Full wwPDB EM Validation Report ⓘ

May 25, 2025 – 12:38 PM EDT

PDB ID	:	8EAO / pdb_00008eao
EMDB ID	:	EMD-27792
Title	:	Cryo-EM structure of the in-situ gp1-gp4 complex from bacteriophage P22
Authors	:	Wang, C.; Liu, J.; Molineux, I.J.
Deposited on	:	2022-08-29
Resolution	:	3.20 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:

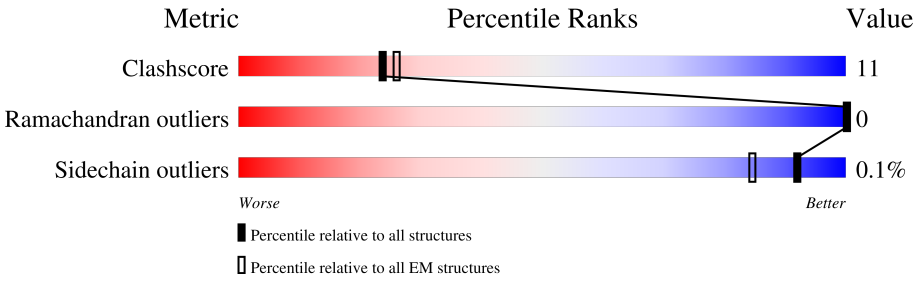
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

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 3.20 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	A	149	82% 84% 16%
1	C	149	83% 84% 16%
1	E	149	83% 86% 14%
1	G	149	83% 84% 16%
1	I	149	82% 83% 17%
1	K	149	83% 87% 13%
1	M	149	81% 81% 17%
1	O	149	82% 84% 16%

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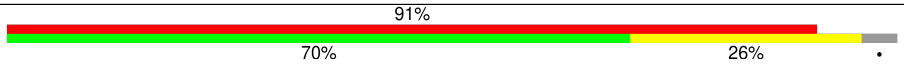
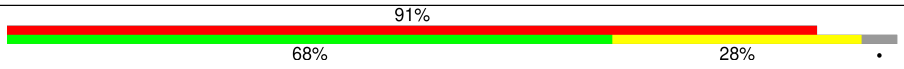
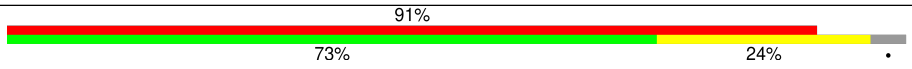
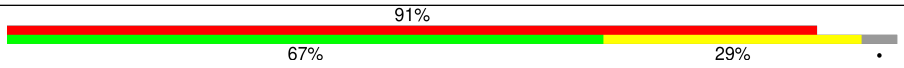
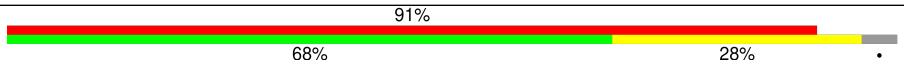
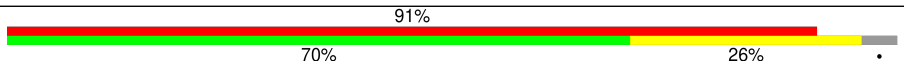
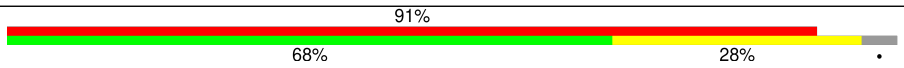
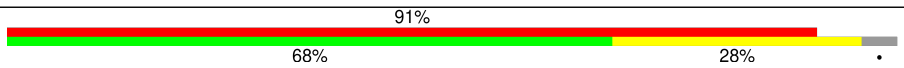
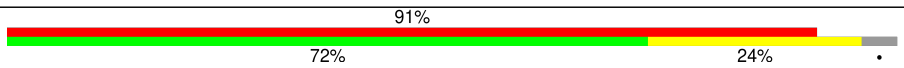
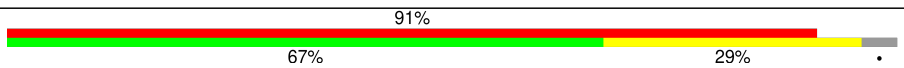
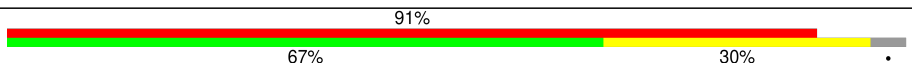
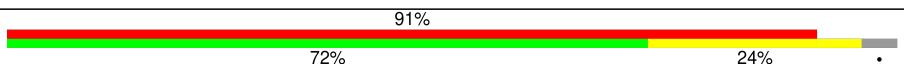
Mol	Chain	Length	Quality of chain
1	Q	149	
1	S	149	
1	U	149	
1	W	149	
2	B	621	
2	D	621	
2	F	621	
2	H	621	
2	J	621	
2	L	621	
2	N	621	
2	P	621	
2	R	621	
2	T	621	
2	V	621	
2	X	621	

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 71628 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 Peptidoglycan hydrolase gp4.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	C	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	E	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	G	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	I	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	K	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	M	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	O	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	Q	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	S	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	U	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		
1	W	149	Total	C	N	O	S	0	0
			1140	716	196	223	5		

- Molecule 2 is a protein called Portal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	D	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	F	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		

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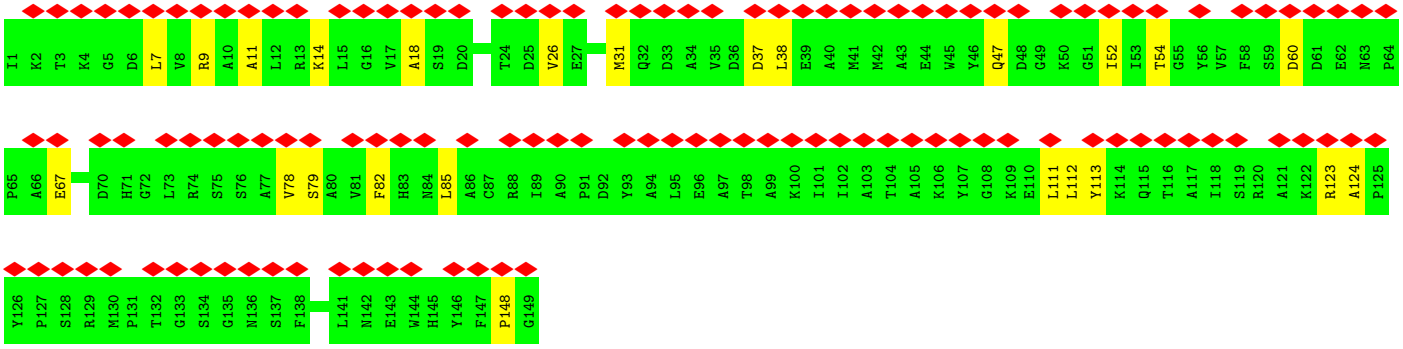
Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	J	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	L	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	N	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	P	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	R	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	T	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	V	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		
2	X	598	Total	C	N	O	S	0	0
			4829	3043	827	938	21		

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.

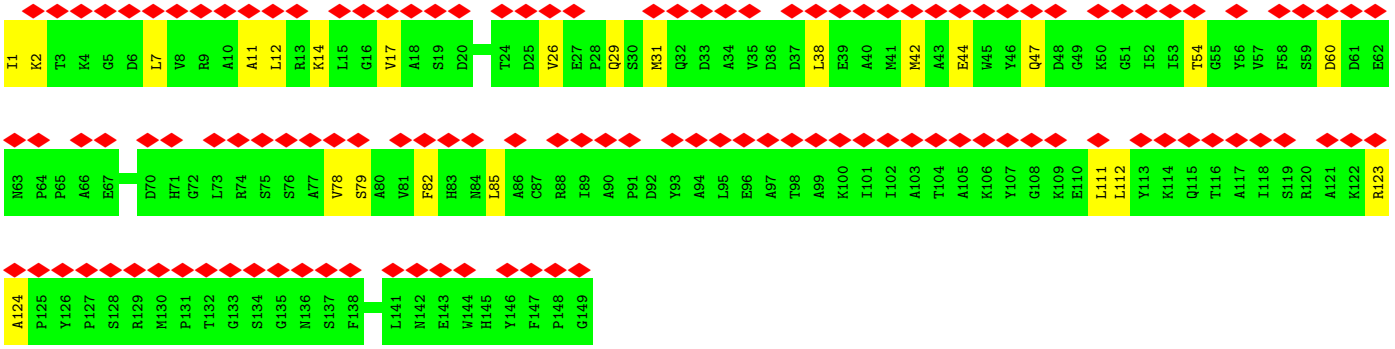
• Molecule 1: Peptidoglycan hydrolase gp4

Chain A:



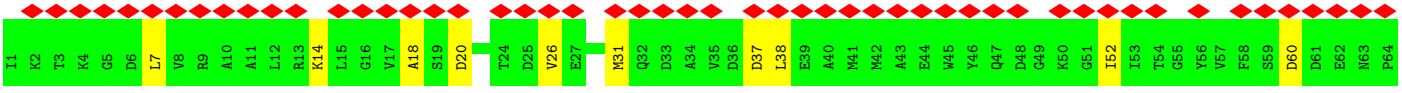
• Molecule 1: Peptidoglycan hydrolase gp4

Chain C:



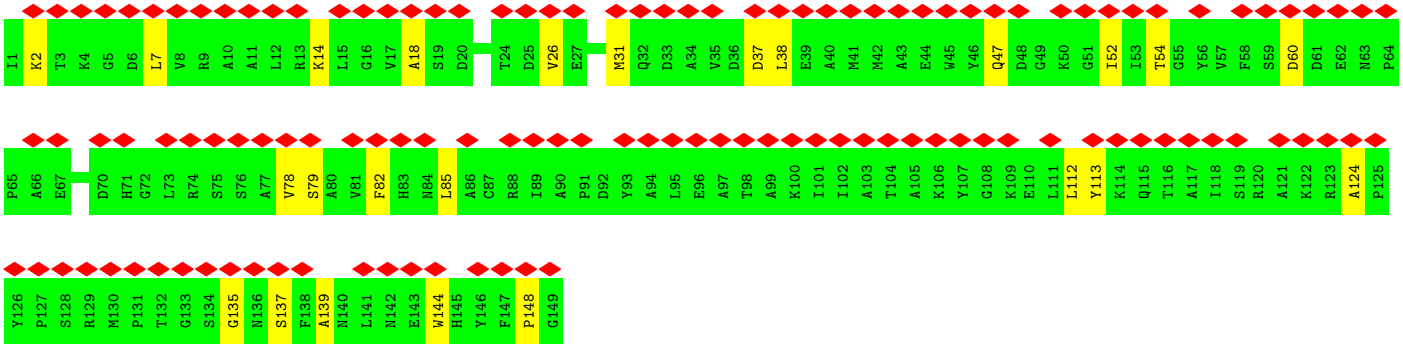
• Molecule 1: Peptidoglycan hydrolase gp4

Chain E:



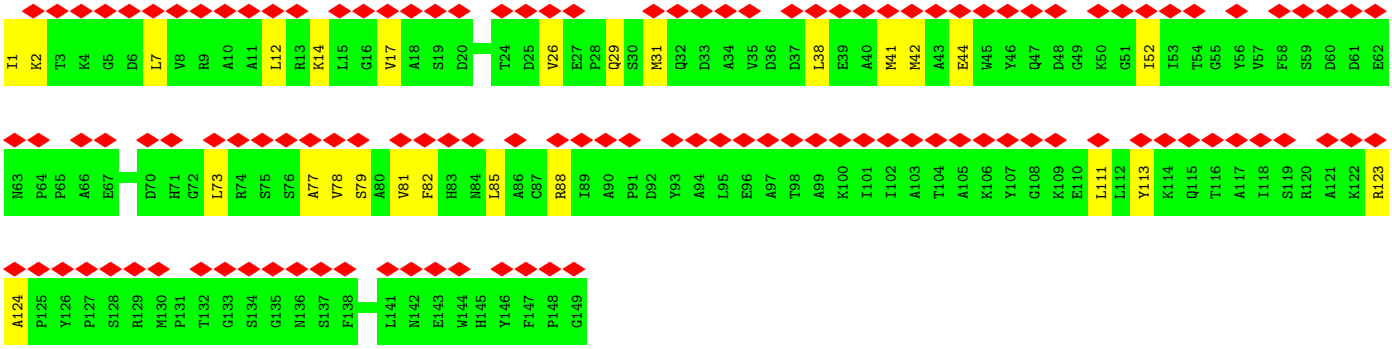
• Molecule 1: Peptidoglycan hydrolase gp4

Chain G:



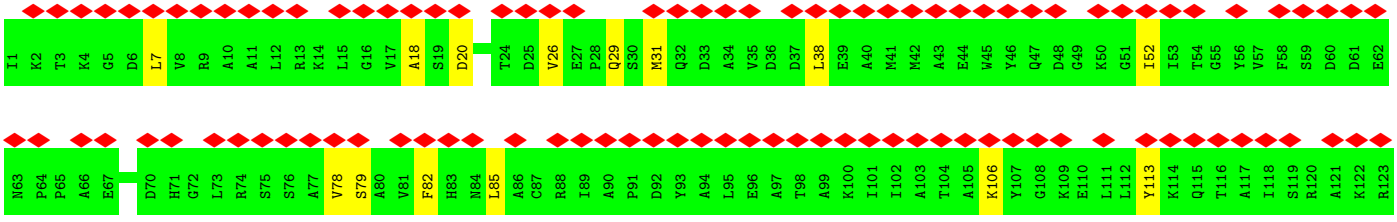
• Molecule 1: Peptidoglycan hydrolase gp4

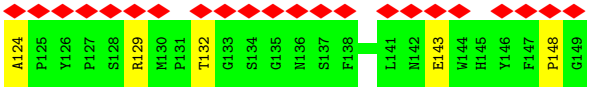
Chain I:



• Molecule 1: Peptidoglycan hydrolase gp4

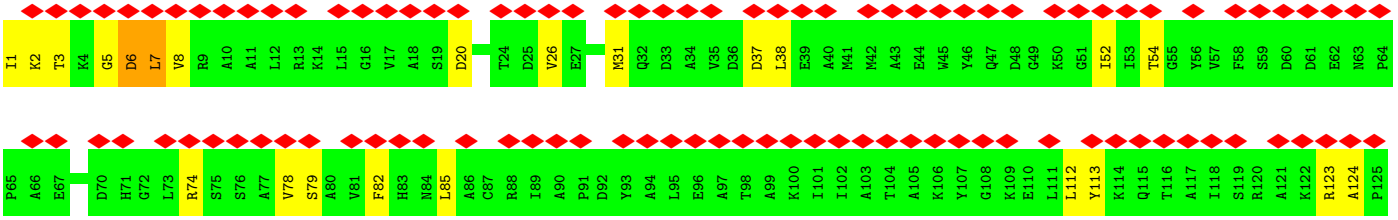
Chain K:





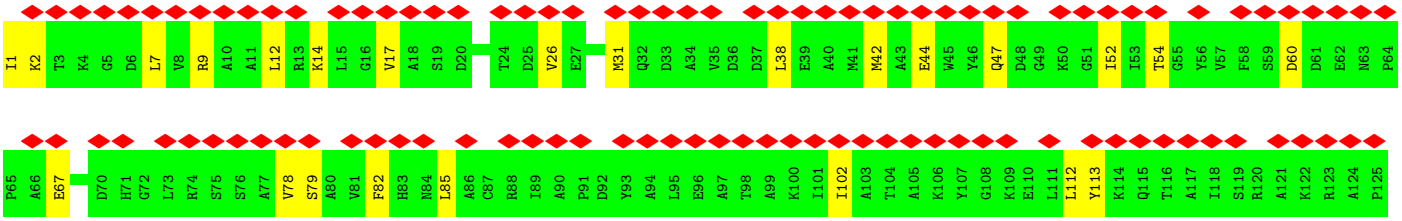
• Molecule 1: Peptidoglycan hydrolase gp4

Chain M:



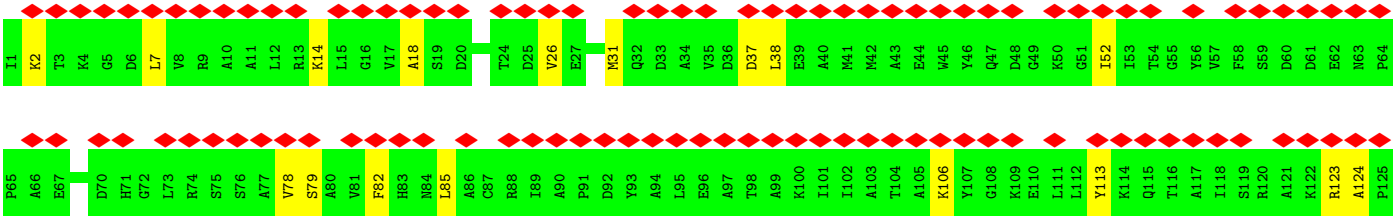
• Molecule 1: Peptidoglycan hydrolase gp4

Chain O:



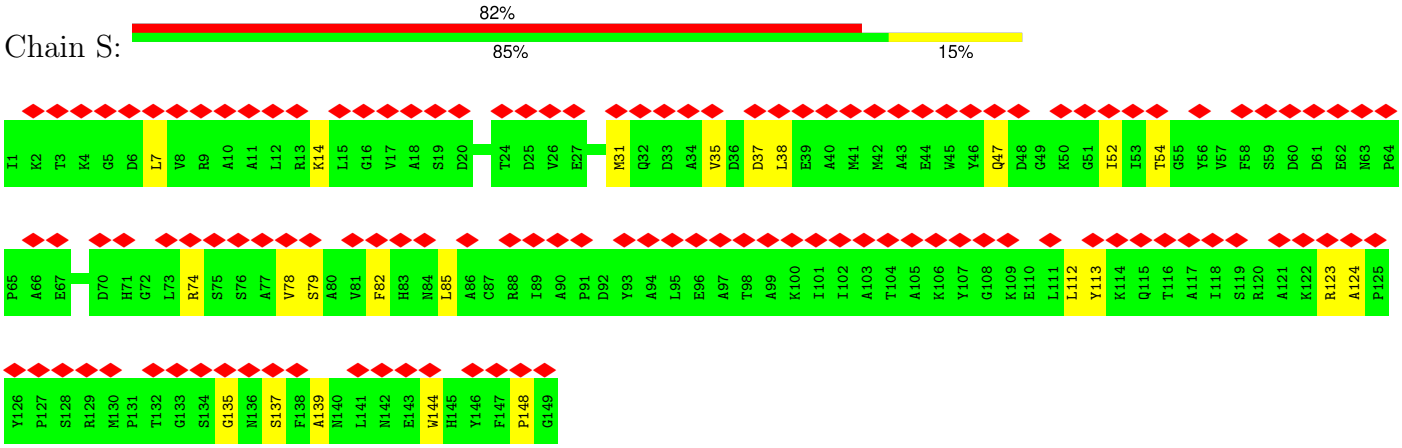
• Molecule 1: Peptidoglycan hydrolase gp4

Chain Q:



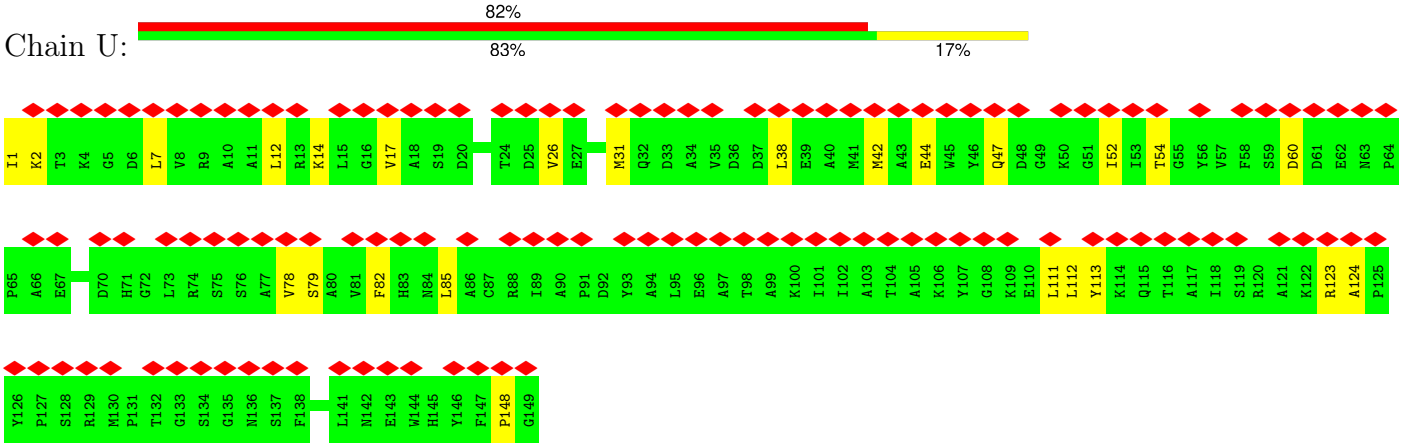
• Molecule 1: Peptidoglycan hydrolase gp4

Chain S:



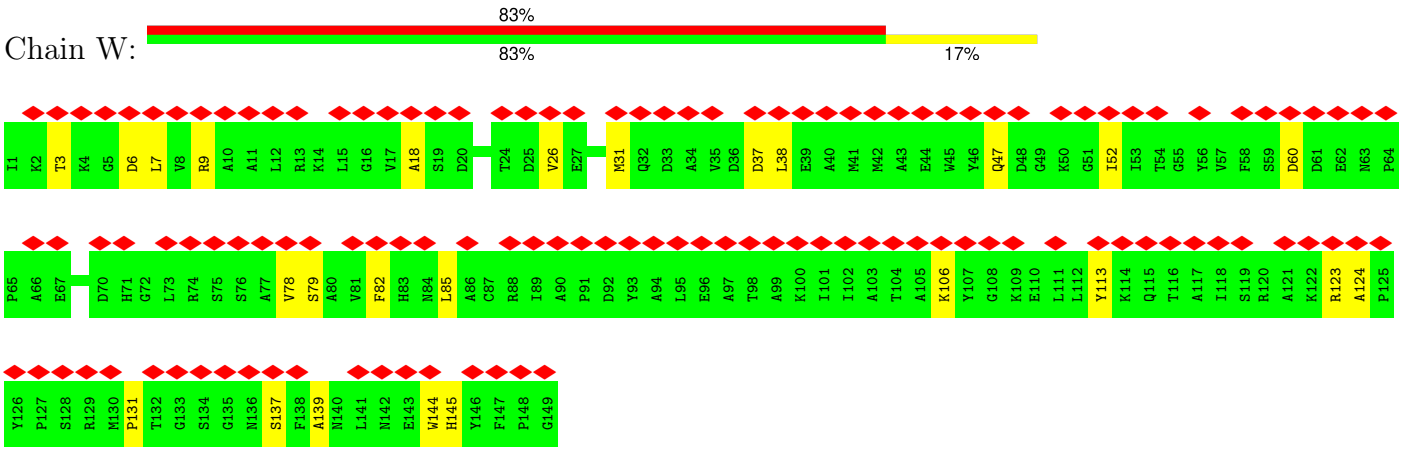
• Molecule 1: Peptidoglycan hydrolase gp4

Chain U:



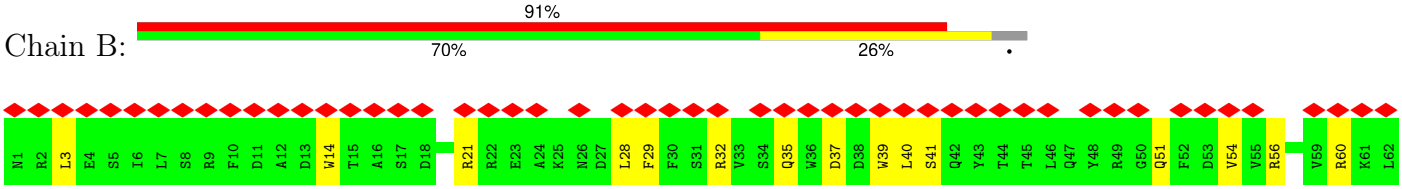
• Molecule 1: Peptidoglycan hydrolase gp4

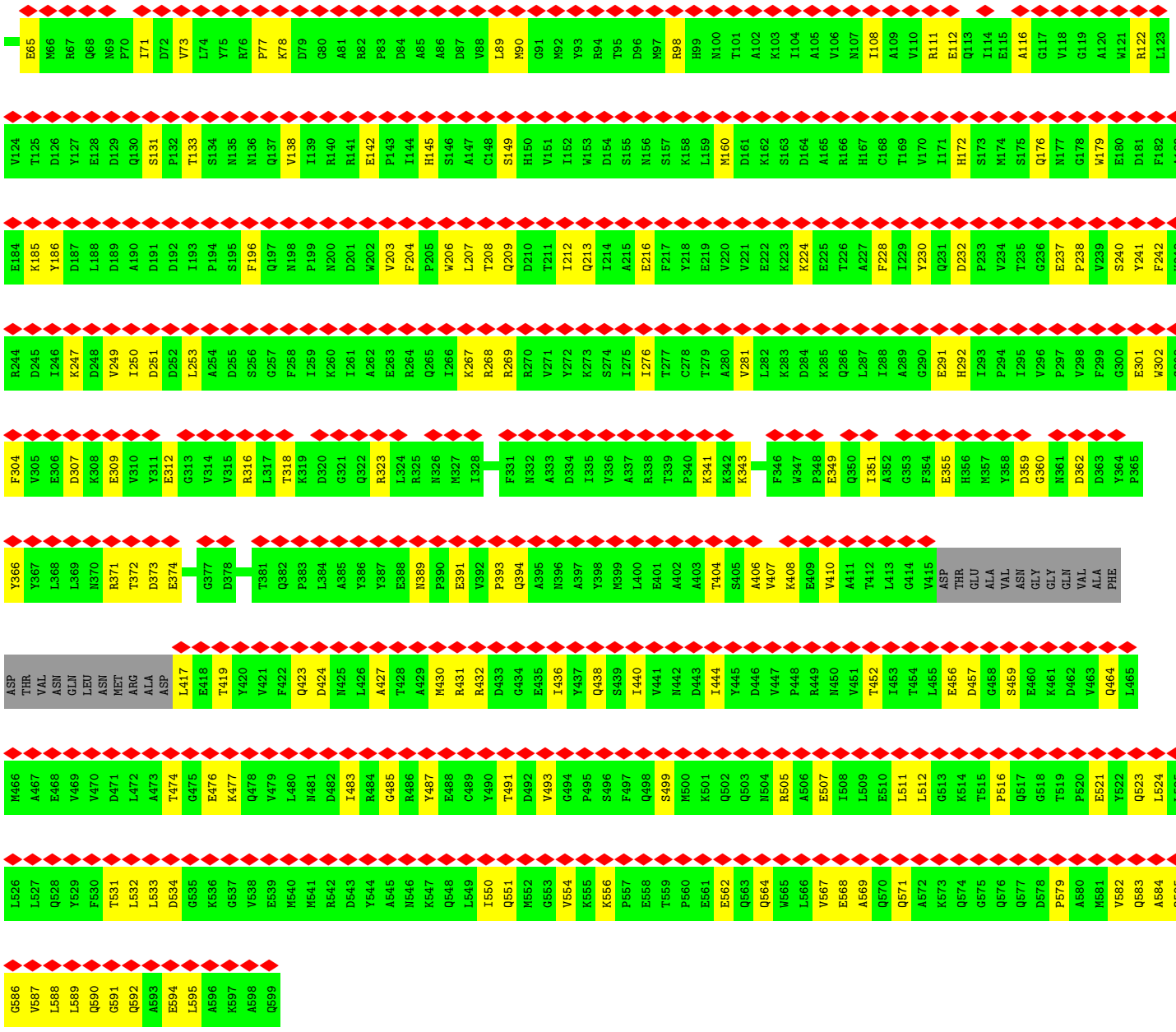
Chain W:



• Molecule 2: Portal protein

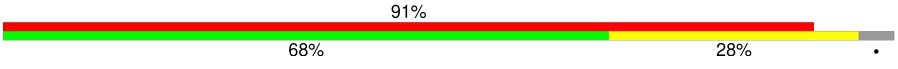
Chain B:

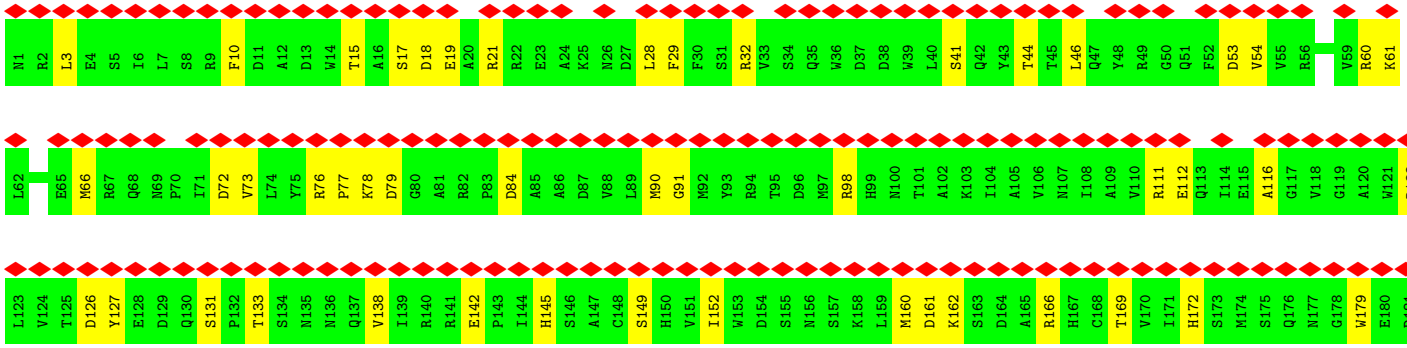


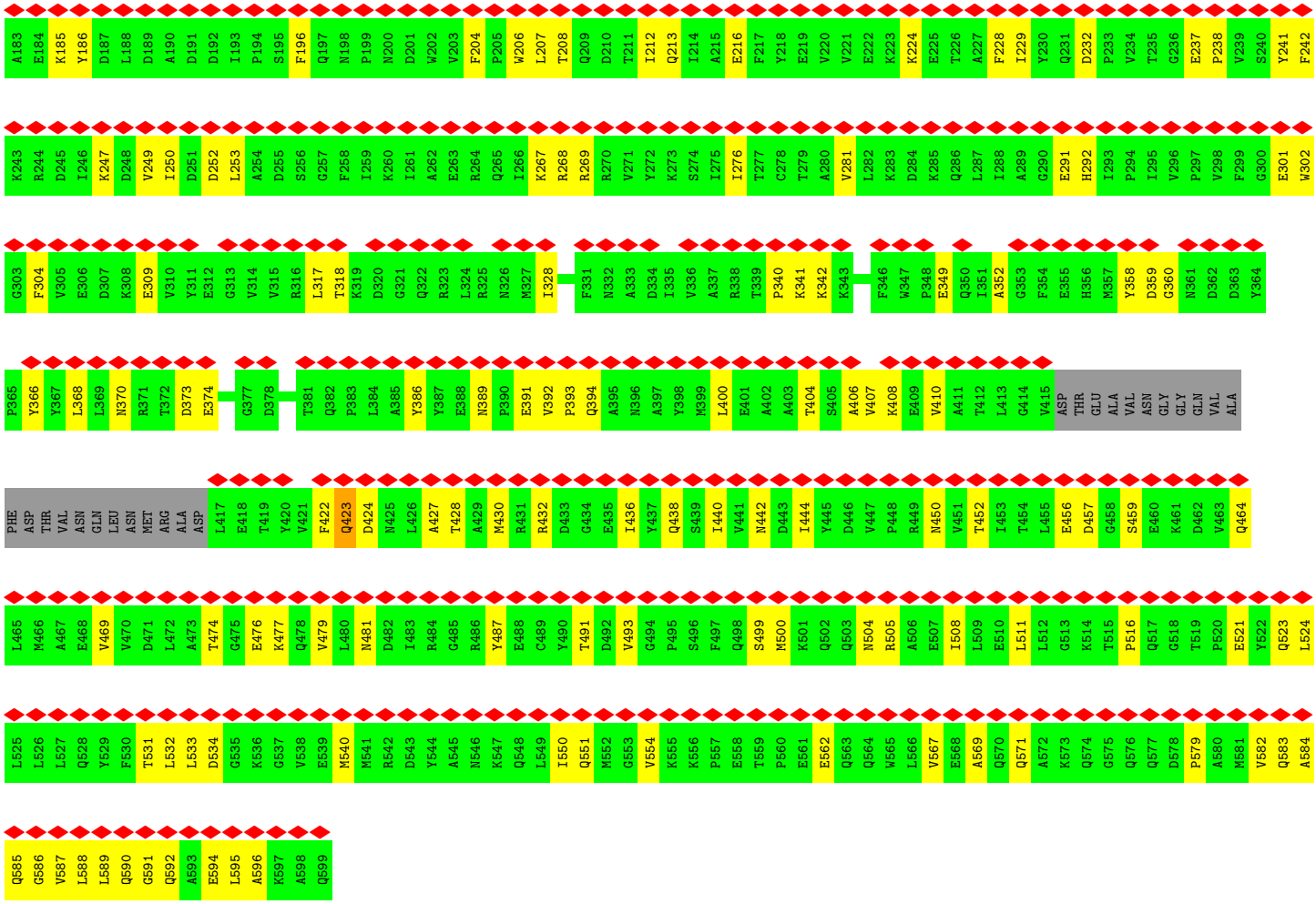


- Molecule 2: Portal protein

Chain D:

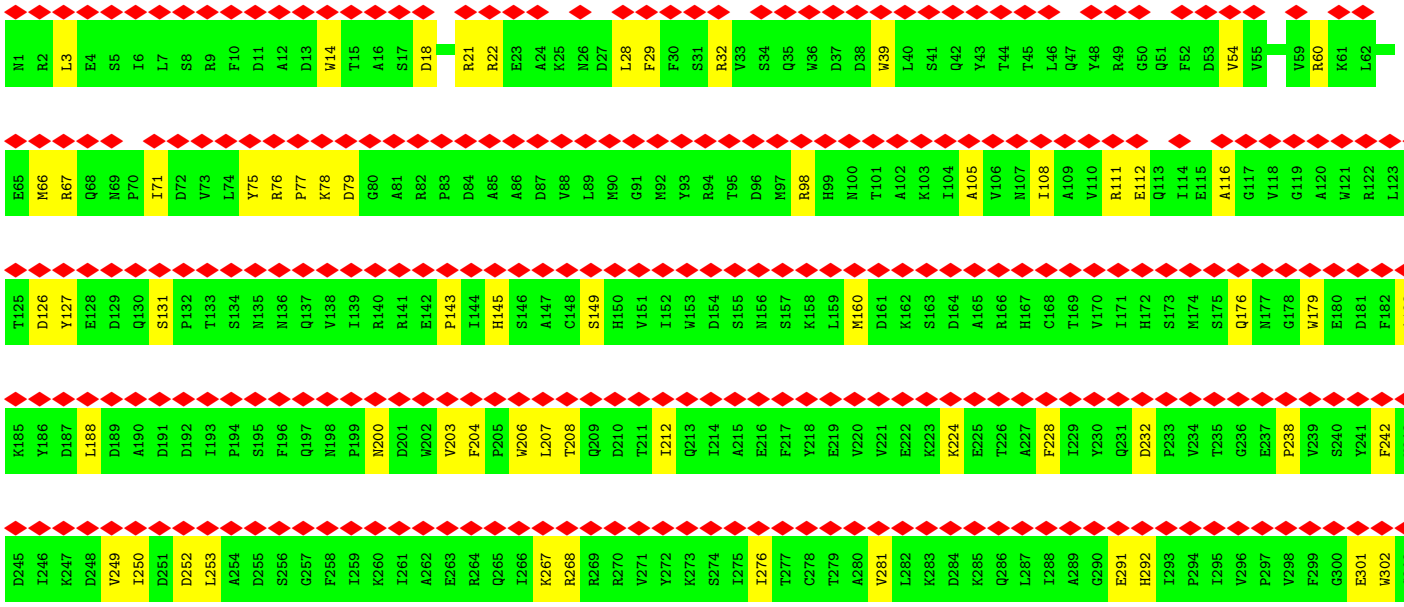


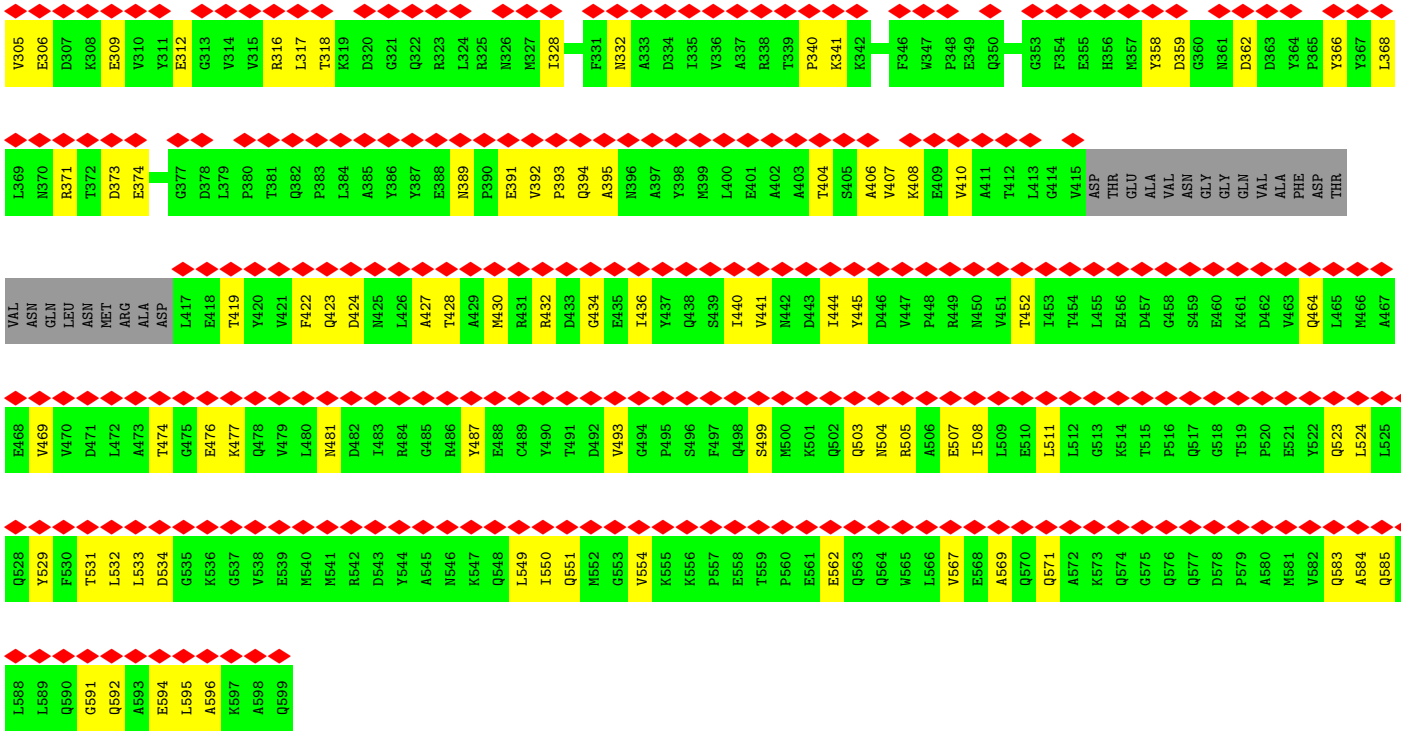




• Molecule 2: Portal protein

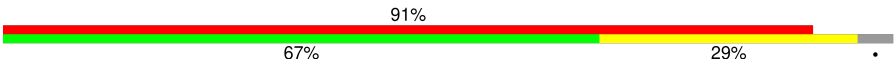
Chain F:

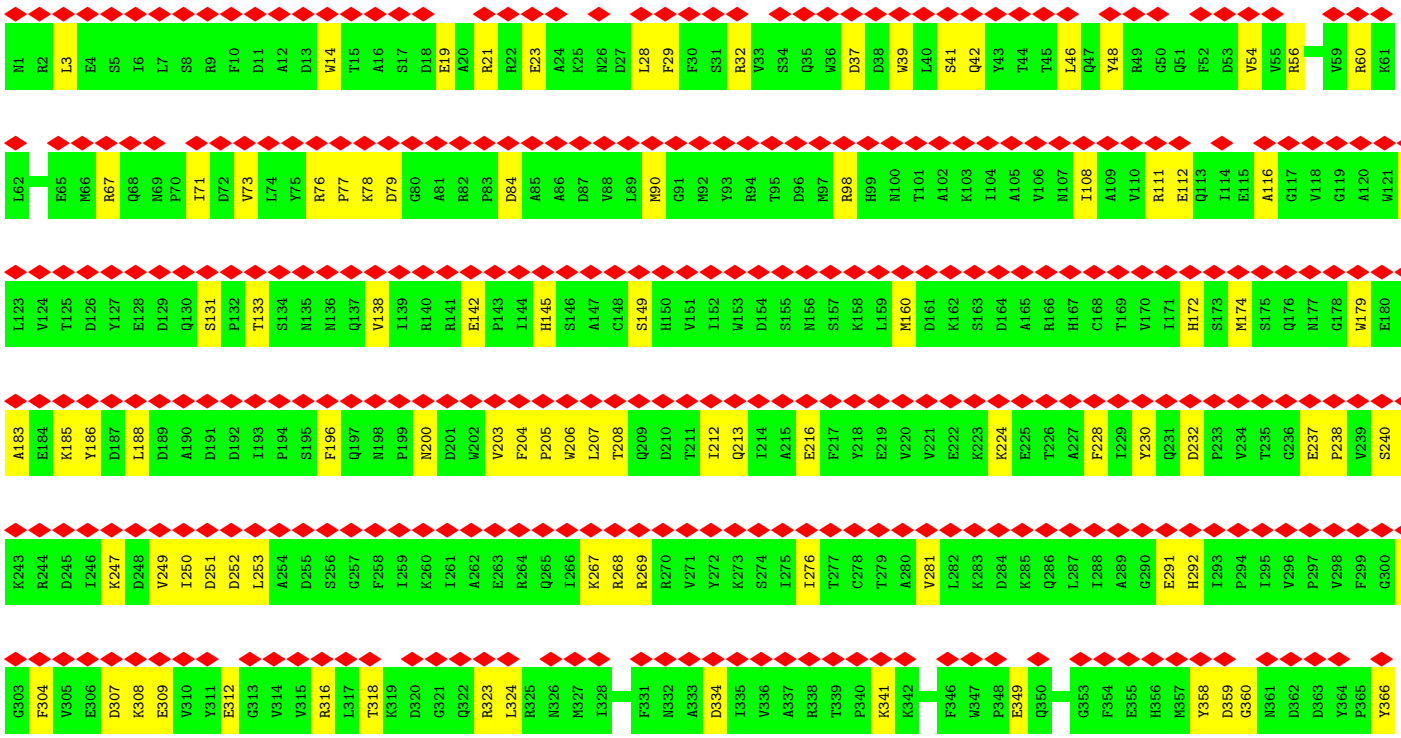




• Molecule 2: Portal protein

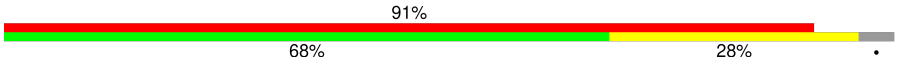
Chain H:

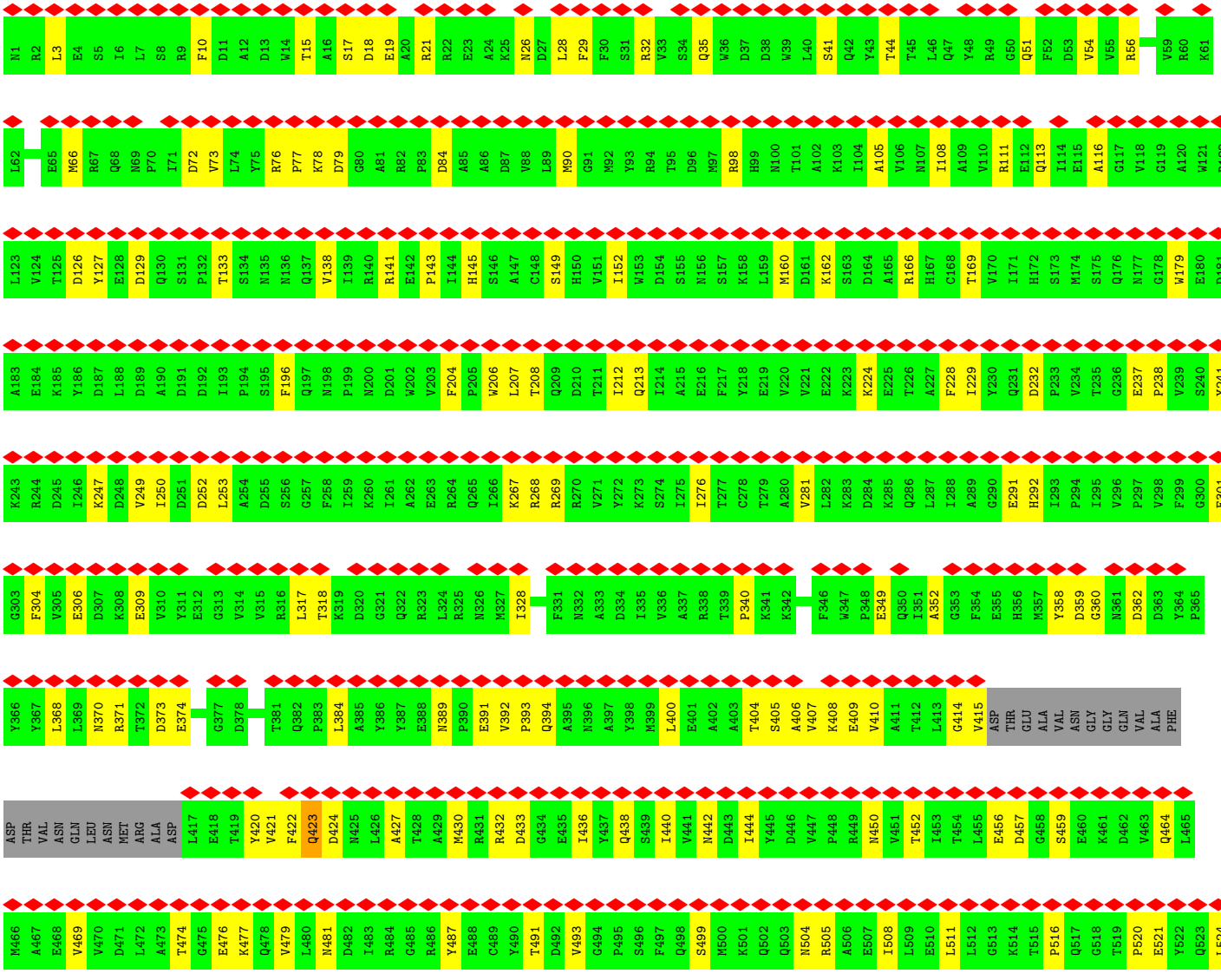


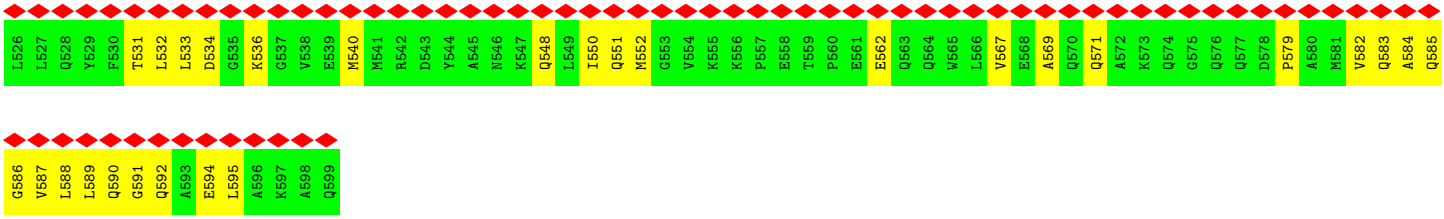


• Molecule 2: Portal protein

Chain J:

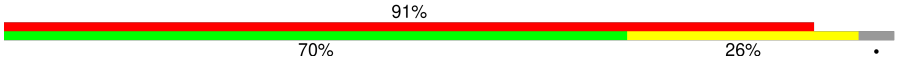


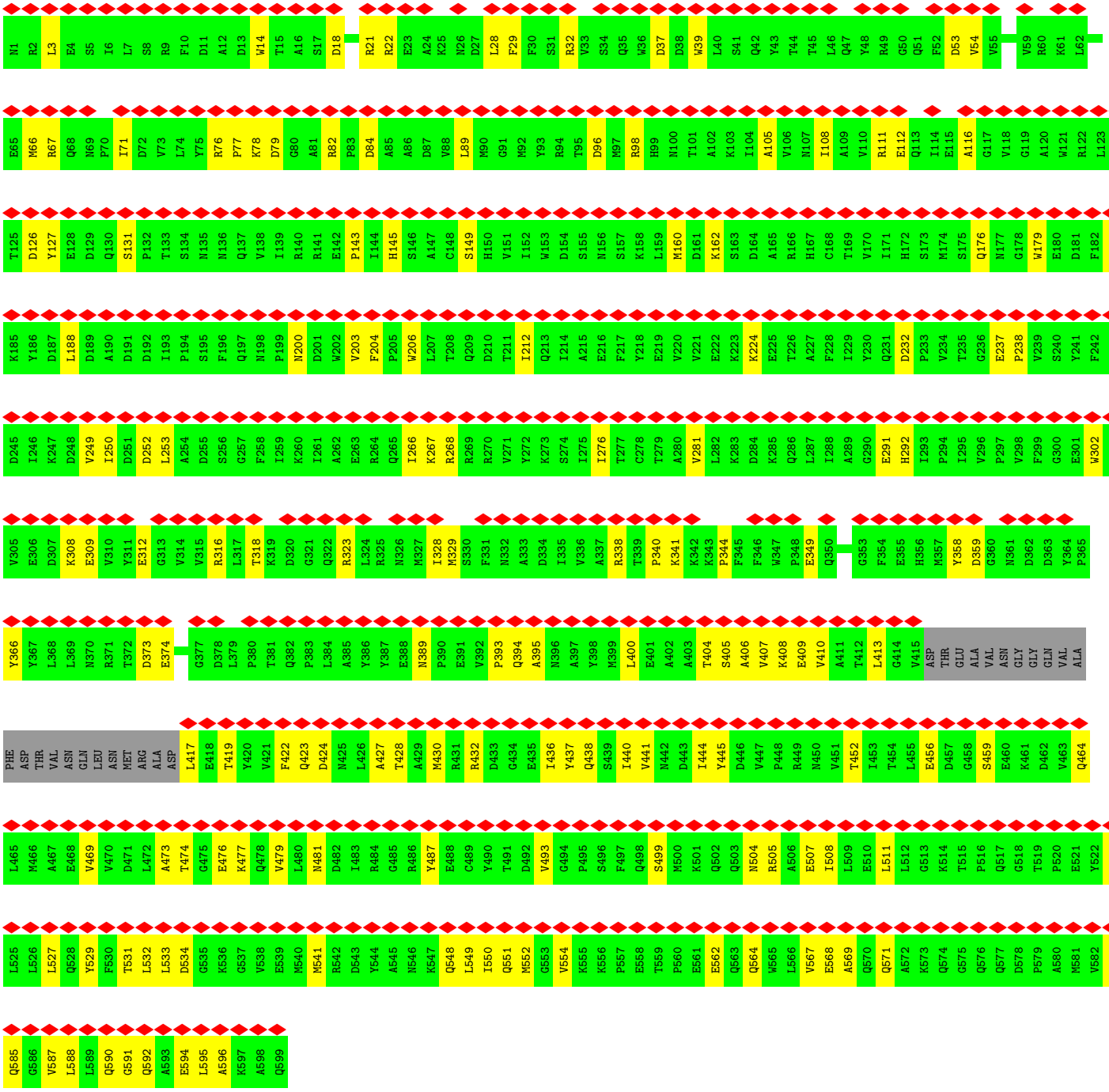




• Molecule 2: Portal protein

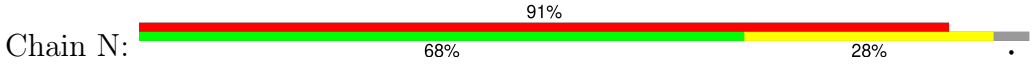
Chain L:

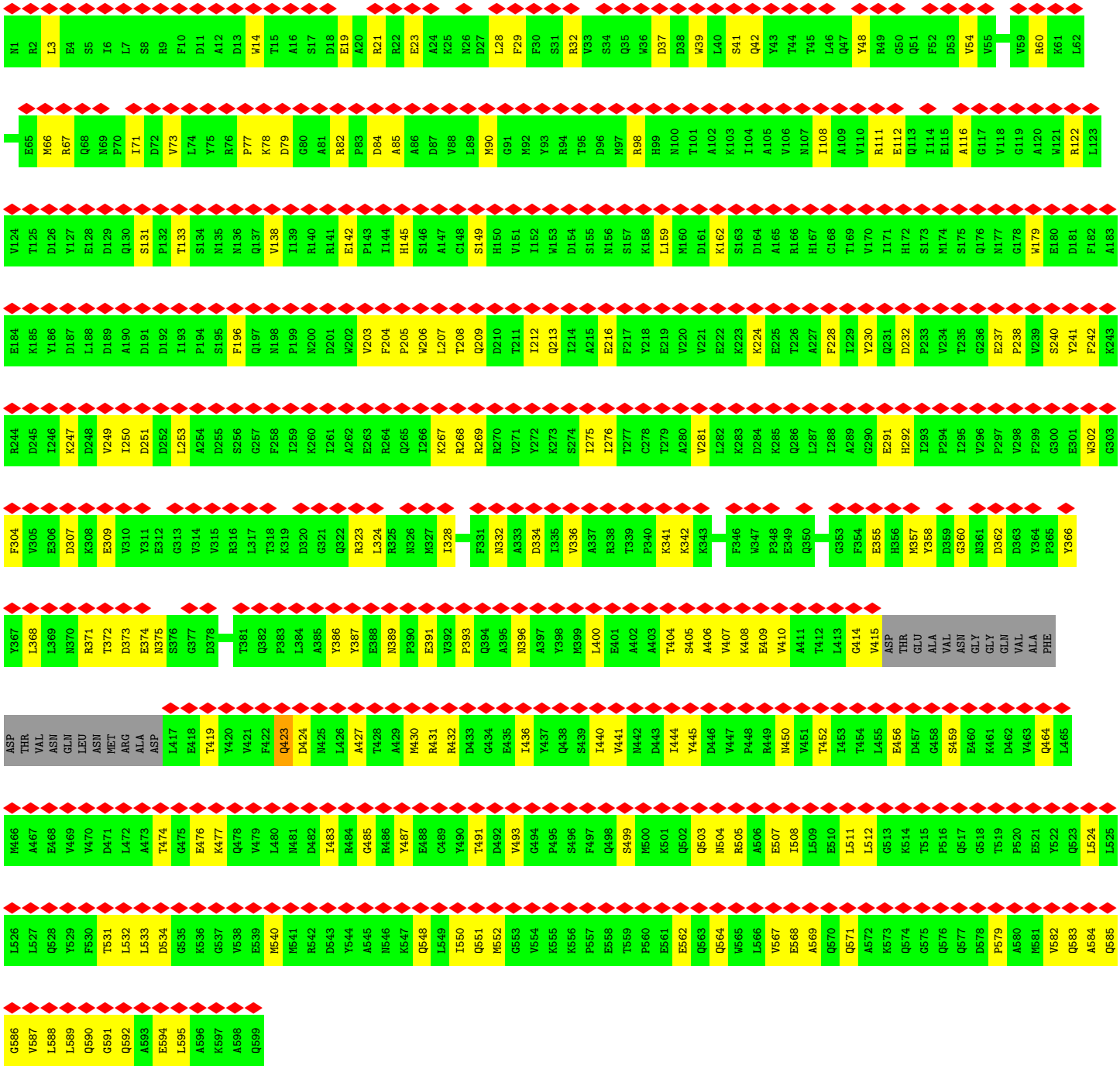




• Molecule 2: Portal protein

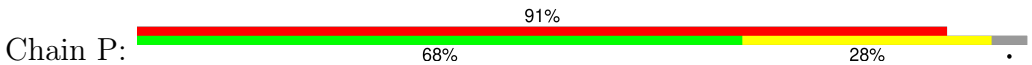
Chain N:

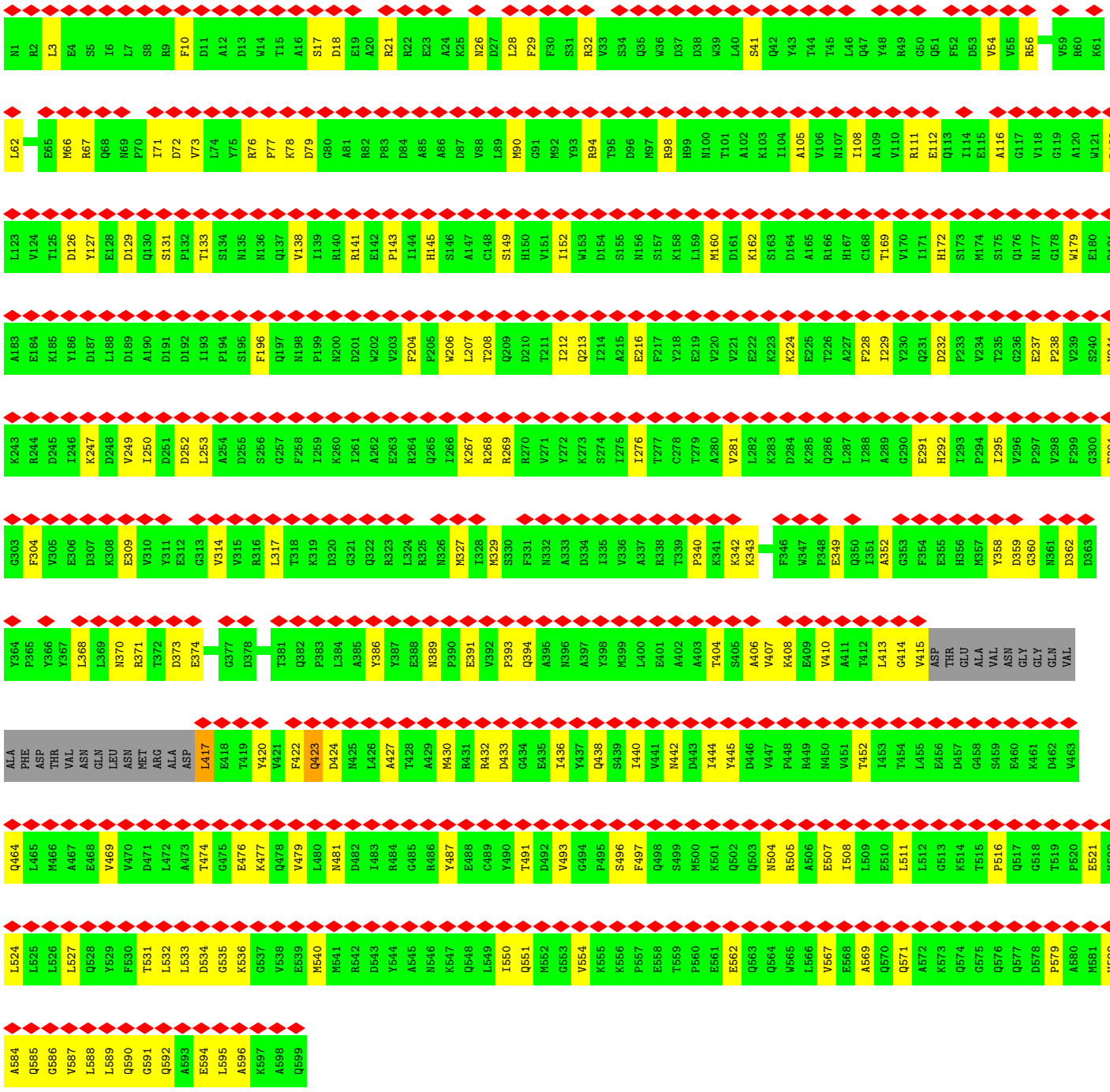




• Molecule 2: Portal protein

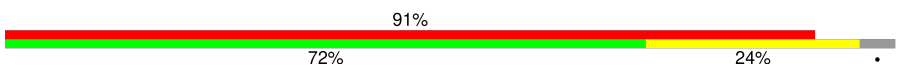
Chain P:

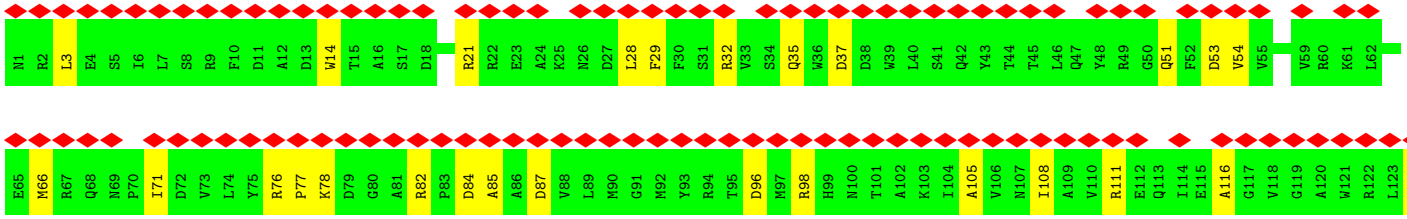


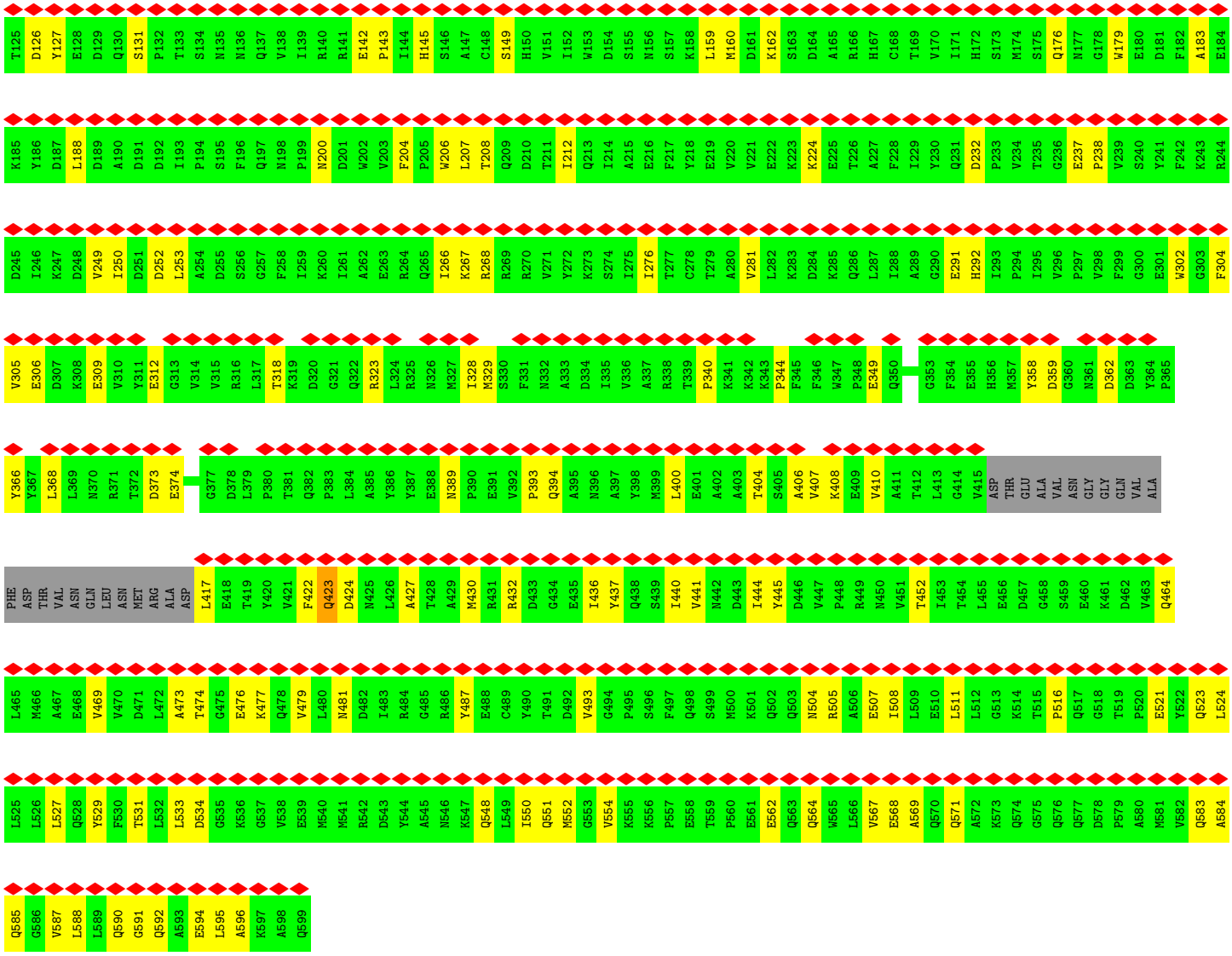


• Molecule 2: Portal protein

Chain R:

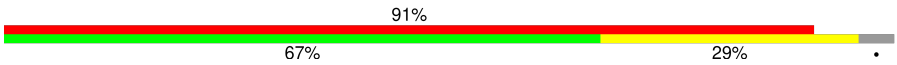


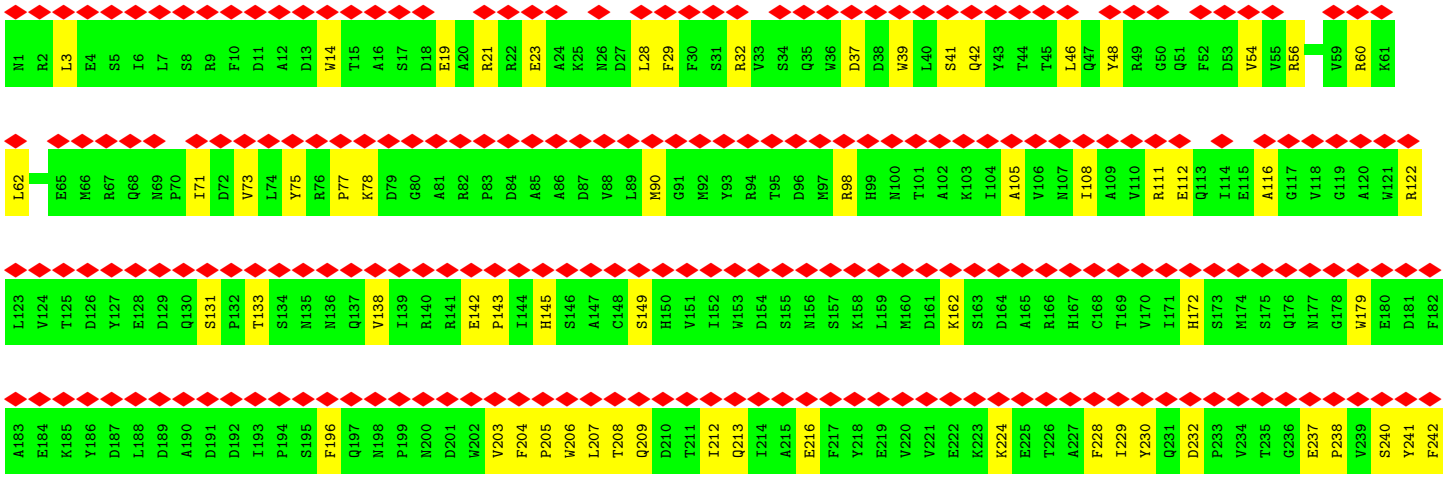


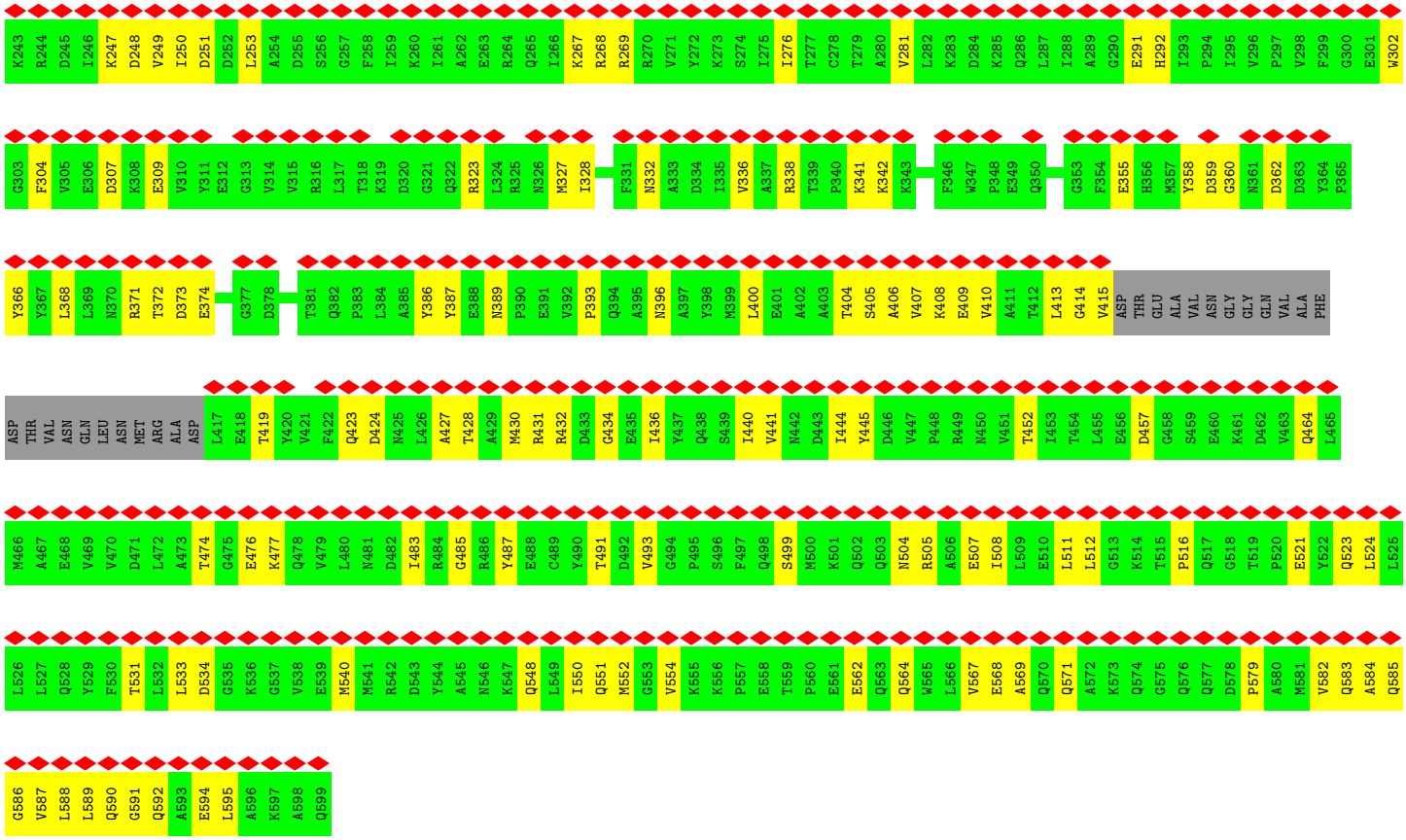


• Molecule 2: Portal protein

Chain T:

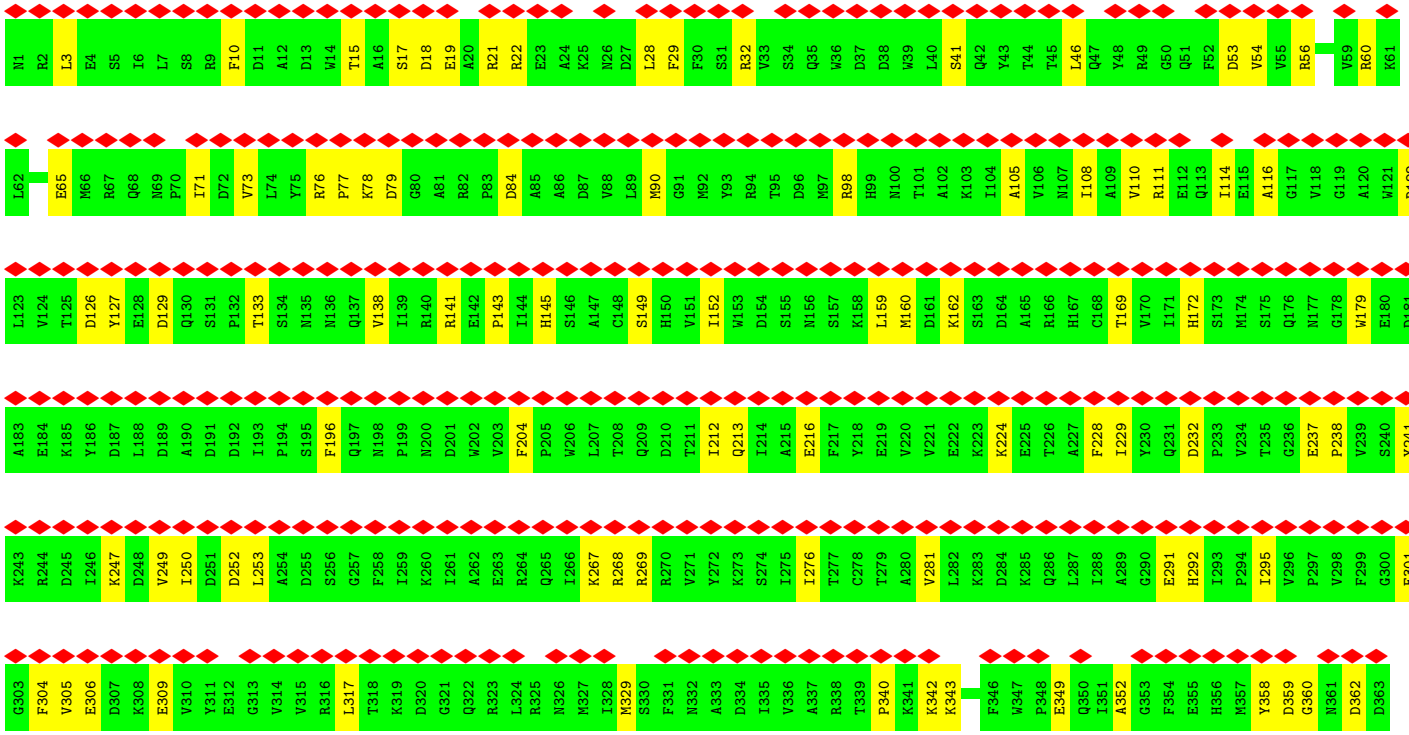


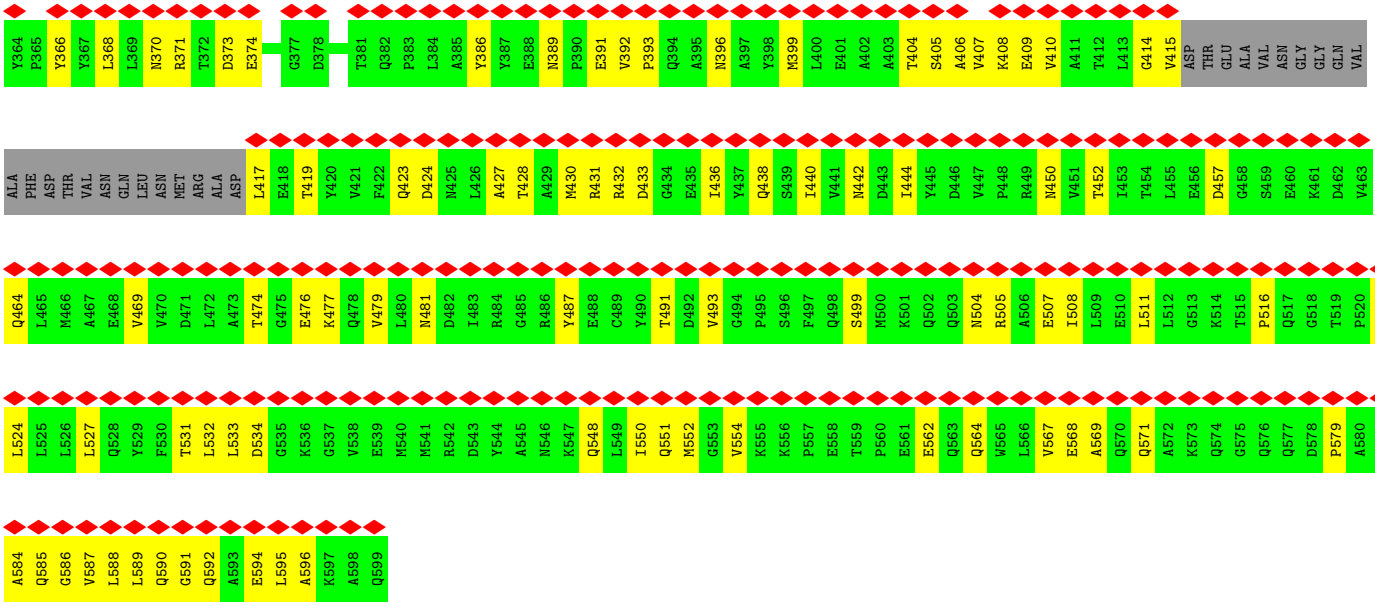




• Molecule 2: Portal protein

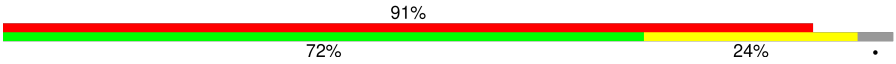
Chain V:

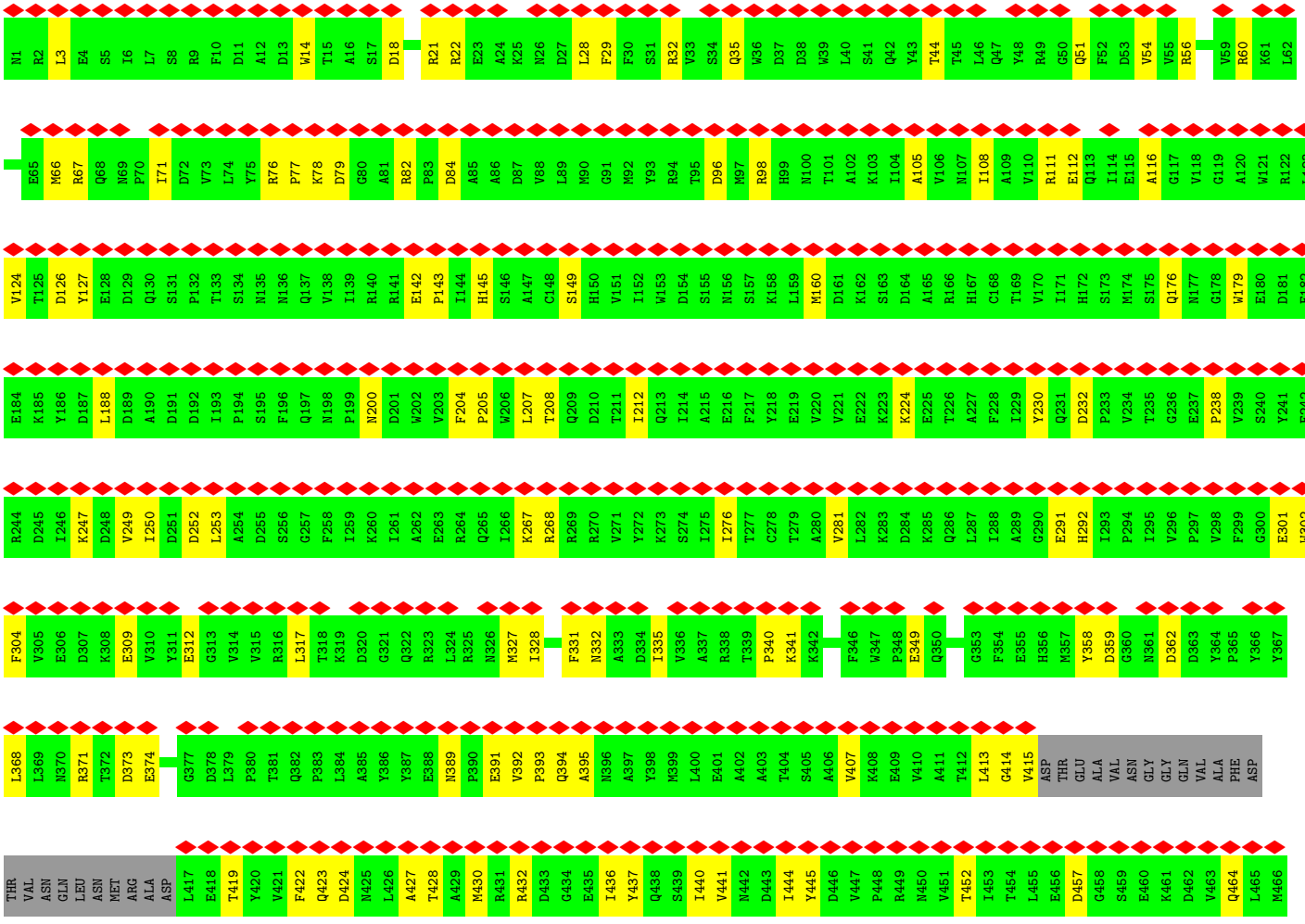


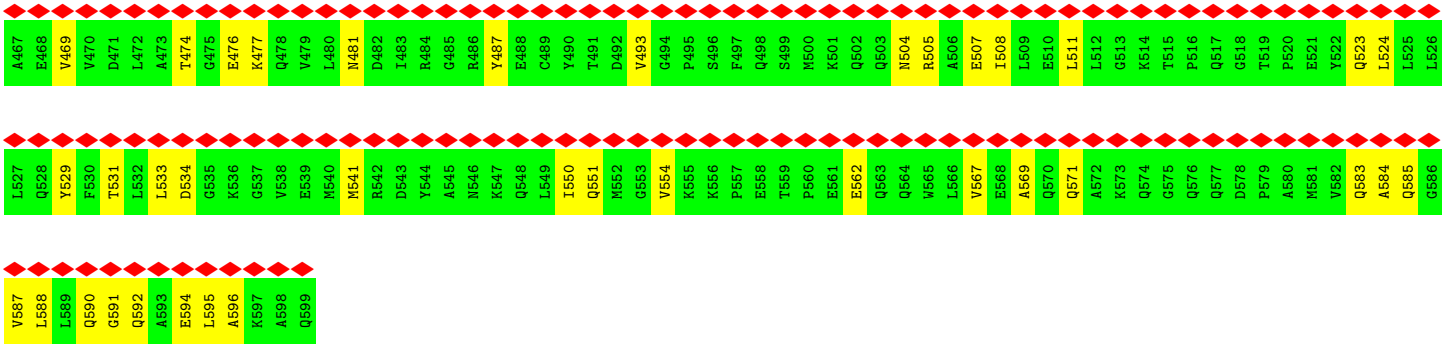


- Molecule 2: Portal protein

Chain X:






A467 E468 V469 V470 D471 L472 A473 T474 G475 E476 K477 Q478 V479 L480 N481 D482 I483 R484 G485 R486 Y487 E488 C489 Y490 T491 D492 V493 G494 P495 S496 F497 Q498 S499 M500 K501 Q502 Q503 N504 R505 A506 E507 I508 L509 E510 L511 L512 G513 K514 T515 P516 Q517 G518 T519 P520 E521 Y522 Q523 L524 L525 L526
L527 Q528 Y529 F530 T531 L532 L533 D534 G535 K536 G537 V538 E539 M540 M541 R542 D543 Y544 A545 N546 K547 Q548 L549 I550 Q551 M552 G553 V554 K555 K556 P557 E558 T559 P560 E561 E562 Q563 Q564 W565 L566 V567 E568 A569 Q570 Q571 A572 K573 Q574 G575 Q576 Q577 D578 P579 A580 M581 V582 Q583 A584 Q585 G586
V587 L588 L589 Q590 G591 Q592 A593 E594 L595 A596 K597 A598 Q599

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	73420	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	30	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	1200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.026	Depositor
Minimum map value	-0.010	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	512.63995, 512.63995, 512.63995	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.068, 1.068, 1.068	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	0.27	0/1165	0.43	0/1580
1	C	0.29	0/1165	0.46	0/1580
1	E	0.19	0/1165	0.38	0/1580
1	G	0.26	0/1165	0.41	0/1580
1	I	0.25	0/1165	0.39	0/1580
1	K	0.29	0/1165	0.49	0/1580
1	M	0.26	0/1165	0.52	2/1580 (0.1%)
1	O	0.36	0/1165	0.56	0/1580
1	Q	0.22	0/1165	0.41	0/1580
1	S	0.27	0/1165	0.42	0/1580
1	U	0.28	0/1165	0.45	0/1580
1	W	0.24	0/1165	0.42	0/1580
2	B	0.22	0/4930	0.39	0/6686
2	D	0.18	0/4930	0.33	0/6686
2	F	0.18	0/4930	0.34	0/6686
2	H	0.20	0/4930	0.36	0/6686
2	J	0.18	0/4930	0.35	0/6686
2	L	0.19	0/4930	0.35	0/6686
2	N	0.17	0/4930	0.33	0/6686
2	P	0.20	0/4930	0.35	0/6686
2	R	0.21	0/4930	0.37	0/6686
2	T	0.17	0/4930	0.32	0/6686
2	V	0.16	0/4930	0.31	0/6686
2	X	0.17	0/4930	0.32	0/6686
All	All	0.21	0/73140	0.37	2/99192 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M	7	LEU	N-CA-C	-7.52	101.17	110.41
1	M	6	ASP	N-CA-C	-5.86	104.80	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	1140	0	1110	21	0
1	C	1140	0	1110	19	0
1	E	1140	0	1110	18	0
1	G	1140	0	1110	23	0
1	I	1140	0	1110	20	0
1	K	1140	0	1110	17	0
1	M	1140	0	1110	22	0
1	O	1140	0	1110	16	0
1	Q	1140	0	1110	20	0
1	S	1140	0	1110	20	0
1	U	1140	0	1110	20	0
1	W	1140	0	1110	21	0
2	B	4829	0	4698	133	0
2	D	4829	0	4698	135	0
2	F	4829	0	4698	117	0
2	H	4829	0	4698	146	0
2	J	4829	0	4698	142	0
2	L	4829	0	4698	129	0
2	N	4829	0	4698	148	0
2	P	4829	0	4698	142	0
2	R	4829	0	4698	120	0
2	T	4829	0	4698	148	0
2	V	4829	0	4698	139	0
2	X	4829	0	4698	117	0
All	All	71628	0	69696	1508	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 11.

All (1508) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:540:MET:HE2	2:F:527:LEU:HD13	1.59	0.84
1:W:26:VAL:HG11	1:W:31:MET:HE3	1.63	0.80
1:I:41:MET:HE3	1:I:42:MET:HE2	1.63	0.78
2:J:540:MET:HE2	2:L:527:LEU:HD13	1.64	0.78
2:H:587:VAL:HG11	2:J:588:LEU:HB3	1.68	0.76
2:L:587:VAL:HG11	2:N:588:LEU:HB3	1.67	0.76
1:M:7:LEU:HD21	1:M:78:VAL:HG13	1.66	0.76
1:I:38:LEU:HD13	1:I:85:LEU:HD12	1.67	0.76
2:N:587:VAL:HG11	2:P:588:LEU:HB3	1.68	0.76
2:B:588:LEU:HB3	2:X:587:VAL:HG11	1.67	0.75
2:H:98:ARG:HH12	2:J:78:LYS:HE3	1.52	0.74
2:R:587:VAL:HG11	2:T:588:LEU:HB3	1.68	0.74
2:F:587:VAL:HG11	2:H:588:LEU:HB3	1.68	0.74
2:P:228:PHE:HD2	2:P:247:LYS:HZ1	1.35	0.74
2:F:362:ASP:OD1	1:I:123:ARG:NH2	2.20	0.74
2:T:587:VAL:HG11	2:V:588:LEU:HB3	1.68	0.74
1:W:18:ALA:HB1	1:W:26:VAL:HG22	1.69	0.73
1:C:123:ARG:NH2	2:X:362:ASP:OD1	2.21	0.73
2:N:98:ARG:HH12	2:P:78:LYS:HE3	1.52	0.73
2:D:228:PHE:HD2	2:D:247:LYS:HZ1	1.34	0.73
2:V:228:PHE:HD2	2:V:247:LYS:HZ1	1.36	0.73
2:B:587:VAL:HG11	2:D:588:LEU:HB3	1.68	0.73
2:T:98:ARG:HH12	2:V:78:LYS:HE3	1.54	0.73
2:X:328:ILE:O	2:X:332:ASN:ND2	2.21	0.72
2:R:362:ASP:OD1	1:U:123:ARG:NH1	2.23	0.72
2:B:98:ARG:HH12	2:D:78:LYS:HE3	1.53	0.71
2:J:228:PHE:HD2	2:J:247:LYS:HZ1	1.37	0.71
2:B:586:GLY:HA2	2:B:589:LEU:HD12	1.73	0.71
2:R:359:ASP:HB3	1:S:124:ALA:HB2	1.73	0.70
2:B:78:LYS:HE3	2:X:98:ARG:HH12	1.55	0.70
2:N:586:GLY:HA2	2:N:589:LEU:HD12	1.73	0.70
2:R:249:VAL:HG23	2:R:250:ILE:HG23	1.73	0.70
2:T:586:GLY:HA2	2:T:589:LEU:HD12	1.74	0.70
2:L:249:VAL:HG23	2:L:250:ILE:HG23	1.74	0.69
1:M:1:ILE:HB	1:M:6:ASP:HB3	1.75	0.69
2:F:66:MET:HE1	2:F:422:PHE:HB3	1.74	0.69
2:R:98:ARG:HH12	2:T:78:LYS:HE3	1.57	0.69
2:F:98:ARG:HH12	2:H:78:LYS:HE3	1.58	0.68
2:H:586:GLY:HA2	2:H:589:LEU:HD12	1.74	0.68
2:D:17:SER:OG	2:D:21:ARG:NH2	2.26	0.68
1:Q:37:ASP:OD2	1:S:14:LYS:NZ	2.21	0.68
2:V:17:SER:OG	2:V:21:ARG:NH2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:362:ASP:OD1	1:Q:123:ARG:NH2	2.26	0.68
1:M:38:LEU:HD13	1:M:85:LEU:HD12	1.75	0.68
2:L:66:MET:HE1	2:L:422:PHE:HB3	1.75	0.68
2:L:98:ARG:HH12	2:N:78:LYS:HE3	1.59	0.68
2:X:66:MET:HE1	2:X:422:PHE:HB3	1.74	0.67
2:X:249:VAL:HG23	2:X:250:ILE:HG23	1.75	0.67
1:S:47:GLN:HE22	1:U:111:LEU:HB3	1.59	0.67
1:A:47:GLN:HE22	1:C:111:LEU:HB3	1.60	0.67
2:J:17:SER:OG	2:J:21:ARG:NH2	2.27	0.67
1:W:139:ALA:HB1	1:W:144:TRP:CZ3	2.30	0.67
2:P:17:SER:OG	2:P:21:ARG:NH2	2.27	0.67
1:A:124:ALA:HB2	2:X:359:ASP:HB3	1.76	0.67
2:T:414:GLY:O	2:T:415:VAL:C	2.38	0.66
2:F:249:VAL:HG23	2:F:250:ILE:HG23	1.76	0.66
2:D:72:ASP:HA	2:D:430:MET:HE2	1.77	0.66
2:J:72:ASP:HA	2:J:430:MET:HE2	1.77	0.66
2:B:37:ASP:OD2	2:B:323:ARG:NH2	2.28	0.66
1:M:54:THR:HG22	1:M:112:LEU:HD22	1.79	0.65
2:B:394:GLN:NE2	2:X:391:GLU:O	2.30	0.65
1:I:42:MET:HE3	1:I:81:VAL:HG13	1.77	0.65
2:B:389:ASN:HB3	2:D:393:PRO:HB3	1.79	0.64
2:B:312:GLU:HG3	2:B:316:ARG:HD2	1.79	0.64
2:J:98:ARG:HH12	2:L:78:LYS:HE3	1.63	0.64
1:S:38:LEU:HD13	1:S:85:LEU:HD12	1.79	0.64
2:F:389:ASN:HB3	2:H:393:PRO:HB3	1.80	0.64
2:T:362:ASP:OD1	1:W:123:ARG:NH2	2.30	0.64
2:B:302:TRP:NE1	2:B:309:GLU:OE2	2.27	0.64
1:Q:129:ARG:NH1	2:T:48:TYR:O	2.31	0.64
1:C:54:THR:HG22	1:C:112:LEU:HD22	1.80	0.63
1:U:54:THR:HG22	1:U:112:LEU:HD22	1.80	0.63
2:H:391:GLU:O	2:J:394:GLN:NE2	2.32	0.63
2:F:391:GLU:O	2:H:394:GLN:NE2	2.30	0.63
2:V:98:ARG:HH12	2:X:78:LYS:HE3	1.63	0.63
2:V:359:ASP:HB3	1:W:124:ALA:HB2	1.80	0.63
2:P:72:ASP:HA	2:P:430:MET:HE2	1.80	0.63
1:S:54:THR:HG22	1:S:112:LEU:HD22	1.79	0.63
2:B:393:PRO:HB3	2:X:389:ASN:HB3	1.80	0.63
1:I:73:LEU:HD13	1:I:81:VAL:HG21	1.80	0.63
2:D:122:ARG:NH2	2:D:142:GLU:OE1	2.32	0.63
2:H:179:TRP:HB2	2:H:212:ILE:HG21	1.80	0.62
2:L:312:GLU:HG3	2:L:316:ARG:HD2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:249:VAL:HG23	2:T:250:ILE:HG23	1.80	0.62
2:D:98:ARG:HH12	2:F:78:LYS:HE3	1.63	0.62
2:F:328:ILE:O	2:F:332:ASN:ND2	2.32	0.62
2:V:249:VAL:HG23	2:V:250:ILE:HG23	1.81	0.62
1:A:37:ASP:OD2	1:C:14:LYS:NZ	2.25	0.62
2:H:389:ASN:HB3	2:J:393:PRO:HB3	1.80	0.62
2:L:276:ILE:HG22	2:L:281:VAL:HG12	1.81	0.62
2:H:249:VAL:HG23	2:H:250:ILE:HG23	1.81	0.62
2:L:21:ARG:HD3	2:L:149:SER:HA	1.82	0.62
2:P:98:ARG:HH12	2:R:78:LYS:HE3	1.65	0.62
2:X:523:GLN:HE22	2:X:554:VAL:HG11	1.65	0.62
1:E:18:ALA:HB1	1:E:26:VAL:HG22	1.82	0.61
2:L:253:LEU:HD21	2:L:474:THR:HG23	1.81	0.61
2:R:253:LEU:HD21	2:R:474:THR:HG23	1.81	0.61
2:B:391:GLU:O	2:D:394:GLN:NE2	2.31	0.61
2:L:505:ARG:NH1	2:L:531:THR:O	2.34	0.61
2:R:529:TYR:HE1	2:T:511:LEU:HD22	1.65	0.61
2:X:302:TRP:NE1	2:X:309:GLU:OE2	2.29	0.61
2:F:302:TRP:NE1	2:F:309:GLU:OE2	2.29	0.61
2:B:249:VAL:HG23	2:B:250:ILE:HG23	1.81	0.61
2:D:586:GLY:HA2	2:D:589:LEU:HD12	1.83	0.61
2:F:359:ASP:HB3	1:G:124:ALA:HB2	1.82	0.61
2:H:483:ILE:HG13	2:H:485:GLY:H	1.66	0.61
2:X:253:LEU:HD21	2:X:474:THR:HG23	1.82	0.61
1:I:26:VAL:HG13	1:I:31:MET:HE3	1.83	0.61
1:M:7:LEU:O	1:M:8:VAL:HB	2.01	0.61
2:V:532:LEU:HD21	2:X:511:LEU:HD11	1.83	0.60
2:L:499:SER:OG	2:N:79:ASP:OD1	2.20	0.60
2:F:523:GLN:HE22	2:F:554:VAL:HG11	1.67	0.60
2:B:179:TRP:HB2	2:B:212:ILE:HG21	1.83	0.60
2:H:302:TRP:NE1	2:H:309:GLU:OE2	2.26	0.60
2:P:314:VAL:HB	2:P:413:LEU:HD13	1.84	0.60
2:B:32:ARG:NH1	2:D:304:PHE:O	2.34	0.60
1:C:26:VAL:HG13	1:C:31:MET:HE3	1.84	0.60
1:Q:18:ALA:HB1	1:Q:26:VAL:HG22	1.84	0.60
1:S:79:SER:HA	1:S:82:PHE:CE2	2.37	0.60
2:F:505:ARG:NH1	2:F:531:THR:O	2.34	0.60
2:H:21:ARG:HD3	2:H:149:SER:HA	1.82	0.60
1:M:79:SER:HA	1:M:82:PHE:CE2	2.37	0.60
1:U:26:VAL:HG13	1:U:31:MET:HE3	1.83	0.60
2:X:414:GLY:O	2:X:415:VAL:C	2.44	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:54:VAL:HG13	2:R:407:VAL:HG11	1.83	0.60
2:H:73:VAL:HG13	2:H:491:THR:HG23	1.83	0.60
2:N:249:VAL:HG23	2:N:250:ILE:HG23	1.81	0.60
1:Q:128:SER:O	1:Q:129:ARG:HB2	2.01	0.60
2:R:21:ARG:HD3	2:R:149:SER:HA	1.83	0.60
2:T:21:ARG:HD3	2:T:149:SER:HA	1.83	0.60
2:D:540:MET:HE1	2:F:549:LEU:HD13	1.84	0.59
2:F:529:TYR:HE1	2:H:511:LEU:HD22	1.66	0.59
1:G:79:SER:HA	1:G:82:PHE:CE2	2.37	0.59
1:K:38:LEU:HD13	1:K:85:LEU:HD12	1.84	0.59
2:N:37:ASP:OD2	2:N:323:ARG:NH2	2.33	0.59
1:O:79:SER:HA	1:O:82:PHE:CE2	2.38	0.59
2:B:318:THR:HB	2:B:407:VAL:HG13	1.83	0.59
2:F:54:VAL:HG13	2:F:407:VAL:HG11	1.84	0.59
1:C:38:LEU:HD13	1:C:85:LEU:HD12	1.84	0.59
2:L:523:GLN:HE22	2:L:554:VAL:HG11	1.68	0.59
1:M:37:ASP:OD2	1:O:14:LYS:NZ	2.24	0.59
2:R:37:ASP:OD2	2:R:323:ARG:NH2	2.35	0.59
2:T:32:ARG:NH1	2:V:304:PHE:O	2.35	0.59
2:T:483:ILE:HG13	2:T:485:GLY:H	1.67	0.59
1:U:38:LEU:HD13	1:U:85:LEU:HD12	1.84	0.59
2:B:483:ILE:HG13	2:B:485:GLY:H	1.67	0.59
2:D:249:VAL:HG23	2:D:250:ILE:HG23	1.83	0.59
2:F:60:ARG:NE	2:H:301:GLU:OE2	2.34	0.59
1:U:79:SER:HA	1:U:82:PHE:CE2	2.37	0.59
1:A:79:SER:HA	1:A:82:PHE:CE2	2.38	0.59
2:P:586:GLY:HA2	2:P:589:LEU:HD12	1.85	0.59
2:D:32:ARG:NH1	2:F:304:PHE:O	2.36	0.59
1:G:47:GLN:HE21	1:I:111:LEU:HD13	1.66	0.59
1:Q:7:LEU:HD21	1:Q:78:VAL:HG13	1.85	0.59
1:Q:79:SER:HA	1:Q:82:PHE:CE2	2.38	0.59
2:B:73:VAL:HG13	2:B:491:THR:HG23	1.84	0.59
2:B:511:LEU:HD22	2:X:529:TYR:HE1	1.68	0.59
2:B:40:LEU:HG	2:B:41:SER:H	1.68	0.59
1:C:79:SER:HA	1:C:82:PHE:CE2	2.37	0.59
2:D:172:HIS:NE2	2:D:216:GLU:OE1	2.36	0.59
2:L:529:TYR:HE1	2:N:511:LEU:HD22	1.67	0.59
2:N:73:VAL:HG13	2:N:491:THR:HG23	1.84	0.59
2:P:249:VAL:HG23	2:P:250:ILE:HG23	1.83	0.59
1:E:79:SER:HA	1:E:82:PHE:CE2	2.38	0.58
2:F:21:ARG:HD3	2:F:149:SER:HA	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:253:LEU:HD21	2:F:474:THR:HG23	1.83	0.58
2:B:21:ARG:HD3	2:B:149:SER:HA	1.86	0.58
1:I:7:LEU:HD21	1:I:78:VAL:HG13	1.84	0.58
1:W:79:SER:HA	1:W:82:PHE:CE2	2.38	0.58
2:N:483:ILE:HG13	2:N:485:GLY:H	1.68	0.58
2:L:37:ASP:OD2	2:L:323:ARG:NH2	2.35	0.58
2:N:247:LYS:NZ	2:N:251:ASP:OD1	2.34	0.58
2:R:292:HIS:HB3	2:R:432:ARG:HH21	1.69	0.58
2:B:499:SER:OG	2:D:79:ASP:OD1	2.21	0.58
2:H:60:ARG:NE	2:J:301:GLU:OE2	2.36	0.58
2:H:592:GLN:HG2	2:H:595:LEU:HD12	1.86	0.58
2:J:536:LYS:HD3	2:L:464:GLN:HE22	1.68	0.58
2:N:499:SER:OG	2:P:79:ASP:OD1	2.22	0.58
2:V:172:HIS:NE2	2:V:216:GLU:OE1	2.36	0.58
2:D:373:ASP:OD1	2:D:374:GLU:N	2.37	0.58
2:B:60:ARG:NE	2:D:301:GLU:OE2	2.36	0.58
2:H:122:ARG:NH2	2:H:142:GLU:OE1	2.37	0.58
2:J:32:ARG:NH1	2:L:304:PHE:O	2.37	0.58
2:T:73:VAL:HG13	2:T:491:THR:HG23	1.85	0.58
2:T:162:LYS:NZ	2:T:309:GLU:OE1	2.35	0.58
2:B:304:PHE:O	2:X:32:ARG:NH1	2.36	0.58
1:K:79:SER:HA	1:K:82:PHE:CE2	2.39	0.58
2:L:564:GLN:O	2:L:568:GLU:HG3	2.04	0.58
2:N:21:ARG:HD3	2:N:149:SER:HA	1.84	0.58
1:O:26:VAL:HG13	1:O:31:MET:HE3	1.85	0.58
2:P:373:ASP:OD1	2:P:374:GLU:N	2.37	0.58
2:J:105:ALA:HA	2:J:143:PRO:HB3	1.86	0.58
2:L:292:HIS:HB3	2:L:432:ARG:HH21	1.69	0.58
2:P:32:ARG:NH1	2:R:304:PHE:O	2.37	0.58
2:T:60:ARG:NE	2:V:301:GLU:OE2	2.37	0.58
2:V:276:ILE:HG22	2:V:281:VAL:HG12	1.86	0.58
2:V:499:SER:OG	2:X:79:ASP:OD1	2.21	0.58
2:D:318:THR:HB	2:D:407:VAL:HG13	1.84	0.57
2:J:249:VAL:HG23	2:J:250:ILE:HG23	1.83	0.57
2:J:540:MET:HE1	2:L:549:LEU:HD13	1.86	0.57
2:X:292:HIS:HB3	2:X:432:ARG:HH21	1.69	0.57
2:B:301:GLU:OE2	2:X:60:ARG:NE	2.35	0.57
2:F:452:THR:HG22	2:F:464:GLN:HA	1.86	0.57
2:N:60:ARG:NE	2:P:301:GLU:OE2	2.37	0.57
1:O:38:LEU:HD13	1:O:85:LEU:HD12	1.85	0.57
2:V:586:GLY:HA2	2:V:589:LEU:HD12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:7:LEU:HD21	1:W:78:VAL:HG13	1.87	0.57
1:G:47:GLN:HE22	1:I:111:LEU:HB3	1.67	0.57
2:L:452:THR:HG22	2:L:464:GLN:HA	1.86	0.57
2:T:499:SER:OG	2:V:79:ASP:OD1	2.22	0.57
2:D:438:GLN:O	2:D:442:ASN:ND2	2.38	0.57
1:E:26:VAL:HG11	1:E:31:MET:HE3	1.86	0.57
2:F:292:HIS:HB3	2:F:432:ARG:HH21	1.70	0.57
2:H:499:SER:OG	2:J:79:ASP:OD1	2.22	0.57
2:J:373:ASP:OD1	2:J:374:GLU:N	2.37	0.57
2:R:452:THR:HG22	2:R:464:GLN:HA	1.87	0.57
2:T:371:ARG:NH2	2:V:349:GLU:OE2	2.38	0.57
2:V:366:TYR:HE1	2:X:358:TYR:HB2	1.69	0.57
2:X:21:ARG:HD3	2:X:149:SER:HA	1.85	0.57
2:X:276:ILE:HG22	2:X:281:VAL:HG12	1.85	0.57
2:D:276:ILE:HG22	2:D:281:VAL:HG12	1.85	0.57
2:D:583:GLN:O	2:D:587:VAL:HG23	2.05	0.57
2:H:32:ARG:NH1	2:J:304:PHE:O	2.37	0.57
2:B:551:GLN:HG2	2:B:569:ALA:HB2	1.86	0.57
2:J:359:ASP:HB3	1:K:124:ALA:HB2	1.87	0.57
2:N:32:ARG:NH1	2:P:304:PHE:O	2.37	0.57
2:P:276:ILE:HG22	2:P:281:VAL:HG12	1.86	0.57
2:P:404:THR:O	2:P:408:LYS:HG2	2.04	0.57
2:J:548:GLN:O	2:J:552:MET:HG3	2.04	0.57
2:N:32:ARG:HH21	2:N:111:ARG:HG2	1.70	0.57
2:L:32:ARG:NH1	2:N:304:PHE:O	2.37	0.57
2:N:533:LEU:HD22	2:P:76:ARG:HH12	1.70	0.57
2:P:452:THR:HG22	2:P:464:GLN:HA	1.87	0.57
1:S:37:ASP:OD2	1:U:14:LYS:NZ	2.24	0.57
2:X:32:ARG:HH21	2:X:111:ARG:HG2	1.70	0.57
2:B:28:LEU:HG	2:B:116:ALA:HB2	1.87	0.56
2:D:532:LEU:HD21	2:F:511:LEU:HD11	1.86	0.56
2:D:60:ARG:NE	2:F:301:GLU:OE2	2.37	0.56
2:F:584:ALA:HB2	2:H:585:GLN:HG2	1.87	0.56
2:H:371:ARG:NH2	2:J:349:GLU:OE2	2.38	0.56
2:P:172:HIS:NE2	2:P:216:GLU:OE1	2.37	0.56
2:R:32:ARG:NH1	2:T:304:PHE:O	2.38	0.56
2:V:65:GLU:HG2	2:V:417:LEU:HD11	1.87	0.56
1:W:3:THR:HG22	1:W:6:ASP:CG	2.30	0.56
2:B:122:ARG:NH2	2:B:142:GLU:OE1	2.37	0.56
1:I:79:SER:HA	1:I:82:PHE:CE2	2.40	0.56
2:J:152:ILE:HB	2:J:169:THR:HB	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:532:LEU:HD21	2:L:511:LEU:HD11	1.86	0.56
2:V:343:LYS:NZ	1:W:123:ARG:HH22	2.03	0.56
2:B:371:ARG:NH2	2:D:349:GLU:OE2	2.39	0.56
1:I:44:GLU:OE2	1:I:88:ARG:NH2	2.36	0.56
2:R:564:GLN:O	2:R:568:GLU:HG3	2.05	0.56
2:X:505:ARG:NH1	2:X:531:THR:O	2.37	0.56
2:B:505:ARG:NH1	2:B:531:THR:O	2.37	0.56
2:F:105:ALA:HA	2:F:143:PRO:HB3	1.88	0.56
2:J:421:VAL:C	2:J:423:GLN:H	2.13	0.56
2:L:419:THR:O	2:L:423:GLN:HB2	2.06	0.56
2:N:122:ARG:NH2	2:N:142:GLU:OE1	2.39	0.56
2:N:371:ARG:NH2	2:P:349:GLU:OE2	2.38	0.56
2:T:32:ARG:HH21	2:T:111:ARG:HG2	1.71	0.56
2:V:73:VAL:HG13	2:V:491:THR:HG23	1.88	0.56
2:V:564:GLN:O	2:V:568:GLU:HG3	2.05	0.56
2:B:564:GLN:O	2:B:568:GLU:HG3	2.06	0.56
2:L:32:ARG:HH21	2:L:111:ARG:HG2	1.71	0.56
2:R:32:ARG:HH21	2:R:111:ARG:HG2	1.71	0.56
2:R:505:ARG:NH1	2:R:531:THR:O	2.38	0.56
2:V:373:ASP:OD1	2:V:374:GLU:N	2.38	0.56
2:V:548:GLN:O	2:V:552:MET:HG3	2.05	0.56
2:X:419:THR:O	2:X:423:GLN:HB2	2.06	0.56
2:F:32:ARG:NH1	2:H:304:PHE:O	2.38	0.56
2:H:228:PHE:N	2:H:242:PHE:O	2.39	0.56
2:J:421:VAL:HG12	2:J:422:PHE:H	1.70	0.56
2:N:505:ARG:NH1	2:N:531:THR:O	2.37	0.56
2:R:276:ILE:HG22	2:R:281:VAL:HG12	1.87	0.56
2:T:358:TYR:OH	2:T:368:LEU:O	2.24	0.56
2:T:564:GLN:O	2:T:568:GLU:HG3	2.06	0.56
2:V:371:ARG:NH1	2:X:349:GLU:OE1	2.39	0.56
2:V:583:GLN:O	2:V:587:VAL:HG23	2.06	0.56
2:P:532:LEU:HD21	2:R:511:LEU:HD11	1.86	0.56
2:V:32:ARG:NH1	2:X:304:PHE:O	2.39	0.56
2:J:196:PHE:O	2:J:213:GLN:NE2	2.39	0.56
1:K:18:ALA:HB1	1:K:26:VAL:HG22	1.87	0.56
2:N:358:TYR:OH	2:N:368:LEU:O	2.24	0.56
1:U:42:MET:HE3	1:U:42:MET:HA	1.88	0.56
2:X:452:THR:HG22	2:X:464:GLN:HA	1.88	0.56
2:F:276:ILE:HG22	2:F:281:VAL:HG12	1.87	0.55
2:H:37:ASP:OD2	2:H:323:ARG:NH2	2.35	0.55
2:P:196:PHE:O	2:P:213:GLN:NE2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:583:GLN:O	2:P:587:VAL:HG23	2.06	0.55
2:R:592:GLN:HG2	2:R:595:LEU:HD12	1.89	0.55
2:H:551:GLN:HG2	2:H:569:ALA:HB2	1.88	0.55
2:L:54:VAL:HG13	2:L:407:VAL:HG11	1.87	0.55
2:H:276:ILE:HG22	2:H:281:VAL:HG12	1.88	0.55
2:N:389:ASN:HB3	2:P:393:PRO:HB3	1.89	0.55
2:P:371:ARG:NH1	2:R:349:GLU:OE1	2.39	0.55
2:T:505:ARG:NH1	2:T:531:THR:O	2.37	0.55
1:C:42:MET:HE3	1:C:42:MET:HA	1.88	0.55
2:D:152:ILE:HB	2:D:169:THR:HB	1.88	0.55
2:J:421:VAL:O	2:J:423:GLN:N	2.37	0.55
1:K:7:LEU:HD21	1:K:78:VAL:HG13	1.88	0.55
2:N:414:GLY:O	2:N:415:VAL:C	2.49	0.55
2:N:548:GLN:O	2:N:552:MET:HG3	2.05	0.55
2:P:551:GLN:HG2	2:P:569:ALA:HB2	1.89	0.55
2:X:54:VAL:HG13	2:X:407:VAL:HG11	1.88	0.55
2:D:389:ASN:HB3	2:F:393:PRO:HB3	1.89	0.55
1:E:7:LEU:HD21	1:E:78:VAL:HG13	1.88	0.55
2:L:105:ALA:HA	2:L:143:PRO:HB3	1.89	0.55
2:P:505:ARG:NH1	2:P:531:THR:O	2.38	0.55
1:Q:26:VAL:HG11	1:Q:31:MET:HE3	1.87	0.55
2:R:66:MET:HE1	2:R:422:PHE:HB3	1.88	0.55
2:R:344:PRO:HG3	2:T:387:TYR:HE1	1.71	0.55
2:T:179:TRP:HB2	2:T:212:ILE:HG21	1.88	0.55
2:V:505:ARG:NH1	2:V:531:THR:O	2.39	0.55
2:J:371:ARG:NH1	2:L:349:GLU:OE1	2.39	0.55
2:J:389:ASN:HB3	2:L:393:PRO:HB3	1.89	0.55
1:O:42:MET:HA	1:O:42:MET:HE3	1.87	0.55
2:V:152:ILE:HB	2:V:169:THR:HB	1.88	0.55
2:X:373:ASP:OD1	2:X:374:GLU:N	2.40	0.55
2:J:583:GLN:O	2:J:587:VAL:HG23	2.06	0.55
2:J:586:GLY:HA2	2:J:589:LEU:HD12	1.88	0.55
2:P:389:ASN:HB3	2:R:393:PRO:HB3	1.89	0.55
2:T:592:GLN:HG2	2:T:595:LEU:HD12	1.88	0.55
2:B:247:LYS:NZ	2:B:251:ASP:OD1	2.35	0.55
2:B:592:GLN:HG2	2:B:595:LEU:HD12	1.89	0.55
2:L:567:VAL:O	2:L:571:GLN:HG3	2.07	0.55
2:B:276:ILE:HG22	2:B:281:VAL:HG12	1.88	0.55
1:C:7:LEU:HD21	1:C:78:VAL:HG13	1.89	0.55
2:N:292:HIS:HB3	2:N:432:ARG:HH21	1.72	0.55
2:N:564:GLN:O	2:N:568:GLU:HG3	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:84:ASP:OD2	2:R:464:GLN:NE2	2.40	0.55
2:V:179:TRP:HB2	2:V:212:ILE:HG21	1.89	0.55
1:A:54:THR:HG22	1:A:112:LEU:HD22	1.89	0.54
2:F:551:GLN:HG2	2:F:569:ALA:HB2	1.90	0.54
2:T:37:ASP:OD2	2:T:323:ARG:NH2	2.33	0.54
2:V:54:VAL:HG13	2:V:407:VAL:HG11	1.89	0.54
2:N:179:TRP:HB2	2:N:212:ILE:HG21	1.89	0.54
2:N:511:LEU:HB3	2:N:524:LEU:HD21	1.89	0.54
2:P:54:VAL:HG13	2:P:407:VAL:HG11	1.89	0.54
1:A:38:LEU:HD13	1:A:85:LEU:HD12	1.89	0.54
2:D:551:GLN:HG2	2:D:569:ALA:HB2	1.89	0.54
2:H:28:LEU:HG	2:H:116:ALA:HB2	1.89	0.54
2:H:532:LEU:HD21	2:J:511:LEU:HD11	1.90	0.54
2:T:276:ILE:HG22	2:T:281:VAL:HG12	1.88	0.54
2:F:32:ARG:HH21	2:F:111:ARG:HG2	1.73	0.54
2:F:67:ARG:HD3	2:H:424:ASP:OD2	2.07	0.54
2:J:276:ILE:HG22	2:J:281:VAL:HG12	1.88	0.54
2:J:362:ASP:OD1	1:M:123:ARG:NH2	2.37	0.54
2:L:67:ARG:HD3	2:N:424:ASP:OD2	2.08	0.54
2:L:291:GLU:OE1	2:L:487:TYR:OH	2.24	0.54
2:H:583:GLN:HE22	2:J:585:GLN:C	2.15	0.54
2:J:32:ARG:HH21	2:J:111:ARG:HG2	1.72	0.54
2:L:344:PRO:HG3	2:N:387:TYR:HE1	1.72	0.54
2:L:592:GLN:HG2	2:L:595:LEU:HD12	1.89	0.54
2:P:32:ARG:HH21	2:P:111:ARG:HG2	1.73	0.54
2:B:206:TRP:CD1	2:B:209:GLN:HE21	2.26	0.54
2:F:291:GLU:OE1	2:F:487:TYR:OH	2.25	0.54
2:F:373:ASP:OD1	2:F:374:GLU:N	2.40	0.54
2:L:28:LEU:HG	2:L:116:ALA:HB2	1.89	0.54
2:N:276:ILE:HG22	2:N:281:VAL:HG12	1.88	0.54
2:P:592:GLN:HG2	2:P:595:LEU:HD12	1.89	0.54
2:T:291:GLU:OE1	2:T:487:TYR:OH	2.25	0.54
2:T:567:VAL:O	2:T:571:GLN:HG3	2.08	0.54
2:V:414:GLY:O	2:V:415:VAL:C	2.51	0.54
2:V:567:VAL:O	2:V:571:GLN:HG3	2.08	0.54
2:H:505:ARG:NH1	2:H:531:THR:O	2.37	0.54
2:N:452:THR:HG22	2:N:464:GLN:HA	1.90	0.54
2:P:3:LEU:HD13	2:P:281:VAL:HG13	1.90	0.54
2:P:152:ILE:HB	2:P:169:THR:HB	1.89	0.54
2:T:551:GLN:HG2	2:T:569:ALA:HB2	1.90	0.54
1:G:38:LEU:HD13	1:G:85:LEU:HD12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:206:TRP:CD1	2:N:209:GLN:HE21	2.25	0.54
2:X:567:VAL:O	2:X:571:GLN:HG3	2.08	0.54
2:D:366:TYR:HE1	2:F:358:TYR:HB2	1.71	0.54
2:H:3:LEU:HD13	2:H:281:VAL:HG13	1.90	0.54
2:L:404:THR:O	2:L:408:LYS:HG2	2.07	0.54
2:B:567:VAL:O	2:B:571:GLN:HG3	2.07	0.54
2:N:3:LEU:HD13	2:N:281:VAL:HG13	1.90	0.54
2:V:60:ARG:NE	2:X:301:GLU:OE2	2.38	0.54
2:V:534:ASP:HB2	2:X:77:PRO:HD3	1.90	0.54
2:B:14:TRP:O	2:B:21:ARG:NH2	2.40	0.53
2:D:3:LEU:HD13	2:D:281:VAL:HG13	1.90	0.53
2:D:452:THR:HG22	2:D:464:GLN:HA	1.90	0.53
2:F:3:LEU:HD13	2:F:281:VAL:HG13	1.91	0.53
2:F:71:ILE:HG22	2:F:430:MET:HG3	1.90	0.53
2:V:28:LEU:O	2:V:32:ARG:HB2	2.08	0.53
2:V:452:THR:HG22	2:V:464:GLN:HA	1.91	0.53
2:X:82:ARG:NH1	2:X:84:ASP:OD1	2.37	0.53
2:J:452:THR:HG22	2:J:464:GLN:HA	1.90	0.53
1:K:129:ARG:NH2	2:N:334:ASP:OD2	2.38	0.53
2:L:302:TRP:NE1	2:L:309:GLU:OE2	2.32	0.53
1:M:26:VAL:HG13	1:M:31:MET:HE3	1.91	0.53
2:N:196:PHE:O	2:N:213:GLN:NE2	2.41	0.53
2:N:583:GLN:HE22	2:P:585:GLN:C	2.15	0.53
2:H:534:ASP:HB2	2:J:77:PRO:HD3	1.91	0.53
2:J:162:LYS:NZ	2:J:309:GLU:OE1	2.41	0.53
2:N:567:VAL:O	2:N:571:GLN:HG3	2.07	0.53
2:V:105:ALA:HA	2:V:143:PRO:HB3	1.90	0.53
1:G:18:ALA:HB1	1:G:26:VAL:HG22	1.90	0.53
2:H:564:GLN:O	2:H:568:GLU:HG3	2.07	0.53
2:L:71:ILE:HG22	2:L:430:MET:HG3	1.91	0.53
2:N:532:LEU:HD21	2:P:511:LEU:HD11	1.90	0.53
2:P:540:MET:HE2	2:R:527:LEU:HD22	1.90	0.53
2:V:389:ASN:HB3	2:X:393:PRO:HB3	1.91	0.53
2:D:505:ARG:NH1	2:D:531:THR:O	2.39	0.53
2:D:534:ASP:HB2	2:F:77:PRO:HD3	1.89	0.53
2:J:179:TRP:HB2	2:J:212:ILE:HG21	1.90	0.53
2:L:389:ASN:HB3	2:N:393:PRO:HB3	1.90	0.53
2:T:583:GLN:HE22	2:V:585:GLN:C	2.15	0.53
2:V:3:LEU:HD13	2:V:281:VAL:HG13	1.90	0.53
2:X:14:TRP:O	2:X:21:ARG:NH2	2.42	0.53
2:B:253:LEU:HD21	2:B:474:THR:HG23	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:253:LEU:HD21	2:D:474:THR:HG23	1.91	0.53
2:H:204:PHE:HB3	2:H:206:TRP:NE1	2.23	0.53
2:J:28:LEU:O	2:J:32:ARG:HB2	2.08	0.53
2:V:358:TYR:OH	2:V:368:LEU:O	2.25	0.53
2:X:126:ASP:OD1	2:X:127:TYR:N	2.42	0.53
2:B:550:ILE:HD13	2:B:562:GLU:HB3	1.90	0.53
2:F:28:LEU:HG	2:F:116:ALA:HB2	1.90	0.53
2:F:305:VAL:HG22	2:F:306:GLU:HG2	1.90	0.53
2:F:404:THR:O	2:F:408:LYS:HG2	2.09	0.53
2:F:499:SER:OG	2:H:79:ASP:OD1	2.27	0.53
2:H:207:LEU:HD23	2:H:208:THR:HG23	1.89	0.53
1:O:54:THR:HG22	1:O:112:LEU:HD22	1.89	0.53
2:T:3:LEU:HD13	2:T:281:VAL:HG13	1.90	0.53
2:X:252:ASP:N	2:X:252:ASP:OD1	2.41	0.53
1:A:111:LEU:HD23	1:W:47:GLN:HE21	1.73	0.53
2:D:32:ARG:HH21	2:D:111:ARG:HG2	1.74	0.53
2:D:291:GLU:OE1	2:D:487:TYR:OH	2.26	0.53
2:F:427:ALA:HB1	2:F:493:VAL:HG21	1.90	0.53
2:L:551:GLN:HG2	2:L:569:ALA:HB2	1.89	0.53
2:P:67:ARG:HD3	2:R:424:ASP:OD2	2.08	0.53
2:P:105:ALA:HA	2:P:143:PRO:HB3	1.90	0.53
2:R:291:GLU:OE1	2:R:487:TYR:OH	2.25	0.53
2:R:366:TYR:HE1	2:T:358:TYR:HB2	1.74	0.53
2:B:583:GLN:HE22	2:D:585:GLN:C	2.16	0.53
2:D:28:LEU:O	2:D:32:ARG:HB2	2.08	0.53
2:N:405:SER:O	2:N:409:GLU:HG3	2.09	0.53
2:P:567:VAL:O	2:P:571:GLN:HG3	2.09	0.53
1:U:7:LEU:HD21	1:U:78:VAL:HG13	1.91	0.53
2:V:84:ASP:OD1	2:V:450:ASN:ND2	2.42	0.53
2:V:228:PHE:N	2:V:242:PHE:O	2.41	0.53
2:V:592:GLN:HG2	2:V:595:LEU:HD12	1.90	0.53
2:B:406:ALA:O	2:B:410:VAL:HG23	2.08	0.53
1:C:29:GLN:NE2	1:E:20:ASP:OD2	2.41	0.53
2:J:28:LEU:HG	2:J:116:ALA:HB2	1.90	0.53
2:J:404:THR:O	2:J:408:LYS:HG2	2.08	0.53
2:L:373:ASP:OD1	2:L:374:GLU:N	2.42	0.53
2:R:28:LEU:HG	2:R:116:ALA:HB2	1.89	0.53
2:X:427:ALA:HB1	2:X:493:VAL:HG21	1.91	0.53
2:D:162:LYS:NZ	2:D:309:GLU:OE1	2.41	0.52
2:J:534:ASP:HB2	2:L:77:PRO:HD3	1.90	0.52
2:F:126:ASP:OD1	2:F:127:TYR:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:476:GLU:HG2	2:N:477:LYS:HG3	1.92	0.52
2:R:305:VAL:HG22	2:R:306:GLU:HG2	1.91	0.52
2:V:343:LYS:HZ1	1:W:123:ARG:HH22	1.56	0.52
2:D:317:LEU:HB3	2:D:410:VAL:HG11	1.91	0.52
2:F:419:THR:O	2:F:423:GLN:HB2	2.09	0.52
2:J:551:GLN:HG2	2:J:569:ALA:HB2	1.90	0.52
1:S:148:PRO:HD3	2:V:41:SER:HB2	1.91	0.52
2:T:253:LEU:HD21	2:T:474:THR:HG23	1.90	0.52
2:T:452:THR:HG22	2:T:464:GLN:HA	1.91	0.52
2:D:592:GLN:HG2	2:D:595:LEU:HD12	1.91	0.52
2:J:317:LEU:HB3	2:J:410:VAL:HG11	1.92	0.52
2:N:232:ASP:HB3	2:N:238:PRO:HG3	1.91	0.52
2:N:592:GLN:HG2	2:N:595:LEU:HD12	1.89	0.52
2:R:3:LEU:HD13	2:R:281:VAL:HG13	1.91	0.52
2:T:476:GLU:HG2	2:T:477:LYS:HG3	1.92	0.52
2:X:551:GLN:HG2	2:X:569:ALA:HB2	1.92	0.52
2:B:54:VAL:HG13	2:B:407:VAL:HG11	1.92	0.52
2:H:71:ILE:HG22	2:H:430:MET:HG3	1.92	0.52
2:H:292:HIS:HB3	2:H:432:ARG:HH21	1.74	0.52
2:H:358:TYR:OH	2:H:368:LEU:O	2.24	0.52
2:P:28:LEU:HG	2:P:116:ALA:HB2	1.90	0.52
1:W:38:LEU:HD13	1:W:85:LEU:HD12	1.92	0.52
2:X:71:ILE:HG22	2:X:430:MET:HG3	1.92	0.52
2:B:32:ARG:HH21	2:B:111:ARG:HG2	1.73	0.52
2:F:252:ASP:OD1	2:F:252:ASP:N	2.41	0.52
1:G:148:PRO:HD3	2:J:41:SER:HB2	1.92	0.52
2:H:404:THR:O	2:H:408:LYS:HG2	2.09	0.52
2:N:228:PHE:N	2:N:242:PHE:O	2.39	0.52
2:R:162:LYS:NZ	2:R:309:GLU:OE2	2.42	0.52
2:R:358:TYR:OH	2:R:368:LEU:O	2.26	0.52
2:R:373:ASP:OD1	2:R:374:GLU:N	2.42	0.52
2:V:196:PHE:O	2:V:213:GLN:NE2	2.43	0.52
2:B:228:PHE:N	2:B:242:PHE:O	2.41	0.52
2:D:54:VAL:HG13	2:D:407:VAL:HG11	1.92	0.52
2:H:567:VAL:O	2:H:571:GLN:HG3	2.10	0.52
2:J:291:GLU:OE1	2:J:487:TYR:OH	2.27	0.52
2:J:505:ARG:NH1	2:J:531:THR:O	2.40	0.52
2:J:592:GLN:HG2	2:J:595:LEU:HD12	1.90	0.52
2:L:359:ASP:HB3	1:M:124:ALA:HB2	1.91	0.52
2:L:406:ALA:O	2:L:410:VAL:HG23	2.10	0.52
2:N:253:LEU:HD21	2:N:474:THR:HG23	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:P:179:TRP:HB2	2:P:212:ILE:HG21	1.92	0.52
2:R:71:ILE:HG22	2:R:430:MET:HG3	1.90	0.52
2:R:126:ASP:OD1	2:R:127:TYR:N	2.42	0.52
2:R:404:THR:O	2:R:408:LYS:HG2	2.09	0.52
2:V:126:ASP:OD1	2:V:127:TYR:N	2.42	0.52
2:X:28:LEU:HG	2:X:116:ALA:HB2	1.92	0.52
2:B:360:GLY:HA2	2:D:340:PRO:HG3	1.91	0.52
2:B:452:THR:HG22	2:B:464:GLN:HA	1.92	0.52
2:D:126:ASP:OD1	2:D:127:TYR:N	2.42	0.52
2:D:196:PHE:O	2:D:213:GLN:NE2	2.43	0.52
2:J:113:GLN:NE2	2:J:422:PHE:HA	2.24	0.52
2:J:567:VAL:O	2:J:571:GLN:HG3	2.09	0.52
2:N:28:LEU:HG	2:N:116:ALA:HB2	1.92	0.52
2:T:196:PHE:O	2:T:213:GLN:NE2	2.42	0.52
1:G:54:THR:HG22	1:G:112:LEU:HD22	1.90	0.52
2:L:131:SER:O	2:L:131:SER:OG	2.28	0.52
2:P:56:ARG:NH2	2:R:312:GLU:OE1	2.43	0.52
1:S:47:GLN:NE2	1:U:111:LEU:HB3	2.23	0.52
2:T:206:TRP:CD1	2:T:209:GLN:HE21	2.28	0.52
2:T:224:LYS:HA	2:T:267:LYS:HA	1.92	0.52
2:V:224:LYS:HA	2:V:267:LYS:HA	1.92	0.52
2:B:584:ALA:HB2	2:D:585:GLN:HG2	1.92	0.52
2:D:567:VAL:O	2:D:571:GLN:HG3	2.09	0.52
1:G:47:GLN:NE2	1:I:111:LEU:HB3	2.25	0.52
2:L:252:ASP:N	2:L:252:ASP:OD1	2.42	0.52
2:L:427:ALA:HB1	2:L:493:VAL:HG21	1.92	0.52
1:M:3:THR:HG23	1:M:6:ASP:H	1.75	0.52
2:N:14:TRP:O	2:N:21:ARG:NH2	2.42	0.52
2:N:269:ARG:HB2	2:N:291:GLU:HG2	1.92	0.52
2:P:413:LEU:HD11	2:P:422:PHE:CZ	2.45	0.52
2:V:253:LEU:HD21	2:V:474:THR:HG23	1.91	0.52
2:V:438:GLN:O	2:V:442:ASN:ND2	2.43	0.52
2:D:28:LEU:HG	2:D:116:ALA:HB2	1.91	0.51
2:V:291:GLU:OE1	2:V:487:TYR:OH	2.27	0.51
2:B:3:LEU:HD13	2:B:281:VAL:HG13	1.90	0.51
2:F:200:ASN:ND2	2:H:307:ASP:OD2	2.43	0.51
2:H:32:ARG:HH21	2:H:111:ARG:HG2	1.75	0.51
2:H:476:GLU:HG2	2:H:477:LYS:HG3	1.91	0.51
2:T:373:ASP:OD1	2:T:374:GLU:N	2.44	0.51
2:B:404:THR:O	2:B:408:LYS:HG2	2.11	0.51
2:D:160:MET:HE2	2:D:302:TRP:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:76:ARG:NE	2:H:492:ASP:OD2	2.41	0.51
2:L:366:TYR:HE1	2:N:358:TYR:HB2	1.75	0.51
2:P:28:LEU:O	2:P:32:ARG:HB2	2.09	0.51
2:T:14:TRP:O	2:T:21:ARG:NH2	2.42	0.51
2:T:406:ALA:O	2:T:410:VAL:HG23	2.10	0.51
1:A:18:ALA:HB1	1:A:26:VAL:HG22	1.93	0.51
2:B:373:ASP:OD1	2:B:374:GLU:N	2.44	0.51
2:N:162:LYS:NZ	2:N:309:GLU:OE1	2.36	0.51
2:P:126:ASP:OD1	2:P:127:TYR:N	2.43	0.51
2:P:129:ASP:HB3	2:R:266:ILE:HG23	1.93	0.51
2:B:476:GLU:HG2	2:B:477:LYS:HG3	1.92	0.51
2:H:312:GLU:HG3	2:H:316:ARG:HD2	1.92	0.51
2:L:430:MET:HE3	2:L:430:MET:HA	1.93	0.51
2:N:406:ALA:O	2:N:410:VAL:HG23	2.10	0.51
2:T:232:ASP:HB3	2:T:238:PRO:HG3	1.91	0.51
2:V:28:LEU:HG	2:V:116:ALA:HB2	1.92	0.51
2:D:54:VAL:CG2	2:D:408:LYS:HE3	2.41	0.51
2:D:73:VAL:HG13	2:D:491:THR:HG23	1.92	0.51
2:F:532:LEU:HD21	2:H:511:LEU:HD11	1.92	0.51
2:T:511:LEU:HB3	2:T:524:LEU:HD21	1.93	0.51
2:X:232:ASP:HB3	2:X:238:PRO:HG3	1.92	0.51
1:A:148:PRO:HD3	2:D:41:SER:HB2	1.91	0.51
2:H:232:ASP:HB3	2:H:238:PRO:HG3	1.91	0.51
1:I:29:GLN:NE2	1:K:20:ASP:OD2	2.44	0.51
2:N:584:ALA:O	2:N:587:VAL:HB	2.11	0.51
2:T:405:SER:O	2:T:409:GLU:HG3	2.11	0.51
2:T:533:LEU:HD22	2:V:76:ARG:HH12	1.75	0.51
2:B:232:ASP:HB3	2:B:238:PRO:HG3	1.92	0.51
2:B:427:ALA:HB1	2:B:493:VAL:HG21	1.92	0.51
2:H:200:ASN:HB2	2:J:306:GLU:OE1	2.10	0.51
2:H:373:ASP:OD1	2:H:374:GLU:N	2.44	0.51
2:N:404:THR:O	2:N:408:LYS:HG2	2.11	0.51
1:O:7:LEU:HD21	1:O:78:VAL:HG13	1.93	0.51
2:P:291:GLU:OE1	2:P:487:TYR:OH	2.28	0.51
2:T:247:LYS:NZ	2:T:251:ASP:OD1	2.34	0.51
2:B:511:LEU:HB3	2:B:524:LEU:HD21	1.93	0.51
2:D:232:ASP:HB3	2:D:238:PRO:HG3	1.93	0.51
2:F:592:GLN:HG2	2:F:595:LEU:HD12	1.93	0.51
2:J:126:ASP:OD1	2:J:127:TYR:N	2.43	0.51
2:N:373:ASP:OD1	2:N:374:GLU:N	2.43	0.51
2:P:224:LYS:HA	2:P:267:LYS:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:14:TRP:O	2:R:21:ARG:NH2	2.44	0.51
2:R:427:ALA:HB1	2:R:493:VAL:HG21	1.91	0.51
2:X:230:TYR:HE2	2:X:247:LYS:HZ1	1.59	0.51
2:F:358:TYR:OH	2:F:368:LEU:O	2.28	0.51
2:H:452:THR:HG22	2:H:464:GLN:HA	1.92	0.51
2:J:129:ASP:HB3	2:L:266:ILE:HG23	1.93	0.51
2:J:253:LEU:HD21	2:J:474:THR:HG23	1.92	0.51
2:L:224:LYS:HA	2:L:267:LYS:HA	1.93	0.51
2:L:292:HIS:HB2	2:L:436:ILE:HG12	1.93	0.51
2:N:82:ARG:HG2	2:N:85:ALA:HB2	1.93	0.51
2:R:430:MET:HE3	2:R:430:MET:HA	1.93	0.51
2:T:584:ALA:O	2:T:587:VAL:HB	2.11	0.51
2:N:71:ILE:HG22	2:N:430:MET:HG3	1.93	0.50
2:N:224:LYS:HA	2:N:267:LYS:HA	1.92	0.50
2:N:430:MET:HA	2:N:430:MET:HE3	1.93	0.50
2:P:73:VAL:HG13	2:P:491:THR:HG23	1.92	0.50
2:R:252:ASP:OD1	2:R:252:ASP:N	2.43	0.50
2:T:430:MET:HE3	2:T:430:MET:HA	1.93	0.50
1:A:47:GLN:NE2	1:C:111:LEU:HB3	2.25	0.50
2:B:28:LEU:O	2:B:32:ARG:HB2	2.11	0.50
2:D:133:THR:H	2:D:138:VAL:HG12	1.75	0.50
2:D:228:PHE:N	2:D:242:PHE:O	2.41	0.50
2:H:14:TRP:O	2:H:21:ARG:NH2	2.44	0.50
2:N:291:GLU:OE1	2:N:487:TYR:OH	2.29	0.50
2:T:28:LEU:HG	2:T:116:ALA:HB2	1.92	0.50
2:V:232:ASP:HB3	2:V:238:PRO:HG3	1.93	0.50
2:X:291:GLU:OE1	2:X:487:TYR:OH	2.29	0.50
2:D:404:THR:O	2:D:408:LYS:HG2	2.12	0.50
2:F:206:TRP:CE3	2:H:308:LYS:HD3	2.46	0.50
2:F:232:ASP:HB3	2:F:238:PRO:HG3	1.93	0.50
2:H:430:MET:HE3	2:H:430:MET:HA	1.93	0.50
2:P:133:THR:H	2:P:138:VAL:HG12	1.77	0.50
1:G:37:ASP:OD2	1:I:14:LYS:NZ	2.25	0.50
2:H:54:VAL:HG13	2:H:407:VAL:HG11	1.93	0.50
2:H:406:ALA:O	2:H:410:VAL:HG23	2.11	0.50
2:H:427:ALA:HB1	2:H:493:VAL:HG21	1.93	0.50
2:J:160:MET:HE2	2:J:302:TRP:HB3	1.94	0.50
2:L:232:ASP:HB3	2:L:238:PRO:HG3	1.92	0.50
2:R:232:ASP:HB3	2:R:238:PRO:HG3	1.92	0.50
2:R:551:GLN:HG2	2:R:569:ALA:HB2	1.94	0.50
2:V:523:GLN:HE21	2:V:554:VAL:HG21	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:224:LYS:HA	2:B:267:LYS:HA	1.93	0.50
2:B:584:ALA:O	2:B:587:VAL:HB	2.11	0.50
2:F:14:TRP:O	2:F:21:ARG:NH2	2.45	0.50
2:F:179:TRP:HB2	2:F:212:ILE:HG21	1.92	0.50
2:H:584:ALA:O	2:H:587:VAL:HB	2.12	0.50
1:M:148:PRO:HD3	2:P:41:SER:HB2	1.93	0.50
2:P:362:ASP:OD1	1:S:123:ARG:NH2	2.39	0.50
2:F:430:MET:HE3	2:F:430:MET:HA	1.93	0.50
2:H:84:ASP:OD2	2:H:464:GLN:NE2	2.45	0.50
2:H:431:ARG:HA	2:H:491:THR:HG21	1.93	0.50
2:J:73:VAL:HG13	2:J:491:THR:HG23	1.93	0.50
2:P:253:LEU:HD21	2:P:474:THR:HG23	1.92	0.50
2:R:224:LYS:HA	2:R:267:LYS:HA	1.93	0.50
2:R:292:HIS:HB2	2:R:436:ILE:HG12	1.93	0.50
2:R:548:GLN:O	2:R:552:MET:HG3	2.12	0.50
2:T:584:ALA:HB2	2:V:585:GLN:HG2	1.94	0.50
2:X:358:TYR:OH	2:X:368:LEU:O	2.27	0.50
2:D:268:ARG:HH21	2:D:291:GLU:HG3	1.77	0.50
2:D:523:GLN:HE21	2:D:554:VAL:HG21	1.77	0.50
2:F:292:HIS:HB2	2:F:436:ILE:HG12	1.94	0.50
2:J:268:ARG:HH21	2:J:291:GLU:HG3	1.77	0.50
2:J:421:VAL:C	2:J:423:GLN:N	2.70	0.50
2:V:584:ALA:HB2	2:X:585:GLN:HG2	1.94	0.50
2:J:224:LYS:HA	2:J:267:LYS:HA	1.92	0.50
2:J:499:SER:OG	2:L:79:ASP:OD1	2.30	0.50
2:P:292:HIS:HB3	2:P:432:ARG:HH21	1.77	0.50
2:P:579:PRO:HB2	2:P:582:VAL:HB	1.94	0.50
2:R:183:ALA:HA	2:R:188:LEU:HB2	1.94	0.50
1:E:38:LEU:HD13	1:E:85:LEU:HD12	1.94	0.49
2:J:414:GLY:O	2:J:415:VAL:C	2.54	0.49
2:N:436:ILE:O	2:N:440:ILE:HG13	2.12	0.49
2:P:162:LYS:NZ	2:P:309:GLU:OE1	2.45	0.49
2:X:592:GLN:HG2	2:X:595:LEU:HD12	1.93	0.49
2:B:430:MET:HE3	2:B:430:MET:HA	1.93	0.49
2:H:224:LYS:HA	2:H:267:LYS:HA	1.93	0.49
2:J:232:ASP:HB3	2:J:238:PRO:HG3	1.93	0.49
2:L:126:ASP:OD1	2:L:127:TYR:N	2.44	0.49
2:N:29:PHE:HE2	2:N:204:PHE:HB2	1.77	0.49
2:P:358:TYR:OH	2:P:368:LEU:O	2.27	0.49
2:B:436:ILE:O	2:B:440:ILE:HG13	2.12	0.49
2:D:224:LYS:HA	2:D:267:LYS:HA	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:499:SER:OG	2:F:79:ASP:OD1	2.30	0.49
2:F:176:GLN:O	2:F:179:TRP:N	2.45	0.49
2:L:28:LEU:O	2:L:32:ARG:HB2	2.12	0.49
1:Q:7:LEU:CD2	1:Q:78:VAL:HG13	2.41	0.49
2:T:207:LEU:HD23	2:T:208:THR:HG23	1.94	0.49
2:V:133:THR:H	2:V:138:VAL:HG12	1.76	0.49
2:V:551:GLN:HG2	2:V:569:ALA:HB2	1.94	0.49
2:B:371:ARG:HE	2:B:372:THR:HG23	1.78	0.49
2:B:424:ASP:OD2	2:X:67:ARG:HD3	2.13	0.49
2:B:585:GLN:C	2:X:583:GLN:HE22	2.20	0.49
2:H:133:THR:H	2:H:138:VAL:HG12	1.77	0.49
1:K:7:LEU:CD2	1:K:78:VAL:HG13	2.42	0.49
2:L:179:TRP:HB2	2:L:212:ILE:HG21	1.95	0.49
2:T:371:ARG:HE	2:T:372:THR:HG23	1.78	0.49
2:T:436:ILE:O	2:T:440:ILE:HG13	2.12	0.49
2:X:430:MET:HE3	2:X:430:MET:HA	1.93	0.49
2:J:579:PRO:HB2	2:J:582:VAL:HB	1.94	0.49
2:L:84:ASP:OD2	2:L:464:GLN:NE2	2.46	0.49
2:L:583:GLN:HE22	2:N:585:GLN:C	2.20	0.49
2:R:28:LEU:O	2:R:32:ARG:HB2	2.12	0.49
2:T:427:ALA:HB1	2:T:493:VAL:HG21	1.94	0.49
2:X:176:GLN:O	2:X:179:TRP:N	2.45	0.49
2:B:291:GLU:OE1	2:B:487:TYR:OH	2.31	0.49
2:F:75:TYR:OH	2:F:434:GLY:O	2.28	0.49
2:F:108:ILE:HD11	2:H:302:TRP:HZ3	1.76	0.49
2:F:584:ALA:O	2:F:587:VAL:HB	2.12	0.49
2:L:108:ILE:HD11	2:N:302:TRP:HZ3	1.77	0.49
2:N:371:ARG:HE	2:N:372:THR:HG23	1.78	0.49
2:P:550:ILE:HD13	2:P:562:GLU:HB3	1.95	0.49
1:Q:38:LEU:HD13	1:Q:85:LEU:HD12	1.94	0.49
2:R:583:GLN:HE22	2:T:585:GLN:C	2.20	0.49
2:R:584:ALA:O	2:R:587:VAL:HB	2.12	0.49
1:W:131:PRO:HA	1:W:145:HIS:HA	1.95	0.49
2:J:228:PHE:N	2:J:242:PHE:O	2.42	0.49
2:L:14:TRP:O	2:L:21:ARG:NH2	2.44	0.49
2:L:436:ILE:O	2:L:440:ILE:HG13	2.13	0.49
2:N:216:GLU:HG2	2:N:275:ILE:HG13	1.94	0.49
2:R:389:ASN:HB3	2:T:393:PRO:HB3	1.94	0.49
2:V:436:ILE:O	2:V:440:ILE:HG13	2.13	0.49
2:X:183:ALA:HA	2:X:188:LEU:HB2	1.94	0.49
2:D:84:ASP:OD1	2:D:450:ASN:ND2	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:224:LYS:HA	2:F:267:LYS:HA	1.95	0.49
2:H:436:ILE:O	2:H:440:ILE:HG13	2.12	0.49
1:I:52:ILE:HD13	1:I:113:TYR:HA	1.95	0.49
2:X:584:ALA:O	2:X:587:VAL:HB	2.12	0.49
2:B:65:GLU:HG2	2:B:417:LEU:HD11	1.95	0.49
2:H:145:HIS:CD2	2:J:304:PHE:HB2	2.48	0.49
2:N:133:THR:H	2:N:138:VAL:HG12	1.78	0.49
2:P:232:ASP:HB3	2:P:238:PRO:HG3	1.93	0.49
2:P:438:GLN:O	2:P:442:ASN:ND2	2.45	0.49
2:R:176:GLN:O	2:R:179:TRP:N	2.44	0.49
2:V:533:LEU:HD22	2:X:76:ARG:HH12	1.78	0.49
1:A:11:ALA:CB	1:A:85:LEU:HD22	2.43	0.49
2:D:29:PHE:HE2	2:D:204:PHE:HB2	1.78	0.49
2:F:54:VAL:CG2	2:F:408:LYS:HE3	2.42	0.49
2:J:84:ASP:OD1	2:J:450:ASN:ND2	2.46	0.49
2:L:584:ALA:O	2:L:587:VAL:HB	2.12	0.49
2:T:268:ARG:HH21	2:T:291:GLU:HG3	1.78	0.49
2:T:269:ARG:HB2	2:T:291:GLU:HG2	1.94	0.49
2:V:268:ARG:HH21	2:V:291:GLU:HG3	1.78	0.49
2:D:584:ALA:O	2:D:587:VAL:HB	2.13	0.48
2:P:469:VAL:HG12	2:P:481:ASN:HD22	1.78	0.48
2:P:534:ASP:HB2	2:R:77:PRO:HD3	1.95	0.48
2:D:179:TRP:HB2	2:D:212:ILE:HG21	1.95	0.48
2:F:28:LEU:O	2:F:32:ARG:HB2	2.13	0.48
2:F:583:GLN:HE22	2:H:585:GLN:C	2.21	0.48
2:N:84:ASP:OD1	2:N:450:ASN:ND2	2.45	0.48
2:N:342:LYS:HG3	2:N:386:TYR:HB3	1.95	0.48
2:P:436:ILE:O	2:P:440:ILE:HG13	2.14	0.48
2:X:29:PHE:HE1	2:X:204:PHE:HB2	1.78	0.48
2:B:292:HIS:HB3	2:B:432:ARG:HH21	1.78	0.48
2:D:131:SER:O	2:D:131:SER:OG	2.27	0.48
2:F:29:PHE:HE2	2:F:204:PHE:HB2	1.78	0.48
2:J:73:VAL:O	2:J:90:MET:HE1	2.13	0.48
2:J:318:THR:HB	2:J:407:VAL:HG13	1.94	0.48
2:J:584:ALA:O	2:J:587:VAL:HB	2.12	0.48
2:N:54:VAL:HG13	2:N:407:VAL:HG11	1.95	0.48
2:R:268:ARG:HH21	2:R:291:GLU:HG3	1.79	0.48
2:R:436:ILE:O	2:R:440:ILE:HG13	2.13	0.48
2:T:131:SER:O	2:T:131:SER:OG	2.27	0.48
2:X:268:ARG:HH21	2:X:291:GLU:HG3	1.78	0.48
2:B:71:ILE:HG22	2:B:430:MET:HG3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:533:LEU:HD22	2:J:76:ARG:HH12	1.79	0.48
2:L:176:GLN:O	2:L:179:TRP:N	2.45	0.48
2:R:179:TRP:HB2	2:R:212:ILE:HG21	1.95	0.48
2:V:292:HIS:HB3	2:V:432:ARG:HH21	1.78	0.48
2:V:579:PRO:HB2	2:V:582:VAL:HB	1.94	0.48
2:D:358:TYR:OH	2:D:368:LEU:O	2.29	0.48
2:J:436:ILE:O	2:J:440:ILE:HG13	2.13	0.48
2:R:54:VAL:CG2	2:R:408:LYS:HE3	2.44	0.48
2:T:332:ASN:OD1	2:T:396:ASN:ND2	2.45	0.48
2:T:424:ASP:O	2:T:428:THR:HG23	2.13	0.48
2:V:406:ALA:O	2:V:410:VAL:HG23	2.13	0.48
2:X:424:ASP:O	2:X:428:THR:HG23	2.13	0.48
2:D:359:ASP:HB3	1:E:124:ALA:HB2	1.96	0.48
2:F:183:ALA:HA	2:F:188:LEU:HB2	1.96	0.48
2:L:550:ILE:HD13	2:L:562:GLU:HB3	1.94	0.48
1:Q:26:VAL:CG1	1:Q:31:MET:HE3	2.43	0.48
2:R:441:VAL:HG22	2:R:445:TYR:CD2	2.49	0.48
2:B:307:ASP:OD2	2:X:200:ASN:ND2	2.47	0.48
2:D:73:VAL:O	2:D:90:MET:HE1	2.13	0.48
2:H:160:MET:HE2	2:H:302:TRP:HB3	1.96	0.48
2:H:268:ARG:HH21	2:H:291:GLU:HG3	1.79	0.48
2:N:67:ARG:HD3	2:P:424:ASP:OD2	2.14	0.48
2:P:584:ALA:O	2:P:587:VAL:HB	2.13	0.48
2:F:424:ASP:O	2:F:428:THR:HG23	2.13	0.48
2:N:28:LEU:O	2:N:32:ARG:HB2	2.14	0.48
2:P:523:GLN:HE21	2:P:554:VAL:HG21	1.77	0.48
2:P:533:LEU:HD22	2:R:76:ARG:HH12	1.78	0.48
2:V:584:ALA:O	2:V:587:VAL:HB	2.13	0.48
2:B:145:HIS:CD2	2:D:304:PHE:HB2	2.48	0.48
2:J:438:GLN:O	2:J:442:ASN:ND2	2.47	0.48
2:N:19:GLU:O	2:N:23:GLU:HG3	2.14	0.48
2:N:268:ARG:HH21	2:N:291:GLU:HG3	1.78	0.48
2:P:73:VAL:O	2:P:90:MET:HE1	2.14	0.48
2:P:359:ASP:HB3	1:Q:124:ALA:HB2	1.96	0.48
2:B:133:THR:H	2:B:138:VAL:HG12	1.78	0.48
2:B:268:ARG:HH21	2:B:291:GLU:HG3	1.79	0.48
2:B:534:ASP:HB2	2:D:77:PRO:HD3	1.95	0.48
2:D:436:ILE:O	2:D:440:ILE:HG13	2.13	0.48
2:P:268:ARG:HH21	2:P:291:GLU:HG3	1.79	0.48
2:V:550:ILE:HD13	2:V:562:GLU:HB3	1.96	0.48
2:X:28:LEU:O	2:X:32:ARG:HB2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:292:HIS:HB2	2:X:436:ILE:HG12	1.95	0.48
2:B:39:TRP:HB3	2:B:203:VAL:HG23	1.94	0.47
2:F:145:HIS:CD2	2:H:304:PHE:HB2	2.49	0.47
2:J:3:LEU:HD13	2:J:281:VAL:HG13	1.96	0.47
2:L:424:ASP:O	2:L:428:THR:HG23	2.13	0.47
2:N:427:ALA:HB1	2:N:493:VAL:HG21	1.95	0.47
2:R:200:ASN:ND2	2:T:307:ASP:OD2	2.47	0.47
2:D:292:HIS:HB3	2:D:432:ARG:HH21	1.79	0.47
2:H:247:LYS:NZ	2:H:251:ASP:OD1	2.34	0.47
2:T:512:LEU:HG	2:T:524:LEU:HB3	1.96	0.47
2:D:328:ILE:HG21	2:D:400:LEU:HB2	1.97	0.47
1:E:26:VAL:CG1	1:E:31:MET:HE3	2.43	0.47
2:F:268:ARG:HH21	2:F:291:GLU:HG3	1.78	0.47
2:F:318:THR:HB	2:F:407:VAL:HG13	1.96	0.47
2:J:292:HIS:HB3	2:J:432:ARG:HH21	1.79	0.47
2:N:534:ASP:HB2	2:P:77:PRO:HD3	1.96	0.47
2:P:29:PHE:HE2	2:P:204:PHE:HB2	1.79	0.47
2:V:424:ASP:O	2:V:428:THR:HG23	2.15	0.47
2:V:427:ALA:HB1	2:V:493:VAL:HG21	1.96	0.47
2:H:291:GLU:OE1	2:H:487:TYR:OH	2.32	0.47
2:J:391:GLU:O	2:L:394:GLN:NE2	2.45	0.47
2:L:548:GLN:O	2:L:552:MET:HG3	2.14	0.47
2:R:366:TYR:CE1	2:T:358:TYR:HB2	2.49	0.47
2:T:328:ILE:HG21	2:T:400:LEU:HB2	1.95	0.47
1:A:111:LEU:HB3	1:W:47:GLN:HE22	1.80	0.47
2:B:523:GLN:NE2	2:B:554:VAL:HG21	2.29	0.47
2:D:406:ALA:O	2:D:410:VAL:HG23	2.15	0.47
1:K:26:VAL:CG1	1:K:31:MET:HE3	2.45	0.47
2:L:183:ALA:HA	2:L:188:LEU:HB2	1.97	0.47
2:P:160:MET:HE2	2:P:302:TRP:HB3	1.95	0.47
2:H:371:ARG:HE	2:H:372:THR:HG23	1.78	0.47
2:H:511:LEU:HB3	2:H:524:LEU:HD21	1.95	0.47
2:L:268:ARG:HH21	2:L:291:GLU:HG3	1.79	0.47
2:N:550:ILE:HD13	2:N:562:GLU:HB3	1.95	0.47
1:S:52:ILE:HD13	1:S:113:TYR:HA	1.96	0.47
2:V:160:MET:HE2	2:V:302:TRP:HB3	1.95	0.47
2:B:131:SER:O	2:B:131:SER:OG	2.27	0.47
1:E:37:ASP:OD2	1:G:14:LYS:NZ	2.28	0.47
2:F:550:ILE:HD13	2:F:562:GLU:HB3	1.96	0.47
2:H:71:ILE:HD11	2:H:423:GLN:HG3	1.96	0.47
2:J:29:PHE:HE2	2:J:204:PHE:HB2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:584:ALA:HB2	2:L:585:GLN:HG2	1.96	0.47
2:P:406:ALA:O	2:P:410:VAL:HG23	2.15	0.47
2:T:19:GLU:O	2:T:23:GLU:HG3	2.14	0.47
2:T:292:HIS:HB3	2:T:432:ARG:HH21	1.80	0.47
2:T:328:ILE:O	2:T:332:ASN:ND2	2.48	0.47
2:T:583:GLN:HE21	2:V:589:LEU:HG	1.80	0.47
2:V:56:ARG:NH2	2:X:312:GLU:OE1	2.48	0.47
2:V:405:SER:O	2:V:409:GLU:HG3	2.14	0.47
2:D:342:LYS:HG3	2:D:386:TYR:HB3	1.96	0.47
2:F:436:ILE:O	2:F:440:ILE:HG13	2.14	0.47
2:F:533:LEU:HD12	2:H:507:GLU:OE2	2.15	0.47
2:H:19:GLU:O	2:H:23:GLU:HG3	2.15	0.47
2:J:360:GLY:HA2	2:L:340:PRO:HG3	1.97	0.47
2:P:108:ILE:HD11	2:R:302:TRP:HZ3	1.79	0.47
2:P:292:HIS:HB2	2:P:436:ILE:HG12	1.97	0.47
2:P:584:ALA:HB2	2:R:585:GLN:HG2	1.97	0.47
2:T:71:ILE:HG22	2:T:430:MET:HG3	1.95	0.47
2:T:133:THR:H	2:T:138:VAL:HG12	1.79	0.47
2:V:292:HIS:HB2	2:V:436:ILE:HG12	1.96	0.47
2:D:424:ASP:O	2:D:428:THR:HG23	2.14	0.47
2:F:131:SER:O	2:F:131:SER:OG	2.27	0.47
2:H:54:VAL:CG2	2:H:408:LYS:HE3	2.44	0.47
2:P:228:PHE:N	2:P:242:PHE:O	2.41	0.47
2:B:512:LEU:HG	2:B:524:LEU:HB3	1.96	0.47
2:F:312:GLU:HG3	2:F:316:ARG:HD2	1.95	0.47
2:P:10:PHE:HE1	2:P:152:ILE:HG13	1.81	0.47
2:D:469:VAL:HG12	2:D:481:ASN:HD22	1.80	0.46
2:H:28:LEU:O	2:H:32:ARG:HB2	2.15	0.46
2:H:253:LEU:HD21	2:H:474:THR:HG23	1.97	0.46
2:N:372:THR:HG21	1:Q:106:LYS:HB3	1.97	0.46
2:R:523:GLN:NE2	2:R:554:VAL:HG21	2.30	0.46
2:V:122:ARG:HG3	2:V:295:ILE:HG13	1.97	0.46
2:D:250:ILE:HD13	2:D:479:VAL:HB	1.97	0.46
2:H:583:GLN:HE21	2:J:589:LEU:HG	1.80	0.46
2:J:54:VAL:HG13	2:J:407:VAL:HG11	1.97	0.46
1:K:148:PRO:HD3	2:N:41:SER:HB2	1.95	0.46
2:L:54:VAL:CG2	2:L:408:LYS:HE3	2.45	0.46
2:N:391:GLU:HA	2:P:394:GLN:HE21	1.79	0.46
2:N:551:GLN:HG2	2:N:569:ALA:HB2	1.95	0.46
2:T:372:THR:HG21	1:W:106:LYS:HB3	1.97	0.46
2:V:10:PHE:HE1	2:V:152:ILE:HG13	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:X:224:LYS:HA	2:X:267:LYS:HA	1.96	0.46
2:J:206:TRP:CE3	2:L:308:LYS:HD3	2.50	0.46
2:L:328:ILE:HG21	2:L:400:LEU:HB2	1.97	0.46
1:M:135:GLY:O	2:N:42:GLN:NE2	2.49	0.46
2:T:29:PHE:HE2	2:T:204:PHE:HB2	1.81	0.46
2:X:3:LEU:HD13	2:X:281:VAL:HG13	1.98	0.46
2:X:436:ILE:O	2:X:440:ILE:HG13	2.15	0.46
2:B:359:ASP:HB3	1:C:124:ALA:HB2	1.96	0.46
2:D:579:PRO:HB2	2:D:582:VAL:HB	1.96	0.46
1:E:129:ARG:NH1	2:H:48:TYR:O	2.44	0.46
2:F:207:LEU:HD23	2:F:208:THR:HG23	1.96	0.46
2:J:250:ILE:HD13	2:J:479:VAL:HB	1.98	0.46
2:J:427:ALA:HB1	2:J:493:VAL:HG21	1.98	0.46
2:N:419:THR:O	2:N:423:GLN:HB2	2.15	0.46
2:D:533:LEU:HD12	2:F:507:GLU:OE1	2.16	0.46
2:L:469:VAL:HG12	2:L:481:ASN:HD22	1.81	0.46
2:R:406:ALA:O	2:R:410:VAL:HG23	2.16	0.46
2:V:108:ILE:HD11	2:X:302:TRP:HZ3	1.80	0.46
2:D:427:ALA:HB1	2:D:493:VAL:HG21	1.97	0.46
1:G:7:LEU:CD2	1:G:78:VAL:HG13	2.46	0.46
2:J:469:VAL:HG12	2:J:481:ASN:HD22	1.79	0.46
2:J:533:LEU:HD22	2:L:76:ARG:HH12	1.79	0.46
1:Q:148:PRO:HD3	2:T:41:SER:HB2	1.97	0.46
2:R:96:ASP:OD2	2:R:437:TYR:OH	2.31	0.46
2:R:358:TYR:HD1	2:T:387:TYR:OH	1.98	0.46
2:R:550:ILE:HD13	2:R:562:GLU:HB3	1.98	0.46
2:V:469:VAL:HG12	2:V:481:ASN:HD22	1.79	0.46
2:H:318:THR:HB	2:H:407:VAL:HG13	1.97	0.46
2:L:3:LEU:HD13	2:L:281:VAL:HG13	1.97	0.46
2:L:200:ASN:ND2	2:N:307:ASP:OD2	2.49	0.46
2:L:583:GLN:O	2:L:587:VAL:HG23	2.16	0.46
2:N:230:TYR:HE2	2:N:247:LYS:HZ1	1.62	0.46
2:P:413:LEU:HD21	2:P:422:PHE:CD2	2.51	0.46
2:R:583:GLN:O	2:R:587:VAL:HG23	2.16	0.46
2:V:29:PHE:HE2	2:V:204:PHE:HB2	1.80	0.46
2:V:73:VAL:O	2:V:90:MET:HE1	2.15	0.46
2:B:304:PHE:HB2	2:X:145:HIS:CD2	2.50	0.46
2:F:583:GLN:O	2:F:587:VAL:HG23	2.16	0.46
2:F:591:GLY:HA2	2:F:594:GLU:OE1	2.16	0.46
2:L:160:MET:HE2	2:L:302:TRP:HB3	1.97	0.46
2:N:583:GLN:HE21	2:P:589:LEU:HG	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:160:MET:HE2	2:R:302:TRP:HB3	1.97	0.46
2:T:534:ASP:HB2	2:V:77:PRO:HD3	1.96	0.46
2:X:341:LYS:HD2	2:X:341:LYS:N	2.31	0.46
2:H:341:LYS:N	2:H:341:LYS:HD2	2.30	0.46
2:J:533:LEU:HD12	2:L:507:GLU:OE1	2.16	0.46
2:L:366:TYR:CE1	2:N:358:TYR:HB2	2.50	0.46
2:P:360:GLY:HA2	2:R:340:PRO:HG3	1.98	0.46
2:R:440:ILE:O	2:R:444:ILE:HG12	2.15	0.46
2:V:250:ILE:HD13	2:V:479:VAL:HB	1.97	0.46
2:V:399:MET:HE2	2:V:399:MET:HB2	1.73	0.46
1:O:1:ILE:HG22	1:O:2:LYS:HG3	1.97	0.46
2:T:548:GLN:O	2:T:552:MET:HG3	2.16	0.46
2:B:172:HIS:NE2	2:B:216:GLU:OE1	2.49	0.45
2:B:556:LYS:HB3	2:B:556:LYS:HE3	1.85	0.45
1:E:7:LEU:CD2	1:E:78:VAL:HG13	2.46	0.45
2:P:122:ARG:HG3	2:P:295:ILE:HG13	1.98	0.45
2:P:250:ILE:HD13	2:P:479:VAL:HB	1.98	0.45
2:P:535:GLY:HA2	2:R:87:ASP:OD1	2.16	0.45
1:U:14:LYS:HD3	1:U:14:LYS:HA	1.75	0.45
1:A:14:LYS:NZ	1:W:37:ASP:OD2	2.45	0.45
2:L:89:LEU:HD11	2:L:438:GLN:HG3	1.99	0.45
2:V:419:THR:O	2:V:423:GLN:HB2	2.16	0.45
1:C:1:ILE:HG22	1:C:2:LYS:HG3	1.98	0.45
2:D:21:ARG:HH11	2:D:149:SER:HA	1.81	0.45
2:H:483:ILE:HG13	2:H:485:GLY:N	2.31	0.45
2:T:75:TYR:OH	2:T:434:GLY:O	2.34	0.45
2:T:228:PHE:HD2	2:T:247:LYS:NZ	2.15	0.45
1:A:7:LEU:CD2	1:A:78:VAL:HG13	2.46	0.45
2:B:532:LEU:HG	2:B:533:LEU:H	1.81	0.45
2:B:583:GLN:HE21	2:D:589:LEU:HG	1.82	0.45
2:D:511:LEU:HB3	2:D:524:LEU:HD21	1.98	0.45
1:E:148:PRO:HD3	2:H:41:SER:HB2	1.97	0.45
2:L:440:ILE:O	2:L:444:ILE:HG12	2.16	0.45
1:S:7:LEU:CD2	1:S:78:VAL:HG13	2.46	0.45
1:S:31:MET:O	1:S:35:VAL:HG23	2.17	0.45
2:D:423:GLN:HE21	2:D:423:GLN:HB2	1.50	0.45
2:F:341:LYS:HD2	2:F:341:LYS:N	2.31	0.45
1:M:52:ILE:HD13	1:M:113:TYR:HA	1.99	0.45
2:T:39:TRP:HB3	2:T:203:VAL:HG23	1.98	0.45
2:B:301:GLU:OE1	2:X:56:ARG:NH2	2.50	0.45
2:B:341:LYS:HD2	2:B:341:LYS:N	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:372:THR:HG21	1:E:106:LYS:HB3	1.99	0.45
2:F:160:MET:HE2	2:F:302:TRP:HB3	1.97	0.45
2:F:328:ILE:HG22	2:F:332:ASN:HD21	1.81	0.45
2:N:84:ASP:OD2	2:N:464:GLN:NE2	2.50	0.45
2:P:533:LEU:HD12	2:R:507:GLU:OE1	2.16	0.45
2:P:536:LYS:HE2	2:R:87:ASP:OD2	2.17	0.45
2:T:28:LEU:O	2:T:32:ARG:HB2	2.15	0.45
2:V:329:MET:HE3	2:V:329:MET:HB3	1.85	0.45
2:V:342:LYS:HG3	2:V:386:TYR:HB3	1.98	0.45
2:X:583:GLN:O	2:X:587:VAL:HG23	2.16	0.45
1:A:123:ARG:NH2	2:V:362:ASP:OD1	2.49	0.45
2:B:440:ILE:O	2:B:444:ILE:HG12	2.17	0.45
2:D:550:ILE:HD13	2:D:562:GLU:HB3	1.97	0.45
2:H:372:THR:HG21	1:K:106:LYS:HB3	1.99	0.45
2:J:166:ARG:HG2	2:J:166:ARG:HH11	1.82	0.45
1:K:26:VAL:HG11	1:K:31:MET:HE3	1.98	0.45
2:P:94:ARG:HH21	2:P:497:PHE:HD2	1.63	0.45
2:X:160:MET:HE2	2:X:302:TRP:HB3	1.98	0.45
2:B:54:VAL:CG2	2:B:408:LYS:HE3	2.47	0.45
2:B:207:LEU:HD23	2:B:208:THR:HG23	1.97	0.45
2:H:73:VAL:O	2:H:90:MET:HE1	2.17	0.45
2:J:108:ILE:HD11	2:L:302:TRP:HZ3	1.81	0.45
2:R:567:VAL:O	2:R:571:GLN:HG3	2.16	0.45
2:T:145:HIS:CD2	2:V:304:PHE:HB2	2.51	0.45
2:T:359:ASP:HB3	1:U:124:ALA:HB2	1.98	0.45
2:X:476:GLU:HG2	2:X:477:LYS:HG3	1.98	0.45
2:B:160:MET:HE2	2:B:302:TRP:HB3	1.97	0.45
2:D:457:ASP:OD1	2:D:457:ASP:N	2.49	0.45
1:I:1:ILE:HG22	1:I:2:LYS:HG3	1.98	0.45
2:J:66:MET:HE1	2:J:422:PHE:HB3	1.99	0.45
2:J:358:TYR:OH	2:J:368:LEU:O	2.27	0.45
2:L:29:PHE:HE1	2:L:204:PHE:HB2	1.82	0.45
2:P:72:ASP:HB2	2:P:496:SER:CB	2.47	0.45
2:R:131:SER:O	2:R:131:SER:OG	2.27	0.45
2:R:469:VAL:HG12	2:R:481:ASN:HD22	1.82	0.45
2:T:342:LYS:HG3	2:T:386:TYR:HB3	1.98	0.45
1:U:1:ILE:HG22	1:U:2:LYS:HG3	1.99	0.45
2:V:523:GLN:NE2	2:V:554:VAL:HG21	2.32	0.45
2:X:179:TRP:HB2	2:X:212:ILE:HG21	1.98	0.45
1:A:52:ILE:HD13	1:A:113:TYR:HA	1.99	0.45
2:B:419:THR:O	2:B:423:GLN:HB2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:457:ASP:OD1	2:B:457:ASP:N	2.50	0.45
2:H:185:LYS:HD2	2:H:186:TYR:CE2	2.52	0.45
2:H:405:SER:O	2:H:409:GLU:HG3	2.17	0.45
1:I:7:LEU:CD2	1:I:78:VAL:HG13	2.47	0.45
2:J:21:ARG:HH11	2:J:149:SER:HA	1.81	0.45
2:L:541:MET:HE2	2:N:524:LEU:HD11	1.99	0.45
2:N:360:GLY:HA2	2:P:340:PRO:HG3	1.99	0.45
2:P:21:ARG:HH11	2:P:149:SER:HA	1.82	0.45
2:R:82:ARG:HG2	2:R:85:ALA:HB2	1.99	0.45
2:T:204:PHE:HB3	2:T:206:TRP:NE1	2.32	0.45
2:V:71:ILE:O	2:V:430:MET:HE3	2.18	0.45
2:B:292:HIS:HB2	2:B:436:ILE:HG12	2.00	0.44
2:B:579:PRO:HB2	2:B:582:VAL:HB	1.99	0.44
2:D:523:GLN:NE2	2:D:554:VAL:HG21	2.32	0.44
2:H:207:LEU:HD22	2:J:15:THR:HG23	1.99	0.44
2:J:317:LEU:HD23	2:J:317:LEU:HA	1.85	0.44
2:J:421:VAL:O	2:J:422:PHE:HB2	2.15	0.44
2:P:523:GLN:NE2	2:P:554:VAL:HG21	2.33	0.44
2:J:406:ALA:O	2:J:410:VAL:HG23	2.17	0.44
2:N:391:GLU:O	2:P:394:GLN:NE2	2.46	0.44
2:P:511:LEU:HB3	2:P:524:LEU:HD21	1.98	0.44
2:V:404:THR:O	2:V:408:LYS:HG2	2.17	0.44
2:V:457:ASP:OD1	2:V:457:ASP:N	2.50	0.44
1:A:9:ARG:NH1	1:A:67:GLU:OE2	2.47	0.44
2:B:89:LEU:HD11	2:B:438:GLN:HG3	1.99	0.44
2:B:591:GLY:HA2	2:B:594:GLU:OE1	2.18	0.44
2:D:166:ARG:HH11	2:D:166:ARG:HG2	1.82	0.44
2:F:476:GLU:HG2	2:F:477:LYS:HG3	1.98	0.44
2:L:583:GLN:HE21	2:N:589:LEU:HG	1.83	0.44
2:N:73:VAL:O	2:N:90:MET:HE1	2.17	0.44
2:N:145:HIS:CD2	2:P:304:PHE:HB2	2.52	0.44
2:P:343:LYS:NZ	1:Q:123:ARG:HH22	2.15	0.44
2:R:523:GLN:HE22	2:R:554:VAL:HG11	1.82	0.44
2:T:54:VAL:HG13	2:T:407:VAL:HG11	1.98	0.44
2:V:533:LEU:HD12	2:X:507:GLU:OE2	2.17	0.44
2:V:587:VAL:HG11	2:X:588:LEU:HB3	1.99	0.44
2:X:457:ASP:OD1	2:X:457:ASP:N	2.50	0.44
1:C:11:ALA:CB	1:C:85:LEU:HD22	2.46	0.44
2:D:10:PHE:HE1	2:D:152:ILE:HG13	1.82	0.44
2:D:516:PRO:O	2:D:521:GLU:HB2	2.18	0.44
2:D:533:LEU:HD22	2:F:76:ARG:HH12	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:328:ILE:HG21	2:J:400:LEU:HB2	2.00	0.44
2:L:533:LEU:HD12	2:N:507:GLU:OE1	2.17	0.44
2:P:252:ASP:OD1	2:P:253:LEU:N	2.50	0.44
2:R:328:ILE:HG21	2:R:400:LEU:HB2	1.98	0.44
2:R:476:GLU:HG2	2:R:477:LYS:HG3	2.00	0.44
2:T:241:TYR:O	2:T:483:ILE:HA	2.17	0.44
2:V:392:VAL:HG23	2:X:395:ALA:HB1	2.00	0.44
2:B:71:ILE:HD11	2:B:423:GLN:HG3	1.99	0.44
1:C:7:LEU:CD2	1:C:78:VAL:HG13	2.47	0.44
2:F:567:VAL:O	2:F:571:GLN:HG3	2.18	0.44
2:J:145:HIS:CD2	2:L:304:PHE:HB2	2.53	0.44
2:J:292:HIS:HB2	2:J:436:ILE:HG12	2.00	0.44
2:N:207:LEU:HD23	2:N:208:THR:HG23	1.99	0.44
2:N:332:ASN:OD1	2:N:396:ASN:ND2	2.48	0.44
2:N:512:LEU:HG	2:N:524:LEU:HB3	1.99	0.44
2:P:417:LEU:HD12	2:P:420:TYR:HB2	2.00	0.44
2:R:533:LEU:HD12	2:T:507:GLU:OE2	2.18	0.44
2:R:583:GLN:HE21	2:T:589:LEU:HG	1.83	0.44
2:X:328:ILE:HG22	2:X:332:ASN:HD21	1.81	0.44
1:E:132:THR:OG1	1:E:143:GLU:O	2.32	0.44
2:F:228:PHE:N	2:F:242:PHE:O	2.51	0.44
2:F:534:ASP:HB2	2:H:77:PRO:HD3	1.98	0.44
2:F:583:GLN:HE21	2:H:589:LEU:HG	1.83	0.44
2:H:29:PHE:HE2	2:H:204:PHE:HB2	1.82	0.44
2:L:476:GLU:HG2	2:L:477:LYS:HG3	2.00	0.44
2:L:584:ALA:HB2	2:N:585:GLN:HG2	1.99	0.44
1:O:14:LYS:HA	1:O:14:LYS:HD3	1.72	0.44
2:T:73:VAL:O	2:T:90:MET:HE1	2.18	0.44
2:T:172:HIS:NE2	2:T:216:GLU:OE2	2.50	0.44
2:B:524:LEU:HD11	2:X:541:MET:HE2	1.98	0.44
2:B:583:GLN:O	2:B:587:VAL:HG23	2.18	0.44
2:F:440:ILE:O	2:F:444:ILE:HG12	2.17	0.44
2:H:39:TRP:HB3	2:H:203:VAL:HG23	1.99	0.44
1:I:77:ALA:O	1:I:81:VAL:HG23	2.18	0.44
2:J:54:VAL:CG2	2:J:408:LYS:HE3	2.48	0.44
2:T:108:ILE:HD11	2:V:302:TRP:HZ3	1.82	0.44
2:T:550:ILE:HD13	2:T:562:GLU:HB3	1.99	0.44
2:D:252:ASP:OD1	2:D:253:LEU:N	2.50	0.44
2:F:366:TYR:HE1	2:H:358:TYR:HB2	1.83	0.44
1:G:52:ILE:HD13	1:G:113:TYR:HA	2.00	0.44
2:H:247:LYS:HD2	2:H:247:LYS:O	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:419:THR:O	2:H:423:GLN:HB2	2.17	0.44
2:H:556:LYS:HB3	2:H:556:LYS:HE3	1.84	0.44
1:K:29:GLN:NE2	1:M:20:ASP:OD2	2.51	0.44
1:K:129:ARG:NH1	2:N:48:TYR:O	2.45	0.44
2:L:532:LEU:HD21	2:N:511:LEU:HD11	2.00	0.44
2:N:533:LEU:HD12	2:P:507:GLU:OE1	2.18	0.44
2:T:105:ALA:HA	2:T:143:PRO:HB3	2.00	0.44
2:B:185:LYS:HD2	2:B:186:TYR:CE2	2.53	0.44
2:B:247:LYS:HD2	2:B:247:LYS:O	2.18	0.44
2:B:507:GLU:OE2	2:X:533:LEU:HD12	2.18	0.44
2:D:247:LYS:HD2	2:D:247:LYS:O	2.18	0.44
2:D:292:HIS:HB2	2:D:436:ILE:HG12	2.00	0.44
2:H:440:ILE:O	2:H:444:ILE:HG12	2.18	0.44
2:H:583:GLN:O	2:H:587:VAL:HG23	2.18	0.44
2:L:341:LYS:HA	2:L:341:LYS:HD3	1.77	0.44
2:N:292:HIS:HB2	2:N:436:ILE:HG12	2.00	0.44
2:P:427:ALA:HB1	2:P:493:VAL:HG21	1.98	0.44
2:T:483:ILE:HG13	2:T:485:GLY:N	2.32	0.44
2:X:441:VAL:HG22	2:X:445:TYR:CD2	2.53	0.44
1:A:26:VAL:HG13	1:A:31:MET:HE3	1.98	0.43
2:B:73:VAL:O	2:B:90:MET:HE1	2.18	0.43
2:B:228:PHE:HD2	2:B:247:LYS:NZ	2.16	0.43
2:B:483:ILE:HG13	2:B:485:GLY:N	2.32	0.43
2:F:406:ALA:O	2:F:410:VAL:HG23	2.18	0.43
2:N:503:GLN:O	2:N:507:GLU:HG3	2.18	0.43
2:N:584:ALA:HB2	2:P:585:GLN:HG2	1.99	0.43
1:S:124:ALA:O	2:T:338:ARG:NH2	2.34	0.43
2:T:229:ILE:HG12	2:T:241:TYR:CE1	2.53	0.43
2:T:583:GLN:O	2:T:587:VAL:HG23	2.18	0.43
2:V:162:LYS:NZ	2:V:309:GLU:OE1	2.46	0.43
2:V:269:ARG:HB2	2:V:291:GLU:HG2	1.99	0.43
2:X:504:ASN:O	2:X:508:ILE:HG12	2.18	0.43
1:A:7:LEU:HD21	1:A:78:VAL:HG13	2.00	0.43
2:B:77:PRO:HD3	2:X:534:ASP:HB2	2.01	0.43
2:B:343:LYS:NZ	1:C:123:ARG:HH22	2.17	0.43
2:F:392:VAL:HG23	2:H:395:ALA:HB1	1.99	0.43
1:G:26:VAL:HG13	1:G:31:MET:HE3	2.00	0.43
2:H:457:ASP:N	2:H:457:ASP:OD1	2.50	0.43
2:P:131:SER:O	2:P:131:SER:OG	2.27	0.43
2:T:457:ASP:OD1	2:T:457:ASP:N	2.50	0.43
2:V:360:GLY:HA2	2:X:340:PRO:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:589:LEU:HG	2:X:583:GLN:HE21	1.83	0.43
2:D:392:VAL:HG23	2:F:395:ALA:HB1	1.99	0.43
2:H:292:HIS:HB2	2:H:436:ILE:HG12	2.00	0.43
2:J:10:PHE:HE1	2:J:152:ILE:HG13	1.83	0.43
2:J:207:LEU:HD23	2:J:208:THR:HG23	1.99	0.43
2:J:269:ARG:HB2	2:J:291:GLU:HG2	2.00	0.43
1:M:5:GLY:O	1:M:7:LEU:O	2.36	0.43
2:P:94:ARG:NH2	2:P:497:PHE:HD2	2.16	0.43
2:R:591:GLY:HA2	2:R:594:GLU:OE1	2.18	0.43
2:T:228:PHE:HD2	2:T:247:LYS:HZ1	1.65	0.43
2:V:53:ASP:OD2	2:X:317:LEU:HD22	2.18	0.43
2:X:124:VAL:HG21	2:X:142:GLU:OE2	2.18	0.43
2:D:341:LYS:HD2	2:D:341:LYS:N	2.32	0.43
2:D:590:GLN:O	2:D:594:GLU:HG3	2.19	0.43
1:E:129:ARG:NH2	2:H:334:ASP:OD2	2.42	0.43
2:F:504:ASN:O	2:F:508:ILE:HG12	2.18	0.43
1:S:135:GLY:O	2:T:42:GLN:NE2	2.52	0.43
2:T:292:HIS:HB2	2:T:436:ILE:HG12	2.00	0.43
2:V:247:LYS:HD2	2:V:247:LYS:O	2.19	0.43
1:W:6:ASP:OD1	1:W:9:ARG:NH2	2.52	0.43
2:X:550:ILE:HD13	2:X:562:GLU:HB3	2.00	0.43
2:B:241:TYR:O	2:B:483:ILE:HA	2.18	0.43
2:B:349:GLU:OE2	2:X:371:ARG:NH2	2.43	0.43
2:D:145:HIS:CD2	2:F:304:PHE:HB2	2.54	0.43
2:L:504:ASN:O	2:L:508:ILE:HG12	2.18	0.43
2:L:523:GLN:NE2	2:L:554:VAL:HG21	2.33	0.43
2:N:247:LYS:HD2	2:N:247:LYS:O	2.18	0.43
2:T:440:ILE:O	2:T:444:ILE:HG12	2.18	0.43
2:X:440:ILE:O	2:X:444:ILE:HG12	2.18	0.43
2:L:591:GLY:HA2	2:L:594:GLU:OE1	2.18	0.43
2:N:341:LYS:HD2	2:N:341:LYS:N	2.34	0.43
2:P:476:GLU:HG2	2:P:477:LYS:HG3	2.01	0.43
2:R:318:THR:HB	2:R:407:VAL:HG13	1.99	0.43
2:V:46:LEU:HD12	2:V:46:LEU:HA	1.89	0.43
2:X:591:GLY:HA2	2:X:594:GLU:OE1	2.18	0.43
2:B:302:TRP:HZ3	2:X:108:ILE:HD11	1.84	0.43
2:H:67:ARG:HD3	2:J:424:ASP:OD2	2.19	0.43
2:N:579:PRO:HB2	2:N:582:VAL:HB	2.01	0.43
2:N:583:GLN:O	2:N:587:VAL:HG23	2.18	0.43
2:P:145:HIS:CD2	2:R:304:PHE:HB2	2.53	0.43
2:P:352:ALA:HB3	2:P:370:ASN:HD21	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:R:29:PHE:HE1	2:R:204:PHE:HB2	1.84	0.43
2:R:108:ILE:HD11	2:T:302:TRP:HZ3	1.82	0.43
2:R:504:ASN:O	2:R:508:ILE:HG12	2.18	0.43
2:V:476:GLU:HG2	2:V:477:LYS:HG3	2.00	0.43
2:V:591:GLY:HA2	2:V:594:GLU:OE1	2.19	0.43
2:D:91:GLY:HA2	2:D:500:MET:HG3	2.01	0.43
2:F:441:VAL:HG22	2:F:445:TYR:CD2	2.53	0.43
2:J:476:GLU:HG2	2:J:477:LYS:HG3	2.01	0.43
2:P:391:GLU:HA	2:R:394:GLN:HE21	1.83	0.43
2:T:579:PRO:HB2	2:T:582:VAL:HB	2.01	0.43
2:V:21:ARG:HH11	2:V:149:SER:HA	1.83	0.43
2:D:66:MET:HE1	2:D:422:PHE:HB3	2.01	0.43
2:F:523:GLN:NE2	2:F:554:VAL:HG21	2.33	0.43
1:K:124:ALA:O	2:L:338:ARG:NH2	2.40	0.43
2:L:145:HIS:CD2	2:N:304:PHE:HB2	2.53	0.43
2:L:511:LEU:HB3	2:L:524:LEU:HD21	2.01	0.43
1:Q:2:LYS:HE3	1:Q:2:LYS:HB2	1.88	0.43
2:R:417:LEU:N	2:R:417:LEU:HD22	2.34	0.43
1:U:7:LEU:CD2	1:U:78:VAL:HG13	2.48	0.43
1:U:148:PRO:HG3	2:X:44:THR:HG21	2.00	0.43
2:X:331:PHE:O	2:X:335:ILE:HG13	2.19	0.43
2:H:172:HIS:CD2	2:H:216:GLU:HG3	2.54	0.43
2:H:512:LEU:HG	2:H:524:LEU:HB3	2.01	0.43
2:J:247:LYS:HD2	2:J:247:LYS:O	2.18	0.43
2:J:516:PRO:O	2:J:521:GLU:HB2	2.19	0.43
2:L:541:MET:HE2	2:N:524:LEU:CD1	2.49	0.43
1:S:31:MET:HE3	1:S:31:MET:HB3	1.90	0.43
2:V:18:ASP:O	2:V:21:ARG:HG2	2.19	0.43
1:G:7:LEU:HD21	1:G:78:VAL:HG13	2.01	0.42
2:J:98:ARG:NH1	2:L:78:LYS:HE3	2.33	0.42
2:J:591:GLY:HA2	2:J:594:GLU:OE1	2.18	0.42
2:L:82:ARG:NE	2:L:84:ASP:OD1	2.46	0.42
2:N:328:ILE:HG21	2:N:400:LEU:HB2	2.00	0.42
2:N:431:ARG:HA	2:N:491:THR:HG21	2.01	0.42
2:T:366:TYR:HE1	2:V:358:TYR:HB2	1.83	0.42
2:T:540:MET:HE2	2:V:527:LEU:HD22	2.00	0.42
2:T:591:GLY:HA2	2:T:594:GLU:OE1	2.18	0.42
2:J:18:ASP:O	2:J:21:ARG:HG2	2.19	0.42
2:L:39:TRP:HB3	2:L:203:VAL:HG23	2.01	0.42
2:P:207:LEU:HD23	2:P:208:THR:HG23	2.00	0.42
2:R:511:LEU:HB3	2:R:524:LEU:HD21	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:112:GLU:O	2:T:116:ALA:N	2.52	0.42
2:N:355:GLU:OE2	1:O:113:TYR:OH	2.32	0.42
2:N:591:GLY:HA2	2:N:594:GLU:OE1	2.18	0.42
1:O:52:ILE:HD13	1:O:113:TYR:HA	2.01	0.42
2:P:391:GLU:O	2:R:394:GLN:NE2	2.46	0.42
2:R:105:ALA:HA	2:R:143:PRO:HB3	2.00	0.42
2:V:229:ILE:HG12	2:V:241:TYR:CD1	2.55	0.42
2:D:360:GLY:HA2	2:F:340:PRO:HG3	2.01	0.42
2:D:391:GLU:HA	2:F:394:GLN:HE21	1.84	0.42
2:H:579:PRO:HB2	2:H:582:VAL:HB	2.01	0.42
2:L:250:ILE:HD13	2:L:479:VAL:HB	2.01	0.42
2:L:444:ILE:HG13	2:L:445:TYR:CD1	2.54	0.42
2:P:591:GLY:HA2	2:P:594:GLU:OE1	2.19	0.42
2:T:341:LYS:N	2:T:341:LYS:HD2	2.34	0.42
2:T:355:GLU:OE1	2:T:355:GLU:N	2.49	0.42
2:V:141:ARG:NH2	2:V:433:ASP:OD2	2.53	0.42
2:V:145:HIS:CD2	2:X:304:PHE:HB2	2.53	0.42
2:V:159:LEU:HD23	2:V:159:LEU:HA	1.90	0.42
2:V:511:LEU:HB3	2:V:524:LEU:HD21	2.01	0.42
1:W:7:LEU:CD2	1:W:78:VAL:HG13	2.48	0.42
2:B:230:TYR:HE2	2:B:247:LYS:HZ1	1.68	0.42
2:D:53:ASP:OD2	2:F:317:LEU:HD22	2.19	0.42
2:D:207:LEU:HD23	2:D:208:THR:HG23	2.00	0.42
2:H:206:TRP:HA	2:J:19:GLU:OE2	2.18	0.42
2:H:590:GLN:O	2:H:594:GLU:HG3	2.20	0.42
2:H:591:GLY:HA2	2:H:594:GLU:OE1	2.20	0.42
2:J:133:THR:H	2:J:138:VAL:HG12	1.85	0.42
2:J:594:GLU:CD	2:L:596:ALA:HB2	2.45	0.42
1:O:9:ARG:NH1	1:O:67:GLU:OE2	2.53	0.42
2:P:72:ASP:HB2	2:P:496:SER:HB3	2.01	0.42
2:P:269:ARG:HB2	2:P:291:GLU:HG2	1.99	0.42
2:R:124:VAL:HG21	2:R:142:GLU:OE2	2.20	0.42
2:T:336:VAL:HG13	2:V:396:ASN:OD1	2.19	0.42
2:T:404:THR:O	2:T:408:LYS:HG2	2.19	0.42
2:X:523:GLN:NE2	2:X:554:VAL:HG21	2.34	0.42
2:F:511:LEU:HB3	2:F:524:LEU:HD21	2.02	0.42
1:G:2:LYS:HE3	1:G:2:LYS:HB2	1.89	0.42
2:H:228:PHE:HD2	2:H:247:LYS:NZ	2.17	0.42
1:K:132:THR:OG1	1:K:143:GLU:O	2.36	0.42
1:M:5:GLY:C	1:M:7:LEU:O	2.62	0.42
1:M:137:SER:OG	2:N:205:PRO:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:71:ILE:HD11	2:N:423:GLN:HG3	2.00	0.42
2:P:414:GLY:O	2:P:415:VAL:C	2.63	0.42
2:R:250:ILE:HD13	2:R:479:VAL:HB	2.02	0.42
1:S:7:LEU:HD21	1:S:78:VAL:HG13	2.02	0.42
2:T:56:ARG:NH1	2:V:317:LEU:HD11	2.35	0.42
2:T:206:TRP:HA	2:V:19:GLU:OE2	2.20	0.42
2:T:413:LEU:HD23	2:T:413:LEU:HA	1.90	0.42
2:V:516:PRO:O	2:V:521:GLU:HB2	2.19	0.42
2:J:392:VAL:HG23	2:L:395:ALA:HB1	2.02	0.42
2:J:550:ILE:HD13	2:J:562:GLU:HB3	2.00	0.42
2:N:228:PHE:HD2	2:N:247:LYS:NZ	2.17	0.42
2:N:441:VAL:HG22	2:N:445:TYR:CD2	2.55	0.42
2:P:229:ILE:HG12	2:P:241:TYR:CD1	2.55	0.42
2:P:247:LYS:HD2	2:P:247:LYS:O	2.18	0.42
2:P:516:PRO:O	2:P:521:GLU:HB2	2.19	0.42
2:R:71:ILE:HD11	2:R:423:GLN:HG3	2.00	0.42
2:R:253:LEU:HD22	2:R:473:ALA:HA	2.02	0.42
2:B:176:GLN:O	2:B:179:TRP:N	2.52	0.42
2:D:269:ARG:HB2	2:D:291:GLU:HG2	2.01	0.42
2:D:504:ASN:O	2:D:508:ILE:HG12	2.20	0.42
2:F:39:TRP:HB3	2:F:203:VAL:HG23	2.00	0.42
2:L:358:TYR:HD1	2:N:387:TYR:OH	2.03	0.42
2:L:590:GLN:O	2:L:594:GLU:HG3	2.20	0.42
2:P:62:LEU:HD13	2:P:413:LEU:HD22	2.02	0.42
1:Q:52:ILE:HD13	1:Q:113:TYR:HA	2.02	0.42
2:V:32:ARG:HH21	2:V:111:ARG:HG2	1.85	0.42
2:D:229:ILE:HG12	2:D:241:TYR:CD1	2.55	0.42
2:J:391:GLU:HA	2:L:394:GLN:HE21	1.84	0.42
2:J:520:PRO:O	2:J:524:LEU:HD13	2.20	0.42
2:J:590:GLN:O	2:J:594:GLU:HG3	2.20	0.42
1:M:74:ARG:HH22	1:M:112:LEU:HD23	1.85	0.42
2:N:39:TRP:HB3	2:N:203:VAL:HG23	2.01	0.42
1:S:137:SER:OG	2:T:205:PRO:HG2	2.19	0.42
2:X:469:VAL:HG12	2:X:481:ASN:HD22	1.85	0.42
2:F:533:LEU:HD22	2:H:76:ARG:HH12	1.85	0.42
2:H:196:PHE:O	2:H:213:GLN:NE2	2.53	0.42
2:J:229:ILE:HG12	2:J:241:TYR:CD1	2.55	0.42
1:K:52:ILE:HD13	1:K:113:TYR:HA	2.02	0.42
2:R:35:GLN:H	2:R:51:GLN:HE22	1.67	0.42
2:R:159:LEU:HD23	2:R:159:LEU:HA	1.90	0.42
2:T:230:TYR:O	2:T:240:SER:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:V:440:ILE:O	2:V:444:ILE:HG12	2.20	0.42
2:X:590:GLN:O	2:X:594:GLU:HG3	2.20	0.42
1:A:60:ASP:N	1:A:60:ASP:OD1	2.53	0.41
2:B:56:ARG:NH1	2:D:317:LEU:HD11	2.35	0.41
2:B:351:ILE:O	2:B:355:GLU:HG3	2.19	0.41
2:D:204:PHE:HB3	2:D:206:TRP:NE1	2.35	0.41
2:F:371:ARG:NH2	2:H:349:GLU:OE2	2.43	0.41
2:H:241:TYR:O	2:H:483:ILE:HA	2.20	0.41
2:J:204:PHE:HB3	2:J:206:TRP:NE1	2.36	0.41
2:N:108:ILE:HD11	2:P:302:TRP:HZ3	1.85	0.41
2:N:131:SER:O	2:N:131:SER:OG	2.32	0.41
2:N:440:ILE:O	2:N:444:ILE:HG12	2.19	0.41
1:O:60:ASP:OD1	1:O:60:ASP:N	2.53	0.41
2:T:355:GLU:OE2	1:U:113:TYR:OH	2.31	0.41
2:V:352:ALA:HB3	2:V:370:ASN:HD21	1.85	0.41
2:V:504:ASN:O	2:V:508:ILE:HG12	2.20	0.41
2:V:594:GLU:CD	2:X:596:ALA:HB2	2.45	0.41
1:W:52:ILE:HD13	1:W:113:TYR:HA	2.01	0.41
1:A:148:PRO:HG3	2:D:44:THR:HG21	2.02	0.41
2:B:230:TYR:O	2:B:240:SER:N	2.53	0.41
2:D:112:GLU:O	2:D:116:ALA:N	2.53	0.41
2:D:476:GLU:HG2	2:D:477:LYS:HG3	2.01	0.41
1:G:14:LYS:HA	1:G:14:LYS:HD3	1.81	0.41
1:G:60:ASP:OD1	1:G:60:ASP:N	2.53	0.41
2:H:112:GLU:O	2:H:116:ALA:N	2.52	0.41
2:H:269:ARG:HB2	2:H:291:GLU:HG2	2.02	0.41
2:H:360:GLY:HA2	2:J:340:PRO:HG3	2.01	0.41
2:H:516:PRO:O	2:H:521:GLU:HB2	2.20	0.41
2:J:352:ALA:HB3	2:J:370:ASN:HD21	1.85	0.41
2:L:18:ASP:O	2:L:22:ARG:HG3	2.21	0.41
2:N:241:TYR:O	2:N:483:ILE:HA	2.20	0.41
2:N:324:LEU:HD12	2:N:324:LEU:HA	1.94	0.41
2:P:342:LYS:HG3	2:P:386:TYR:HB3	2.01	0.41
2:P:504:ASN:O	2:P:508:ILE:HG12	2.20	0.41
2:R:590:GLN:O	2:R:594:GLU:HG3	2.19	0.41
2:T:237:GLU:N	2:T:238:PRO:HD3	2.36	0.41
1:U:12:LEU:HB3	1:U:17:VAL:O	2.20	0.41
2:V:366:TYR:CE1	2:X:358:TYR:HB2	2.51	0.41
2:X:207:LEU:HD23	2:X:208:THR:HG23	2.03	0.41
1:C:44:GLU:O	1:C:47:GLN:HG2	2.21	0.41
2:F:112:GLU:O	2:F:116:ALA:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:N:366:TYR:HE1	2:P:358:TYR:HB2	1.85	0.41
1:Q:132:THR:OG1	1:Q:143:GLU:O	2.36	0.41
2:R:71:ILE:CD1	2:R:423:GLN:HG3	2.50	0.41
2:T:46:LEU:HD12	2:T:46:LEU:HA	1.88	0.41
2:V:237:GLU:N	2:V:238:PRO:HD3	2.35	0.41
2:X:105:ALA:HA	2:X:143:PRO:HB3	2.01	0.41
2:X:332:ASN:OD1	2:X:392:VAL:HG13	2.21	0.41
2:D:237:GLU:N	2:D:238:PRO:HD3	2.35	0.41
2:F:469:VAL:HG12	2:F:481:ASN:HD22	1.84	0.41
1:G:137:SER:OG	2:H:205:PRO:HG2	2.20	0.41
1:G:148:PRO:HG3	2:J:44:THR:HG21	2.02	0.41
2:H:56:ARG:NH1	2:J:317:LEU:HD11	2.35	0.41
2:H:230:TYR:O	2:H:240:SER:N	2.54	0.41
2:J:237:GLU:N	2:J:238:PRO:HD3	2.35	0.41
2:J:384:LEU:HD23	2:J:384:LEU:HA	1.92	0.41
2:J:405:SER:O	2:J:409:GLU:HG3	2.20	0.41
2:L:413:LEU:HD23	2:L:413:LEU:HA	1.85	0.41
2:N:590:GLN:O	2:N:594:GLU:HG3	2.20	0.41
2:P:237:GLU:N	2:P:238:PRO:HD3	2.36	0.41
2:P:444:ILE:HG13	2:P:445:TYR:CD1	2.55	0.41
2:P:594:GLU:CD	2:R:596:ALA:HB2	2.45	0.41
2:R:534:ASP:HB2	2:T:77:PRO:HD3	2.02	0.41
2:R:584:ALA:HB2	2:T:585:GLN:HG2	2.02	0.41
2:T:360:GLY:HA2	2:V:340:PRO:HG3	2.02	0.41
2:T:419:THR:O	2:T:423:GLN:HB2	2.20	0.41
2:T:516:PRO:O	2:T:521:GLU:HB2	2.20	0.41
2:V:391:GLU:HA	2:X:394:GLN:HE21	1.85	0.41
2:B:29:PHE:HE2	2:B:204:PHE:HB2	1.85	0.41
2:B:516:PRO:O	2:B:521:GLU:HB2	2.21	0.41
2:B:585:GLN:HG2	2:X:584:ALA:HB2	2.02	0.41
2:D:18:ASP:O	2:D:21:ARG:HG2	2.20	0.41
2:D:440:ILE:O	2:D:444:ILE:HG12	2.21	0.41
1:E:60:ASP:OD1	1:E:60:ASP:N	2.53	0.41
2:H:131:SER:O	2:H:131:SER:OG	2.27	0.41
2:H:183:ALA:HA	2:H:188:LEU:HB2	2.03	0.41
2:J:587:VAL:HG11	2:L:588:LEU:HB3	2.02	0.41
2:L:405:SER:O	2:L:409:GLU:HG3	2.20	0.41
2:N:357:MET:HE1	2:N:368:LEU:HG	2.01	0.41
2:N:483:ILE:HG13	2:N:485:GLY:N	2.33	0.41
1:Q:14:LYS:HD3	1:Q:14:LYS:HA	1.82	0.41
2:R:145:HIS:CD2	2:T:304:PHE:HB2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:108:ILE:HD11	2:D:302:TRP:HZ3	1.85	0.41
2:B:196:PHE:O	2:B:213:GLN:NE2	2.53	0.41
2:B:269:ARG:HB2	2:B:291:GLU:HG2	2.02	0.41
2:B:594:GLU:CD	2:D:596:ALA:HB2	2.46	0.41
1:C:12:LEU:HB3	1:C:17:VAL:O	2.21	0.41
2:F:204:PHE:HB3	2:F:206:TRP:NE1	2.35	0.41
1:G:139:ALA:HB1	1:G:144:TRP:CZ3	2.55	0.41
1:G:144:TRP:CE2	2:J:26:ASN:ND2	2.89	0.41
2:H:366:TYR:HE1	2:J:358:TYR:HB2	1.86	0.41
2:J:141:ARG:NH2	2:J:433:ASP:OD2	2.53	0.41
2:P:440:ILE:O	2:P:444:ILE:HG12	2.20	0.41
2:R:53:ASP:O	2:T:410:VAL:HG22	2.21	0.41
1:S:139:ALA:HB1	1:S:144:TRP:CZ3	2.56	0.41
2:T:122:ARG:NH2	2:T:142:GLU:OE1	2.53	0.41
2:T:431:ARG:HA	2:T:491:THR:HG21	2.02	0.41
1:U:44:GLU:O	1:U:47:GLN:HG2	2.21	0.41
1:W:60:ASP:N	1:W:60:ASP:OD1	2.53	0.41
2:B:112:GLU:O	2:B:116:ALA:N	2.52	0.41
2:B:523:GLN:HE22	2:B:554:VAL:HG11	1.86	0.41
1:C:60:ASP:N	1:C:60:ASP:OD1	2.53	0.41
2:F:503:GLN:O	2:F:507:GLU:HG3	2.21	0.41
2:H:359:ASP:HB3	1:I:124:ALA:HB2	2.02	0.41
2:H:441:VAL:HG22	2:H:445:TYR:CD2	2.56	0.41
2:H:550:ILE:HD13	2:H:562:GLU:HB3	2.03	0.41
1:I:12:LEU:HB3	1:I:17:VAL:O	2.21	0.41
1:M:2:LYS:HE3	1:M:2:LYS:HB2	1.89	0.41
2:P:141:ARG:NH2	2:P:433:ASP:OD2	2.54	0.41
2:T:389:ASN:HB3	2:V:393:PRO:HB3	2.02	0.41
2:V:60:ARG:NH2	2:X:312:GLU:OE2	2.53	0.41
2:V:110:VAL:O	2:V:114:ILE:HG12	2.21	0.41
2:V:590:GLN:O	2:V:594:GLU:HG3	2.20	0.41
2:X:327:MET:HE3	2:X:327:MET:HB3	1.86	0.41
2:D:61:LYS:HE2	2:D:61:LYS:HB3	1.94	0.41
2:D:161:ASP:O	2:D:432:ARG:NH1	2.53	0.41
1:G:135:GLY:O	2:H:42:GLN:NE2	2.54	0.41
2:L:237:GLU:N	2:L:238:PRO:HD3	2.36	0.41
2:N:456:GLU:HB2	2:N:459:SER:HB3	2.02	0.41
2:P:317:LEU:HB3	2:P:410:VAL:HG11	2.03	0.41
2:P:329:MET:HE3	2:P:329:MET:HB3	1.86	0.41
2:P:590:GLN:O	2:P:594:GLU:HG3	2.20	0.41
2:R:516:PRO:O	2:R:521:GLU:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:T:332:ASN:O	2:T:336:VAL:HG23	2.20	0.41
2:V:252:ASP:OD1	2:V:253:LEU:N	2.54	0.41
2:B:237:GLU:N	2:B:238:PRO:HD3	2.36	0.41
2:B:431:ARG:HA	2:B:491:THR:HG21	2.01	0.41
2:D:46:LEU:HD12	2:D:46:LEU:HA	1.88	0.41
2:D:252:ASP:OD1	2:D:253:LEU:HD12	2.21	0.41
2:D:532:LEU:HD12	2:D:532:LEU:HA	1.81	0.41
2:F:594:GLU:CD	2:H:596:ALA:HB2	2.46	0.41
2:H:252:ASP:OD1	2:H:253:LEU:N	2.54	0.41
2:H:413:LEU:HD23	2:H:413:LEU:HA	1.95	0.41
2:H:456:GLU:HB2	2:H:459:SER:HB3	2.03	0.41
2:J:35:GLN:H	2:J:51:GLN:HE22	1.68	0.41
2:J:56:ARG:NH2	2:L:312:GLU:OE1	2.54	0.41
2:J:252:ASP:OD1	2:J:253:LEU:N	2.54	0.41
2:J:420:TYR:C	2:J:421:VAL:O	2.62	0.41
2:L:162:LYS:NZ	2:L:309:GLU:OE2	2.50	0.41
2:L:318:THR:HB	2:L:407:VAL:HG13	2.02	0.41
2:L:329:MET:HE3	2:L:329:MET:HB3	1.89	0.41
2:L:441:VAL:HG22	2:L:445:TYR:CD2	2.56	0.41
1:M:129:ARG:O	2:P:327:MET:HG3	2.21	0.41
1:M:144:TRP:CE2	2:P:26:ASN:ND2	2.89	0.41
2:N:112:GLU:O	2:N:116:ALA:N	2.54	0.41
2:N:230:TYR:O	2:N:240:SER:N	2.54	0.41
2:N:540:MET:HE2	2:P:527:LEU:HD22	2.02	0.41
1:O:12:LEU:HB3	1:O:17:VAL:O	2.21	0.41
1:O:44:GLU:O	1:O:47:GLN:HG2	2.21	0.41
2:P:18:ASP:O	2:P:21:ARG:HG2	2.20	0.41
2:P:252:ASP:OD1	2:P:253:LEU:HD12	2.21	0.41
2:P:413:LEU:HD21	2:P:422:PHE:CG	2.56	0.41
1:Q:129:ARG:O	2:T:327:MET:HG3	2.20	0.41
1:S:74:ARG:HH22	1:S:112:LEU:HD23	1.86	0.41
2:T:62:LEU:HD13	2:T:413:LEU:HD12	2.03	0.41
2:T:590:GLN:HG2	2:T:594:GLU:OE2	2.21	0.41
2:T:590:GLN:O	2:T:594:GLU:HG3	2.20	0.41
2:V:129:ASP:OD2	2:X:224:LYS:NZ	2.54	0.41
1:W:137:SER:OG	2:X:205:PRO:HG2	2.20	0.41
2:B:206:TRP:HA	2:D:19:GLU:OE2	2.21	0.41
2:B:207:LEU:HD22	2:D:15:THR:HG23	2.02	0.41
2:B:590:GLN:O	2:B:594:GLU:HG3	2.21	0.41
2:D:352:ALA:HB3	2:D:370:ASN:HD21	1.85	0.41
2:H:46:LEU:HD12	2:H:46:LEU:HA	1.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:324:LEU:HD12	2:H:324:LEU:HA	1.97	0.41
2:J:456:GLU:HB2	2:J:459:SER:HB3	2.03	0.41
2:J:532:LEU:HD12	2:J:532:LEU:HA	1.83	0.41
2:L:96:ASP:OD2	2:L:437:TYR:OH	2.30	0.41
2:L:206:TRP:HA	2:N:19:GLU:OE2	2.21	0.41
2:N:504:ASN:O	2:N:508:ILE:HG12	2.21	0.41
2:V:305:VAL:HG13	2:V:306:GLU:N	2.36	0.41
2:X:112:GLU:O	2:X:116:ALA:N	2.52	0.41
2:L:253:LEU:HD22	2:L:473:ALA:HA	2.02	0.40
2:N:332:ASN:O	2:N:336:VAL:HG23	2.21	0.40
2:N:375:ASN:HB3	1:O:102:ILE:HG23	2.03	0.40
2:T:504:ASN:O	2:T:508:ILE:HG12	2.22	0.40
1:U:52:ILE:HD13	1:U:113:TYR:HA	2.02	0.40
2:X:66:MET:HE3	2:X:419:THR:HB	2.03	0.40
2:X:413:LEU:HD23	2:X:413:LEU:HA	1.84	0.40
2:D:185:LYS:HD2	2:D:186:TYR:CE2	2.56	0.40
2:D:456:GLU:HB2	2:D:459:SER:HB3	2.03	0.40
2:D:594:GLU:CD	2:F:596:ALA:HB2	2.46	0.40
2:F:18:ASP:O	2:F:22:ARG:HG3	2.21	0.40
2:F:29:PHE:CE2	2:F:204:PHE:HB2	2.55	0.40
2:F:366:TYR:CE1	2:H:358:TYR:HB2	2.56	0.40
2:L:534:ASP:HB2	2:N:77:PRO:HD3	2.04	0.40
2:N:29:PHE:CE2	2:N:204:PHE:HB2	2.56	0.40
2:N:66:MET:HG3	2:N:423:GLN:NE2	2.37	0.40
2:N:594:GLU:CD	2:P:596:ALA:HB2	2.46	0.40
2:P:66:MET:HE1	2:P:422:PHE:HB3	2.02	0.40
2:P:112:GLU:O	2:P:116:ALA:N	2.53	0.40
2:R:207:LEU:HD23	2:R:208:THR:HG23	2.03	0.40
2:R:329:MET:HE3	2:R:329:MET:HB3	1.89	0.40
2:R:358:TYR:HD1	2:T:387:TYR:HH	1.70	0.40
2:T:207:LEU:HD22	2:V:15:THR:HG23	2.03	0.40
2:X:18:ASP:O	2:X:22:ARG:HG3	2.22	0.40
2:X:96:ASP:OD2	2:X:437:TYR:OH	2.31	0.40
2:D:366:TYR:CE1	2:F:358:TYR:HB2	2.52	0.40
1:E:52:ILE:HD13	1:E:113:TYR:HA	2.03	0.40
2:H:108:ILE:HD11	2:J:302:TRP:HZ3	1.85	0.40
2:H:237:GLU:N	2:H:238:PRO:HD3	2.36	0.40
2:J:440:ILE:O	2:J:444:ILE:HG12	2.21	0.40
2:P:71:ILE:HD11	2:P:423:GLN:HG2	2.03	0.40
2:R:71:ILE:HD11	2:R:423:GLN:CG	2.50	0.40
2:B:366:TYR:HE1	2:D:358:TYR:HB2	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:583:GLN:HE22	2:F:585:GLN:C	2.29	0.40
2:H:174:MET:HE1	2:H:182:PHE:CD2	2.57	0.40
2:L:112:GLU:O	2:L:116:ALA:N	2.53	0.40
2:N:159:LEU:HD23	2:N:159:LEU:HA	1.93	0.40
2:R:206:TRP:HA	2:T:19:GLU:OE2	2.21	0.40
2:R:237:GLU:N	2:R:238:PRO:HD3	2.37	0.40
2:T:228:PHE:N	2:T:242:PHE:O	2.52	0.40
2:T:248:ASP:OD1	2:T:249:VAL:N	2.55	0.40
2:T:533:LEU:HD12	2:V:507:GLU:OE2	2.21	0.40
2:T:594:GLU:CD	2:V:596:ALA:HB2	2.46	0.40
1:U:60:ASP:OD1	1:U:60:ASP:N	2.53	0.40
2:V:18:ASP:O	2:V:22:ARG:HG3	2.22	0.40
2:V:431:ARG:HA	2:V:491:THR:HG21	2.03	0.40
2:X:35:GLN:H	2:X:51:GLN:HE22	1.69	0.40
2:B:35:GLN:H	2:B:51:GLN:HE22	1.69	0.40
2:B:423:GLN:HB2	2:B:423:GLN:HE21	1.61	0.40
2:B:456:GLU:HB2	2:B:459:SER:HB3	2.03	0.40
2:B:533:LEU:HD22	2:D:76:ARG:HH12	1.87	0.40
2:D:591:GLY:HA2	2:D:594:GLU:OE1	2.21	0.40
1:E:14:LYS:HD3	1:E:14:LYS:HA	1.90	0.40
2:H:523:GLN:NE2	2:H:554:VAL:HG21	2.37	0.40
2:J:457:ASP:OD1	2:J:457:ASP:N	2.49	0.40
2:J:504:ASN:O	2:J:508:ILE:HG12	2.21	0.40
2:L:53:ASP:O	2:N:410:VAL:HG22	2.21	0.40
2:L:456:GLU:HB2	2:L:459:SER:HB3	2.04	0.40
2:N:237:GLU:N	2:N:238:PRO:HD3	2.36	0.40
2:P:204:PHE:HB3	2:P:206:TRP:NE1	2.36	0.40
2:P:587:VAL:HG11	2:R:588:LEU:HB3	2.03	0.40
2:T:441:VAL:HG22	2:T:445:TYR:CD2	2.56	0.40
2:T:523:GLN:NE2	2:T:554:VAL:HG21	2.37	0.40
2:X:511:LEU:HB3	2:X:524:LEU:HD21	2.02	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	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	C	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	E	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	G	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	I	147/149 (99%)	145 (99%)	2 (1%)	0	100	100
1	K	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	M	147/149 (99%)	145 (99%)	2 (1%)	0	100	100
1	O	147/149 (99%)	145 (99%)	2 (1%)	0	100	100
1	Q	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	S	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	U	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
1	W	147/149 (99%)	146 (99%)	1 (1%)	0	100	100
2	B	594/621 (96%)	568 (96%)	26 (4%)	0	100	100
2	D	594/621 (96%)	569 (96%)	25 (4%)	0	100	100
2	F	594/621 (96%)	569 (96%)	25 (4%)	0	100	100
2	H	594/621 (96%)	570 (96%)	24 (4%)	0	100	100
2	J	594/621 (96%)	569 (96%)	25 (4%)	0	100	100
2	L	594/621 (96%)	562 (95%)	32 (5%)	0	100	100
2	N	594/621 (96%)	572 (96%)	22 (4%)	0	100	100
2	P	594/621 (96%)	569 (96%)	25 (4%)	0	100	100
2	R	594/621 (96%)	564 (95%)	30 (5%)	0	100	100
2	T	594/621 (96%)	573 (96%)	21 (4%)	0	100	100
2	V	594/621 (96%)	572 (96%)	22 (4%)	0	100	100
2	X	594/621 (96%)	569 (96%)	25 (4%)	0	100	100
All	All	8892/9240 (96%)	8575 (96%)	317 (4%)	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	117/117 (100%)	117 (100%)	0	100 100
1	C	117/117 (100%)	117 (100%)	0	100 100
1	E	117/117 (100%)	117 (100%)	0	100 100
1	G	117/117 (100%)	117 (100%)	0	100 100
1	I	117/117 (100%)	117 (100%)	0	100 100
1	K	117/117 (100%)	117 (100%)	0	100 100
1	M	117/117 (100%)	117 (100%)	0	100 100
1	O	117/117 (100%)	117 (100%)	0	100 100
1	Q	117/117 (100%)	117 (100%)	0	100 100
1	S	117/117 (100%)	117 (100%)	0	100 100
1	U	117/117 (100%)	117 (100%)	0	100 100
1	W	117/117 (100%)	117 (100%)	0	100 100
2	B	523/541 (97%)	522 (100%)	1 (0%)	92 97
2	D	523/541 (97%)	522 (100%)	1 (0%)	92 97
2	F	523/541 (97%)	523 (100%)	0	100 100
2	H	523/541 (97%)	523 (100%)	0	100 100
2	J	523/541 (97%)	522 (100%)	1 (0%)	92 97
2	L	523/541 (97%)	522 (100%)	1 (0%)	92 97
2	N	523/541 (97%)	522 (100%)	1 (0%)	92 97
2	P	523/541 (97%)	521 (100%)	2 (0%)	89 94
2	R	523/541 (97%)	522 (100%)	1 (0%)	92 97
2	T	523/541 (97%)	523 (100%)	0	100 100
2	V	523/541 (97%)	523 (100%)	0	100 100
2	X	523/541 (97%)	523 (100%)	0	100 100
All	All	7680/7896 (97%)	7672 (100%)	8 (0%)	92 98

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	362	ASP

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Mol	Chain	Res	Type
2	D	423	GLN
2	J	423	GLN
2	L	417	LEU
2	N	423	GLN
2	P	417	LEU
2	P	423	GLN
2	R	423	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (137) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	32	GLN
1	A	47	GLN
2	B	26	ASN
2	B	145	HIS
2	B	150	HIS
2	B	177	ASN
2	B	209	GLN
2	B	356	HIS
2	B	375	ASN
2	B	423	GLN
2	B	450	ASN
2	B	464	GLN
2	B	498	GLN
2	B	583	GLN
1	C	47	GLN
1	C	136	ASN
2	D	26	ASN
2	D	145	HIS
2	D	150	HIS
2	D	370	ASN
2	D	423	GLN
2	D	438	GLN
2	D	442	ASN
2	D	450	ASN
2	D	478	GLN
2	D	523	GLN
2	D	548	GLN
2	D	563	GLN
2	D	564	GLN
2	F	26	ASN
2	F	69	ASN

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Mol	Chain	Res	Type
2	F	145	HIS
2	F	177	ASN
2	F	356	HIS
2	F	375	ASN
2	F	523	GLN
2	F	564	GLN
2	F	583	GLN
1	G	32	GLN
1	G	47	GLN
2	H	145	HIS
2	H	150	HIS
2	H	156	ASN
2	H	177	ASN
2	H	231	GLN
2	H	332	ASN
2	H	375	ASN
2	H	423	GLN
2	H	425	ASN
2	H	464	GLN
2	H	583	GLN
1	I	32	GLN
1	I	47	GLN
1	I	136	ASN
2	J	145	HIS
2	J	370	ASN
2	J	438	GLN
2	J	442	ASN
2	J	478	GLN
2	J	523	GLN
2	J	548	GLN
2	J	564	GLN
2	L	26	ASN
2	L	69	ASN
2	L	145	HIS
2	L	375	ASN
2	L	450	ASN
2	L	523	GLN
2	L	564	GLN
2	L	570	GLN
2	L	583	GLN
1	M	32	GLN
2	N	26	ASN

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Mol	Chain	Res	Type
2	N	145	HIS
2	N	150	HIS
2	N	209	GLN
2	N	231	GLN
2	N	375	ASN
2	N	423	GLN
2	N	464	GLN
2	N	498	GLN
2	N	570	GLN
2	N	583	GLN
1	O	32	GLN
1	O	47	GLN
2	P	145	HIS
2	P	150	HIS
2	P	370	ASN
2	P	375	ASN
2	P	423	GLN
2	P	425	ASN
2	P	498	GLN
2	P	523	GLN
2	P	564	GLN
2	R	26	ASN
2	R	375	ASN
2	R	423	GLN
2	R	450	ASN
2	R	478	GLN
2	R	523	GLN
2	R	570	GLN
2	R	583	GLN
1	S	32	GLN
1	S	47	GLN
2	T	26	ASN
2	T	145	HIS
2	T	150	HIS
2	T	375	ASN
2	T	425	ASN
2	T	450	ASN
2	T	498	GLN
2	T	583	GLN
1	U	32	GLN
1	U	47	GLN
1	U	136	ASN

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Mol	Chain	Res	Type
2	V	26	ASN
2	V	145	HIS
2	V	150	HIS
2	V	370	ASN
2	V	478	GLN
2	V	523	GLN
2	V	548	GLN
2	V	564	GLN
2	V	570	GLN
1	W	47	GLN
1	W	136	ASN
1	W	145	HIS
2	X	69	ASN
2	X	150	HIS
2	X	356	HIS
2	X	370	ASN
2	X	375	ASN
2	X	523	GLN
2	X	548	GLN
2	X	564	GLN
2	X	570	GLN
2	X	583	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 (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

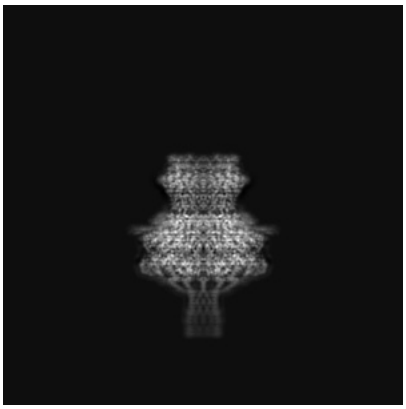
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-27792. These allow visual inspection of the internal detail of the map and identification of artifacts.

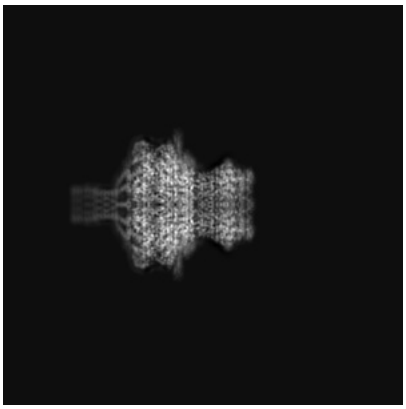
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

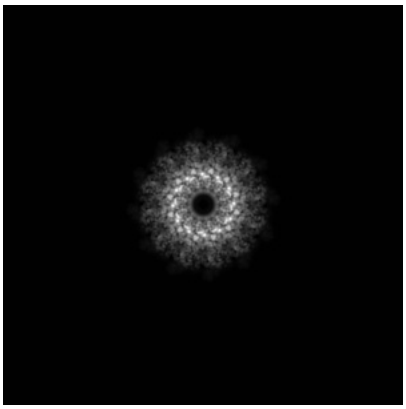
6.1.1 Primary map



X

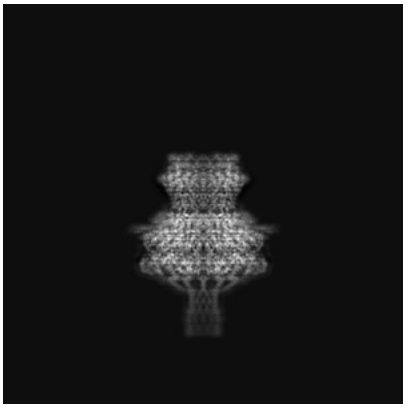


Y

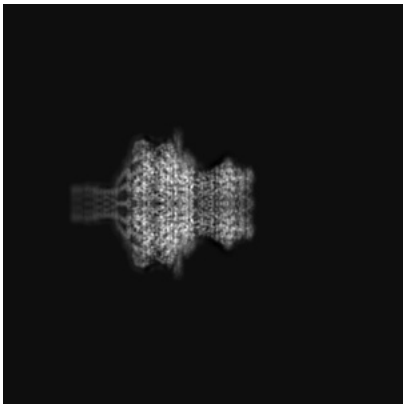


Z

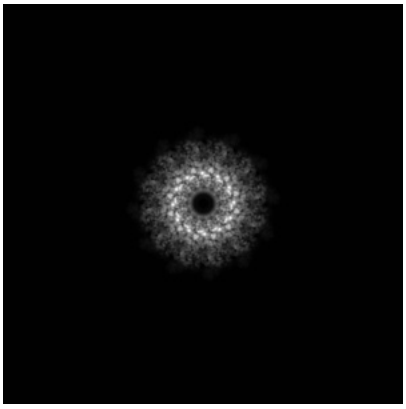
6.1.2 Raw map



X



Y



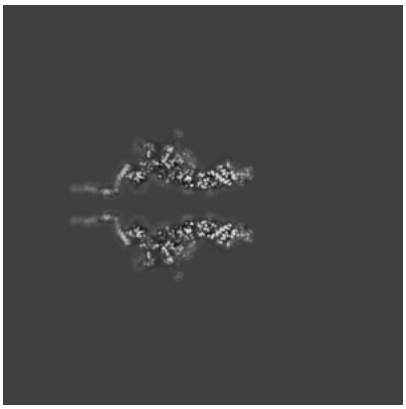
Z

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

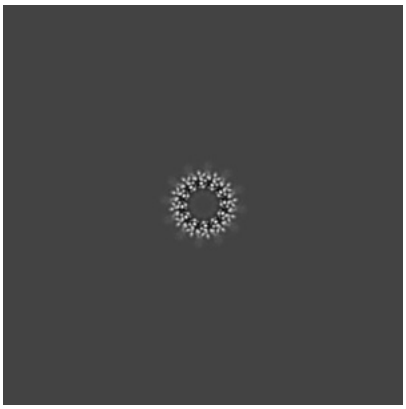
6.2 Central slices (i)

6.2.1 Primary map

X Index: 240



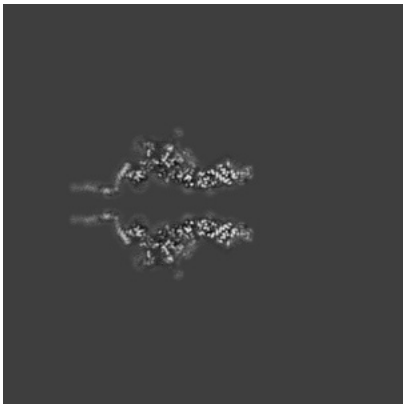
Y Index: 240



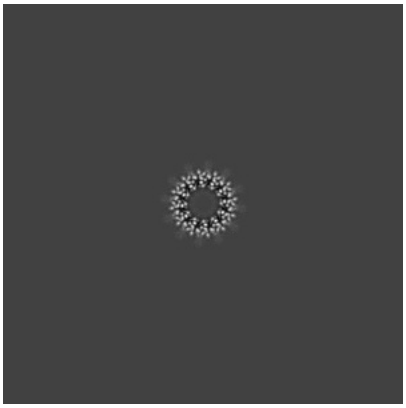
Z Index: 240

6.2.2 Raw map

X Index: 240



Y Index: 240

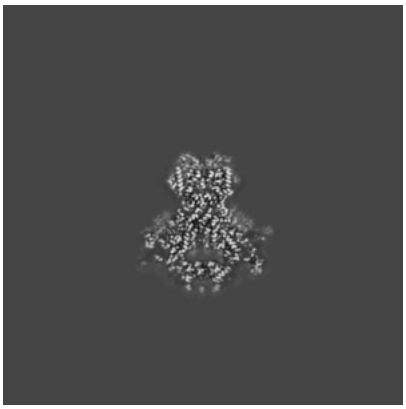


Z Index: 240

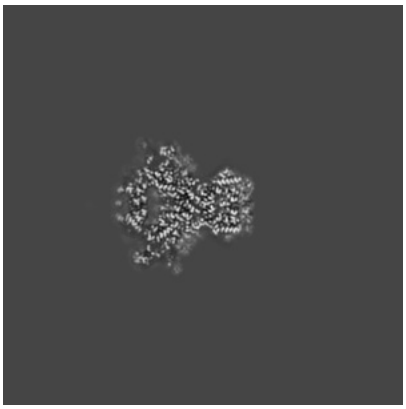
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

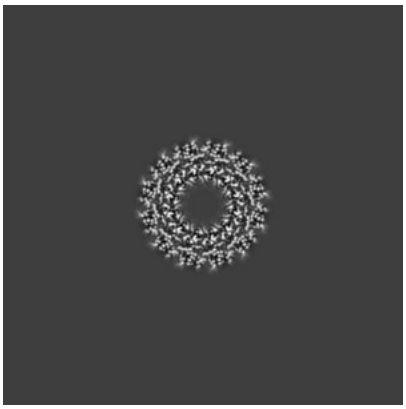
6.3.1 Primary map



X Index: 269

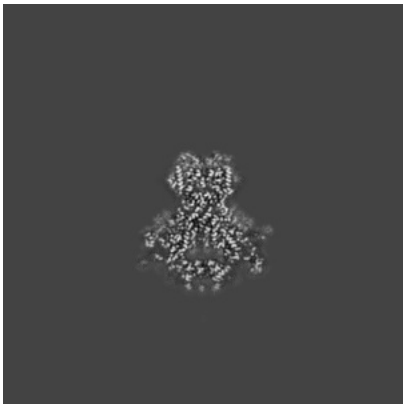


Y Index: 269

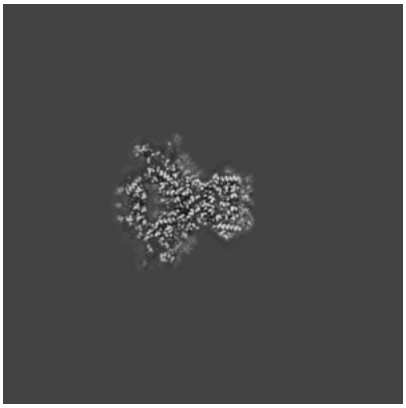


Z Index: 198

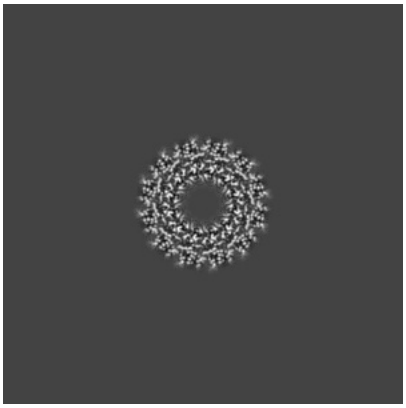
6.3.2 Raw map



X Index: 269



Y Index: 211

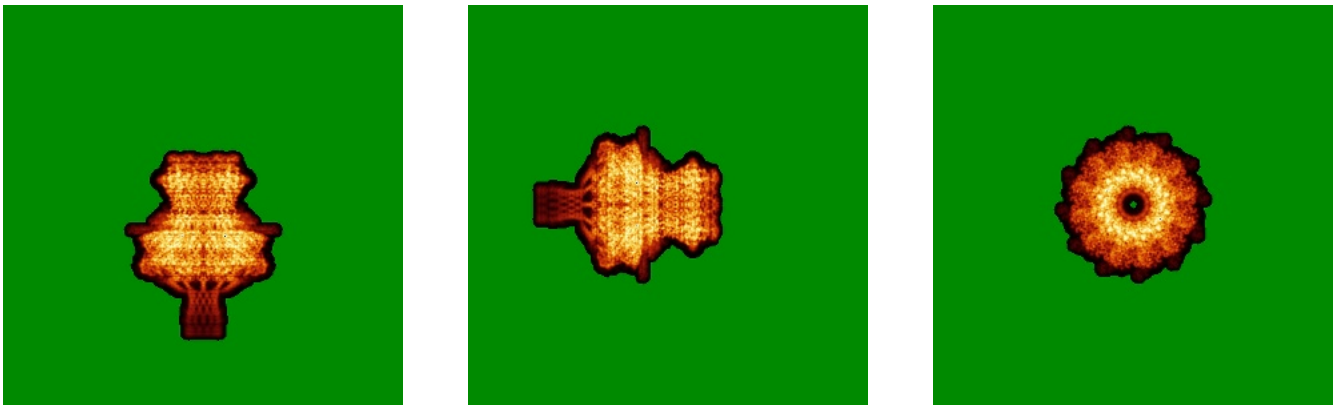


Z Index: 198

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

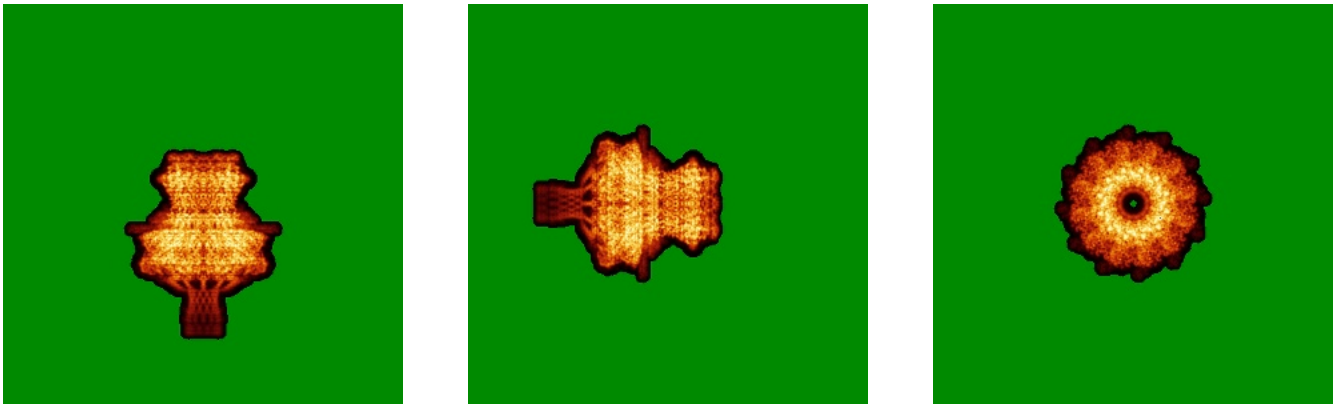
6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map



X Y Z

6.4.2 Raw map

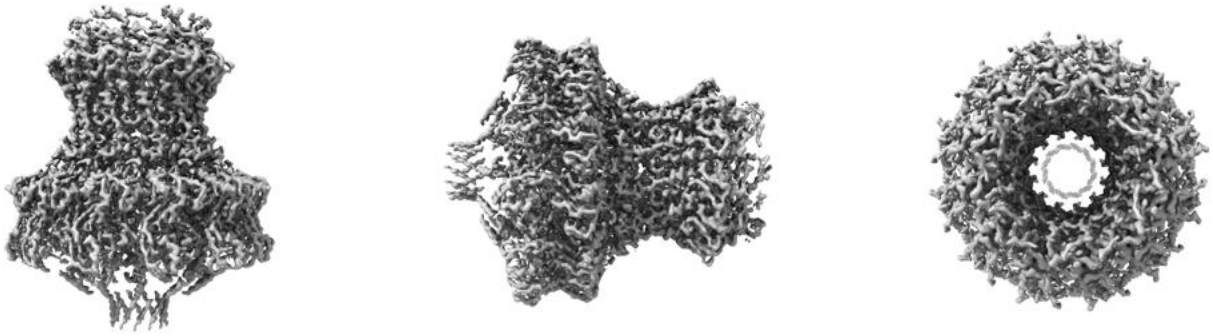


X Y Z

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)

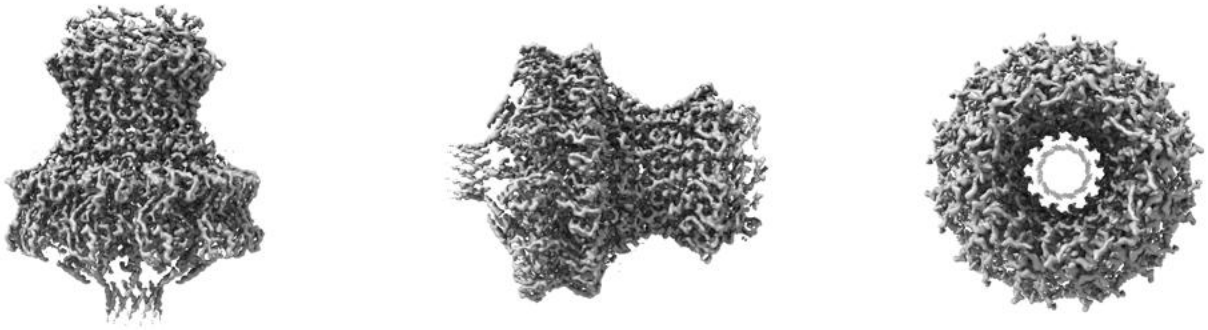
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. 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.

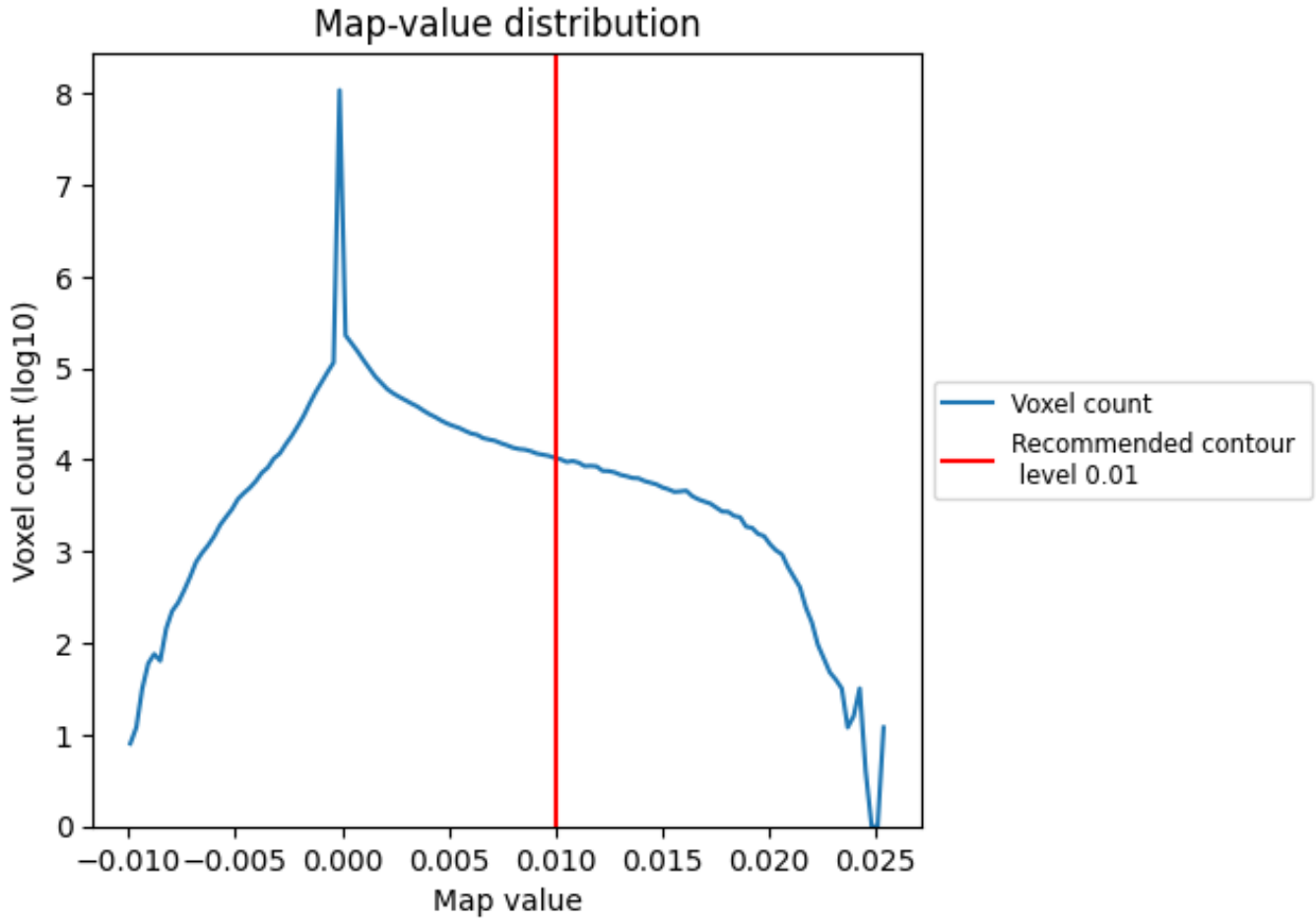
6.6 Mask visualisation (i)

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

7 Map analysis

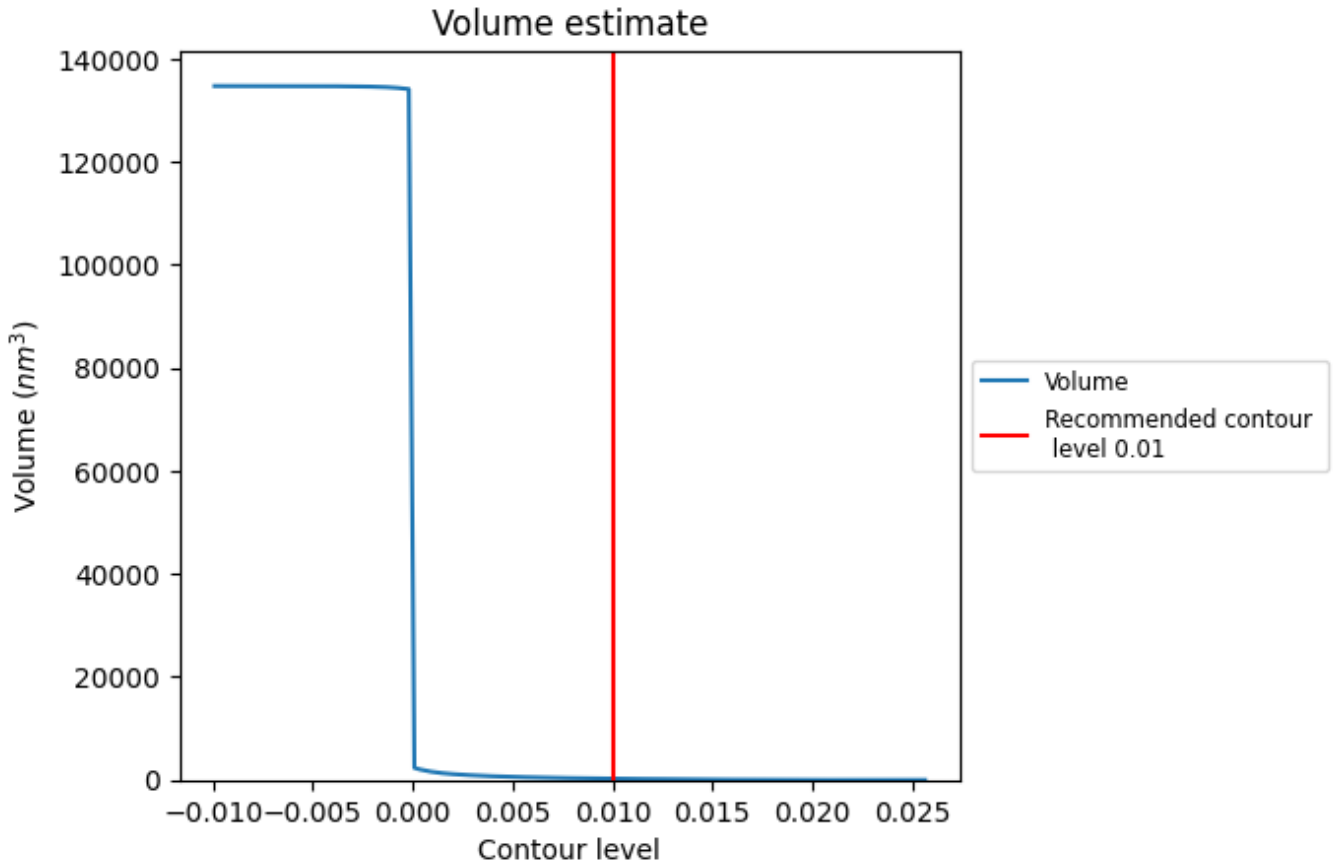
This section contains the results of statistical analysis of the map.

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.

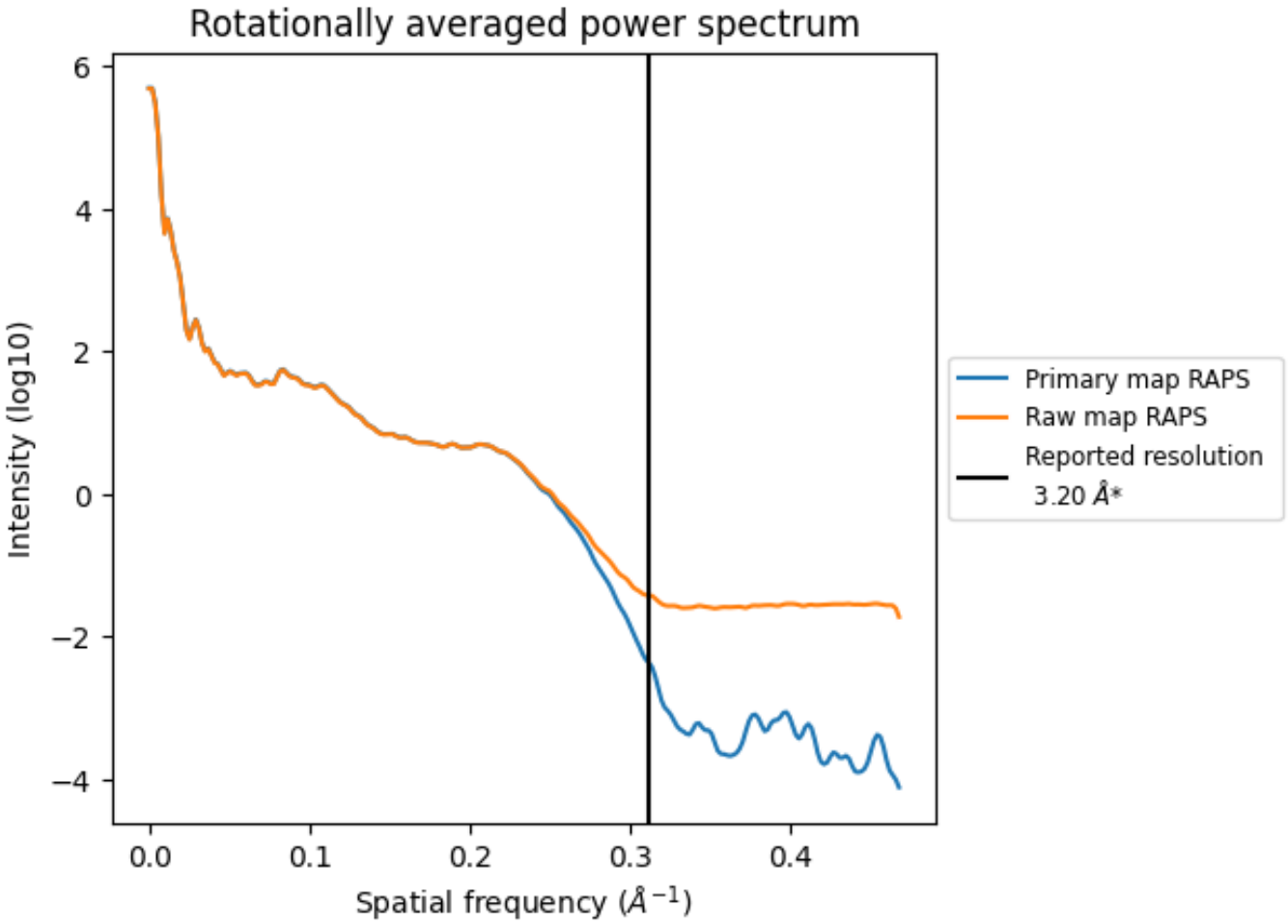
7.2 Volume estimate



The volume at the recommended contour level is 247 nm^3; this corresponds to an approximate mass of 223 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)

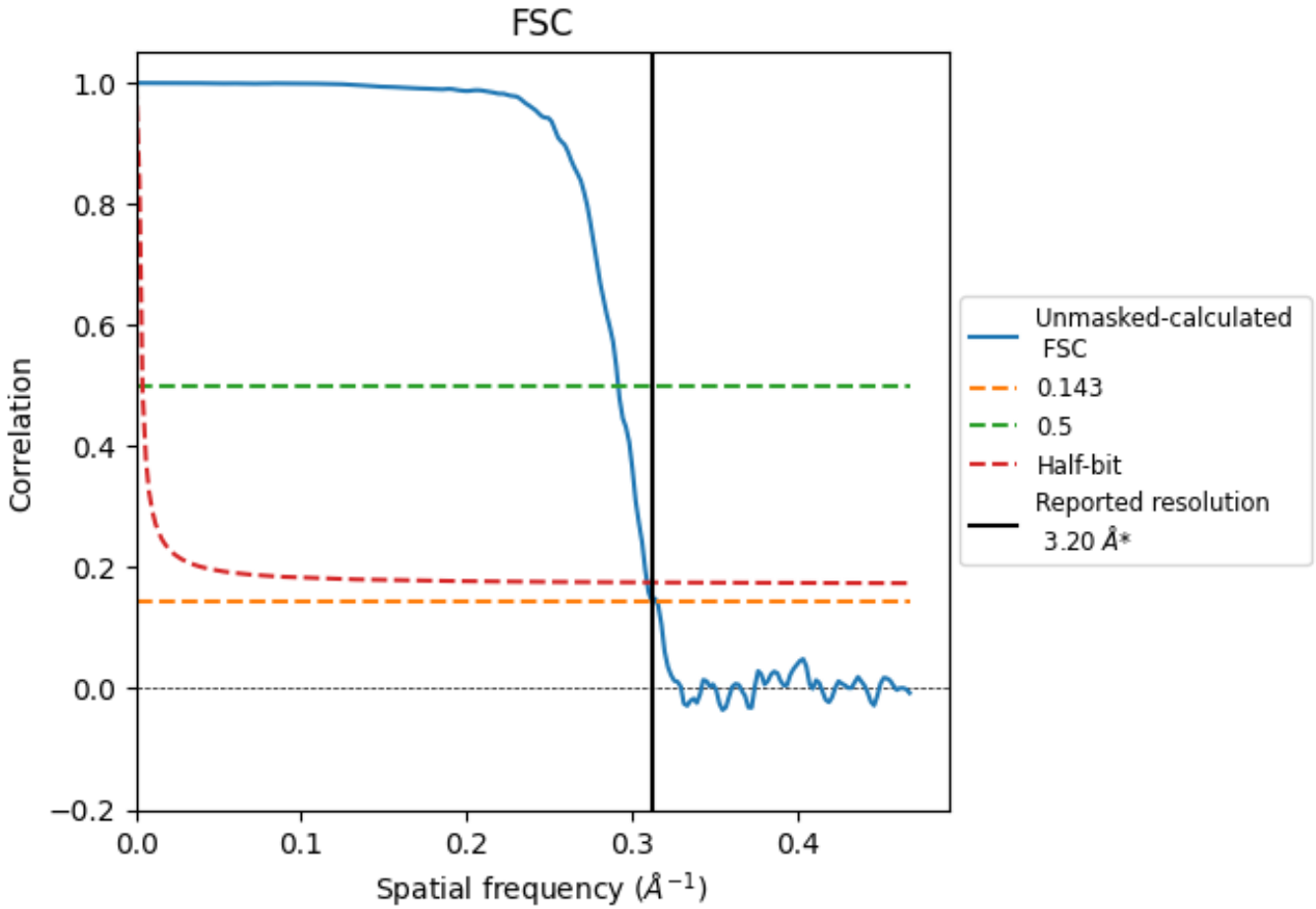


*Reported resolution corresponds to spatial frequency of 0.312 $Å^{-1}$

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 0.312 Å^{-1}

8.2 Resolution estimates (i)

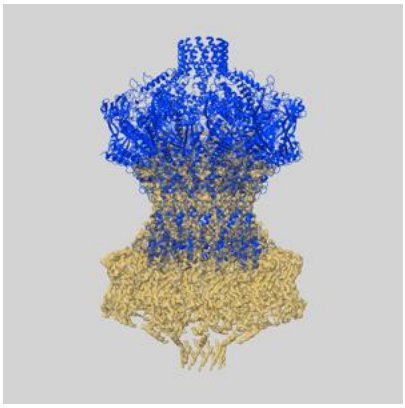
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.17	3.43	3.23

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

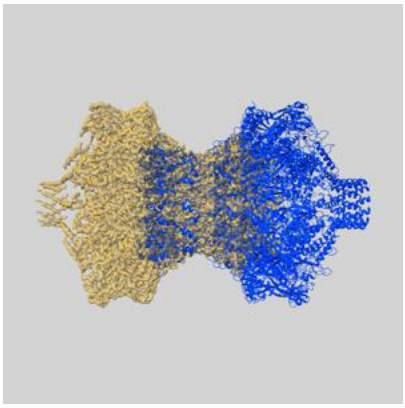
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-27792 and PDB model 8EAO. Per-residue inclusion information can be found in section 3 on page 6.

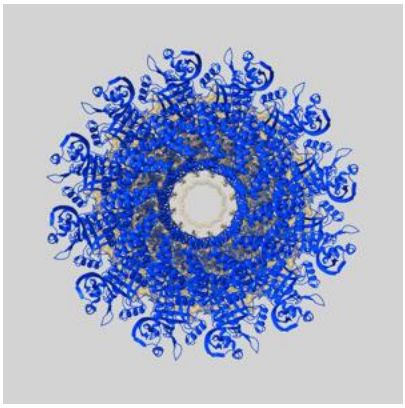
9.1 Map-model overlay



X



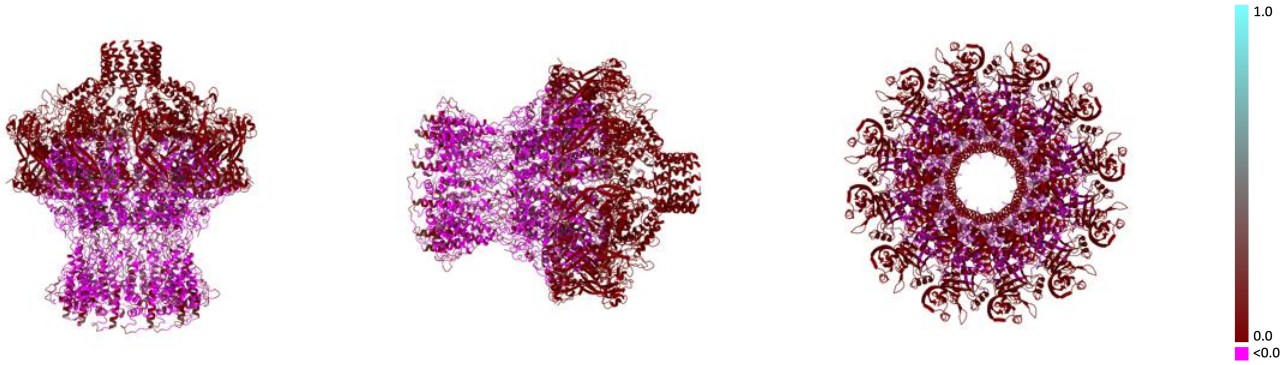
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.01 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.

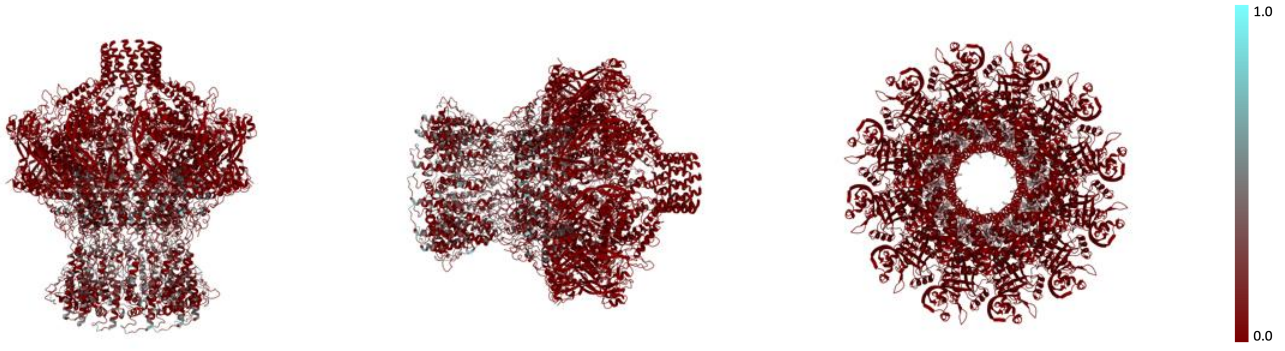
9.2 Q-score mapped to coordinate model



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.

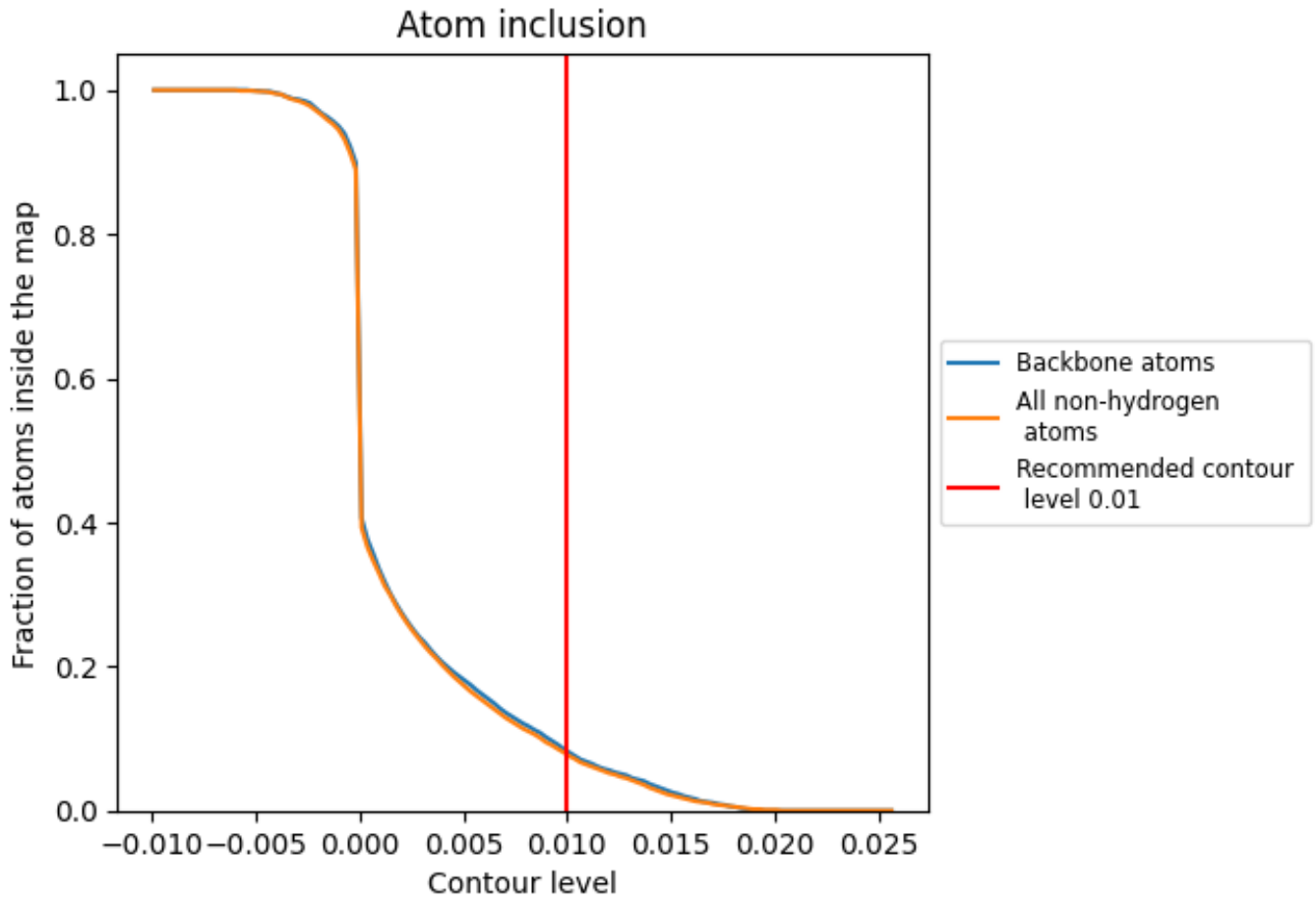
9.3 Atom inclusion mapped to coordinate model



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 (0.01).

9.4 Atom inclusion (i)



At the recommended contour level, 8% of all backbone atoms, 8% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.0780	-0.0150
A	0.1730	-0.0300
B	0.0550	-0.0110
C	0.1700	-0.0350
D	0.0560	-0.0110
E	0.1730	-0.0320
F	0.0570	-0.0120
G	0.1700	-0.0280
H	0.0560	-0.0110
I	0.1700	-0.0360
J	0.0560	-0.0120
K	0.1720	-0.0310
L	0.0550	-0.0110
M	0.1710	-0.0270
N	0.0550	-0.0120
O	0.1700	-0.0350
P	0.0560	-0.0110
Q	0.1750	-0.0310
R	0.0560	-0.0110
S	0.1710	-0.0290
T	0.0550	-0.0110
U	0.1730	-0.0360
V	0.0550	-0.0110
W	0.1690	-0.0350
X	0.0560	-0.0110