Full wwPDB EM Validation Report

Feb 4, 2026 – 08:51 PM JST

PDB ID	:	9X0F / pdb_00009x0f
EMDB ID	:	EMD-66433
Title	:	Cryo-EM structure of EvSS
Authors	:	Bai, L.; Lyu, R.Q.
Deposited on	:	2025-09-30
Resolution	:	3.25 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:

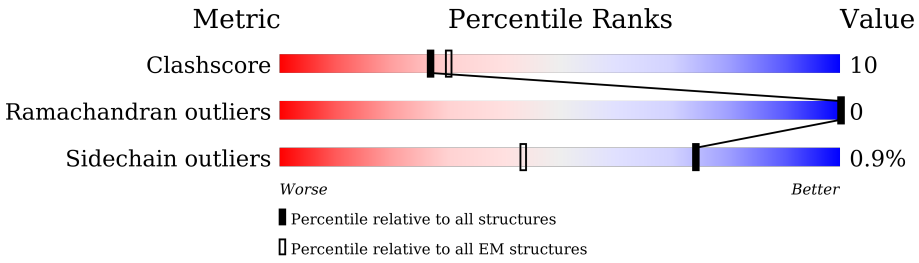
EMDB validation analysis	:	0.0.1.dev129
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

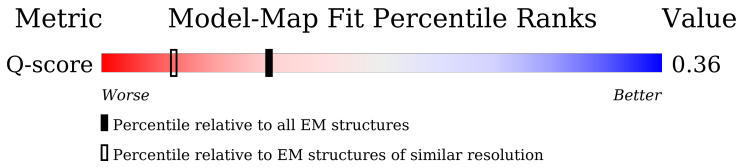
1 Overall quality at a glance

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

The reported resolution of this entry is 3.25 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	14599 (2.75 - 3.75)

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	A	714	22% 31% 10% 59%
1	B	714	32% 32% 8% 59%
1	C	714	33% 30% 11% 59%
1	D	714	32% 33% 8% 59%

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Mol	Chain	Length	Quality of chain
1	E	714	24% 29% 12% 59%
1	F	714	23% 30% 10% 59%
1	G	714	32% 32% 9% 59%
1	H	714	22% 31% 10% 59%
1	I	714	21% 31% 10% 59%
1	J	714	22% 30% 10% 59%
1	K	714	33% 31% 10% 59%
1	L	714	32% 33% 8% 59%
1	M	714	34% 7% 59%
1	N	714	32% 9% 59%
1	O	714	33% 7% 59%
1	P	714	34% 7% 59%
1	Q	714	34% 7% 59%
1	R	714	35% 6% 59%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 42552 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 Stellatatriene synthase.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	B	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	C	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	D	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	E	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	F	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	G	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	H	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	I	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	J	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	K	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	L	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	M	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	N	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	O	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	P	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		
1	Q	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		

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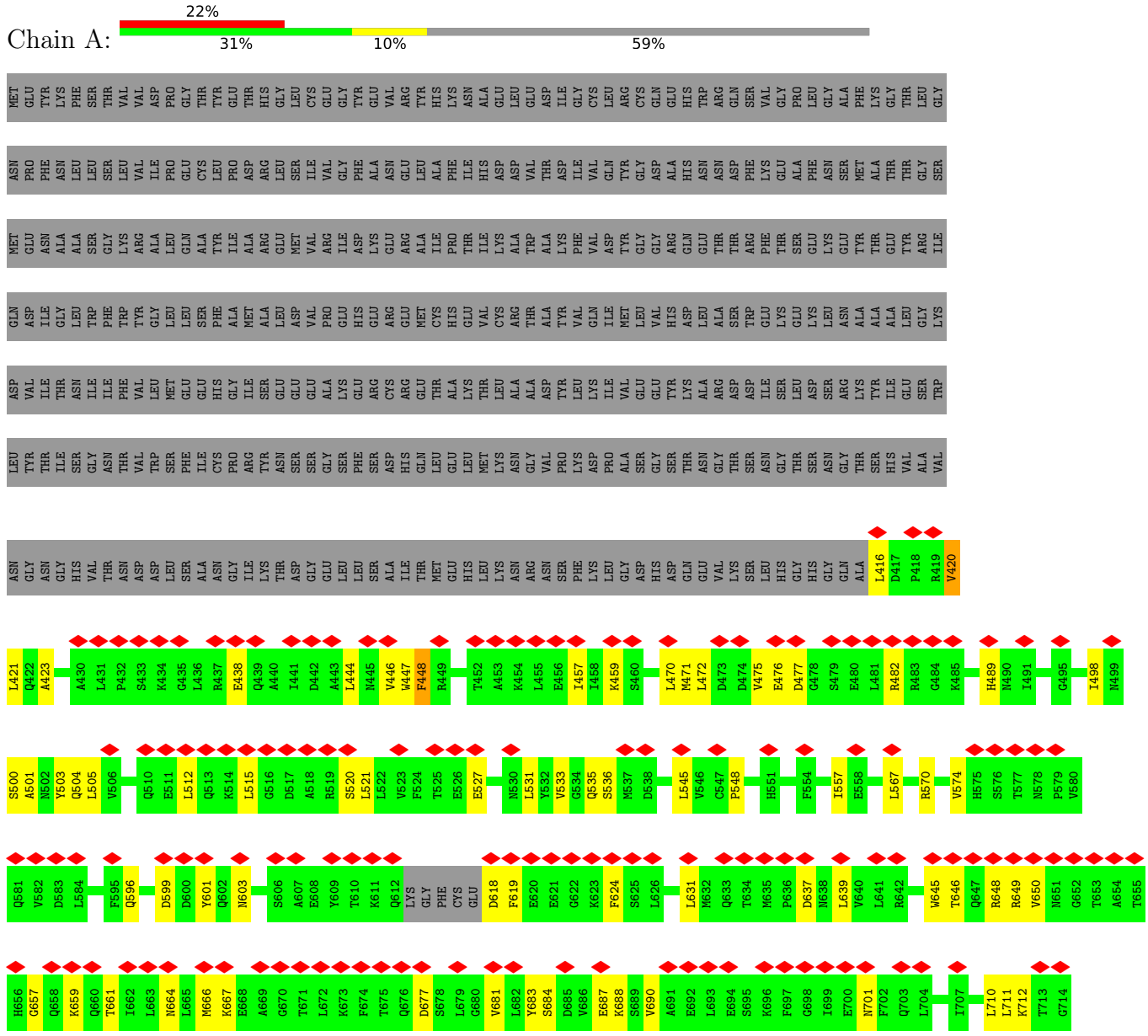
Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	294	Total	C	N	O	S	0	0
			2364	1502	407	444	11		

3 Residue-property plots (i)

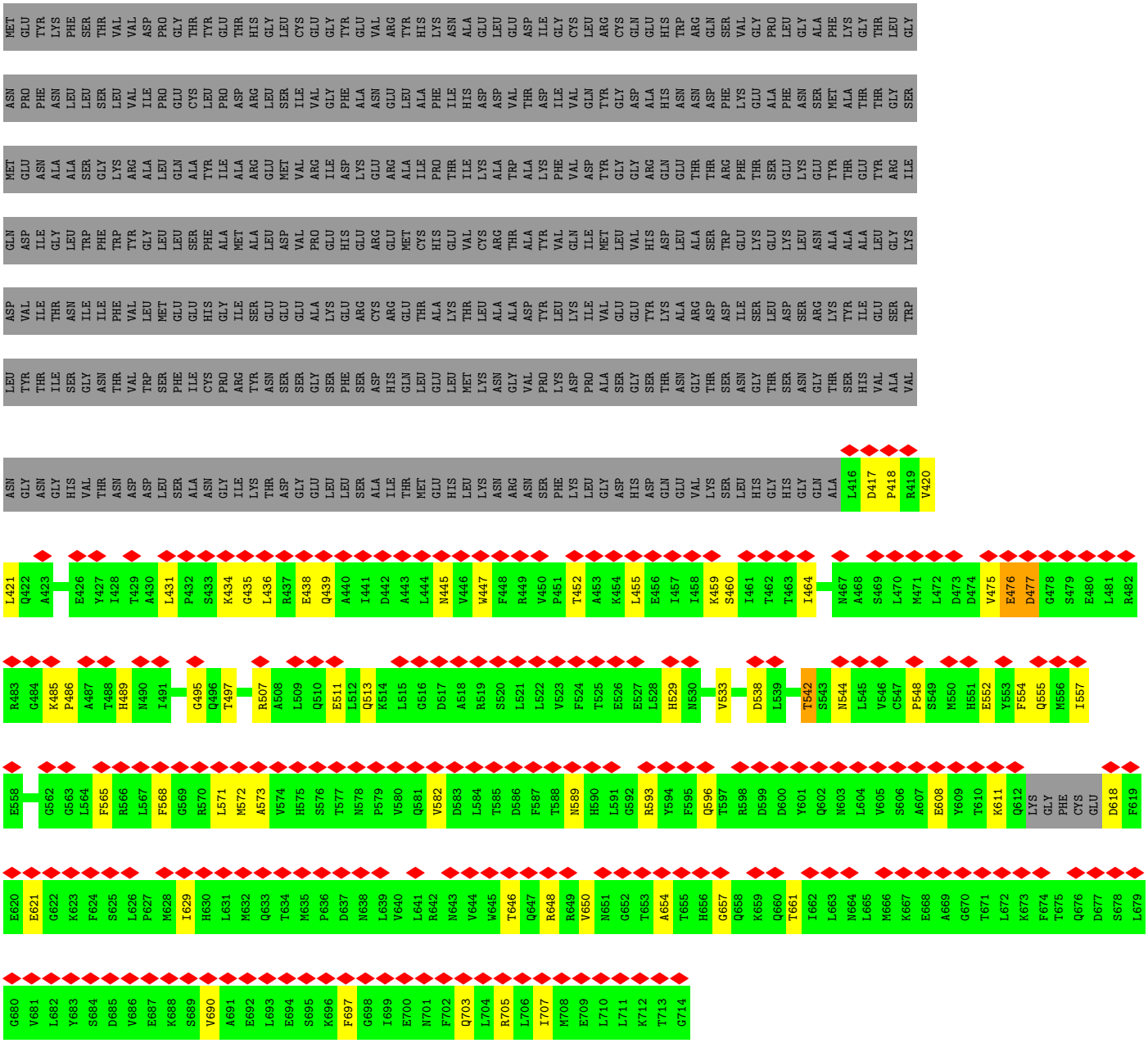
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Stellatatriene synthase



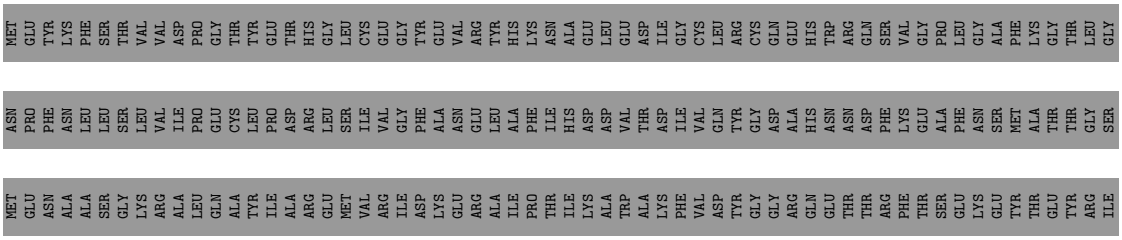
• Molecule 1: Stellatatriene synthase

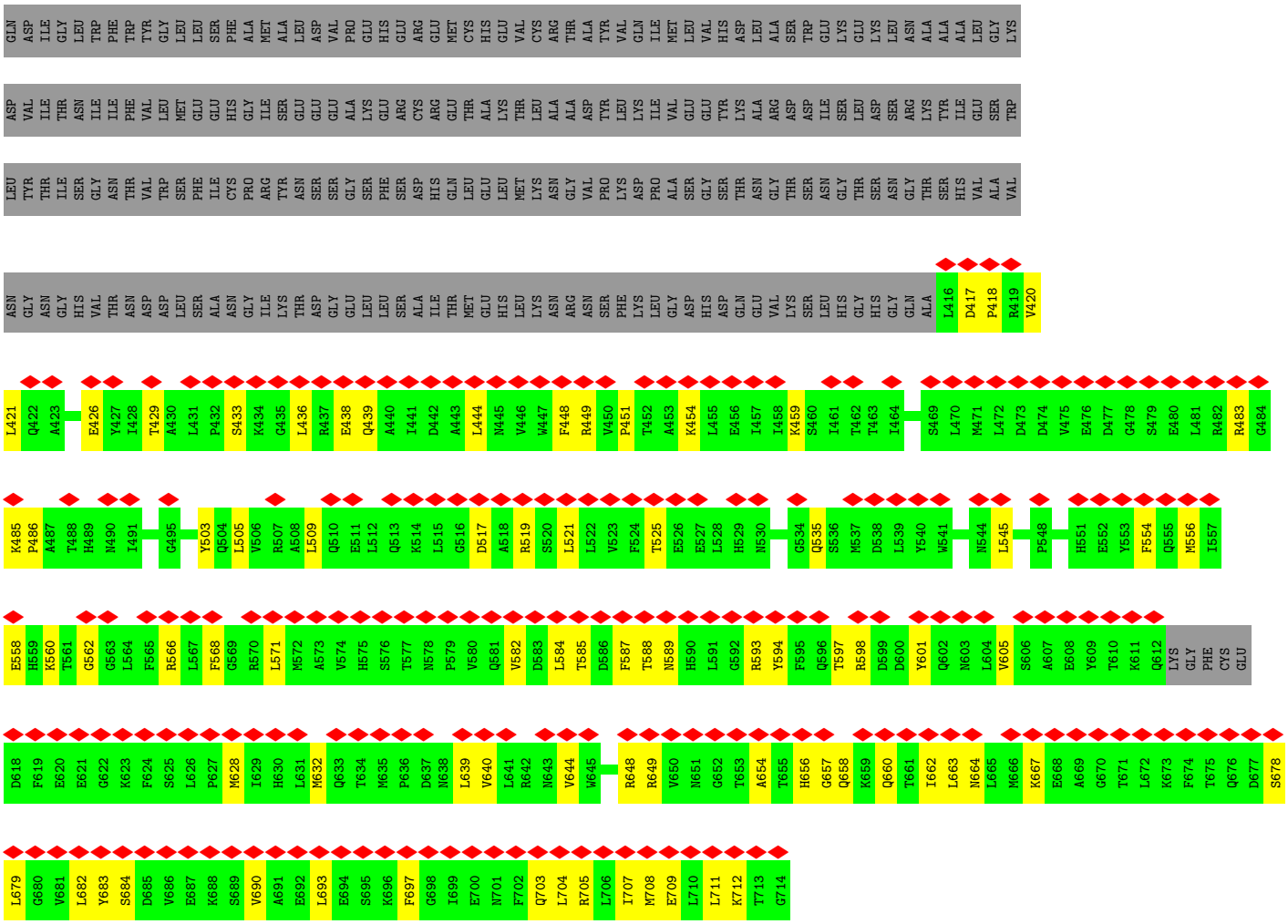
Chain B:



• Molecule 1: Stellatatriene synthase

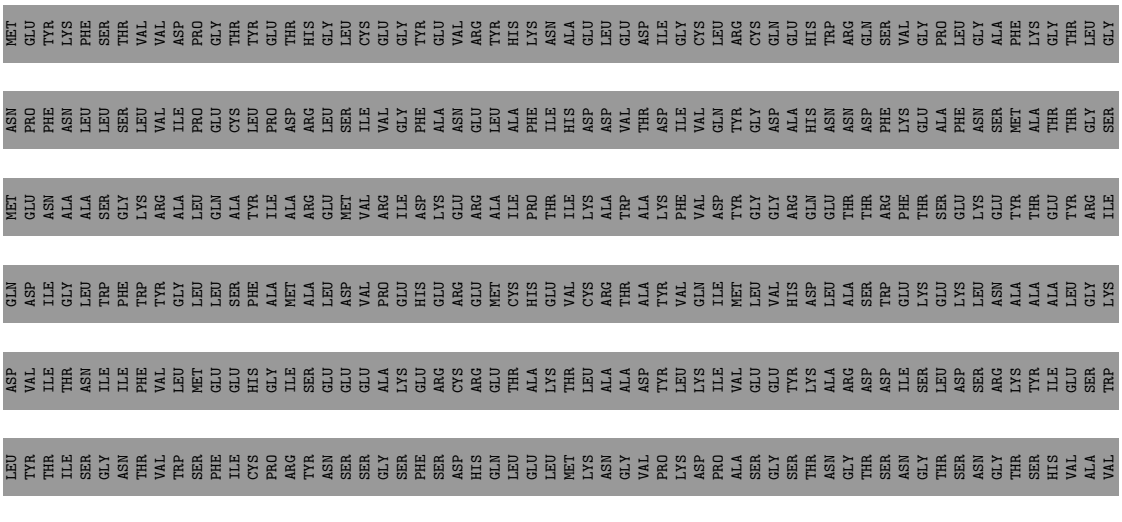
Chain C:

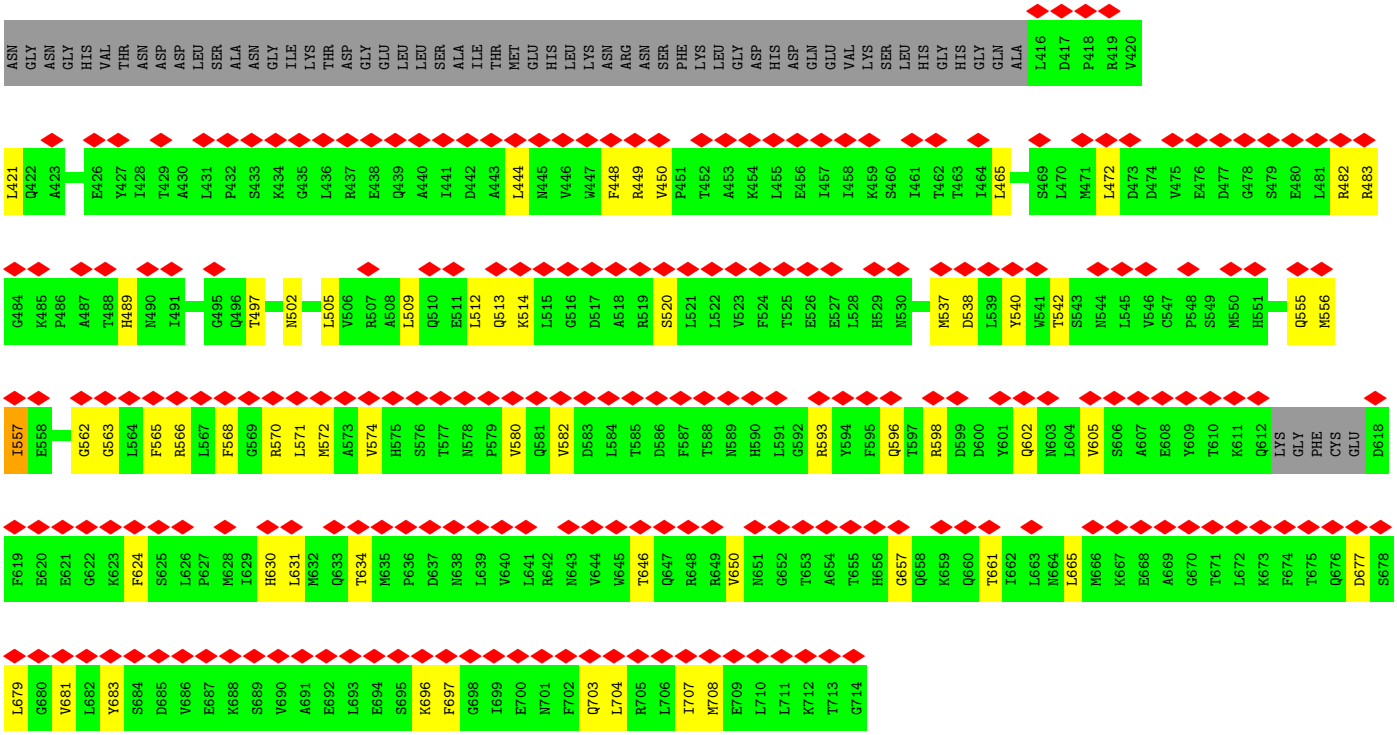




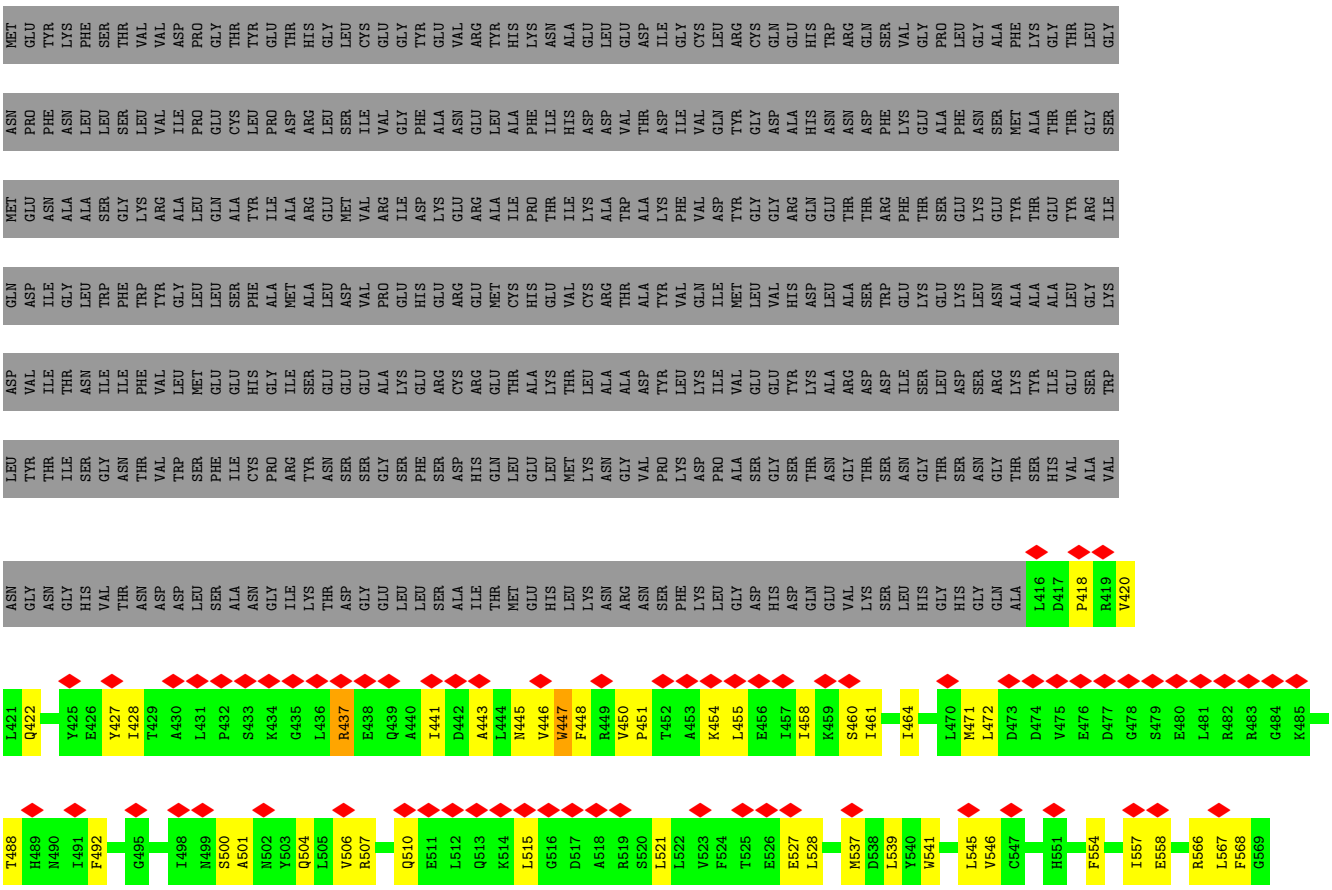
- Molecule 1: Stellatatriene synthase

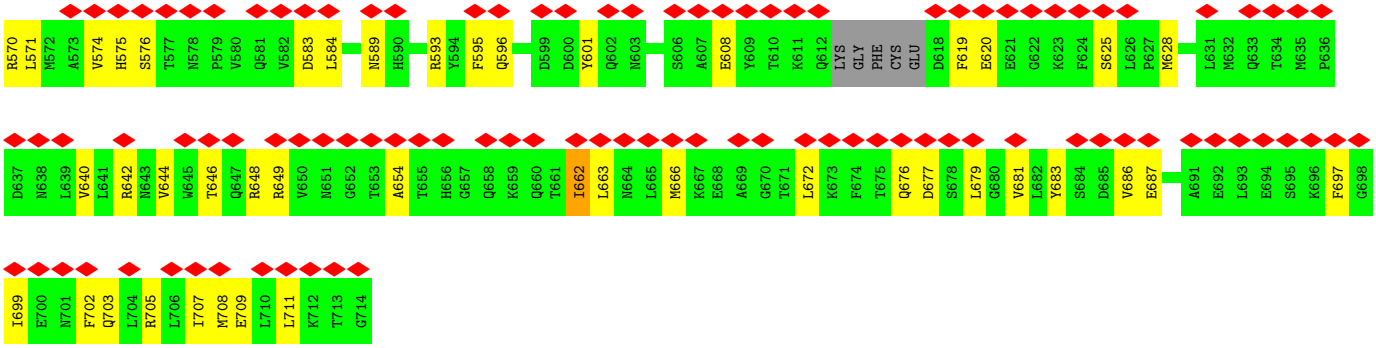
Chain D:





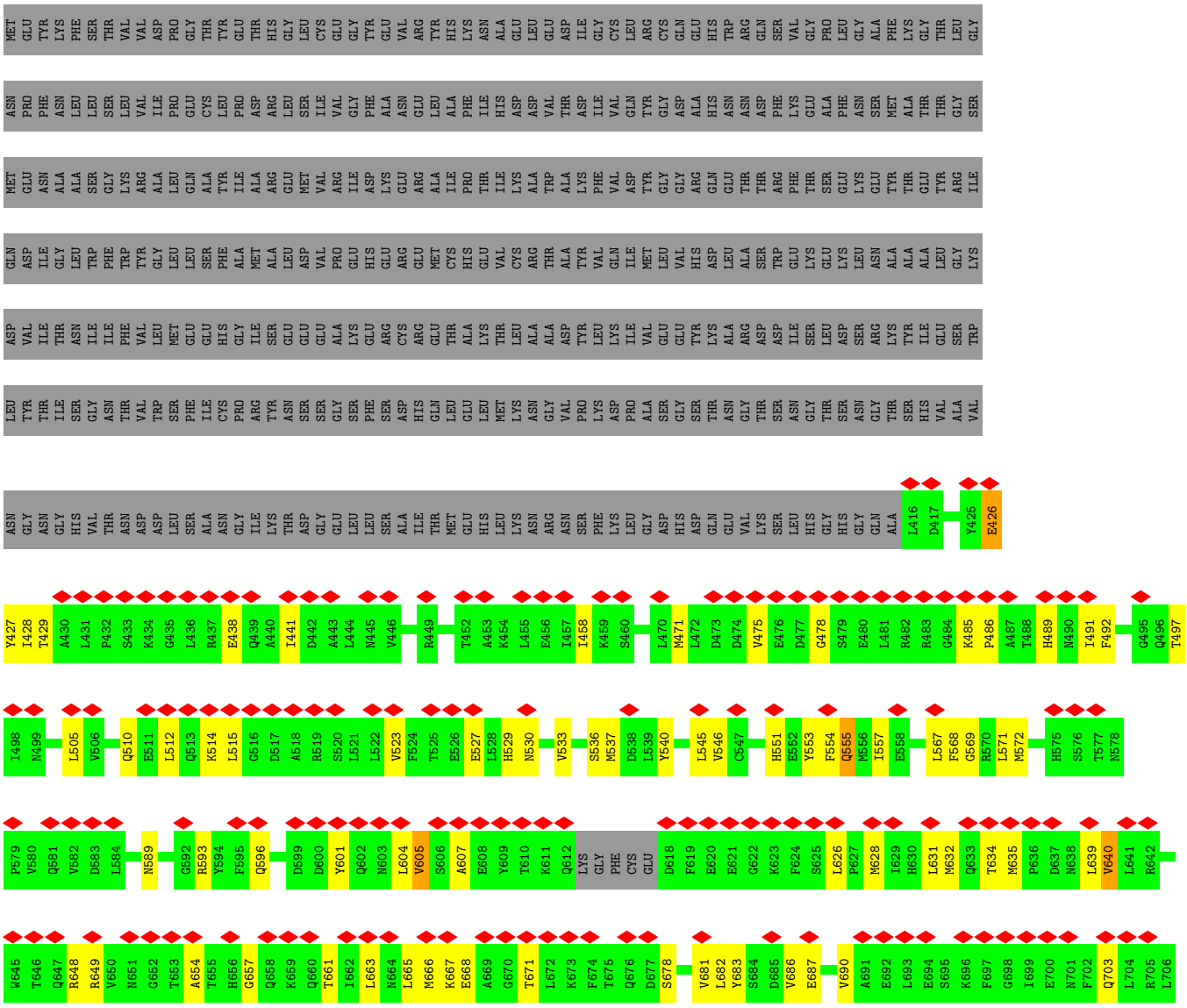
• Molecule 1: Stellatatriene synthase

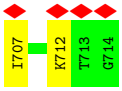




• Molecule 1: Stellatatriene synthase

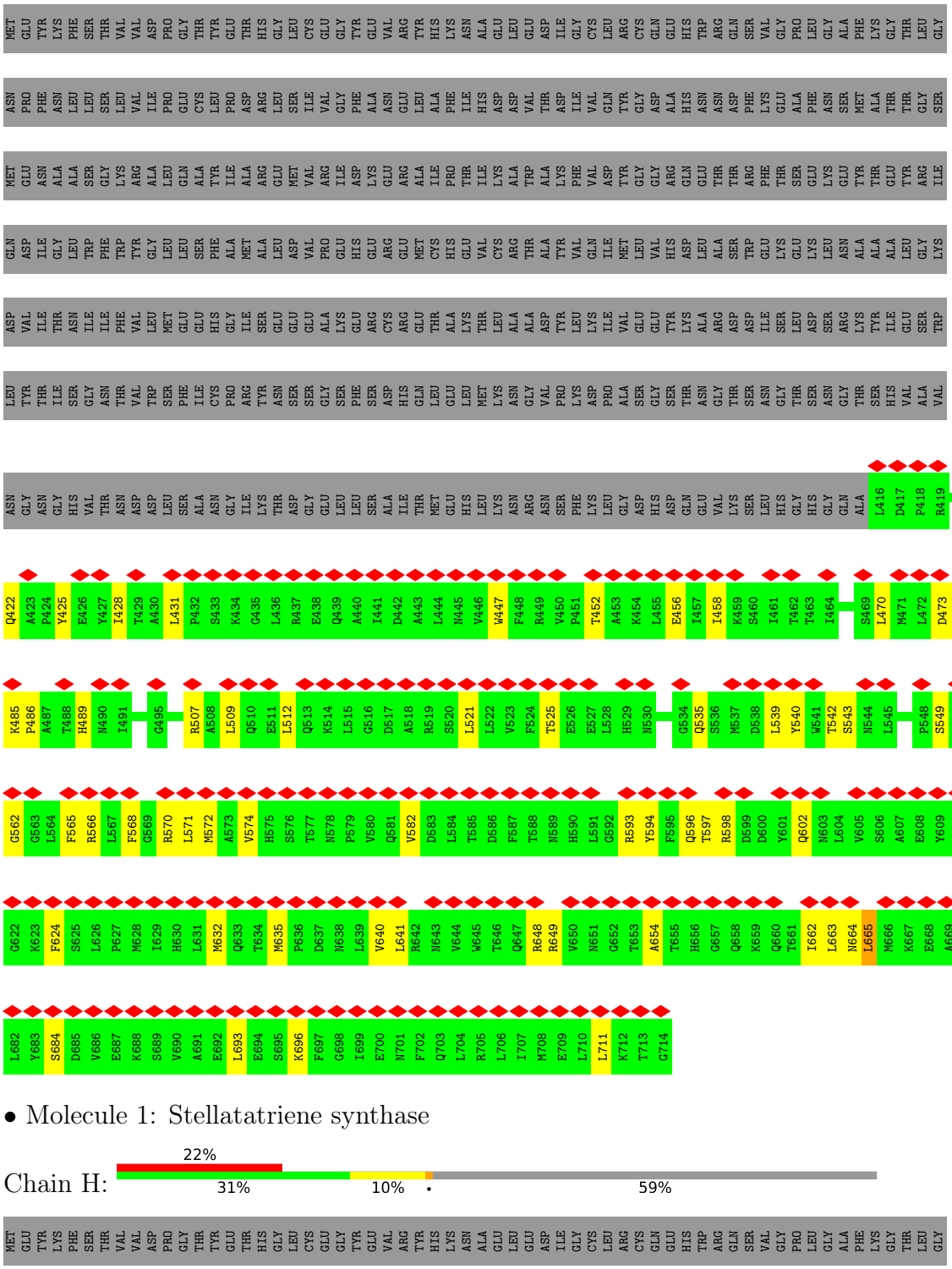
Chain F:





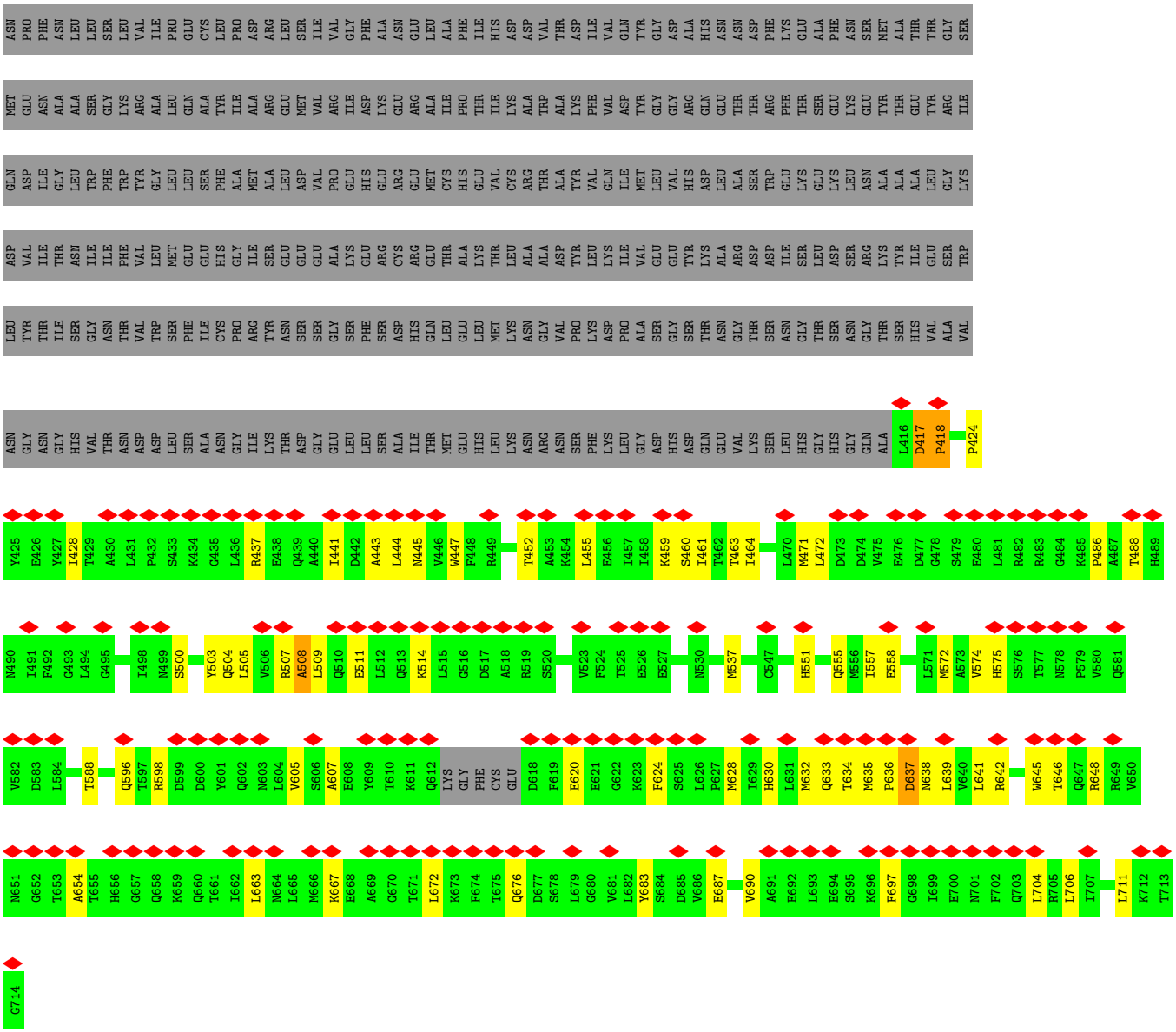
• Molecule 1: Stellatatriene synthase

Chain G:

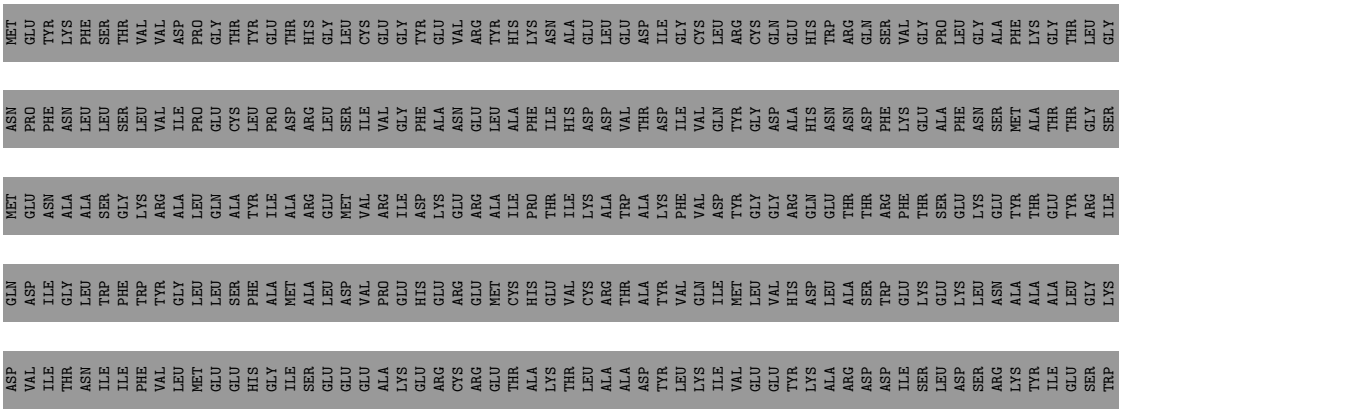


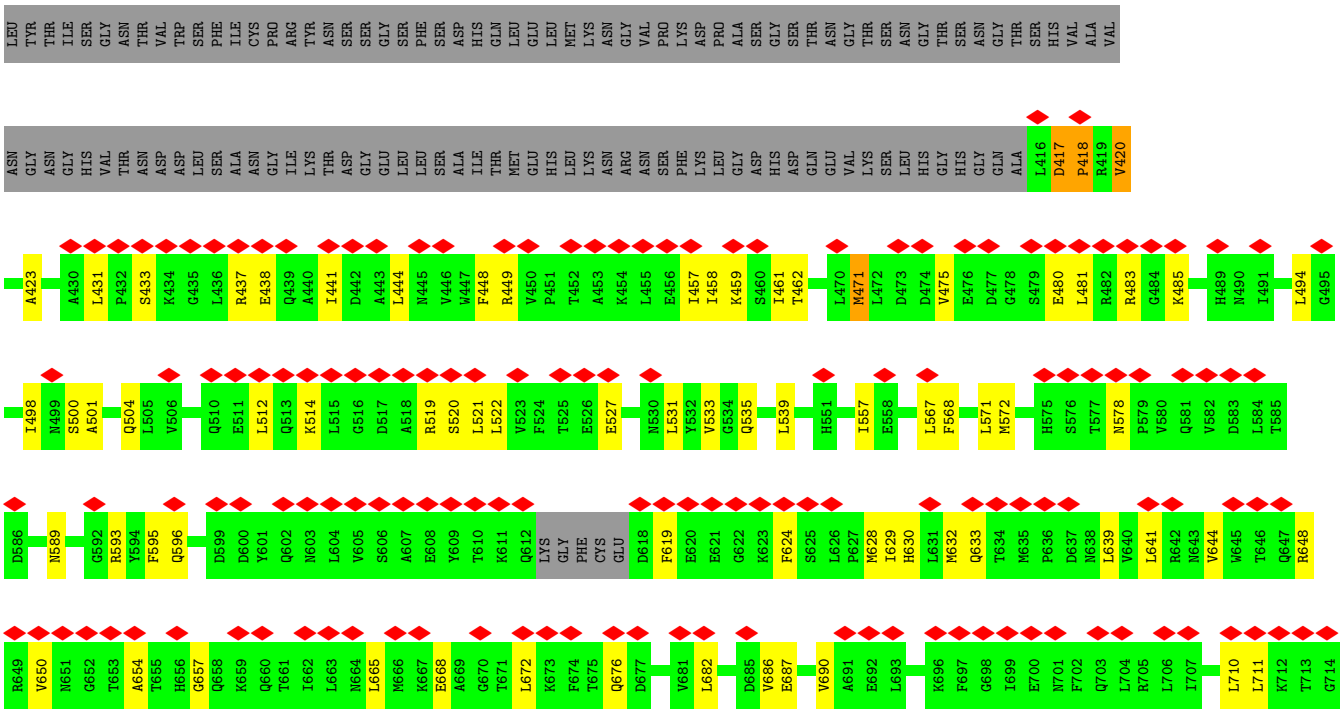
• Molecule 1: Stellatatriene synthase

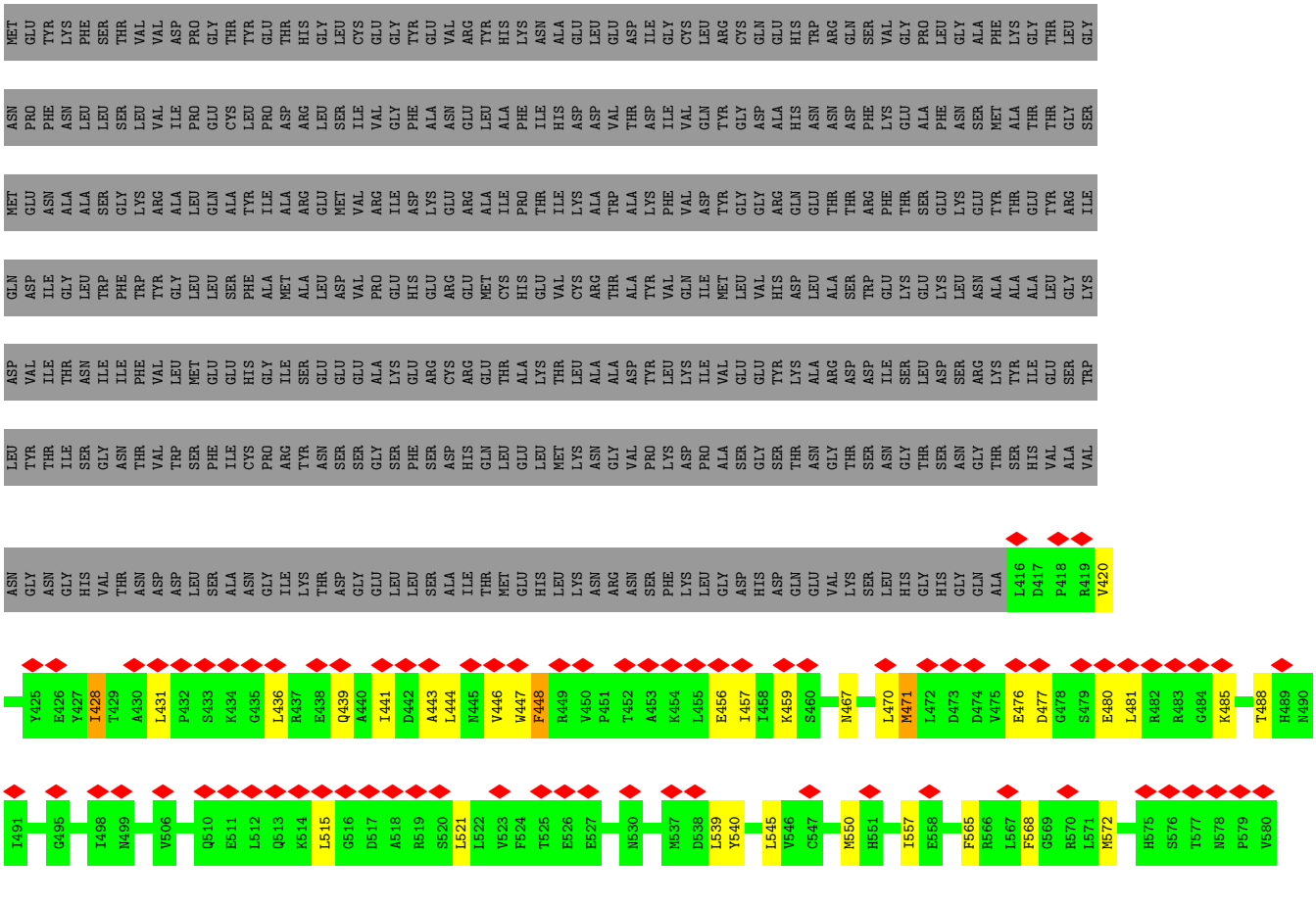
Chain H:



- Molecule 1: Stellatatriene synthase

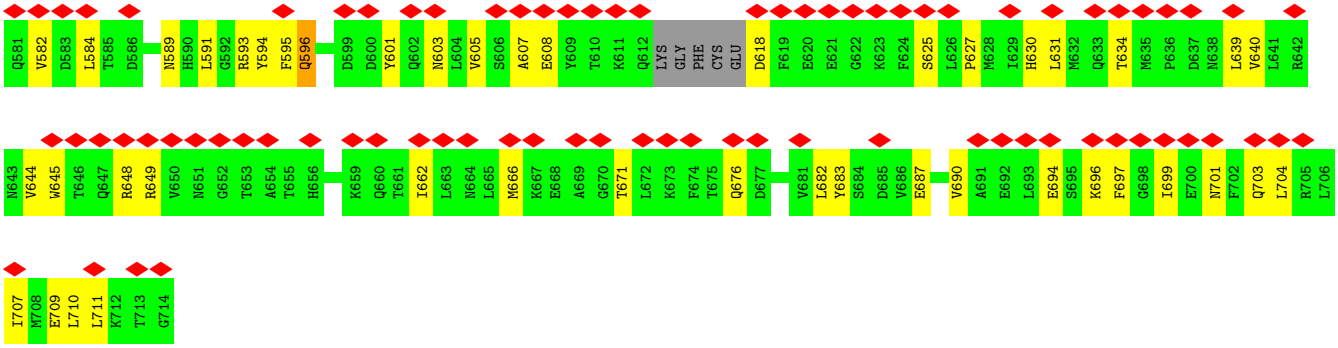




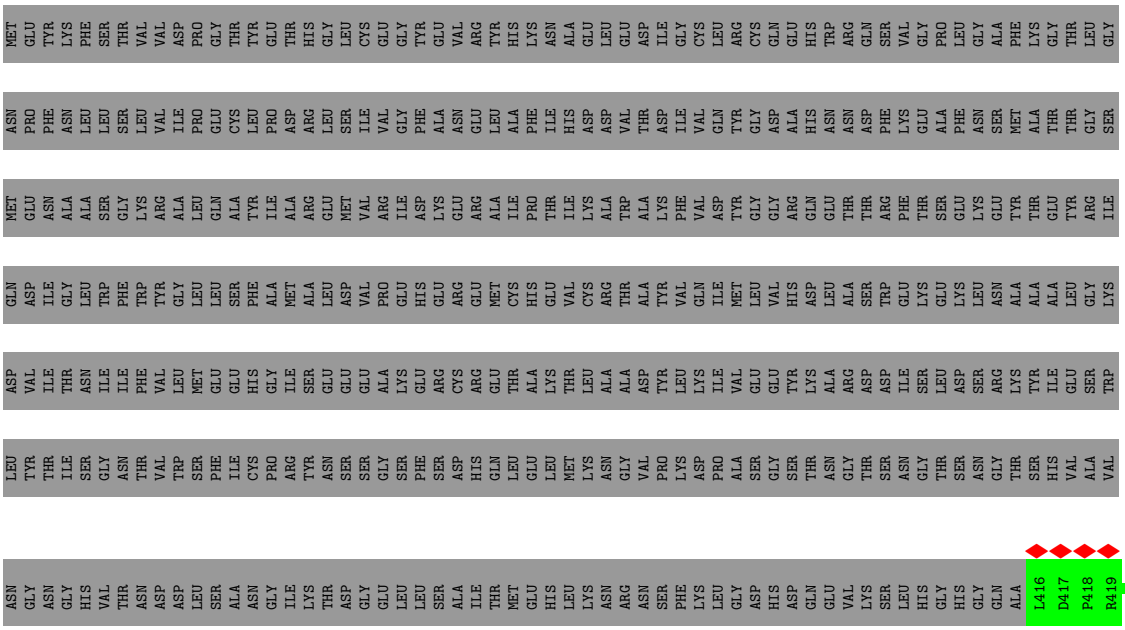


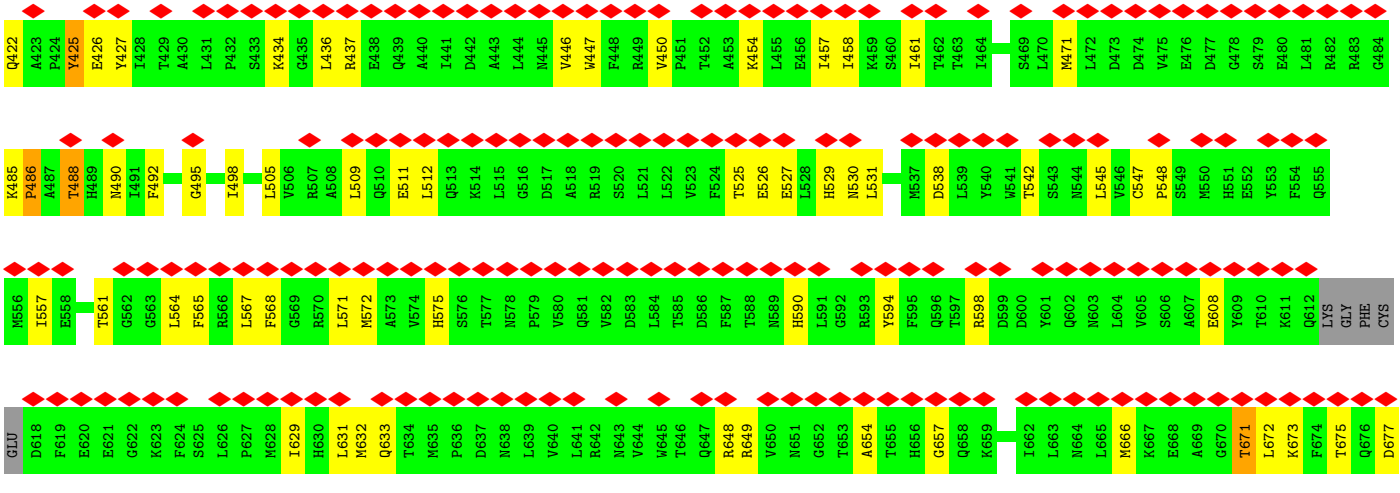
• Molecule 1: Stellatatriene synthase

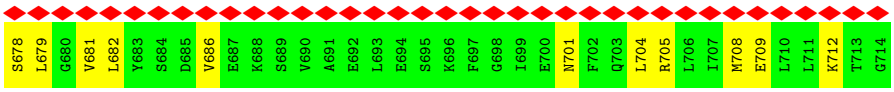
Chain J:



• Molecule 1: Stellatatriene synthase

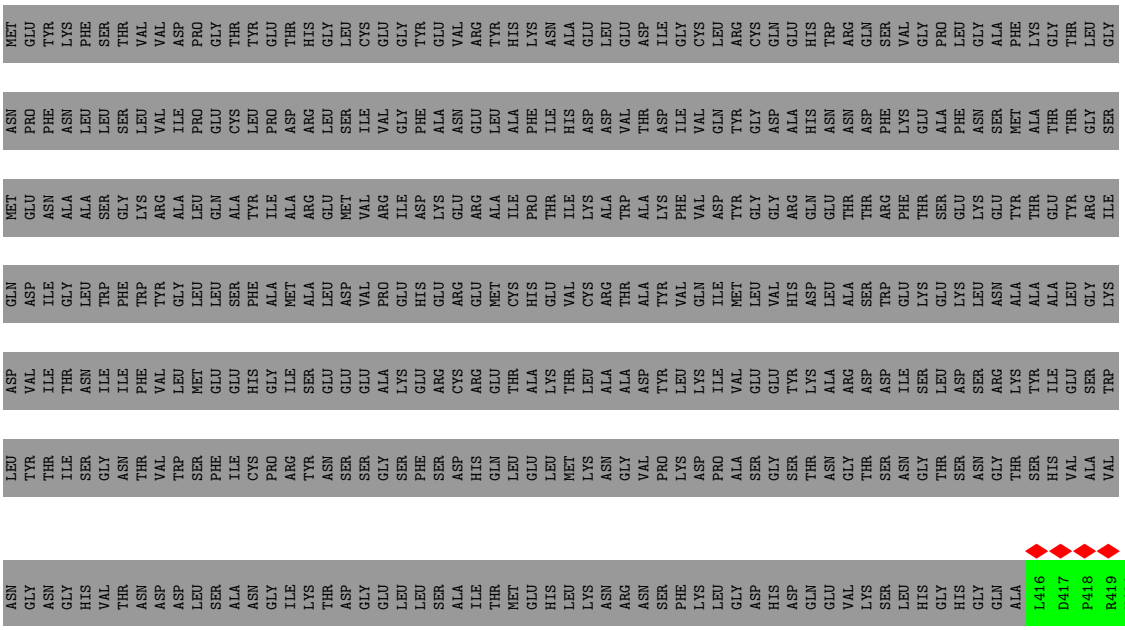






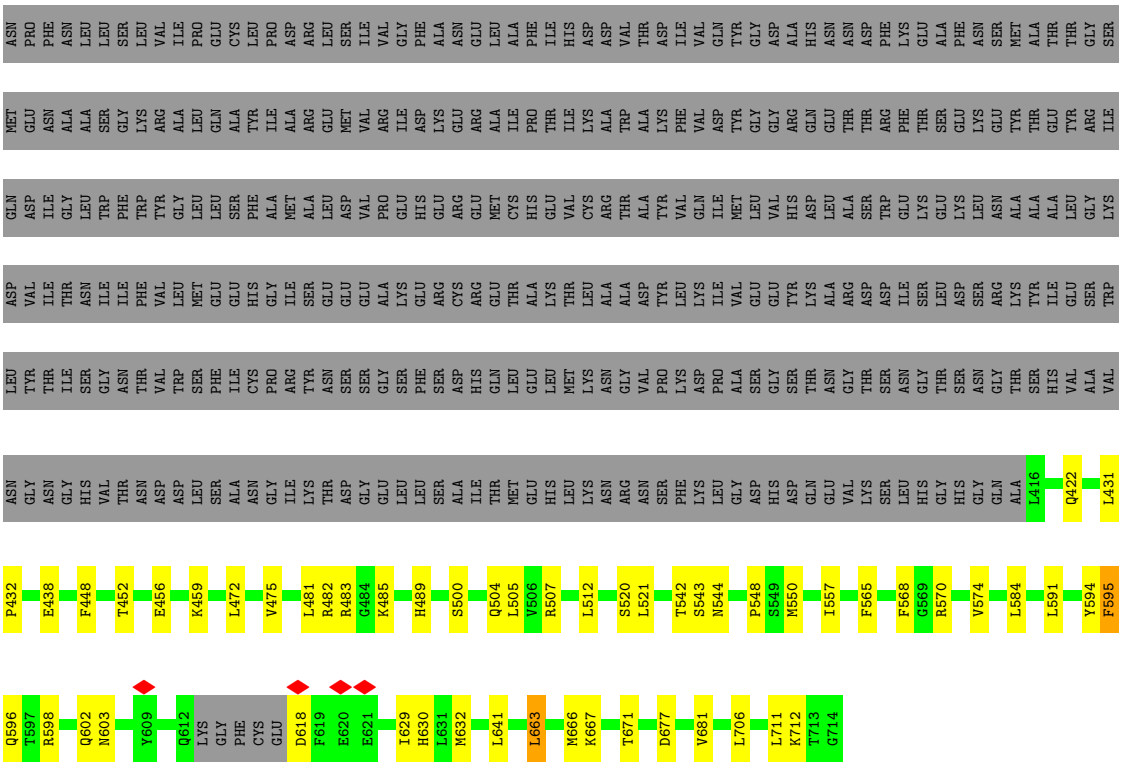
• Molecule 1: Stellatatriene synthase

Chain L:



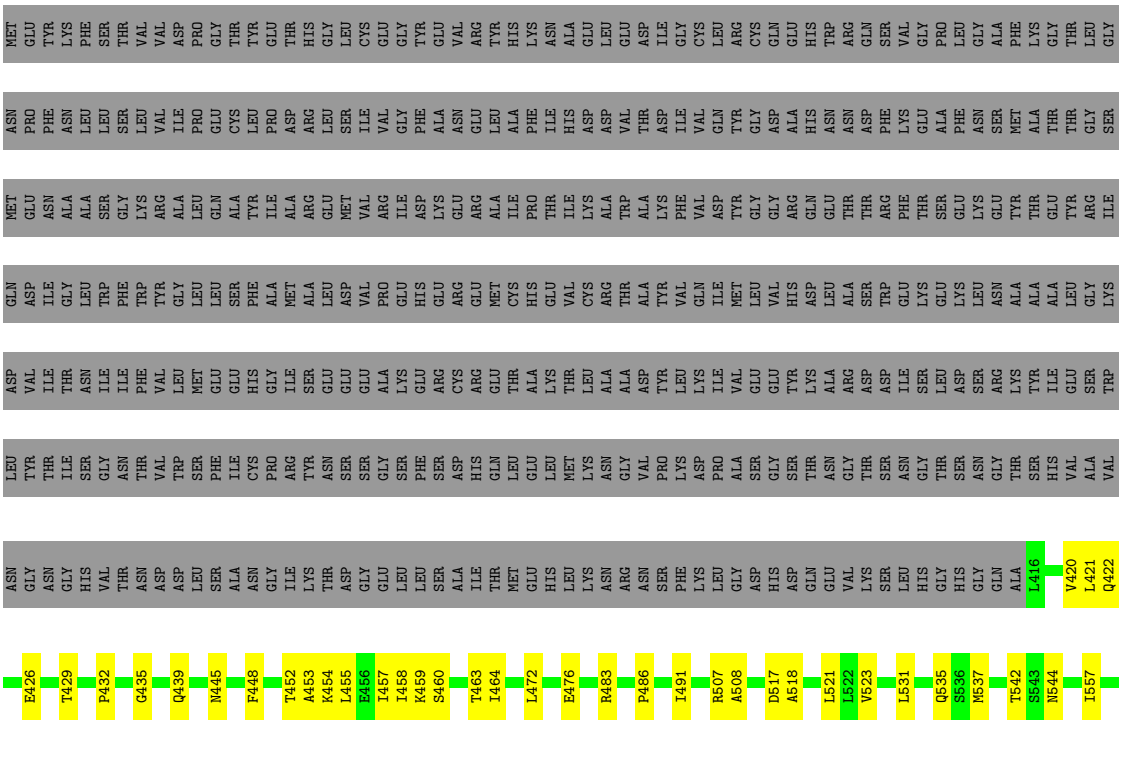
• Molecule 1: Stellatatriene synthase

Chain M:



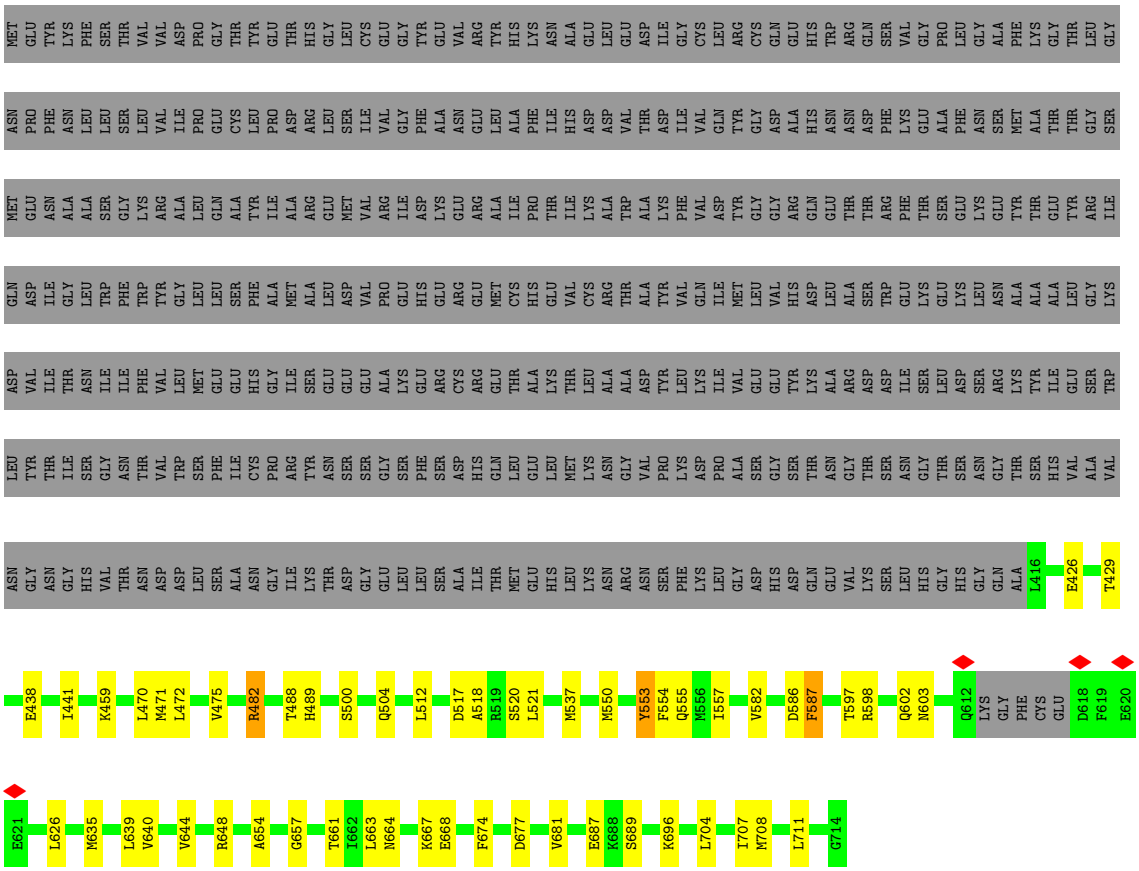
• Molecule 1: Stellatatriene synthase

Chain N:



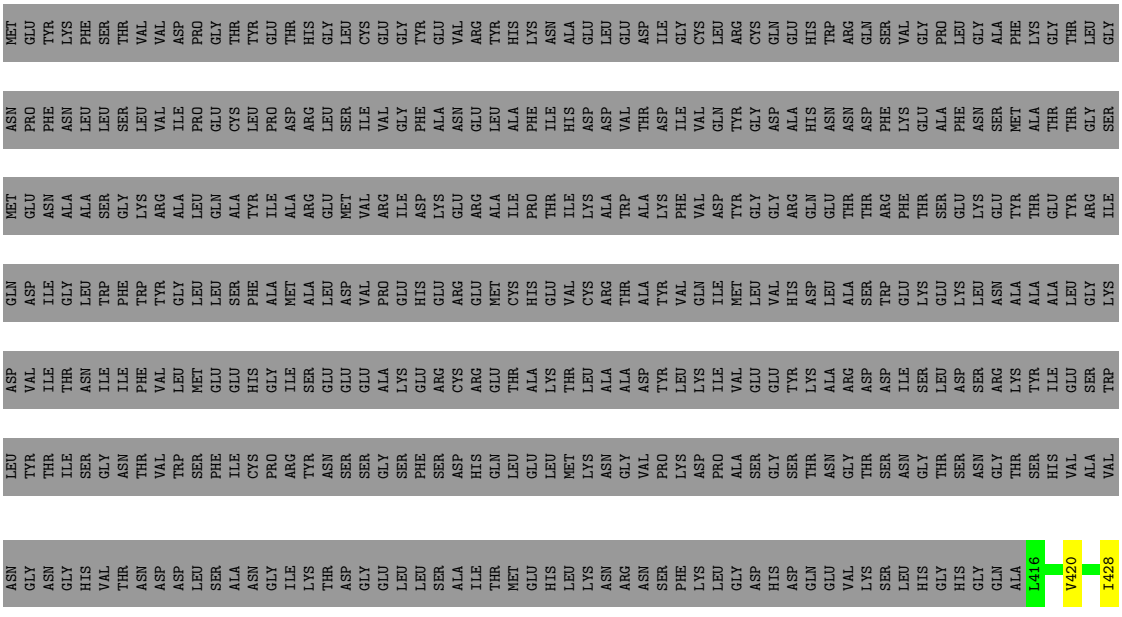
• Molecule 1: Stellatatriene synthase

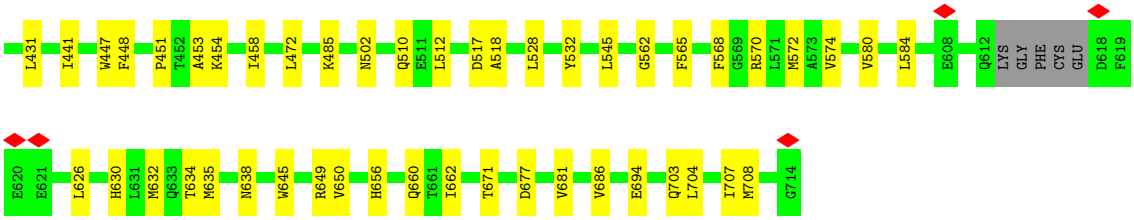
Chain O:



• Molecule 1: Stellatatriene synthase

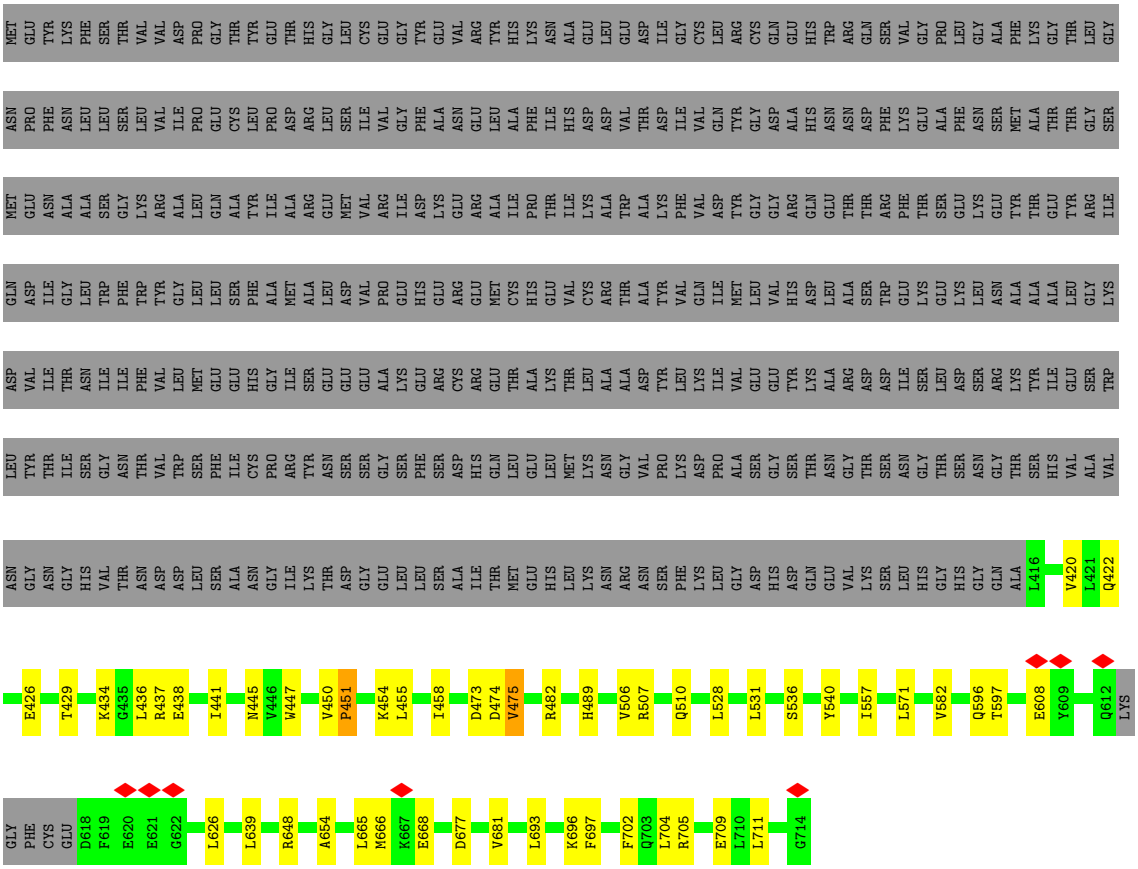
Chain P:





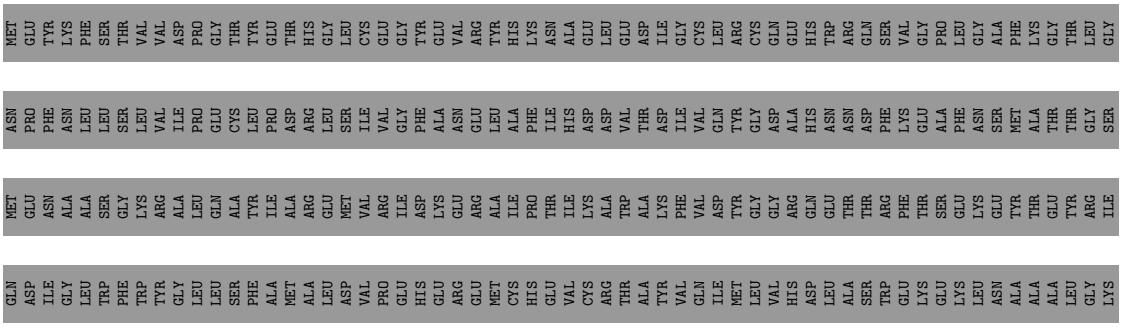
• Molecule 1: Stellatatriene synthase

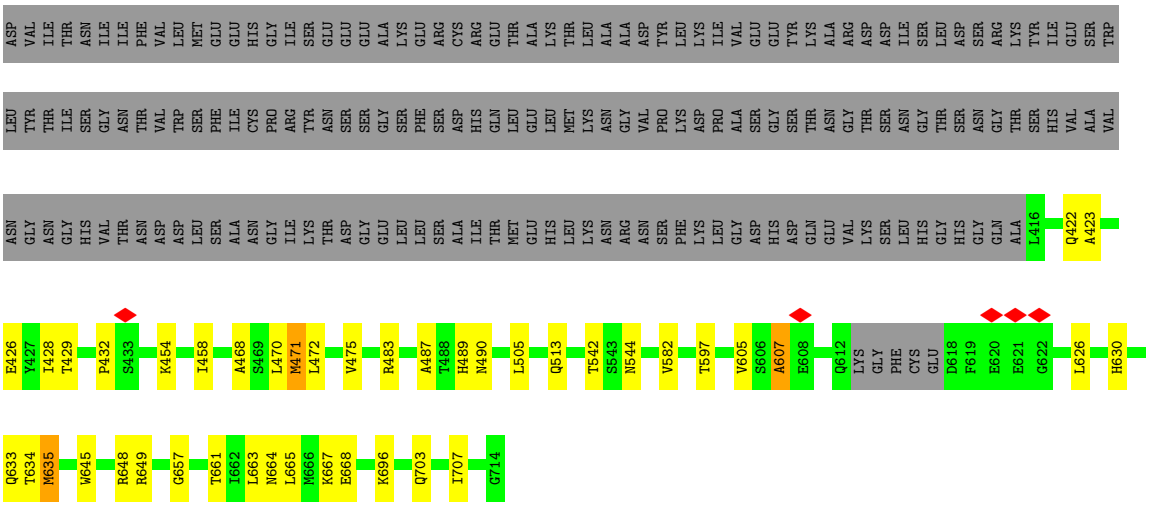
Chain Q:



• Molecule 1: Stellatatriene synthase

Chain R:




ASP VAL ILE THR ASN ILE ILE PHE VAL LEU MET GLU GLU HIS GLY ILE SER GLU GLU GLU ALA LYS GLU ARG CYS ARG GLU THR ALA LYS THR LEU ALA ALA ASP TYR LEU LYS ILE VAL GLU GLU TYR LYS ALA ARG ASP ASP ILE SER LEU ASP SER ARG LYS TYR ILE GLU SER TRP
LEU TYR THR ILE SER GLY ASN THR VAL TRP SER PHE ILE CYS PRO ARG TYR ASN SER SER GLY SER PHE SER ASP HIS GLN LEU GLU LEU MET LYS ASN GLY VAL PRO LYS ASP PRO ALA SER GLY SER THR ASN GLY THR SER ASN GLY THR SER ASN GLY THR SER HIS VAL ALA VAL
ASN GLY ASN GLY HIS VAL THR ASN ASP ASP LEU SER ALA ASN GLY ILE LYS THR ASP GLY GLU LEU LEU SER ALA ILE THR MET GLU HIS LEU LYS ASN ARG ASN SER PHE LYS LEU GLY ASP HIS ASP GLN GLU VAL LYS SER LEU HIS GLY HIS GLY GLN ALA L416 Q422 A423
E426 Y427 I428 T429 P432 S433 K454 I458 A468 S469 L470 M471 L472 V475 R483 A487 T488 H489 N490 L505 Q513 T542 S543 N544 V582 T597 V605 S606 A607 E608 Q612 LYS GLY PHE CYS GLU D618 F619 E620 E621 G622 L626 H630
Q633 T634 M635 W645 R648 R649 G657 T661 I662 L663 N664 L665 M666 K667 E668 K696 Q703 I707 G714

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	108639	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.482	Depositor
Minimum map value	-0.295	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	296.0, 296.0, 296.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.74, 0.74, 0.74	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	A	0.18	1/2409 (0.0%)	0.51	7/3257 (0.2%)
1	B	0.18	0/2409	0.66	12/3257 (0.4%)
1	C	0.17	0/2409	0.54	5/3257 (0.2%)
1	D	0.15	0/2409	0.42	2/3257 (0.1%)
1	E	0.20	0/2409	0.56	6/3257 (0.2%)
1	F	0.22	0/2409	0.64	11/3257 (0.3%)
1	G	0.15	0/2409	0.51	6/3257 (0.2%)
1	H	0.27	2/2409 (0.1%)	0.59	12/3257 (0.4%)
1	I	0.23	1/2409 (0.0%)	0.38	3/3257 (0.1%)
1	J	0.21	1/2409 (0.0%)	0.63	9/3257 (0.3%)
1	K	0.24	1/2409 (0.0%)	0.68	11/3257 (0.3%)
1	L	0.19	1/2409 (0.0%)	0.46	2/3257 (0.1%)
1	M	0.15	0/2409	0.46	8/3257 (0.2%)
1	N	0.20	1/2409 (0.0%)	0.51	6/3257 (0.2%)
1	O	0.15	0/2409	0.48	6/3257 (0.2%)
1	P	0.16	0/2409	0.49	6/3257 (0.2%)
1	Q	0.20	1/2409 (0.0%)	0.53	4/3257 (0.1%)
1	R	0.17	0/2409	0.52	9/3257 (0.3%)
All	All	0.19	9/43362 (0.0%)	0.54	125/58626 (0.2%)

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	418	PRO	N-CD	9.71	1.61	1.47
1	I	418	PRO	N-CD	9.19	1.60	1.47
1	L	636	PRO	N-CD	-6.14	1.39	1.47
1	N	608	GLU	CA-C	6.03	1.60	1.52
1	Q	451	PRO	N-CD	-6.02	1.39	1.47
1	J	477	ASP	CA-C	5.98	1.60	1.52
1	K	486	PRO	N-CD	-5.63	1.39	1.47
1	H	637	ASP	CA-C	5.55	1.60	1.52
1	A	477	ASP	CA-C	5.10	1.60	1.52

All (125) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	588	THR	N-CA-C	11.31	123.61	111.28
1	B	618	ASP	N-CA-CB	11.12	129.41	110.50
1	K	633	GLN	N-CA-C	10.90	123.24	111.36
1	B	476	GLU	N-CA-C	10.43	122.73	111.36
1	B	618	ASP	N-CA-C	-10.29	82.20	111.00
1	J	640	VAL	N-CA-C	10.18	120.19	110.42
1	N	608	GLU	N-CA-C	10.12	124.13	111.69
1	P	453	ALA	N-CA-C	9.64	121.79	111.28
1	B	573	ALA	N-CA-C	9.58	122.73	111.71
1	G	475	VAL	N-CA-C	-9.53	101.57	110.53
1	B	611	LYS	N-CA-C	9.41	124.71	113.23
1	K	427	TYR	N-CA-C	9.33	121.45	111.28
1	A	601	TYR	N-CA-C	9.15	120.86	111.07
1	K	531	LEU	N-CA-C	8.97	121.88	111.11
1	N	609	TYR	N-CA-C	8.95	124.89	112.45
1	K	673	LYS	N-CA-C	-8.92	101.50	111.14
1	E	437	ARG	N-CA-C	8.74	120.81	111.28
1	F	569	GLY	N-CA-C	-8.74	101.91	112.49
1	F	555	GLN	N-CA-C	-8.74	101.72	111.07
1	R	605	VAL	N-CA-C	8.62	119.41	110.62
1	Q	475	VAL	N-CA-C	-8.61	102.44	110.53
1	J	476	GLU	N-CA-C	8.59	121.79	111.82
1	P	512	LEU	N-CA-C	-8.48	102.12	111.36
1	G	473	ASP	N-CA-C	8.24	119.89	111.07
1	F	553	TYR	N-CA-C	8.21	119.85	111.07
1	K	671	THR	N-CA-C	8.04	122.34	112.54
1	R	470	LEU	N-CA-C	7.92	119.54	111.07
1	G	475	VAL	N-CA-CB	7.80	120.56	110.57
1	M	542	THR	N-CA-C	7.80	119.42	111.07
1	A	476	GLU	N-CA-C	7.79	119.40	111.07
1	F	426	GLU	N-CA-C	7.67	121.73	112.38
1	P	510	GLN	N-CA-C	7.64	119.61	111.28
1	A	446	VAL	N-CA-C	7.60	118.37	110.62
1	G	663	LEU	N-CA-C	7.58	119.55	111.28
1	F	640	VAL	N-CA-C	7.57	118.34	110.62
1	B	542	THR	N-CA-C	7.51	119.11	111.07
1	J	594	TYR	N-CA-C	7.50	119.10	111.07
1	N	542	THR	N-CA-C	7.50	119.09	111.07
1	R	472	LEU	N-CA-C	-7.43	103.26	111.36
1	F	555	GLN	N-CA-CB	7.37	120.69	110.01
1	E	447	TRP	N-CA-C	7.36	122.44	113.17
1	A	448	PHE	N-CA-CB	7.13	121.02	110.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	557	ILE	N-CA-C	-7.12	103.83	110.53
1	D	696	LYS	N-CA-C	7.09	119.00	111.28
1	K	673	LYS	N-CA-CB	7.02	120.25	110.07
1	M	544	ASN	N-CA-CB	6.98	120.82	110.49
1	N	609	TYR	N-CA-CB	-6.98	99.86	110.26
1	R	472	LEU	N-CA-CB	6.97	120.48	110.16
1	J	596	GLN	N-CA-C	-6.95	103.64	111.14
1	M	594	TYR	N-CA-C	6.91	118.82	111.28
1	R	542	THR	N-CA-C	6.91	118.46	111.07
1	H	636	PRO	N-CA-C	6.90	123.13	114.92
1	N	544	ASN	N-CA-CB	6.89	120.69	110.49
1	F	607	ALA	N-CA-CB	6.89	121.14	110.46
1	G	665	LEU	N-CA-C	-6.88	103.86	111.36
1	K	631	LEU	N-CA-C	-6.85	103.89	111.36
1	J	596	GLN	N-CA-CB	6.79	119.92	110.07
1	Q	475	VAL	N-CA-CB	6.79	119.26	110.57
1	P	451	PRO	N-CA-C	6.76	120.99	111.33
1	O	555	GLN	N-CA-C	-6.73	103.87	111.14
1	C	554	PHE	N-CA-C	6.69	118.57	111.28
1	O	587	PHE	N-CA-C	6.66	118.54	111.28
1	I	418	PRO	N-CA-CB	6.57	109.06	102.17
1	M	596	GLN	N-CA-C	-6.54	104.08	111.07
1	K	488	THR	N-CA-C	6.52	119.21	111.71
1	L	542	THR	N-CA-C	6.51	118.04	111.07
1	R	544	ASN	N-CA-CB	6.51	120.12	110.49
1	F	428	ILE	N-CA-C	-6.48	103.94	111.00
1	H	588	THR	N-CA-C	6.46	118.32	111.28
1	F	605	VAL	N-CA-C	6.45	121.38	113.00
1	Q	473	ASP	N-CA-C	6.44	117.96	111.07
1	P	512	LEU	N-CA-CB	6.41	119.65	110.16
1	B	544	ASN	N-CA-CB	6.37	119.91	110.49
1	F	428	ILE	N-CA-CB	6.35	121.17	110.56
1	K	490	ASN	N-CA-C	-6.33	104.81	112.54
1	B	571	LEU	N-CA-C	-6.33	104.46	111.36
1	G	665	LEU	N-CA-CB	6.30	119.48	110.16
1	M	596	GLN	N-CA-CB	6.25	119.07	110.01
1	N	607	ALA	N-CA-C	-6.22	105.45	113.16
1	B	477	ASP	CB-CA-C	-6.19	99.35	110.37
1	K	425	TYR	N-CA-C	-6.19	104.61	111.36
1	J	446	VAL	N-CA-C	6.12	117.60	110.62
1	J	448	PHE	N-CA-CB	6.07	119.69	110.28
1	H	417	ASP	N-CA-C	6.04	119.34	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	K	529	HIS	N-CA-C	-6.03	104.79	111.36
1	R	607	ALA	N-CA-CB	5.98	120.03	110.46
1	C	585	THR	N-CA-C	5.95	117.46	110.97
1	I	417	ASP	N-CA-C	5.89	119.18	109.58
1	C	556	MET	N-CA-C	-5.88	104.95	111.36
1	H	418	PRO	N-CA-C	-5.86	108.59	114.68
1	E	574	VAL	N-CA-C	5.83	119.78	113.43
1	E	601	TYR	N-CA-C	5.80	117.60	111.28
1	J	477	ASP	CA-C-O	5.78	126.41	119.59
1	B	477	ASP	N-CA-CB	5.70	118.74	110.47
1	O	482	ARG	N-CA-C	5.66	117.74	108.52
1	L	544	ASN	N-CA-CB	5.64	119.07	110.44
1	E	448	PHE	N-CA-C	5.62	120.15	113.12
1	H	508	ALA	N-CA-C	-5.59	105.27	111.36
1	J	477	ASP	CB-CA-C	-5.57	101.30	110.72
1	H	607	ALA	N-CA-CB	5.56	118.72	110.49
1	M	550	MET	N-CA-C	-5.54	104.87	111.69
1	H	638	ASN	N-CA-C	-5.51	98.29	107.99
1	H	418	PRO	CA-N-CD	-5.49	104.31	112.00
1	C	588	THR	N-CA-CB	-5.49	102.06	110.12
1	H	637	ASP	CA-C-O	5.48	126.99	120.53
1	P	453	ALA	N-CA-CB	-5.46	102.09	110.12
1	A	599	ASP	N-CA-C	-5.39	105.31	111.14
1	R	607	ALA	N-CA-C	-5.39	102.54	110.52
1	Q	438	GLU	N-CA-C	-5.36	105.51	111.36
1	B	475	VAL	N-CA-C	5.36	115.57	110.42
1	I	418	PRO	N-CA-C	-5.31	108.60	114.92
1	A	477	ASP	CA-C-O	5.29	125.83	119.43
1	E	576	SER	N-CA-C	-5.28	102.24	110.42
1	R	471	MET	N-CA-C	5.25	117.91	111.82
1	B	477	ASP	CA-C-O	5.23	125.76	119.43
1	A	477	ASP	CB-CA-C	-5.22	101.08	110.37
1	F	607	ALA	N-CA-C	-5.21	102.74	110.46
1	H	605	VAL	N-CA-C	5.21	119.33	112.04
1	O	687	GLU	N-CA-C	5.20	116.64	111.07
1	H	607	ALA	N-CA-C	-5.18	106.64	113.17
1	M	543	SER	CA-C-O	5.06	125.21	119.18
1	H	418	PRO	N-CA-CB	5.05	108.50	102.60
1	O	553	TYR	N-CA-C	5.03	116.45	111.07
1	M	595	PHE	N-CA-C	5.02	116.83	111.36
1	O	689	SER	N-CA-C	-5.00	105.72	111.07

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	A	2364	0	2359	48	0
1	B	2364	0	2360	49	0
1	C	2364	0	2360	66	0
1	D	2364	0	2360	60	0
1	E	2364	0	2360	60	0
1	F	2364	0	2360	63	0
1	G	2364	0	2360	40	0
1	H	2364	0	2360	49	0
1	I	2364	0	2360	57	0
1	J	2364	0	2360	65	0
1	K	2364	0	2360	46	0
1	L	2364	0	2360	59	0
1	M	2364	0	2360	37	0
1	N	2364	0	2360	40	0
1	O	2364	0	2360	39	0
1	P	2364	0	2360	29	0
1	Q	2364	0	2359	44	0
1	R	2364	0	2360	22	0
All	All	42552	0	42478	823	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 10.

All (823) 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)
1:A:447:TRP:CZ2	1:A:701:ASN:ND2	1.71	1.55
1:F:427:TYR:OH	1:F:485:LYS:HG2	1.20	1.31
1:C:582:VAL:HG11	1:C:697:PHE:CZ	1.67	1.29
1:O:470:LEU:HD22	1:O:482:ARG:HH22	1.06	1.18
1:B:582:VAL:HG11	1:B:697:PHE:HE1	1.05	1.18
1:A:447:TRP:CE2	1:A:701:ASN:ND2	2.13	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:582:VAL:HG11	1:B:697:PHE:CE1	1.83	1.14
1:O:470:LEU:HD22	1:O:482:ARG:NH2	1.62	1.13
1:D:582:VAL:HG21	1:D:697:PHE:CZ	1.85	1.12
1:D:555:GLN:HE21	1:D:556:MET:HE3	0.95	1.12
1:D:555:GLN:HE21	1:D:556:MET:CE	1.62	1.11
1:J:447:TRP:NE1	1:J:701:ASN:HD22	1.49	1.09
1:M:591:LEU:HD11	1:M:595:PHE:CZ	1.88	1.08
1:A:447:TRP:CZ2	1:A:701:ASN:CG	2.32	1.07
1:D:582:VAL:CG2	1:D:697:PHE:HZ	1.65	1.07
1:C:582:VAL:HG11	1:C:697:PHE:CE1	1.93	1.04
1:I:431:LEU:HD21	1:I:485:LYS:HG3	1.41	1.01
1:F:568:PHE:HA	1:F:571:LEU:HB2	1.43	1.01
1:F:427:TYR:OH	1:F:485:LYS:CG	2.13	0.97
1:F:491:ILE:HG23	1:F:492:PHE:CD2	1.99	0.97
1:L:491:ILE:HG23	1:L:492:PHE:CD2	2.00	0.97
1:L:450:VAL:HG21	1:L:572:MET:HG3	1.44	0.97
1:D:555:GLN:NE2	1:D:556:MET:HE3	1.79	0.95
1:D:582:VAL:HG21	1:D:697:PHE:HZ	1.17	0.95
1:D:582:VAL:CG2	1:D:697:PHE:CZ	2.45	0.95
1:A:447:TRP:HZ2	1:A:701:ASN:CG	1.74	0.93
1:B:582:VAL:CG1	1:B:697:PHE:HE1	1.81	0.92
1:C:693:LEU:O	1:C:697:PHE:HD2	1.54	0.90
1:O:586:ASP:OD1	1:O:587:PHE:N	2.05	0.90
1:I:417:ASP:OD1	1:I:418:PRO:HD2	1.74	0.87
1:H:503:TYR:CE2	1:H:507:ARG:HD2	2.10	0.87
1:C:587:PHE:HE1	1:C:690:VAL:HG22	1.39	0.86
1:C:582:VAL:CG1	1:C:697:PHE:CZ	2.56	0.85
1:C:693:LEU:O	1:C:697:PHE:CD2	2.29	0.85
1:E:557:ILE:HD12	1:E:596:GLN:HG3	1.58	0.85
1:A:645:TRP:HA	1:A:648:ARG:HE	1.43	0.84
1:O:470:LEU:CD2	1:O:482:ARG:HH22	1.90	0.84
1:E:447:TRP:HE3	1:E:697:PHE:CE2	1.94	0.83
1:I:539:LEU:CD1	1:L:499:ASN:ND2	2.42	0.83
1:Q:648:ARG:HG3	1:Q:654:ALA:HB2	1.60	0.83
1:F:554:PHE:CZ	1:F:626:LEU:CD1	2.63	0.82
1:B:608:GLU:CD	1:B:608:GLU:O	2.23	0.81
1:C:582:VAL:CG1	1:C:697:PHE:CE1	2.63	0.81
1:F:427:TYR:CZ	1:F:485:LYS:HG2	2.16	0.81
1:J:595:PHE:HE1	1:J:711:LEU:CD2	1.94	0.80
1:M:595:PHE:CE1	1:M:711:LEU:CD2	2.65	0.80
1:J:595:PHE:CE1	1:J:711:LEU:CD2	2.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:R:487:ALA:HB3	1:R:490:ASN:HD22	1.46	0.79
1:C:582:VAL:HG21	1:C:697:PHE:HZ	1.48	0.78
1:J:447:TRP:CZ2	1:J:701:ASN:HB2	2.18	0.78
1:A:475:VAL:HG11	1:A:498:ILE:HD11	1.66	0.78
1:A:447:TRP:CH2	1:A:701:ASN:ND2	2.51	0.78
1:C:582:VAL:HG21	1:C:697:PHE:CZ	2.18	0.78
1:B:477:ASP:HB2	1:B:621:GLU:HG3	1.67	0.77
1:B:565:PHE:HA	1:B:568:PHE:CE1	2.21	0.76
1:R:468:ALA:HA	1:R:471:MET:HE3	1.68	0.75
1:I:539:LEU:CD1	1:L:499:ASN:HD21	1.99	0.75
1:J:595:PHE:CE1	1:J:711:LEU:HD21	2.21	0.75
1:H:620:GLU:HA	1:H:648:ARG:HH21	1.51	0.75
1:F:554:PHE:CZ	1:F:626:LEU:HD13	2.21	0.75
1:B:513:GLN:HG3	1:E:521:LEU:HD13	1.69	0.75
1:A:416:LEU:N	1:D:556:MET:HE1	2.02	0.75
1:P:517:ASP:OD1	1:P:518:ALA:N	2.19	0.75
1:F:554:PHE:CZ	1:F:626:LEU:HD11	2.21	0.74
1:J:710:LEU:HD12	1:J:711:LEU:N	2.03	0.74
1:K:657:GLY:HA3	1:L:486:PRO:HG2	1.68	0.73
1:M:595:PHE:HE1	1:M:711:LEU:HD23	1.53	0.73
1:G:664:ASN:OD1	1:G:665:LEU:N	2.21	0.73
1:C:436:LEU:HD22	1:C:711:LEU:HD21	1.70	0.73
1:G:632:MET:HG3	1:G:641:LEU:HD21	1.71	0.73
1:I:431:LEU:CD2	1:I:485:LYS:HG3	2.16	0.73
1:L:438:GLU:HA	1:L:441:ILE:HD12	1.71	0.73
1:D:555:GLN:NE2	1:D:556:MET:CE	2.45	0.72
1:D:563:GLY:HA2	1:D:566:ARG:HH11	1.54	0.72
1:M:591:LEU:CD1	1:M:595:PHE:CZ	2.69	0.72
1:A:447:TRP:HE1	1:A:701:ASN:HB3	1.55	0.72
1:N:517:ASP:OD1	1:N:518:ALA:N	2.19	0.72
1:B:568:PHE:HD2	1:B:572:MET:HE3	1.54	0.71
1:I:438:GLU:HG2	1:I:459:LYS:HE2	1.73	0.71
1:L:537:MET:HB3	1:L:556:MET:SD	2.29	0.71
1:M:475:VAL:HG22	1:M:489:HIS:HB3	1.70	0.71
1:I:417:ASP:OD1	1:I:418:PRO:CD	2.39	0.71
1:C:587:PHE:CE1	1:C:690:VAL:HG22	2.23	0.70
1:C:587:PHE:HZ	1:C:704:LEU:HD21	1.56	0.70
1:I:521:LEU:HD13	1:L:513:GLN:HG3	1.74	0.70
1:D:582:VAL:HG22	1:D:697:PHE:HZ	1.53	0.70
1:E:447:TRP:CE3	1:E:697:PHE:CE2	2.78	0.69
1:A:521:LEU:HD13	1:D:513:GLN:HG3	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:441:ILE:HG23	1:F:572:MET:HE1	1.73	0.69
1:O:517:ASP:OD1	1:O:518:ALA:N	2.21	0.69
1:F:557:ILE:HD12	1:F:596:GLN:HG3	1.74	0.69
1:J:447:TRP:CD1	1:J:701:ASN:HD22	2.09	0.69
1:B:445:ASN:HD21	1:B:455:LEU:HD22	1.58	0.69
1:L:450:VAL:CG2	1:L:572:MET:HG3	2.21	0.69
1:Q:474:ASP:CG	1:Q:482:ARG:HH21	2.00	0.69
1:J:709:GLU:HG3	1:M:706:LEU:HD11	1.74	0.69
1:L:631:LEU:HD12	1:L:635:MET:HE3	1.75	0.69
1:F:568:PHE:O	1:F:572:MET:HG3	1.93	0.68
1:M:595:PHE:CE1	1:M:711:LEU:HD21	2.26	0.68
1:L:538:ASP:N	1:L:556:MET:SD	2.67	0.68
1:R:635:MET:HE1	1:R:665:LEU:HD11	1.74	0.68
1:L:457:ILE:O	1:L:461:ILE:HG13	1.94	0.68
1:Q:437:ARG:O	1:Q:441:ILE:HG22	1.93	0.68
1:G:474:ASP:OD2	1:G:482:ARG:HD2	1.93	0.67
1:H:417:ASP:OD1	1:H:418:PRO:HD2	1.94	0.67
1:B:582:VAL:HG21	1:B:697:PHE:CZ	2.30	0.67
1:K:545:LEU:HD21	1:K:649:ARG:HG2	1.77	0.67
1:J:428:ILE:HD12	1:J:471:MET:HG3	1.75	0.67
1:K:527:GLU:HA	1:K:530:ASN:HD22	1.60	0.67
1:J:443:ALA:HB1	1:J:704:LEU:HD12	1.77	0.66
1:H:417:ASP:OD1	1:H:418:PRO:CD	2.44	0.66
1:C:582:VAL:HG11	1:C:697:PHE:CE2	2.28	0.66
1:K:648:ARG:HH21	1:K:649:ARG:HB2	1.61	0.65
1:E:683:TYR:O	1:E:687:GLU:HG2	1.96	0.65
1:I:539:LEU:HD11	1:L:499:ASN:HD21	1.61	0.65
1:Q:447:TRP:CD1	1:Q:697:PHE:CE2	2.84	0.65
1:C:535:GLN:HA	1:C:560:LYS:HZ1	1.62	0.64
1:G:470:LEU:HD22	1:G:482:ARG:NH2	2.12	0.64
1:C:558:GLU:HG3	1:C:589:ASN:HB3	1.77	0.64
1:F:491:ILE:HG23	1:F:492:PHE:CE2	2.31	0.64
1:I:423:ALA:HB2	1:J:639:LEU:HD22	1.79	0.64
1:M:595:PHE:HE1	1:M:711:LEU:CD2	2.10	0.64
1:L:437:ARG:HH11	1:L:564:LEU:HD22	1.63	0.64
1:O:704:LEU:HG	1:O:708:MET:HE1	1.80	0.64
1:K:485:LYS:HB3	1:K:486:PRO:HD2	1.80	0.64
1:A:536:SER:HB2	1:D:421:LEU:HD13	1.79	0.63
1:H:574:VAL:HG23	1:H:575:HIS:ND1	2.14	0.63
1:I:568:PHE:O	1:I:572:MET:HG2	1.99	0.63
1:D:557:ILE:HD12	1:D:596:GLN:HG3	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:450:VAL:HG21	1:K:572:MET:HE1	1.79	0.63
1:N:704:LEU:O	1:N:708:MET:HG2	1.99	0.62
1:K:561:THR:HG22	1:K:565:PHE:HE2	1.65	0.62
1:L:513:GLN:HE22	1:L:521:LEU:HD21	1.63	0.62
1:B:554:PHE:CD2	1:B:593:ARG:HD3	2.34	0.62
1:N:445:ASN:ND2	1:N:455:LEU:HD22	2.14	0.62
1:Q:447:TRP:CD1	1:Q:697:PHE:CD2	2.88	0.62
1:P:545:LEU:HD21	1:P:649:ARG:HG2	1.81	0.62
1:D:582:VAL:HG21	1:D:697:PHE:CE2	2.33	0.62
1:H:503:TYR:HE2	1:H:507:ARG:HD2	1.65	0.62
1:A:683:TYR:O	1:A:687:GLU:HG2	1.99	0.61
1:A:557:ILE:HD11	1:A:596:GLN:HE21	1.64	0.61
1:H:634:THR:HG22	1:H:635:MET:SD	2.39	0.61
1:Q:677:ASP:O	1:Q:681:VAL:HG23	2.00	0.61
1:I:628:MET:O	1:I:632:MET:HG3	2.00	0.61
1:P:704:LEU:O	1:P:708:MET:HG2	2.00	0.61
1:G:470:LEU:HD13	1:G:482:ARG:HH21	1.64	0.61
1:I:521:LEU:HD22	1:L:513:GLN:HE21	1.66	0.61
1:D:537:MET:HG2	1:D:556:MET:SD	2.41	0.60
1:K:672:LEU:HA	1:K:675:THR:HB	1.84	0.60
1:J:710:LEU:HD12	1:J:710:LEU:C	2.26	0.60
1:N:432:PRO:HG2	1:N:483:ARG:HH11	1.66	0.60
1:B:445:ASN:ND2	1:B:455:LEU:HD22	2.16	0.60
1:J:447:TRP:HZ2	1:J:701:ASN:HB2	1.66	0.60
1:I:539:LEU:HD12	1:L:499:ASN:ND2	2.15	0.60
1:J:645:TRP:CD1	1:J:648:ARG:HH21	2.20	0.60
1:E:447:TRP:CE3	1:E:697:PHE:CZ	2.90	0.60
1:A:512:LEU:HD11	1:A:520:SER:HB3	1.84	0.59
1:B:447:TRP:CE3	1:B:697:PHE:HE2	2.20	0.59
1:J:545:LEU:HD11	1:J:649:ARG:HG2	1.84	0.59
1:P:677:ASP:O	1:P:681:VAL:HG23	2.02	0.59
1:H:537:MET:HE2	1:H:537:MET:HA	1.84	0.59
1:O:704:LEU:HA	1:O:707:ILE:HD12	1.83	0.59
1:C:639:LEU:HD23	1:C:639:LEU:H	1.68	0.59
1:H:663:LEU:O	1:H:667:LYS:HG3	2.02	0.59
1:I:437:ARG:O	1:I:441:ILE:HD12	2.02	0.59
1:A:475:VAL:HG22	1:A:489:HIS:HB3	1.84	0.59
1:G:422:GLN:HE22	1:G:507:ARG:NH1	2.00	0.59
1:L:631:LEU:CD1	1:L:635:MET:HE3	2.32	0.59
1:O:639:LEU:H	1:O:639:LEU:HD23	1.68	0.59
1:B:565:PHE:HA	1:B:568:PHE:HE1	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:438:GLU:HG2	1:L:459:LYS:HE2	1.83	0.59
1:A:423:ALA:HB2	1:F:639:LEU:HD12	1.83	0.59
1:F:471:MET:O	1:F:475:VAL:HG23	2.02	0.58
1:H:628:MET:O	1:H:632:MET:HG3	2.03	0.58
1:N:453:ALA:O	1:N:457:ILE:HG13	2.03	0.58
1:H:557:ILE:HD12	1:H:596:GLN:HG2	1.83	0.58
1:L:708:MET:HG3	1:L:712:LYS:NZ	2.16	0.58
1:G:568:PHE:HA	1:G:571:LEU:HD12	1.84	0.58
1:I:650:VAL:HG21	1:K:649:ARG:HH22	1.68	0.58
1:R:597:THR:HG23	1:R:626:LEU:HD22	1.84	0.58
1:B:582:VAL:HG21	1:B:697:PHE:CE1	2.38	0.58
1:I:639:LEU:HD23	1:I:639:LEU:H	1.69	0.58
1:J:550:MET:HE2	1:J:550:MET:HA	1.85	0.58
1:O:470:LEU:CD2	1:O:482:ARG:NH2	2.52	0.58
1:O:521:LEU:HD23	1:R:513:GLN:HG3	1.84	0.58
1:F:478:GLY:HA2	1:F:489:HIS:CE1	2.39	0.58
1:I:420:VAL:HA	1:J:639:LEU:CD2	2.33	0.57
1:H:507:ARG:O	1:H:511:GLU:HG2	2.03	0.57
1:K:666:MET:HE3	1:K:671:THR:HG21	1.86	0.57
1:F:485:LYS:HD2	1:F:486:PRO:HD2	1.86	0.57
1:H:687:GLU:HA	1:H:690:VAL:HG12	1.87	0.57
1:L:509:LEU:O	1:L:513:GLN:HG2	2.04	0.57
1:Q:447:TRP:HD1	1:Q:697:PHE:CZ	2.22	0.57
1:F:648:ARG:HH21	1:F:654:ALA:HB3	1.69	0.57
1:B:434:LYS:HG2	1:B:436:LEU:HD13	1.87	0.57
1:N:448:PHE:HZ	1:N:584:LEU:HD11	1.68	0.57
1:C:628:MET:O	1:C:632:MET:HG3	2.05	0.57
1:J:644:VAL:O	1:J:648:ARG:HG3	2.04	0.57
1:O:664:ASN:O	1:O:668:GLU:HG2	2.05	0.57
1:A:505:LEU:HD13	1:D:505:LEU:HD23	1.87	0.56
1:G:542:THR:HA	1:G:624:PHE:HE1	1.70	0.56
1:I:519:ARG:HA	1:I:522:LEU:HD23	1.87	0.56
1:L:437:ARG:NH1	1:L:564:LEU:HD22	2.20	0.56
1:P:447:TRP:HZ2	1:P:694:GLU:HG3	1.70	0.56
1:B:529:HIS:O	1:B:533:VAL:HG12	2.06	0.56
1:J:447:TRP:NE1	1:J:701:ASN:ND2	2.35	0.56
1:R:657:GLY:O	1:R:661:THR:HG23	2.06	0.56
1:G:664:ASN:OD1	1:G:665:LEU:HD12	2.05	0.56
1:J:625:SER:HB2	1:J:627:PRO:HD2	1.87	0.56
1:K:434:LYS:HG2	1:K:436:LEU:HD21	1.86	0.56
1:L:568:PHE:HA	1:L:571:LEU:HD12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:607:ALA:O	1:J:608:GLU:HG2	2.06	0.56
1:E:537:MET:HE3	1:E:537:MET:HA	1.87	0.56
1:C:485:LYS:HG3	1:C:486:PRO:HD2	1.87	0.56
1:B:418:PRO:HB3	1:B:421:LEU:HD12	1.87	0.56
1:L:541:TRP:CZ3	1:L:556:MET:HE2	2.41	0.56
1:L:564:LEU:HD23	1:L:564:LEU:O	2.06	0.56
1:M:595:PHE:CE1	1:M:711:LEU:HD23	2.33	0.56
1:K:701:ASN:HD21	1:K:704:LEU:HD13	1.69	0.56
1:M:591:LEU:HD11	1:M:595:PHE:CE2	2.39	0.56
1:B:476:GLU:C	1:B:476:GLU:CD	2.74	0.55
1:F:663:LEU:O	1:F:667:LYS:HG3	2.06	0.55
1:H:471:MET:HB2	1:H:488:THR:HG21	1.89	0.55
1:K:565:PHE:HA	1:K:568:PHE:CZ	2.40	0.55
1:L:657:GLY:O	1:L:661:THR:HG23	2.05	0.55
1:H:445:ASN:ND2	1:H:455:LEU:HD22	2.21	0.55
1:C:703:GLN:O	1:C:707:ILE:HG13	2.06	0.55
1:O:553:TYR:CD2	1:O:554:PHE:CD1	2.95	0.55
1:M:512:LEU:HD11	1:M:520:SER:HB3	1.89	0.55
1:B:431:LEU:HD21	1:B:485:LYS:HB2	1.88	0.55
1:E:640:VAL:O	1:E:644:VAL:HG23	2.07	0.55
1:I:420:VAL:HA	1:J:639:LEU:HD21	1.88	0.55
1:B:703:GLN:O	1:B:707:ILE:HG13	2.07	0.54
1:Q:557:ILE:HD12	1:Q:596:GLN:HG2	1.90	0.54
1:F:527:GLU:HG3	1:F:567:LEU:HA	1.90	0.54
1:B:538:ASP:O	1:B:542:THR:HG23	2.07	0.54
1:N:697:PHE:HB3	1:N:699:ILE:HG22	1.89	0.54
1:E:575:HIS:CG	1:E:575:HIS:O	2.59	0.54
1:F:657:GLY:O	1:F:661:THR:HG23	2.08	0.54
1:J:631:LEU:HD22	1:J:666:MET:SD	2.48	0.54
1:K:677:ASP:O	1:K:681:VAL:HG13	2.08	0.54
1:F:491:ILE:HG13	1:F:491:ILE:O	2.06	0.54
1:C:598:ARG:NH1	1:C:598:ARG:HA	2.22	0.54
1:H:464:ILE:HD11	1:H:508:ALA:HA	1.90	0.54
1:M:663:LEU:O	1:M:667:LYS:HG3	2.06	0.54
1:G:470:LEU:HD22	1:G:482:ARG:HH22	1.71	0.54
1:Q:447:TRP:HD1	1:Q:697:PHE:CE1	2.26	0.54
1:R:475:VAL:HG22	1:R:489:HIS:HB3	1.88	0.54
1:R:630:HIS:HA	1:R:633:GLN:HG2	1.90	0.54
1:D:512:LEU:HD11	1:D:520:SER:HB3	1.90	0.54
1:F:478:GLY:HA2	1:F:489:HIS:HE1	1.71	0.53
1:I:444:LEU:HD12	1:I:448:PHE:HE2	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:690:VAL:O	1:J:694:GLU:HG3	2.08	0.53
1:D:657:GLY:O	1:D:661:THR:HG23	2.08	0.53
1:I:512:LEU:HD11	1:I:520:SER:HB3	1.89	0.53
1:R:582:VAL:HG23	1:R:696:LYS:HD2	1.90	0.53
1:A:457:ILE:HG21	1:A:515:LEU:HG	1.91	0.53
1:I:500:SER:O	1:I:504:GLN:HG2	2.08	0.53
1:P:431:LEU:HD22	1:P:485:LYS:HG3	1.90	0.53
1:Q:450:VAL:CG2	1:Q:451:PRO:HD2	2.38	0.53
1:L:635:MET:O	1:L:635:MET:HG3	2.09	0.53
1:C:444:LEU:HD23	1:C:448:PHE:HE2	1.74	0.53
1:E:454:LYS:HD3	1:E:515:LEU:HG	1.91	0.53
1:I:557:ILE:HD11	1:I:596:GLN:HE21	1.73	0.53
1:B:554:PHE:HD2	1:B:593:ARG:HD3	1.73	0.53
1:F:634:THR:HG22	1:F:635:MET:SD	2.49	0.53
1:H:417:ASP:OD1	1:H:418:PRO:N	2.42	0.53
1:H:632:MET:HG2	1:H:641:LEU:HD21	1.90	0.53
1:E:437:ARG:O	1:E:441:ILE:HG22	2.08	0.53
1:F:426:GLU:HA	1:F:429:THR:HG22	1.90	0.53
1:H:683:TYR:O	1:H:687:GLU:HG2	2.09	0.53
1:K:471:MET:SD	1:K:488:THR:HG21	2.48	0.53
1:O:640:VAL:O	1:O:644:VAL:HG23	2.08	0.53
1:P:448:PHE:HZ	1:P:584:LEU:HD11	1.74	0.53
1:A:631:LEU:HD22	1:A:666:MET:SD	2.48	0.53
1:H:511:GLU:HA	1:H:514:LYS:NZ	2.24	0.53
1:K:538:ASP:O	1:K:542:THR:HG23	2.09	0.53
1:K:446:VAL:HG23	1:K:447:TRP:CD1	2.44	0.53
1:A:438:GLU:HG3	1:A:459:LYS:HD2	1.91	0.52
1:H:505:LEU:HD23	1:K:505:LEU:HD23	1.91	0.52
1:D:450:VAL:HG11	1:D:572:MET:HB2	1.91	0.52
1:K:458:ILE:HD12	1:K:572:MET:HE2	1.90	0.52
1:K:705:ARG:O	1:K:709:GLU:HG2	2.08	0.52
1:E:527:GLU:HB2	1:E:567:LEU:HD13	1.91	0.52
1:E:583:ASP:OD1	1:E:584:LEU:N	2.42	0.52
1:F:554:PHE:CE2	1:F:626:LEU:HD11	2.43	0.52
1:I:619:PHE:HB3	1:I:648:ARG:HH12	1.74	0.52
1:E:662:ILE:O	1:E:666:MET:HG3	2.09	0.52
1:F:545:LEU:HD11	1:F:649:ARG:HG2	1.90	0.52
1:H:648:ARG:NH1	1:H:654:ALA:HB3	2.24	0.52
1:M:422:GLN:HE22	1:M:507:ARG:NH1	2.08	0.52
1:Q:705:ARG:O	1:Q:709:GLU:HG2	2.09	0.52
1:C:439:GLN:HB3	1:C:707:ILE:HD13	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:568:PHE:HA	1:D:571:LEU:HD12	1.91	0.52
1:N:426:GLU:HA	1:N:429:THR:HG22	1.91	0.52
1:R:664:ASN:O	1:R:668:GLU:HG2	2.09	0.52
1:I:672:LEU:O	1:I:676:GLN:HG2	2.10	0.52
1:M:677:ASP:O	1:M:681:VAL:HG23	2.09	0.52
1:E:450:VAL:CG2	1:E:451:PRO:HD2	2.40	0.52
1:F:628:MET:O	1:F:632:MET:HG3	2.10	0.52
1:H:443:ALA:HB1	1:H:704:LEU:HD23	1.91	0.52
1:H:509:LEU:HD22	1:K:525:THR:HG21	1.92	0.52
1:L:491:ILE:HG23	1:L:492:PHE:CE2	2.44	0.52
1:C:594:TYR:O	1:C:598:ARG:HG2	2.10	0.52
1:C:601:TYR:O	1:C:605:VAL:HG12	2.10	0.52
1:M:448:PHE:HZ	1:M:584:LEU:HD11	1.75	0.52
1:Q:450:VAL:HG22	1:Q:451:PRO:HD2	1.92	0.52
1:A:664:ASN:HA	1:A:667:LYS:HE2	1.91	0.51
1:F:527:GLU:HB2	1:F:567:LEU:HD13	1.92	0.51
1:I:475:VAL:HG11	1:I:498:ILE:HD11	1.93	0.51
1:B:646:THR:O	1:B:650:VAL:HG12	2.10	0.51
1:H:630:HIS:HA	1:H:633:GLN:HG2	1.91	0.51
1:Q:528:LEU:HD23	1:Q:531:LEU:HD12	1.92	0.51
1:B:435:GLY:HA2	1:B:438:GLU:HG2	1.91	0.51
1:G:565:PHE:HA	1:G:568:PHE:CE2	2.44	0.51
1:J:601:TYR:HE2	1:J:676:GLN:HG3	1.75	0.51
1:A:639:LEU:HD12	1:A:639:LEU:H	1.75	0.51
1:I:417:ASP:OD1	1:I:418:PRO:N	2.44	0.51
1:E:445:ASN:HD22	1:E:455:LEU:HD22	1.74	0.51
1:E:642:ARG:O	1:E:646:THR:HG23	2.10	0.51
1:E:648:ARG:HH21	1:E:654:ALA:HB3	1.75	0.51
1:P:517:ASP:CG	1:P:518:ALA:H	2.17	0.51
1:Q:447:TRP:CD1	1:Q:697:PHE:CZ	2.99	0.51
1:A:677:ASP:O	1:A:681:VAL:HG23	2.11	0.51
1:D:489:HIS:HA	1:D:497:THR:HG21	1.93	0.51
1:G:475:VAL:HG22	1:G:489:HIS:HB3	1.93	0.51
1:E:460:SER:O	1:E:464:ILE:HG13	2.11	0.51
1:G:557:ILE:HD12	1:G:596:GLN:HG3	1.93	0.51
1:H:642:ARG:O	1:H:646:THR:HG23	2.11	0.51
1:L:426:GLU:HA	1:L:429:THR:HG22	1.91	0.51
1:Q:666:MET:HE3	1:Q:666:MET:HA	1.93	0.51
1:J:521:LEU:HD12	1:J:521:LEU:H	1.76	0.51
1:L:475:VAL:HG22	1:L:489:HIS:HB3	1.93	0.51
1:R:703:GLN:O	1:R:707:ILE:HG13	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:433:SER:HB3	1:C:483:ARG:HH12	1.75	0.51
1:C:505:LEU:HD23	1:F:505:LEU:HD22	1.93	0.50
1:E:663:LEU:HD13	1:E:666:MET:SD	2.52	0.50
1:H:445:ASN:HD21	1:H:455:LEU:HD22	1.76	0.50
1:H:509:LEU:HD12	1:K:509:LEU:HD21	1.93	0.50
1:J:589:ASN:O	1:J:593:ARG:HG3	2.10	0.50
1:B:420:VAL:HG21	1:E:537:MET:HE1	1.93	0.50
1:B:657:GLY:O	1:B:661:THR:HG23	2.10	0.50
1:D:570:ARG:O	1:D:574:VAL:HG23	2.11	0.50
1:P:570:ARG:O	1:P:574:VAL:HG23	2.11	0.50
1:R:426:GLU:HA	1:R:429:THR:HG22	1.94	0.50
1:B:589:ASN:HB3	1:B:593:ARG:HH21	1.76	0.50
1:H:639:LEU:HD12	1:H:639:LEU:H	1.76	0.50
1:E:450:VAL:HG22	1:E:451:PRO:HD2	1.93	0.50
1:E:705:ARG:HA	1:E:708:MET:HB3	1.94	0.50
1:L:541:TRP:CE3	1:L:556:MET:CE	2.95	0.50
1:H:424:PRO:O	1:H:428:ILE:HG22	2.11	0.50
1:H:624:PHE:HE1	1:H:645:TRP:HE1	1.58	0.50
1:I:444:LEU:HD12	1:I:448:PHE:CE2	2.47	0.50
1:L:648:ARG:HG3	1:L:654:ALA:HB2	1.94	0.50
1:G:598:ARG:O	1:G:602:GLN:HG2	2.11	0.50
1:J:441:ILE:HG21	1:J:459:LYS:HG3	1.92	0.50
1:O:441:ILE:HG21	1:O:459:LYS:HG3	1.94	0.50
1:C:558:GLU:HB2	1:C:593:ARG:HH12	1.76	0.50
1:E:619:PHE:CE1	1:E:666:MET:HE1	2.47	0.50
1:J:630:HIS:O	1:J:634:THR:HG23	2.12	0.50
1:L:688:LYS:O	1:L:692:GLU:HG2	2.11	0.50
1:N:460:SER:O	1:N:464:ILE:HG23	2.12	0.50
1:B:557:ILE:HG12	1:B:596:GLN:HG2	1.94	0.50
1:C:598:ARG:HH11	1:C:679:LEU:HD11	1.76	0.50
1:D:582:VAL:HG22	1:D:697:PHE:CZ	2.33	0.50
1:E:443:ALA:HB2	1:E:707:ILE:HD12	1.92	0.50
1:F:683:TYR:CZ	1:F:712:LYS:HE3	2.46	0.50
1:J:557:ILE:HD12	1:J:596:GLN:HG3	1.93	0.50
1:N:603:ASN:HD21	1:N:618:ASP:HB2	1.76	0.50
1:P:686:VAL:HG11	1:P:708:MET:HE2	1.94	0.50
1:Q:454:LYS:O	1:Q:458:ILE:HG13	2.12	0.50
1:A:687:GLU:HA	1:A:690:VAL:HG12	1.94	0.50
1:C:545:LEU:HD11	1:C:649:ARG:HG2	1.94	0.50
1:C:568:PHE:HA	1:C:571:LEU:HD12	1.93	0.50
1:Q:445:ASN:HD22	1:Q:455:LEU:HD22	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:582:VAL:HG11	1:D:697:PHE:CZ	2.47	0.49
1:J:683:TYR:O	1:J:687:GLU:HG2	2.12	0.49
1:M:452:THR:O	1:M:456:GLU:HG2	2.12	0.49
1:O:553:TYR:HD2	1:O:554:PHE:CD1	2.30	0.49
1:B:608:GLU:CD	1:B:608:GLU:C	2.80	0.49
1:J:595:PHE:CD1	1:J:711:LEU:HD21	2.47	0.49
1:A:603:ASN:HD21	1:A:618:ASP:HB2	1.77	0.49
1:E:672:LEU:O	1:E:676:GLN:HG3	2.12	0.49
1:I:433:SER:HB3	1:I:483:ARG:HH12	1.77	0.49
1:I:632:MET:HG2	1:I:641:LEU:HD21	1.93	0.49
1:J:591:LEU:HD11	1:J:595:PHE:CZ	2.47	0.49
1:D:630:HIS:O	1:D:634:THR:HG23	2.12	0.49
1:D:646:THR:O	1:D:650:VAL:HG12	2.13	0.49
1:J:447:TRP:HH2	1:J:694:GLU:HG2	1.77	0.49
1:P:656:HIS:O	1:P:660:GLN:HG2	2.12	0.49
1:A:447:TRP:NE1	1:A:701:ASN:HB3	2.23	0.49
1:F:665:LEU:O	1:F:668:GLU:HG3	2.12	0.49
1:F:683:TYR:O	1:F:687:GLU:HG2	2.13	0.49
1:M:603:ASN:HD21	1:M:618:ASP:HB2	1.77	0.49
1:A:500:SER:O	1:A:504:GLN:HG2	2.13	0.49
1:C:421:LEU:HD11	1:F:533:VAL:HA	1.94	0.49
1:C:451:PRO:HD2	1:C:454:LYS:HZ1	1.77	0.49
1:C:598:ARG:HH22	1:C:601:TYR:HD2	1.61	0.49
1:D:631:LEU:HD11	1:D:665:LEU:HG	1.95	0.49
1:I:624:PHE:HB3	1:I:629:ILE:HD11	1.95	0.49
1:Q:665:LEU:HD23	1:Q:668:GLU:HB3	1.94	0.49
1:R:630:HIS:O	1:R:634:THR:HG22	2.13	0.49
1:J:545:LEU:HD21	1:J:649:ARG:HD3	1.94	0.49
1:O:707:ILE:HG22	1:O:711:LEU:HD23	1.95	0.49
1:D:602:GLN:HA	1:D:605:VAL:HG22	1.95	0.49
1:E:428:ILE:HD13	1:E:471:MET:HB2	1.95	0.49
1:I:441:ILE:HG23	1:I:572:MET:HE1	1.94	0.49
1:J:444:LEU:HD12	1:J:448:PHE:HE2	1.77	0.49
1:J:447:TRP:CE2	1:J:701:ASN:HB2	2.48	0.49
1:M:591:LEU:HD11	1:M:595:PHE:HZ	1.68	0.49
1:D:509:LEU:O	1:D:513:GLN:HG2	2.13	0.49
1:D:582:VAL:CG1	1:D:697:PHE:CZ	2.95	0.49
1:H:460:SER:O	1:H:464:ILE:HG23	2.13	0.49
1:J:447:TRP:CH2	1:J:694:GLU:HG2	2.48	0.49
1:J:595:PHE:CE1	1:J:711:LEU:HD22	2.47	0.49
1:K:568:PHE:HA	1:K:571:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:460:SER:O	1:B:464:ILE:HG23	2.13	0.48
1:E:702:PHE:HB3	1:N:702:PHE:CG	2.48	0.48
1:L:527:GLU:HB2	1:L:567:LEU:HD13	1.94	0.48
1:L:541:TRP:HZ3	1:L:556:MET:HE2	1.78	0.48
1:Q:422:GLN:HE22	1:Q:507:ARG:NH1	2.11	0.48
1:G:482:ARG:HG2	1:G:483:ARG:HG2	1.94	0.48
1:G:540:TYR:HB2	1:J:420:VAL:HG21	1.95	0.48
1:D:542:THR:HA	1:D:624:PHE:CE1	2.48	0.48
1:I:533:VAL:HG22	1:L:421:LEU:HD11	1.95	0.48
1:J:601:TYR:O	1:J:605:VAL:HG13	2.13	0.48
1:J:703:GLN:O	1:J:707:ILE:HG13	2.14	0.48
1:L:538:ASP:HA	1:L:556:MET:HE1	1.95	0.48
1:R:645:TRP:HZ3	1:R:648:ARG:HH21	1.62	0.48
1:A:470:LEU:HD22	1:A:482:ARG:NH2	2.28	0.48
1:A:684:SER:O	1:A:688:LYS:HE2	2.13	0.48
1:C:705:ARG:O	1:C:709:GLU:HG2	2.12	0.48
1:L:664:ASN:O	1:L:668:GLU:HG2	2.14	0.48
1:B:582:VAL:HG21	1:B:697:PHE:HZ	1.78	0.48
1:C:658:GLN:O	1:C:662:ILE:HG12	2.14	0.48
1:J:431:LEU:HD22	1:J:485:LYS:HG3	1.95	0.48
1:L:466:HIS:O	1:L:470:LEU:HG	2.14	0.48
1:N:700:GLU:OE1	1:N:702:PHE:HE2	1.97	0.48
1:P:703:GLN:O	1:P:707:ILE:HG22	2.14	0.48
1:A:570:ARG:O	1:A:574:VAL:HG23	2.14	0.48
1:D:683:TYR:CE2	1:D:708:MET:HE1	2.48	0.48
1:F:686:VAL:O	1:F:690:VAL:HG12	2.13	0.48
1:G:582:VAL:HG21	1:G:696:LYS:HG2	1.96	0.48
1:J:568:PHE:O	1:J:572:MET:HG3	2.14	0.48
1:N:677:ASP:O	1:N:681:VAL:HG12	2.14	0.48
1:E:554:PHE:O	1:E:558:GLU:HG2	2.13	0.48
1:I:441:ILE:HD11	1:I:462:THR:HG21	1.96	0.48
1:J:697:PHE:HB3	1:J:699:ILE:HD12	1.95	0.48
1:L:448:PHE:HD2	1:L:572:MET:SD	2.37	0.48
1:A:444:LEU:HD12	1:A:448:PHE:CE2	2.49	0.47
1:E:418:PRO:O	1:E:422:GLN:HG3	2.14	0.47
1:A:527:GLU:HG3	1:A:567:LEU:HA	1.96	0.47
1:C:683:TYR:CE2	1:C:708:MET:HE1	2.48	0.47
1:M:481:LEU:HD12	1:M:482:ARG:H	1.79	0.47
1:B:486:PRO:HG3	1:C:657:GLY:HA3	1.96	0.47
1:E:471:MET:SD	1:E:488:THR:HG21	2.54	0.47
1:F:678:SER:O	1:F:682:LEU:HG	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:554:PHE:CG	1:G:593:ARG:HD3	2.49	0.47
1:I:531:LEU:O	1:I:535:GLN:HG3	2.14	0.47
1:C:454:LYS:HE2	1:C:454:LYS:HB3	1.70	0.47
1:C:656:HIS:O	1:C:660:GLN:HG3	2.14	0.47
1:E:447:TRP:HH2	1:E:584:LEU:HD12	1.79	0.47
1:K:547:CYS:SG	1:K:632:MET:HE2	2.54	0.47
1:Q:597:THR:HG23	1:Q:626:LEU:HD23	1.95	0.47
1:C:438:GLU:HG2	1:C:459:LYS:NZ	2.30	0.47
1:C:582:VAL:CG2	1:C:697:PHE:CZ	2.92	0.47
1:F:554:PHE:HZ	1:F:626:LEU:HD11	1.76	0.47
1:G:562:GLY:O	1:G:566:ARG:HG3	2.14	0.47
1:I:457:ILE:HD13	1:I:514:LYS:HG3	1.96	0.47
1:Q:702:PHE:CD1	1:Q:705:ARG:HG3	2.49	0.47
1:C:505:LEU:O	1:C:509:LEU:HG	2.15	0.47
1:J:467:ASN:HA	1:J:470:LEU:HD12	1.96	0.47
1:M:472:LEU:HD23	1:M:472:LEU:HA	1.73	0.47
1:Q:422:GLN:HE22	1:Q:507:ARG:HH11	1.61	0.47
1:E:608:GLU:O	1:E:608:GLU:HG3	2.15	0.47
1:F:554:PHE:HZ	1:F:626:LEU:CD1	2.24	0.47
1:G:620:GLU:HG3	1:G:654:ALA:HB3	1.97	0.47
1:J:582:VAL:HG21	1:J:697:PHE:HE1	1.80	0.47
1:Q:434:LYS:HB2	1:Q:434:LYS:HE2	1.69	0.47
1:A:545:LEU:HD11	1:A:649:ARG:HG2	1.96	0.47
1:F:551:HIS:O	1:F:555:GLN:HG3	2.15	0.47
1:N:472:LEU:HD23	1:N:472:LEU:HA	1.68	0.47
1:O:426:GLU:HA	1:O:429:THR:HG22	1.97	0.47
1:G:543:SER:HA	1:G:649:ARG:NH2	2.29	0.47
1:H:598:ARG:HH11	1:H:598:ARG:HG2	1.79	0.47
1:K:598:ARG:HG2	1:K:679:LEU:HD11	1.97	0.47
1:P:528:LEU:HD12	1:P:532:TYR:HE2	1.78	0.47
1:F:512:LEU:HA	1:F:515:LEU:HD12	1.96	0.47
1:L:635:MET:O	1:L:635:MET:CG	2.63	0.47
1:G:535:GLN:O	1:G:539:LEU:HD23	2.14	0.46
1:H:447:TRP:HB3	1:H:697:PHE:CE2	2.51	0.46
1:I:458:ILE:HD11	1:I:571:LEU:HB3	1.97	0.46
1:I:589:ASN:O	1:I:593:ARG:HG3	2.15	0.46
1:K:608:GLU:HG3	1:K:608:GLU:O	2.15	0.46
1:Q:582:VAL:HG12	1:Q:696:LYS:HE3	1.97	0.46
1:A:531:LEU:O	1:A:535:GLN:HG3	2.15	0.46
1:B:447:TRP:CE3	1:B:697:PHE:CE2	3.02	0.46
1:C:426:GLU:HA	1:C:429:THR:HG22	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:677:ASP:O	1:G:681:VAL:HG23	2.14	0.46
1:Q:447:TRP:NE1	1:Q:697:PHE:CE2	2.83	0.46
1:A:657:GLY:O	1:A:661:THR:HG22	2.15	0.46
1:D:568:PHE:HA	1:D:571:LEU:HB2	1.98	0.46
1:N:432:PRO:HG2	1:N:483:ARG:NH1	2.30	0.46
1:O:582:VAL:HG12	1:O:696:LYS:HG2	1.97	0.46
1:D:598:ARG:O	1:D:602:GLN:HG2	2.15	0.46
1:H:637:ASP:C	1:H:637:ASP:OD1	2.58	0.46
1:L:708:MET:HG3	1:L:712:LYS:HZ1	1.80	0.46
1:M:598:ARG:O	1:M:602:GLN:HG2	2.16	0.46
1:O:553:TYR:CD2	1:O:554:PHE:CE1	3.03	0.46
1:O:554:PHE:HA	1:O:557:ILE:HB	1.98	0.46
1:A:471:MET:HE3	1:A:501:ALA:HB2	1.97	0.46
1:L:545:LEU:HD11	1:L:649:ARG:HG2	1.98	0.46
1:P:562:GLY:HA2	1:P:565:PHE:HD2	1.81	0.46
1:R:663:LEU:O	1:R:667:LYS:HG3	2.15	0.46
1:B:438:GLU:HB3	1:B:459:LYS:NZ	2.31	0.46
1:M:630:HIS:ND1	1:M:671:THR:HG22	2.30	0.46
1:M:712:LYS:HB3	1:M:712:LYS:HE2	1.81	0.46
1:F:601:TYR:O	1:F:605:VAL:HG13	2.16	0.46
1:C:678:SER:O	1:C:682:LEU:HG	2.15	0.46
1:G:664:ASN:OD1	1:G:664:ASN:C	2.59	0.46
1:B:507:ARG:O	1:B:511:GLU:HG2	2.16	0.46
1:C:535:GLN:HA	1:C:560:LYS:NZ	2.28	0.46
1:K:461:ILE:HD11	1:K:512:LEU:HA	1.97	0.46
1:P:441:ILE:HD13	1:P:572:MET:HE2	1.98	0.46
1:C:594:TYR:OH	1:C:712:LYS:HD3	2.16	0.46
1:F:589:ASN:O	1:F:593:ARG:HG3	2.16	0.46
1:K:422:GLN:O	1:K:426:GLU:HG2	2.15	0.46
1:K:678:SER:HA	1:K:681:VAL:HG22	1.98	0.46
1:C:449:ARG:HG3	1:C:449:ARG:O	2.16	0.45
1:D:582:VAL:HG11	1:D:697:PHE:CE2	2.51	0.45
1:E:500:SER:O	1:E:504:GLN:HG2	2.16	0.45
1:G:594:TYR:HE2	1:G:711:LEU:HD23	1.81	0.45
1:K:567:LEU:O	1:K:571:LEU:HG	2.15	0.45
1:C:503:TYR:OH	1:F:529:HIS:HE1	1.99	0.45
1:C:660:GLN:O	1:C:664:ASN:ND2	2.40	0.45
1:G:521:LEU:O	1:G:525:THR:HG23	2.16	0.45
1:O:500:SER:O	1:O:504:GLN:HG2	2.16	0.45
1:Q:506:VAL:O	1:Q:510:GLN:HG3	2.16	0.45
1:G:452:THR:O	1:G:456:GLU:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:521:LEU:HG	1:I:522:LEU:HD22	1.97	0.45
1:N:420:VAL:HG11	1:Q:540:TYR:HB2	1.98	0.45
1:N:531:LEU:HG	1:N:535:GLN:OE1	2.17	0.45
1:I:641:LEU:O	1:I:644:VAL:HG12	2.17	0.45
1:J:436:LEU:HA	1:J:439:GLN:CD	2.41	0.45
1:Q:582:VAL:HG12	1:Q:696:LYS:CE	2.46	0.45
1:B:690:VAL:HG11	1:B:705:ARG:HH12	1.82	0.45
1:E:427:TYR:HB2	1:E:492:PHE:HE2	1.81	0.45
1:I:710:LEU:HA	1:I:710:LEU:HD23	1.80	0.45
1:K:557:ILE:HA	1:K:557:ILE:HD12	1.75	0.45
1:N:464:ILE:HD11	1:N:508:ALA:HA	1.99	0.45
1:E:447:TRP:HH2	1:E:584:LEU:CD1	2.30	0.45
1:H:472:LEU:HD23	1:H:472:LEU:HA	1.83	0.45
1:H:555:GLN:O	1:H:558:GLU:HG2	2.16	0.45
1:J:601:TYR:CE2	1:J:676:GLN:HG3	2.52	0.45
1:O:553:TYR:CE2	1:O:554:PHE:CE1	3.04	0.45
1:R:471:MET:O	1:R:475:VAL:HG23	2.16	0.45
1:D:565:PHE:HA	1:D:568:PHE:CZ	2.52	0.45
1:L:538:ASP:CA	1:L:556:MET:SD	3.05	0.45
1:M:472:LEU:HD11	1:P:502:ASN:HD21	1.82	0.45
1:D:708:MET:HE3	1:D:708:MET:C	2.42	0.45
1:E:677:ASP:O	1:E:681:VAL:HG22	2.16	0.45
1:F:681:VAL:HG13	1:F:682:LEU:HD23	1.99	0.45
1:L:470:LEU:HD22	1:L:482:ARG:HH22	1.82	0.45
1:N:568:PHE:O	1:N:572:MET:HG3	2.17	0.45
1:A:548:PRO:HD2	1:A:624:PHE:CE2	2.52	0.45
1:E:705:ARG:O	1:E:709:GLU:HG2	2.16	0.45
1:G:458:ILE:HD12	1:G:572:MET:HB3	1.98	0.45
1:J:666:MET:HE3	1:J:671:THR:OG1	2.17	0.45
1:C:562:GLY:O	1:C:566:ARG:HD3	2.17	0.44
1:D:444:LEU:HD23	1:D:444:LEU:HA	1.79	0.44
1:D:514:LYS:HE2	1:D:514:LYS:HB3	1.76	0.44
1:E:506:VAL:O	1:E:510:GLN:HG3	2.17	0.44
1:O:677:ASP:O	1:O:681:VAL:HG23	2.17	0.44
1:Q:422:GLN:NE2	1:Q:507:ARG:HD3	2.32	0.44
1:B:495:GLY:HA3	1:E:539:LEU:HD12	1.98	0.44
1:C:587:PHE:CZ	1:C:704:LEU:HD21	2.44	0.44
1:D:449:ARG:HG2	1:D:449:ARG:O	2.17	0.44
1:F:485:LYS:HD2	1:F:486:PRO:CD	2.47	0.44
1:J:687:GLU:HA	1:J:690:VAL:HG12	2.00	0.44
1:C:640:VAL:O	1:C:644:VAL:HG23	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:620:GLU:HA	1:E:648:ARG:NH1	2.33	0.44
1:N:537:MET:HE1	1:Q:420:VAL:HG21	1.98	0.44
1:O:471:MET:HG3	1:O:488:THR:HG21	1.98	0.44
1:H:551:HIS:O	1:H:555:GLN:HG3	2.18	0.44
1:J:582:VAL:HG23	1:J:584:LEU:CD1	2.48	0.44
1:K:682:LEU:O	1:K:686:VAL:HG13	2.18	0.44
1:O:597:THR:HG23	1:O:626:LEU:HD23	1.99	0.44
1:Q:608:GLU:O	1:Q:608:GLU:HG3	2.18	0.44
1:F:666:MET:HE3	1:F:671:THR:OG1	2.17	0.44
1:N:452:THR:O	1:N:455:LEU:HG	2.17	0.44
1:O:512:LEU:HD11	1:O:520:SER:HB3	2.00	0.44
1:Q:445:ASN:ND2	1:Q:455:LEU:HD22	2.33	0.44
1:R:607:ALA:HB1	1:R:663:LEU:HD11	1.99	0.44
1:C:587:PHE:CD1	1:C:693:LEU:HD12	2.52	0.44
1:D:562:GLY:HA2	1:D:565:PHE:HD2	1.81	0.44
1:D:703:GLN:O	1:D:707:ILE:HG22	2.17	0.44
1:J:565:PHE:HA	1:J:568:PHE:CE2	2.53	0.44
1:O:635:MET:HE2	1:O:635:MET:HB3	1.92	0.44
1:P:630:HIS:O	1:P:634:THR:HG23	2.17	0.44
1:A:619:PHE:HB2	1:A:659:LYS:HE3	1.98	0.44
1:H:672:LEU:O	1:H:676:GLN:HG2	2.18	0.44
1:K:548:PRO:HG2	1:K:629:ILE:HD11	1.99	0.44
1:O:663:LEU:O	1:O:667:LYS:HG3	2.17	0.44
1:Q:422:GLN:HE22	1:Q:507:ARG:HD3	1.82	0.44
1:C:598:ARG:HD2	1:C:679:LEU:HD11	2.00	0.44
1:Q:458:ILE:HD13	1:Q:571:LEU:HB3	1.99	0.44
1:G:542:THR:HA	1:G:624:PHE:CE1	2.52	0.44
1:H:452:THR:O	1:H:455:LEU:HG	2.18	0.44
1:N:422:GLN:OE1	1:N:422:GLN:HA	2.18	0.44
1:P:517:ASP:CG	1:P:518:ALA:N	2.76	0.44
1:B:648:ARG:HE	1:B:654:ALA:HB2	1.83	0.43
1:F:631:LEU:HD22	1:F:666:MET:SD	2.57	0.43
1:J:696:LYS:HD3	1:J:696:LYS:HA	1.82	0.43
1:K:526:GLU:O	1:K:530:ASN:ND2	2.51	0.43
1:N:435:GLY:O	1:N:439:GLN:HG3	2.18	0.43
1:Q:447:TRP:CD1	1:Q:697:PHE:CG	3.06	0.43
1:A:710:LEU:HD23	1:A:710:LEU:HA	1.87	0.43
1:B:485:LYS:HG3	1:B:486:PRO:HD2	2.00	0.43
1:J:457:ILE:HG21	1:J:515:LEU:HG	2.00	0.43
1:C:648:ARG:HG3	1:C:654:ALA:HB2	1.99	0.43
1:E:584:LEU:O	1:E:584:LEU:HD23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:540:TYR:HE1	1:F:546:VAL:HG21	1.84	0.43
1:I:630:HIS:HA	1:I:633:GLN:HG2	1.99	0.43
1:L:513:GLN:HE22	1:L:521:LEU:HD11	1.84	0.43
1:Q:639:LEU:HD12	1:R:423:ALA:HB2	1.99	0.43
1:D:538:ASP:O	1:D:542:THR:HG23	2.18	0.43
1:E:568:PHE:HA	1:E:571:LEU:HB2	2.01	0.43
1:N:421:LEU:HD13	1:Q:536:SER:HB3	2.00	0.43
1:B:435:GLY:O	1:B:439:GLN:HG3	2.19	0.43
1:B:552:GLU:HA	1:B:555:GLN:HG2	2.00	0.43
1:E:545:LEU:HD11	1:E:649:ARG:HG2	2.00	0.43
1:G:662:ILE:HD13	1:G:662:ILE:HA	1.89	0.43
1:J:645:TRP:HA	1:J:648:ARG:HH21	1.84	0.43
1:O:553:TYR:HE2	1:O:554:PHE:HE1	1.67	0.43
1:E:566:ARG:O	1:E:570:ARG:HG3	2.19	0.43
1:F:554:PHE:HA	1:F:557:ILE:HB	2.00	0.43
1:G:476:GLU:CD	1:G:539:LEU:HD11	2.43	0.43
1:I:480:GLU:O	1:I:481:LEU:HD23	2.18	0.43
1:K:437:ARG:NH1	1:K:564:LEU:HD23	2.32	0.43
1:B:459:LYS:HB2	1:B:459:LYS:HE2	1.88	0.43
1:P:472:LEU:HD23	1:P:472:LEU:HA	1.86	0.43
1:R:432:PRO:HD2	1:R:483:ARG:HH21	1.84	0.43
1:L:625:SER:O	1:L:629:ILE:HG12	2.18	0.43
1:C:517:ASP:CG	1:C:519:ARG:H	2.27	0.43
1:I:471:MET:HE3	1:I:501:ALA:HB2	2.00	0.43
1:J:471:MET:HG2	1:J:488:THR:HG21	2.00	0.43
1:K:447:TRP:HE1	1:K:701:ASN:ND2	2.17	0.43
1:K:648:ARG:HG2	1:K:654:ALA:HB2	2.00	0.43
1:L:472:LEU:HD23	1:L:472:LEU:HA	1.85	0.43
1:L:607:ALA:HB1	1:L:663:LEU:HD11	2.00	0.43
1:O:475:VAL:HG22	1:O:489:HIS:HB3	1.99	0.43
1:B:489:HIS:HA	1:B:497:THR:HG21	2.01	0.43
1:H:711:LEU:HD12	1:H:711:LEU:HA	1.89	0.43
1:K:495:GLY:O	1:K:498:ILE:HG22	2.19	0.43
1:A:472:LEU:HD11	1:D:502:ASN:ND2	2.33	0.42
1:C:594:TYR:O	1:C:597:THR:HG22	2.19	0.42
1:E:447:TRP:CZ3	1:E:697:PHE:CZ	3.07	0.42
1:E:541:TRP:HA	1:E:546:VAL:HG22	2.01	0.42
1:E:702:PHE:CD1	1:E:705:ARG:HD3	2.54	0.42
1:I:533:VAL:HA	1:L:421:LEU:HD21	2.00	0.42
1:J:447:TRP:CD1	1:J:701:ASN:ND2	2.83	0.42
1:C:420:VAL:HG13	1:F:536:SER:OG	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:630:HIS:HA	1:N:633:GLN:HG2	1.99	0.42
1:A:637:ASP:OD1	1:A:637:ASP:C	2.62	0.42
1:A:711:LEU:HD12	1:A:711:LEU:HA	1.87	0.42
1:C:503:TYR:OH	1:F:529:HIS:CE1	2.72	0.42
1:F:491:ILE:CG2	1:F:492:PHE:CE2	3.02	0.42
1:F:554:PHE:CE2	1:F:626:LEU:CD1	3.00	0.42
1:N:472:LEU:O	1:N:476:GLU:HG3	2.18	0.42
1:O:472:LEU:HA	1:O:472:LEU:HD23	1.73	0.42
1:G:431:LEU:HD22	1:G:485:LYS:HG3	2.01	0.42
1:M:438:GLU:HG3	1:M:459:LYS:HD3	2.01	0.42
1:M:666:MET:HG2	1:M:671:THR:OG1	2.19	0.42
1:R:454:LYS:O	1:R:458:ILE:HG13	2.19	0.42
1:E:697:PHE:HB3	1:E:699:ILE:HD12	2.02	0.42
1:K:454:LYS:HD2	1:K:575:HIS:CE1	2.55	0.42
1:K:708:MET:HE3	1:K:712:LYS:HB2	2.02	0.42
1:L:708:MET:HE2	1:L:708:MET:HB2	1.92	0.42
1:O:550:MET:HE3	1:O:550:MET:HA	2.01	0.42
1:O:657:GLY:O	1:O:661:THR:HG23	2.19	0.42
1:P:708:MET:HE3	1:P:708:MET:HB3	1.86	0.42
1:D:679:LEU:HD23	1:D:679:LEU:HA	1.88	0.42
1:H:574:VAL:HG23	1:H:575:HIS:CE1	2.55	0.42
1:P:565:PHE:HA	1:P:568:PHE:CE2	2.54	0.42
1:R:422:GLN:OE1	1:R:422:GLN:HA	2.19	0.42
1:C:521:LEU:O	1:C:525:THR:HG23	2.20	0.42
1:D:677:ASP:O	1:D:681:VAL:HG13	2.20	0.42
1:H:437:ARG:O	1:H:441:ILE:HG13	2.20	0.42
1:N:459:LYS:O	1:N:463:THR:HG22	2.19	0.42
1:A:421:LEU:HD21	1:A:503:TYR:CG	2.55	0.42
1:B:557:ILE:HD12	1:B:557:ILE:HA	1.81	0.42
1:D:472:LEU:HD23	1:D:472:LEU:HA	1.92	0.42
1:E:445:ASN:ND2	1:E:455:LEU:HD22	2.35	0.42
1:F:703:GLN:O	1:F:707:ILE:HG13	2.19	0.42
1:G:570:ARG:O	1:G:574:VAL:HG23	2.20	0.42
1:I:648:ARG:HH21	1:I:654:ALA:HB3	1.84	0.42
1:J:480:GLU:HG2	1:J:481:LEU:HG	2.01	0.42
1:J:662:ILE:HD13	1:J:662:ILE:HA	1.89	0.42
1:M:570:ARG:O	1:M:574:VAL:HG23	2.19	0.42
1:N:705:ARG:NH1	1:N:705:ARG:HG3	2.35	0.42
1:O:648:ARG:HD3	1:O:654:ALA:HB2	2.01	0.42
1:C:448:PHE:HZ	1:C:584:LEU:HD11	1.84	0.42
1:E:528:LEU:HD23	1:E:528:LEU:HA	1.82	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:640:VAL:HA	1:K:492:PHE:HE1	1.85	0.42
1:I:682:LEU:O	1:I:686:VAL:HG12	2.19	0.42
1:L:527:GLU:HG3	1:L:567:LEU:HA	2.01	0.42
1:P:635:MET:HE2	1:P:638:ASN:HD22	1.84	0.42
1:P:704:LEU:HD23	1:P:704:LEU:HA	1.87	0.42
1:D:537:MET:CB	1:D:556:MET:SD	3.08	0.42
1:F:458:ILE:HG21	1:F:572:MET:HE2	2.02	0.42
1:K:425:TYR:HA	1:K:471:MET:HE1	2.01	0.42
1:A:645:TRP:HA	1:A:648:ARG:NE	2.24	0.41
1:A:646:THR:O	1:A:650:VAL:HG23	2.20	0.41
1:F:529:HIS:O	1:F:533:VAL:HG12	2.20	0.41
1:I:431:LEU:HD23	1:I:431:LEU:HA	1.92	0.41
1:L:561:THR:HG22	1:L:565:PHE:HE2	1.85	0.41
1:L:708:MET:O	1:L:712:LYS:HG2	2.20	0.41
1:M:448:PHE:CZ	1:M:584:LEU:HD11	2.55	0.41
1:M:557:ILE:HD13	1:M:557:ILE:HA	1.84	0.41
1:N:454:LYS:O	1:N:458:ILE:HG13	2.19	0.41
1:N:523:VAL:HG12	1:N:570:ARG:NH2	2.35	0.41
1:G:486:PRO:HG3	1:L:657:GLY:HA3	2.02	0.41
1:I:461:ILE:HD12	1:I:512:LEU:HB2	2.02	0.41
1:N:662:ILE:HD13	1:N:662:ILE:HA	1.95	0.41
1:F:438:GLU:HA	1:F:441:ILE:HD12	2.01	0.41
1:J:540:TYR:OH	1:L:642:ARG:HD2	2.20	0.41
1:O:598:ARG:O	1:O:602:GLN:HG2	2.20	0.41
1:Q:450:VAL:CG2	1:Q:451:PRO:CD	2.98	0.41
1:B:417:ASP:HA	1:B:418:PRO:HD3	1.89	0.41
1:G:509:LEU:O	1:G:512:LEU:HG	2.21	0.41
1:I:687:GLU:HA	1:I:690:VAL:HG12	2.01	0.41
1:J:603:ASN:HD21	1:J:618:ASP:N	2.18	0.41
1:K:594:TYR:CZ	1:K:598:ARG:HD2	2.55	0.41
1:L:541:TRP:CZ3	1:L:556:MET:CE	3.02	0.41
1:I:665:LEU:HA	1:I:668:GLU:HG2	2.02	0.41
1:M:548:PRO:HG2	1:M:629:ILE:HD11	2.02	0.41
1:M:632:MET:HG2	1:M:641:LEU:HD21	2.02	0.41
1:A:444:LEU:HD12	1:A:448:PHE:HE2	1.83	0.41
1:B:452:THR:O	1:B:455:LEU:HG	2.21	0.41
1:B:608:GLU:O	1:B:608:GLU:CG	2.68	0.41
1:C:598:ARG:NH1	1:C:679:LEU:HD11	2.35	0.41
1:D:505:LEU:O	1:D:509:LEU:HG	2.20	0.41
1:E:589:ASN:O	1:E:593:ARG:HG3	2.21	0.41
1:F:537:MET:HE2	1:F:537:MET:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:500:SER:O	1:H:504:GLN:HG2	2.20	0.41
1:I:527:GLU:HG3	1:I:567:LEU:HA	2.02	0.41
1:L:564:LEU:HD23	1:L:564:LEU:C	2.46	0.41
1:M:521:LEU:HD12	1:M:521:LEU:HA	1.90	0.41
1:N:491:ILE:HG23	1:O:644:VAL:HG22	2.02	0.41
1:C:663:LEU:O	1:C:667:LYS:HG2	2.20	0.41
1:E:644:VAL:HG22	1:F:491:ILE:HD11	2.03	0.41
1:E:683:TYR:O	1:E:686:VAL:HG12	2.21	0.41
1:F:648:ARG:NH2	1:F:654:ALA:HB3	2.34	0.41
1:K:561:THR:HG22	1:K:565:PHE:CE2	2.51	0.41
1:N:486:PRO:HG3	1:O:657:GLY:HA3	2.02	0.41
1:P:454:LYS:O	1:P:458:ILE:HG13	2.20	0.41
1:P:650:VAL:HG21	1:R:649:ARG:NH2	2.35	0.41
1:A:712:LYS:HE2	1:A:712:LYS:HB3	1.86	0.41
1:E:472:LEU:HD13	1:E:501:ALA:HB1	2.02	0.41
1:E:507:ARG:HH11	1:E:507:ARG:HG2	1.86	0.41
1:M:565:PHE:HA	1:M:568:PHE:CE2	2.56	0.41
1:N:422:GLN:HE22	1:N:507:ARG:HH11	1.69	0.41
1:O:553:TYR:CE2	1:O:554:PHE:HE1	2.39	0.41
1:Q:557:ILE:CD1	1:Q:596:GLN:HG2	2.50	0.41
1:A:420:VAL:HG21	1:D:540:TYR:HB2	2.01	0.41
1:D:557:ILE:HD13	1:D:557:ILE:HA	1.95	0.41
1:E:458:ILE:O	1:E:461:ILE:HG22	2.21	0.41
1:E:595:PHE:HE1	1:E:711:LEU:HD22	1.86	0.41
1:F:510:GLN:C	1:F:514:LYS:HZ3	2.29	0.41
1:G:597:THR:HG23	1:G:679:LEU:HD12	2.02	0.41
1:G:620:GLU:HA	1:G:648:ARG:HH12	1.85	0.41
1:H:441:ILE:HG23	1:H:572:MET:CE	2.51	0.41
1:H:459:LYS:O	1:H:463:THR:HG22	2.20	0.41
1:H:461:ILE:O	1:H:464:ILE:HG12	2.20	0.41
1:H:706:LEU:HD13	1:Q:709:GLU:HG3	2.03	0.41
1:I:441:ILE:HG23	1:I:572:MET:CE	2.51	0.41
1:N:452:THR:HA	1:N:455:LEU:CD2	2.51	0.41
1:N:648:ARG:HE	1:N:654:ALA:HB2	1.84	0.41
1:Q:475:VAL:HG22	1:Q:489:HIS:HB3	2.03	0.41
1:Q:693:LEU:HD23	1:Q:693:LEU:HA	1.97	0.41
1:F:682:LEU:O	1:F:686:VAL:HG12	2.20	0.41
1:G:425:TYR:HA	1:G:428:ILE:HG22	2.03	0.41
1:I:449:ARG:HH21	1:I:578:ASN:ND2	2.19	0.41
1:M:500:SER:O	1:M:504:GLN:HG2	2.22	0.41
1:N:557:ILE:HD13	1:N:557:ILE:HA	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:626:LEU:HD11	1:O:674:PHE:HE2	1.86	0.41
1:C:451:PRO:HD2	1:C:454:LYS:NZ	2.35	0.40
1:D:568:PHE:HB2	1:D:572:MET:CE	2.51	0.40
1:E:625:SER:HB3	1:E:628:MET:HG2	2.04	0.40
1:F:530:ASN:HA	1:F:533:VAL:HG12	2.03	0.40
1:I:494:LEU:HD12	1:I:494:LEU:HA	1.89	0.40
1:J:456:GLU:OE1	1:J:456:GLU:HA	2.20	0.40
1:J:539:LEU:HD23	1:J:539:LEU:HA	1.82	0.40
1:K:457:ILE:HG23	1:K:511:GLU:OE2	2.21	0.40
1:K:590:HIS:HB3	1:K:686:VAL:HG12	2.02	0.40
1:P:630:HIS:ND1	1:P:671:THR:HG22	2.36	0.40
1:Q:436:LEU:C	1:Q:436:LEU:HD12	2.46	0.40
1:B:548:PRO:HG2	1:B:629:ILE:HD11	2.03	0.40
1:C:417:ASP:OD1	1:C:418:PRO:HD2	2.21	0.40
1:G:447:TRP:CZ3	1:G:693:LEU:HB3	2.57	0.40
1:D:444:LEU:HD22	1:D:448:PHE:CE2	2.57	0.40
1:M:663:LEU:HD13	1:M:663:LEU:HA	1.89	0.40
1:N:521:LEU:HD23	1:N:521:LEU:HA	1.94	0.40
1:N:679:LEU:HD23	1:N:679:LEU:HA	1.83	0.40
1:P:662:ILE:HD13	1:P:662:ILE:HA	1.90	0.40
1:Q:426:GLU:HA	1:Q:429:THR:HG22	2.01	0.40
1:C:683:TYR:HE2	1:C:712:LYS:HG2	1.85	0.40
1:D:448:PHE:HD2	1:D:572:MET:HG3	1.87	0.40
1:D:448:PHE:CD2	1:D:572:MET:HG3	2.56	0.40
1:D:482:ARG:HG2	1:D:483:ARG:HG2	2.03	0.40
1:D:580:VAL:HG21	1:D:697:PHE:HD1	1.85	0.40
1:D:593:ARG:NH1	1:D:593:ARG:HB2	2.36	0.40
1:E:446:VAL:HG21	1:E:703:GLN:HE21	1.85	0.40
1:F:632:MET:HE2	1:F:632:MET:HB3	1.93	0.40
1:J:447:TRP:HB3	1:J:697:PHE:CE2	2.57	0.40
1:L:448:PHE:CD2	1:L:572:MET:HG2	2.57	0.40
1:M:431:LEU:HD22	1:M:485:LYS:HD3	2.02	0.40
1:N:705:ARG:HG3	1:N:705:ARG:HH11	1.85	0.40
1:P:632:MET:HE1	1:P:645:TRP:CE3	2.55	0.40
1:D:704:LEU:HD23	1:D:704:LEU:HA	1.93	0.40
1:H:486:PRO:HG3	1:I:657:GLY:HA3	2.02	0.40
1:M:432:PRO:O	1:M:483:ARG:HD3	2.22	0.40
1:P:626:LEU:HD12	1:P:626:LEU:HA	1.91	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	A	290/714 (41%)	287 (99%)	3 (1%)	0	100	100
1	B	290/714 (41%)	286 (99%)	4 (1%)	0	100	100
1	C	290/714 (41%)	283 (98%)	7 (2%)	0	100	100
1	D	290/714 (41%)	284 (98%)	6 (2%)	0	100	100
1	E	290/714 (41%)	284 (98%)	6 (2%)	0	100	100
1	F	290/714 (41%)	280 (97%)	10 (3%)	0	100	100
1	G	290/714 (41%)	287 (99%)	3 (1%)	0	100	100
1	H	290/714 (41%)	286 (99%)	4 (1%)	0	100	100
1	I	290/714 (41%)	286 (99%)	4 (1%)	0	100	100
1	J	290/714 (41%)	286 (99%)	4 (1%)	0	100	100
1	K	290/714 (41%)	281 (97%)	9 (3%)	0	100	100
1	L	290/714 (41%)	281 (97%)	9 (3%)	0	100	100
1	M	290/714 (41%)	288 (99%)	2 (1%)	0	100	100
1	N	290/714 (41%)	287 (99%)	3 (1%)	0	100	100
1	O	290/714 (41%)	286 (99%)	4 (1%)	0	100	100
1	P	290/714 (41%)	283 (98%)	7 (2%)	0	100	100
1	Q	290/714 (41%)	284 (98%)	6 (2%)	0	100	100
1	R	290/714 (41%)	285 (98%)	5 (2%)	0	100	100
All	All	5220/12852 (41%)	5124 (98%)	96 (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	A	261/616 (42%)	259 (99%)	2 (1%)	79 86
1	B	261/616 (42%)	261 (100%)	0	100 100
1	C	261/616 (42%)	260 (100%)	1 (0%)	89 92
1	D	261/616 (42%)	260 (100%)	1 (0%)	89 92
1	E	261/616 (42%)	258 (99%)	3 (1%)	70 81
1	F	261/616 (42%)	257 (98%)	4 (2%)	60 75
1	G	261/616 (42%)	257 (98%)	4 (2%)	60 75
1	H	261/616 (42%)	260 (100%)	1 (0%)	89 92
1	I	261/616 (42%)	257 (98%)	4 (2%)	60 75
1	J	261/616 (42%)	258 (99%)	3 (1%)	70 81
1	K	261/616 (42%)	261 (100%)	0	100 100
1	L	261/616 (42%)	259 (99%)	2 (1%)	79 86
1	M	261/616 (42%)	259 (99%)	2 (1%)	79 86
1	N	261/616 (42%)	259 (99%)	2 (1%)	79 86
1	O	261/616 (42%)	258 (99%)	3 (1%)	70 81
1	P	261/616 (42%)	258 (99%)	3 (1%)	70 81
1	Q	261/616 (42%)	259 (99%)	2 (1%)	79 86
1	R	261/616 (42%)	258 (99%)	3 (1%)	70 81
All	All	4698/11088 (42%)	4658 (99%)	40 (1%)	74 84

All (40) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	420	VAL
1	A	533	VAL
1	C	684	SER
1	D	465	LEU
1	E	420	VAL
1	E	662	ILE
1	E	679	LEU
1	F	497	THR
1	F	523	VAL
1	F	604	LEU
1	F	640	VAL

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Mol	Chain	Res	Type
1	G	549	SER
1	G	635	MET
1	G	672	LEU
1	G	684	SER
1	H	444	LEU
1	I	420	VAL
1	I	471	MET
1	I	595	PHE
1	I	711	LEU
1	J	428	ILE
1	J	471	MET
1	J	682	LEU
1	L	465	LEU
1	L	498	ILE
1	M	505	LEU
1	M	663	LEU
1	N	580	VAL
1	N	663	LEU
1	O	438	GLU
1	O	537	MET
1	O	603	ASN
1	P	420	VAL
1	P	428	ILE
1	P	580	VAL
1	Q	704	LEU
1	Q	711	LEU
1	R	428	ILE
1	R	505	LEU
1	R	635	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (65) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	439	GLN
1	A	502	ASN
1	A	555	GLN
1	A	596	GLN
1	A	612	GLN
1	B	445	ASN
1	B	555	GLN
1	B	602	GLN
1	C	496	GLN

Continued on next page...

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Mol	Chain	Res	Type
1	C	660	GLN
1	D	499	ASN
1	D	502	ASN
1	D	535	GLN
1	D	555	GLN
1	D	602	GLN
1	D	638	ASN
1	D	643	ASN
1	D	647	GLN
1	E	466	HIS
1	E	535	GLN
1	E	544	ASN
1	E	633	GLN
1	F	489	HIS
1	F	529	HIS
1	F	660	GLN
1	H	502	ASN
1	H	596	GLN
1	H	656	HIS
1	H	658	GLN
1	I	466	HIS
1	I	502	ASN
1	I	544	ASN
1	I	596	GLN
1	J	445	ASN
1	J	499	ASN
1	J	502	ASN
1	J	660	GLN
1	J	701	ASN
1	K	466	HIS
1	K	530	ASN
1	K	555	GLN
1	K	643	ASN
1	K	656	HIS
1	K	701	ASN
1	L	466	HIS
1	L	499	ASN
1	L	513	GLN
1	M	660	GLN
1	M	676	GLN
1	N	490	ASN
1	N	510	GLN

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Mol	Chain	Res	Type
1	N	603	ASN
1	O	499	ASN
1	O	544	ASN
1	O	596	GLN
1	P	499	ASN
1	P	638	ASN
1	P	660	GLN
1	Q	490	ASN
1	R	489	HIS
1	R	490	ASN
1	R	535	GLN
1	R	647	GLN
1	R	651	ASN
1	R	658	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

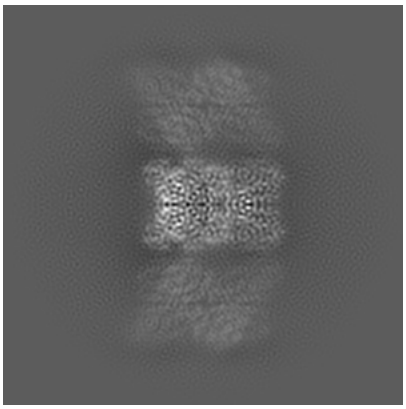
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-66433. These allow visual inspection of the internal detail of the map and identification of artifacts.

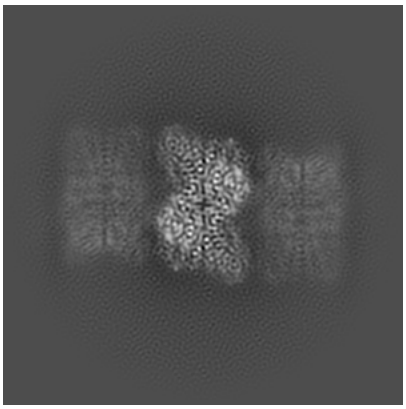
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

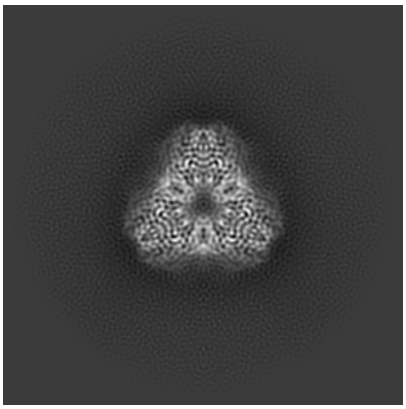
6.1.1 Primary map



X

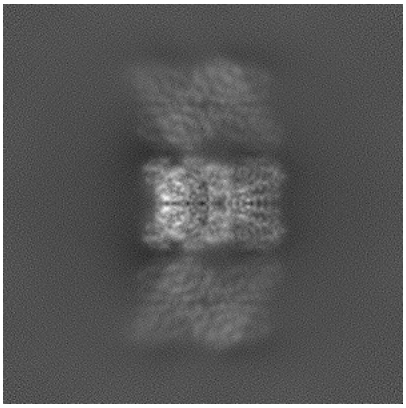


Y

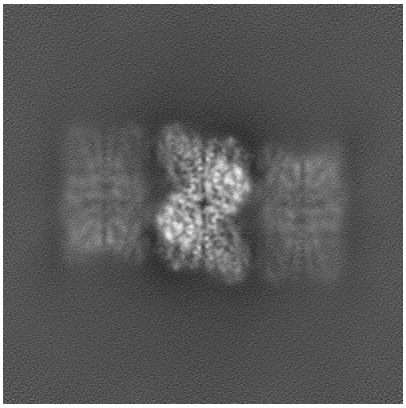


Z

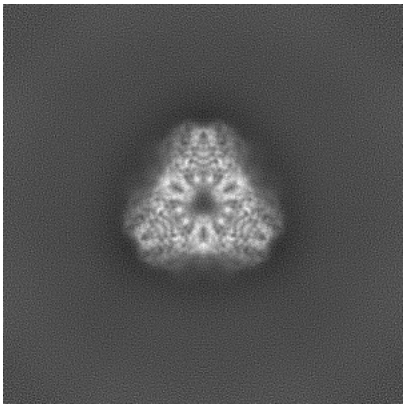
6.1.2 Raw map



X



Y

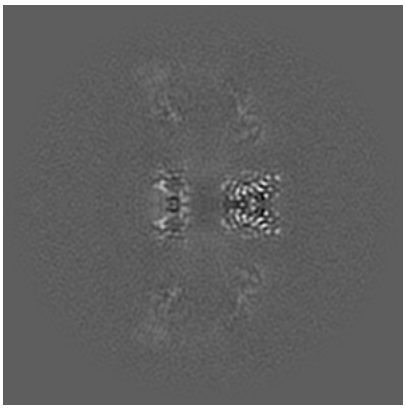


Z

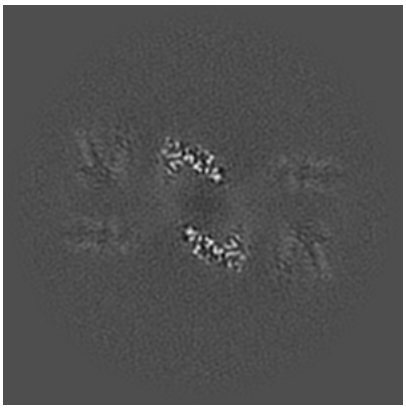
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

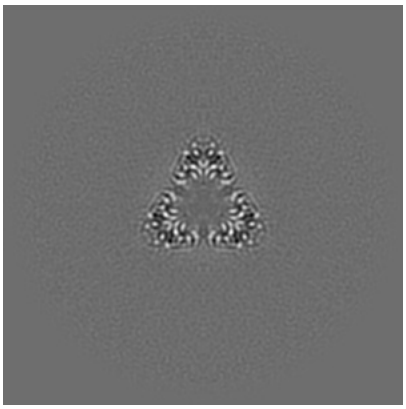
6.2.1 Primary map



X Index: 200

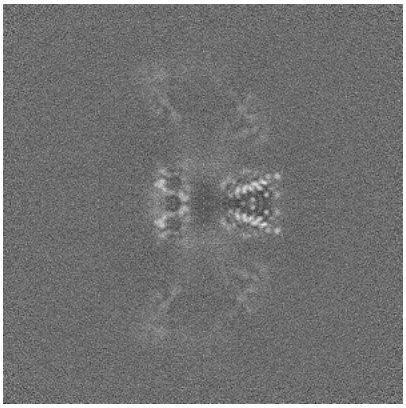


Y Index: 200

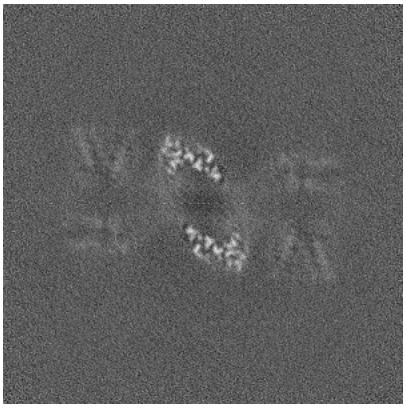


Z Index: 200

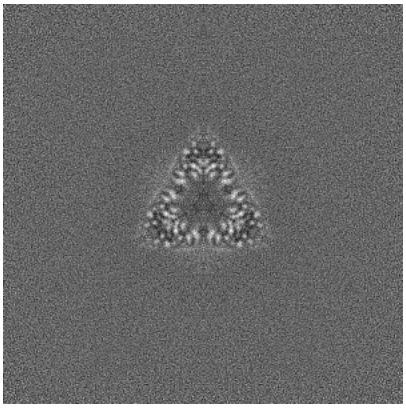
6.2.2 Raw map



X Index: 200



Y Index: 200

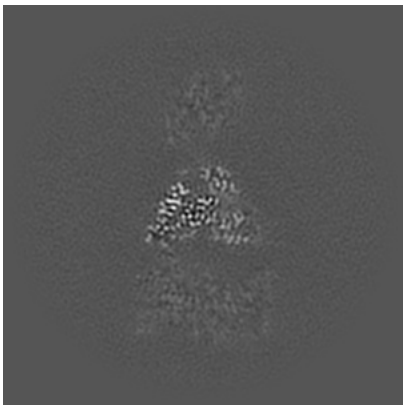


Z Index: 200

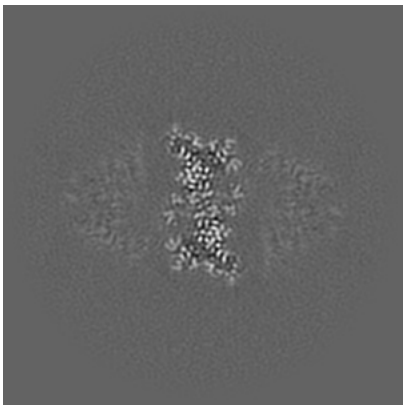
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

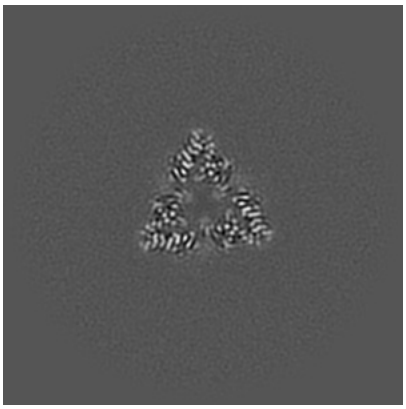
6.3.1 Primary map



X Index: 165

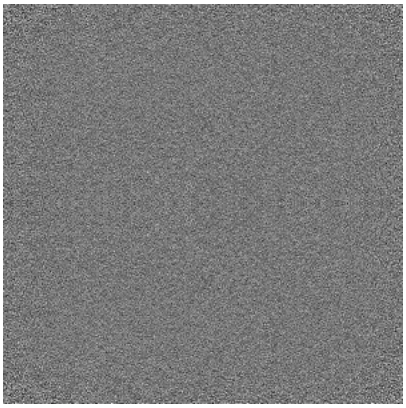


Y Index: 171

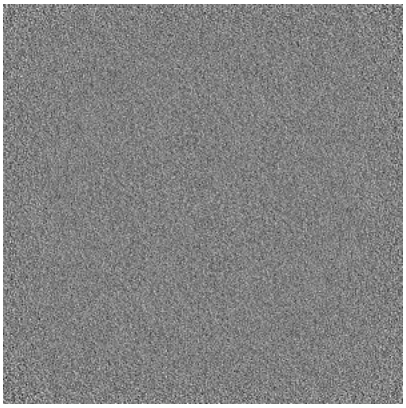


Z Index: 193

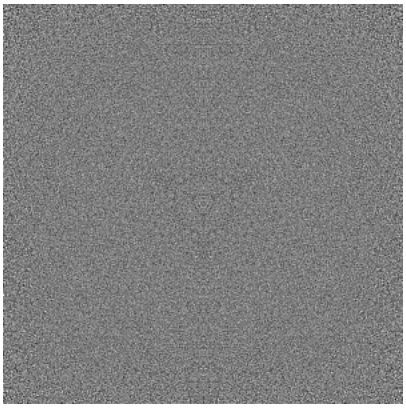
6.3.2 Raw map



X Index: 0



Y Index: 0

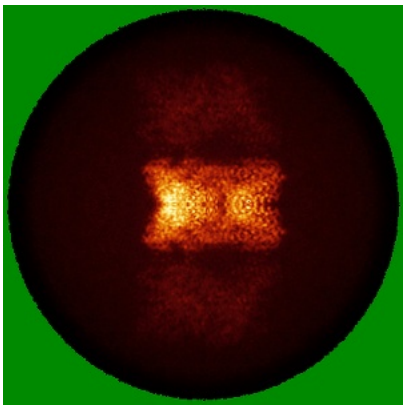


Z Index: 0

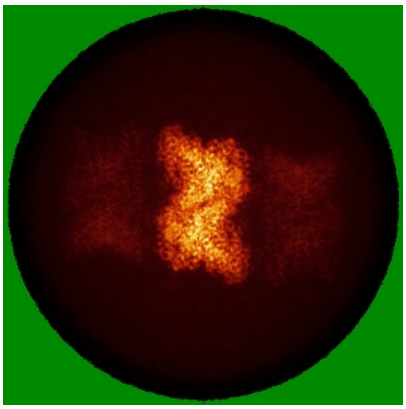
The images above show the largest variance slices of the map in three orthogonal directions.

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

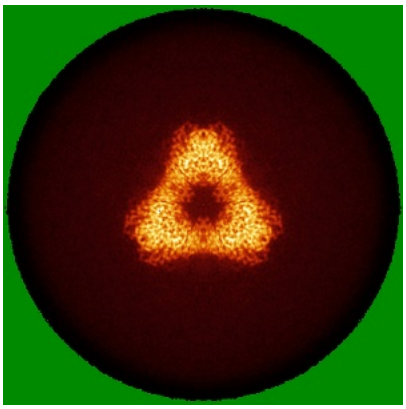
6.4.1 Primary map



X

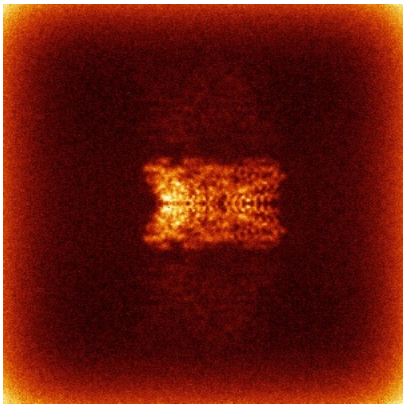


Y

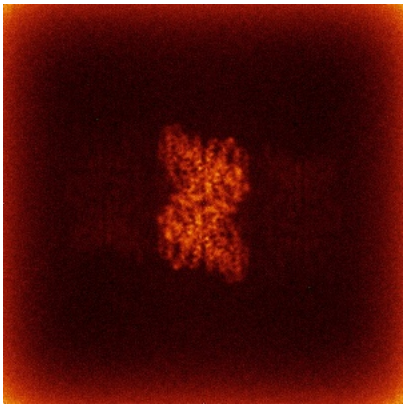


Z

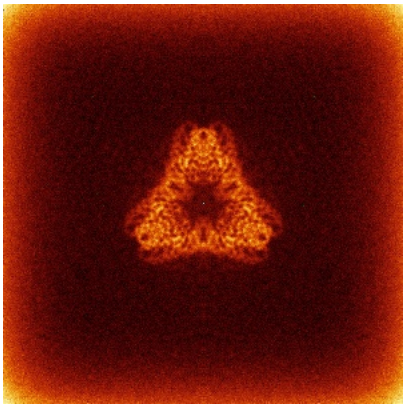
6.4.2 Raw map



X



Y

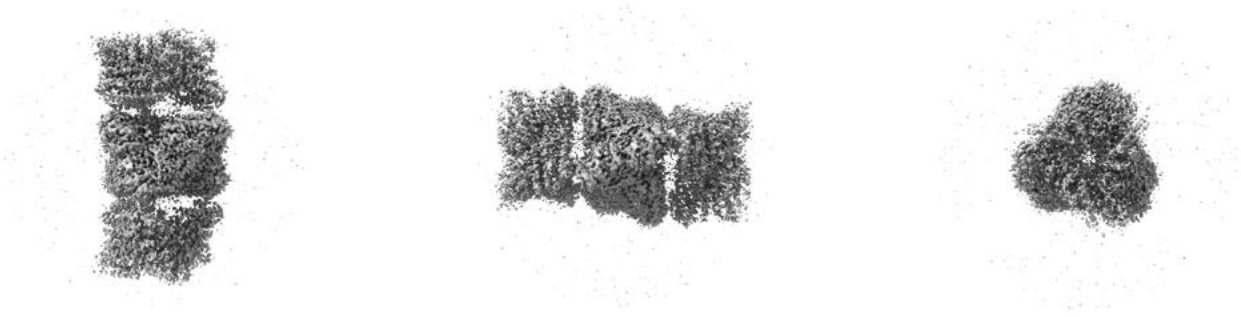


Z

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)

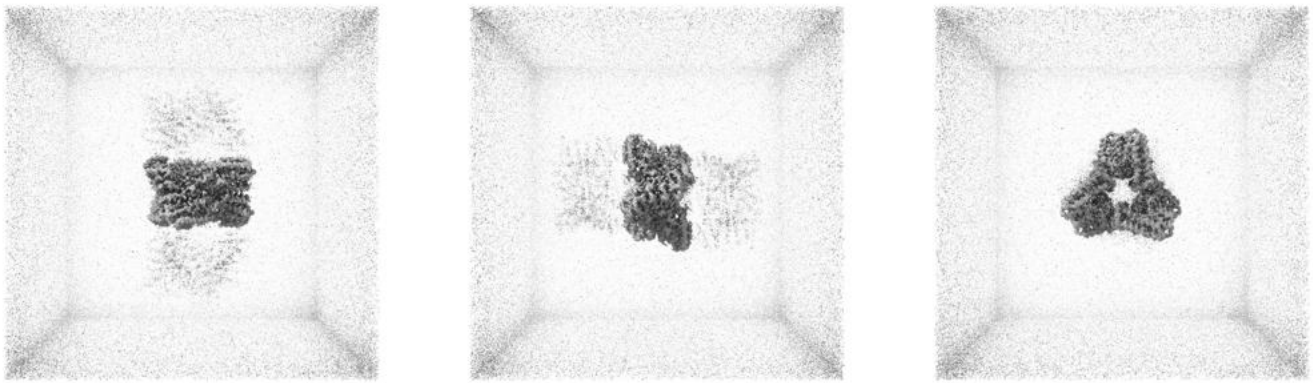
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.03. 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.

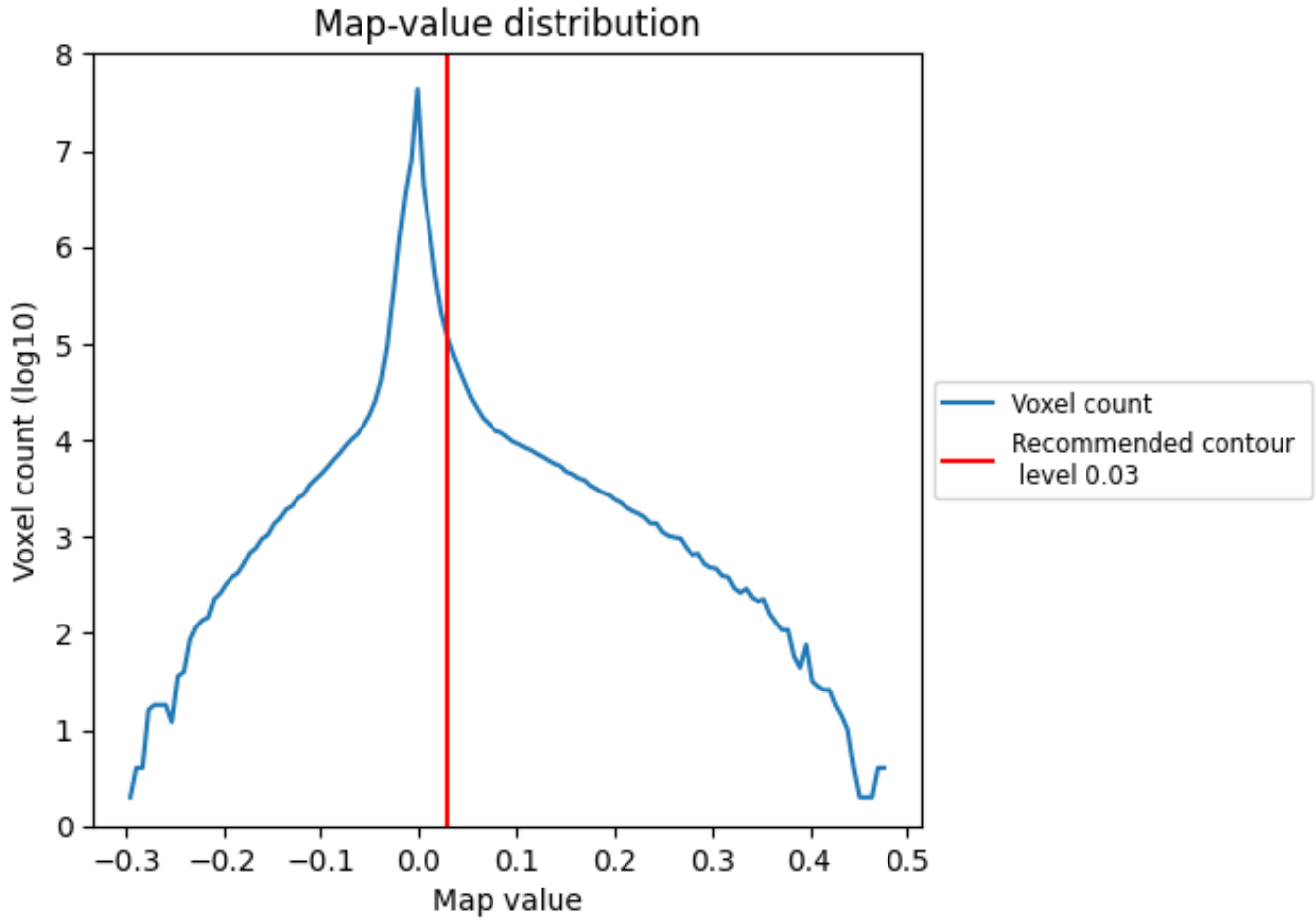
6.6 Mask visualisation (i)

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

7 Map analysis

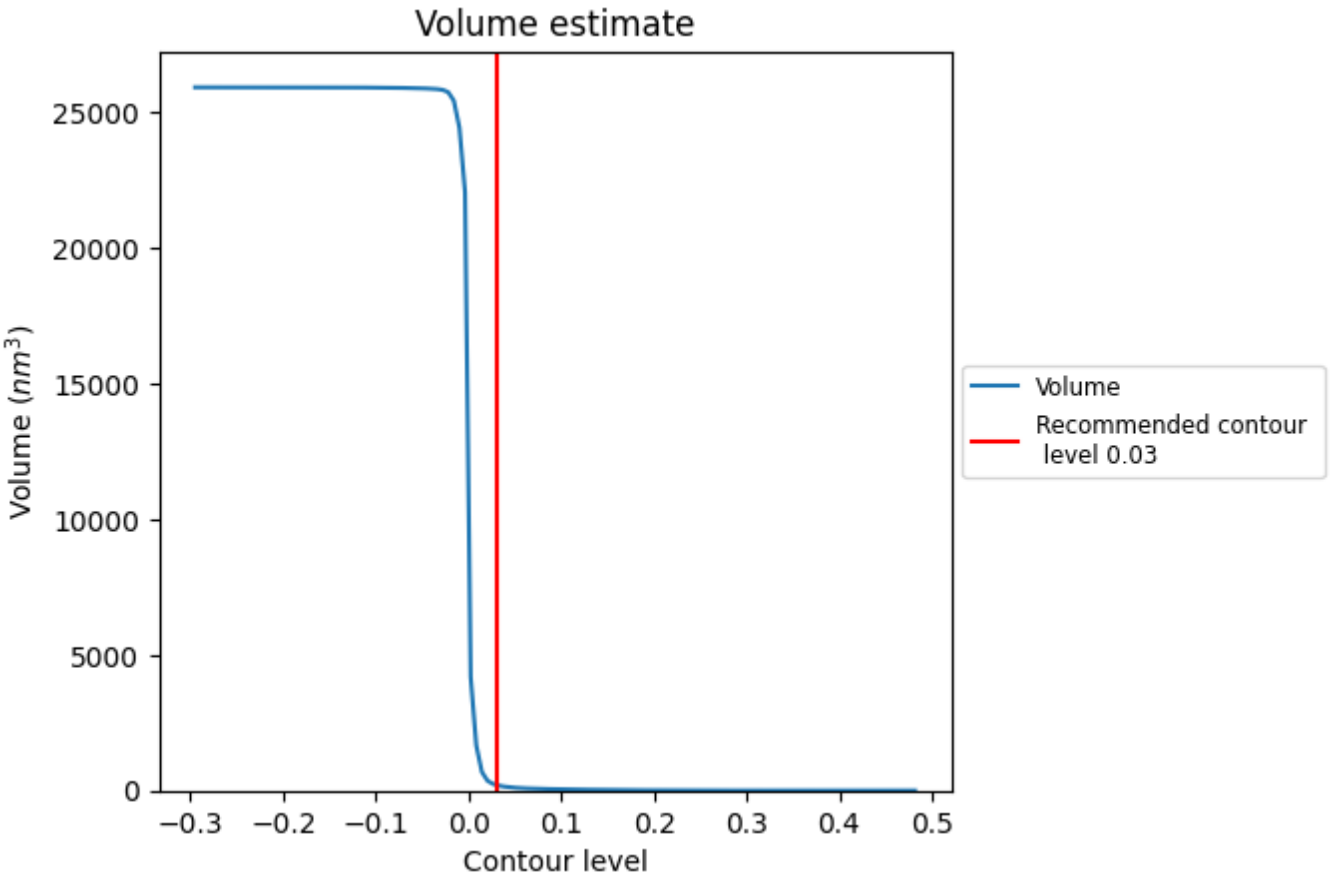
This section contains the results of statistical analysis of the map.

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.

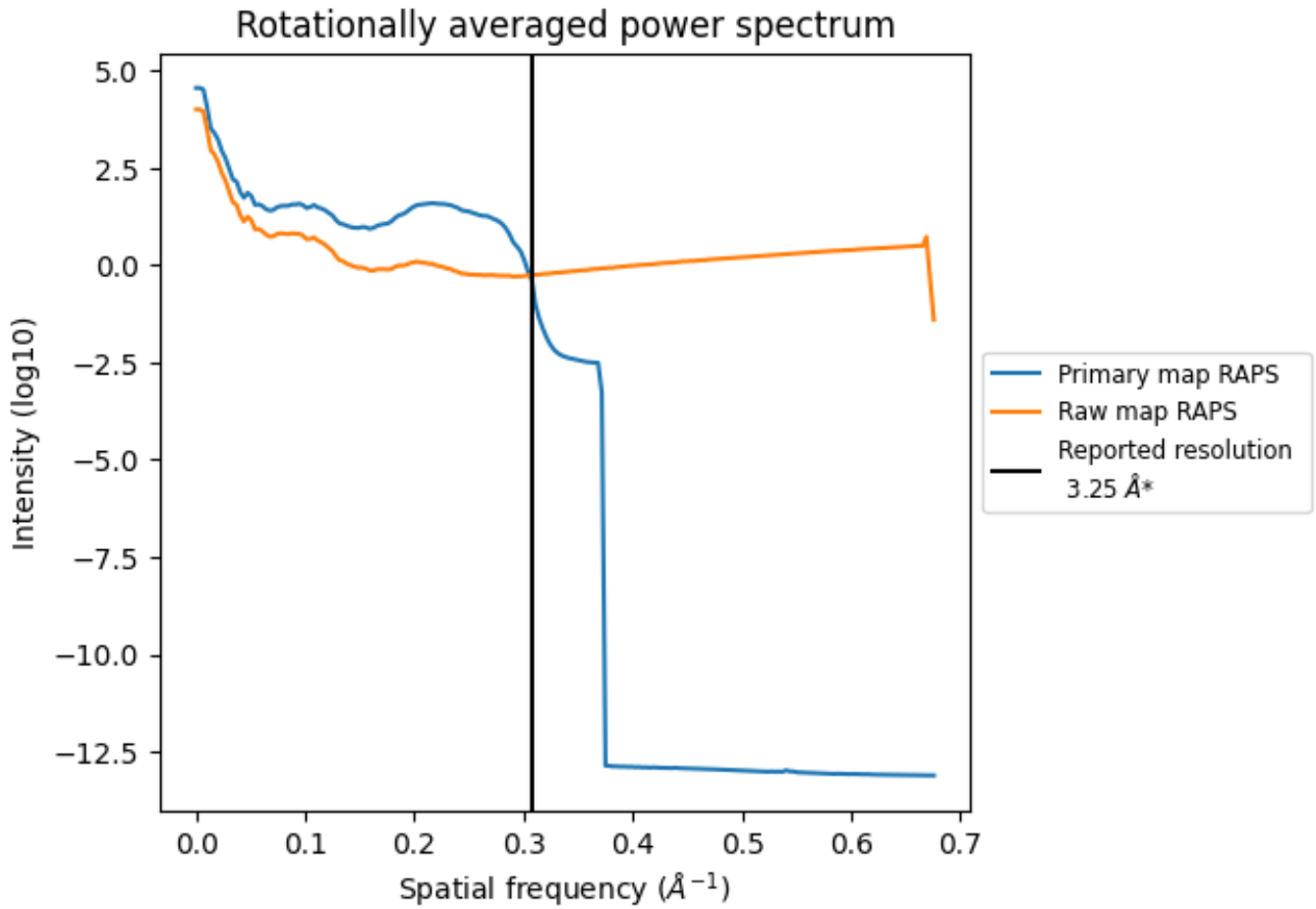
7.2 Volume estimate



The volume at the recommended contour level is 209 nm^3; this corresponds to an approximate mass of 189 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)

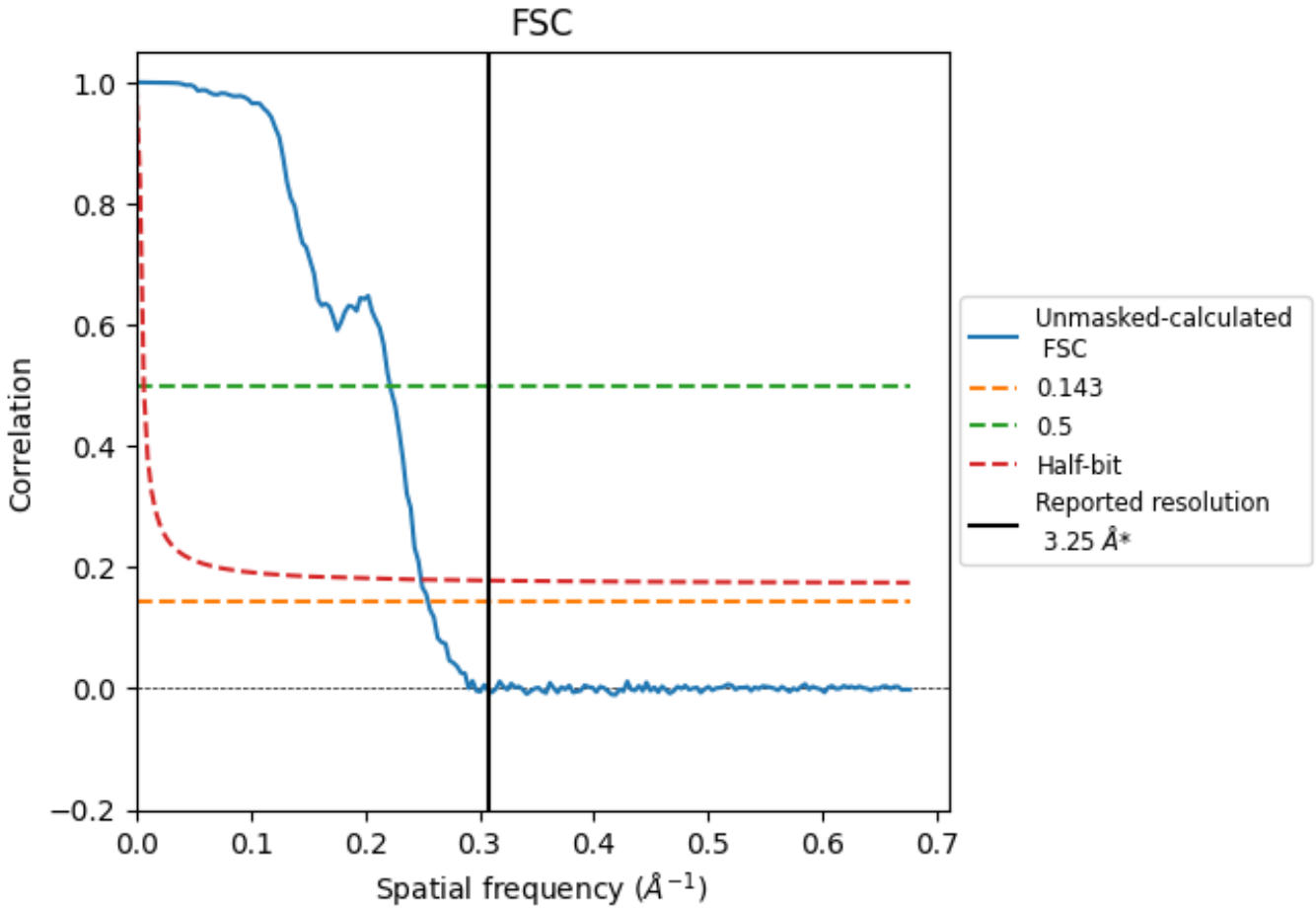


*Reported resolution corresponds to spatial frequency of 0.308 Å^{-1}

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 0.308 Å^{-1}

8.2 Resolution estimates (i)

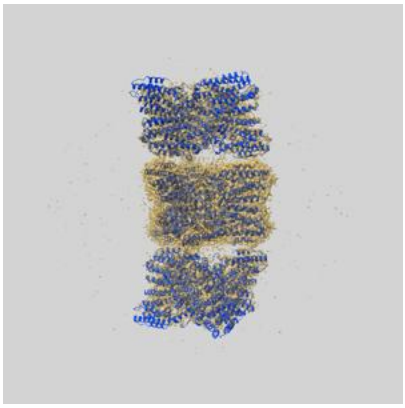
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.25	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.92	4.51	4.02

*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 3.92 differs from the reported value 3.25 by more than 10 %

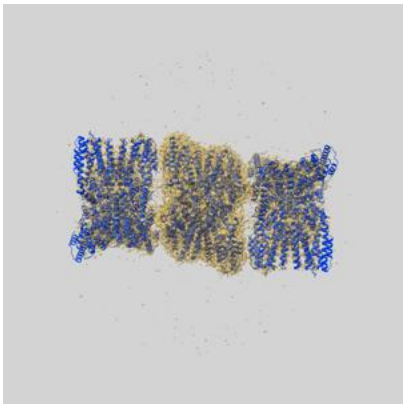
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-66433 and PDB model 9X0F. Per-residue inclusion information can be found in section 3 on page 6.

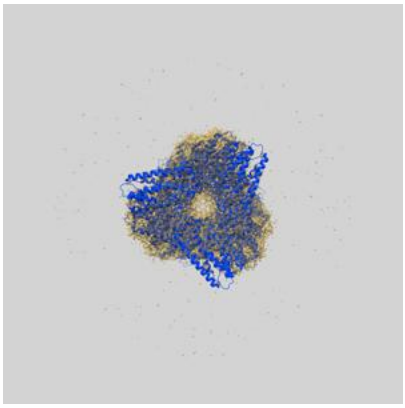
9.1 Map-model overlay



X



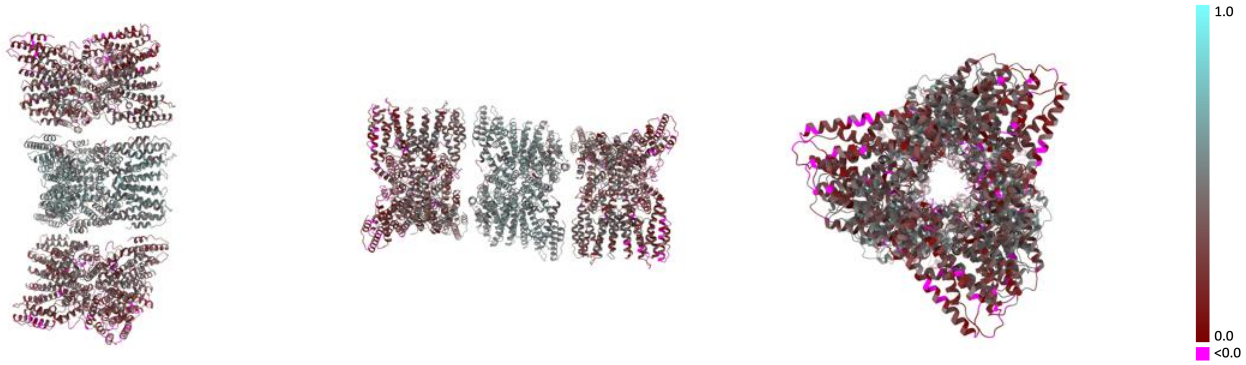
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.03 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.

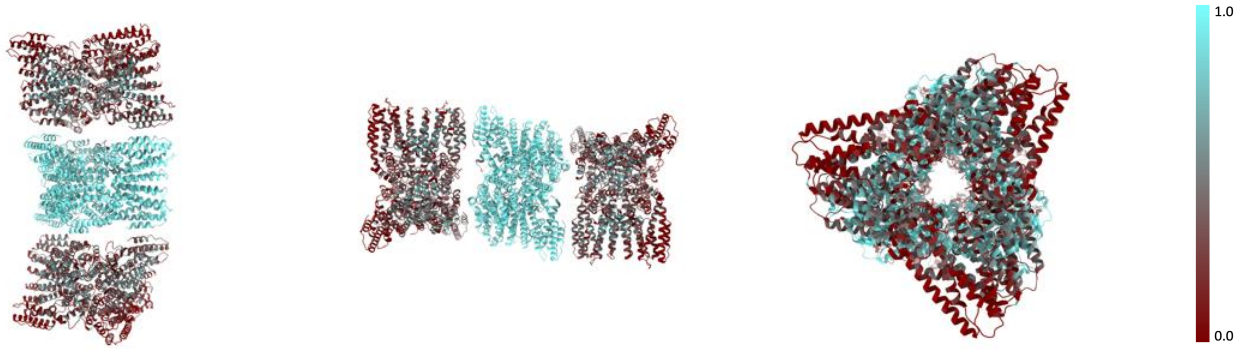
9.2 Q-score mapped to coordinate model (i)



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.

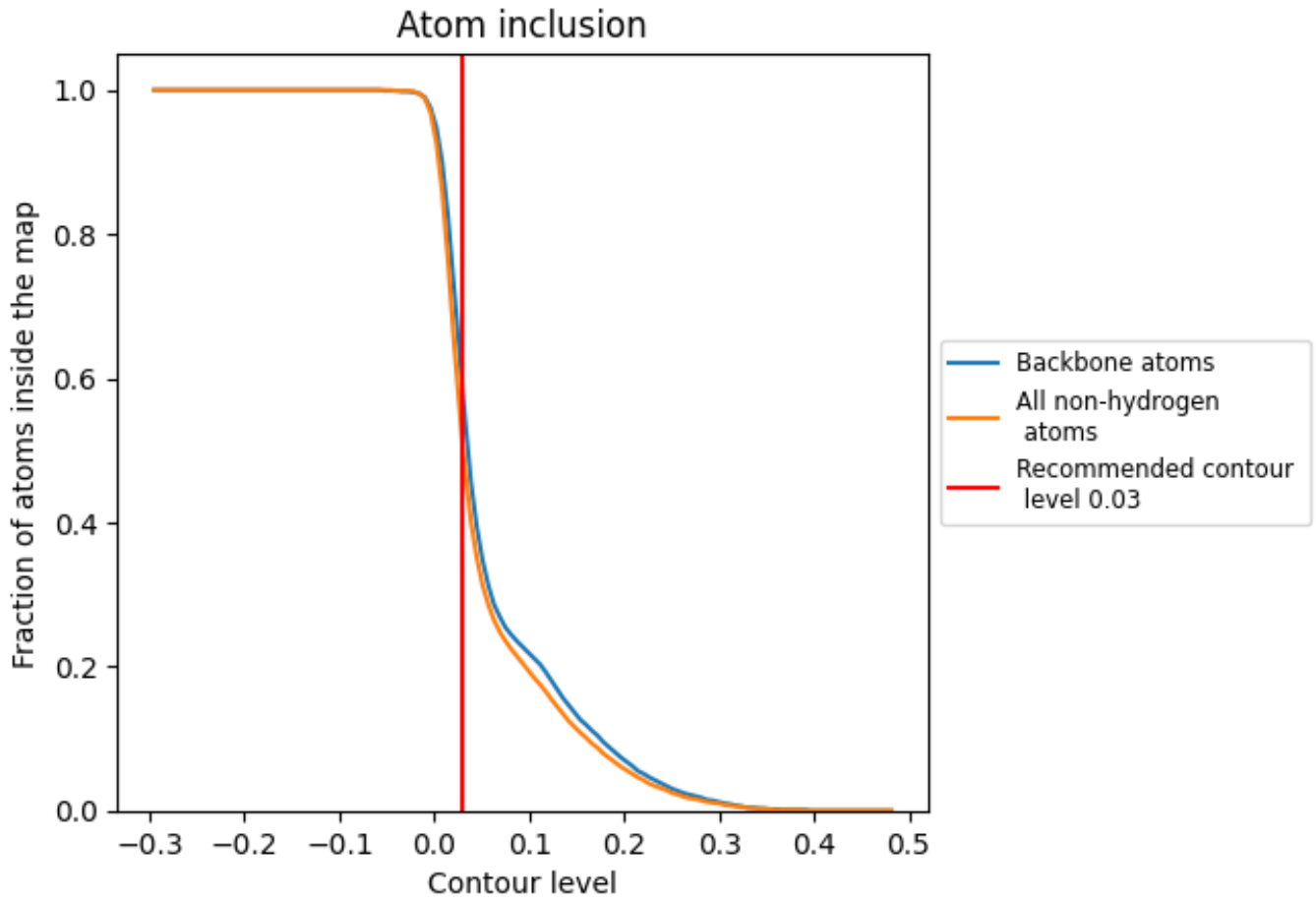
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.03).

9.4 Atom inclusion (i)



At the recommended contour level, 58% of all backbone atoms, 50% 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 (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5050	0.3600
A	0.3860	0.3470
B	0.2310	0.2390
C	0.2260	0.2370
D	0.2310	0.2380
E	0.3700	0.3220
F	0.3790	0.3400
G	0.2310	0.2370
H	0.3880	0.3480
I	0.3870	0.3380
J	0.3860	0.3450
K	0.2190	0.2400
L	0.2260	0.2330
M	0.9060	0.5060
N	0.9110	0.5070
O	0.9040	0.5060
P	0.9040	0.5040
Q	0.8970	0.4900
R	0.9020	0.5040