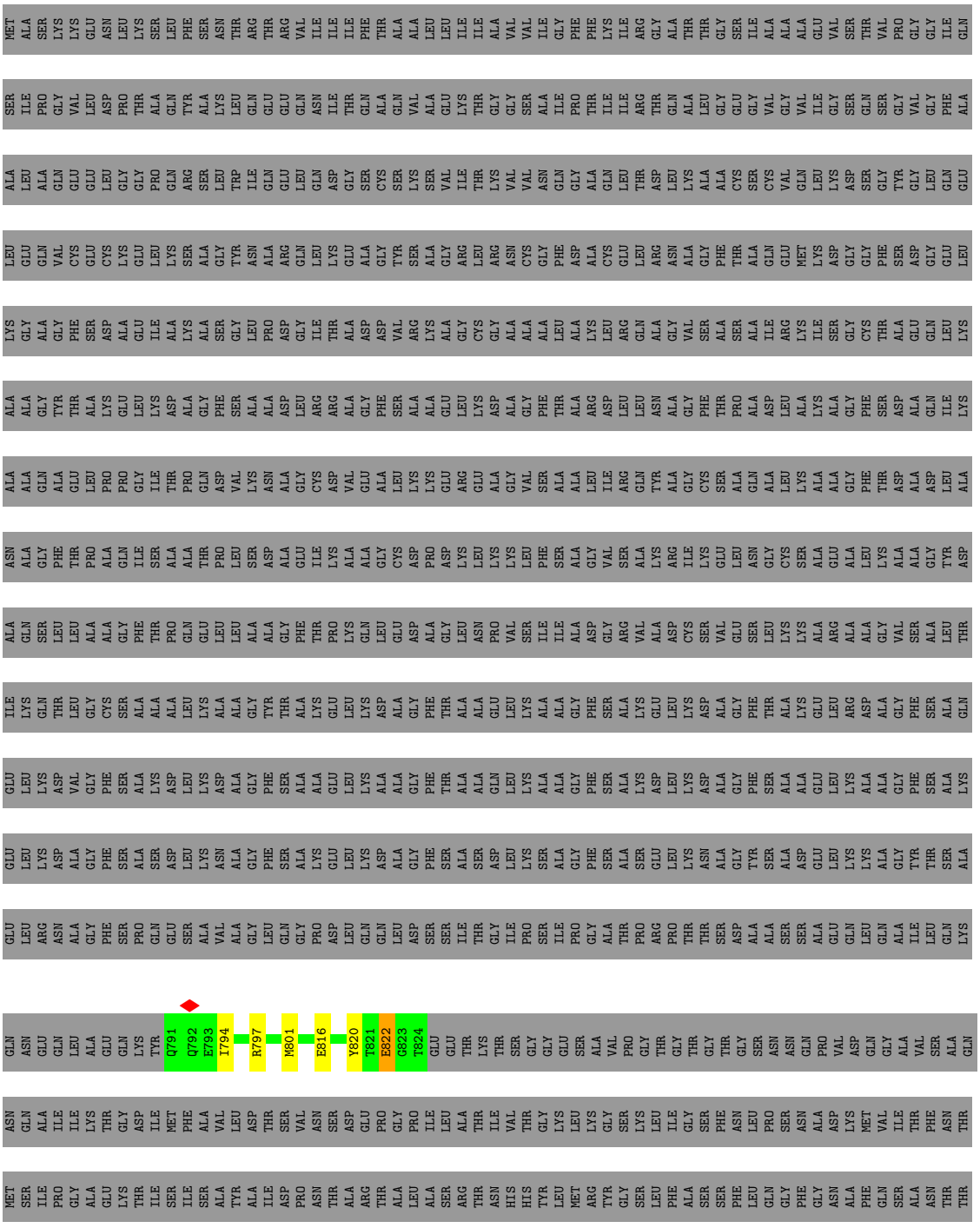
Chain Bh: 97%

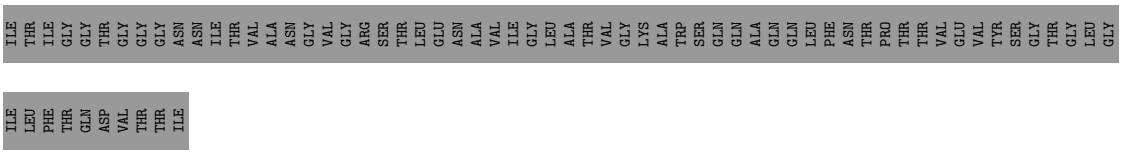




• Molecule 6: IcmE (DotG)

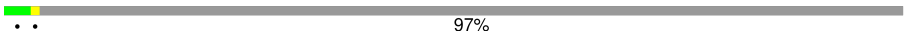
Chain Bo: 97%

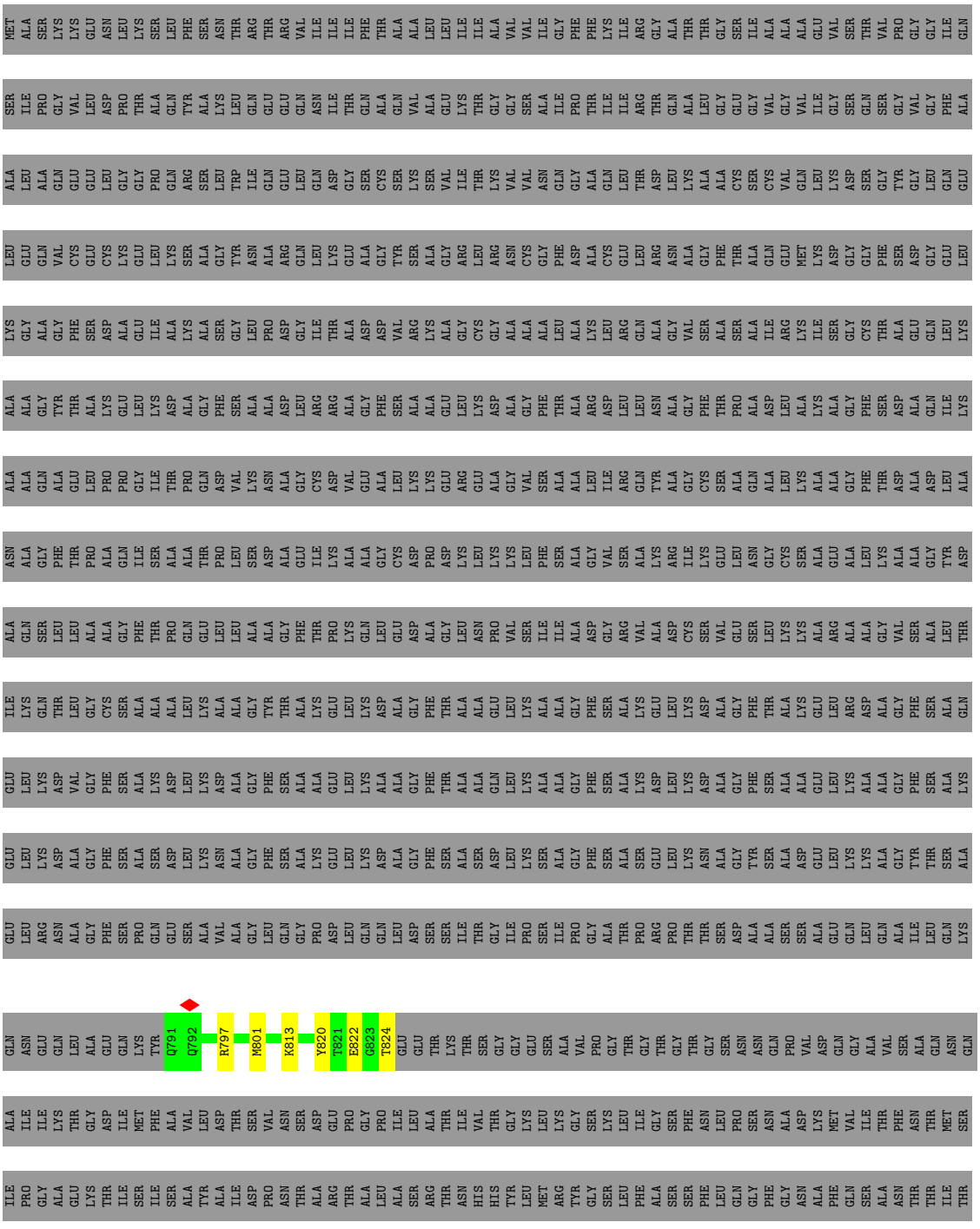


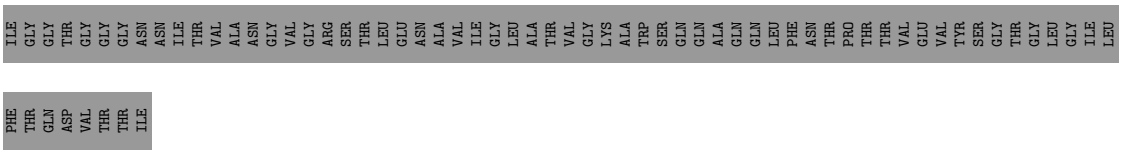


• Molecule 6: IcmE (DotG)

Chain Bv:

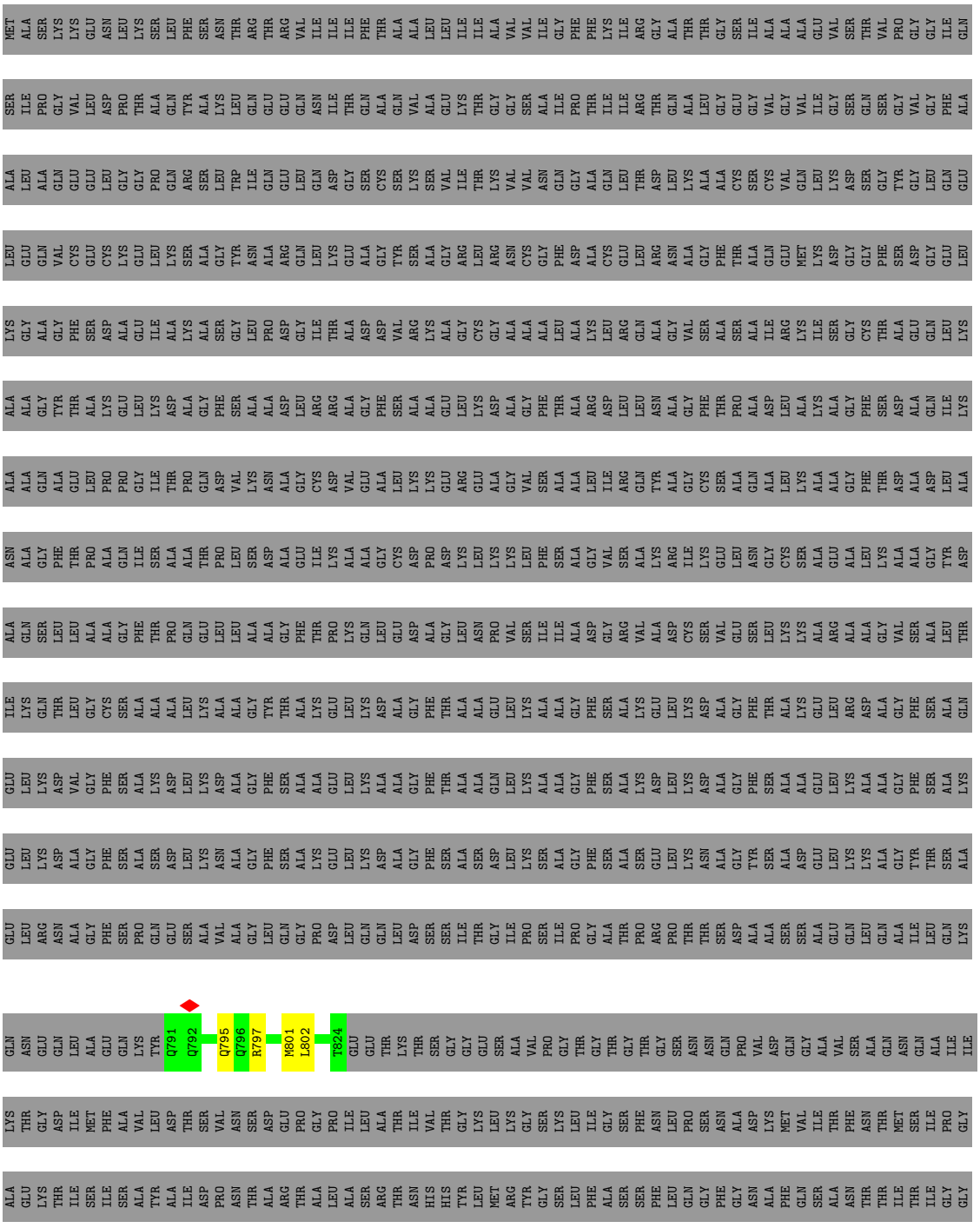


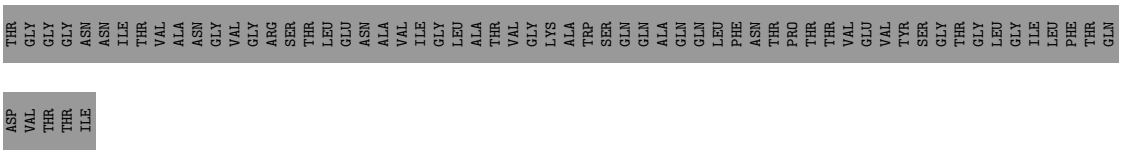




• Molecule 6: IcmE (DotG)

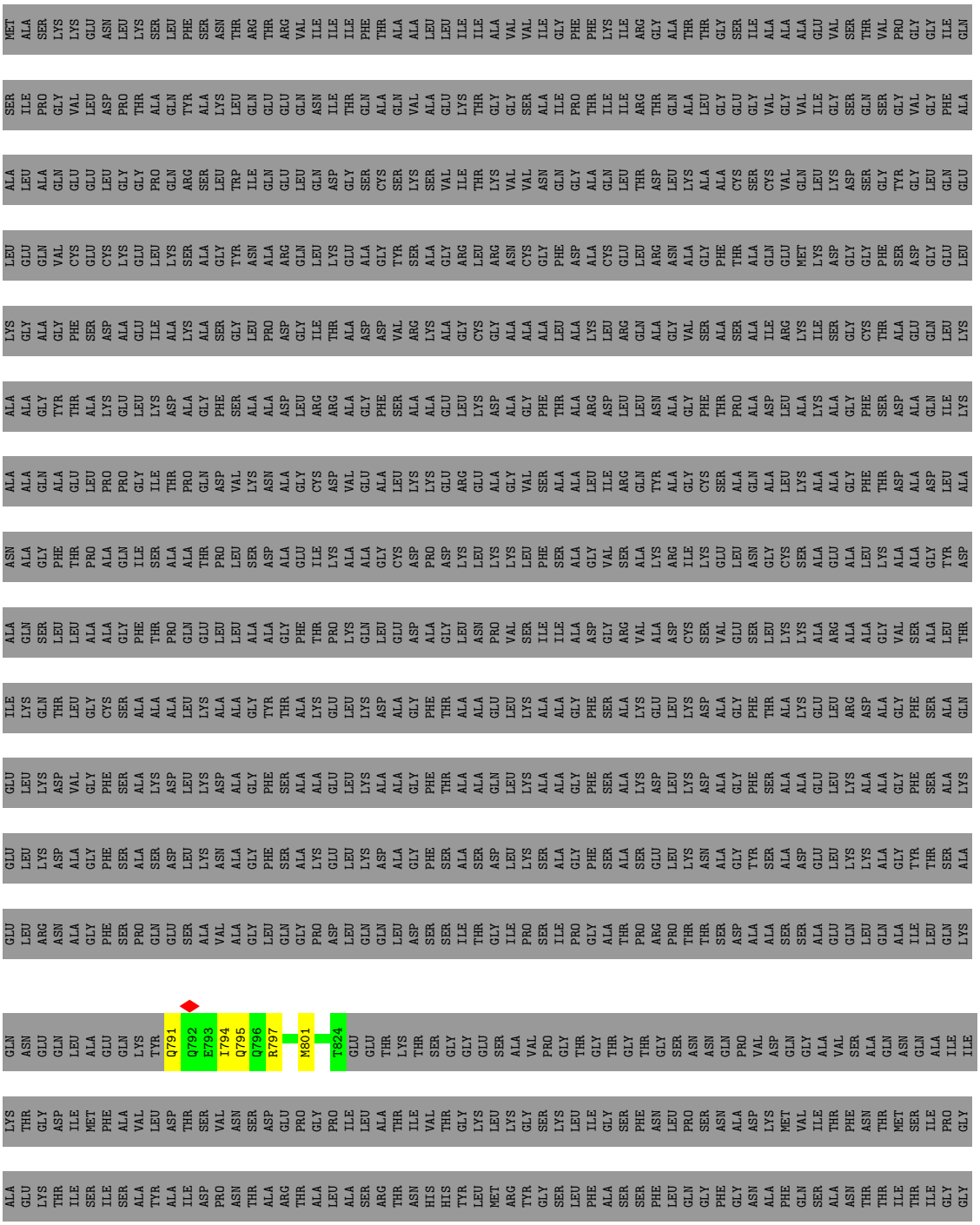
Chain Cc: 97%





• Molecule 6: IcmE (DotG)

Chain Cj: 97%



THR GLY GLY GLY ASN ASN ILE THR VAL ALA ASN GLY VAL GLY ARG SER THR LEU GLU ASN ALA VAL ILE GLY LEU ALA THR VAL GLY LYS ALA TRP SER GLN GLN ALA GLN GLN LEU PHE ASN THR PRO THR THR VAL GLU VAL TYR SER GLY THR GLY LEU GLY ILE LEU PHE THR GLN

ASP VAL THR THR ILE

• Molecule 6: IcmE (DotG)

Chain Cq: 97%

MET ALA SER LYS LYS GLU ASN LEU LYS SER LEU PHE SER ASN THR ARG THR ARG VAL ILE ILE ILE PHE THR ALA ALA LEU LEU ILE ILE ALA VAL VAL ILE GLY PHE PHE LYS ILE ARG GLY ALA THR THR GLY SER ILE ALA ALA ALA GLU VAL SER THR VAL PRO GLY GLY ILE GLN

SER ILE PRO GLY VAL LEU ASP PRO THR ALA GLN TYR ALA LYS LEU GLN GLU GLU GLN ASN ILE THR GLN ALA GLN VAL ALA GLU LYS THR GLY GLY SER ALA ILE PRO THR ILE ILE ARG THR GLN ALA LEU GLY GLU GLY VAL GLY VAL ILE GLY SER GLN SER GLY VAL GLY PHE ALA

ALA LEU ALA GLN GLU GLU LEU GLY GLY PRO GLN ARG SER LEU TRP ILE GLN GLU LEU GLN ASP GLY SER CYS SER LYS SER VAL ILE THR LYS VAL VAL ASN GLN GLY ALA GLN LEU THR ASP LEU LYS ALA ALA CYS SER CYS VAL GLN LEU LYS ASP SER GLY TYR GLY LEU GLN GLU

LEU GLU GLN VAL CYS GLU CYS LYS GLU LEU LYS SER ALA GLY TYR ASN ALA ARG GLN LEU LYS GLU ALA GLY TYR SER ALA GLY ARG LEU ARG ASN CYS GLY PHE ASP ALA CYS GLU LEU ARG ASN ALA GLY PHE THR ALA GLN GLU MET LYS ASP GLY GLY PHE SER ASP GLY GLU LEU

LYS GLY ALA GLY PHE SER ASP ALA GLU ILE ALA LYS ALA SER GLY LEU PRO ASP GLY ILE THR ALA ASP ASP VAL ARG LYS ALA GLY CYS GLY ALA ALA ALA LEU ALA LYS LEU ARG GLN ALA GLY VAL SER ALA SER ALA ILE ARG LYS ILE SER GLY CYS THR ALA GLU GLN LEU LYS

ALA ALA GLY TYR THR ALA LYS GLU LEU LYS ASP ALA GLY PHE SER ALA ALA ASP LEU ARG ARG ALA GLY PHE SER ALA ALA GLU LEU LYS ASP ALA GLY PHE THR ALA ARG ASP LEU LEU ASN ALA GLY PHE THR PRO ALA ASP LEU ALA LYS ALA GLY PHE SER ASP ALA GLN ILE LYS

ALA ALA GLN ALA GLU LEU PRO PRO GLY ILE THR PRO GLN ASP VAL LYS ASN ALA GLY CYS ASP VAL GLU ALA LEU LYS LYS GLU ARG GLU ALA GLY VAL SER ALA ALA LEU ILE ARG GLN TYR ALA GLY CYS SER ALA GLN ALA LEU LYS ALA ALA GLY PHE THR ASP ALA ASP LEU ALA

ASN ALA GLY PHE THR PRO ALA GLN ILE SER ALA ALA THR PRO LEU SER ASP ALA GLU ILE LYS ALA ALA GLY CYS ASP PRO ASP LYS LEU LYS LYS LEU PHE SER ALA GLY VAL SER ALA LYS ARG ILE LYS GLU LEU ASN GLY CYS SER ALA GLU ALA LEU LYS ALA ALA GLY TYR ASP

ALA GLN SER LEU LEU ALA ALA GLY PHE THR PRO GLN GLU LEU LEU ALA ALA GLY PHE THR PRO LYS GLN LEU GLU ASP ALA GLY LEU ASN PRO VAL SER ILE ILE ALA ASP GLY ARG VAL ALA ASP CYS SER VAL GLU SER LEU LYS LYS ALA ARG ALA ALA GLY VAL SER ALA LEU THR

ILE LYS GLN THR LEU GLY CYS SER ALA ALA ALA LEU LYS ALA ALA GLY TYR THR ALA LYS GLU LEU LYS ASP ALA GLY PHE THR ALA ALA GLU LEU LYS ALA ALA GLY PHE SER ALA LYS GLU LEU LYS ASP ALA GLY PHE THR ALA LYS GLU LEU ARG ASP ALA GLY PHE SER ALA GLN

GLU LEU LYS ASP VAL GLY PHE SER ALA LYS ASP LEU LYS ASP ALA GLY PHE SER ALA ALA GLU LEU LYS ALA ALA GLY PHE THR ALA ALA GLN LEU LYS ALA ALA GLY PHE SER ALA LYS ASP LEU LYS ASP ALA GLY PHE SER ALA ALA GLU LEU LYS ALA ALA GLY PHE SER ALA LYS

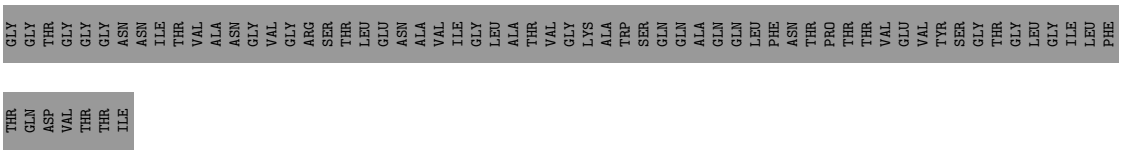
GLU LEU LYS ASP ALA GLY PHE SER ALA SER ASP LEU LYS ASN ALA GLY PHE SER ALA LYS GLU LEU LYS ASP ALA GLY PHE SER ALA SER ASP LEU LYS SER ALA GLY PHE SER ALA SER GLU LEU LYS ASN ALA GLY TYR SER ALA ASP GLU LEU LYS LYS ALA GLY TYR THR SER ALA

GLU LEU ARG ASN ALA GLY PHE SER PRO GLN GLU SER ALA VAL ALA GLY LEU GLN GLY PRO ASP LEU GLN GLN LEU ASP SER SER ILE THR GLY ILE PRO SER ILE PRO GLY ALA THR PRO ARG PRO THR THR SER ASP ALA ALA SER SER ALA GLU GLN LEU GLN ALA ILE LEU GLN LYS

GLN ASN GLU GLN LEU ALA GLU GLN LYS TYR Q791 Q792 R797 T798 M801 A805 Q814 T824 GLU GLU THR LYS THR SER GLY GLY GLU SER ALA VAL PRO GLY THR GLY THR GLY THR GLY SER ASN ASN GLN PRO VAL ASP GLN GLY ALA VAL SER ALA GLN ASN GLN ALA

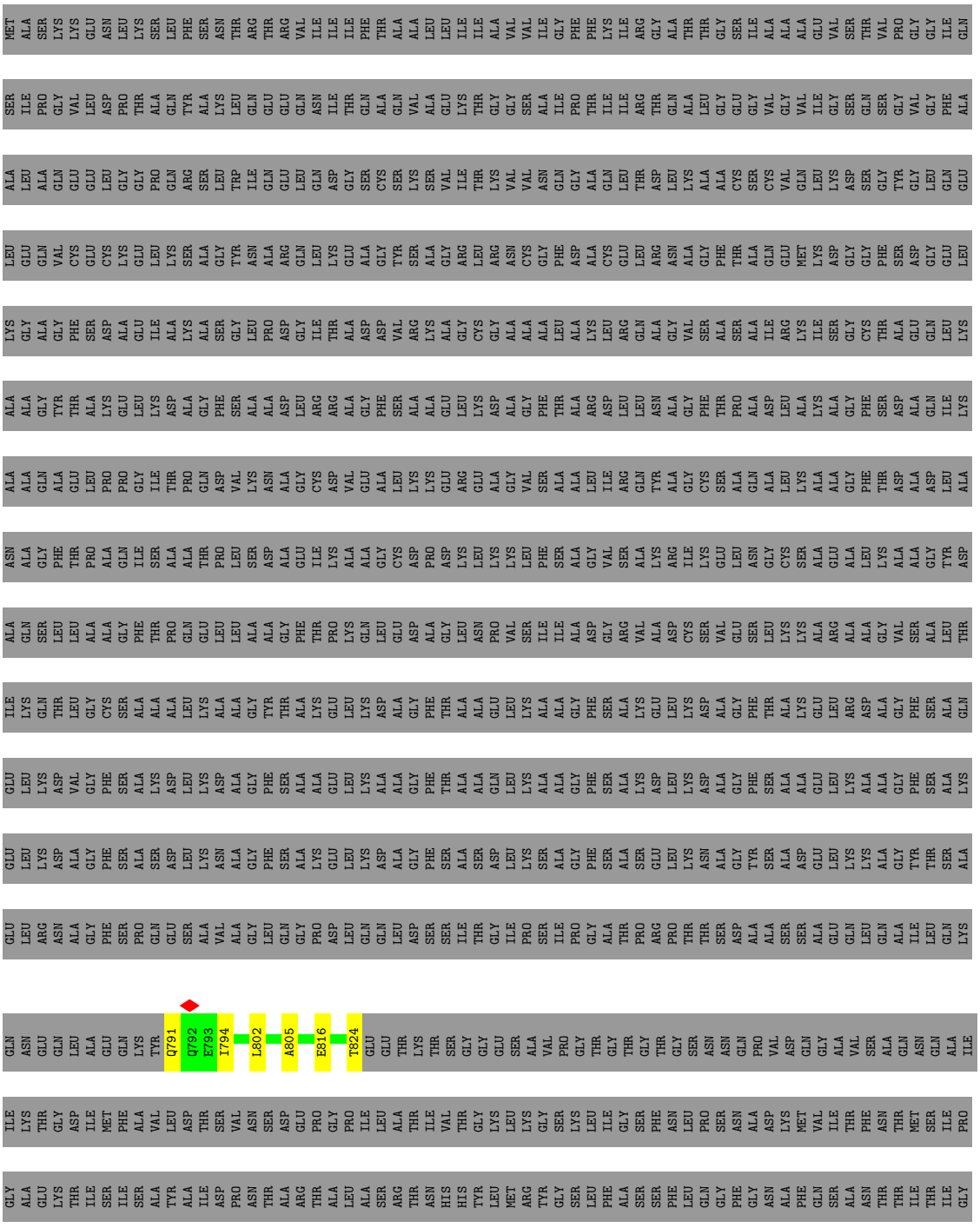
ILE ILE LYS THR GLY ASP ILE MET PHE ALA VAL LEU ASP THR SER VAL ASN SER ASP GLU PRO GLY PRO ILE LEU ALA THR ILE VAL THR GLY LYS LEU LYS GLY SER LYS LEU ILE GLY SER PHE ASN LEU PRO SER ASN ALA ASP LYS MET VAL ILE THR PHE ASN THR MET SER ILE

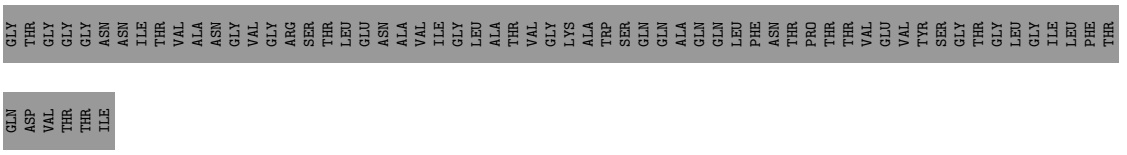
PRO GLY ALA GLU LYS THR ILE SER ILE SER ALA TYR ALA ILE ASP PRO ASN THR ALA ARG THR ALA LEU ALA SER ARG THR ASN HIS HIS TYR LEU MET ARG TYR GLY SER LEU PHE ALA SER SER PHE LEU GLN GLY PHE GLY ASN ALA PHE GLN SER ALA ASN THR THR ILE THR ILE



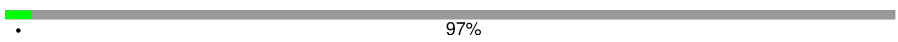
• Molecule 6: IcmE (DotG)

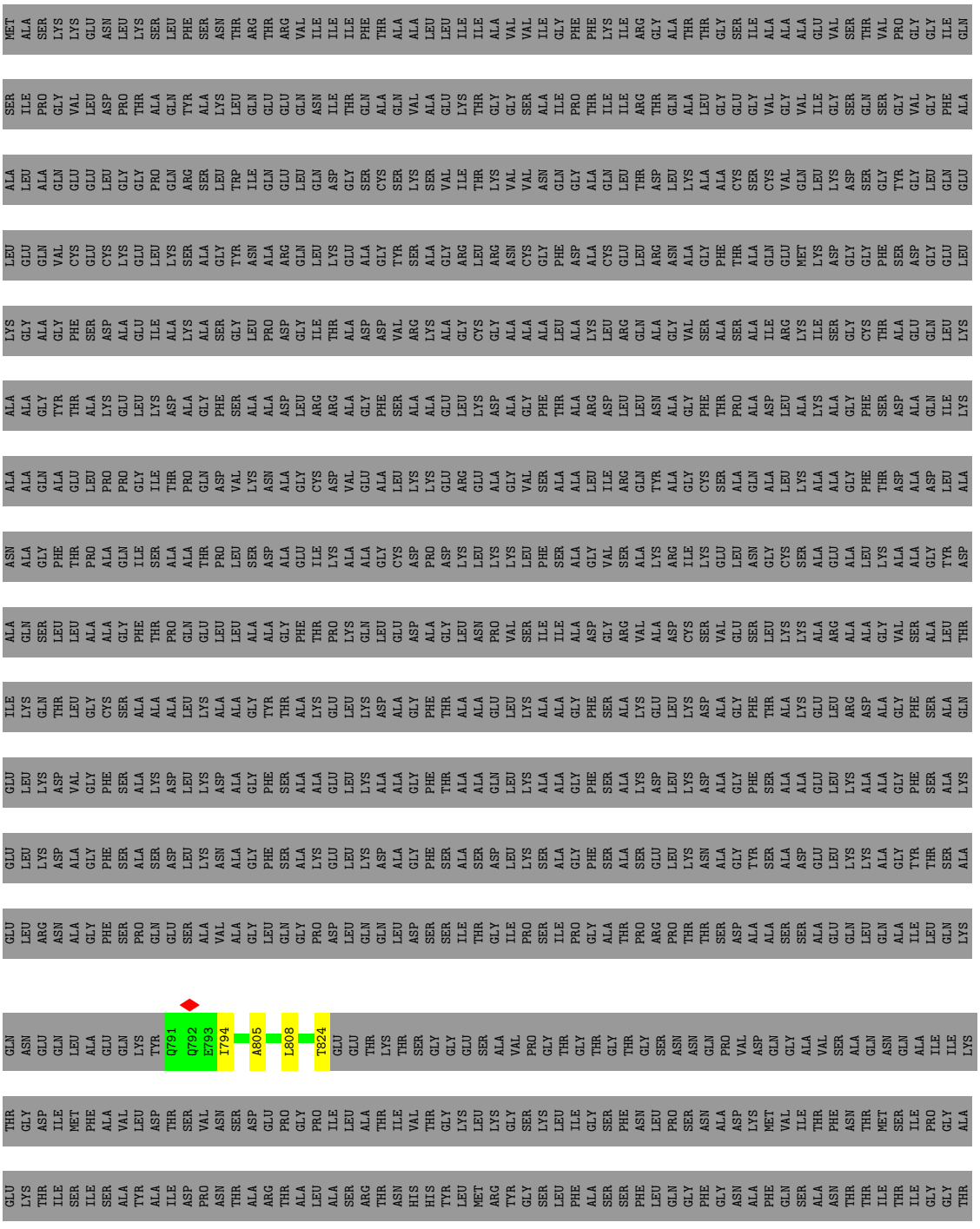
Chain Cx: 97%





• Molecule 6: IcmE (DotG)



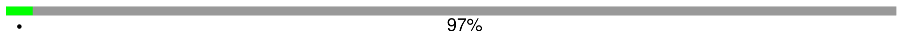


GLY GLY GLY ASN ASN ILE THR VAL ALA ASN GLY VAL GLY ARG SER THR LEU GLU ASN ALA VAL ILE GLY LEU ALA THR VAL GLY LYS ALA TRP SER GLN GLN ALA GLN GLN LEU PHE ASN THR PRO THR THR VAL GLU VAL TYR SER GLY THR GLY LEU GLY ILE LEU PHE THR GLN ASP

VAL THR THR ILE

- Molecule 6: IcmE (DotG)

Chain Dl:



MET ALA SER LYS LYS GLU ASN LEU LYS SER LEU PHE SER ASN THR ARG THR ARG VAL ILE ILE ILE PHE THR ALA ALA LEU LEU ILE ILE ALA VAL VAL ILE GLY PHE PHE LYS ILE ARG GLY ALA THR THR GLY SER ILE ALA ALA ALA GLU VAL SER THR VAL PRO GLY GLY ILE GLN

SER ILE PRO GLY VAL LEU ASP PRO THR ALA GLN TYR ALA LYS LEU GLN GLU GLU GLN ASN ILE THR GLN ALA GLN VAL ALA GLU LYS THR GLY GLY SER ALA ILE PRO THR ILE ILE ARG THR GLN ALA LEU GLY GLU GLY VAL GLY VAL ILE GLY SER GLN SER GLY VAL GLY PHE ALA

ALA LEU ALA GLN GLU GLU LEU GLY GLY PRO GLN ARG SER LEU TRP ILE GLN GLU LEU GLN ASP GLY SER CYS SER LYS SER VAL ILE THR LYS VAL VAL ASN GLN GLY ALA GLN LEU THR ASP LEU LYS ALA ALA CYS SER CYS VAL GLN LEU LYS ASP SER GLY TYR GLY LEU GLN GLU

LEU GLU GLN VAL CYS GLU CYS LYS GLU LEU LYS SER ALA GLY TYR ASN ALA ARG GLN LEU LYS GLU ALA GLY TYR SER ALA GLY ARG LEU ARG ASN CYS GLY PHE ASP ALA CYS GLU LEU ARG ASN ALA GLY PHE THR ALA GLN GLU MET LYS ASP GLY GLY PHE SER ASP GLY GLU LEU

LYS GLY ALA GLY PHE SER ASP ALA GLU ILE ALA LYS ALA SER GLY LEU PRO ASP GLY ILE THR ALA ASP ASP VAL ARG LYS ALA GLY CYS GLY ALA ALA ALA LEU ALA LYS LEU ARG GLN ALA GLY VAL SER ALA SER ALA ILE ARG LYS ILE SER GLY CYS THR ALA GLU GLN LEU LYS

ALA ALA GLY TYR THR ALA LYS GLU LEU LYS ASP ALA GLY PHE SER ALA ALA ASP LEU ARG ARG ALA GLY PHE SER ALA ALA GLU LEU LYS ASP ALA GLY PHE THR ALA ARG ASP LEU LEU ASN ALA GLY PHE THR PRO ALA ASP LEU ALA LYS ALA GLY PHE SER ASP ALA GLN ILE LYS

ALA ALA GLN ALA GLU LEU PRO PRO GLY ILE THR PRO GLN ASP VAL LYS ASN ALA GLY CYS ASP VAL GLU ALA LEU LYS LYS GLU ARG GLU ALA GLY VAL SER ALA ALA LEU ILE ARG GLN TYR ALA GLY CYS SER ALA GLN ALA LEU LYS ALA ALA GLY PHE THR ASP ALA ASP LEU ALA

ASN ALA GLY PHE THR PRO ALA GLN ILE SER ALA ALA THR PRO LEU SER ASP ALA GLU ILE LYS ALA ALA GLY CYS ASP PRO ASP LYS LEU LYS LYS LEU PHE SER ALA GLY VAL SER ALA LYS ARG ILE LYS GLU LEU ASN GLY CYS SER ALA GLU ALA LEU LYS ALA ALA GLY TYR ASP

ALA GLN SER LEU LEU ALA ALA GLY PHE THR PRO GLN GLU LEU LEU ALA ALA GLY PHE THR PRO LYS GLN LEU GLU ASP ALA GLY LEU ASN PRO VAL SER ILE ILE ALA ASP GLY ARG VAL ALA ASP CYS SER VAL GLU SER LEU LYS LYS ALA ARG ALA ALA GLY VAL SER ALA LEU THR

ILE LYS GLN THR LEU GLY CYS SER ALA ALA ALA LEU LYS ALA ALA GLY TYR THR ALA LYS GLU LEU LYS ASP ALA GLY PHE THR ALA ALA GLU LEU LYS ALA ALA GLY PHE SER ALA LYS GLU LEU LYS ASP ALA GLY PHE THR ALA LYS GLU LEU ARG ASP ALA GLY PHE SER ALA GLN

GLU LEU LYS ASP VAL GLY PHE SER ALA LYS ASP LEU LYS ASP ALA GLY PHE SER ALA ALA GLU LEU LYS ALA ALA GLY PHE THR ALA ALA GLN LEU LYS ALA ALA GLY PHE SER ALA LYS ASP LEU LYS ASP ALA GLY PHE SER ALA ALA GLU LEU LYS ALA ALA GLY PHE SER ALA LYS

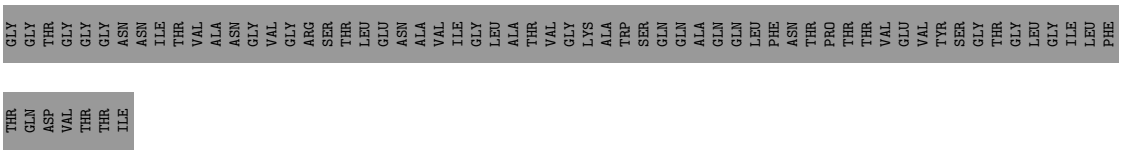
GLU LEU LYS ASP ALA GLY PHE SER ALA SER ASP LEU LYS ASN ALA GLY PHE SER ALA LYS GLU LEU LYS ASP ALA GLY PHE SER ALA SER ASP LEU LYS SER ALA GLY PHE SER ALA SER GLU LEU LYS ASN ALA GLY TYR SER ALA ASP GLU LEU LYS LYS ALA GLY TYR THR SER ALA

GLU LEU ARG ASN ALA GLY PHE SER PRO GLN GLU SER ALA VAL ALA GLY LEU GLN GLY PRO ASP LEU GLN GLN LEU ASP SER SER ILE THR GLY ILE PRO SER ILE PRO GLY ALA THR PRO ARG PRO THR THR SER ASP ALA ALA SER SER ALA GLU GLN LEU GLN ALA ILE LEU GLN LYS

GLN ASN GLU GLN LEU ALA GLU GLN LYS TYR Q791 Q792 E793 I794 R797 M801 L802 Q814 T824 GLU GLU THR LYS THR SER GLY GLY GLU SER ALA VAL PRO GLY THR GLY THR GLY THR GLY SER ASN ASN GLN PRO VAL ASP GLN GLY ALA VAL SER ALA GLN ASN GLN ALA

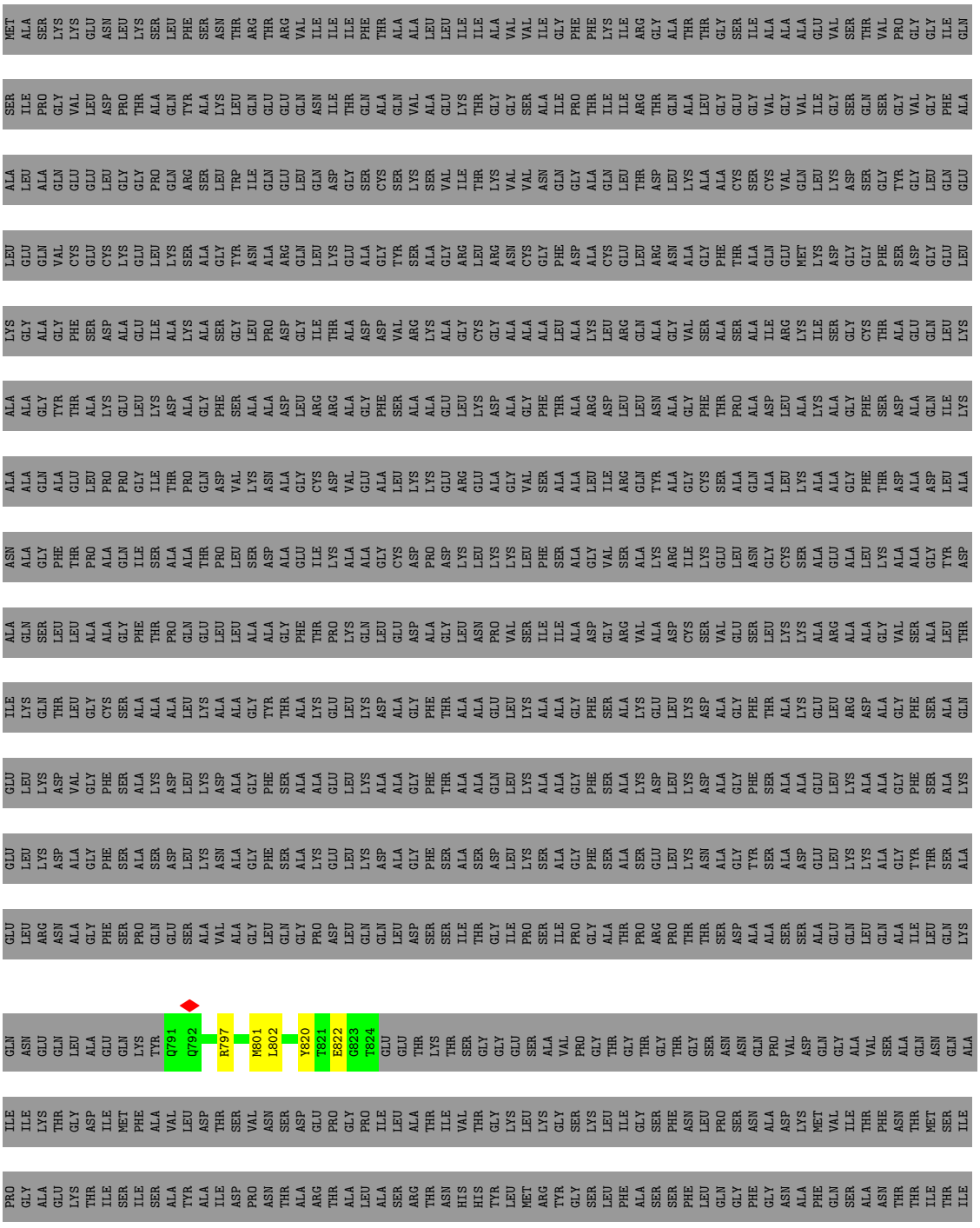
ILE ILE LYS THR GLY ASP ILE MET PHE ALA VAL LEU ASP THR SER VAL ASN SER ASP GLU PRO GLY PRO ILE LEU ALA THR ILE VAL THR GLY LYS LEU LYS GLY SER LYS LEU ILE GLY SER PHE ASN LEU PRO SER ASN ALA ASP LYS MET VAL ILE THR PHE ASN THR MET SER ILE

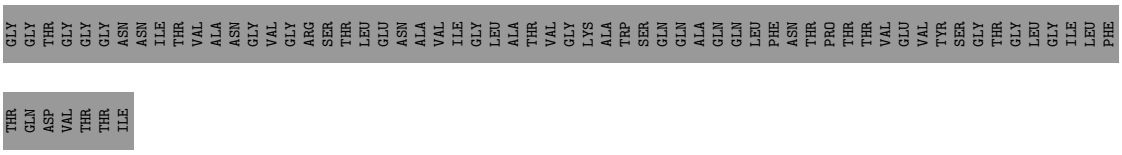
PRO GLY ALA GLU LYS THR ILE SER ILE SER ALA TYR ALA ILE ASP PRO ASN THR ALA ARG THR ALA LEU ALA SER ARG THR ASN HIS HIS TYR LEU MET ARG TYR GLY SER LEU PHE ALA SER SER PHE LEU GLN GLY PHE GLY ASN ALA PHE GLN SER ALA ASN THR THR ILE THR ILE



• Molecule 6: IcmE (DotG)

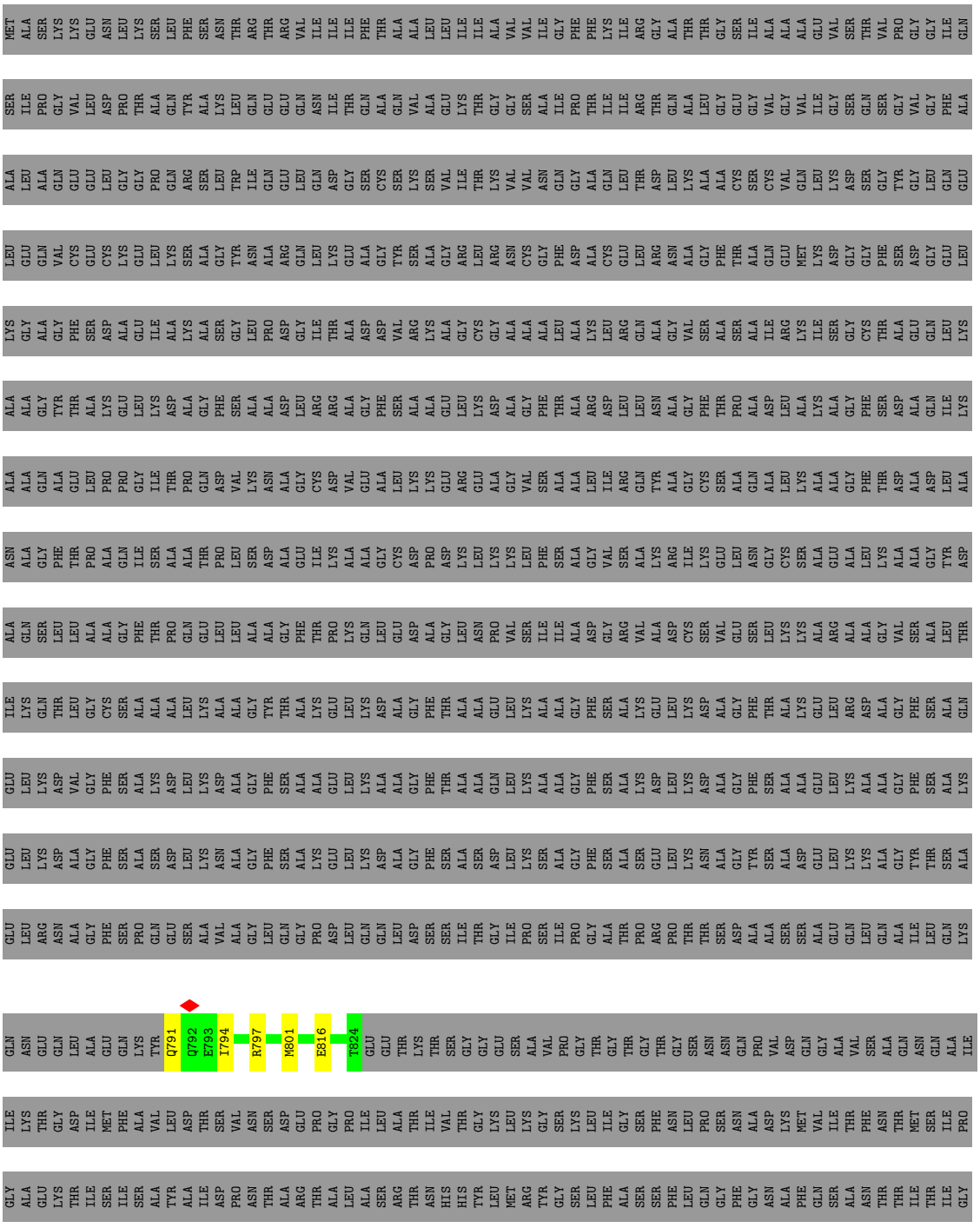
Chain Ds: 97%

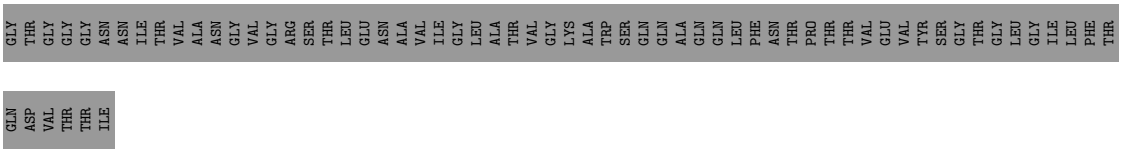




• Molecule 6: IcmE (DotG)

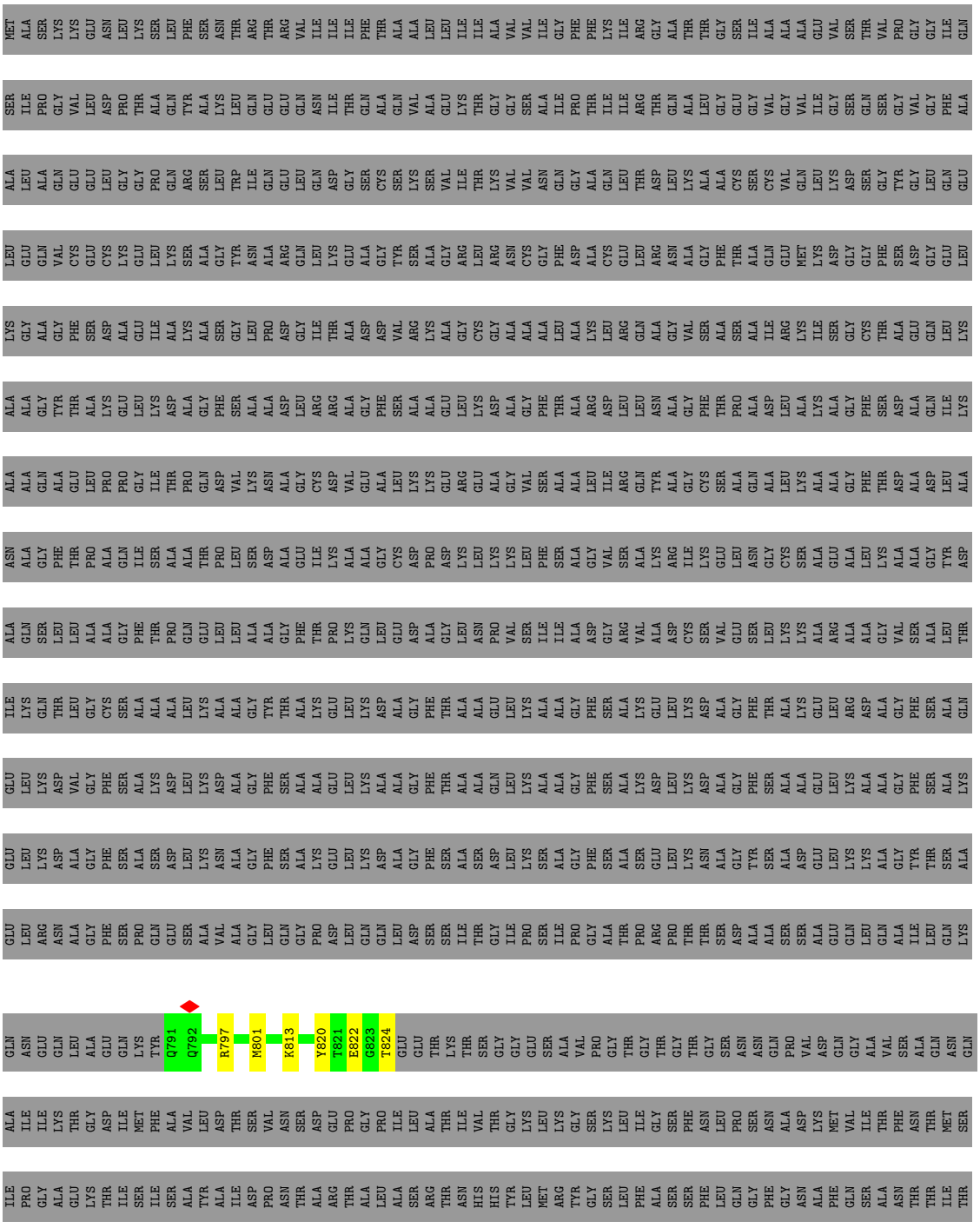
Chain Dz: 97%

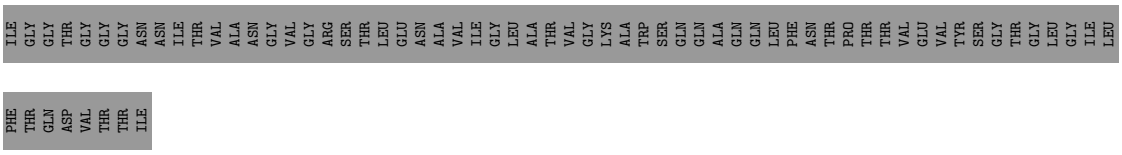




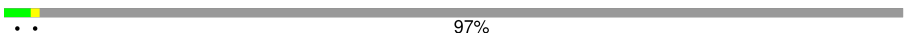
• Molecule 6: IcmE (DotG)

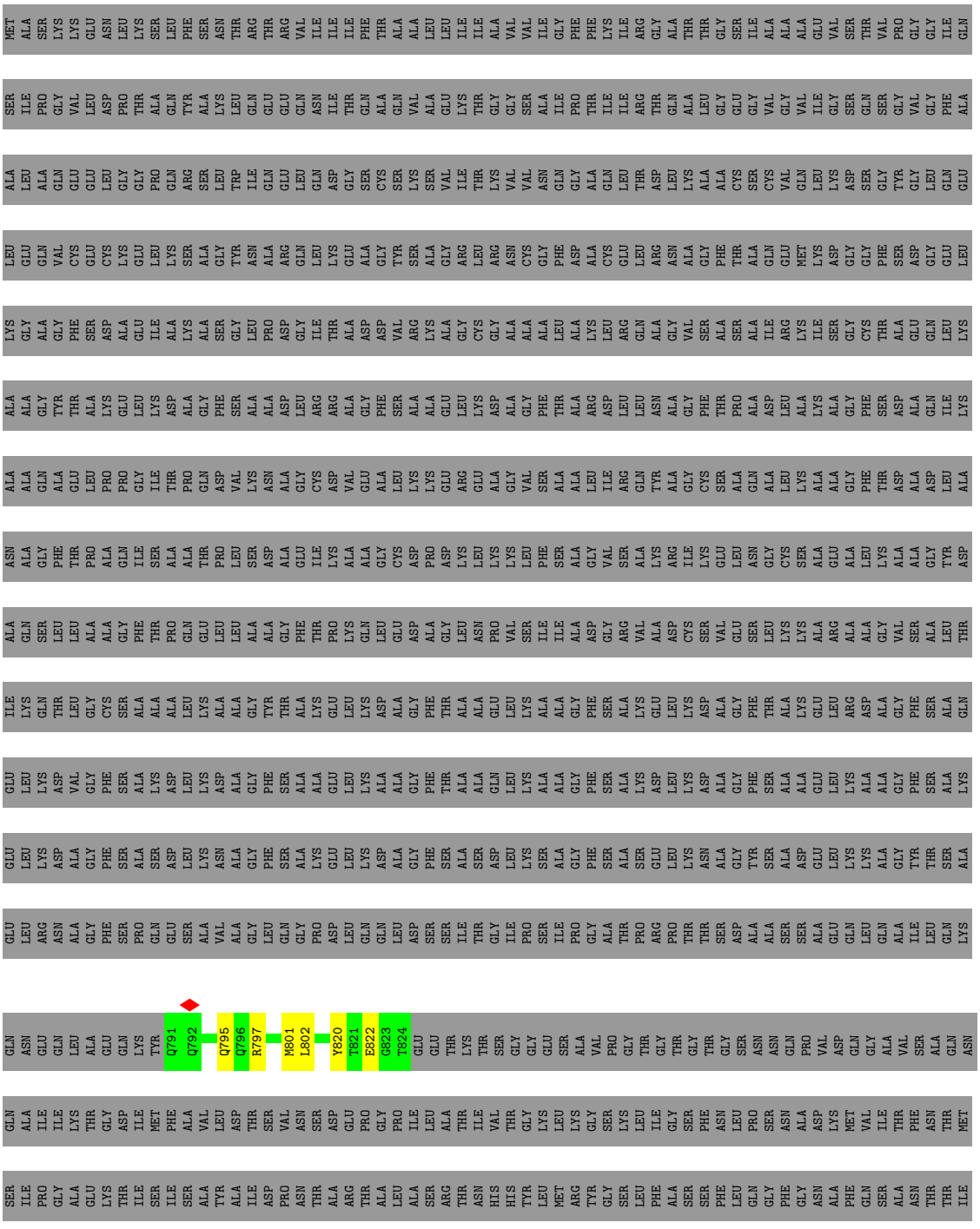
Chain Eg: 97%

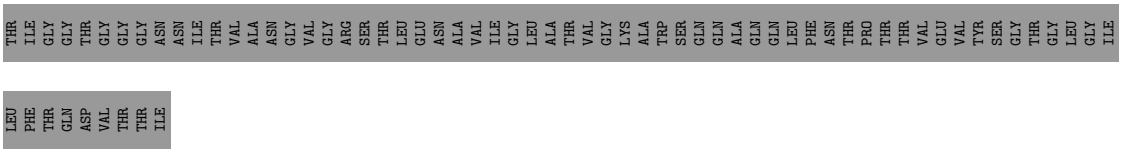




• Molecule 6: IcmE (DotG)

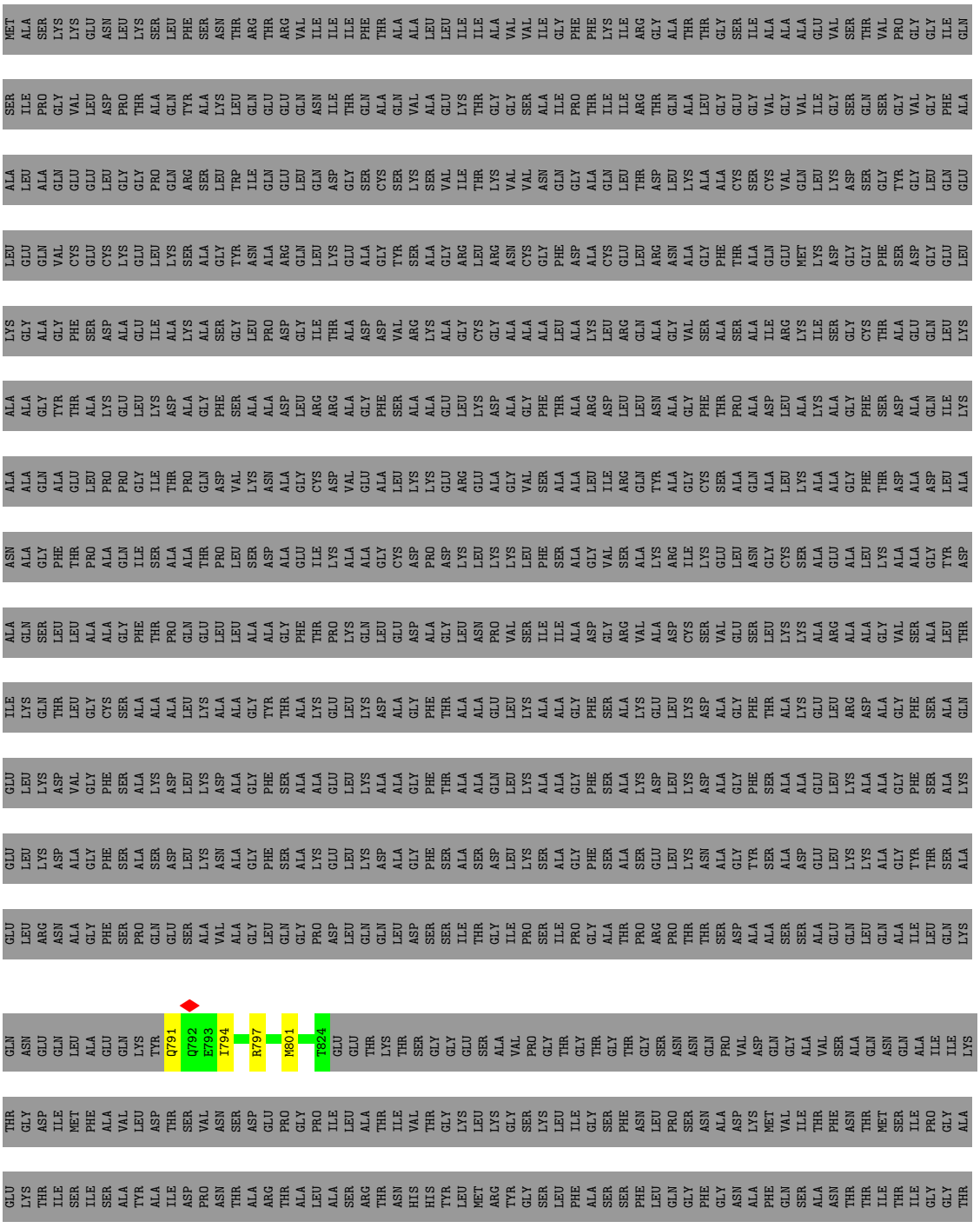


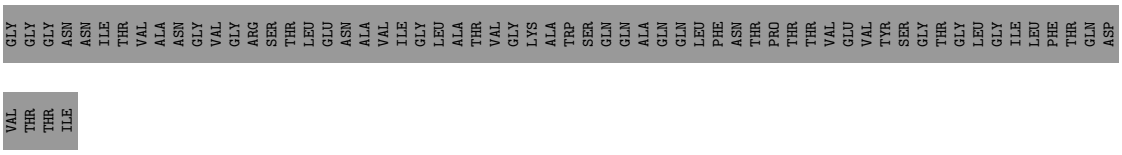




• Molecule 6: IcmE (DotG)

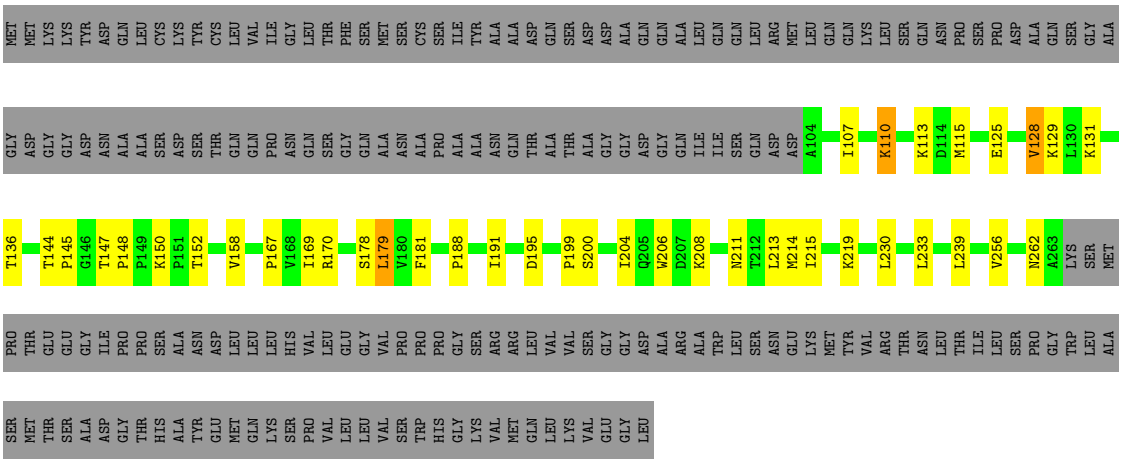
Chain Eu: 97%





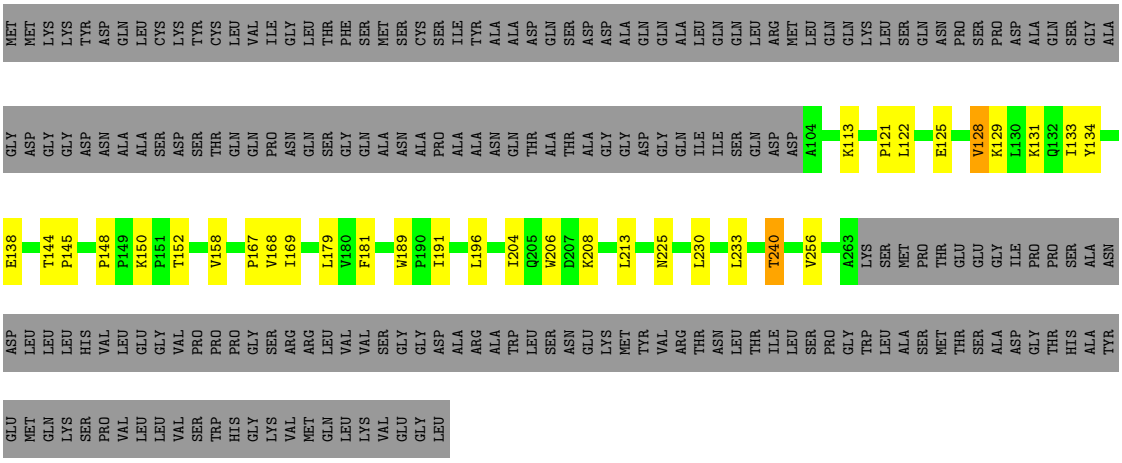
• Molecule 7: IcmK (DotH)

Chain Ag:



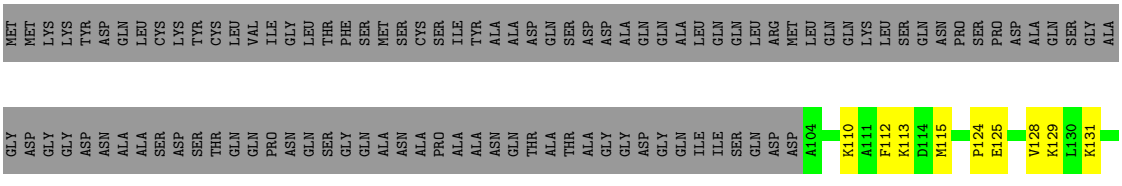
• Molecule 7: IcmK (DotH)

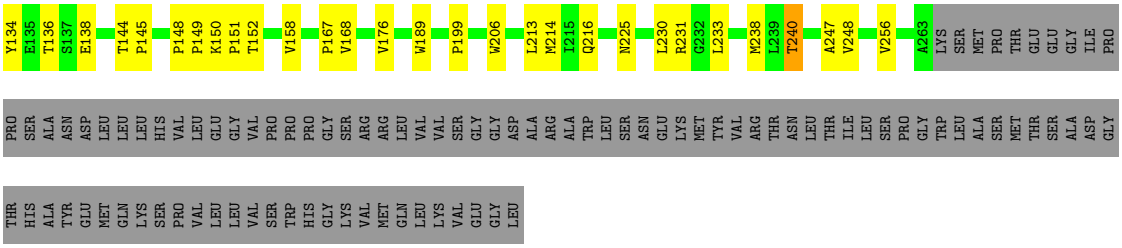
Chain An:



• Molecule 7: IcmK (DotH)

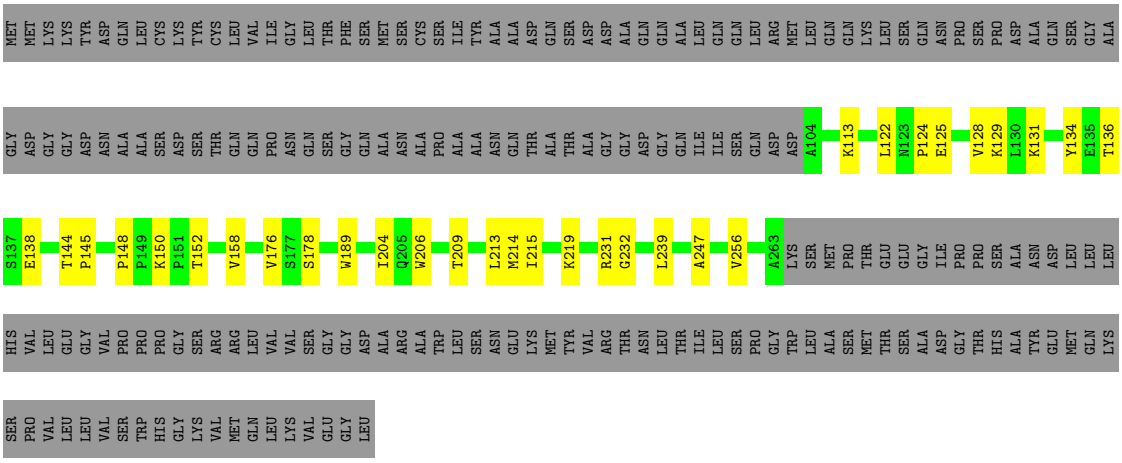
Chain Au:





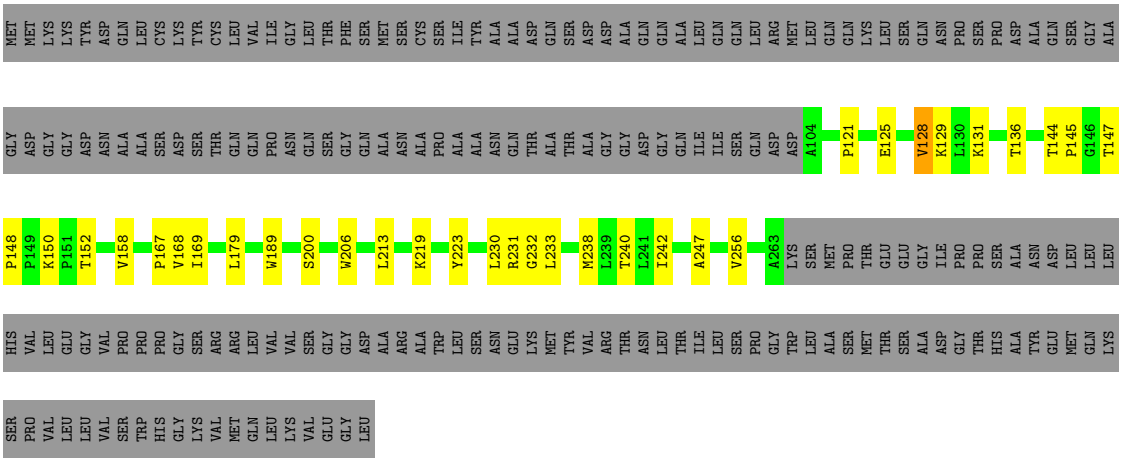
• Molecule 7: IcmK (DotH)

Chain Bb:



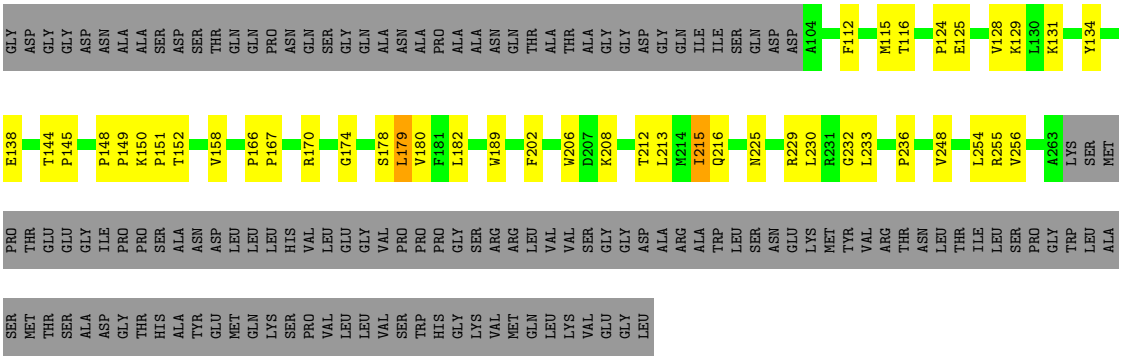
• Molecule 7: IcmK (DotH)

Chain Bi:



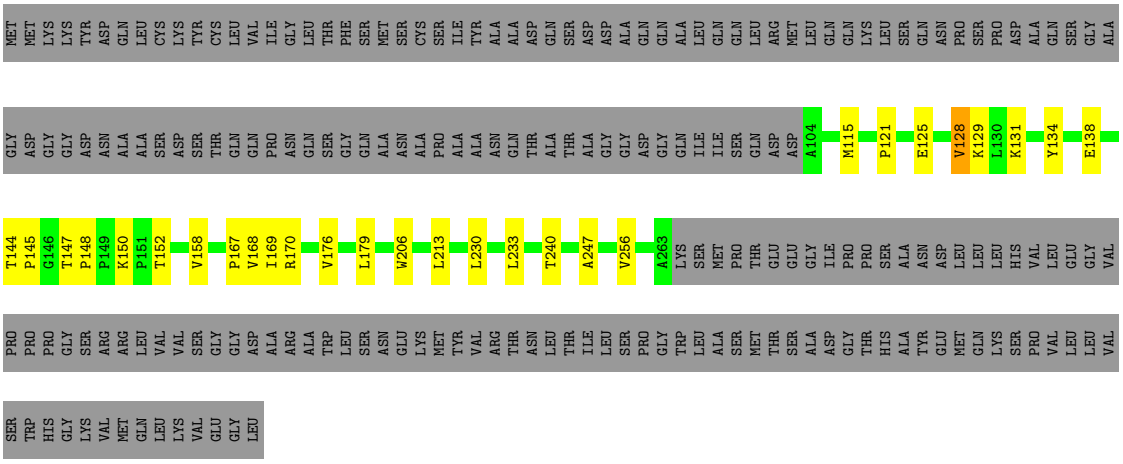
• Molecule 7: IcmK (DotH)

Chain Bp:



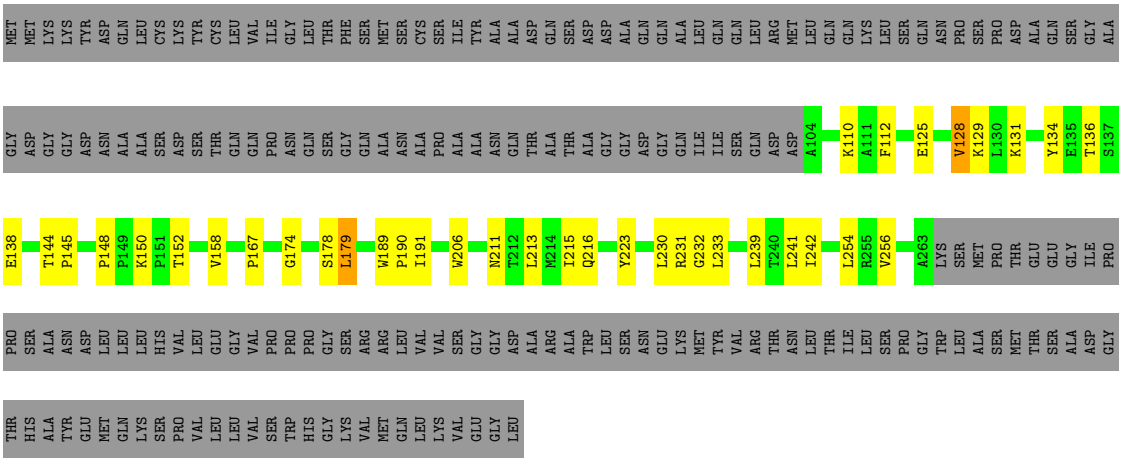
• Molecule 7: IcmK (DotH)

Chain Bw:



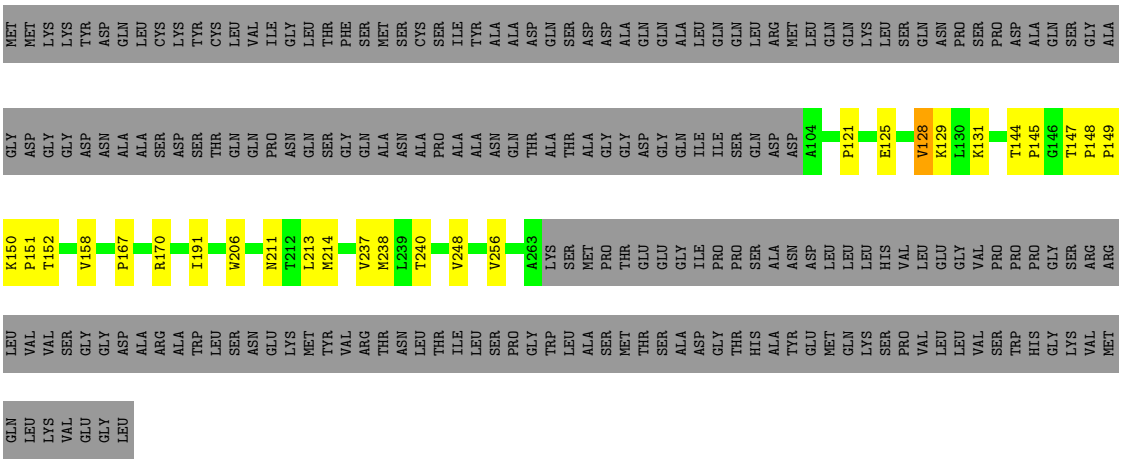
• Molecule 7: IcmK (DotH)

Chain Cd:



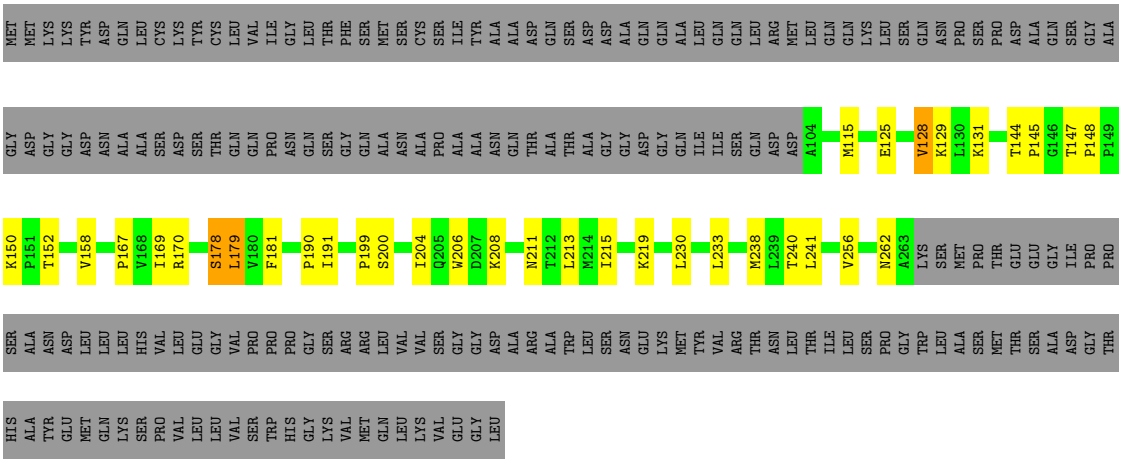
• Molecule 7: IcmK (DotH)

Chain Ck:



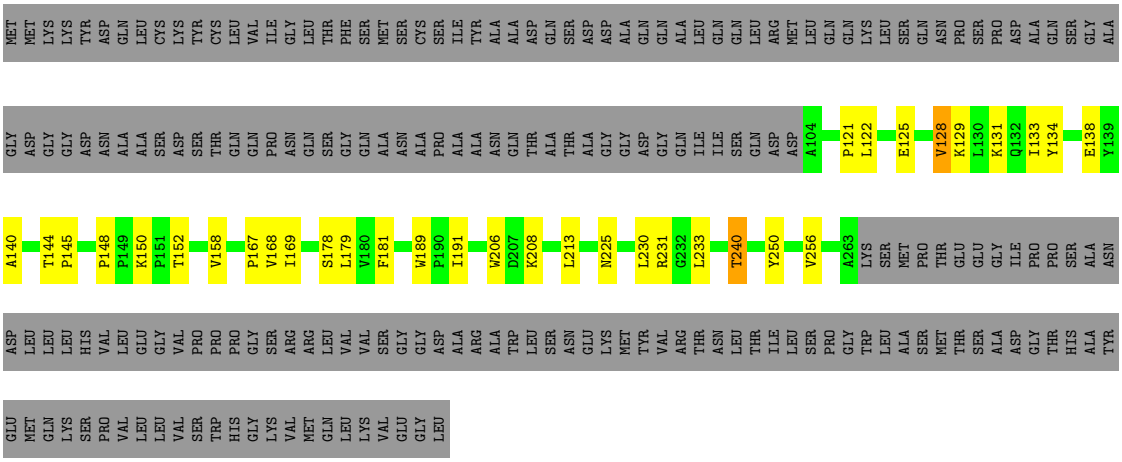
• Molecule 7: IcmK (DotH)

Chain Cr:



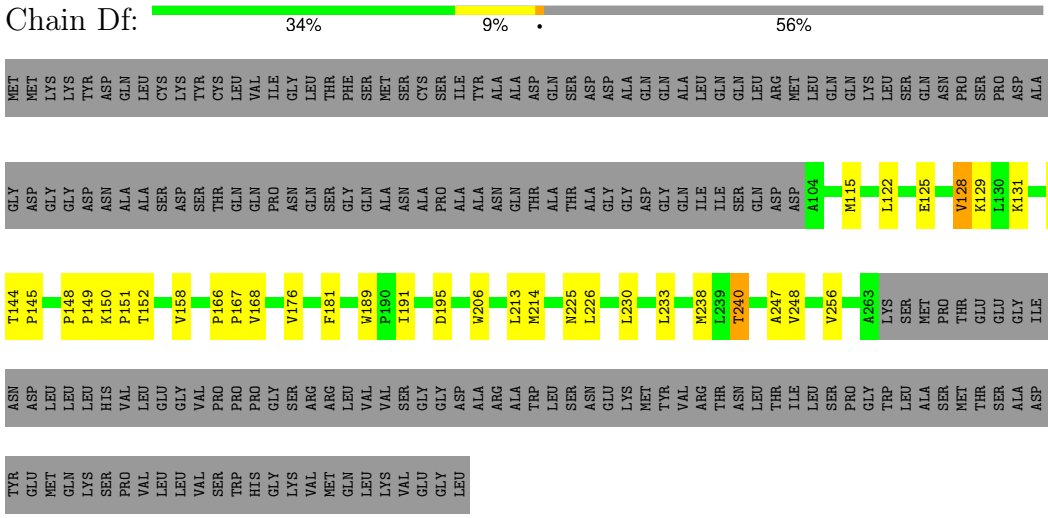
• Molecule 7: IcmK (DotH)

Chain Cy:



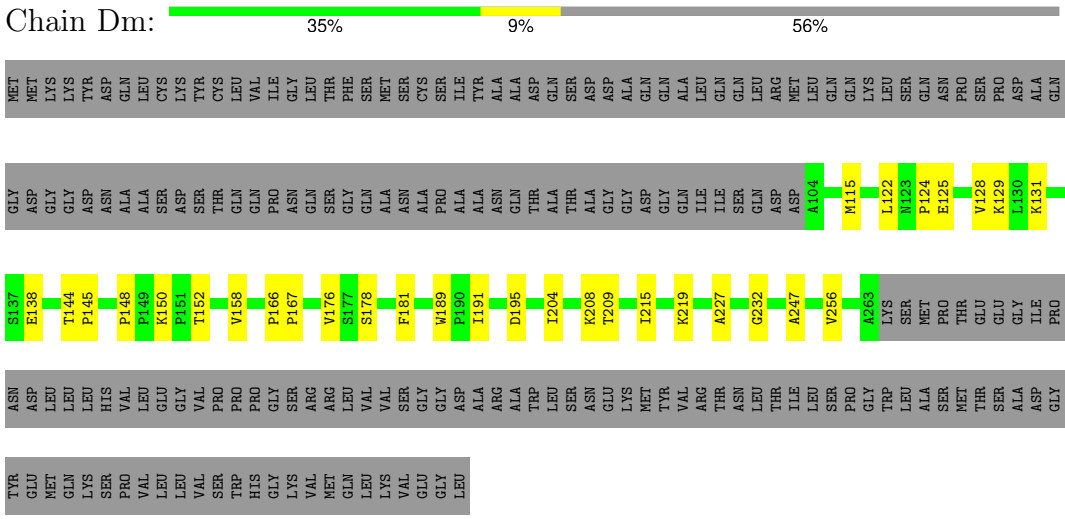
• Molecule 7: IcmK (DotH)

Chain Df:



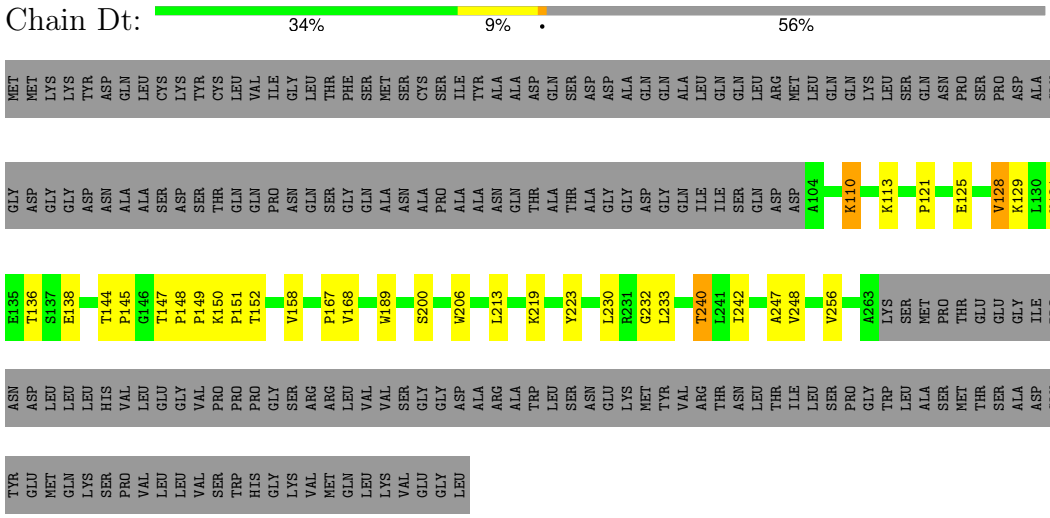
• Molecule 7: IcmK (DotH)

Chain Dm:



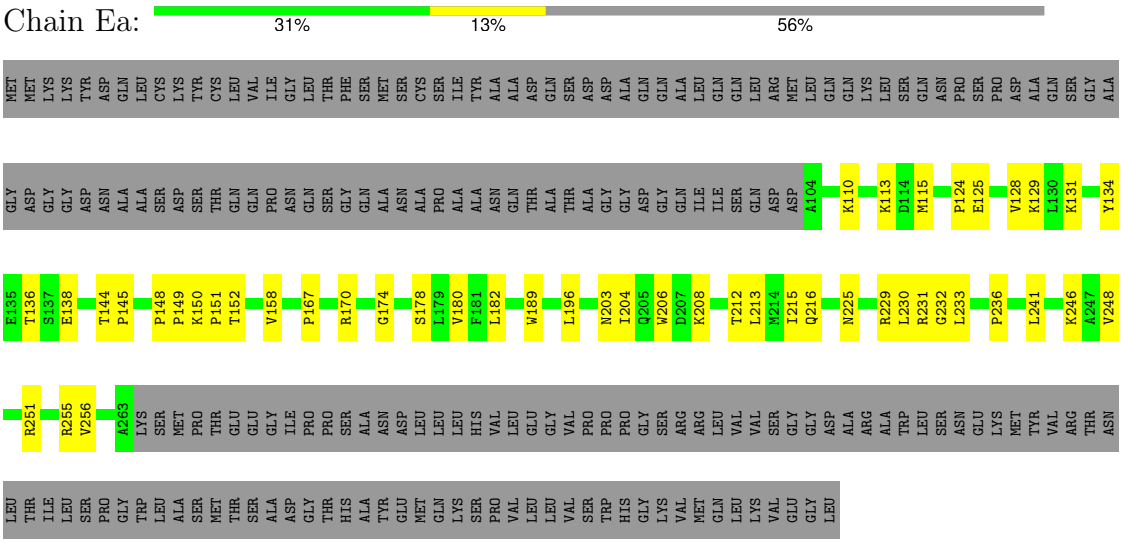
• Molecule 7: IcmK (DotH)

Chain Dt:



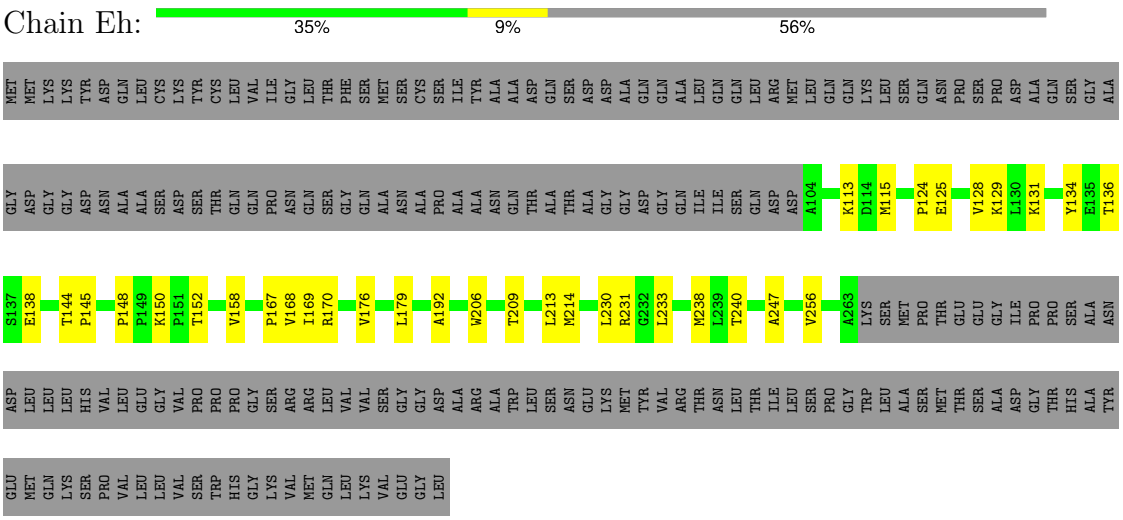
• Molecule 7: IcmK (DotH)

Chain Ea:



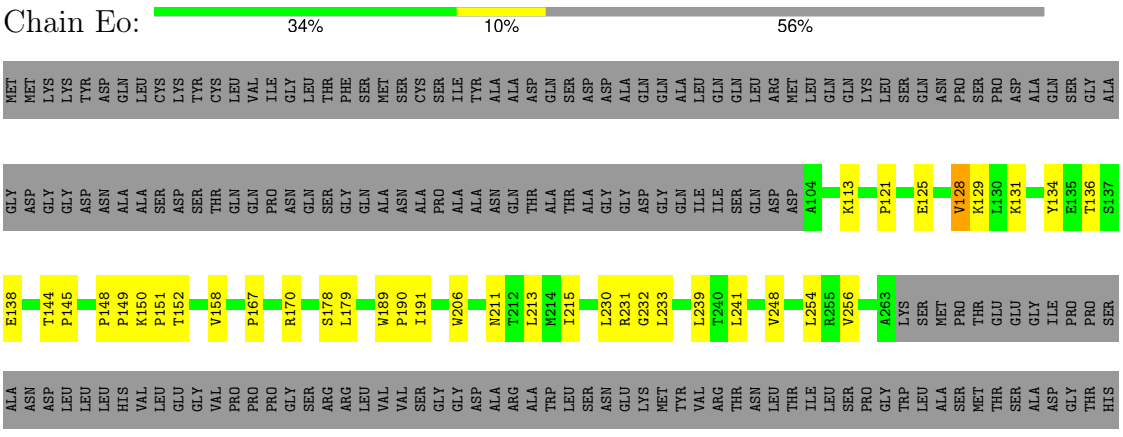
• Molecule 7: IcmK (DotH)

Chain Eh:

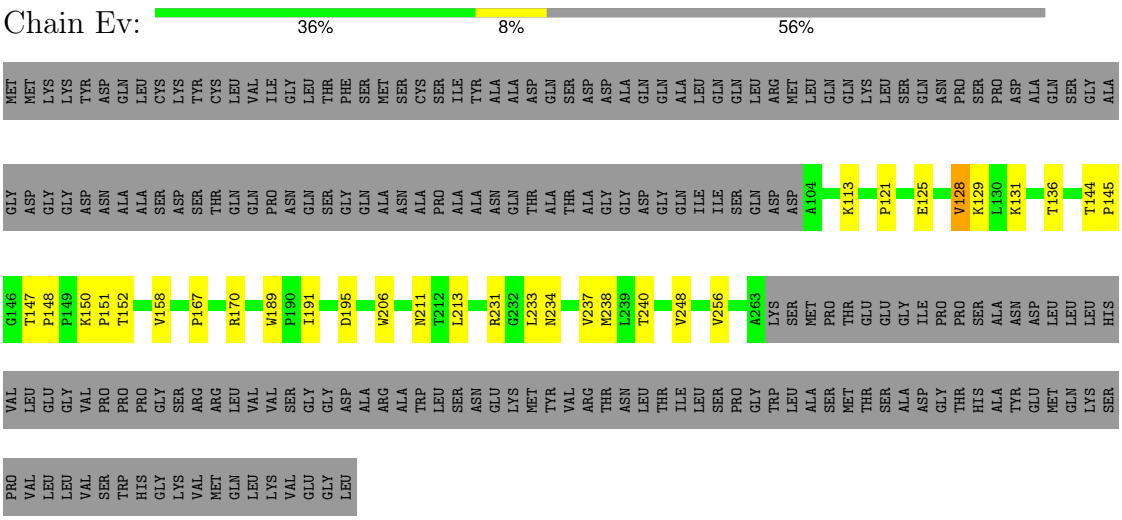


• Molecule 7: IcmK (DotH)

Chain Eo:



• Molecule 7: IcmK (DotH)



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	76406	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TECNAI 12	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	73	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.503	Depositor
Minimum map value	-1.764	Depositor
Average map value	0.007	Depositor
Map value standard deviation	0.049	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	598.08, 598.08, 598.08	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.335, 1.335, 1.335	Depositor

5 Model quality

5.1 Standard geometry

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	Aa	0.10	0/118	0.26	0/158
1	Ah	0.09	0/118	0.23	0/158
1	Ao	0.09	0/118	0.26	0/158
1	Av	0.07	0/118	0.21	0/158
1	Bc	0.07	0/118	0.22	0/158
1	Bj	0.07	0/118	0.22	0/158
1	Bq	0.06	0/118	0.20	0/158
1	Bx	0.08	0/118	0.23	0/158
1	Ce	0.08	0/118	0.23	0/158
1	Cl	0.08	0/118	0.21	0/158
1	Cs	0.07	0/118	0.21	0/158
1	Cz	0.07	0/118	0.23	0/158
1	Dg	0.07	0/118	0.21	0/158
1	Dn	0.07	0/118	0.20	0/158
1	Du	0.13	0/118	0.32	0/158
1	Eb	0.06	0/118	0.22	0/158
1	Ei	0.08	0/118	0.24	0/158
1	Ep	0.10	0/118	0.24	0/158
2	Ab	0.10	0/60	0.26	0/76
2	Ai	0.07	0/60	0.23	0/76
2	Ap	0.09	0/60	0.30	0/76
2	Aw	0.09	0/60	0.29	0/76
2	Bd	0.10	0/60	0.32	0/76
2	Bk	0.12	0/60	0.45	0/76
2	Br	0.11	0/60	0.25	0/76
2	By	0.12	0/60	0.39	0/76
2	Cf	0.11	0/60	0.36	0/76
2	Cm	0.09	0/60	0.27	0/76
2	Ct	0.11	0/60	0.27	0/76
2	Da	0.08	0/60	0.30	0/76
2	Dh	0.08	0/60	0.30	0/76
2	Do	0.08	0/60	0.26	0/76
2	Dv	0.17	0/60	0.56	0/76
2	Ec	0.11	0/60	0.27	0/76

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
2	Ej	0.08	0/60	0.31	0/76
2	Eq	0.09	0/60	0.29	0/76
3	Ac	0.15	0/126	0.39	0/167
3	Aj	0.09	0/126	0.31	0/167
3	Aq	0.10	0/126	0.35	0/167
3	Ax	0.09	0/126	0.30	0/167
3	Be	0.10	0/126	0.31	0/167
3	Bl	0.12	0/126	0.35	0/167
3	Bs	0.12	0/126	0.31	0/167
3	Bz	0.14	0/126	0.37	0/167
3	Cg	0.12	0/126	0.36	0/167
3	Cn	0.12	0/126	0.40	0/167
3	Cu	0.10	0/126	0.36	0/167
3	Db	0.10	0/126	0.37	0/167
3	Di	0.08	0/126	0.29	0/167
3	Dp	0.14	0/126	0.34	0/167
3	Dw	0.13	0/126	0.32	0/167
3	Ed	0.12	0/126	0.31	0/167
3	Ek	0.13	0/126	0.37	0/167
3	Er	0.11	0/126	0.37	0/167
4	Ad	0.14	0/37	0.25	0/47
4	Ak	0.07	0/37	0.16	0/47
4	Ar	0.09	0/37	0.23	0/47
4	Ay	0.09	0/37	0.23	0/47
4	Bf	0.07	0/37	0.17	0/47
4	Bm	0.08	0/37	0.27	0/47
4	Bt	0.06	0/37	0.17	0/47
4	Ca	0.07	0/37	0.18	0/47
4	Ch	0.08	0/37	0.23	0/47
4	Co	0.08	0/37	0.27	0/47
4	Cv	0.06	0/37	0.17	0/47
4	Dc	0.07	0/37	0.22	0/47
4	Dj	0.09	0/37	0.23	0/47
4	Dq	0.07	0/37	0.18	0/47
4	Dx	0.09	0/37	0.22	0/47
4	Ee	0.06	0/37	0.17	0/47
4	El	0.07	0/37	0.19	0/47
4	Es	0.07	0/37	0.19	0/47
5	Ae	0.11	0/491	0.27	0/660
5	Al	0.19	0/491	0.35	0/660
5	As	0.11	0/491	0.27	0/660
5	Az	0.11	0/491	0.30	0/660
5	Bg	0.10	0/491	0.27	0/660

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
5	Bn	0.11	0/491	0.32	0/660
5	Bu	0.11	0/491	0.27	0/660
5	Cb	0.12	0/491	0.30	0/660
5	Ci	0.13	0/491	0.31	0/660
5	Cp	0.11	0/491	0.29	0/660
5	Cw	0.11	0/491	0.29	0/660
5	Dd	0.11	0/491	0.29	0/660
5	Dk	0.12	0/491	0.31	0/660
5	Dr	0.11	0/491	0.27	0/660
5	Dy	0.11	0/491	0.31	0/660
5	Ef	0.11	0/491	0.27	0/660
5	Em	0.12	0/491	0.29	0/660
5	Et	0.12	0/491	0.30	0/660
6	Af	0.13	0/278	0.29	0/377
6	Am	0.10	0/278	0.24	0/377
6	At	0.13	0/278	0.33	0/377
6	Ba	0.10	0/278	0.23	0/377
6	Bh	0.10	0/278	0.20	0/377
6	Bo	0.11	0/278	0.25	0/377
6	Bv	0.11	0/278	0.23	0/377
6	Cc	0.10	0/278	0.23	0/377
6	Cj	0.12	0/278	0.24	0/377
6	Cq	0.12	0/278	0.26	0/377
6	Cx	0.11	0/278	0.26	0/377
6	De	0.11	0/278	0.29	0/377
6	Dl	0.10	0/278	0.26	0/377
6	Ds	0.11	0/278	0.23	0/377
6	Dz	0.11	0/278	0.21	0/377
6	Eg	0.10	0/278	0.24	0/377
6	En	0.09	0/278	0.23	0/377
6	Eu	0.11	0/278	0.25	0/377
7	Ag	0.15	0/1269	0.29	0/1734
7	An	0.13	0/1269	0.31	0/1734
7	Au	0.12	0/1269	0.27	0/1734
7	Bb	0.12	0/1269	0.29	0/1734
7	Bi	0.13	0/1269	0.28	0/1734
7	Bp	0.15	0/1269	0.31	0/1734
7	Bw	0.13	0/1269	0.33	0/1734
7	Cd	0.12	0/1269	0.28	0/1734
7	Ck	0.13	0/1269	0.30	0/1734
7	Cr	0.13	0/1269	0.29	0/1734
7	Cy	0.13	0/1269	0.30	0/1734
7	Df	0.13	0/1269	0.27	0/1734

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
7	Dm	0.14	0/1269	0.31	0/1734
7	Dt	0.13	0/1269	0.28	0/1734
7	Ea	0.14	0/1269	0.29	0/1734
7	Eh	0.13	0/1269	0.32	0/1734
7	Eo	0.12	0/1269	0.28	0/1734
7	Ev	0.14	0/1269	0.30	0/1734
All	All	0.12	0/42822	0.29	0/57942

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (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	Aa	117	0	111	4	0
1	Ah	117	0	111	3	0
1	Ao	117	0	111	4	0
1	Av	117	0	111	3	0
1	Bc	117	0	111	3	0
1	Bj	117	0	111	5	0
1	Bq	117	0	111	3	0
1	Bx	117	0	111	2	0
1	Ce	117	0	111	4	0
1	Cl	117	0	111	4	0
1	Cs	117	0	111	4	0
1	Cz	117	0	111	4	0
1	Dg	117	0	111	4	0
1	Dn	117	0	111	3	0
1	Du	117	0	111	3	0
1	Eb	117	0	111	4	0
1	Ei	117	0	111	2	0
1	Ep	117	0	111	6	0
2	Ab	61	0	65	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	Ai	61	0	65	3	0
2	Ap	61	0	65	5	0
2	Aw	61	0	65	4	0
2	Bd	61	0	65	2	0
2	Bk	61	0	65	2	0
2	Br	61	0	65	3	0
2	By	61	0	65	3	0
2	Cf	61	0	65	2	0
2	Cm	61	0	65	5	0
2	Ct	61	0	65	6	0
2	Da	61	0	65	4	0
2	Dh	61	0	65	6	0
2	Do	61	0	65	5	0
2	Dv	61	0	65	7	0
2	Ec	61	0	65	3	0
2	Ej	61	0	65	7	0
2	Eq	61	0	65	4	0
3	Ac	125	0	126	4	0
3	Aj	125	0	126	3	0
3	Aq	125	0	126	5	0
3	Ax	125	0	126	4	0
3	Be	125	0	126	4	0
3	Bl	125	0	126	7	0
3	Bs	125	0	126	3	0
3	Bz	125	0	126	6	0
3	Cg	125	0	126	5	0
3	Cn	125	0	126	4	0
3	Cu	125	0	126	7	0
3	Db	125	0	126	6	0
3	Di	125	0	126	5	0
3	Dp	125	0	126	6	0
3	Dw	125	0	126	6	0
3	Ed	125	0	126	5	0
3	Ek	125	0	126	7	0
3	Er	125	0	126	7	0
4	Ad	36	0	30	3	0
4	Ak	36	0	30	1	0
4	Ar	36	0	30	3	0
4	Ay	36	0	30	2	0
4	Bf	36	0	30	1	0
4	Bm	36	0	30	1	0
4	Bt	36	0	30	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	Ca	36	0	30	1	0
4	Ch	36	0	30	1	0
4	Co	36	0	30	2	0
4	Cv	36	0	30	1	0
4	Dc	36	0	30	2	0
4	Dj	36	0	30	4	0
4	Dq	36	0	30	1	0
4	Dx	36	0	30	1	0
4	Ee	36	0	30	1	0
4	El	36	0	30	2	0
4	Es	36	0	30	1	0
5	Ae	484	0	502	11	0
5	Al	484	0	502	11	0
5	As	484	0	502	14	0
5	Az	484	0	502	13	0
5	Bg	484	0	502	10	0
5	Bn	484	0	502	12	0
5	Bu	484	0	502	11	0
5	Cb	484	0	502	13	0
5	Ci	484	0	502	13	0
5	Cp	484	0	502	12	0
5	Cw	484	0	502	13	0
5	Dd	484	0	502	13	0
5	Dk	484	0	502	13	0
5	Dr	484	0	502	11	0
5	Dy	484	0	502	14	0
5	Ef	484	0	502	12	0
5	Em	484	0	502	14	0
5	Et	484	0	502	14	0
6	Af	276	0	263	7	0
6	Am	276	0	263	6	0
6	At	276	0	263	3	0
6	Ba	276	0	263	4	0
6	Bh	276	0	263	4	0
6	Bo	276	0	263	6	0
6	Bv	276	0	263	4	0
6	Cc	276	0	263	4	0
6	Cj	276	0	263	3	0
6	Cq	276	0	263	4	0
6	Cx	276	0	263	6	0
6	De	276	0	263	4	0
6	Dl	276	0	263	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	Ds	276	0	263	4	0
6	Dz	276	0	263	3	0
6	Eg	276	0	263	5	0
6	En	276	0	263	6	0
6	Eu	276	0	263	2	0
7	Ag	1238	0	1252	36	0
7	An	1238	0	1252	28	0
7	Au	1238	0	1252	35	0
7	Bb	1238	0	1252	24	0
7	Bi	1238	0	1252	26	0
7	Bp	1238	0	1252	38	0
7	Bw	1238	0	1252	24	0
7	Cd	1238	0	1252	29	0
7	Ck	1238	0	1252	22	0
7	Cr	1238	0	1252	30	0
7	Cy	1238	0	1252	30	0
7	Df	1238	0	1252	31	0
7	Dm	1238	0	1252	27	0
7	Dt	1238	0	1252	29	0
7	Ea	1238	0	1252	40	0
7	Eh	1238	0	1252	28	0
7	Eo	1238	0	1252	29	0
7	Ev	1238	0	1252	29	0
All	All	42066	0	42282	794	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 (794) 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:Ec:5:ILE:HD11	7:Eo:136:THR:HG23	1.61	0.82
2:Br:5:ILE:HD11	7:Cd:136:THR:HG23	1.61	0.82
7:Ag:136:THR:HG23	2:Eq:5:ILE:HD11	1.62	0.81
2:Ai:5:ILE:HD11	7:Au:136:THR:HG23	1.66	0.77
2:Dv:5:ILE:HD11	7:Eh:136:THR:HG23	1.67	0.76
2:Aw:5:ILE:HD11	7:Bi:136:THR:HG23	1.67	0.76
7:Ag:144:THR:HG21	7:Ag:148:PRO:HG3	1.69	0.74
2:Dh:5:ILE:HD11	7:Dt:136:THR:HG23	1.70	0.72
7:Ag:145:PRO:HG3	7:An:131:LYS:HG2	1.71	0.71
7:Cr:144:THR:HG21	7:Cr:148:PRO:HG3	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Bw:145:PRO:HG3	7:Cd:131:LYS:HG2	1.72	0.71
2:Do:4:MET:HG3	5:Dr:248:ASP:HA	1.73	0.71
6:Cj:797:ARG:O	6:Cj:801:MET:HG3	1.90	0.70
6:Bh:797:ARG:O	6:Bh:801:MET:HG3	1.92	0.70
7:Cr:200:SER:HB3	6:Cx:816:GLU:HG3	1.74	0.70
2:Cf:5:ILE:HD12	2:Cf:5:ILE:H	1.57	0.70
1:Bq:16:ALA:HB3	2:By:9:ARG:HD2	1.74	0.70
7:Ck:145:PRO:HG3	7:Cr:131:LYS:HG2	1.73	0.69
7:Ev:144:THR:HG21	7:Ev:148:PRO:HG3	1.73	0.69
7:Cd:145:PRO:HG3	7:Ck:131:LYS:HG2	1.75	0.69
7:Ag:131:LYS:HG2	7:Ev:145:PRO:HG3	1.75	0.69
5:Dk:233:ARG:HB2	7:Dt:147:THR:HG21	1.75	0.68
6:Ds:797:ARG:O	6:Ds:801:MET:HG3	1.92	0.68
7:Eo:145:PRO:HG3	7:Ev:131:LYS:HG2	1.76	0.68
7:Cr:145:PRO:HG3	7:Cy:131:LYS:HG2	1.75	0.68
2:Ej:5:ILE:HD11	7:Ev:136:THR:HG23	1.75	0.68
2:Bk:5:ILE:HD12	2:Bk:5:ILE:H	1.59	0.68
2:Do:5:ILE:HD11	7:Ea:136:THR:HG23	1.76	0.67
1:Dg:16:ALA:HB3	2:Do:9:ARG:HD2	1.76	0.67
6:Cj:791:GLN:HG3	6:Cj:794:ILE:HD12	1.77	0.67
7:Ag:200:SER:HB3	6:Am:816:GLU:HG3	1.75	0.67
7:Dm:145:PRO:HG3	7:Dt:131:LYS:HG2	1.77	0.67
1:Eb:16:ALA:HB3	2:Ej:9:ARG:HD2	1.77	0.67
7:Dt:145:PRO:HG3	7:Ea:131:LYS:HG2	1.77	0.67
6:Dz:797:ARG:O	6:Dz:801:MET:HG3	1.95	0.67
7:An:145:PRO:HG3	7:Au:131:LYS:HG2	1.77	0.66
7:Bb:145:PRO:HG3	7:Bi:131:LYS:HG2	1.77	0.66
7:Bp:145:PRO:HG3	7:Bw:131:LYS:HG2	1.76	0.66
5:Cw:254:ILE:HB	5:Cw:262:ILE:HB	1.76	0.66
1:Av:16:ALA:HB3	2:Bd:9:ARG:HD2	1.76	0.66
5:Em:253:ARG:HD2	5:Em:263:LYS:HE2	1.76	0.66
6:Bo:801:MET:HG2	7:Bw:121:PRO:HB2	1.78	0.66
7:Bp:179:LEU:HD11	7:Bp:215:ILE:HD11	1.78	0.66
7:Ck:144:THR:HG21	7:Ck:148:PRO:HG3	1.77	0.66
5:Cb:253:ARG:HD2	5:Cb:263:LYS:HE2	1.78	0.66
3:Ed:2:VAL:HG22	3:Ed:8:VAL:HG23	1.77	0.66
7:Bi:145:PRO:HG3	7:Bp:131:LYS:HG2	1.77	0.65
1:Aa:16:ALA:HB3	2:Ai:9:ARG:HD2	1.79	0.65
7:Eh:145:PRO:HG3	7:Eo:131:LYS:HG2	1.78	0.65
7:Cy:145:PRO:HG3	7:Df:131:LYS:HG2	1.77	0.65
5:Dd:253:ARG:HD2	5:Dd:263:LYS:HE2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Ag:178:SER:HA	7:Ag:213:LEU:O	1.97	0.65
1:Ce:16:ALA:HB3	2:Cm:9:ARG:HD2	1.78	0.65
7:Au:144:THR:HG21	7:Au:148:PRO:HG3	1.78	0.64
7:Eh:144:THR:HG21	7:Eh:148:PRO:HG3	1.79	0.64
5:Bu:253:ARG:HD2	5:Bu:263:LYS:HE2	1.80	0.64
5:Cp:253:ARG:HD2	5:Cp:263:LYS:HE2	1.79	0.64
5:Cb:264:PHE:HB3	5:Cb:269:SER:HB3	1.79	0.64
2:Bd:5:ILE:HD12	2:Bd:5:ILE:H	1.62	0.64
7:Cd:179:LEU:HD22	7:Cd:254:LEU:HD11	1.78	0.64
7:Ag:199:PRO:HD2	6:Am:816:GLU:HB3	1.80	0.64
5:Cp:254:ILE:HB	5:Cp:262:ILE:HB	1.80	0.64
5:Ef:253:ARG:HD2	5:Ef:263:LYS:HE2	1.79	0.64
7:Df:145:PRO:HG3	7:Dm:131:LYS:HG2	1.80	0.63
5:Ae:254:ILE:HB	5:Ae:262:ILE:HB	1.81	0.63
1:Du:2:THR:HG21	5:Dy:253:ARG:HH21	1.63	0.63
3:Bl:2:VAL:HG22	3:Bl:8:VAL:HG23	1.80	0.63
5:Ci:219:ARG:H	7:Cr:148:PRO:HD2	1.64	0.63
1:Aa:2:THR:HG21	5:Ae:253:ARG:HH21	1.63	0.63
5:Bn:264:PHE:HB3	5:Bn:269:SER:HB3	1.80	0.63
7:Au:150:LYS:HG2	7:Au:152:THR:HG23	1.80	0.63
3:Ek:2:VAL:HG22	3:Ek:8:VAL:HG23	1.80	0.63
5:Ci:254:ILE:HB	5:Ci:262:ILE:HB	1.80	0.62
6:Bh:801:MET:HB2	7:Bw:115:MET:HG3	1.79	0.62
6:Cq:805:ALA:HB2	7:Cy:122:LEU:HD11	1.81	0.62
1:Dg:2:THR:HG21	5:Dk:253:ARG:HH21	1.64	0.62
5:Cp:264:PHE:HB3	5:Cp:269:SER:HB3	1.82	0.62
5:Dy:254:ILE:HB	5:Dy:262:ILE:HB	1.82	0.62
5:As:253:ARG:HD2	5:As:263:LYS:HE2	1.82	0.62
2:Ap:5:ILE:HD11	7:Bb:136:THR:HG23	1.80	0.62
5:Ae:253:ARG:HD2	5:Ae:263:LYS:HE2	1.80	0.62
7:Eo:179:LEU:HD22	7:Eo:254:LEU:HD11	1.81	0.62
7:Au:145:PRO:HG3	7:Bb:131:LYS:HG2	1.80	0.62
5:Az:233:ARG:HB2	7:Bi:147:THR:HG21	1.81	0.61
1:Ao:2:THR:HG21	5:As:253:ARG:HH21	1.65	0.61
6:Cq:797:ARG:O	6:Cq:801:MET:HG3	2.00	0.61
6:Af:797:ARG:O	6:Af:801:MET:HG3	1.99	0.61
7:Df:150:LYS:HG2	7:Df:152:THR:HG23	1.81	0.61
3:Dw:2:VAL:HG22	3:Dw:8:VAL:HG23	1.81	0.61
5:Dy:264:PHE:HB3	5:Dy:269:SER:HB3	1.81	0.61
3:Be:2:VAL:HG22	3:Be:8:VAL:HG23	1.82	0.61
3:Bz:2:VAL:HG22	3:Bz:8:VAL:HG23	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Bw:144:THR:HG21	7:Bw:148:PRO:HG3	1.82	0.61
6:Cj:791:GLN:HG2	6:Cj:795:GLN:HE22	1.65	0.61
5:Et:254:ILE:HB	5:Et:262:ILE:HB	1.83	0.61
5:Bn:254:ILE:HB	5:Bn:262:ILE:HB	1.82	0.61
7:Cr:199:PRO:HD2	6:Cx:816:GLU:HB3	1.83	0.61
5:Ef:264:PHE:HB3	5:Ef:269:SER:HB3	1.83	0.61
7:Ag:150:LYS:HG2	7:Ag:152:THR:HG23	1.83	0.60
1:Ah:2:THR:HG21	5:Al:253:ARG:HH21	1.67	0.60
1:Cz:2:THR:HG21	5:Dd:253:ARG:HH21	1.66	0.60
4:Co:2:PHE:HD2	5:Cp:251:GLN:HE22	1.48	0.60
6:Ds:801:MET:HB2	7:Eh:115:MET:HG3	1.84	0.60
5:As:254:ILE:HB	5:As:262:ILE:HB	1.83	0.60
2:By:5:ILE:HD12	2:By:5:ILE:H	1.67	0.60
6:Af:805:ALA:HB2	7:An:122:LEU:HD11	1.84	0.60
7:Ea:145:PRO:HG3	7:Eh:131:LYS:HG2	1.83	0.60
1:Bc:2:THR:HG21	5:Bg:253:ARG:HH21	1.67	0.60
1:Cl:2:THR:HG21	5:Cp:253:ARG:HH21	1.66	0.60
6:Dl:797:ARG:O	6:Dl:801:MET:HG3	2.02	0.59
7:Dm:144:THR:HG21	7:Dm:148:PRO:HG3	1.83	0.59
7:Dt:150:LYS:HG2	7:Dt:152:THR:HG23	1.84	0.59
7:Ev:150:LYS:HG2	7:Ev:152:THR:HG23	1.84	0.59
5:Ae:264:PHE:HB3	5:Ae:269:SER:HB3	1.83	0.59
5:Al:254:ILE:HB	5:Al:262:ILE:HB	1.84	0.59
7:Bb:144:THR:HG21	7:Bb:148:PRO:HG3	1.84	0.59
1:Bx:2:THR:HG21	5:Cb:253:ARG:HH21	1.68	0.59
5:Dy:253:ARG:HD2	5:Dy:263:LYS:HE2	1.84	0.59
5:Em:264:PHE:HB3	5:Em:269:SER:HB3	1.84	0.59
5:Dd:254:ILE:HB	5:Dd:262:ILE:HB	1.85	0.59
7:Eo:150:LYS:HG2	7:Eo:152:THR:HG23	1.84	0.59
6:Ba:797:ARG:O	6:Ba:801:MET:HG3	2.02	0.59
3:Cn:1:ARG:HH22	3:Cn:3:SER:HB2	1.68	0.59
1:Av:2:THR:HG21	5:Az:253:ARG:HH21	1.67	0.59
2:Da:5:ILE:HD11	7:Dm:136:THR:HG23	1.83	0.59
1:Dn:2:THR:HG21	5:Dr:253:ARG:HH21	1.68	0.59
3:Er:1:ARG:HH22	3:Er:3:SER:HB2	1.67	0.59
5:Bn:253:ARG:HD2	5:Bn:263:LYS:HE2	1.84	0.59
7:Bw:150:LYS:HG2	7:Bw:152:THR:HG23	1.85	0.59
7:Cr:150:LYS:HG2	7:Cr:152:THR:HG23	1.83	0.59
2:Ct:5:ILE:HD12	2:Ct:5:ILE:H	1.66	0.58
1:Bx:12:HIS:CE1	4:Ch:3:GLY:HA2	2.37	0.58
7:An:129:LYS:O	7:An:133:ILE:HG13	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Cd:150:LYS:HG2	7:Cd:152:THR:HG23	1.85	0.58
3:Cu:1:ARG:HH22	3:Cu:3:SER:HB2	1.69	0.58
1:Ei:2:THR:HG21	5:Em:253:ARG:HH21	1.68	0.58
1:Ei:12:HIS:CE1	4:Es:3:GLY:HA2	2.39	0.58
5:Al:219:ARG:HG3	7:Au:148:PRO:HB2	1.86	0.58
7:Bb:150:LYS:HG2	7:Bb:152:THR:HG23	1.84	0.58
1:Bc:16:ALA:HB3	2:Bk:9:ARG:HD2	1.85	0.58
2:Ai:4:MET:HG3	5:Al:248:ASP:HA	1.85	0.58
7:Bp:112:PHE:O	7:Bp:116:THR:HG22	2.03	0.58
7:Bi:150:LYS:HG2	7:Bi:152:THR:HG23	1.85	0.58
6:Af:820:TYR:HE1	6:Af:822:GLU:HG2	1.69	0.58
1:Bc:12:HIS:CE1	4:Bm:3:GLY:HA2	2.39	0.58
3:Bs:2:VAL:HG22	3:Bs:8:VAL:HG23	1.85	0.58
7:An:150:LYS:HG2	7:An:152:THR:HG23	1.86	0.57
1:Bq:2:THR:HG21	5:Bu:253:ARG:HH21	1.69	0.57
2:Do:5:ILE:HA	5:Dr:250:LEU:HD11	1.85	0.57
6:Af:801:MET:HG2	7:An:121:PRO:HB2	1.85	0.57
5:Al:264:PHE:HB3	5:Al:269:SER:HB3	1.87	0.57
6:Bo:797:ARG:O	6:Bo:801:MET:HG3	2.05	0.57
7:Ck:150:LYS:HG2	7:Ck:152:THR:HG23	1.85	0.57
3:Dp:2:VAL:HG22	3:Dp:8:VAL:HG23	1.86	0.57
1:Av:12:HIS:CE1	4:Bf:3:GLY:HA2	2.39	0.57
7:Dm:150:LYS:HG2	7:Dm:152:THR:HG23	1.84	0.57
7:Ag:115:MET:HG2	6:En:802:LEU:HD23	1.87	0.57
5:Az:219:ARG:HG3	7:Bi:148:PRO:HB2	1.87	0.57
5:Ci:233:ARG:HB2	7:Cr:147:THR:HG21	1.86	0.57
7:Eh:150:LYS:HG2	7:Eh:152:THR:HG23	1.84	0.57
5:Az:264:PHE:HB3	5:Az:269:SER:HB3	1.86	0.57
5:Dk:219:ARG:HG3	7:Dt:148:PRO:HB2	1.85	0.57
6:En:797:ARG:O	6:En:801:MET:HG3	2.04	0.57
7:Ev:191:ILE:HG13	7:Ev:211:ASN:HA	1.86	0.57
5:Ef:212:ILE:HG13	5:Ef:262:ILE:HG22	1.85	0.57
7:Cy:150:LYS:HG2	7:Cy:152:THR:HG23	1.86	0.56
1:Dg:12:HIS:CE1	4:Dq:3:GLY:HA2	2.40	0.56
5:Dk:264:PHE:HB3	5:Dk:269:SER:HB3	1.86	0.56
5:Ci:264:PHE:HB3	5:Ci:269:SER:HB3	1.87	0.56
7:Cr:178:SER:HA	7:Cr:213:LEU:O	2.04	0.56
7:Ck:191:ILE:HG13	7:Ck:211:ASN:HA	1.86	0.56
7:Dt:145:PRO:HD3	7:Ea:131:LYS:HE2	1.87	0.56
7:Ea:150:LYS:HG2	7:Ea:152:THR:HG23	1.86	0.56
6:Cc:797:ARG:O	6:Cc:801:MET:HG3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:Eb:2:THR:HG21	5:Ef:253:ARG:HH21	1.69	0.56
5:Cw:264:PHE:HB3	5:Cw:269:SER:HB3	1.87	0.56
1:Bj:2:THR:HG21	5:Bn:253:ARG:HH21	1.72	0.55
7:Bp:150:LYS:HG2	7:Bp:152:THR:HG23	1.87	0.55
5:Bu:212:ILE:HG13	5:Bu:262:ILE:HG22	1.88	0.55
7:Cy:129:LYS:O	7:Cy:133:ILE:HG13	2.06	0.55
5:Bu:254:ILE:HB	5:Bu:262:ILE:HB	1.88	0.55
5:Ef:254:ILE:HB	5:Ef:262:ILE:HB	1.88	0.55
3:Ek:1:ARG:HH22	3:Ek:3:SER:HB2	1.72	0.55
5:Ci:253:ARG:HH21	5:Ci:255:LEU:HD21	1.72	0.55
1:Cl:16:ALA:HB3	2:Ct:9:ARG:HD2	1.89	0.55
7:Dt:230:LEU:HD12	7:Dt:233:LEU:HD12	1.88	0.55
7:Cy:225:ASN:HD21	7:Df:176:VAL:H	1.54	0.55
5:Dd:219:ARG:H	7:Dm:148:PRO:HD2	1.72	0.55
5:Et:253:ARG:HH21	5:Et:255:LEU:HD21	1.72	0.55
5:As:264:PHE:HB3	5:As:269:SER:HB3	1.88	0.55
3:Di:2:VAL:HG11	7:Ea:129:LYS:HG2	1.89	0.55
3:Er:2:VAL:HG22	3:Er:8:VAL:HG23	1.89	0.55
5:Ae:213:GLN:O	7:Ag:170:ARG:HD2	2.08	0.54
5:Bn:219:ARG:HG3	7:Bw:148:PRO:HB2	1.89	0.54
5:Cb:254:ILE:HB	5:Cb:262:ILE:HB	1.89	0.54
5:Em:254:ILE:HB	5:Em:262:ILE:HB	1.89	0.54
7:Ag:204:ILE:HG12	7:Ag:215:ILE:HG13	1.88	0.54
6:Ba:801:MET:HG2	7:Bi:121:PRO:HB2	1.89	0.54
5:Dr:219:ARG:H	7:Ea:148:PRO:HD2	1.71	0.54
5:Dr:264:PHE:HB3	5:Dr:269:SER:HB3	1.90	0.54
3:Ax:2:VAL:HG11	7:Bp:129:LYS:HG2	1.88	0.54
7:Bi:230:LEU:HD12	7:Bi:233:LEU:HD12	1.90	0.54
3:Bl:2:VAL:HG11	7:Cd:129:LYS:HG2	1.90	0.54
7:Bw:145:PRO:HD3	7:Cd:131:LYS:HE2	1.90	0.54
2:Dv:4:MET:HG3	5:Dy:249:SER:H	1.72	0.54
5:Cb:219:ARG:H	7:Ck:148:PRO:HD2	1.72	0.54
6:At:805:ALA:HB2	7:Bb:122:LEU:HD11	1.90	0.54
3:Db:1:ARG:HH22	3:Db:3:SER:HB2	1.72	0.54
5:Dd:264:PHE:HB3	5:Dd:269:SER:HB3	1.88	0.54
6:Cx:805:ALA:HB2	7:Df:122:LEU:HD11	1.90	0.53
7:Eo:191:ILE:HG13	7:Eo:211:ASN:HA	1.90	0.53
5:Em:212:ILE:HD11	5:Em:254:ILE:HG13	1.91	0.53
6:Ba:802:LEU:HD13	7:Bp:115:MET:HG2	1.89	0.53
6:Cc:802:LEU:HD23	7:Cr:115:MET:HG2	1.89	0.53
7:An:225:ASN:HD21	7:Au:176:VAL:H	1.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Aq:1:ARG:HH22	3:Aq:3:SER:HB2	1.72	0.53
1:Bj:12:HIS:CE1	4:Bt:3:GLY:HA2	2.43	0.53
5:Ef:219:ARG:HG3	7:Eo:148:PRO:HB2	1.89	0.53
3:Bl:11:ALA:HB1	3:Bl:14:TYR:CE1	2.43	0.53
1:Dn:12:HIS:NE2	4:Dx:3:GLY:HA2	2.23	0.53
7:Ea:204:ILE:HG12	7:Ea:215:ILE:HG12	1.91	0.53
6:En:820:TYR:HE1	6:En:822:GLU:HG2	1.72	0.53
5:Bu:219:ARG:HG3	7:Cd:148:PRO:HB2	1.91	0.53
7:Cr:204:ILE:HG12	7:Cr:215:ILE:HG13	1.90	0.53
5:Dy:219:ARG:HG3	7:Eh:148:PRO:HB2	1.91	0.53
5:Cw:219:ARG:HG3	7:Df:148:PRO:HB2	1.90	0.53
7:An:168:VAL:HG23	7:An:240:THR:HG23	1.90	0.53
5:As:219:ARG:H	7:Bb:148:PRO:HD2	1.72	0.53
5:Cw:255:LEU:HD13	5:Cw:261:VAL:HG22	1.91	0.53
6:Dl:802:LEU:HD13	7:Ea:115:MET:HG2	1.89	0.53
7:Eo:158:VAL:HB	7:Eo:256:VAL:HA	1.90	0.53
7:Ev:158:VAL:HG22	7:Ev:167:PRO:HG2	1.91	0.53
1:Aa:5:ALA:HB2	2:Ab:4:MET:HE1	1.91	0.53
7:Ag:148:PRO:HD2	5:Et:219:ARG:H	1.73	0.53
6:At:818:GLN:HE21	7:Au:216:GLN:HB2	1.74	0.53
7:Cd:191:ILE:HG13	7:Cd:211:ASN:HA	1.91	0.53
5:Cp:213:GLN:O	7:Cr:170:ARG:HD2	2.09	0.53
5:Ae:219:ARG:HG3	7:An:148:PRO:HB2	1.91	0.52
5:Bn:255:LEU:HD13	5:Bn:261:VAL:HG22	1.91	0.52
6:Cx:802:LEU:HD13	7:Dm:115:MET:HG2	1.90	0.52
5:Et:264:PHE:HB3	5:Et:269:SER:HB3	1.90	0.52
7:Bp:179:LEU:HD11	7:Bp:215:ILE:CD1	2.39	0.52
5:Dd:219:ARG:HG3	7:Dm:148:PRO:HB2	1.92	0.52
5:Az:212:ILE:HD11	5:Az:254:ILE:HG13	1.91	0.52
5:Bg:264:PHE:HB3	5:Bg:269:SER:HB3	1.91	0.52
7:Cd:206:TRP:HB2	7:Cd:213:LEU:HD23	1.92	0.52
7:Eh:145:PRO:HD3	7:Eo:131:LYS:HE2	1.91	0.52
5:Dk:212:ILE:HD11	5:Dk:254:ILE:HG13	1.92	0.52
6:Cq:801:MET:HG2	7:Cy:121:PRO:HB2	1.90	0.52
7:Cy:145:PRO:HD3	7:Df:131:LYS:HE2	1.91	0.52
5:Dy:219:ARG:H	7:Eh:148:PRO:HD2	1.73	0.52
6:Eg:797:ARG:O	6:Eg:801:MET:HG3	2.10	0.52
3:Cg:1:ARG:HH22	3:Cg:3:SER:HB2	1.73	0.52
5:Cp:219:ARG:HG3	7:Cy:148:PRO:HB2	1.91	0.52
7:An:230:LEU:HD12	7:An:233:LEU:HD12	1.92	0.52
7:Cr:206:TRP:HB2	7:Cr:213:LEU:HD23	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:An:158:VAL:HG22	7:An:167:PRO:HG2	1.91	0.52
7:Cy:230:LEU:HD12	7:Cy:233:LEU:HD12	1.91	0.52
1:Cz:12:HIS:CE1	4:Dj:3:GLY:HA2	2.45	0.52
6:De:805:ALA:HB2	7:Dm:122:LEU:HD11	1.91	0.52
7:Ea:230:LEU:HD12	7:Ea:233:LEU:HD12	1.91	0.52
3:Bz:1:ARG:HH22	3:Bz:3:SER:HB2	1.74	0.51
7:Cy:158:VAL:HG22	7:Cy:167:PRO:HG2	1.91	0.51
7:Df:158:VAL:HG22	7:Df:167:PRO:HG2	1.90	0.51
3:Dp:1:ARG:HH22	3:Dp:3:SER:HB2	1.75	0.51
5:Dy:255:LEU:HD13	5:Dy:261:VAL:HG22	1.91	0.51
5:Em:219:ARG:HG3	7:Ev:148:PRO:HB2	1.93	0.51
7:Eo:206:TRP:HB2	7:Eo:213:LEU:HD23	1.93	0.51
1:Ep:2:THR:HG21	5:Et:253:ARG:HH21	1.75	0.51
2:Ap:4:MET:HG3	4:Ar:2:PHE:HE2	1.75	0.51
7:Ea:206:TRP:HB2	7:Ea:213:LEU:HD23	1.93	0.51
5:Al:219:ARG:H	7:Au:148:PRO:HD2	1.74	0.51
1:Bq:12:HIS:CE1	4:Ca:3:GLY:HA2	2.45	0.51
7:Cy:168:VAL:HG23	7:Cy:240:THR:HG23	1.93	0.51
3:Dp:2:VAL:HG11	7:Eh:129:LYS:HG2	1.92	0.51
3:Ed:2:VAL:HG11	7:Ev:129:LYS:HG2	1.93	0.51
7:An:145:PRO:HD3	7:Au:131:LYS:HE2	1.93	0.51
2:Aw:5:ILE:HA	5:Az:250:LEU:HD11	1.93	0.51
6:Bo:794:ILE:HG21	7:Cd:110:LYS:HE3	1.92	0.51
1:Dn:16:ALA:HB3	2:Dv:9:ARG:HD2	1.93	0.51
1:Ao:12:HIS:CE1	4:Ay:3:GLY:HA2	2.45	0.51
5:Et:251:GLN:HB2	5:Et:253:ARG:HG3	1.93	0.51
5:Ae:212:ILE:HD11	5:Ae:254:ILE:HG13	1.93	0.51
7:Bp:134:TYR:O	7:Bp:138:GLU:HG2	2.11	0.51
5:Em:219:ARG:H	7:Ev:148:PRO:HD2	1.74	0.51
7:Bi:158:VAL:HB	7:Bi:256:VAL:HA	1.93	0.51
6:Dl:801:MET:HG2	7:Dt:121:PRO:HB2	1.92	0.51
2:Ct:4:MET:HB3	5:Cw:250:LEU:HD13	1.93	0.51
7:Bi:145:PRO:HD3	7:Bp:131:LYS:HE2	1.93	0.50
5:Cb:212:ILE:HD11	5:Cb:254:ILE:HG13	1.93	0.50
5:Em:213:GLN:O	7:Eo:170:ARG:HD3	2.10	0.50
6:Eu:797:ARG:O	6:Eu:801:MET:HG3	2.11	0.50
7:Ag:148:PRO:HB2	5:Et:219:ARG:HG3	1.93	0.50
5:As:219:ARG:HG3	7:Bb:148:PRO:HB2	1.93	0.50
7:Ea:134:TYR:O	7:Ea:138:GLU:HG2	2.11	0.50
3:Be:2:VAL:HG11	7:Bw:129:LYS:HG2	1.92	0.50
7:Ag:129:LYS:HG2	3:Ek:2:VAL:HG11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Bz:2:VAL:HG11	7:Cr:129:LYS:HG2	1.94	0.50
7:Cy:206:TRP:HB2	7:Cy:213:LEU:HD23	1.94	0.50
1:Ce:2:THR:HG21	5:Ci:253:ARG:HH21	1.75	0.50
5:Ci:219:ARG:HG3	7:Cr:148:PRO:HB2	1.93	0.50
7:Cr:238:MET:HE2	7:Cy:178:SER:HB3	1.94	0.50
5:Cw:212:ILE:HG13	5:Cw:262:ILE:HG22	1.92	0.50
7:Dt:206:TRP:HB2	7:Dt:213:LEU:HD23	1.94	0.50
5:Al:255:LEU:HD13	5:Al:261:VAL:HG22	1.94	0.50
5:Bg:219:ARG:H	7:Bp:148:PRO:HD2	1.75	0.50
7:Bw:158:VAL:HG22	7:Bw:167:PRO:HG2	1.93	0.50
1:Cs:12:HIS:NE2	4:Dc:3:GLY:HA2	2.27	0.50
1:Cz:16:ALA:HB3	2:Dh:9:ARG:HD2	1.92	0.50
7:Bp:206:TRP:HB2	7:Bp:213:LEU:HD23	1.94	0.50
7:Eo:145:PRO:HD3	7:Ev:131:LYS:HE2	1.94	0.50
5:Bu:264:PHE:HB3	5:Bu:269:SER:HB3	1.93	0.50
7:Au:158:VAL:HG22	7:Au:167:PRO:HG2	1.93	0.50
7:Ck:158:VAL:HG22	7:Ck:167:PRO:HG2	1.94	0.50
7:Dt:158:VAL:HB	7:Dt:256:VAL:HA	1.93	0.50
3:Aj:2:VAL:HG11	7:Bb:129:LYS:HG2	1.92	0.49
5:Ci:251:GLN:HB2	5:Ci:253:ARG:HG3	1.93	0.49
5:Cw:219:ARG:H	7:Df:148:PRO:HD2	1.75	0.49
6:En:801:MET:HG2	7:Ev:121:PRO:HB2	1.94	0.49
1:Ce:12:HIS:NE2	4:Co:3:GLY:HA2	2.26	0.49
2:Ct:4:MET:HG3	5:Cw:248:ASP:HA	1.93	0.49
3:Dw:2:VAL:HG11	7:Eo:129:LYS:HG2	1.94	0.49
7:Eo:230:LEU:HD12	7:Eo:233:LEU:HD12	1.94	0.49
7:Ag:211:ASN:HD21	7:Ev:234:ASN:HD21	1.59	0.49
5:Bg:254:ILE:HB	5:Bg:262:ILE:HB	1.94	0.49
3:Cu:2:VAL:HG11	7:Dm:129:LYS:HG2	1.94	0.49
3:Di:2:VAL:HG22	3:Di:8:VAL:HG23	1.93	0.49
5:Dr:254:ILE:HB	5:Dr:262:ILE:HB	1.94	0.49
7:An:206:TRP:HB2	7:An:213:LEU:HD23	1.94	0.49
7:Cr:169:ILE:HG13	7:Cr:179:LEU:HD21	1.95	0.49
5:Ae:219:ARG:H	7:An:148:PRO:HD2	1.78	0.49
1:Eb:12:HIS:CE1	4:El:3:GLY:HA2	2.47	0.49
7:Cd:158:VAL:HB	7:Cd:256:VAL:HA	1.94	0.49
5:Cp:212:ILE:HD11	5:Cp:254:ILE:HG13	1.95	0.49
2:Ec:4:MET:HG3	5:Ef:248:ASP:HA	1.95	0.49
7:Ag:199:PRO:HG3	6:Am:819:VAL:HG13	1.95	0.49
7:Bp:145:PRO:HD3	7:Bw:131:LYS:HE2	1.95	0.49
2:By:1:CYS:HA	3:Bz:4:ILE:HD13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Dh:2:VAL:HG23	3:Di:1:ARG:HG3	1.95	0.49
3:Ax:2:VAL:HG22	3:Ax:8:VAL:HG23	1.95	0.49
5:Cb:265:SER:HB3	5:Cb:268:ASP:HB3	1.94	0.49
7:Cd:145:PRO:HD3	7:Ck:131:LYS:HE2	1.95	0.49
3:Cg:2:VAL:HG22	3:Cg:8:VAL:HG23	1.95	0.49
7:Bp:230:LEU:HD12	7:Bp:233:LEU:HD12	1.94	0.49
5:Ci:213:GLN:O	7:Ck:170:ARG:HD2	2.12	0.49
2:Cm:1:CYS:HA	3:Cn:4:ILE:HD13	1.95	0.49
7:Ag:169:ILE:HG13	7:Ag:179:LEU:HD21	1.95	0.49
7:Bp:158:VAL:HB	7:Bp:256:VAL:HA	1.95	0.49
7:Dt:158:VAL:HG22	7:Dt:167:PRO:HG2	1.95	0.49
7:Eh:158:VAL:HG22	7:Eh:167:PRO:HG2	1.94	0.49
7:Ev:206:TRP:HB2	7:Ev:213:LEU:HD23	1.94	0.49
4:Ad:3:GLY:HA2	1:Ep:12:HIS:NE2	2.28	0.48
3:Aj:1:ARG:HH22	3:Aj:3:SER:HB2	1.78	0.48
7:Bp:225:ASN:HD21	7:Bw:176:VAL:H	1.61	0.48
7:Cd:230:LEU:HD12	7:Cd:233:LEU:HD12	1.95	0.48
2:Ap:5:ILE:HD13	5:As:250:LEU:HD21	1.95	0.48
7:Bi:206:TRP:HB2	7:Bi:213:LEU:HD23	1.94	0.48
7:Cd:167:PRO:HB2	7:Cd:239:LEU:HD23	1.94	0.48
5:Et:213:GLN:O	7:Ev:170:ARG:HD2	2.13	0.48
7:Ag:206:TRP:HB2	7:Ag:213:LEU:HD23	1.95	0.48
6:Bv:820:TYR:HE1	6:Bv:822:GLU:HG2	1.78	0.48
7:An:134:TYR:O	7:An:138:GLU:HG2	2.14	0.48
5:Cb:219:ARG:HG3	7:Ck:148:PRO:HB2	1.95	0.48
7:Cy:134:TYR:O	7:Cy:138:GLU:HG2	2.13	0.48
7:Ea:225:ASN:HD21	7:Eh:176:VAL:H	1.62	0.48
1:Ah:12:HIS:NE2	4:Ar:3:GLY:HA2	2.28	0.48
3:Bs:2:VAL:HG11	7:Ck:129:LYS:HG2	1.96	0.48
7:Bw:206:TRP:HB2	7:Bw:213:LEU:HD23	1.96	0.48
1:Cl:5:ALA:HB2	2:Cm:4:MET:HE1	1.96	0.48
7:Dm:204:ILE:HG12	7:Dm:215:ILE:HG12	1.95	0.48
1:Ce:2:THR:HG21	5:Ci:253:ARG:NH2	2.29	0.48
4:Dj:2:PHE:HB3	5:Dk:251:GLN:HE21	1.79	0.48
2:Dv:4:MET:HE3	2:Dv:4:MET:HA	1.94	0.48
7:Ea:158:VAL:HB	7:Ea:256:VAL:HA	1.95	0.48
5:As:233:ARG:HG2	5:As:233:ARG:HH11	1.79	0.48
7:Ck:206:TRP:HB2	7:Ck:213:LEU:HD23	1.96	0.48
5:Dy:212:ILE:HD11	5:Dy:254:ILE:HG13	1.96	0.48
7:Ea:208:LYS:HB3	6:Eg:824:THR:H	1.79	0.48
4:Ad:3:GLY:H	1:Ep:16:ALA:HB1	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Am:791:GLN:HA	6:Am:794:ILE:HD12	1.96	0.48
5:Dy:213:GLN:O	7:Ea:170:ARG:HD2	2.14	0.48
7:Eh:238:MET:HE3	7:Eo:178:SER:HB3	1.96	0.48
7:Au:145:PRO:HD3	7:Bb:131:LYS:HE2	1.96	0.47
7:Bp:179:LEU:HD23	7:Bp:254:LEU:HD11	1.96	0.47
7:Ag:131:LYS:HE2	7:Ev:145:PRO:HD3	1.97	0.47
5:Bg:253:ARG:HD2	5:Bg:263:LYS:HE2	1.96	0.47
7:Bp:178:SER:HA	7:Bp:213:LEU:O	2.14	0.47
6:Cx:791:GLN:HA	6:Cx:794:ILE:HD12	1.95	0.47
5:Dr:219:ARG:HG3	7:Ea:148:PRO:HB2	1.95	0.47
2:Ej:1:CYS:HA	3:Ek:4:ILE:HD13	1.96	0.47
3:Bl:13:LYS:HA	3:Bl:13:LYS:HD3	1.67	0.47
7:Df:168:VAL:HG23	7:Df:240:THR:HG23	1.95	0.47
3:Di:13:LYS:HD3	3:Di:13:LYS:HA	1.65	0.47
5:Dr:263:LYS:HB2	5:Dr:263:LYS:NZ	2.30	0.47
7:Ev:158:VAL:HG11	7:Ev:237:VAL:HG13	1.95	0.47
5:Al:213:GLN:HB2	5:Al:223:ILE:HG22	1.97	0.47
2:Aw:2:VAL:HG23	3:Ax:1:ARG:HG3	1.96	0.47
7:Bi:158:VAL:HG22	7:Bi:167:PRO:HG2	1.96	0.47
5:Bn:212:ILE:HD11	5:Bn:254:ILE:HG13	1.97	0.47
5:Cw:212:ILE:HD11	5:Cw:254:ILE:HG13	1.95	0.47
7:Dt:200:SER:HB3	6:Dz:816:GLU:HG3	1.97	0.47
7:Eh:206:TRP:HB2	7:Eh:213:LEU:HD23	1.97	0.47
5:Em:212:ILE:HG13	5:Em:262:ILE:HG22	1.97	0.47
3:Ac:1:ARG:HH22	3:Ac:3:SER:HB2	1.78	0.47
7:An:169:ILE:HG21	7:An:179:LEU:HD21	1.97	0.47
7:Bb:158:VAL:HB	7:Bb:256:VAL:HA	1.97	0.47
3:Cg:13:LYS:HD3	3:Cg:13:LYS:HA	1.66	0.47
5:Cp:219:ARG:H	7:Cy:148:PRO:HD2	1.78	0.47
7:Cr:190:PRO:HA	7:Cr:211:ASN:HB3	1.97	0.47
1:Cs:2:THR:HG21	5:Cw:253:ARG:HH21	1.79	0.47
5:Dd:233:ARG:HH11	5:Dd:233:ARG:HG2	1.80	0.47
5:Dk:254:ILE:HB	5:Dk:262:ILE:HB	1.97	0.47
7:Ea:115:MET:HE3	7:Ea:115:MET:HB3	1.78	0.47
2:Ej:4:MET:HG3	4:El:2:PHE:HE2	1.79	0.47
1:Ah:16:ALA:HB1	4:Ar:3:GLY:H	1.79	0.47
5:Al:212:ILE:HG13	5:Al:262:ILE:HG22	1.97	0.47
7:Au:158:VAL:HB	7:Au:256:VAL:HA	1.97	0.47
3:Be:13:LYS:HA	3:Be:13:LYS:HD3	1.65	0.47
3:Db:2:VAL:HG22	3:Db:8:VAL:HG23	1.97	0.47
2:Dv:5:ILE:HA	5:Dy:250:LEU:HD11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Eo:167:PRO:HB2	7:Eo:239:LEU:HD23	1.95	0.47
7:Ag:145:PRO:HD3	7:An:131:LYS:HE2	1.97	0.47
7:Bi:231:ARG:HD3	7:Bi:231:ARG:HA	1.79	0.47
7:Cy:158:VAL:HB	7:Cy:256:VAL:HA	1.97	0.47
7:Df:230:LEU:HD12	7:Df:233:LEU:HD12	1.97	0.47
2:Dh:4:MET:HG3	4:Dj:2:PHE:HE2	1.79	0.47
3:Aj:13:LYS:HD3	3:Aj:13:LYS:HA	1.67	0.46
5:Az:254:ILE:HB	5:Az:262:ILE:HB	1.97	0.46
3:Cn:12:LYS:O	3:Cn:13:LYS:HD2	2.15	0.46
2:Da:4:MET:HG3	4:Dc:2:PHE:HE2	1.80	0.46
7:Df:225:ASN:HD21	7:Dm:176:VAL:H	1.63	0.46
7:Dt:144:THR:OG1	7:Dt:148:PRO:HG3	2.16	0.46
5:Dy:212:ILE:HG13	5:Dy:262:ILE:HG22	1.97	0.46
7:Ev:158:VAL:HB	7:Ev:256:VAL:HA	1.97	0.46
3:Ac:12:LYS:O	3:Ac:13:LYS:HD2	2.14	0.46
7:Bi:168:VAL:HG23	7:Bi:240:THR:HG23	1.96	0.46
5:Al:253:ARG:HD2	5:Al:263:LYS:HE2	1.97	0.46
7:An:158:VAL:HB	7:An:256:VAL:HA	1.98	0.46
5:Bg:219:ARG:HG3	7:Bp:148:PRO:HB2	1.97	0.46
7:Bp:125:GLU:O	7:Bp:128:VAL:HG22	2.16	0.46
7:Cr:125:GLU:O	7:Cr:128:VAL:HG22	2.15	0.46
7:Cr:238:MET:HE3	7:Cy:250:TYR:O	2.15	0.46
7:Dt:168:VAL:HG23	7:Dt:240:THR:HG23	1.96	0.46
2:Ej:5:ILE:HA	5:Em:250:LEU:HD11	1.98	0.46
6:Af:798:THR:HG23	7:Au:115:MET:HB2	1.97	0.46
5:Al:212:ILE:HD11	5:Al:254:ILE:HG13	1.98	0.46
7:Au:230:LEU:HD12	7:Au:233:LEU:HD12	1.97	0.46
3:Ax:13:LYS:HA	3:Ax:13:LYS:HD3	1.66	0.46
5:Ci:212:ILE:HG13	5:Ci:262:ILE:HG22	1.97	0.46
7:Dt:223:TYR:HB3	7:Dt:242:ILE:HG23	1.98	0.46
2:Eq:5:ILE:HA	5:Et:250:LEU:HD11	1.98	0.46
5:Bn:213:GLN:O	7:Bp:170:ARG:HD2	2.15	0.46
6:Bv:813:LYS:HD3	7:Cd:134:TYR:HE1	1.81	0.46
5:Dd:212:ILE:HD11	5:Dd:254:ILE:HG13	1.98	0.46
6:De:794:ILE:HG21	7:Dt:110:LYS:HD2	1.98	0.46
6:Eu:791:GLN:HA	6:Eu:794:ILE:HD12	1.96	0.46
6:Af:794:ILE:HG21	7:Au:110:LYS:HD2	1.98	0.46
6:Cc:801:MET:HG2	7:Ck:121:PRO:HB2	1.97	0.46
7:Cr:145:PRO:HD3	7:Cy:131:LYS:HE2	1.98	0.46
7:Cy:208:LYS:HB3	6:De:824:THR:H	1.81	0.46
7:Dm:158:VAL:HB	7:Dm:256:VAL:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:An:144:THR:OG1	7:An:148:PRO:HG3	2.16	0.46
7:Au:206:TRP:HB2	7:Au:213:LEU:HD23	1.98	0.46
7:Au:225:ASN:HD21	7:Bb:176:VAL:H	1.64	0.46
1:Cl:12:HIS:NE2	4:Cv:3:GLY:HA2	2.30	0.46
7:Cy:144:THR:OG1	7:Cy:148:PRO:HG3	2.16	0.46
7:Cy:169:ILE:HG21	7:Cy:179:LEU:HD21	1.98	0.46
7:Df:145:PRO:HD3	7:Dm:131:LYS:HE2	1.98	0.46
7:Ev:231:ARG:HD3	7:Ev:231:ARG:HA	1.79	0.46
7:Ag:115:MET:HE3	7:Ag:115:MET:HB3	1.85	0.46
7:Au:134:TYR:O	7:Au:138:GLU:HG2	2.16	0.46
5:Az:255:LEU:HD13	5:Az:261:VAL:HG22	1.97	0.46
5:Bu:268:ASP:O	7:Bw:247:ALA:HB2	2.16	0.46
7:Eh:125:GLU:O	7:Eh:128:VAL:HG22	2.16	0.46
1:Ep:2:THR:HG21	5:Et:253:ARG:NH2	2.30	0.46
7:An:208:LYS:HB3	6:At:824:THR:H	1.81	0.46
7:Ck:158:VAL:HB	7:Ck:256:VAL:HA	1.97	0.46
7:Cy:125:GLU:O	7:Cy:128:VAL:HG22	2.16	0.46
7:Df:158:VAL:HB	7:Df:256:VAL:HA	1.98	0.46
5:Az:212:ILE:HG13	5:Az:262:ILE:HG22	1.99	0.45
7:Au:151:PRO:HA	7:Au:248:VAL:HG13	1.97	0.45
2:Cm:5:ILE:HD13	2:Cm:5:ILE:HA	1.79	0.45
7:Df:206:TRP:HB2	7:Df:213:LEU:HD23	1.98	0.45
7:Ag:158:VAL:HB	7:Ag:256:VAL:HA	1.99	0.45
7:Bb:206:TRP:HB2	7:Bb:213:LEU:HD23	1.98	0.45
5:Bn:219:ARG:H	7:Bw:148:PRO:HD2	1.80	0.45
3:Bz:13:LYS:HD3	3:Bz:13:LYS:HA	1.66	0.45
6:En:795:GLN:H	6:En:795:GLN:HG2	1.56	0.45
6:Bh:802:LEU:HD12	6:Bh:802:LEU:HA	1.84	0.45
7:Cd:125:GLU:O	7:Cd:128:VAL:HG22	2.16	0.45
7:Df:151:PRO:HA	7:Df:248:VAL:HG13	1.98	0.45
7:Bw:125:GLU:O	7:Bw:128:VAL:HG22	2.17	0.45
2:Da:5:ILE:HA	5:Dd:250:LEU:HD11	1.97	0.45
7:Df:134:TYR:O	7:Df:138:GLU:HG2	2.17	0.45
5:As:212:ILE:HD11	5:As:254:ILE:HG13	1.98	0.45
5:Dk:255:LEU:HD13	5:Dk:261:VAL:HG22	1.97	0.45
7:Ea:144:THR:OG1	7:Ea:148:PRO:HG3	2.16	0.45
7:Bp:151:PRO:HA	7:Bp:248:VAL:HG13	1.99	0.45
7:Ck:145:PRO:HD3	7:Cr:131:LYS:HE2	1.99	0.45
5:Et:212:ILE:HD11	5:Et:254:ILE:HG13	1.99	0.45
2:Cm:5:ILE:HG21	7:Cy:140:ALA:HB2	1.98	0.45
7:Df:125:GLU:O	7:Df:128:VAL:HG22	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Dl:794:ILE:HG23	7:Ea:110:LYS:HZ3	1.82	0.45
7:Ea:125:GLU:O	7:Ea:128:VAL:HG22	2.16	0.45
7:Ea:174:GLY:HA2	7:Ea:216:GLN:HE21	1.82	0.45
7:Ea:203:ASN:O	7:Ea:215:ILE:HA	2.16	0.45
7:Ea:231:ARG:HD3	7:Ea:231:ARG:HA	1.79	0.45
7:Eo:144:THR:OG1	7:Eo:148:PRO:HG3	2.17	0.45
2:Ap:1:CYS:HA	3:Aq:4:ILE:HD13	1.98	0.45
7:Au:125:GLU:O	7:Au:128:VAL:HG22	2.17	0.45
7:Bb:145:PRO:HD3	7:Bi:131:LYS:HE2	1.99	0.45
7:Bp:115:MET:HE3	7:Bp:115:MET:HB3	1.79	0.45
7:Bp:149:PRO:HB2	7:Bp:248:VAL:HG12	1.99	0.45
1:Cs:4:ALA:HB2	3:Cu:14:TYR:HB2	1.99	0.45
2:Dh:5:ILE:HA	5:Dk:250:LEU:HD11	1.99	0.45
7:Bb:134:TYR:O	7:Bb:138:GLU:HG2	2.17	0.45
7:Cd:189:TRP:HE1	7:Cd:232:GLY:H	1.64	0.45
7:Eh:124:PRO:O	7:Eh:128:VAL:HG13	2.17	0.45
7:Ev:113:LYS:HA	7:Ev:113:LYS:HD3	1.81	0.45
7:Ev:167:PRO:HD2	7:Ev:238:MET:O	2.17	0.45
5:Ae:216:ILE:HG12	5:Ae:221:TRP:HZ3	1.83	0.44
7:Bi:144:THR:OG1	7:Bi:148:PRO:HG3	2.17	0.44
1:Bj:16:ALA:HB3	2:Br:9:ARG:HD2	1.98	0.44
7:Ea:145:PRO:HD3	7:Eh:131:LYS:HE2	1.99	0.44
7:Eh:113:LYS:HA	7:Eh:113:LYS:HD3	1.82	0.44
1:Aa:12:HIS:NE2	4:Ak:3:GLY:HA2	2.32	0.44
7:Ag:125:GLU:O	7:Ag:128:VAL:HG22	2.17	0.44
7:Cd:144:THR:OG1	7:Cd:148:PRO:HG3	2.17	0.44
2:Cf:1:CYS:HA	3:Cg:4:ILE:HD13	1.99	0.44
7:Ck:125:GLU:O	7:Ck:128:VAL:HG22	2.16	0.44
7:Cy:225:ASN:HD21	7:Df:176:VAL:N	2.16	0.44
2:Da:1:CYS:HA	3:Db:4:ILE:HD13	1.99	0.44
7:Dm:124:PRO:O	7:Dm:128:VAL:HG13	2.17	0.44
2:Do:1:CYS:HA	3:Dp:4:ILE:HD13	2.00	0.44
2:Dv:2:VAL:HG23	3:Dw:1:ARG:HG3	1.98	0.44
7:Ea:178:SER:O	7:Ea:251:ARG:HA	2.17	0.44
5:Et:212:ILE:HG13	5:Et:262:ILE:HG22	1.99	0.44
5:Ae:255:LEU:HD13	5:Ae:261:VAL:HG22	1.99	0.44
7:Ag:230:LEU:HD12	7:Ag:233:LEU:HD12	1.99	0.44
7:An:113:LYS:HA	7:An:113:LYS:HD3	1.81	0.44
5:Bu:213:GLN:O	7:Bw:170:ARG:HD2	2.17	0.44
7:Cr:230:LEU:HD12	7:Cr:233:LEU:HD12	1.99	0.44
5:Bu:255:LEU:HD13	5:Bu:261:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Dm:145:PRO:HD3	7:Dt:131:LYS:HE2	1.99	0.44
2:Br:4:MET:HG3	5:Bu:248:ASP:HA	1.98	0.44
7:Cy:231:ARG:HD3	7:Cy:231:ARG:HA	1.81	0.44
2:Ej:5:ILE:HD13	5:Em:250:LEU:HD21	1.99	0.44
7:Eo:125:GLU:O	7:Eo:128:VAL:HG22	2.17	0.44
2:Ab:1:CYS:HA	3:Ac:4:ILE:HD13	1.99	0.44
2:Ap:5:ILE:HA	5:As:250:LEU:HD11	1.99	0.44
7:Au:225:ASN:HD21	7:Bb:176:VAL:N	2.16	0.44
7:Ag:208:LYS:HB3	6:Am:824:THR:H	1.82	0.44
3:Dp:13:LYS:HA	3:Dp:13:LYS:HD3	1.65	0.44
5:Ef:213:GLN:O	7:Eh:170:ARG:HD2	2.18	0.44
7:Ev:125:GLU:O	7:Ev:128:VAL:HG22	2.17	0.44
1:Ao:4:ALA:HB2	3:Aq:14:TYR:HB2	1.98	0.44
7:Bb:189:TRP:HE1	7:Bb:232:GLY:H	1.66	0.44
5:Bn:212:ILE:HG13	5:Bn:262:ILE:HG22	1.98	0.44
7:Cr:158:VAL:HB	7:Cr:256:VAL:HA	2.00	0.44
5:Dr:243:MET:HE2	5:Dr:243:MET:HB3	1.80	0.44
5:Ef:255:LEU:HD13	5:Ef:261:VAL:HG22	1.99	0.44
2:Eq:1:CYS:HA	3:Er:4:ILE:HD13	1.99	0.44
3:Bs:13:LYS:HA	3:Bs:13:LYS:HD3	1.65	0.44
6:Eg:813:LYS:HD3	7:Eo:134:TYR:HE1	1.82	0.44
7:Eh:134:TYR:O	7:Eh:138:GLU:HG2	2.18	0.44
7:Eh:158:VAL:HB	7:Eh:256:VAL:HA	1.99	0.44
7:Eo:189:TRP:HE1	7:Eo:232:GLY:H	1.66	0.44
7:An:129:LYS:HG2	3:Er:2:VAL:HG11	1.99	0.43
7:Bp:180:VAL:HG12	7:Bp:212:THR:OG1	2.18	0.43
3:Db:13:LYS:HD3	3:Db:13:LYS:HA	1.65	0.43
4:Ad:1:PRO:HA	3:Er:5:GLY:CA	2.48	0.43
7:Ag:214:MET:HE3	7:Ev:195:ASP:HB2	2.00	0.43
7:An:125:GLU:O	7:An:128:VAL:HG22	2.18	0.43
7:Bp:158:VAL:HG22	7:Bp:167:PRO:HG2	1.99	0.43
6:Cq:798:THR:HG23	7:Df:115:MET:HB2	1.99	0.43
7:Cr:158:VAL:HG22	7:Cr:167:PRO:HG2	2.00	0.43
3:Dw:2:VAL:HG21	7:Eo:129:LYS:CG	2.48	0.43
5:Em:255:LEU:HD13	5:Em:261:VAL:HG22	1.99	0.43
2:Eq:4:MET:HG3	5:Et:248:ASP:HA	2.00	0.43
7:Au:233:LEU:HD23	7:Au:233:LEU:HA	1.91	0.43
5:Bu:213:GLN:HB2	5:Bu:223:ILE:HG22	2.00	0.43
3:Dw:13:LYS:HD3	3:Dw:13:LYS:HA	1.67	0.43
6:Dz:791:GLN:HA	6:Dz:794:ILE:HD12	2.00	0.43
7:Ea:196:LEU:HD13	7:Ea:204:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Ef:268:ASP:O	7:Eh:247:ALA:HB2	2.17	0.43
2:Ej:2:VAL:HG23	3:Ek:1:ARG:HG3	2.00	0.43
1:Du:12:HIS:NE2	4:Ee:3:GLY:HA2	2.33	0.43
7:Ea:151:PRO:HA	7:Ea:248:VAL:HG13	1.99	0.43
7:Ea:189:TRP:HE1	7:Ea:232:GLY:H	1.66	0.43
3:Aq:13:LYS:HA	3:Aq:13:LYS:HD3	1.65	0.43
7:Cd:179:LEU:HD12	7:Cd:215:ILE:HD11	2.00	0.43
7:Ck:151:PRO:HA	7:Ck:248:VAL:HG13	2.01	0.43
7:Dt:113:LYS:HA	7:Dt:113:LYS:HD3	1.83	0.43
3:Er:13:LYS:HD3	3:Er:13:LYS:HA	1.65	0.43
5:As:233:ARG:HG2	5:As:233:ARG:NH1	2.34	0.43
6:Bv:797:ARG:O	6:Bv:801:MET:HG3	2.18	0.43
5:Cp:255:LEU:HD13	5:Cp:261:VAL:HG22	2.00	0.43
6:Eg:820:TYR:HE1	6:Eg:822:GLU:HG2	1.82	0.43
7:Eo:190:PRO:HB2	7:Eo:231:ARG:HG2	2.00	0.43
5:Az:243:MET:HE2	5:Az:243:MET:HB3	1.90	0.43
7:Cy:189:TRP:CZ2	7:Cy:233:LEU:HG	2.54	0.43
5:Dk:212:ILE:HG13	5:Dk:262:ILE:HG22	2.00	0.43
7:Dm:189:TRP:HE1	7:Dm:232:GLY:H	1.67	0.43
7:Ea:124:PRO:O	7:Ea:128:VAL:HG13	2.18	0.43
5:Ef:213:GLN:HB2	5:Ef:223:ILE:HG22	2.00	0.43
1:Ep:1:CYS:HB3	1:Ep:2:THR:H	1.61	0.43
5:Ae:212:ILE:HG13	5:Ae:262:ILE:HG22	1.99	0.43
7:Au:124:PRO:O	7:Au:128:VAL:HG13	2.19	0.43
7:Bi:125:GLU:O	7:Bi:128:VAL:HG22	2.19	0.43
7:Cd:190:PRO:HB2	7:Cd:231:ARG:HG2	2.00	0.43
5:Cw:263:LYS:HE3	5:Cw:263:LYS:HB3	1.77	0.43
7:Dt:134:TYR:O	7:Dt:138:GLU:HG2	2.18	0.43
7:Eh:230:LEU:HD12	7:Eh:233:LEU:HD12	2.00	0.43
5:Bg:268:ASP:O	7:Bi:247:ALA:HB2	2.19	0.43
7:Bp:229:ARG:HG2	7:Bp:236:PRO:HB3	2.00	0.43
7:Cd:134:TYR:O	7:Cd:138:GLU:HG2	2.19	0.43
7:Cd:178:SER:HA	7:Cd:213:LEU:O	2.18	0.43
7:Dm:134:TYR:O	7:Dm:138:GLU:HG2	2.18	0.43
7:Dt:125:GLU:O	7:Dt:128:VAL:HG22	2.19	0.43
2:Dv:5:ILE:HD13	5:Dy:250:LEU:HD21	2.00	0.43
7:Ag:181:PHE:CE2	7:Ag:191:ILE:HD11	2.54	0.43
5:Cb:212:ILE:HG13	5:Cb:262:ILE:HG22	2.00	0.43
6:Cc:795:GLN:H	6:Cc:795:GLN:HG2	1.56	0.43
7:Cd:231:ARG:HD3	7:Cd:231:ARG:HA	1.82	0.43
3:Ed:13:LYS:HA	3:Ed:13:LYS:HD3	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Eg:801:MET:HG2	7:Eo:121:PRO:HB2	2.01	0.43
7:Au:238:MET:HE3	7:Bb:178:SER:HB3	2.01	0.42
5:Bg:222:LEU:HD21	5:Bg:254:ILE:HD12	2.00	0.42
7:Cy:233:LEU:HD23	7:Cy:233:LEU:HA	1.89	0.42
7:Dm:195:ASP:HB3	7:Dm:227:ALA:HB3	2.00	0.42
7:Dt:151:PRO:HA	7:Dt:248:VAL:HG13	2.01	0.42
3:Ed:2:VAL:HG21	7:Ev:129:LYS:CG	2.49	0.42
3:Ek:13:LYS:HA	3:Ek:13:LYS:HD3	1.66	0.42
7:Eo:158:VAL:HG22	7:Eo:167:PRO:HG2	2.00	0.42
3:Ac:2:VAL:HG11	7:Au:129:LYS:HG2	2.00	0.42
7:An:189:TRP:CZ2	7:An:233:LEU:HG	2.54	0.42
7:Au:113:LYS:HA	7:Au:113:LYS:HD3	1.82	0.42
7:Bb:125:GLU:O	7:Bb:128:VAL:HG22	2.20	0.42
1:Bj:3:ASP:OD2	3:Bl:16:ASP:HB2	2.19	0.42
3:Bl:2:VAL:HG21	7:Cd:129:LYS:CG	2.49	0.42
6:Bo:801:MET:HE1	7:Cd:112:PHE:HA	2.00	0.42
7:Bp:189:TRP:HE1	7:Bp:232:GLY:H	1.66	0.42
5:Cb:255:LEU:HD13	5:Cb:261:VAL:HG22	1.99	0.42
5:Ci:212:ILE:HD11	5:Ci:254:ILE:HG13	2.01	0.42
5:Cp:216:ILE:HG12	5:Cp:221:TRP:HZ3	1.83	0.42
5:Dr:268:ASP:O	7:Dt:247:ALA:HB2	2.19	0.42
7:Ea:180:VAL:HG12	7:Ea:212:THR:OG1	2.18	0.42
7:Bp:124:PRO:O	7:Bp:128:VAL:HG13	2.19	0.42
7:Cr:181:PHE:CE2	7:Cr:191:ILE:HD11	2.54	0.42
7:Cr:208:LYS:HB3	6:Cx:824:THR:H	1.85	0.42
1:Cs:2:THR:HG21	5:Cw:253:ARG:NH2	2.34	0.42
5:Dk:268:ASP:O	7:Dm:247:ALA:HB2	2.20	0.42
7:Dt:149:PRO:HB2	7:Dt:248:VAL:HG12	2.00	0.42
7:Ea:233:LEU:HD23	7:Ea:233:LEU:HA	1.89	0.42
7:Ag:188:PRO:HB3	7:Ag:211:ASN:ND2	2.34	0.42
7:Ag:204:ILE:HG12	7:Ag:215:ILE:CG1	2.48	0.42
7:Bp:182:LEU:HD12	7:Bp:255:ARG:HD3	2.00	0.42
5:Cb:233:ARG:HB2	7:Ck:147:THR:HG21	2.00	0.42
5:Em:233:ARG:HB2	7:Ev:147:THR:HG21	2.02	0.42
7:Dt:189:TRP:HE1	7:Dt:232:GLY:H	1.67	0.42
7:Ea:182:LEU:HD12	7:Ea:255:ARG:HD3	2.01	0.42
5:As:212:ILE:HG13	5:As:262:ILE:HG22	2.02	0.42
5:Az:268:ASP:O	7:Bb:247:ALA:HB2	2.20	0.42
7:Bb:124:PRO:O	7:Bb:128:VAL:HG13	2.20	0.42
7:Bp:144:THR:OG1	7:Bp:148:PRO:HG3	2.19	0.42
7:Bp:208:LYS:HB3	6:Bv:824:THR:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:Df:144:THR:OG1	7:Df:148:PRO:HG3	2.19	0.42
7:Dm:125:GLU:O	7:Dm:128:VAL:HG22	2.19	0.42
7:Eo:134:TYR:O	7:Eo:138:GLU:HG2	2.20	0.42
5:As:255:LEU:HD13	5:As:261:VAL:HG22	2.01	0.42
5:Bg:243:MET:HE2	5:Bg:243:MET:HB3	1.80	0.42
7:Bp:179:LEU:O	7:Bp:212:THR:HA	2.20	0.42
5:Dd:233:ARG:HG2	5:Dd:233:ARG:NH1	2.35	0.42
7:Df:238:MET:HE3	7:Dm:178:SER:HB3	2.02	0.42
7:Dm:208:LYS:HA	7:Dm:208:LYS:HD2	1.91	0.42
7:Bi:189:TRP:CZ2	7:Bi:233:LEU:HG	2.55	0.42
7:Bp:174:GLY:HA2	7:Bp:216:GLN:HE21	1.85	0.42
7:Bw:158:VAL:HB	7:Bw:256:VAL:HA	2.02	0.42
7:Ck:167:PRO:HD2	7:Ck:238:MET:O	2.20	0.42
5:Cp:212:ILE:HG13	5:Cp:262:ILE:HG22	2.01	0.42
3:Cu:13:LYS:HA	3:Cu:13:LYS:HD3	1.66	0.42
5:Bg:212:ILE:HD11	5:Bg:254:ILE:HG13	2.01	0.42
7:Bi:189:TRP:HE1	7:Bi:232:GLY:H	1.66	0.42
7:Bi:200:SER:HB3	6:Bo:816:GLU:HG3	2.02	0.42
7:Bw:169:ILE:HG21	7:Bw:179:LEU:HD21	2.02	0.42
7:Df:225:ASN:HD21	7:Dm:176:VAL:N	2.17	0.42
6:Ds:802:LEU:HD12	6:Ds:802:LEU:HA	1.84	0.42
7:Ev:151:PRO:HA	7:Ev:248:VAL:HG13	2.01	0.42
7:Bb:113:LYS:HA	7:Bb:113:LYS:HD3	1.83	0.42
7:Ea:149:PRO:HB2	7:Ea:248:VAL:HG12	2.00	0.42
7:Eh:169:ILE:HG21	7:Eh:179:LEU:HD21	2.01	0.42
7:Eh:233:LEU:HD23	7:Eh:233:LEU:HA	1.89	0.42
7:Eo:149:PRO:HB2	7:Eo:248:VAL:HG12	2.02	0.42
1:Ao:16:ALA:HA	4:Ay:3:GLY:HA3	2.02	0.41
7:Ea:225:ASN:HD21	7:Eh:176:VAL:N	2.18	0.41
6:En:820:TYR:CE1	6:En:822:GLU:HG2	2.54	0.41
7:Ev:233:LEU:HD23	7:Ev:233:LEU:HA	1.91	0.41
7:An:225:ASN:HD21	7:Au:176:VAL:N	2.17	0.41
7:Au:231:ARG:HD3	7:Au:231:ARG:HA	1.77	0.41
7:Bi:167:PRO:HD2	7:Bi:238:MET:O	2.20	0.41
7:Ck:158:VAL:HG11	7:Ck:237:VAL:HG13	2.02	0.41
5:Dk:243:MET:HE2	5:Dk:243:MET:HB3	1.85	0.41
7:Ev:189:TRP:CZ2	7:Ev:233:LEU:HG	2.55	0.41
7:Bb:231:ARG:HD3	7:Bb:231:ARG:HA	1.94	0.41
7:Bi:169:ILE:HG21	7:Bi:179:LEU:HD21	2.03	0.41
3:Cg:2:VAL:HG11	7:Cy:129:LYS:HG2	2.02	0.41
5:Dd:268:ASP:O	7:Df:247:ALA:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Dh:4:MET:HE3	4:Dj:2:PHE:CZ	2.55	0.41
7:Dm:181:PHE:CD2	7:Dm:191:ILE:HD11	2.55	0.41
7:Eo:113:LYS:HA	7:Eo:113:LYS:HD3	1.85	0.41
7:Ag:107:ILE:HA	7:Ag:110:LYS:HE2	2.02	0.41
7:Bp:166:PRO:HA	7:Bp:167:PRO:HD3	1.97	0.41
6:De:805:ALA:HA	6:De:808:LEU:HB2	2.02	0.41
7:Df:149:PRO:HB2	7:Df:248:VAL:HG12	2.02	0.41
5:As:268:ASP:O	7:Au:247:ALA:HB2	2.21	0.41
1:Bj:2:THR:HG21	5:Bn:253:ARG:NH2	2.34	0.41
7:Bp:225:ASN:HD21	7:Bw:176:VAL:N	2.19	0.41
5:Ci:263:LYS:HB3	5:Ci:263:LYS:HE3	1.86	0.41
7:Ck:149:PRO:HB2	7:Ck:248:VAL:HG12	2.03	0.41
7:Cr:215:ILE:HD12	7:Cr:215:ILE:N	2.35	0.41
7:Df:233:LEU:HD23	7:Df:233:LEU:HA	1.91	0.41
6:Dl:794:ILE:CG2	7:Ea:110:LYS:HZ3	2.33	0.41
7:Dt:189:TRP:CZ2	7:Dt:233:LEU:HG	2.55	0.41
5:Dy:243:MET:HE2	5:Dy:243:MET:HB3	1.76	0.41
7:Ea:229:ARG:HG2	7:Ea:236:PRO:HB3	2.02	0.41
7:Ag:167:PRO:HB2	7:Ag:239:LEU:HD23	2.02	0.41
7:Au:199:PRO:HG2	6:Ba:816:GLU:HG2	2.01	0.41
2:Aw:4:MET:HG2	5:Az:248:ASP:HA	2.03	0.41
7:Bw:230:LEU:HD12	7:Bw:233:LEU:HD12	2.03	0.41
1:Cz:4:ALA:HB2	3:Db:14:TYR:HB2	2.03	0.41
7:Dm:158:VAL:HG22	7:Dm:167:PRO:HG2	2.03	0.41
7:Ea:113:LYS:HA	7:Ea:113:LYS:HD3	1.82	0.41
7:Ag:113:LYS:HA	7:Ag:113:LYS:HD3	1.84	0.41
7:Au:189:TRP:CZ2	7:Au:233:LEU:HG	2.56	0.41
5:Az:219:ARG:H	7:Bi:148:PRO:HD2	1.84	0.41
7:Cr:115:MET:HE3	7:Cr:115:MET:HB3	1.92	0.41
7:Dm:166:PRO:HA	7:Dm:167:PRO:HD3	1.98	0.41
7:Eo:151:PRO:HA	7:Eo:248:VAL:HG13	2.01	0.41
7:Bp:202:PHE:HB3	7:Bp:215:ILE:CG2	2.50	0.41
3:Bz:2:VAL:HG21	7:Cr:129:LYS:CG	2.51	0.41
7:Cd:174:GLY:HA2	7:Cd:216:GLN:HE21	1.86	0.41
3:Cn:2:VAL:HG11	7:Df:129:LYS:HG2	2.02	0.41
5:Dd:212:ILE:HG13	5:Dd:262:ILE:HG22	2.02	0.41
7:Eh:231:ARG:HD3	7:Eh:231:ARG:HA	1.79	0.41
6:Af:801:MET:HE1	7:Au:112:PHE:HA	2.03	0.41
7:Ag:195:ASP:HB2	6:Am:820:TYR:HD1	1.86	0.41
7:An:181:PHE:CD2	7:An:191:ILE:HD11	2.56	0.41
7:Bb:204:ILE:HG12	7:Bb:215:ILE:HG12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:Bh:820:TYR:HE1	6:Bh:822:GLU:HG2	1.86	0.41
7:Bi:223:TYR:HB3	7:Bi:242:ILE:HG23	2.02	0.41
3:Bl:1:ARG:HG2	3:Bl:2:VAL:N	2.35	0.41
6:Bo:820:TYR:HE1	6:Bo:822:GLU:HG2	1.85	0.41
7:Bp:189:TRP:CZ2	7:Bp:233:LEU:HG	2.56	0.41
7:Bw:134:TYR:O	7:Bw:138:GLU:HG2	2.21	0.41
5:Cb:237:LYS:HA	5:Cb:237:LYS:HD3	1.95	0.41
7:Cy:181:PHE:CD2	7:Cy:191:ILE:HD11	2.56	0.41
3:Db:2:VAL:HG11	7:Dt:129:LYS:HG2	2.03	0.41
7:Df:195:ASP:O	7:Df:226:LEU:HD12	2.21	0.41
5:Dr:212:ILE:HD11	5:Dr:254:ILE:HG13	2.03	0.41
7:Ea:189:TRP:CZ2	7:Ea:233:LEU:HG	2.56	0.41
7:Ag:178:SER:HB3	7:Ag:214:MET:SD	2.61	0.41
7:An:196:LEU:HD22	7:An:204:ILE:HG13	2.03	0.41
7:An:233:LEU:HD23	7:An:233:LEU:HA	1.89	0.41
5:Dd:255:LEU:HD13	5:Dd:261:VAL:HG22	2.02	0.41
7:Df:166:PRO:HA	7:Df:167:PRO:HD3	1.99	0.41
1:Dg:4:ALA:HB2	3:Di:14:TYR:HB2	2.03	0.41
7:Au:149:PRO:HB2	7:Au:248:VAL:HG12	2.03	0.40
5:Cb:218:GLY:HA3	7:Ck:148:PRO:HD3	2.03	0.40
2:Ct:1:CYS:HA	3:Cu:4:ILE:HD13	2.02	0.40
2:Ct:2:VAL:HG23	3:Cu:1:ARG:HD2	2.04	0.40
7:Df:189:TRP:CZ2	7:Df:233:LEU:HG	2.56	0.40
6:Ds:820:TYR:HE1	6:Ds:822:GLU:HG2	1.86	0.40
3:Aq:2:VAL:HG11	7:Bi:129:LYS:HG2	2.03	0.40
5:Dk:219:ARG:H	7:Dt:148:PRO:HD2	1.85	0.40
3:Dp:2:VAL:HG13	3:Dp:8:VAL:HA	2.03	0.40
3:Dw:1:ARG:HH22	3:Dw:3:SER:HB2	1.86	0.40
5:Ef:219:ARG:H	7:Eo:148:PRO:HD2	1.87	0.40
1:Ep:4:ALA:HB2	3:Er:14:TYR:HB2	2.03	0.40
7:Ag:129:LYS:CG	3:Ek:2:VAL:HG21	2.51	0.40
3:Be:2:VAL:HG21	7:Bw:129:LYS:CG	2.51	0.40
5:Cw:213:GLN:HB2	5:Cw:223:ILE:HG22	2.04	0.40
7:Ea:158:VAL:HG22	7:Ea:167:PRO:HG2	2.02	0.40
7:Ag:147:THR:HG21	5:Et:233:ARG:HB2	2.03	0.40
7:Au:168:VAL:HA	7:Au:240:THR:HG23	2.03	0.40
7:Cd:158:VAL:HG22	7:Cd:167:PRO:HG2	2.04	0.40
7:Cd:223:TYR:HB3	7:Cd:242:ILE:HG23	2.03	0.40
7:Dt:129:LYS:O	7:Dt:133:ILE:HG13	2.21	0.40
1:Eb:4:ALA:HB2	3:Ed:14:TYR:HB2	2.03	0.40
5:Bn:233:ARG:HB2	7:Bw:147:THR:HG21	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:Cu:2:VAL:HG22	3:Cu:8:VAL:HG23	2.04	0.40
7:Df:181:PHE:CE2	7:Df:191:ILE:HD11	2.57	0.40
1:Du:16:ALA:HB3	2:Ec:9:ARG:HD2	2.03	0.40
7:Eh:192:ALA:HB2	7:Eh:231:ARG:HD3	2.04	0.40
5:Em:218:GLY:HA3	7:Ev:148:PRO:HD3	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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	Aa	14/16 (88%)	14 (100%)	0	0	100	100
1	Ah	14/16 (88%)	14 (100%)	0	0	100	100
1	Ao	14/16 (88%)	14 (100%)	0	0	100	100
1	Av	14/16 (88%)	14 (100%)	0	0	100	100
1	Bc	14/16 (88%)	14 (100%)	0	0	100	100
1	Bj	14/16 (88%)	14 (100%)	0	0	100	100
1	Bq	14/16 (88%)	14 (100%)	0	0	100	100
1	Bx	14/16 (88%)	14 (100%)	0	0	100	100
1	Ce	14/16 (88%)	14 (100%)	0	0	100	100
1	Cl	14/16 (88%)	14 (100%)	0	0	100	100
1	Cs	14/16 (88%)	14 (100%)	0	0	100	100
1	Cz	14/16 (88%)	14 (100%)	0	0	100	100
1	Dg	14/16 (88%)	14 (100%)	0	0	100	100
1	Dn	14/16 (88%)	14 (100%)	0	0	100	100
1	Du	14/16 (88%)	14 (100%)	0	0	100	100
1	Eb	14/16 (88%)	14 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	Ei	14/16 (88%)	14 (100%)	0	0	100	100
1	Ep	14/16 (88%)	14 (100%)	0	0	100	100
2	Ab	7/9 (78%)	7 (100%)	0	0	100	100
2	Ai	7/9 (78%)	7 (100%)	0	0	100	100
2	Ap	7/9 (78%)	7 (100%)	0	0	100	100
2	Aw	7/9 (78%)	7 (100%)	0	0	100	100
2	Bd	7/9 (78%)	7 (100%)	0	0	100	100
2	Bk	7/9 (78%)	7 (100%)	0	0	100	100
2	Br	7/9 (78%)	7 (100%)	0	0	100	100
2	By	7/9 (78%)	7 (100%)	0	0	100	100
2	Cf	7/9 (78%)	7 (100%)	0	0	100	100
2	Cm	7/9 (78%)	7 (100%)	0	0	100	100
2	Ct	7/9 (78%)	7 (100%)	0	0	100	100
2	Da	7/9 (78%)	7 (100%)	0	0	100	100
2	Dh	7/9 (78%)	7 (100%)	0	0	100	100
2	Do	7/9 (78%)	7 (100%)	0	0	100	100
2	Dv	7/9 (78%)	7 (100%)	0	0	100	100
2	Ec	7/9 (78%)	7 (100%)	0	0	100	100
2	Ej	7/9 (78%)	7 (100%)	0	0	100	100
2	Eq	7/9 (78%)	7 (100%)	0	0	100	100
3	Ac	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Aj	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Aq	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Ax	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Be	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Bl	14/16 (88%)	12 (86%)	2 (14%)	0	100	100
3	Bs	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Bz	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Cg	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Cn	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Cu	14/16 (88%)	13 (93%)	1 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	Db	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Di	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Dp	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Dw	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Ed	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Ek	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
3	Er	14/16 (88%)	13 (93%)	1 (7%)	0	100	100
4	Ad	3/5 (60%)	3 (100%)	0	0	100	100
4	Ak	3/5 (60%)	3 (100%)	0	0	100	100
4	Ar	3/5 (60%)	3 (100%)	0	0	100	100
4	Ay	3/5 (60%)	3 (100%)	0	0	100	100
4	Bf	3/5 (60%)	3 (100%)	0	0	100	100
4	Bm	3/5 (60%)	3 (100%)	0	0	100	100
4	Bt	3/5 (60%)	3 (100%)	0	0	100	100
4	Ca	3/5 (60%)	3 (100%)	0	0	100	100
4	Ch	3/5 (60%)	3 (100%)	0	0	100	100
4	Co	3/5 (60%)	3 (100%)	0	0	100	100
4	Cv	3/5 (60%)	3 (100%)	0	0	100	100
4	Dc	3/5 (60%)	3 (100%)	0	0	100	100
4	Dj	3/5 (60%)	3 (100%)	0	0	100	100
4	Dq	3/5 (60%)	3 (100%)	0	0	100	100
4	Dx	3/5 (60%)	3 (100%)	0	0	100	100
4	Ee	3/5 (60%)	3 (100%)	0	0	100	100
4	El	3/5 (60%)	3 (100%)	0	0	100	100
4	Es	3/5 (60%)	3 (100%)	0	0	100	100
5	Ae	61/269 (23%)	58 (95%)	3 (5%)	0	100	100
5	Al	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	As	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Az	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Bg	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Bn	61/269 (23%)	61 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	Bu	61/269 (23%)	59 (97%)	2 (3%)	0	100	100
5	Cb	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Ci	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Cp	61/269 (23%)	58 (95%)	3 (5%)	0	100	100
5	Cw	61/269 (23%)	59 (97%)	2 (3%)	0	100	100
5	Dd	61/269 (23%)	61 (100%)	0	0	100	100
5	Dk	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Dr	61/269 (23%)	59 (97%)	2 (3%)	0	100	100
5	Dy	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Ef	61/269 (23%)	59 (97%)	2 (3%)	0	100	100
5	Em	61/269 (23%)	60 (98%)	1 (2%)	0	100	100
5	Et	61/269 (23%)	61 (100%)	0	0	100	100
6	Af	32/1048 (3%)	32 (100%)	0	0	100	100
6	Am	32/1048 (3%)	32 (100%)	0	0	100	100
6	At	32/1048 (3%)	32 (100%)	0	0	100	100
6	Ba	32/1048 (3%)	32 (100%)	0	0	100	100
6	Bh	32/1048 (3%)	32 (100%)	0	0	100	100
6	Bo	32/1048 (3%)	32 (100%)	0	0	100	100
6	Bv	32/1048 (3%)	32 (100%)	0	0	100	100
6	Cc	32/1048 (3%)	32 (100%)	0	0	100	100
6	Cj	32/1048 (3%)	32 (100%)	0	0	100	100
6	Cq	32/1048 (3%)	32 (100%)	0	0	100	100
6	Cx	32/1048 (3%)	32 (100%)	0	0	100	100
6	De	32/1048 (3%)	32 (100%)	0	0	100	100
6	Dl	32/1048 (3%)	32 (100%)	0	0	100	100
6	Ds	32/1048 (3%)	32 (100%)	0	0	100	100
6	Dz	32/1048 (3%)	32 (100%)	0	0	100	100
6	Eg	32/1048 (3%)	32 (100%)	0	0	100	100
6	En	32/1048 (3%)	32 (100%)	0	0	100	100
6	Eu	32/1048 (3%)	32 (100%)	0	0	100	100
7	Ag	158/361 (44%)	155 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	An	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Au	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Bb	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Bi	158/361 (44%)	154 (98%)	4 (2%)	0	100	100
7	Bp	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Bw	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Cd	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Ck	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Cr	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Cy	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Df	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Dm	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Dt	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Ea	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Eh	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Eo	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
7	Ev	158/361 (44%)	155 (98%)	3 (2%)	0	100	100
All	All	5202/31032 (17%)	5105 (98%)	97 (2%)	0	100	100

There are no Ramachandran outliers to report.

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 PDB entries followed by that with respect to all EM entries.

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	Aa	11/11 (100%)	10 (91%)	1 (9%)	7	27
1	Ah	11/11 (100%)	11 (100%)	0	100	100
1	Ao	11/11 (100%)	9 (82%)	2 (18%)	1	6
1	Av	11/11 (100%)	11 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	Bc	11/11 (100%)	10 (91%)	1 (9%)	7 27
1	Bj	11/11 (100%)	11 (100%)	0	100 100
1	Bq	11/11 (100%)	11 (100%)	0	100 100
1	Bx	11/11 (100%)	11 (100%)	0	100 100
1	Ce	11/11 (100%)	10 (91%)	1 (9%)	7 27
1	Cl	11/11 (100%)	10 (91%)	1 (9%)	7 27
1	Cs	11/11 (100%)	10 (91%)	1 (9%)	7 27
1	Cz	11/11 (100%)	10 (91%)	1 (9%)	7 27
1	Dg	11/11 (100%)	11 (100%)	0	100 100
1	Dn	11/11 (100%)	10 (91%)	1 (9%)	7 27
1	Du	11/11 (100%)	11 (100%)	0	100 100
1	Eb	11/11 (100%)	11 (100%)	0	100 100
1	Ei	11/11 (100%)	11 (100%)	0	100 100
1	Ep	11/11 (100%)	11 (100%)	0	100 100
2	Ab	7/7 (100%)	6 (86%)	1 (14%)	2 12
2	Ai	7/7 (100%)	7 (100%)	0	100 100
2	Ap	7/7 (100%)	6 (86%)	1 (14%)	2 12
2	Aw	7/7 (100%)	7 (100%)	0	100 100
2	Bd	7/7 (100%)	7 (100%)	0	100 100
2	Bk	7/7 (100%)	7 (100%)	0	100 100
2	Br	7/7 (100%)	7 (100%)	0	100 100
2	By	7/7 (100%)	7 (100%)	0	100 100
2	Cf	7/7 (100%)	7 (100%)	0	100 100
2	Cm	7/7 (100%)	6 (86%)	1 (14%)	2 12
2	Ct	7/7 (100%)	7 (100%)	0	100 100
2	Da	7/7 (100%)	6 (86%)	1 (14%)	2 12
2	Dh	7/7 (100%)	6 (86%)	1 (14%)	2 12
2	Do	7/7 (100%)	7 (100%)	0	100 100
2	Dv	7/7 (100%)	7 (100%)	0	100 100
2	Ec	7/7 (100%)	7 (100%)	0	100 100
2	Ej	7/7 (100%)	5 (71%)	2 (29%)	0 1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	Eq	7/7 (100%)	7 (100%)	0	100 100
3	Ac	13/13 (100%)	10 (77%)	3 (23%)	0 3
3	Aj	13/13 (100%)	10 (77%)	3 (23%)	0 3
3	Aq	13/13 (100%)	9 (69%)	4 (31%)	0 1
3	Ax	13/13 (100%)	11 (85%)	2 (15%)	2 10
3	Be	13/13 (100%)	12 (92%)	1 (8%)	10 34
3	Bl	13/13 (100%)	12 (92%)	1 (8%)	10 34
3	Bs	13/13 (100%)	12 (92%)	1 (8%)	10 34
3	Bz	13/13 (100%)	12 (92%)	1 (8%)	10 34
3	Cg	13/13 (100%)	10 (77%)	3 (23%)	0 3
3	Cn	13/13 (100%)	10 (77%)	3 (23%)	0 3
3	Cu	13/13 (100%)	10 (77%)	3 (23%)	0 3
3	Db	13/13 (100%)	9 (69%)	4 (31%)	0 1
3	Di	13/13 (100%)	11 (85%)	2 (15%)	2 10
3	Dp	13/13 (100%)	10 (77%)	3 (23%)	0 3
3	Dw	13/13 (100%)	11 (85%)	2 (15%)	2 10
3	Ed	13/13 (100%)	12 (92%)	1 (8%)	10 34
3	Ek	13/13 (100%)	11 (85%)	2 (15%)	2 10
3	Er	13/13 (100%)	11 (85%)	2 (15%)	2 10
4	Ad	3/3 (100%)	3 (100%)	0	100 100
4	Ak	3/3 (100%)	3 (100%)	0	100 100
4	Ar	3/3 (100%)	3 (100%)	0	100 100
4	Ay	3/3 (100%)	3 (100%)	0	100 100
4	Bf	3/3 (100%)	3 (100%)	0	100 100
4	Bm	3/3 (100%)	3 (100%)	0	100 100
4	Bt	3/3 (100%)	3 (100%)	0	100 100
4	Ca	3/3 (100%)	3 (100%)	0	100 100
4	Ch	3/3 (100%)	3 (100%)	0	100 100
4	Co	3/3 (100%)	3 (100%)	0	100 100
4	Cv	3/3 (100%)	3 (100%)	0	100 100
4	Dc	3/3 (100%)	3 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	Dj	3/3 (100%)	3 (100%)	0	100	100
4	Dq	3/3 (100%)	3 (100%)	0	100	100
4	Dx	3/3 (100%)	3 (100%)	0	100	100
4	Ee	3/3 (100%)	3 (100%)	0	100	100
4	El	3/3 (100%)	3 (100%)	0	100	100
4	Es	3/3 (100%)	3 (100%)	0	100	100
5	Ae	53/237 (22%)	53 (100%)	0	100	100
5	Al	53/237 (22%)	53 (100%)	0	100	100
5	As	53/237 (22%)	53 (100%)	0	100	100
5	Az	53/237 (22%)	52 (98%)	1 (2%)	52	76
5	Bg	53/237 (22%)	52 (98%)	1 (2%)	52	76
5	Bn	53/237 (22%)	53 (100%)	0	100	100
5	Bu	53/237 (22%)	52 (98%)	1 (2%)	52	76
5	Cb	53/237 (22%)	53 (100%)	0	100	100
5	Ci	53/237 (22%)	51 (96%)	2 (4%)	28	59
5	Cp	53/237 (22%)	52 (98%)	1 (2%)	52	76
5	Cw	53/237 (22%)	53 (100%)	0	100	100
5	Dd	53/237 (22%)	53 (100%)	0	100	100
5	Dk	53/237 (22%)	53 (100%)	0	100	100
5	Dr	53/237 (22%)	52 (98%)	1 (2%)	52	76
5	Dy	53/237 (22%)	53 (100%)	0	100	100
5	Ef	53/237 (22%)	53 (100%)	0	100	100
5	Em	53/237 (22%)	53 (100%)	0	100	100
5	Et	53/237 (22%)	52 (98%)	1 (2%)	52	76
6	Af	31/765 (4%)	30 (97%)	1 (3%)	34	64
6	Am	31/765 (4%)	31 (100%)	0	100	100
6	At	31/765 (4%)	30 (97%)	1 (3%)	34	64
6	Ba	31/765 (4%)	30 (97%)	1 (3%)	34	64
6	Bh	31/765 (4%)	31 (100%)	0	100	100
6	Bo	31/765 (4%)	30 (97%)	1 (3%)	34	64
6	Bv	31/765 (4%)	31 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	Cc	31/765 (4%)	31 (100%)	0	100	100
6	Cj	31/765 (4%)	31 (100%)	0	100	100
6	Cq	31/765 (4%)	30 (97%)	1 (3%)	34	64
6	Cx	31/765 (4%)	31 (100%)	0	100	100
6	De	31/765 (4%)	31 (100%)	0	100	100
6	Dl	31/765 (4%)	30 (97%)	1 (3%)	34	64
6	Ds	31/765 (4%)	31 (100%)	0	100	100
6	Dz	31/765 (4%)	31 (100%)	0	100	100
6	Eg	31/765 (4%)	31 (100%)	0	100	100
6	En	31/765 (4%)	31 (100%)	0	100	100
6	Eu	31/765 (4%)	31 (100%)	0	100	100
7	Ag	137/300 (46%)	132 (96%)	5 (4%)	30	61
7	An	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Au	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Bb	137/300 (46%)	133 (97%)	4 (3%)	37	67
7	Bi	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Bp	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Bw	137/300 (46%)	134 (98%)	3 (2%)	47	73
7	Cd	137/300 (46%)	134 (98%)	3 (2%)	47	73
7	Ck	137/300 (46%)	134 (98%)	3 (2%)	47	73
7	Cr	137/300 (46%)	130 (95%)	7 (5%)	20	50
7	Cy	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Df	137/300 (46%)	134 (98%)	3 (2%)	47	73
7	Dm	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Dt	137/300 (46%)	133 (97%)	4 (3%)	37	67
7	Ea	137/300 (46%)	135 (98%)	2 (2%)	60	80
7	Eh	137/300 (46%)	133 (97%)	4 (3%)	37	67
7	Eo	137/300 (46%)	134 (98%)	3 (2%)	47	73
7	Ev	137/300 (46%)	135 (98%)	2 (2%)	60	80
All	All	4590/24048 (19%)	4464 (97%)	126 (3%)	41	68

All (126) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	Aa	3	ASP
2	Ab	5	ILE
3	Ac	3	SER
3	Ac	7	THR
3	Ac	10	THR
6	Af	814	GLN
7	Ag	110	LYS
7	Ag	128	VAL
7	Ag	179	LEU
7	Ag	219	LYS
7	Ag	262	ASN
3	Aj	3	SER
3	Aj	7	THR
3	Aj	10	THR
7	An	128	VAL
7	An	240	THR
1	Ao	3	ASP
1	Ao	6	LEU
2	Ap	5	ILE
3	Aq	3	SER
3	Aq	4	ILE
3	Aq	7	THR
3	Aq	10	THR
6	At	814	GLN
7	Au	214	MET
7	Au	240	THR
3	Ax	7	THR
3	Ax	10	THR
5	Az	226	ASN
6	Ba	814	GLN
7	Bb	209	THR
7	Bb	214	MET
7	Bb	219	LYS
7	Bb	239	LEU
1	Bc	3	ASP
3	Be	3	SER
5	Bg	267	GLU
7	Bi	128	VAL
7	Bi	219	LYS
3	Bl	7	THR
6	Bo	822	GLU
7	Bp	179	LEU
7	Bp	215	ILE

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Mol	Chain	Res	Type
3	Bs	3	SER
5	Bu	226	ASN
7	Bw	128	VAL
7	Bw	168	VAL
7	Bw	240	THR
3	Bz	3	SER
7	Cd	128	VAL
7	Cd	179	LEU
7	Cd	241	LEU
1	Ce	3	ASP
3	Cg	3	SER
3	Cg	4	ILE
3	Cg	10	THR
5	Ci	213	GLN
5	Ci	249	SER
7	Ck	128	VAL
7	Ck	214	MET
7	Ck	240	THR
1	Cl	3	ASP
2	Cm	5	ILE
3	Cn	3	SER
3	Cn	7	THR
3	Cn	10	THR
5	Cp	251	GLN
6	Cq	814	GLN
7	Cr	128	VAL
7	Cr	178	SER
7	Cr	179	LEU
7	Cr	219	LYS
7	Cr	240	THR
7	Cr	241	LEU
7	Cr	262	ASN
1	Cs	3	ASP
3	Cu	4	ILE
3	Cu	7	THR
3	Cu	10	THR
7	Cy	128	VAL
7	Cy	240	THR
1	Cz	3	ASP
2	Da	5	ILE
3	Db	3	SER
3	Db	4	ILE

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Mol	Chain	Res	Type
3	Db	7	THR
3	Db	10	THR
7	Df	128	VAL
7	Df	214	MET
7	Df	240	THR
2	Dh	4	MET
3	Di	7	THR
3	Di	10	THR
6	Dl	814	GLN
7	Dm	209	THR
7	Dm	219	LYS
1	Dn	3	ASP
3	Dp	3	SER
3	Dp	4	ILE
3	Dp	7	THR
5	Dr	267	GLU
7	Dt	110	LYS
7	Dt	128	VAL
7	Dt	219	LYS
7	Dt	240	THR
3	Dw	3	SER
3	Dw	7	THR
7	Ea	241	LEU
7	Ea	246	LYS
3	Ed	3	SER
7	Eh	168	VAL
7	Eh	209	THR
7	Eh	214	MET
7	Eh	240	THR
2	Ej	4	MET
2	Ej	5	ILE
3	Ek	3	SER
3	Ek	10	THR
7	Eo	128	VAL
7	Eo	215	ILE
7	Eo	241	LEU
3	Er	3	SER
3	Er	4	ILE
5	Et	213	GLN
7	Ev	128	VAL
7	Ev	240	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77)

such sidechains are listed below:

Mol	Chain	Res	Type
7	Ag	123	ASN
7	Ag	126	GLN
7	Ag	132	GLN
7	Ag	222	ASN
7	Ag	234	ASN
7	Ag	245	GLN
5	Al	213	GLN
5	Al	251	GLN
7	An	123	ASN
7	An	126	GLN
7	An	203	ASN
7	An	222	ASN
7	An	262	ASN
7	Au	132	GLN
7	Au	203	ASN
7	Au	222	ASN
7	Au	262	ASN
5	Az	251	GLN
7	Bb	159	ASN
7	Bb	203	ASN
7	Bb	222	ASN
7	Bb	257	GLN
5	Bg	251	GLN
7	Bi	123	ASN
7	Bi	126	GLN
7	Bi	203	ASN
7	Bi	222	ASN
7	Bp	203	ASN
7	Bp	222	ASN
7	Bp	245	GLN
5	Bu	213	GLN
7	Bw	262	ASN
7	Cd	126	GLN
7	Cd	159	ASN
7	Cd	257	GLN
7	Cd	262	ASN
7	Ck	123	ASN
7	Ck	126	GLN
7	Ck	222	ASN
7	Ck	262	ASN
5	Cp	213	GLN
7	Cr	132	GLN

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Mol	Chain	Res	Type
7	Cr	211	ASN
7	Cr	222	ASN
7	Cr	234	ASN
7	Cr	245	GLN
5	Cw	213	GLN
7	Cy	132	GLN
7	Cy	222	ASN
7	Cy	262	ASN
5	Dd	251	GLN
7	Df	222	ASN
5	Dk	251	GLN
7	Dm	159	ASN
7	Dm	257	GLN
7	Dm	262	ASN
7	Dt	123	ASN
7	Dt	126	GLN
7	Dt	159	ASN
7	Dt	222	ASN
7	Dt	257	GLN
5	Dy	251	GLN
7	Ea	222	ASN
7	Ea	245	GLN
7	Eh	123	ASN
7	Eh	126	GLN
7	Eh	132	GLN
5	Em	213	GLN
5	Em	251	GLN
6	En	818	GLN
7	Eo	123	ASN
7	Eo	126	GLN
7	Eo	159	ASN
7	Eo	203	ASN
7	Eo	257	GLN
7	Ev	234	ASN
7	Ev	262	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides 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)

There are no chain breaks in this entry.

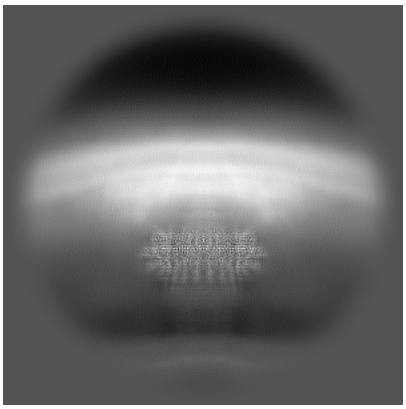
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-49394. These allow visual inspection of the internal detail of the map and identification of artifacts.

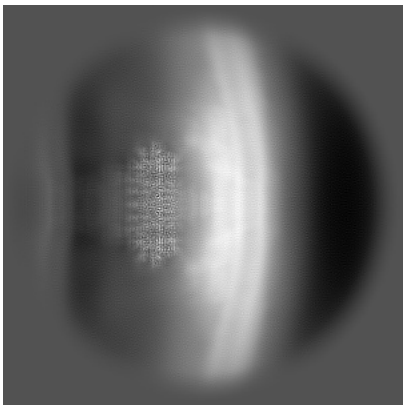
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

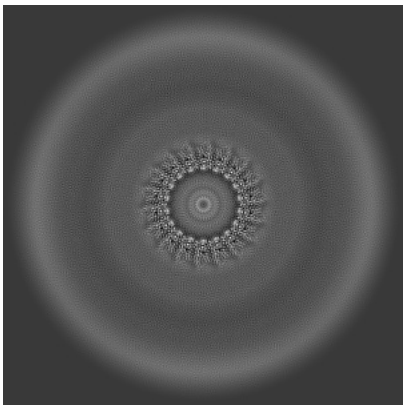
6.1.1 Primary map



X

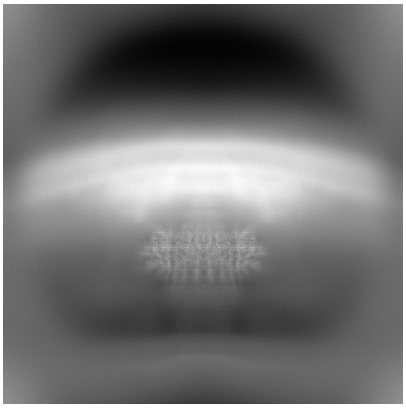


Y

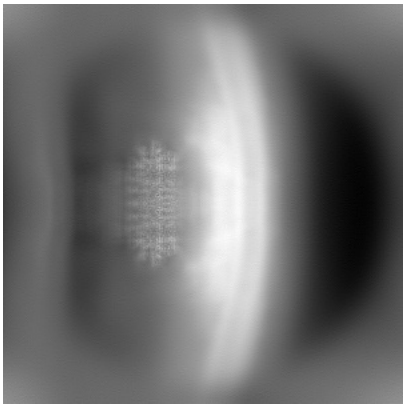


Z

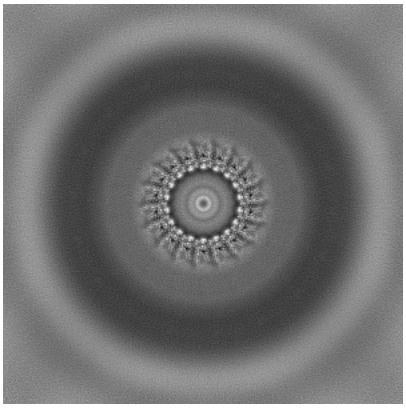
6.1.2 Raw map



X



Y

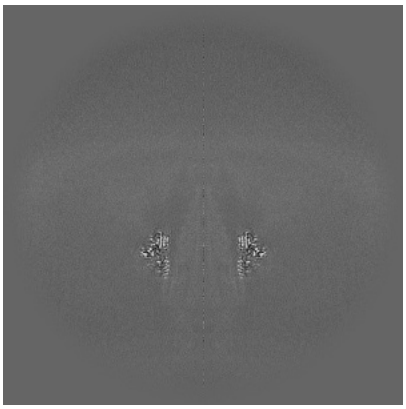


Z

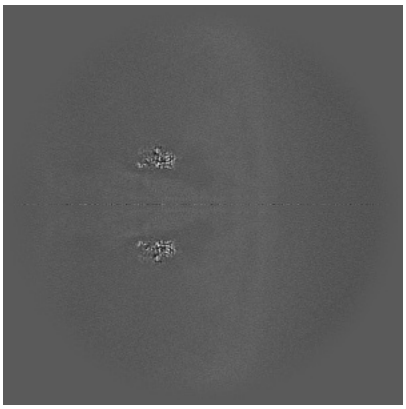
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

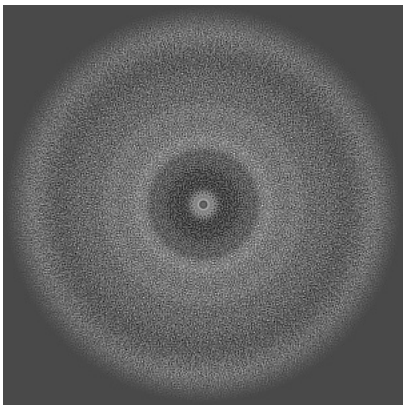
6.2.1 Primary map



X Index: 224

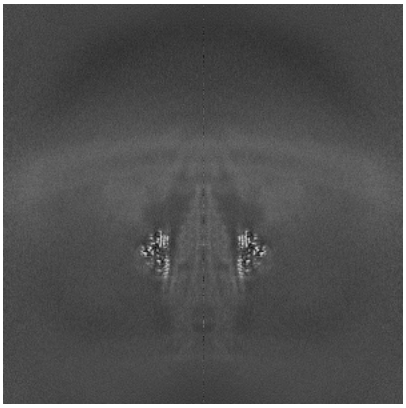


Y Index: 224

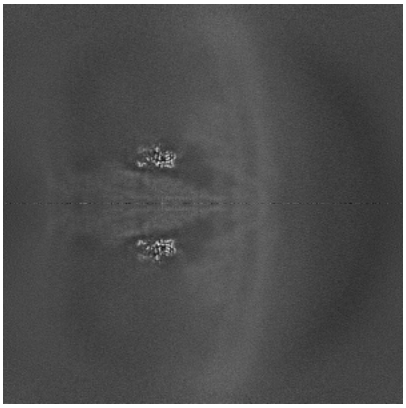


Z Index: 224

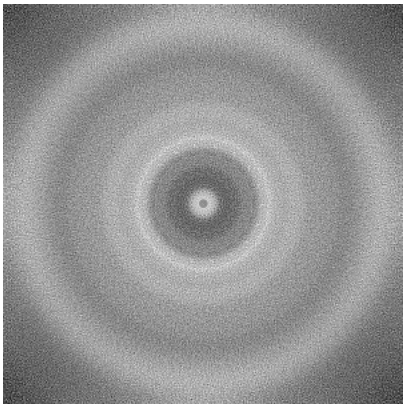
6.2.2 Raw map



X Index: 224



Y Index: 224

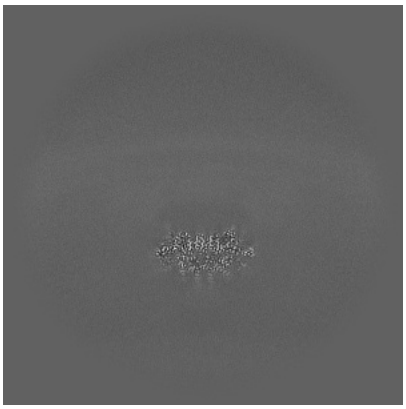


Z Index: 224

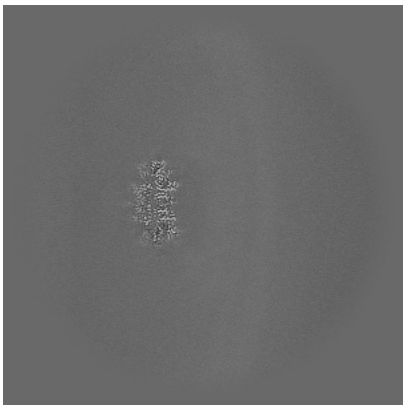
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

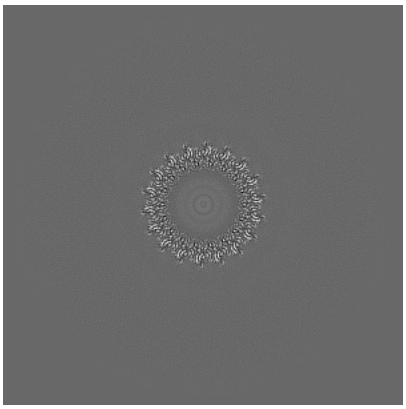
6.3.1 Primary map



X Index: 181

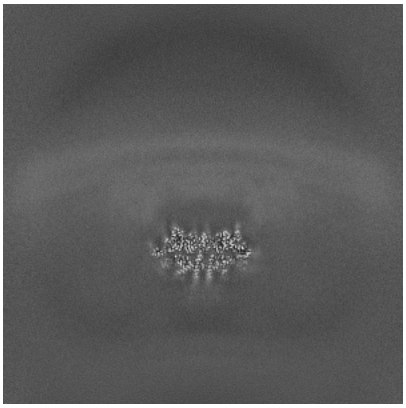


Y Index: 269

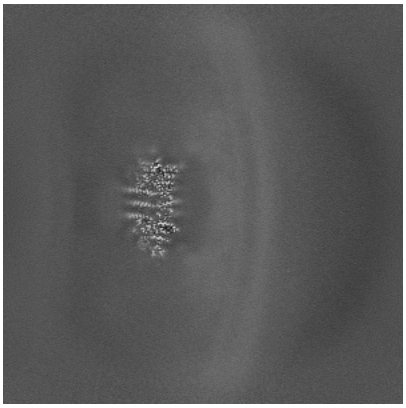


Z Index: 174

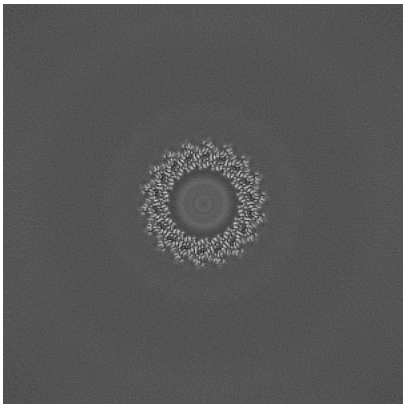
6.3.2 Raw map



X Index: 266



Y Index: 264

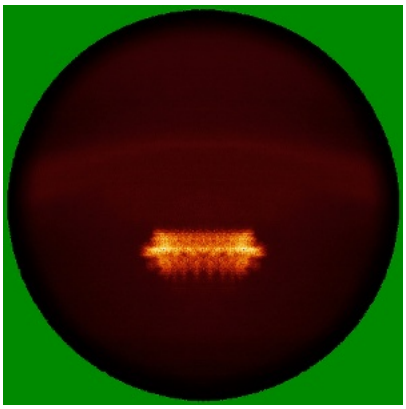


Z Index: 175

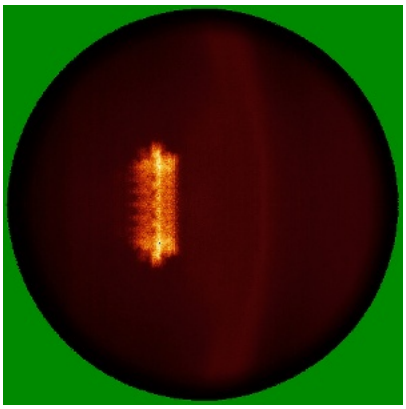
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

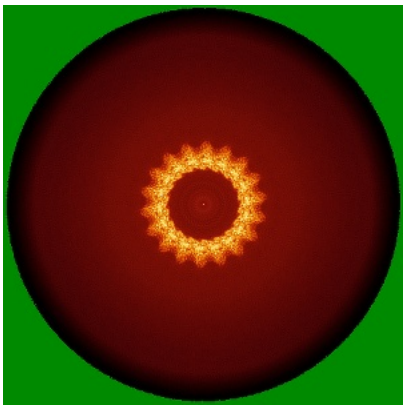
6.4.1 Primary map



X

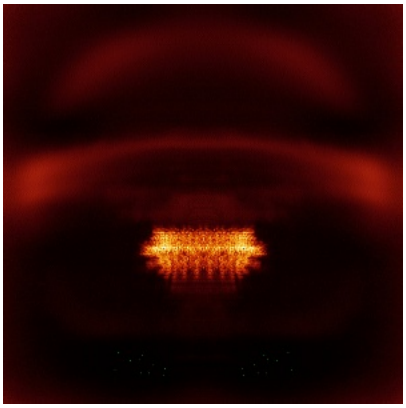


Y

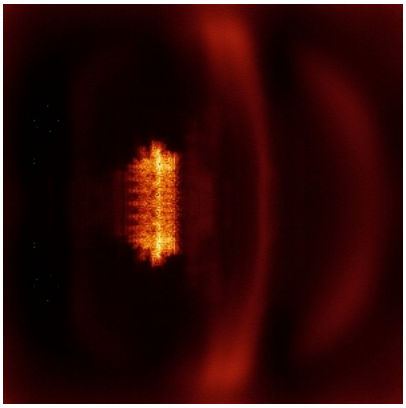


Z

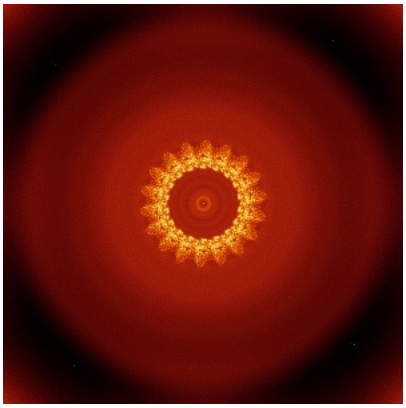
6.4.2 Raw map



X



Y

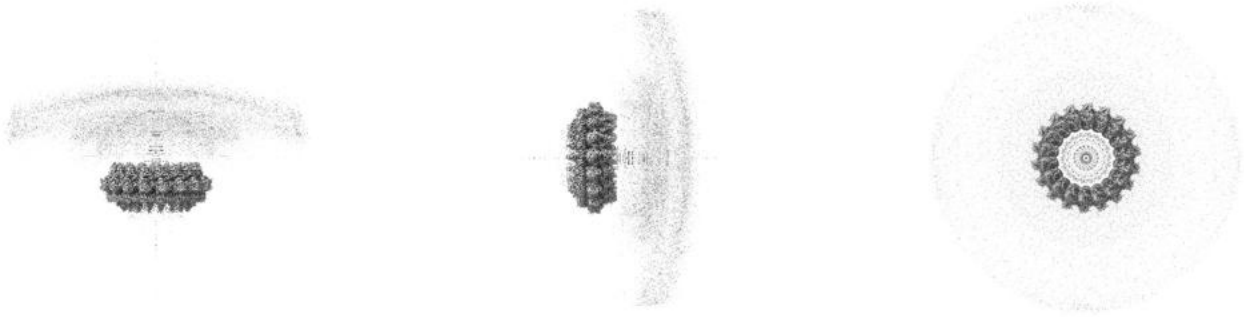


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

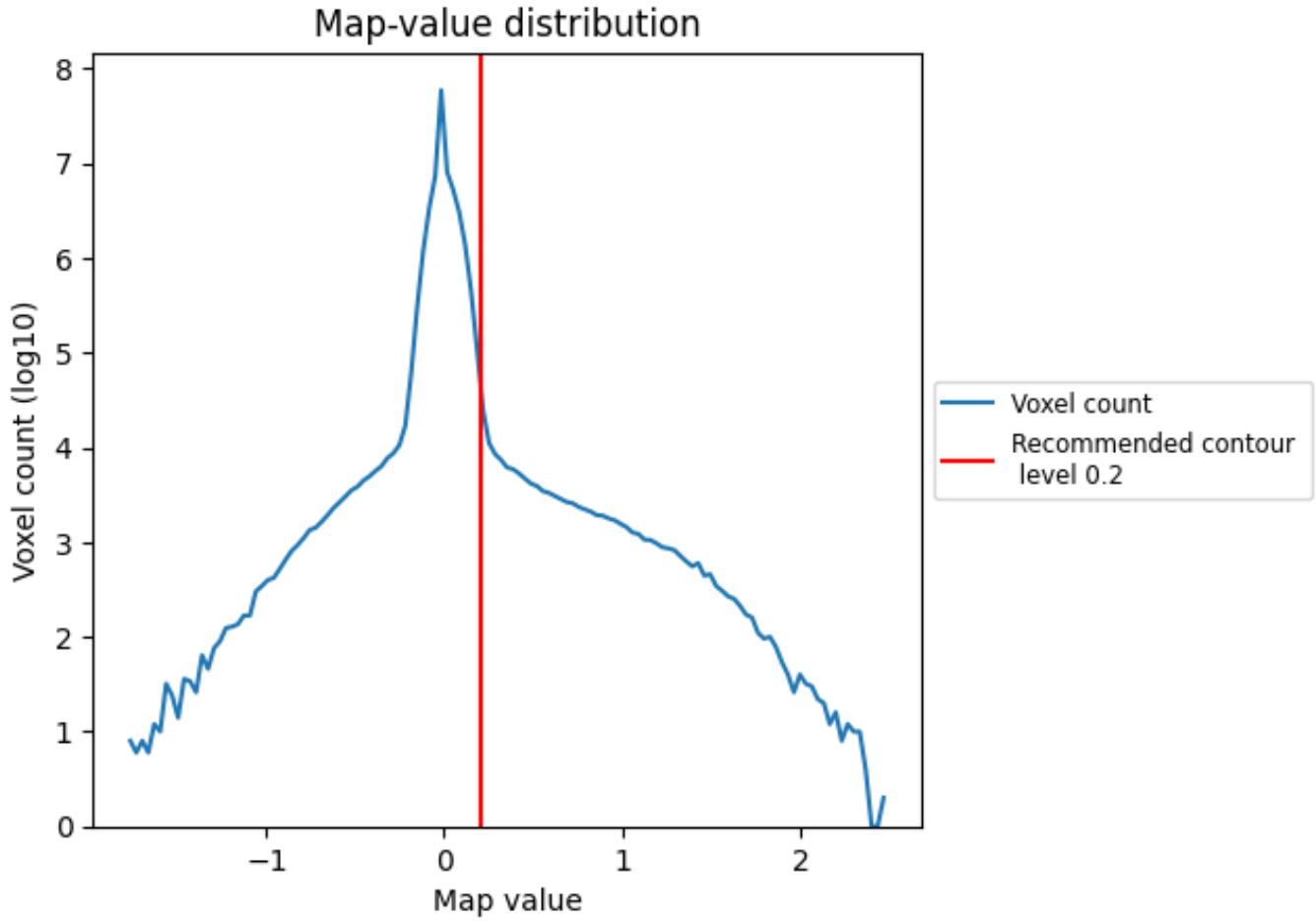
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

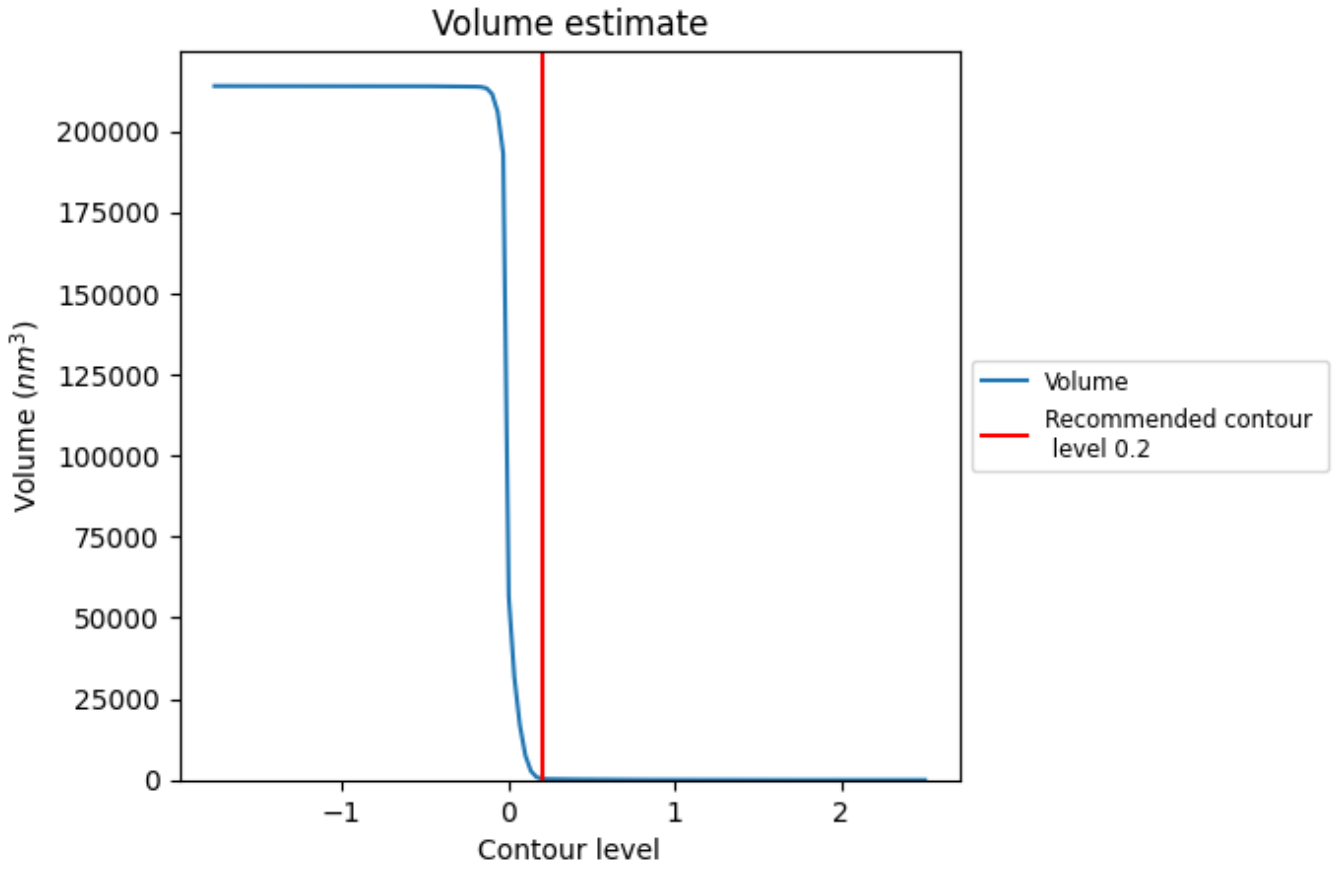
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

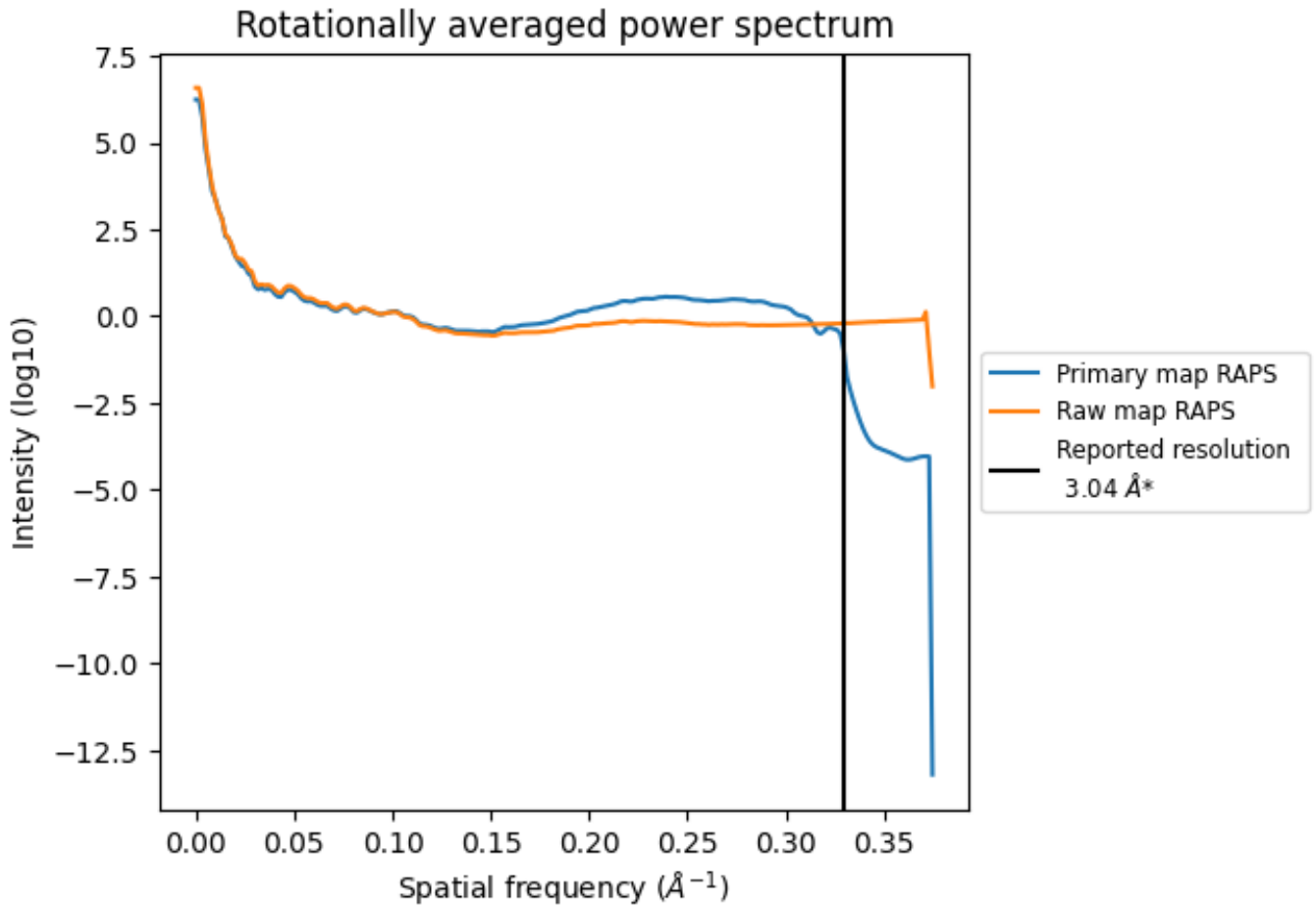
7.2 Volume estimate



The volume at the recommended contour level is 428 nm^3; this corresponds to an approximate mass of 387 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

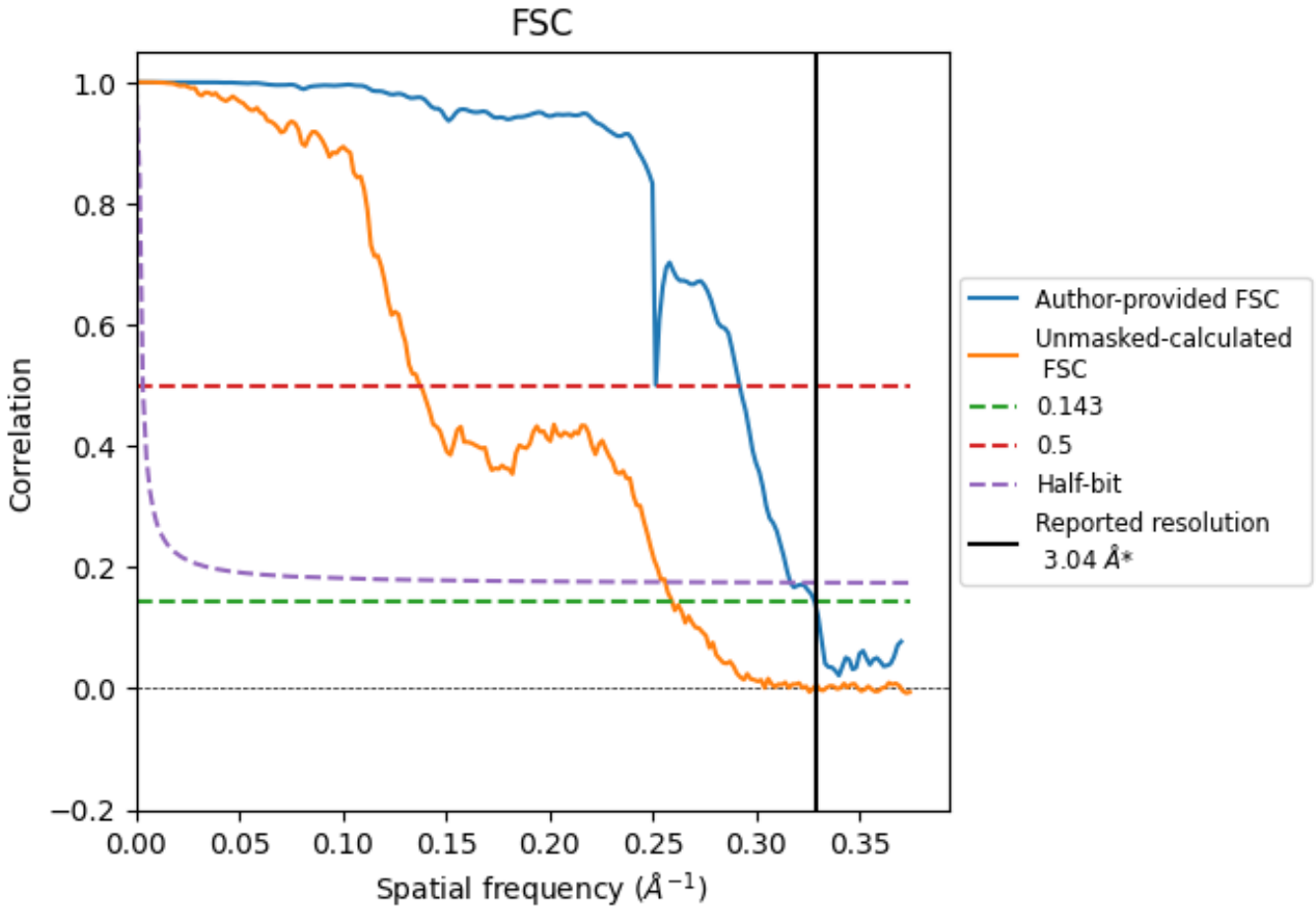


*Reported resolution corresponds to spatial frequency of 0.329 $Å^{-1}$

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.329 Å^{-1}

8.2 Resolution estimates (i)

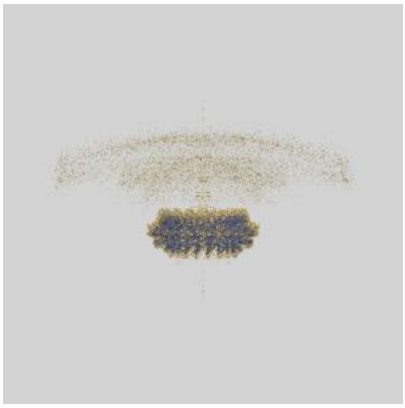
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.04	-	-
Author-provided FSC curve	3.04	3.42	3.16
Unmasked-calculated*	3.85	7.28	3.90

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.85 differs from the reported value 3.04 by more than 10 %

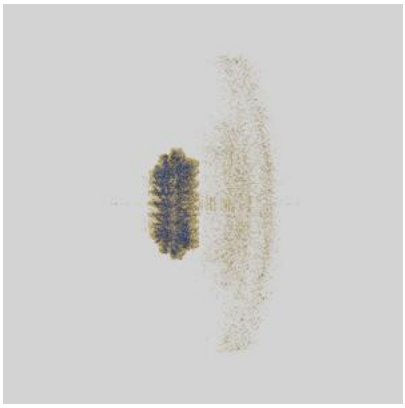
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-49394 and PDB model 9NGV. Per-residue inclusion information can be found in section 3 on page 15.

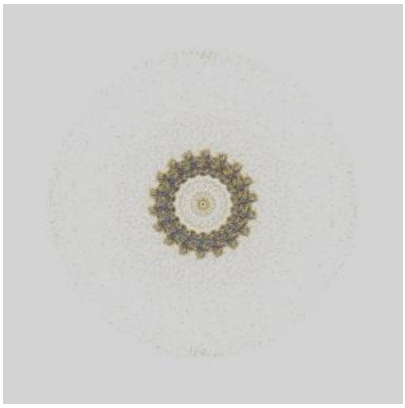
9.1 Map-model overlay



X



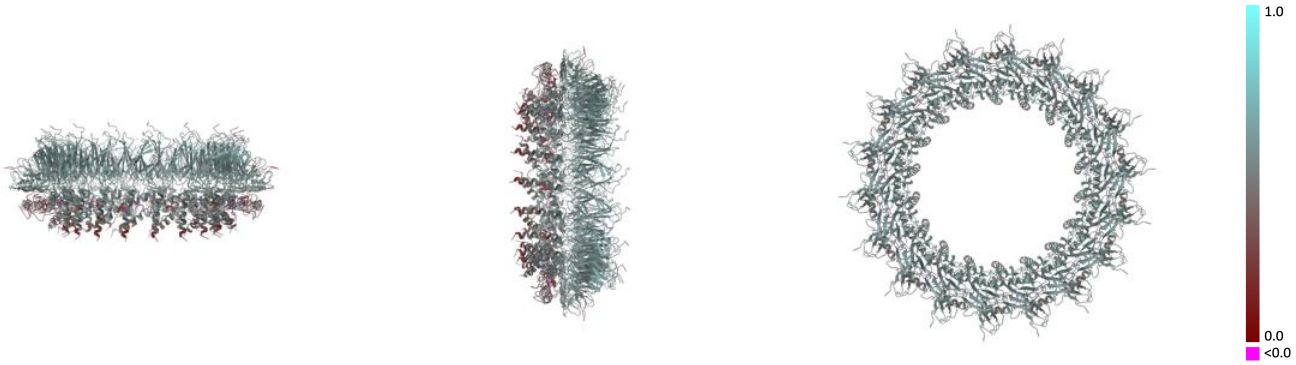
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

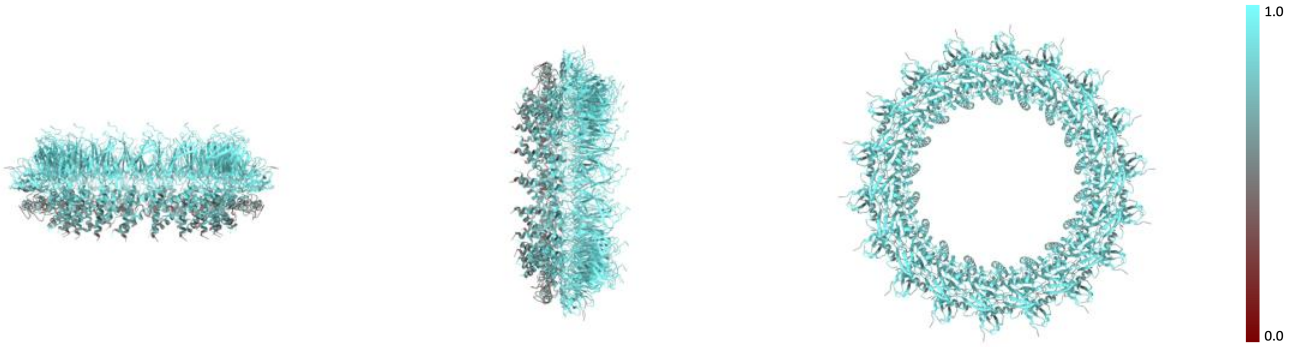
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

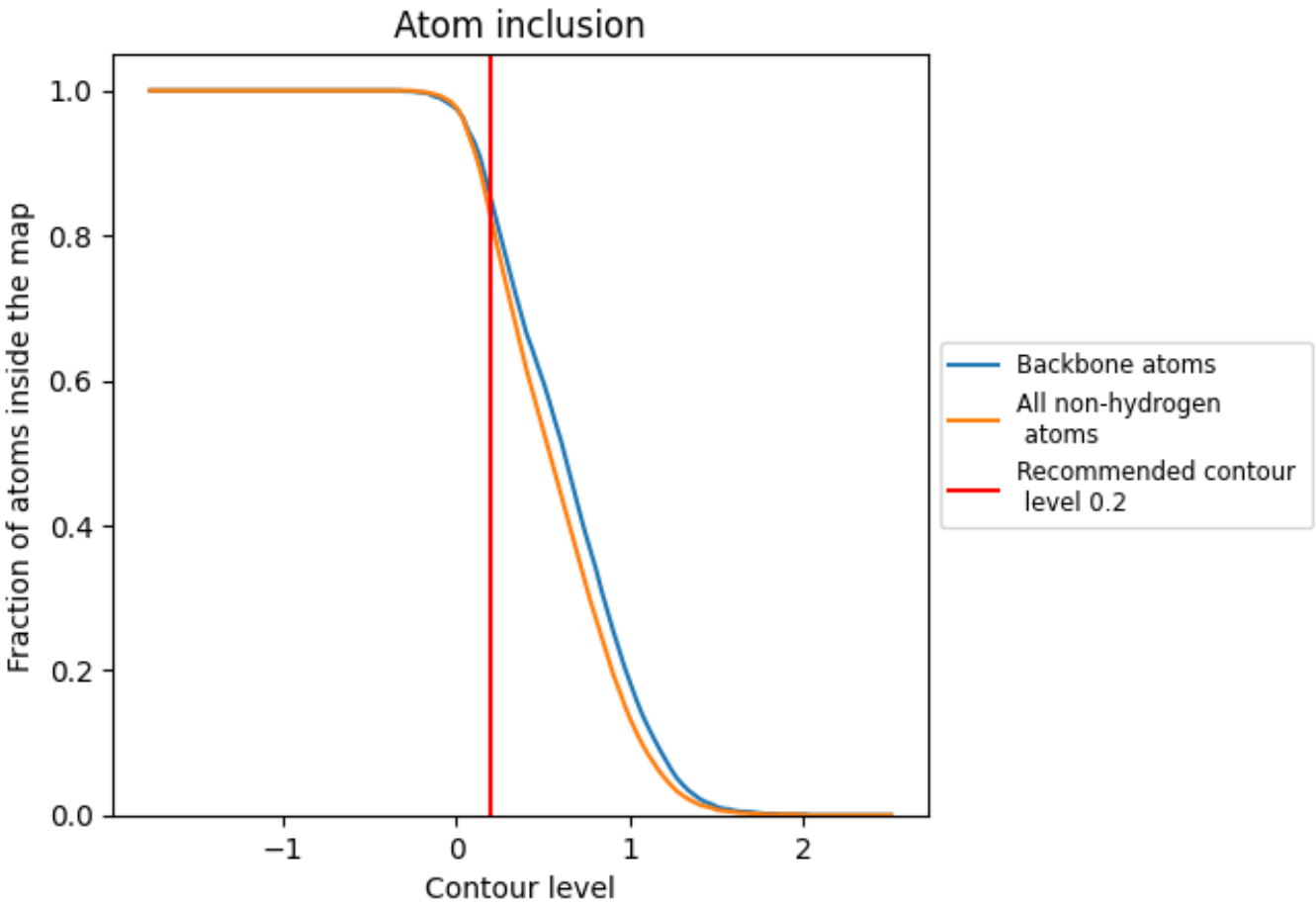
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.2).

9.4 Atom inclusion (i)



At the recommended contour level, 85% of all backbone atoms, 82% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8220	0.5110
Aa	0.5950	0.4440
Ab	0.6100	0.3260
Ac	0.4380	0.2980
Ad	0.2780	0.1990
Ae	0.8410	0.5190
Af	0.7900	0.5080
Ag	0.9090	0.5550
Ah	0.5950	0.4260
Ai	0.6610	0.3410
Aj	0.4380	0.3090
Ak	0.3330	0.2090
Al	0.8620	0.5210
Am	0.7900	0.5070
An	0.9060	0.5560
Ao	0.5520	0.4530
Ap	0.6270	0.3520
Aq	0.4460	0.3000
Ar	0.3060	0.1960
As	0.8560	0.5210
At	0.7980	0.5060
Au	0.9070	0.5550
Av	0.5690	0.4400
Aw	0.6780	0.3570
Ax	0.4300	0.3060
Ay	0.3330	0.1840
Az	0.8500	0.5180
Ba	0.7980	0.4970
Bb	0.9040	0.5540
Bc	0.5860	0.4370
Bd	0.6440	0.3430
Be	0.4460	0.3240
Bf	0.3330	0.1970
Bg	0.8430	0.5170
Bh	0.7760	0.4920

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Chain	Atom inclusion	Q-score
Bi	0.8960	0.5530
Bj	0.5950	0.4470
Bk	0.6270	0.3460
Bl	0.4460	0.3210
Bm	0.2500	0.1680
Bn	0.8500	0.5150
Bo	0.8160	0.5030
Bp	0.8960	0.5540
Bq	0.5780	0.4310
Br	0.6780	0.3610
Bs	0.4130	0.3090
Bt	0.3060	0.2320
Bu	0.8410	0.5190
Bv	0.8200	0.5050
Bw	0.8990	0.5540
Bx	0.5600	0.4370
By	0.6440	0.3440
Bz	0.4550	0.3000
Ca	0.3330	0.1850
Cb	0.8430	0.5160
Cc	0.7870	0.5030
Cd	0.8960	0.5510
Ce	0.5950	0.4420
Cf	0.6100	0.3350
Cg	0.4460	0.3070
Ch	0.3060	0.2080
Ci	0.8540	0.5190
Cj	0.7830	0.5040
Ck	0.9000	0.5550
Cl	0.5860	0.4370
Cm	0.6100	0.3360
Cn	0.4380	0.2910
Co	0.3060	0.1780
Cp	0.8350	0.5170
Cq	0.7980	0.5000
Cr	0.9050	0.5550
Cs	0.6210	0.4420
Ct	0.6440	0.3340
Cu	0.4460	0.3040
Cv	0.3330	0.2120
Cw	0.8620	0.5220
Cx	0.7980	0.5050

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Chain	Atom inclusion	Q-score
Cy	0.9090	0.5560
Cz	0.5690	0.4530
Da	0.6610	0.3470
Db	0.4550	0.3060
Dc	0.3060	0.1860
Dd	0.8560	0.5190
De	0.7940	0.5060
Df	0.9050	0.5560
Dg	0.5600	0.4330
Dh	0.6610	0.3490
Di	0.4300	0.3110
Dj	0.2780	0.1890
Dk	0.8500	0.5240
Dl	0.8010	0.4980
Dm	0.9050	0.5540
Dn	0.6030	0.4280
Do	0.6100	0.3410
Dp	0.4710	0.3130
Dq	0.3330	0.1920
Dr	0.8410	0.5180
Ds	0.7760	0.4950
Dt	0.9000	0.5550
Du	0.6120	0.4330
Dv	0.6100	0.3440
Dw	0.4550	0.3160
Dx	0.3060	0.1690
Dy	0.8450	0.5180
Dz	0.8120	0.5120
Ea	0.9000	0.5550
Eb	0.5690	0.4170
Ec	0.6440	0.3610
Ed	0.4130	0.3100
Ee	0.3060	0.2330
Ef	0.8390	0.5190
Eg	0.8160	0.5120
Eh	0.8960	0.5550
Ei	0.5780	0.4320
Ej	0.6950	0.3560
Ek	0.4630	0.3050
El	0.3060	0.2070
Em	0.8450	0.5200
En	0.7900	0.5050

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Chain	Atom inclusion	Q-score
Eo	0.8960	0.5530
Ep	0.5950	0.4380
Eq	0.6440	0.3420
Er	0.4550	0.3100
Es	0.3060	0.2300
Et	0.8540	0.5190
Eu	0.7830	0.5020
Ev	0.9000	0.5560