W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

Full wwPDB EM Validation Report ⓘ

Nov 11, 2024 – 10:33 PM JST

PDB ID	:	7YSG
EMDB ID	:	EMD-34074
Title	:	Cryo-EM structure of human FcmR bound to sIgM
Authors	:	Li, Y.; Shen, H.; Xiao, J.
Deposited on	:	2022-08-12
Resolution	:	3.18 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:

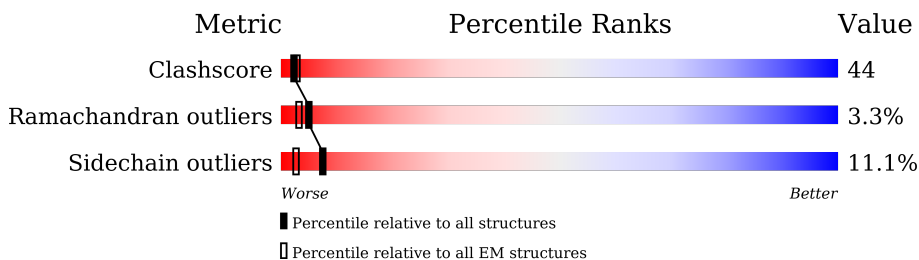|		
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 3.18 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	Percentile Ranks	Value
Clashscore		44
Ramachandran outliers		3.3%
Sidechain outliers		11.1%

Worse — *Better*

■ Percentile relative to all structures
▯ Percentile relative to all EM structures

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	232	22% / 44% 42% 12% ·
1	B	232	21% / 44% 38% 13% · ·
1	C	232	31% / 50% 37% 7% · ·
1	D	232	23% / 59% 34% · ·
1	E	232	21% / 51% 39% 5% · ·
1	F	232	19% / 43% 38% 12% · ·
1	G	232	21% / 59% 33% · · ·
1	H	232	24% / 56% 33% 8% ·

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Mol	Chain	Length	Quality of chain
1	K	232	22% / 43% 44% 12%
1	L	232	38% / 49% 41% 9%
2	J	136	47% 27% 22%
3	P	541	29% / 46% 34% 9% 9%
4	R	107	59% / 41% 45% 8% 6%
4	S	107	34% / 40% 47% 9%
4	U	107	40% / 41% 49% 5% 6%
4	V	107	75% / 58% 39%
5	I	2	100%

2 Entry composition ⓘ

There are 6 unique types of molecules in this entry. The entry contains 25676 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 Immunoglobulin heavy constant mu.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	231	Total 1786	C 1123	N 303	O 351	S 9	0	0
1	B	228	Total 1769	C 1114	N 300	O 347	S 8	0	0
1	C	227	Total 1763	C 1111	N 299	O 345	S 8	0	0
1	D	224	Total 1743	C 1100	N 296	O 339	S 8	0	0
1	E	224	Total 1743	C 1100	N 296	O 339	S 8	0	0
1	F	224	Total 1743	C 1100	N 296	O 339	S 8	0	0
1	G	224	Total 1742	C 1100	N 296	O 338	S 8	0	0
1	H	232	Total 1798	C 1132	N 304	O 353	S 9	0	0
1	K	232	Total 1798	C 1132	N 304	O 353	S 9	0	0
1	L	232	Total 1798	C 1132	N 304	O 353	S 9	0	0

- Molecule 2 is a protein called Immunoglobulin J chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	J	106	Total 851	C 528	N 150	O 166	S 7	0	0

- Molecule 3 is a protein called Secretory component.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	P	495	Total 3851	C 2431	N 670	O 731	S 19	0	0

- Molecule 4 is a protein called Fas apoptotic inhibitory molecule 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	R	101	Total 766	C 480	N 132	O 147	S 7	0	0
4	S	103	Total 785	C 492	N 137	O 149	S 7	0	0
4	U	101	Total 766	C 480	N 132	O 147	S 7	0	0
4	V	106	Total 805	C 504	N 140	O 154	S 7	0	0

- Molecule 5 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-a cetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
5	I	2	Total 28	C 16	N 2	O 10	0	0

- Molecule 6 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$) (labeled as "Ligand of Interest" by depositor).
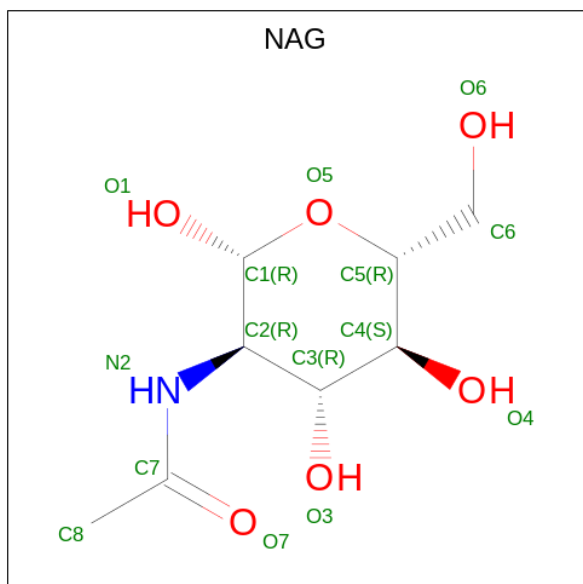
Mol	Chain	Residues	Atoms				AltConf
6	A	1	Total 14	C 8	N 1	O 5	0

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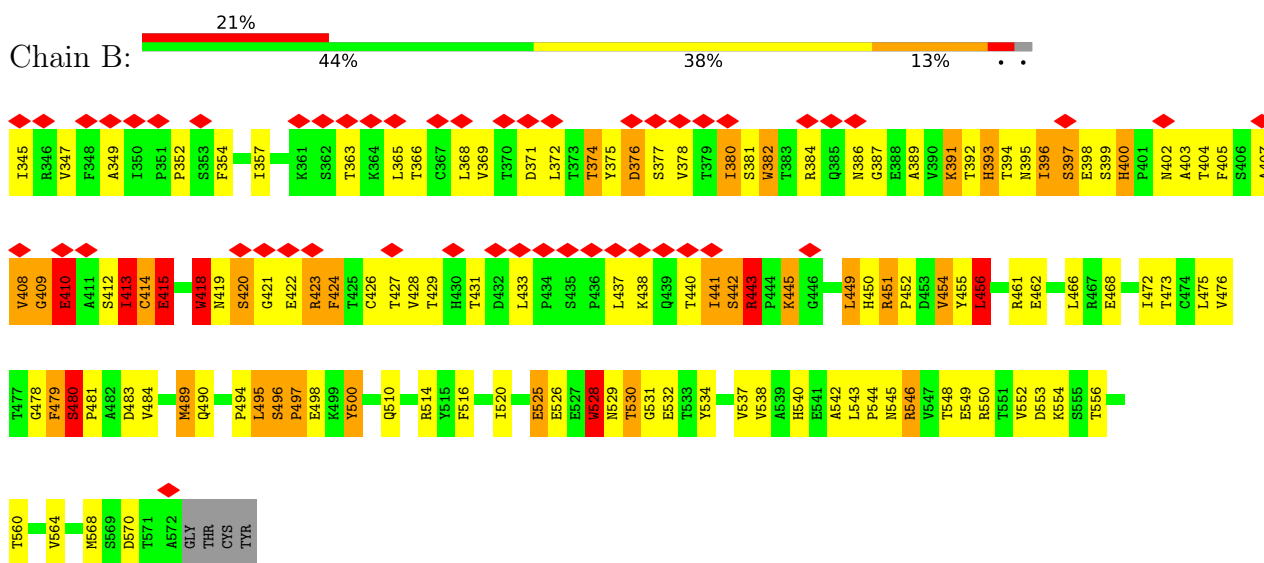| Mol	Chain	Residues	Atoms				AltConf
6	B	1	Total 14	C 8	N 1	O 5	0
6	C	1	Total 14	C 8	N 1	O 5	0
6	D	1	Total 14	C 8	N 1	O 5	0
6	E	1	Total 14	C 8	N 1	O 5	0
6	F	1	Total 14	C 8	N 1	O 5	0
6	G	1	Total 15	C 8	N 1	O 6	0
6	H	1	Total 14	C 8	N 1	O 5	0
6	K	1	Total 14	C 8	N 1	O 5	0
6	L	1	Total 14	C 8	N 1	O 5	0

3   Residue-property plots ⓘ

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.
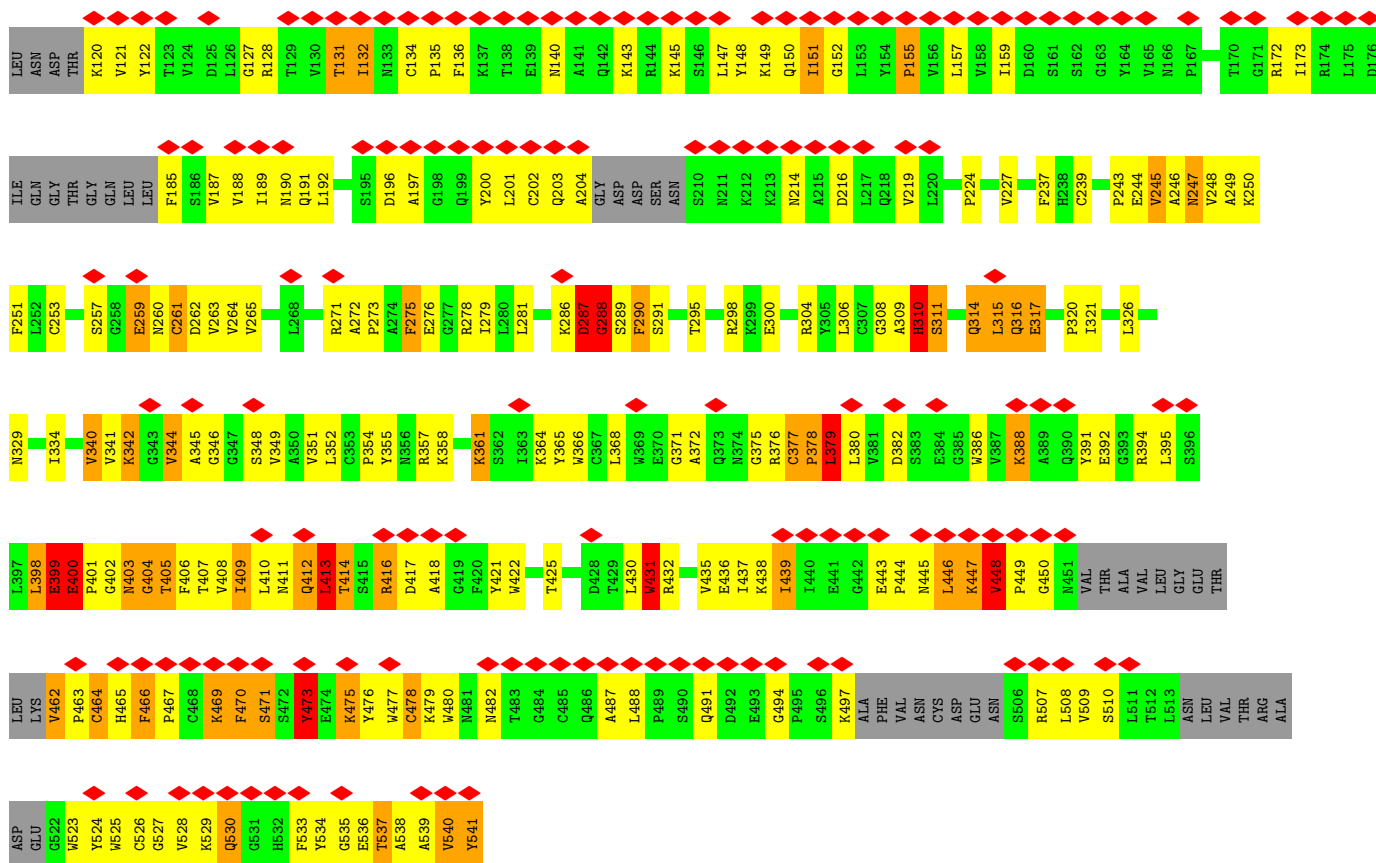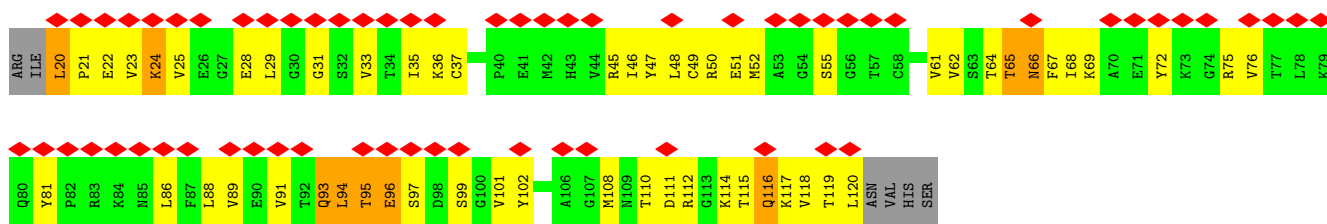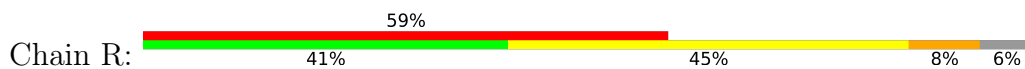
• Molecule 1: Immunoglobulin heavy constant mu

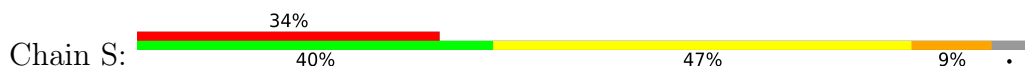
• Molecule 1: Immunoglobulin heavy constant mu

• Molecule 1: Immunoglobulin heavy constant mu

Chain C:

31%

50% 37% 7%

I345 R346 V347 F348 A349 I350 F354 A355 S356 I357 F358 L359 T360 K361 S362 T363 K364 L365 L368 V369 T370 D371 L372 T373 T374 Y375 D376 S377 V378 T379 I380 S381 W382 T383 R384 Q385 N386 A389 V390 K391 T392 H393 T394 N395 I396 S397 E398 S399 H400 P401 N402 A403 T404 F405 S406 V408

G409 E410 A411 S412 I413 C414 E415 D416 N419 S420 G421 E422 R423 F424 T425 C426 T427 V428 T429 H430 T431 D432 L433 P434 S435 P436 L437 K438 Q439 T440 I441 S442 R443 P444 K445 G446 V447 A448 L449 H450 R451 P452 D453 V454 Y455 L456 L457 P458 P459 A460 R461 E462 Q463 L464 N465 L466 R467 E468 S469

A470 T471 I472 T473 C474 T477 G478 F479 S480 P481 A482 D483 V484 F485 V486 P494 T502 M506 P507 E508 P509 Q510 A511 P512 G513 R514 Y515 S519 I520 L521 T522 V523 S524 E525 E526 E527 W528 N529 T530 G531 E532 T533 C536 V537 V538 A539 H540 V547 R550 T551 V552 D553

K554 S555 T556 G557 K558 Y562 N563 V564 S565 L566 V567 M568 S569 D570 T571 ALA GLY THR CYS TYR

• Molecule 1: Immunoglobulin heavy constant mu

Chain D:

23%

59% 34%

I345 R346 V347 F348 A349 I350 F354 I357 F358 L359 T363 K364 L365 T366 C367 L368 V369 T370 D371 L372 T373 T374 Y375 D376 S377 V378 T379 I380 S381 W382 T383 R384 Q385 N386 G387 E388 A389 V390 K391 T392 H393 S397 E398 S399 H400 P401 N402 A403 T404 F405 S406 A407 V408 G409 E410 A411

S412 I413 C414 E415 D416 D417 W418 N419 S420 G421 E422 R423 F424 T425 C426 T427 V428 T429 H430 T431 D432 L433 P434 S435 P436 L437 K438 Q439 T440 I441 S442 R443 P444 K445 G446 V447 A448 L449 H450 R451 P452 D453 V454 L457 T471 G478 F479 V486 Q487 Q490 Q493 P494 L495

S496 P497 E498 K499 Y500 E508 P509 Q510 R514 T522 E532 T533 Y534 T535 C536 V537 V538 A539 A542 L543 P544 N545 R546 T551 V552 G557 Y562 L566 V567 M568 SER ASP THR ALA GLY THR CYS TYR

• Molecule 1: Immunoglobulin heavy constant mu

Chain E:

21%

51% 39% 5%

I345 R346 V347 F348 A349 I350 F354 I357 F358 L359 T363 K364 L365 T366 C367 L368 V369 D371 L372 T373 T374 Y375 D376 S377 V378 T379 I380 S381 W382 T383 R384 G387 E388 K391 T392 H393 T394 N395 I396 S397 E398 S399 H400 P401 N402 A403 T404 F405 S406 A407 V408 G409 E410 A411

S412 E415 D416 D417 W418 N419 S420 G421 E422 R423 F424 T429 H430 T431 D432 L433 P434 S435 P436 L437 K438 S442 R443 P444 K445 G446 V447 H450 R451 P452 D453 V454 Y455 L456 L457 P458 P459 R467 E468 S469 A470 T471 I472 T473 C474 G478 F479 S480 P481 A482 D483 V484 W488

M489 Q490 R491 G492 Q493 P494 V501 M506 P507 E508 P509 Q510 A511 R514 Y515 F516 T522 V523 S524 E525 E526 E527 T530 G531 E532 T533 Y534 T535 C536 V537 V538 A539 H540 E541 A542 L543 P544 N545 R546 V547 T548 E549 R550 T551 V552 S565 M568 SER ASP THR ALA GLY THR

CYS TYR

• Molecule 1: Immunoglobulin heavy constant mu

Chain F:

19%

43%

38%

12%

• •

• Molecule 1: Immunoglobulin heavy constant mu

Chain G:

21%

59%

33%

• • •

• Molecule 1: Immunoglobulin heavy constant mu

Chain H:

24%

56%

33%

8%

•

• Molecule 1: Immunoglobulin heavy constant mu

Chain K:

22%

43%

44%

12%

•

• Molecule 1: Immunoglobulin heavy constant mu

Chain L:

• Molecule 2: Immunoglobulin J chain

Chain J:

• Molecule 3: Secretory component

Chain P:

• Molecule 4: Fas apoptotic inhibitory molecule 3

Chain R:

• Molecule 4: Fas apoptotic inhibitory molecule 3

Chain S:

• Molecule 4: Fas apoptotic inhibitory molecule 3

Chain U:

• Molecule 4: Fas apoptotic inhibitory molecule 3

Chain V:

• Molecule 5: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	297136	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 $(e^-/\text{Å}^2)$	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.308	Depositor
Minimum map value	-1.208	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.048	Depositor
Recommended contour level	0.27	Depositor
Map size (Å)	345.6, 345.6, 345.6	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.08, 1.08, 1.08	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: NAG

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	1.32	17/1831 (0.9%)	0.96	8/2508 (0.3%)
1	B	1.27	14/1814 (0.8%)	1.06	13/2485 (0.5%)
1	C	0.94	3/1808 (0.2%)	0.85	8/2476 (0.3%)
1	D	0.63	1/1788 (0.1%)	0.67	1/2449 (0.0%)
1	E	0.78	3/1788 (0.2%)	0.80	5/2449 (0.2%)
1	F	0.82	3/1788 (0.2%)	0.91	5/2449 (0.2%)
1	G	0.86	6/1787 (0.3%)	0.76	3/2447 (0.1%)
1	H	0.94	12/1844 (0.7%)	0.81	7/2526 (0.3%)
1	K	1.00	5/1844 (0.3%)	0.89	6/2526 (0.2%)
1	L	0.75	5/1844 (0.3%)	0.84	7/2526 (0.3%)
2	J	0.78	1/864 (0.1%)	0.82	2/1173 (0.2%)
3	P	0.61	6/3935 (0.2%)	0.77	6/5333 (0.1%)
4	R	0.37	0/776	0.72	1/1046 (0.1%)
4	S	0.42	0/795	0.74	0/1071
4	U	0.41	0/776	0.75	0/1046
4	V	0.31	0/816	0.61	1/1101 (0.1%)
All	All	0.85	76/26098 (0.3%)	0.83	73/35611 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	3
1	E	0	1
1	H	0	1
3	P	0	2
All	All	0	7

All (76) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	455	TYR	CB-CG	-8.64	1.38	1.51
3	P	404	GLY	C-N	8.12	1.52	1.34
1	A	515	TYR	CE1-CZ	-7.66	1.28	1.38
1	B	534	TYR	CE1-CZ	-7.47	1.28	1.38
1	L	576	TYR	CE2-CZ	-6.95	1.29	1.38
1	B	534	TYR	CB-CG	-6.83	1.41	1.51
1	B	455	TYR	CB-CG	-6.73	1.41	1.51
1	B	500	TYR	CE1-CZ	-6.69	1.29	1.38
1	E	534	TYR	CB-CG	-6.63	1.41	1.51
1	A	500	TYR	CE1-CZ	-6.57	1.30	1.38
1	A	515	TYR	CG-CD1	-6.53	1.30	1.39
1	B	418	TRP	CB-CG	-6.53	1.38	1.50
1	H	488	TRP	CD2-CE2	-6.51	1.33	1.41
1	A	479	PHE	CG-CD2	-6.43	1.29	1.38
2	J	62	TYR	CE1-CZ	-6.22	1.30	1.38
3	P	60	TYR	CB-CG	-6.19	1.42	1.51
1	A	500	TYR	CG-CD2	-6.19	1.31	1.39
1	B	479	PHE	CG-CD1	-6.17	1.29	1.38
1	H	562	TYR	CB-CG	-6.15	1.42	1.51
1	H	562	TYR	CE1-CZ	-6.00	1.30	1.38
1	G	515	TYR	CB-CG	-5.87	1.42	1.51
1	H	517	ALA	C-O	-5.84	1.12	1.23
3	P	60	TYR	CE1-CZ	-5.83	1.30	1.38
3	P	60	TYR	CG-CD2	-5.82	1.31	1.39
1	B	525	GLU	CD-OE2	-5.79	1.19	1.25
1	H	562	TYR	CG-CD2	-5.76	1.31	1.39
1	E	515	TYR	CB-CG	-5.76	1.43	1.51
1	A	479	PHE	CG-CD1	-5.74	1.30	1.38
1	H	488	TRP	CZ3-CH2	-5.70	1.30	1.40
1	B	455	TYR	C-O	-5.62	1.12	1.23
1	B	455	TYR	CE1-CZ	-5.59	1.31	1.38
1	B	500	TYR	CG-CD1	-5.59	1.31	1.39
1	B	534	TYR	CG-CD1	-5.58	1.31	1.39
1	H	536	CYS	C-O	-5.58	1.12	1.23
1	K	562	TYR	CB-CG	-5.56	1.43	1.51
1	B	528	TRP	CE3-CZ3	-5.56	1.28	1.38
1	A	515	TYR	CB-CG	-5.50	1.43	1.51
1	G	475	LEU	C-O	-5.50	1.12	1.23
1	C	455	TYR	CE1-CZ	-5.47	1.31	1.38
1	A	516	PHE	C-O	-5.43	1.13	1.23
1	A	500	TYR	CE2-CZ	-5.43	1.31	1.38
1	F	479	PHE	CG-CD1	-5.43	1.30	1.38
1	L	576	TYR	CG-CD2	-5.42	1.32	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	500	TYR	CB-CG	-5.42	1.43	1.51
1	G	515	TYR	CG-CD2	-5.42	1.32	1.39
1	H	537	VAL	C-O	-5.42	1.13	1.23
1	H	488	TRP	CE3-CZ3	-5.41	1.29	1.38
1	G	562	TYR	C-O	-5.39	1.13	1.23
1	G	534	TYR	CB-CG	-5.31	1.43	1.51
1	A	516	PHE	CG-CD2	-5.30	1.30	1.38
1	A	479	PHE	CB-CG	-5.30	1.42	1.51
1	K	475	LEU	C-O	-5.27	1.13	1.23
1	L	576	TYR	CB-CG	-5.27	1.43	1.51
1	A	479	PHE	C-O	-5.26	1.13	1.23
1	F	500	TYR	CE1-CZ	-5.23	1.31	1.38
3	P	60	TYR	CE2-CZ	-5.15	1.31	1.38
1	G	474	CYS	C-O	-5.14	1.13	1.23
1	K	562	TYR	CE1-CZ	-5.14	1.31	1.38
1	H	487	GLN	C-O	-5.14	1.13	1.23
1	L	565	SER	C-O	-5.14	1.13	1.23
1	D	534	TYR	CB-CG	-5.13	1.44	1.51
1	E	515	TYR	CG-CD1	-5.11	1.32	1.39
1	B	528	TRP	CB-CG	-5.09	1.41	1.50
1	F	548	THR	C-O	-5.09	1.13	1.23
1	H	562	TYR	C-O	-5.07	1.13	1.23
1	K	565	SER	C-O	-5.06	1.13	1.23
1	A	528	TRP	CB-CG	-5.06	1.41	1.50
1	A	500	TYR	CG-CD1	-5.05	1.32	1.39
1	B	544	PRO	CA-C	-5.04	1.42	1.52
1	A	515	TYR	CE2-CZ	-5.04	1.32	1.38
1	K	528	TRP	CE3-CZ3	-5.03	1.29	1.38
3	P	431	TRP	CB-CG	-5.03	1.41	1.50
1	C	455	TYR	CG-CD2	-5.02	1.32	1.39
1	H	519	SER	CA-CB	-5.01	1.45	1.52
1	A	546	ARG	C-O	-5.01	1.13	1.23
1	L	576	TYR	CE1-CZ	-5.00	1.32	1.38

All (73) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	480	SER	C-N-CD	-11.81	94.61	120.60
3	P	404	GLY	C-N-CA	11.12	149.50	121.70
1	L	551	THR	N-CA-C	9.32	136.17	111.00
1	L	552	VAL	CB-CA-C	-8.80	94.68	111.40
1	H	443	ARG	N-CA-CB	8.33	125.60	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	P	404	GLY	CA-C-O	-7.98	106.23	120.60
1	G	478	GLY	N-CA-C	7.92	132.90	113.10
1	B	495	LEU	CB-CG-CD2	-7.60	98.08	111.00
1	E	533	THR	N-CA-C	7.33	130.80	111.00
1	C	564	VAL	CB-CA-C	-7.28	97.57	111.40
4	R	66	ASN	N-CA-C	6.95	129.76	111.00
2	J	118	GLY	N-CA-C	-6.87	95.91	113.10
1	C	457	LEU	CB-CG-CD1	-6.83	99.39	111.00
1	B	414	CYS	N-CA-C	6.80	129.35	111.00
1	A	480	SER	C-N-CA	6.78	150.47	122.00
1	K	449	LEU	N-CA-C	6.74	129.21	111.00
1	B	414	CYS	CA-CB-SG	-6.42	102.44	114.00
1	B	381	SER	N-CA-C	-6.42	93.68	111.00
1	K	566	LEU	CB-CG-CD2	-6.35	100.20	111.00
1	E	493	GLN	C-N-CD	-6.32	106.69	120.60
1	L	564	VAL	CB-CA-C	-6.31	99.42	111.40
1	B	418	TRP	N-CA-C	-6.28	94.05	111.00
1	B	409	GLY	N-CA-C	-6.28	97.41	113.10
1	G	518	HIS	CB-CA-C	-6.18	98.04	110.40
1	K	564	VAL	CB-CA-C	-6.18	99.66	111.40
1	B	443	ARG	N-CA-C	-6.18	94.33	111.00
1	C	480	SER	C-N-CD	-6.16	107.05	120.60
1	H	520	ILE	CG1-CB-CG2	-6.09	98.00	111.40
1	C	456	LEU	CB-CG-CD1	-6.06	100.70	111.00
1	H	441	ILE	CA-C-N	-6.05	103.90	117.20
1	G	516	PHE	CB-CG-CD2	6.03	125.02	120.80
1	D	538	VAL	CB-CA-C	-6.00	100.00	111.40
1	L	575	CYS	CA-CB-SG	-5.97	103.25	114.00
1	A	447	VAL	CB-CA-C	-5.89	100.20	111.40
1	B	489	MET	CB-CA-C	-5.88	98.64	110.40
1	F	448	ALA	N-CA-C	5.84	126.76	111.00
1	B	456	LEU	CB-CG-CD1	-5.83	101.10	111.00
1	K	477	THR	N-CA-C	5.79	126.63	111.00
1	A	554	LYS	N-CA-C	5.68	126.34	111.00
1	H	564	VAL	CB-CA-C	-5.62	100.72	111.40
1	F	520	ILE	CB-CA-C	-5.56	100.47	111.60
1	F	419	ASN	N-CA-C	-5.55	96.02	111.00
1	H	563	ASN	CB-CA-C	5.54	121.48	110.40
1	B	496	SER	C-N-CD	-5.54	108.42	120.60
1	L	566	LEU	CB-CG-CD1	-5.54	101.59	111.00
1	L	572	ALA	N-CA-C	-5.53	96.06	111.00
1	C	482	ALA	N-CA-C	5.51	125.87	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	489	MET	CB-CG-SD	-5.50	95.89	112.40
1	H	441	ILE	C-N-CA	5.49	135.43	121.70
1	B	456	LEU	CA-CB-CG	5.47	127.89	115.30
1	B	382	TRP	N-CA-C	-5.44	96.31	111.00
1	E	534	TYR	N-CA-C	5.43	125.65	111.00
2	J	34	GLU	CB-CA-C	-5.41	99.57	110.40
1	L	552	VAL	N-CA-C	5.39	125.56	111.00
1	C	531	GLY	N-CA-C	5.38	126.54	113.10
1	E	531	GLY	N-CA-C	-5.35	99.73	113.10
1	H	520	ILE	CB-CA-C	-5.32	100.95	111.60
3	P	288	GLY	N-CA-C	-5.30	99.86	113.10
3	P	60	TYR	N-CA-CB	5.28	120.10	110.60
1	E	546	ARG	N-CA-C	5.27	125.23	111.00
1	A	514	ARG	CB-CA-C	-5.26	99.88	110.40
4	V	113	GLY	N-CA-C	5.24	126.19	113.10
1	K	536	CYS	N-CA-CB	-5.23	101.18	110.60
1	A	486	VAL	CB-CA-C	-5.20	101.52	111.40
1	K	521	LEU	CB-CG-CD2	5.18	119.80	111.00
1	C	525	GLU	N-CA-C	5.16	124.93	111.00
3	P	310	HIS	N-CA-C	-5.10	97.22	111.00
1	B	415	GLU	N-CA-C	5.09	124.74	111.00
1	C	566	LEU	CB-CA-C	-5.06	100.59	110.20
3	P	448	VAL	N-CA-C	5.03	124.57	111.00
1	F	449	LEU	N-CA-C	5.01	124.53	111.00
1	F	547	VAL	CG1-CB-CG2	-5.01	102.89	110.90
1	A	449	LEU	CB-CG-CD2	-5.00	102.50	111.00

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	452	PRO	Mainchain
1	C	464	LEU	Mainchain
1	C	480	SER	Peptide
1	E	480	SER	Peptide
1	H	441	ILE	Mainchain
3	P	376	ARG	Mainchain
3	P	400	GLU	Peptide

5.2   Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1786	0	1741	174	0
1	B	1769	0	1729	162	0
1	C	1763	0	1724	141	0
1	D	1743	0	1708	93	0
1	E	1743	0	1710	139	0
1	F	1743	0	1706	153	0
1	G	1742	0	1709	93	0
1	H	1798	0	1751	106	0
1	K	1798	0	1753	195	0
1	L	1798	0	1751	271	0
2	J	851	0	842	81	0
3	P	3851	0	3755	526	0
4	R	766	0	784	91	0
4	S	785	0	808	90	0
4	U	766	0	784	60	0
4	V	805	0	821	49	0
5	I	28	0	25	6	0
6	A	14	0	13	1	0
6	B	14	0	13	1	0
6	C	14	0	13	2	0
6	D	14	0	13	0	0
6	E	14	0	13	1	0
6	F	14	0	13	1	0
6	G	15	0	15	0	0
6	H	14	0	13	3	0
6	K	14	0	13	4	0
6	L	14	0	13	0	0
All	All	25676	0	25233	2249	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 44.

All (2249) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

W O R L D W I D E
wwPDB
PROTEIN DATA BANK

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:482:ALA:HB2	1:F:515:TYR:CD2	1.29	1.63
4:R:20:LEU:HD21	4:R:117:LYS:CG	1.17	1.62
1:A:359:LEU:HD12	2:J:117:TYR:CD2	1.09	1.58
4:R:20:LEU:CD2	4:R:117:LYS:HG3	1.16	1.57
3:P:395:LEU:CD1	3:P:410:LEU:HD13	1.29	1.56
1:L:540:HIS:CB	1:L:543:LEU:HD21	1.18	1.56
3:P:395:LEU:HD13	3:P:410:LEU:CD1	1.36	1.55
3:P:131:THR:CG2	3:P:188:VAL:HG22	1.23	1.54
1:L:450:HIS:H	1:L:480:SER:CB	1.19	1.54
1:A:359:LEU:CD1	2:J:117:TYR:HD2	1.14	1.53
3:P:131:THR:HG21	3:P:188:VAL:CG2	1.34	1.53
3:P:466:PHE:CE2	3:P:507:ARG:HG3	1.39	1.51
1:L:540:HIS:CA	1:L:543:LEU:CD2	1.86	1.51
1:F:482:ALA:CB	1:F:515:TYR:CD2	1.92	1.51
1:C:563:ASN:ND2	6:C:601:NAG:C1	1.70	1.50
4:S:39:LEU:HD13	4:S:87:PHE:CD1	1.46	1.49
3:P:278:ARG:O	3:P:422:TRP:CZ2	1.66	1.45
1:F:535:THR:HG22	1:F:551:THR:CG2	1.43	1.45
3:P:448:VAL:HB	3:P:449:PRO:CD	1.14	1.45
3:P:477:TRP:CH2	3:P:524:TYR:CD1	2.02	1.45
4:S:31:GLY:C	4:S:94:LEU:HD23	1.09	1.45
1:L:540:HIS:CB	1:L:543:LEU:CD2	1.95	1.45
1:L:540:HIS:HB3	1:L:543:LEU:CD2	1.46	1.43
3:P:446:LEU:CA	3:P:465:HIS:O	1.66	1.43
1:K:450:HIS:CD2	1:K:514:ARG:HH12	1.36	1.43
1:K:464:LEU:CD1	1:K:525:GLU:OE2	1.64	1.43
1:L:511:ALA:HB3	1:L:514:ARG:CD	1.51	1.41
1:L:540:HIS:N	1:L:543:LEU:HD23	1.35	1.40
3:P:345:ALA:C	3:P:413:LEU:HD12	1.34	1.40
1:H:554:LYS:HZ3	1:H:558:LYS:NZ	1.03	1.38
1:E:489:MET:SD	1:E:494:PRO:HD3	1.65	1.37
1:H:554:LYS:NZ	1:H:558:LYS:NZ	1.71	1.37
1:L:424:PHE:N	1:L:441:ILE:HD11	1.36	1.36
3:P:477:TRP:HH2	3:P:524:TYR:CD1	1.36	1.36
1:L:424:PHE:CB	1:L:441:ILE:HD11	1.54	1.35
1:F:560:THR:O	1:G:560:THR:HG22	1.25	1.35
3:P:131:THR:CG2	3:P:188:VAL:CG2	1.97	1.35
1:E:450:HIS:CG	1:E:514:ARG:NH2	1.95	1.34
3:P:340:VAL:CG1	3:P:436:GLU:HB3	1.54	1.34
4:S:39:LEU:CD1	4:S:87:PHE:CE1	2.08	1.34
3:P:346:GLY:N	3:P:413:LEU:CG	1.88	1.34
1:L:421:GLY:O	1:L:443:ARG:NH1	1.59	1.33

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:S:31:GLY:C	4:S:94:LEU:CD2	1.95	1.32
1:A:356:SER:CA	2:J:117:TYR:OH	1.77	1.32
1:F:482:ALA:CB	1:F:515:TYR:HD2	1.29	1.32
3:P:446:LEU:HD21	3:P:537:THR:O	1.17	1.32
3:P:368:LEU:N	3:P:378:PRO:HD2	1.46	1.31
1:L:424:PHE:CB	1:L:441:ILE:CD1	2.09	1.30
1:L:450:HIS:N	1:L:480:SER:CB	1.94	1.30
1:L:424:PHE:HB2	1:L:441:ILE:CD1	1.61	1.30
1:L:511:ALA:HB3	1:L:514:ARG:CG	1.60	1.30
3:P:448:VAL:CB	3:P:449:PRO:CD	2.01	1.30
1:E:450:HIS:ND1	1:E:514:ARG:NH2	1.75	1.30
3:P:446:LEU:CD2	3:P:537:THR:O	1.79	1.30
3:P:466:PHE:HE2	3:P:507:ARG:CG	1.46	1.29
4:S:31:GLY:O	4:S:94:LEU:HD23	1.25	1.29
1:L:424:PHE:CA	1:L:441:ILE:HD11	1.62	1.29
3:P:251:PHE:CE1	3:P:308:GLY:O	1.86	1.28
1:C:508:GLU:HG2	1:C:509:PRO:CD	1.61	1.28
3:P:477:TRP:CZ2	3:P:524:TYR:HB3	1.67	1.27
1:D:421:GLY:HA2	1:D:445:LYS:CE	1.66	1.26
1:L:424:PHE:N	1:L:441:ILE:CD1	1.99	1.26
3:P:261:CYS:CB	3:P:315:LEU:HD23	1.66	1.25
4:S:29:LEU:CD2	4:S:95:THR:HG23	1.66	1.24
1:L:540:HIS:C	1:L:543:LEU:CD2	2.05	1.24
3:P:447:LYS:HG2	3:P:465:HIS:CB	1.68	1.23
1:G:523:VAL:HG21	1:G:534:TYR:OH	1.32	1.22
1:L:450:HIS:HB2	1:L:480:SER:OG	1.07	1.22
1:L:450:HIS:CB	1:L:480:SER:OG	1.87	1.22
1:L:479:PHE:CB	1:L:515:TYR:O	1.87	1.22
3:P:278:ARG:O	3:P:422:TRP:HZ2	0.94	1.22
1:F:535:THR:CG2	1:F:551:THR:HG22	1.69	1.22
1:L:456:LEU:HD23	1:L:552:VAL:CG2	1.68	1.22
4:S:39:LEU:CD1	4:S:87:PHE:CD1	2.22	1.21
1:A:356:SER:CB	2:J:117:TYR:OH	1.87	1.21
1:K:509:PRO:CG	1:L:501:VAL:HG21	1.69	1.21
1:L:479:PHE:HB2	1:L:515:TYR:O	1.05	1.20
4:S:37:CYS:CB	4:S:116:GLN:OE1	1.88	1.20
3:P:448:VAL:CB	3:P:449:PRO:HD2	1.64	1.20
1:D:490:GLN:OE1	1:D:532:GLU:HB3	1.41	1.20
1:L:540:HIS:N	1:L:543:LEU:CD2	1.94	1.20
1:C:461:ARG:NH1	1:C:465:ASN:HD21	1.40	1.19
2:J:21:ILE:CD1	1:L:555:SER:HB3	1.71	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:463:GLN:HB2	1:L:455:TYR:CZ	1.77	1.18
3:P:466:PHE:CE2	3:P:507:ARG:CG	2.24	1.17
1:K:354:PHE:HE1	1:K:541:GLU:N	1.42	1.16
3:P:261:CYS:SG	3:P:315:LEU:HD23	0.64	1.16
3:P:421:TYR:CE1	3:P:437:ILE:HD12	1.79	1.16
4:S:37:CYS:HA	4:S:116:GLN:OE1	1.45	1.16
3:P:368:LEU:H	3:P:378:PRO:CD	1.59	1.16
3:P:345:ALA:C	3:P:413:LEU:CD1	2.13	1.15
1:B:413:ILE:CD1	1:B:414:CYS:H	1.58	1.15
1:E:493:GLN:HB2	1:E:494:PRO:HD2	1.20	1.15
1:L:540:HIS:CA	1:L:543:LEU:HD21	1.59	1.15
1:L:511:ALA:HB3	1:L:514:ARG:HD2	1.26	1.15
1:L:540:HIS:C	1:L:543:LEU:HD22	1.63	1.15
1:K:511:ALA:HB1	1:K:512:PRO:CD	1.72	1.15
1:B:414:CYS:SG	1:C:416:ASP:HB2	1.87	1.14
3:P:261:CYS:SG	3:P:315:LEU:CG	2.35	1.14
1:B:413:ILE:HD13	1:B:414:CYS:N	1.62	1.14
1:F:482:ALA:CB	1:F:515:TYR:CE2	2.30	1.13
1:L:424:PHE:H	1:L:441:ILE:CD1	1.58	1.13
1:E:543:LEU:HD23	1:E:544:PRO:HD3	1.30	1.13
1:K:509:PRO:HG3	1:L:501:VAL:HG21	1.17	1.13
3:P:450:GLY:HA3	3:P:540:VAL:HG12	1.29	1.13
1:B:480:SER:OG	1:B:481:PRO:HD3	1.47	1.12
1:A:514:ARG:HB3	1:A:514:ARG:HH11	1.11	1.12
4:S:37:CYS:CA	4:S:116:GLN:OE1	1.97	1.12
3:P:345:ALA:HA	3:P:413:LEU:HB2	1.17	1.11
3:P:261:CYS:SG	3:P:315:LEU:CD2	1.19	1.11
1:C:508:GLU:HG2	1:C:509:PRO:HD3	1.33	1.10
3:P:250:LYS:HG2	3:P:309:ALA:HB2	1.33	1.10
3:P:346:GLY:N	3:P:413:LEU:CB	2.14	1.10
4:R:75:ARG:NH2	4:R:95:THR:OG1	1.84	1.10
1:F:524:SER:HG	1:F:527:GLU:HB2	1.16	1.10
1:K:464:LEU:HD12	1:K:525:GLU:OE2	1.44	1.10
4:U:22:GLU:HB2	4:U:119:THR:O	1.51	1.10
1:A:478:GLY:O	1:A:514:ARG:NH1	1.83	1.10
1:L:540:HIS:H	1:L:543:LEU:CD2	1.57	1.10
3:P:411:ASN:HB3	3:P:537:THR:OG1	1.47	1.10
3:P:445:ASN:O	3:P:466:PHE:HA	1.51	1.10
4:R:116:GLN:HE22	4:R:118:VAL:CG2	1.64	1.10
3:P:475:LYS:HB2	3:P:507:ARG:HD2	1.20	1.09
1:A:493:GLN:HB2	1:A:494:PRO:HD2	1.25	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:461:ARG:HH21	1:L:570:ASP:CG	1.54	1.09
1:K:464:LEU:HD11	1:K:525:GLU:OE2	1.47	1.09
1:A:356:SER:HB2	2:J:117:TYR:OH	1.44	1.09
1:C:508:GLU:HG2	1:C:509:PRO:HD2	1.27	1.09
1:K:563:ASN:HD21	6:K:601:NAG:C1	1.63	1.09
4:R:61:VAL:HG21	4:R:72:TYR:CD2	1.87	1.08
1:B:480:SER:HG	1:B:481:PRO:HD3	1.00	1.08
1:L:540:HIS:O	1:L:543:LEU:CD2	2.01	1.08
3:P:448:VAL:CG2	3:P:449:PRO:HD2	1.82	1.08
3:P:447:LYS:HG2	3:P:465:HIS:HB3	1.30	1.08
1:K:450:HIS:CD2	1:K:514:ARG:NH1	2.20	1.07
3:P:131:THR:HG23	3:P:188:VAL:HA	1.32	1.07
4:R:61:VAL:HG21	4:R:72:TYR:HD2	1.11	1.07
1:D:421:GLY:CA	1:D:445:LYS:CE	2.33	1.07
3:P:251:PHE:CD1	3:P:308:GLY:O	2.07	1.07
4:S:39:LEU:HD13	4:S:87:PHE:CE1	1.82	1.07
1:L:450:HIS:N	1:L:480:SER:HB2	1.58	1.07
1:F:482:ALA:HB2	1:F:515:TYR:CE2	1.88	1.07
4:R:22:GLU:HA	4:R:117:LYS:O	1.54	1.07
1:A:356:SER:HA	2:J:117:TYR:OH	1.55	1.07
1:E:421:GLY:HA3	1:E:445:LYS:HE3	1.36	1.07
1:F:482:ALA:HB1	1:F:515:TYR:HD2	1.16	1.06
1:L:511:ALA:CB	1:L:514:ARG:CD	2.31	1.06
1:D:420:SER:C	1:D:445:LYS:HZ2	1.56	1.06
1:K:527:GLU:HA	1:K:530:THR:OG1	1.55	1.06
1:L:450:HIS:N	1:L:480:SER:OG	1.85	1.06
1:L:424:PHE:H	1:L:441:ILE:CG1	1.69	1.06
4:R:50:ARG:HD2	4:R:72:TYR:OH	1.56	1.06
1:K:354:PHE:CE1	1:K:541:GLU:N	2.24	1.06
3:P:340:VAL:CG1	3:P:436:GLU:CB	2.34	1.06
1:E:454:VAL:HG21	1:E:538:VAL:HG21	1.37	1.05
1:E:450:HIS:CG	1:E:514:ARG:HH22	1.68	1.05
1:E:508:GLU:OE1	1:E:509:PRO:HD2	1.55	1.05
1:K:454:VAL:CG2	1:K:538:VAL:HG21	1.85	1.05
1:L:511:ALA:CB	1:L:514:ARG:HD2	1.86	1.05
3:P:243:PRO:O	3:P:246:ALA:CB	2.04	1.05
3:P:261:CYS:SG	3:P:315:LEU:HD21	1.91	1.05
1:F:450:HIS:HD2	1:F:514:ARG:CZ	1.68	1.05
1:L:443:ARG:N	1:L:444:PRO:HD3	1.67	1.04
3:P:477:TRP:CZ2	3:P:524:TYR:CB	2.40	1.04
1:C:508:GLU:CG	1:C:509:PRO:HD3	1.87	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:456:LEU:CD2	1:L:552:VAL:CG2	2.34	1.04
1:E:450:HIS:CE1	1:E:514:ARG:HH12	1.75	1.04
3:P:448:VAL:HB	3:P:449:PRO:HD2	1.07	1.04
3:P:345:ALA:CA	3:P:413:LEU:HB2	1.87	1.03
2:J:21:ILE:HD11	1:L:555:SER:HB3	1.08	1.03
3:P:395:LEU:HB2	3:P:410:LEU:HD11	1.40	1.03
3:P:346:GLY:H	3:P:413:LEU:CB	1.69	1.03
4:R:22:GLU:OE1	4:R:101:VAL:HG13	1.57	1.03
4:R:46:ILE:H	4:R:64:THR:CG2	1.72	1.03
1:B:478:GLY:O	1:B:514:ARG:HG3	1.59	1.02
1:K:509:PRO:CG	1:L:501:VAL:CG2	2.35	1.02
1:L:456:LEU:CD2	1:L:552:VAL:HG22	1.89	1.02
1:E:489:MET:SD	1:E:494:PRO:CD	2.47	1.02
1:E:543:LEU:HD23	1:E:544:PRO:CD	1.89	1.02
1:C:566:LEU:H	1:C:566:LEU:HD12	1.23	1.02
3:P:368:LEU:H	3:P:378:PRO:HD2	0.89	1.02
3:P:368:LEU:HB2	3:P:378:PRO:CG	1.90	1.02
4:R:116:GLN:NE2	4:R:118:VAL:HG23	1.74	1.02
1:C:451:ARG:HB3	1:C:451:ARG:HH11	1.20	1.02
1:G:501:VAL:HG21	1:H:509:PRO:HD3	1.42	1.01
2:J:27:ASP:HB2	2:J:28:PRO:CD	1.90	1.01
3:P:418:ALA:HB2	3:P:439:ILE:HD13	1.43	1.01
3:P:462:VAL:HG12	3:P:540:VAL:HG11	1.36	1.01
1:F:524:SER:OG	1:F:527:GLU:HB2	1.61	1.01
3:P:340:VAL:HG12	3:P:436:GLU:O	1.60	1.01
1:K:354:PHE:HZ	1:K:546:ARG:HD3	1.26	1.01
1:L:421:GLY:O	1:L:443:ARG:CZ	2.06	1.01
4:S:29:LEU:HD23	4:S:95:THR:HG23	1.42	1.01
1:C:461:ARG:NH1	1:C:465:ASN:ND2	2.08	1.01
2:J:115:LEU:HD12	2:J:124:VAL:HG21	1.38	1.01
1:K:509:PRO:HG2	1:L:501:VAL:CG2	1.90	1.01
3:P:446:LEU:CD2	3:P:538:ALA:HB2	1.89	1.01
1:E:450:HIS:CD2	1:E:514:ARG:NH1	2.29	1.00
1:F:450:HIS:CD2	1:F:514:ARG:CZ	2.42	1.00
1:K:484:VAL:HG23	1:K:540:HIS:HB2	1.43	1.00
1:K:511:ALA:HB1	1:K:512:PRO:HD3	1.01	1.00
4:R:20:LEU:CD2	4:R:117:LYS:CG	1.96	1.00
3:P:447:LYS:H	3:P:465:HIS:H	1.03	1.00
1:L:424:PHE:CG	1:L:441:ILE:HD11	1.96	1.00
1:A:456:LEU:HD11	1:A:550:ARG:O	1.59	1.00
3:P:414:THR:OG1	3:P:417:ASP:OD2	1.80	1.00

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:447:LYS:HG2	3:P:465:HIS:HB2	1.42	1.00
1:C:457:LEU:HD12	1:C:473:THR:OG1	1.62	1.00
3:P:391:TYR:OH	3:P:416:ARG:NH1	1.95	0.99
3:P:450:GLY:CA	3:P:540:VAL:HG12	1.92	0.99
3:P:131:THR:CG2	3:P:188:VAL:HA	1.92	0.99
1:B:451:ARG:HG2	1:B:542:ALA:O	1.60	0.99
1:K:527:GLU:O	1:K:530:THR:OG1	1.80	0.99
1:D:421:GLY:HA2	1:D:445:LYS:HE2	1.42	0.99
1:E:421:GLY:HA3	1:E:445:LYS:CE	1.91	0.99
1:E:493:GLN:CB	1:E:494:PRO:HD2	1.77	0.99
1:L:424:PHE:CG	1:L:441:ILE:CD1	2.46	0.99
1:B:413:ILE:HD13	1:B:414:CYS:H	0.82	0.99
1:D:421:GLY:CA	1:D:445:LYS:NZ	2.26	0.99
1:L:456:LEU:HD23	1:L:552:VAL:HG22	1.01	0.99
1:E:450:HIS:CG	1:E:514:ARG:CZ	2.46	0.98
3:P:131:THR:HG23	3:P:188:VAL:HG22	1.42	0.98
4:S:29:LEU:HD22	4:S:95:THR:HG23	1.43	0.98
1:C:508:GLU:CG	1:C:509:PRO:CD	2.40	0.98
1:E:508:GLU:OE1	1:E:509:PRO:CD	2.11	0.98
1:K:511:ALA:CB	1:K:512:PRO:HD3	1.89	0.98
3:P:447:LYS:CG	3:P:465:HIS:HB3	1.92	0.98
1:C:482:ALA:HB2	1:C:515:TYR:CD1	1.97	0.98
1:B:450:HIS:O	1:B:542:ALA:CB	2.12	0.98
1:D:421:GLY:N	1:D:445:LYS:NZ	2.12	0.98
1:A:502:THR:HB	1:A:519:SER:HB2	1.46	0.97
4:R:116:GLN:HE22	4:R:118:VAL:HG23	1.23	0.97
1:H:526:GLU:O	1:H:530:THR:HG23	1.64	0.97
3:P:368:LEU:HB2	3:P:378:PRO:CD	1.94	0.97
3:P:447:LYS:H	3:P:465:HIS:N	1.62	0.97
1:A:355:ALA:O	2:J:117:TYR:HE2	1.48	0.97
1:K:527:GLU:CA	1:K:530:THR:OG1	2.12	0.97
2:J:21:ILE:HD11	1:L:555:SER:CB	1.93	0.97
4:S:31:GLY:HA3	4:S:94:LEU:HD21	1.47	0.97
1:K:450:HIS:CG	1:K:514:ARG:HH12	1.82	0.96
3:P:340:VAL:HG13	3:P:436:GLU:CB	1.92	0.96
3:P:243:PRO:O	3:P:246:ALA:HB3	1.63	0.96
4:U:50:ARG:NH1	4:U:100:GLY:HA3	1.79	0.96
3:P:395:LEU:CD1	3:P:410:LEU:CD1	2.13	0.96
1:E:450:HIS:CE1	1:E:514:ARG:HH22	1.83	0.96
3:P:345:ALA:O	3:P:413:LEU:HD12	1.65	0.95
3:P:477:TRP:CH2	3:P:524:TYR:HD1	1.62	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:342:LYS:HB3	3:P:438:LYS:HB3	1.45	0.95
3:P:445:ASN:O	3:P:467:PRO:HD3	1.66	0.95
4:R:61:VAL:CG2	4:R:72:TYR:HD2	1.77	0.95
1:E:454:VAL:CG2	1:E:538:VAL:HG21	1.96	0.95
1:E:450:HIS:NE2	1:E:514:ARG:NH1	2.13	0.95
4:U:22:GLU:CG	4:U:119:THR:HG23	1.96	0.95
1:K:510:GLN:CG	1:L:522:THR:HG21	1.97	0.95
1:L:543:LEU:HB2	1:L:546:ARG:HA	1.46	0.95
3:P:477:TRP:CZ2	3:P:524:TYR:CG	2.54	0.95
3:P:477:TRP:CZ2	3:P:524:TYR:CD1	2.54	0.94
1:K:527:GLU:C	1:K:530:THR:HG1	1.70	0.94
1:L:487:GLN:O	1:L:537:VAL:HG12	1.66	0.94
1:L:540:HIS:O	1:L:543:LEU:HD23	1.67	0.94
4:S:29:LEU:CD2	4:S:95:THR:CG2	2.44	0.94
1:F:450:HIS:HD2	1:F:514:ARG:NH2	1.64	0.94
1:L:424:PHE:HB2	1:L:441:ILE:HD13	1.46	0.94
3:P:366:TRP:CE2	3:P:408:VAL:HG21	2.03	0.94
3:P:450:GLY:HA3	3:P:540:VAL:CG1	1.97	0.94
3:P:340:VAL:HG13	3:P:436:GLU:HB3	0.96	0.94
1:L:443:ARG:H	1:L:444:PRO:HD3	1.34	0.93
1:C:526:GLU:O	1:C:530:THR:HG23	1.67	0.93
1:K:563:ASN:ND2	6:K:601:NAG:C1	2.31	0.93
1:K:454:VAL:HG21	1:K:538:VAL:HG21	1.47	0.93
1:C:457:LEU:CD1	1:C:473:THR:OG1	2.17	0.93
1:E:450:HIS:HD1	1:E:514:ARG:HH22	1.11	0.93
3:P:446:LEU:HA	3:P:465:HIS:O	0.75	0.93
3:P:477:TRP:HZ2	3:P:524:TYR:CB	1.81	0.93
1:C:461:ARG:HH12	1:C:465:ASN:ND2	1.63	0.93
3:P:446:LEU:HA	3:P:465:HIS:C	1.88	0.93
4:S:31:GLY:CA	4:S:94:LEU:CD2	2.47	0.92
3:P:278:ARG:O	3:P:422:TRP:CH2	2.21	0.92
3:P:446:LEU:H	3:P:446:LEU:HD12	1.33	0.92
1:B:450:HIS:O	1:B:542:ALA:HB3	1.68	0.92
4:R:111:ASP:O	4:R:114:LYS:CE	2.18	0.92
4:S:39:LEU:CD1	4:S:87:PHE:HE1	1.77	0.92
1:A:359:LEU:CD1	2:J:117:TYR:CD2	2.04	0.92
1:H:554:LYS:NZ	1:H:558:LYS:HZ2	1.50	0.92
1:K:516:PHE:CE2	1:L:520:ILE:HD13	2.04	0.92
1:L:424:PHE:H	1:L:441:ILE:HG13	1.32	0.92
4:R:116:GLN:NE2	4:R:118:VAL:CG2	2.32	0.92
1:A:359:LEU:HD13	2:J:117:TYR:HB3	1.50	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:448:VAL:HB	3:P:449:PRO:HD3	0.92	0.91
3:P:479:LYS:HG2	3:P:524:TYR:CE1	2.05	0.91
1:L:479:PHE:CZ	1:L:484:VAL:HG11	2.05	0.91
1:L:540:HIS:O	1:L:543:LEU:HD22	1.65	0.91
4:S:39:LEU:HD12	4:S:87:PHE:CE1	2.04	0.91
1:K:510:GLN:HG2	1:L:522:THR:HG21	1.52	0.91
3:P:131:THR:HG23	3:P:188:VAL:CA	1.99	0.91
3:P:529:LYS:CE	3:P:534:TYR:HE2	1.82	0.91
3:P:411:ASN:ND2	3:P:525:TRP:CZ2	2.39	0.91
1:B:414:CYS:SG	1:C:416:ASP:CB	2.58	0.91
1:F:502:THR:OG1	1:F:519:SER:CB	2.18	0.91
2:J:28:PRO:HG3	1:L:467:ARG:CZ	1.99	0.91
1:E:482:ALA:CB	1:E:515:TYR:HE2	1.83	0.90
4:S:31:GLY:CA	4:S:94:LEU:HD23	2.01	0.90
1:K:445:LYS:HA	1:K:445:LYS:CE	2.02	0.90
3:P:475:LYS:CB	3:P:507:ARG:HD2	2.00	0.90
4:R:46:ILE:H	4:R:64:THR:HG23	1.35	0.90
1:K:450:HIS:CG	1:K:514:ARG:NH1	2.38	0.90
1:L:450:HIS:H	1:L:480:SER:HB2	0.76	0.90
1:B:461:ARG:NH2	1:L:570:ASP:OD2	2.05	0.90
3:P:346:GLY:N	3:P:413:LEU:HB2	1.86	0.90
1:D:420:SER:C	1:D:445:LYS:NZ	2.26	0.90
1:G:450:HIS:HD2	1:G:514:ARG:NH2	1.68	0.90
1:L:424:PHE:HB2	1:L:441:ILE:CG1	2.01	0.90
3:P:448:VAL:CB	3:P:449:PRO:HD3	1.81	0.90
4:U:22:GLU:CB	4:U:119:THR:HG23	2.01	0.90
1:L:540:HIS:HB3	1:L:543:LEU:HD21	0.90	0.90
1:B:451:ARG:HG2	1:B:542:ALA:C	1.93	0.89
3:P:477:TRP:HH2	3:P:524:TYR:CE1	1.89	0.89
1:H:554:LYS:CE	1:H:558:LYS:HZ2	1.85	0.89
3:P:395:LEU:HB2	3:P:410:LEU:CD1	2.02	0.89
3:P:445:ASN:OD1	3:P:467:PRO:HG2	1.71	0.89
1:E:526:GLU:O	1:E:530:THR:HG23	1.73	0.89
4:R:25:VAL:HG11	4:R:33:VAL:HG13	1.54	0.89
1:K:511:ALA:CB	1:K:512:PRO:CD	2.46	0.89
4:S:117:LYS:HD3	4:S:117:LYS:N	1.87	0.89
1:A:355:ALA:C	2:J:117:TYR:HE2	1.75	0.89
3:P:529:LYS:HG3	3:P:534:TYR:CE2	2.08	0.89
1:F:450:HIS:ND1	1:F:480:SER:CB	2.30	0.88
1:K:510:GLN:HG3	1:L:522:THR:CG2	2.03	0.88
1:L:540:HIS:H	1:L:543:LEU:HD23	0.84	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:482:ALA:HB3	1:F:515:TYR:CE2	2.08	0.88
1:K:510:GLN:CG	1:L:522:THR:CG2	2.50	0.88
3:P:366:TRP:CZ3	3:P:380:LEU:HD12	2.08	0.88
1:B:481:PRO:HD2	1:B:540:HIS:NE2	1.89	0.88
1:L:511:ALA:CB	1:L:514:ARG:CG	2.50	0.88
3:P:345:ALA:CA	3:P:413:LEU:HD12	1.98	0.88
1:A:356:SER:HB2	2:J:117:TYR:HH	1.37	0.87
1:E:527:GLU:O	1:E:530:THR:OG1	1.92	0.87
1:A:554:LYS:O	1:A:554:LYS:NZ	2.08	0.87
1:B:545:ASN:O	1:B:545:ASN:ND2	2.06	0.87
3:P:529:LYS:NZ	3:P:534:TYR:CE2	2.43	0.87
1:H:554:LYS:CE	1:H:558:LYS:NZ	2.37	0.87
3:P:357:ARG:NH2	3:P:403:ASN:HD22	1.72	0.87
3:P:470:PHE:HE2	3:P:528:VAL:HG11	1.39	0.87
4:S:39:LEU:HD11	4:S:87:PHE:HE1	1.38	0.87
3:P:131:THR:CG2	3:P:188:VAL:CA	2.52	0.87
4:S:39:LEU:HD13	4:S:87:PHE:HD1	1.07	0.87
1:A:493:GLN:OE1	1:A:493:GLN:N	2.07	0.87
1:F:450:HIS:CD2	1:F:514:ARG:NH1	2.43	0.87
4:S:37:CYS:HB2	4:S:116:GLN:OE1	1.72	0.87
1:A:493:GLN:CB	1:A:494:PRO:HD2	1.94	0.87
1:C:564:VAL:HG21	1:H:566:LEU:HD21	1.55	0.87
1:L:545:ASN:ND2	1:L:545:ASN:O	2.07	0.87
1:L:540:HIS:CA	1:L:543:LEU:HD23	1.74	0.87
1:K:445:LYS:HA	1:K:445:LYS:HE3	1.57	0.86
1:F:480:SER:HB2	1:F:481:PRO:HD2	1.56	0.86
3:P:411:ASN:ND2	3:P:525:TRP:CE2	2.42	0.86
3:P:529:LYS:HG3	3:P:534:TYR:CD2	2.09	0.86
1:F:535:THR:CG2	1:F:551:THR:CG2	2.37	0.86
3:P:418:ALA:HB2	3:P:439:ILE:CD1	2.03	0.86
1:F:363:THR:HG21	1:F:419:ASN:HB2	1.57	0.86
1:G:357:ILE:HD12	1:G:363:THR:HG22	1.57	0.86
3:P:278:ARG:C	3:P:422:TRP:HZ2	1.78	0.86
3:P:412:GLN:NE2	3:P:412:GLN:O	2.08	0.86
3:P:357:ARG:HH21	3:P:403:ASN:HD22	1.20	0.86
1:B:451:ARG:CG	1:B:542:ALA:O	2.24	0.86
1:C:451:ARG:HH11	1:C:451:ARG:CB	1.87	0.86
3:P:418:ALA:HA	3:P:439:ILE:HD11	1.56	0.86
3:P:446:LEU:HD22	3:P:538:ALA:HB2	1.56	0.86
1:E:506:MET:HG2	1:E:507:PRO:HD2	1.58	0.85
1:K:354:PHE:CZ	1:K:546:ARG:HD3	2.10	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:R:111:ASP:O	4:R:114:LYS:HE3	1.76	0.85
3:P:264:VAL:HG13	3:P:275:PHE:CD2	2.11	0.85
3:P:471:SER:O	3:P:475:LYS:NZ	2.09	0.85
3:P:395:LEU:HD12	3:P:409:ILE:O	1.76	0.85
1:A:456:LEU:CD1	1:A:550:ARG:O	2.25	0.85
1:D:421:GLY:N	1:D:445:LYS:HZ1	1.74	0.85
1:E:511:ALA:HB1	1:E:514:ARG:HG3	1.57	0.85
1:B:478:GLY:O	1:B:514:ARG:CG	2.25	0.85
3:P:253:CYS:SG	3:P:315:LEU:HB3	2.16	0.85
3:P:357:ARG:HH21	3:P:403:ASN:ND2	1.74	0.85
1:K:516:PHE:CE2	1:L:520:ILE:CD1	2.59	0.85
1:G:523:VAL:HG21	1:G:534:TYR:HH	1.42	0.85
1:C:482:ALA:HB2	1:C:515:TYR:CE1	2.11	0.84
1:C:525:GLU:N	1:C:525:GLU:OE1	2.10	0.84
6:H:601:NAG:H61	6:K:601:NAG:H61	1.58	0.84
3:P:447:LYS:HB2	3:P:464:CYS:C	1.98	0.84
1:D:421:GLY:CA	1:D:445:LYS:HE3	2.07	0.84
1:E:493:GLN:HB2	1:E:494:PRO:CD	2.08	0.84
1:G:443:ARG:O	1:G:443:ARG:NE	2.09	0.84
1:H:554:LYS:NZ	1:H:558:LYS:HZ1	1.53	0.84
1:G:525:GLU:OE2	1:G:529:ASN:ND2	2.10	0.84
2:J:27:ASP:HB2	2:J:28:PRO:HD3	1.57	0.84
1:K:463:GLN:HB2	1:L:455:TYR:CE2	2.13	0.84
1:F:502:THR:OG1	1:F:519:SER:HA	1.77	0.84
4:R:29:LEU:O	4:R:94:LEU:O	1.96	0.84
1:E:491:ARG:HD3	4:V:44:VAL:HG11	1.59	0.83
1:H:475:LEU:HD13	1:H:518:HIS:CE1	2.13	0.83
1:L:479:PHE:HZ	1:L:484:VAL:HG11	1.43	0.83
1:A:518:HIS:HE1	1:B:520:ILE:CG2	1.91	0.83
1:A:491:ARG:HH11	1:A:491:ARG:HG2	1.42	0.83
1:C:480:SER:O	1:C:540:HIS:CE1	2.31	0.83
1:E:421:GLY:CA	1:E:445:LYS:HE2	2.09	0.83
1:L:540:HIS:HB2	1:L:543:LEU:HD21	1.57	0.83
1:L:511:ALA:HB3	1:L:514:ARG:HG3	1.59	0.83
3:P:131:THR:HG21	3:P:188:VAL:HG23	1.57	0.83
1:K:509:PRO:HG2	1:L:501:VAL:HG23	1.60	0.83
3:P:439:ILE:H	3:P:439:ILE:HD12	1.42	0.83
1:L:443:ARG:N	1:L:444:PRO:CD	2.42	0.82
1:L:540:HIS:HB3	1:L:543:LEU:HD22	1.60	0.82
3:P:395:LEU:CB	3:P:410:LEU:CD1	2.55	0.82
1:K:509:PRO:HG3	1:L:501:VAL:CG2	2.01	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:526:GLU:O	1:C:530:THR:CG2	2.27	0.82
1:K:516:PHE:CD2	1:L:520:ILE:HD13	2.15	0.82
4:R:20:LEU:HD23	4:R:117:LYS:CG	2.10	0.82
1:A:514:ARG:HH11	1:A:514:ARG:CB	1.91	0.82
1:B:443:ARG:H	1:B:443:ARG:HD3	1.44	0.82
1:B:443:ARG:HG2	1:B:443:ARG:HH11	1.43	0.82
1:L:481:PRO:HD2	1:L:540:HIS:HE2	1.45	0.82
1:C:527:GLU:O	1:C:532:GLU:HG2	1.80	0.82
3:P:475:LYS:CE	3:P:475:LYS:H	1.93	0.82
1:A:356:SER:N	2:J:117:TYR:OH	2.13	0.82
2:J:27:ASP:CB	2:J:28:PRO:CD	2.55	0.82
3:P:366:TRP:CE3	3:P:380:LEU:HD12	2.15	0.82
1:L:450:HIS:HB2	1:L:480:SER:HG	0.85	0.81
1:A:355:ALA:C	2:J:117:TYR:CE2	2.53	0.81
1:B:451:ARG:NH1	1:B:451:ARG:HB2	1.95	0.81
3:P:525:TRP:CZ3	3:P:537:THR:HG21	2.14	0.81
1:F:480:SER:HB2	1:F:481:PRO:CD	2.10	0.81
3:P:446:LEU:HD23	3:P:538:ALA:HB2	1.62	0.81
3:P:523:TRP:CZ3	3:P:539:ALA:HB1	2.14	0.81
3:P:529:LYS:HE2	3:P:534:TYR:HE2	1.43	0.81
1:E:421:GLY:CA	1:E:445:LYS:CE	2.58	0.81
1:B:449:LEU:HA	1:B:480:SER:OG	1.81	0.81
3:P:344:VAL:HG22	3:P:413:LEU:CD1	2.10	0.81
3:P:345:ALA:HA	3:P:413:LEU:CB	2.06	0.81
1:F:535:THR:HG22	1:F:551:THR:HG21	1.58	0.81
1:K:510:GLN:HG3	1:L:522:THR:HG23	1.63	0.81
1:L:479:PHE:O	1:L:515:TYR:HB2	1.81	0.81
3:P:525:TRP:CE3	3:P:537:THR:HG21	2.16	0.81
4:R:46:ILE:H	4:R:64:THR:HG21	1.46	0.81
1:D:493:GLN:OE1	1:D:493:GLN:N	2.14	0.81
1:E:543:LEU:CD2	1:E:544:PRO:HD2	2.11	0.81
1:E:543:LEU:CD2	1:E:544:PRO:CD	2.58	0.81
1:F:523:VAL:HG11	1:F:534:TYR:CZ	2.15	0.81
1:K:454:VAL:HG22	1:K:538:VAL:HG21	1.61	0.81
1:A:533:THR:HA	1:A:553:ASP:HB3	1.62	0.81
1:F:450:HIS:CD2	1:F:514:ARG:NH2	2.47	0.81
3:P:462:VAL:HB	3:P:509:VAL:HB	1.62	0.81
1:D:421:GLY:HA2	1:D:445:LYS:NZ	1.93	0.81
4:S:39:LEU:HD11	4:S:87:PHE:CE1	2.10	0.81
1:A:482:ALA:O	1:A:505:PRO:HG2	1.79	0.80
3:P:446:LEU:HD23	3:P:537:THR:O	1.79	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:412:GLN:HE22	3:P:414:THR:HG23	1.47	0.80
4:R:61:VAL:CG2	4:R:72:TYR:CD2	2.59	0.80
1:A:510:GLN:NE2	1:A:510:GLN:H	1.78	0.80
2:J:27:ASP:HB2	2:J:28:PRO:HD2	1.61	0.80
1:F:524:SER:OG	1:F:527:GLU:CB	2.29	0.80
1:K:563:ASN:HB3	1:L:563:ASN:HA	1.64	0.80
1:A:356:SER:HA	2:J:117:TYR:CZ	2.15	0.80
1:K:527:GLU:C	1:K:530:THR:OG1	2.17	0.80
3:P:411:ASN:HB3	3:P:537:THR:CB	2.12	0.80
3:P:418:ALA:CA	3:P:439:ILE:HD11	2.12	0.80
3:P:479:LYS:CG	3:P:524:TYR:CE1	2.65	0.80
1:L:479:PHE:CZ	1:L:484:VAL:CG1	2.64	0.80
3:P:261:CYS:SG	3:P:315:LEU:HD22	1.36	0.80
4:S:32:SER:N	4:S:94:LEU:HD23	1.95	0.80
3:P:348:SER:CB	3:P:537:THR:OG1	2.30	0.80
1:B:480:SER:CB	1:B:481:PRO:HD3	2.12	0.79
1:G:450:HIS:CD2	1:G:514:ARG:CZ	2.65	0.79
1:L:450:HIS:CA	1:L:480:SER:OG	2.29	0.79
1:L:479:PHE:HB3	1:L:515:TYR:CB	2.12	0.79
3:P:131:THR:HG22	3:P:187:VAL:O	1.81	0.79
1:A:514:ARG:HB3	1:A:514:ARG:NH1	1.95	0.79
1:L:424:PHE:CB	1:L:441:ILE:HD13	2.07	0.79
1:L:443:ARG:H	1:L:444:PRO:CD	1.93	0.79
3:P:248:VAL:CG1	3:P:311:SER:H	1.95	0.79
1:B:382:TRP:CZ3	1:B:441:ILE:HD11	2.18	0.79
1:E:482:ALA:HB2	1:E:515:TYR:HE2	1.46	0.78
3:P:355:TYR:CE1	3:P:405:THR:N	2.51	0.78
1:E:454:VAL:HG21	1:E:538:VAL:CG2	2.13	0.78
3:P:131:THR:HG23	3:P:188:VAL:CB	2.12	0.78
1:G:501:VAL:CG2	1:H:509:PRO:HD3	2.13	0.78
1:K:543:LEU:HD12	1:K:543:LEU:H	1.48	0.78
3:P:475:LYS:H	3:P:475:LYS:CD	1.96	0.78
1:B:354:PHE:HZ	1:B:546:ARG:HG2	1.46	0.78
1:B:461:ARG:NH2	1:L:570:ASP:OD1	2.17	0.78
1:A:535:THR:HG22	1:A:551:THR:HB	1.65	0.78
1:L:479:PHE:HB3	1:L:515:TYR:HB2	1.64	0.78
3:P:342:LYS:CE	3:P:438:LYS:HE2	2.14	0.78
4:S:75:ARG:O	4:S:92:THR:HG23	1.84	0.78
1:A:359:LEU:CD1	2:J:117:TYR:HB3	2.13	0.78
1:B:454:VAL:HG22	1:B:550:ARG:HG3	1.66	0.78
1:G:450:HIS:HD2	1:G:514:ARG:CZ	1.95	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:601:NAG:H83	6:H:601:NAG:O3	1.84	0.78
3:P:413:LEU:HD23	3:P:413:LEU:H	1.49	0.77
3:P:471:SER:HA	3:P:475:LYS:HZ3	1.49	0.77
1:L:479:PHE:CZ	1:L:484:VAL:HB	2.19	0.77
3:P:287:ASP:OD1	3:P:287:ASP:N	2.17	0.77
3:P:479:LYS:CG	3:P:524:TYR:HE1	1.96	0.77
1:G:523:VAL:CG2	1:G:534:TYR:OH	2.26	0.77
3:P:346:GLY:N	3:P:413:LEU:CD1	2.41	0.77
4:R:20:LEU:HD21	4:R:117:LYS:CB	2.14	0.77
4:S:31:GLY:CA	4:S:94:LEU:HD21	2.13	0.77
3:P:131:THR:CG2	3:P:188:VAL:CB	2.63	0.77
3:P:346:GLY:H	3:P:413:LEU:HB2	1.45	0.77
3:P:446:LEU:HD22	3:P:538:ALA:CB	2.15	0.77
3:P:348:SER:OG	3:P:537:THR:OG1	2.02	0.77
3:P:361:LYS:HG2	3:P:364:LYS:HE2	1.64	0.77
1:F:396:ILE:HA	1:F:408:VAL:HG22	1.67	0.77
3:P:132:ILE:HD13	3:P:187:VAL:HG23	1.66	0.77
3:P:529:LYS:CE	3:P:534:TYR:CE2	2.67	0.77
1:A:491:ARG:NH1	1:A:491:ARG:O	2.19	0.77
3:P:134:CYS:HB2	3:P:185:PHE:HD2	1.50	0.77
4:S:31:GLY:O	4:S:94:LEU:CD2	2.17	0.77
1:E:346:ARG:HE	1:E:371:ASP:HB2	1.49	0.76
1:E:516:PHE:CZ	1:F:520:ILE:HD11	2.20	0.76
1:H:365:LEU:HD11	1:H:418:TRP:HZ2	1.50	0.76
1:K:510:GLN:HG2	1:L:522:THR:CG2	2.12	0.76
1:D:364:LYS:HD2	1:D:410:GLU:HG3	1.65	0.76
1:L:514:ARG:HB3	1:L:514:ARG:HH11	1.48	0.76
3:P:348:SER:HB3	3:P:536:GLU:HB2	1.66	0.76
1:L:424:PHE:N	1:L:441:ILE:CG1	2.42	0.76
4:R:20:LEU:CD2	4:R:117:LYS:CB	2.63	0.76
3:P:466:PHE:CD2	3:P:507:ARG:HG3	2.16	0.76
3:P:391:TYR:HH	3:P:416:ARG:HH12	1.32	0.76
3:P:425:THR:O	3:P:430:LEU:HD21	1.85	0.76
4:R:23:VAL:HB	4:R:118:VAL:HG13	1.66	0.76
1:L:514:ARG:HH11	1:L:514:ARG:CB	1.98	0.76
3:P:450:GLY:N	3:P:540:VAL:HG12	2.00	0.76
3:P:345:ALA:C	3:P:413:LEU:CG	2.47	0.76
1:E:450:HIS:CE1	1:E:514:ARG:NH1	2.49	0.76
1:F:450:HIS:HE2	1:F:514:ARG:HH12	1.34	0.76
3:P:43:ARG:HG2	3:P:43:ARG:HH11	1.50	0.76
1:G:471:THR:HG22	1:G:522:THR:HG22	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:348:PHE:H	1:F:369:VAL:HG13	1.51	0.75
1:A:550:ARG:HG2	1:A:550:ARG:HH11	1.51	0.75
3:P:243:PRO:HA	3:P:246:ALA:HB2	1.66	0.75
1:D:421:GLY:HA3	1:D:445:LYS:HE3	1.67	0.75
1:H:554:LYS:HZ3	1:H:558:LYS:HZ3	1.26	0.75
3:P:462:VAL:CG2	3:P:509:VAL:O	2.35	0.75
1:L:467:ARG:NH1	1:L:525:GLU:OE1	2.20	0.75
3:P:368:LEU:N	3:P:378:PRO:CD	2.28	0.75
3:P:525:TRP:CE3	3:P:537:THR:CG2	2.68	0.75
1:A:524:SER:OG	1:A:527:GLU:HB2	1.87	0.75
1:L:450:HIS:HB2	1:L:480:SER:CB	2.15	0.75
1:L:532:GLU:HB2	1:L:534:TYR:CE2	2.22	0.75
4:S:71:GLU:N	4:S:71:GLU:OE1	2.19	0.75
1:G:537:VAL:HG22	1:G:549:GLU:HG2	1.68	0.75
1:H:554:LYS:HZ3	1:H:558:LYS:HZ1	0.76	0.75
1:A:355:ALA:O	2:J:117:TYR:CE2	2.39	0.75
3:P:357:ARG:NH2	3:P:403:ASN:ND2	2.32	0.75
1:A:359:LEU:HD12	2:J:117:TYR:CG	2.07	0.75
1:E:483:ASP:O	1:E:540:HIS:ND1	2.19	0.75
1:F:449:LEU:HA	1:F:481:PRO:HD3	1.67	0.75
1:F:502:THR:OG1	1:F:519:SER:CA	2.35	0.75
4:S:29:LEU:HD23	4:S:95:THR:CG2	2.14	0.75
1:F:560:THR:O	1:G:560:THR:CG2	2.21	0.74
3:P:411:ASN:CB	3:P:537:THR:OG1	2.32	0.74
1:B:454:VAL:HG11	1:B:538:VAL:HG11	1.68	0.74
1:E:471:THR:HG22	1:E:522:THR:HG22	1.68	0.74
4:S:37:CYS:HB3	4:S:116:GLN:OE1	1.84	0.74
5:I:1:NAG:C1	5:I:1:NAG:H82	2.18	0.74
1:L:424:PHE:CG	1:L:441:ILE:HD13	2.18	0.74
3:P:361:LYS:O	3:P:361:LYS:HE3	1.87	0.74
3:P:450:GLY:CA	3:P:540:VAL:CG1	2.61	0.74
3:P:466:PHE:HE2	3:P:507:ARG:CB	2.00	0.74
5:I:1:NAG:O4	5:I:1:NAG:N2	2.17	0.74
1:B:466:LEU:HB3	1:B:468:GLU:HG3	1.70	0.74
1:K:463:GLN:CB	1:L:455:TYR:CZ	2.67	0.74
3:P:43:ARG:HG2	3:P:43:ARG:NH1	2.01	0.74
1:B:443:ARG:H	1:B:443:ARG:CD	2.01	0.74
1:D:514:ARG:HH11	4:V:66:ASN:ND2	1.85	0.74
1:E:450:HIS:CD2	1:E:514:ARG:CZ	2.68	0.74
3:P:342:LYS:HB3	3:P:438:LYS:CB	2.18	0.74
1:L:424:PHE:HB2	1:L:441:ILE:HG12	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:446:LEU:CD2	3:P:538:ALA:CB	2.65	0.74
3:P:477:TRP:HZ2	3:P:524:TYR:CG	1.96	0.74
3:P:264:VAL:HG12	3:P:265:VAL:HG23	1.69	0.73
3:P:340:VAL:HG12	3:P:436:GLU:C	2.07	0.73
3:P:395:LEU:HA	3:P:410:LEU:HD12	1.70	0.73
4:V:21:PRO:HD2	4:V:116:GLN:HG3	1.69	0.73
1:E:450:HIS:CB	1:E:514:ARG:NH2	2.51	0.73
3:P:368:LEU:CB	3:P:378:PRO:CD	2.66	0.73
4:R:25:VAL:HG11	4:R:33:VAL:CG1	2.16	0.73
3:P:243:PRO:O	3:P:246:ALA:HB2	1.84	0.73
1:F:482:ALA:HB3	1:F:515:TYR:HE2	1.50	0.73
1:L:479:PHE:HZ	1:L:484:VAL:CG1	1.99	0.73
3:P:281:LEU:HD11	3:P:290:PHE:HE2	1.52	0.73
3:P:446:LEU:HD12	3:P:446:LEU:N	2.03	0.73
1:L:421:GLY:O	1:L:443:ARG:NH2	2.22	0.73
3:P:361:LYS:HG2	3:P:364:LYS:CE	2.17	0.73
1:F:450:HIS:NE2	1:F:514:ARG:NH1	2.35	0.73
3:P:348:SER:HB2	3:P:537:THR:OG1	1.88	0.73
1:A:485:PHE:HE2	2:J:115:LEU:HD22	1.53	0.73
1:B:490:GLN:HG3	1:B:490:GLN:O	1.88	0.73
1:K:518:HIS:CE1	1:L:518:HIS:ND1	2.57	0.73
3:P:265:VAL:HG21	3:P:279:ILE:HG21	1.71	0.73
4:R:31:GLY:O	4:R:94:LEU:HD13	1.88	0.73
1:C:456:LEU:HD12	1:C:550:ARG:HB2	1.71	0.73
1:D:514:ARG:HD3	1:D:514:ARG:N	2.02	0.73
1:D:514:ARG:NH2	1:D:514:ARG:HG2	2.02	0.73
1:E:543:LEU:HD22	1:E:544:PRO:HD2	1.70	0.73
3:P:398:LEU:HD11	3:P:409:ILE:HG13	1.69	0.73
4:R:75:ARG:HG2	4:R:75:ARG:O	1.89	0.73
4:S:35:ILE:HG12	4:S:118:VAL:HG21	1.70	0.73
1:B:480:SER:OG	1:B:481:PRO:CD	2.34	0.73
1:C:467:ARG:HD3	1:C:467:ARG:N	2.03	0.73
4:S:72:TYR:HB3	4:S:76:VAL:HG21	1.70	0.73
1:F:535:THR:HG22	1:F:551:THR:HG22	0.75	0.72
3:P:342:LYS:HE2	3:P:438:LYS:HE2	1.69	0.72
3:P:471:SER:CA	3:P:475:LYS:HZ3	2.02	0.72
1:C:461:ARG:HH12	1:C:465:ASN:HD21	0.78	0.72
1:E:493:GLN:NE2	1:E:493:GLN:H	1.87	0.72
1:A:488:TRP:HE1	1:A:519:SER:HG	1.37	0.72
1:L:479:PHE:CZ	1:L:484:VAL:CB	2.72	0.72
1:C:554:LYS:O	1:C:554:LYS:HG2	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:540:HIS:C	1:L:543:LEU:HD23	1.88	0.72
1:C:421:GLY:O	1:C:423:ARG:NH2	2.23	0.72
1:C:454:VAL:HG22	1:C:538:VAL:HG21	1.71	0.72
2:J:64:LEU:HD22	2:J:64:LEU:N	2.04	0.72
3:P:479:LYS:HG2	3:P:524:TYR:CD1	2.24	0.72
4:S:32:SER:N	4:S:94:LEU:CD2	2.51	0.72
1:L:540:HIS:N	1:L:543:LEU:HD21	1.85	0.72
3:P:450:GLY:N	3:P:540:VAL:CG1	2.53	0.72
4:U:22:GLU:O	4:U:22:GLU:HG2	1.89	0.72
1:K:471:THR:HG23	1:K:520:ILE:HG13	1.71	0.72
3:P:132:ILE:N	3:P:132:ILE:HD12	2.05	0.71
4:S:39:LEU:HD22	4:S:86:LEU:N	2.04	0.71
3:P:439:ILE:HD12	3:P:439:ILE:N	2.05	0.71
3:P:447:LYS:HB2	3:P:465:HIS:N	2.04	0.71
1:E:506:MET:CG	1:E:507:PRO:HD2	2.19	0.71
1:K:484:VAL:HG23	1:K:540:HIS:CB	2.20	0.71
4:V:76:VAL:HG12	4:V:91:VAL:HG22	1.72	0.71
1:L:527:GLU:HB3	1:L:534:TYR:OH	1.89	0.71
1:L:479:PHE:HZ	1:L:484:VAL:CB	2.03	0.71
1:G:430:HIS:CD2	1:G:431:THR:H	2.09	0.71
1:H:365:LEU:HD22	1:H:413:ILE:HD13	1.73	0.71
1:K:553:ASP:OD2	1:K:554:LYS:N	2.23	0.71
1:C:371:ASP:H	1:C:404:THR:HG23	1.55	0.71
1:G:428:VAL:H	1:G:437:LEU:HB3	1.55	0.71
3:P:340:VAL:HG12	3:P:436:GLU:CB	2.20	0.71
1:B:421:GLY:H	1:B:443:ARG:HH21	1.37	0.71
1:K:540:HIS:O	1:K:543:LEU:HD12	1.91	0.71
3:P:418:ALA:CB	3:P:439:ILE:CD1	2.69	0.71
1:G:506:MET:CE	1:G:516:PHE:HE2	2.03	0.71
1:K:354:PHE:CE1	1:K:541:GLU:HB3	2.26	0.71
1:D:478:GLY:HA2	1:D:514:ARG:HB3	1.72	0.70
1:F:449:LEU:HA	1:F:481:PRO:CD	2.20	0.70
1:L:456:LEU:HG	1:L:552:VAL:HG21	1.73	0.70
1:A:356:SER:HA	2:J:117:TYR:CE2	2.26	0.70
1:A:550:ARG:HG2	1:A:550:ARG:NH1	2.03	0.70
4:U:22:GLU:CB	4:U:119:THR:CG2	2.68	0.70
1:A:357:ILE:HG12	1:A:363:THR:HG22	1.73	0.70
1:B:454:VAL:HG11	1:B:538:VAL:CG1	2.21	0.70
3:P:368:LEU:HD12	3:P:378:PRO:HG2	1.72	0.70
3:P:529:LYS:CG	3:P:534:TYR:CE2	2.73	0.70
1:E:372:LEU:HD12	1:E:432:ASP:HB3	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:421:TYR:CD1	3:P:437:ILE:HD12	2.26	0.70
4:U:37:CYS:HB3	4:U:87:PHE:HB3	1.73	0.70
1:F:543:LEU:HD23	1:F:544:PRO:HD2	1.71	0.70
3:P:466:PHE:CD2	3:P:507:ARG:CG	2.74	0.70
4:S:99:SER:HB2	4:S:120:LEU:O	1.91	0.70
1:H:418:TRP:HB3	1:H:443:ARG:HB2	1.72	0.70
2:J:21:ILE:HD13	1:L:554:LYS:HG2	1.74	0.70
3:P:529:LYS:HE2	3:P:534:TYR:CE2	2.26	0.70
1:B:461:ARG:NH2	1:L:570:ASP:CG	2.38	0.70
1:C:566:LEU:HD12	1:C:566:LEU:N	2.01	0.70
1:F:550:ARG:HG2	1:F:550:ARG:NH1	2.05	0.70
3:P:134:CYS:HB2	3:P:185:PHE:CD2	2.26	0.70
3:P:471:SER:HB2	3:P:475:LYS:NZ	2.07	0.70
1:B:374:THR:HB	1:B:399:SER:HA	1.72	0.70
1:K:381:SER:HB3	1:K:389:ALA:HB1	1.74	0.70
3:P:479:LYS:HB2	3:P:488:LEU:HD13	1.74	0.70
1:G:532:GLU:OE1	1:G:532:GLU:HA	1.90	0.70
1:C:566:LEU:HD13	1:D:566:LEU:HD23	1.74	0.69
3:P:247:ASN:OD1	3:P:247:ASN:N	2.24	0.69
4:V:45:ARG:NH2	4:V:110:THR:OG1	2.25	0.69
3:P:131:THR:HG22	3:P:187:VAL:C	2.12	0.69
3:P:418:ALA:CA	3:P:439:ILE:CD1	2.69	0.69
3:P:471:SER:CA	3:P:475:LYS:NZ	2.55	0.69
1:A:356:SER:CB	2:J:117:TYR:HH	1.97	0.69
3:P:306:LEU:HD22	3:P:321:ILE:HD12	1.74	0.69
4:U:22:GLU:HG3	4:U:119:THR:HG23	1.72	0.69
4:U:33:VAL:HG12	4:U:94:LEU:HD11	1.75	0.69
3:P:413:LEU:HD23	3:P:413:LEU:N	2.06	0.69
1:L:354:PHE:HA	1:L:357:ILE:HG12	1.75	0.69
1:L:508:GLU:OE1	1:L:508:GLU:HA	1.92	0.69
4:R:116:GLN:HE22	4:R:118:VAL:HG22	1.53	0.69
1:E:508:GLU:OE1	1:E:509:PRO:HD3	1.93	0.69
4:S:61:VAL:CG1	4:S:72:TYR:CD1	2.76	0.69
3:P:446:LEU:HB3	3:P:466:PHE:CD1	2.27	0.69
3:P:462:VAL:HB	3:P:509:VAL:O	1.92	0.69
4:R:47:TYR:HE2	4:R:49:CYS:HB2	1.57	0.69
1:C:564:VAL:CG2	1:H:566:LEU:HD21	2.23	0.69
1:C:568:MET:HE2	1:H:562:TYR:CD1	2.28	0.69
1:K:464:LEU:CD1	1:K:525:GLU:CD	2.59	0.69
3:P:149:LYS:HD2	3:P:151:ILE:CG2	2.22	0.69
3:P:340:VAL:HG12	3:P:436:GLU:HB3	1.69	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:446:LEU:HD21	3:P:537:THR:C	2.12	0.69
3:P:447:LYS:CG	3:P:465:HIS:CB	2.55	0.69
1:C:451:ARG:HB3	1:C:451:ARG:NH1	2.03	0.69
1:H:456:LEU:HD22	1:H:552:VAL:HB	1.75	0.68
4:S:61:VAL:HG11	4:S:72:TYR:CD1	2.27	0.68
1:B:443:ARG:HH11	1:B:443:ARG:CG	2.06	0.68
2:J:30:GLU:OE1	2:J:30:GLU:HA	1.92	0.68
4:S:72:TYR:HB3	4:S:76:VAL:CG2	2.24	0.68
1:C:457:LEU:HD13	1:D:457:LEU:HD23	1.75	0.68
1:K:454:VAL:HG21	1:K:538:VAL:CG2	2.21	0.68
1:L:424:PHE:O	1:L:441:ILE:HG12	1.93	0.68
1:K:566:LEU:HD23	1:K:566:LEU:O	1.94	0.68
3:P:345:ALA:C	3:P:413:LEU:HB2	2.13	0.68
4:R:75:ARG:HH22	4:R:95:THR:HG1	1.36	0.68
1:L:487:GLN:HB3	1:L:537:VAL:CG1	2.24	0.68
3:P:244:GLU:H	3:P:244:GLU:CD	1.97	0.68
3:P:476:TYR:CD1	3:P:527:GLY:O	2.46	0.68
2:J:64:LEU:HD22	2:J:64:LEU:H	1.59	0.68
1:K:509:PRO:HG2	1:L:501:VAL:HG21	1.54	0.68
1:K:561:LEU:HG	1:K:561:LEU:O	1.93	0.68
1:A:554:LYS:HZ2	1:A:554:LYS:C	1.95	0.68
1:F:543:LEU:HD13	1:F:548:THR:HG22	1.75	0.68
3:P:526:CYS:O	3:P:538:ALA:CB	2.42	0.68
4:S:76:VAL:HG22	4:S:91:VAL:HG22	1.75	0.68
1:E:357:ILE:HG22	1:E:363:THR:HA	1.76	0.67
1:F:549:GLU:O	1:F:549:GLU:HG2	1.94	0.67
3:P:149:LYS:HD2	3:P:151:ILE:HG22	1.75	0.67
4:S:71:GLU:CD	4:S:71:GLU:H	1.95	0.67
1:A:518:HIS:CE1	1:B:520:ILE:CG2	2.76	0.67
1:L:384:ARG:HD3	1:L:388:GLU:HB3	1.77	0.67
1:L:511:ALA:HB3	1:L:514:ARG:HG2	1.71	0.67
3:P:344:VAL:HG22	3:P:413:LEU:HD11	1.74	0.67
4:U:70:ALA:HA	4:U:73:LYS:HE2	1.76	0.67
1:E:452:PRO:HD2	1:E:543:LEU:HG	1.76	0.67
1:L:540:HIS:CB	1:L:543:LEU:HD22	2.08	0.67
3:P:526:CYS:O	3:P:538:ALA:HB3	1.94	0.67
1:C:480:SER:O	1:C:540:HIS:NE2	2.26	0.67
3:P:395:LEU:CG	3:P:410:LEU:CD1	2.71	0.67
1:A:471:THR:HG22	1:A:522:THR:HG22	1.75	0.67
6:A:601:NAG:H5	6:B:601:NAG:H4	1.76	0.67
1:C:456:LEU:CD1	1:C:550:ARG:HB2	2.25	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:4:ARG:HG2	2:J:20:ARG:HD3	1.76	0.67
3:P:261:CYS:SG	3:P:315:LEU:CB	2.82	0.67
3:P:342:LYS:CB	3:P:438:LYS:O	2.43	0.67
3:P:346:GLY:H	3:P:413:LEU:CA	2.08	0.67
3:P:348:SER:HB3	3:P:537:THR:H	1.57	0.67
1:B:450:HIS:C	1:B:542:ALA:CB	2.63	0.67
1:G:450:HIS:CD2	1:G:514:ARG:NH2	2.59	0.67
1:G:516:PHE:CE1	1:H:520:ILE:HD12	2.30	0.67
3:P:135:PRO:O	3:P:204:ALA:HB3	1.94	0.67
1:F:450:HIS:HB2	1:F:480:SER:N	2.10	0.67
3:P:131:THR:CG2	3:P:188:VAL:HG23	2.18	0.67
1:G:524:SER:HB3	1:G:527:GLU:HG3	1.75	0.66
4:U:102:TYR:HB2	4:U:118:VAL:HG23	1.77	0.66
3:P:352:LEU:HD23	3:P:406:PHE:O	1.96	0.66
3:P:395:LEU:CG	3:P:410:LEU:HD13	2.22	0.66
1:B:382:TRP:HZ3	1:B:441:ILE:HD11	1.59	0.66
1:L:473:THR:HG22	1:L:520:ILE:HG22	1.75	0.66
3:P:261:CYS:SG	3:P:315:LEU:HB3	2.34	0.66
1:C:345:ILE:N	1:C:370:THR:O	2.29	0.66
1:L:479:PHE:CE2	1:L:484:VAL:HG11	2.30	0.66
3:P:480:TRP:CH2	3:P:482:ASN:HB3	2.31	0.66
1:B:354:PHE:CZ	1:B:546:ARG:HG2	2.28	0.66
3:P:368:LEU:HB2	3:P:378:PRO:HG2	1.76	0.66
4:U:22:GLU:HB3	4:U:119:THR:CG2	2.26	0.66
1:C:466:LEU:HD21	4:V:45:ARG:NE	2.11	0.66
3:P:132:ILE:HD12	3:P:132:ILE:H	1.60	0.66
1:A:538:VAL:CG2	1:A:548:THR:CG2	2.74	0.66
3:P:475:LYS:H	3:P:475:LYS:HE2	1.59	0.66
1:H:368:LEU:HB2	1:H:406:SER:HB2	1.76	0.66
1:F:374:THR:H	1:F:401:PRO:HB3	1.61	0.66
1:F:502:THR:OG1	1:F:519:SER:OG	2.06	0.66
1:B:564:VAL:HG22	1:C:564:VAL:HA	1.78	0.65
1:E:482:ALA:HB2	1:E:515:TYR:CE2	2.29	0.65
1:E:482:ALA:HA	1:E:515:TYR:CE2	2.30	0.65
1:G:380:ILE:HD13	1:G:409:GLY:HA3	1.78	0.65
3:P:368:LEU:CA	3:P:378:PRO:CD	2.74	0.65
1:K:535:THR:HG22	1:K:551:THR:OG1	1.96	0.65
1:A:483:ASP:O	1:A:540:HIS:HD2	1.79	0.65
1:B:451:ARG:HA	1:B:542:ALA:HB3	1.77	0.65
1:C:568:MET:CE	1:H:562:TYR:HD1	2.09	0.65
1:E:545:ASN:OD1	1:E:545:ASN:N	2.25	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:523:VAL:CG1	1:F:534:TYR:CZ	2.80	0.65
2:J:21:ILE:CG1	1:L:555:SER:HB3	2.25	0.65
1:D:514:ARG:HG2	1:D:514:ARG:HH21	1.62	0.65
1:B:480:SER:CB	1:B:481:PRO:CD	2.70	0.65
3:P:529:LYS:CG	3:P:534:TYR:CD2	2.79	0.65
1:E:421:GLY:CA	1:E:445:LYS:HE3	2.21	0.65
1:F:347:VAL:HG13	1:F:437:LEU:HB3	1.77	0.65
1:L:424:PHE:O	1:L:441:ILE:CG1	2.45	0.65
3:P:368:LEU:CA	3:P:378:PRO:HD2	2.25	0.65
3:P:462:VAL:CG1	3:P:540:VAL:HG11	2.21	0.65
3:P:477:TRP:CE2	3:P:524:TYR:HB3	2.30	0.65
1:B:397:SER:HB2	1:B:408:VAL:HG12	1.78	0.65
1:D:391:LYS:NZ	1:D:392:THR:O	2.29	0.65
1:C:508:GLU:HG3	1:C:509:PRO:HD3	1.79	0.64
1:L:546:ARG:HG2	1:L:546:ARG:O	1.97	0.64
3:P:340:VAL:CG1	3:P:436:GLU:CG	2.74	0.64
4:U:22:GLU:HB2	4:U:119:THR:N	2.12	0.64
1:A:540:HIS:HB3	1:A:543:LEU:HD12	1.78	0.64
1:G:397:SER:HB3	1:G:408:VAL:HG23	1.79	0.64
3:P:394:ARG:NH1	3:P:414:THR:OG1	2.30	0.64
3:P:462:VAL:HG23	3:P:509:VAL:O	1.96	0.64
4:S:39:LEU:CD2	4:S:85:ASN:HA	2.27	0.64
4:U:22:GLU:HA	4:U:118:VAL:HA	1.77	0.64
1:B:347:VAL:HG11	1:B:428:VAL:HG21	1.79	0.64
1:A:459:PRO:CG	1:A:470:ALA:HB1	2.28	0.64
1:F:546:ARG:HH11	1:F:546:ARG:CG	2.10	0.64
1:H:372:LEU:HD11	1:H:405:PHE:HB2	1.80	0.64
2:J:27:ASP:CB	2:J:28:PRO:HD2	2.26	0.64
3:P:264:VAL:CG2	3:P:275:PHE:HE2	2.10	0.64
3:P:470:PHE:HE2	3:P:528:VAL:CG1	2.10	0.64
1:E:450:HIS:CE1	1:E:514:ARG:NH2	2.54	0.64
1:G:346:ARG:NH1	1:G:347:VAL:O	2.31	0.64
1:G:556:THR:O	1:H:461:ARG:NH2	2.30	0.64
1:K:464:LEU:HD13	1:K:525:GLU:OE2	1.91	0.64
3:P:471:SER:HB2	3:P:475:LYS:HZ2	1.62	0.64
1:F:383:THR:HA	1:F:389:ALA:HA	1.79	0.64
1:K:452:PRO:HG3	1:K:479:PHE:HB3	1.78	0.64
1:K:518:HIS:ND1	1:L:518:HIS:ND1	2.45	0.64
3:P:448:VAL:HG23	3:P:449:PRO:HD2	1.75	0.64
4:U:22:GLU:CB	4:U:119:THR:O	2.37	0.64
1:E:482:ALA:HA	1:E:515:TYR:CD2	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:367:CYS:HB2	1:L:382:TRP:HE3	1.63	0.64
3:P:526:CYS:HB3	3:P:538:ALA:HB3	1.79	0.64
1:B:413:ILE:CD1	1:B:414:CYS:N	2.40	0.64
1:L:527:GLU:O	1:L:530:THR:OG1	2.15	0.64
4:U:50:ARG:HH12	4:U:100:GLY:HA3	1.62	0.64
1:A:485:PHE:HE2	2:J:115:LEU:CD2	2.11	0.64
1:E:516:PHE:CE2	1:F:520:ILE:HD11	2.33	0.64
1:F:482:ALA:HB1	1:F:515:TYR:CD2	1.99	0.64
1:K:521:LEU:HD23	1:K:521:LEU:O	1.97	0.64
3:P:314:GLN:CA	3:P:314:GLN:HE21	2.09	0.64
4:R:48:LEU:HD11	4:R:102:TYR:HB3	1.79	0.64
1:C:419:ASN:O	1:C:443:ARG:NH1	2.30	0.63
1:K:516:PHE:CD2	1:L:520:ILE:CD1	2.79	0.63
3:P:250:LYS:HG2	3:P:309:ALA:CB	2.20	0.63
1:L:537:VAL:HA	1:L:548:THR:O	1.99	0.63
3:P:525:TRP:HA	3:P:538:ALA:O	1.98	0.63
4:R:21:PRO:O	4:R:117:LYS:O	2.14	0.63
4:R:46:ILE:HG22	4:R:64:THR:CG2	2.28	0.63
5:I:2:NAG:O7	5:I:2:NAG:O3	2.12	0.63
1:H:384:ARG:HH21	1:H:390:VAL:HG22	1.61	0.63
1:K:469:SER:CA	1:K:525:GLU:HB2	2.29	0.63
1:L:451:ARG:NH1	1:L:544:PRO:HG3	2.13	0.63
1:A:566:LEU:HD13	1:A:566:LEU:N	2.13	0.63
3:P:494:GLY:O	3:P:507:ARG:NH2	2.30	0.63
1:A:502:THR:HA	1:A:519:SER:HA	1.80	0.63
1:C:457:LEU:HD11	1:C:473:THR:OG1	1.98	0.63
1:D:471:THR:HG22	1:D:522:THR:HG22	1.79	0.63
1:C:369:VAL:O	1:C:406:SER:HA	1.99	0.63
1:K:518:HIS:ND1	1:L:518:HIS:CE1	2.66	0.63
1:K:540:HIS:O	1:K:543:LEU:CD1	2.47	0.63
3:P:131:THR:HG21	3:P:188:VAL:HG22	0.63	0.63
1:F:346:ARG:HH21	1:F:348:PHE:HA	1.64	0.63
3:P:151:ILE:C	3:P:151:ILE:HD12	2.19	0.63
4:U:41:GLU:C	4:U:43:HIS:H	2.02	0.63
1:A:493:GLN:HB2	1:A:494:PRO:CD	2.15	0.63
2:J:35:ARG:HG2	2:J:35:ARG:HH11	1.64	0.63
1:L:511:ALA:CB	1:L:514:ARG:NE	2.62	0.63
3:P:131:THR:HG23	3:P:188:VAL:CG2	2.02	0.63
3:P:264:VAL:HG22	3:P:275:PHE:HE2	1.64	0.63
3:P:334:ILE:HG23	3:P:431:TRP:CZ3	2.34	0.63
1:L:538:VAL:HG13	1:L:548:THR:OG1	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:345:ALA:CA	3:P:413:LEU:CB	2.72	0.62
4:S:41:GLU:HA	4:S:41:GLU:OE2	1.99	0.62
4:V:28:GLU:C	4:V:96:GLU:OE1	2.37	0.62
2:J:10:ASN:HD22	2:J:67:LEU:HD22	1.65	0.62
3:P:398:LEU:N	3:P:398:LEU:HD12	2.13	0.62
4:R:20:LEU:CD2	4:R:117:LYS:HG2	2.20	0.62
4:U:25:VAL:HG23	4:U:25:VAL:O	1.99	0.62
1:C:451:ARG:HH11	1:C:451:ARG:CG	2.11	0.62
1:A:537:VAL:HG22	1:A:549:GLU:HB3	1.81	0.62
1:A:570:ASP:HB2	4:R:112:ARG:HH22	1.64	0.62
1:C:568:MET:CE	1:H:562:TYR:CD1	2.81	0.62
1:F:449:LEU:HD22	1:F:449:LEU:H	1.64	0.62
3:P:361:LYS:CG	3:P:364:LYS:HE2	2.30	0.62
1:D:354:PHE:HA	1:D:357:ILE:HG22	1.81	0.62
1:F:543:LEU:HD22	1:F:548:THR:CG2	2.28	0.62
3:P:43:ARG:HH11	3:P:43:ARG:CG	2.13	0.62
3:P:464:CYS:O	3:P:507:ARG:O	2.17	0.62
3:P:466:PHE:CE2	3:P:507:ARG:CB	2.79	0.62
1:E:482:ALA:CB	1:E:515:TYR:CE2	2.76	0.62
1:H:560:THR:HB	1:K:560:THR:O	1.99	0.62
1:C:454:VAL:CG2	1:C:538:VAL:HG21	2.29	0.62
1:A:538:VAL:HG23	1:A:548:THR:HG22	1.80	0.62
1:F:450:HIS:ND1	1:F:480:SER:HB3	2.11	0.62
1:F:545:ASN:HB3	1:G:358:PHE:HZ	1.64	0.62
1:K:378:VAL:HG12	1:K:431:THR:HG23	1.81	0.62
1:A:566:LEU:HD13	1:A:566:LEU:H	1.64	0.62
1:C:563:ASN:HD22	6:C:601:NAG:C1	2.03	0.62
3:P:471:SER:CB	3:P:475:LYS:NZ	2.63	0.62
1:B:345:ILE:HA	1:B:372:LEU:HB2	1.82	0.62
1:E:450:HIS:HB3	1:E:514:ARG:NH2	2.15	0.62
1:L:543:LEU:HD22	1:L:543:LEU:H	1.64	0.62
4:R:111:ASP:O	4:R:114:LYS:CD	2.47	0.62
3:P:398:LEU:HD11	3:P:409:ILE:CG1	2.30	0.61
4:R:86:LEU:HD23	4:R:88:LEU:HD21	1.82	0.61
2:J:8:VAL:HG11	2:J:68:CYS:HA	1.81	0.61
1:L:484:VAL:HG13	1:L:484:VAL:O	2.00	0.61
3:P:366:TRP:NE1	3:P:408:VAL:HG21	2.14	0.61
3:P:418:ALA:CB	3:P:439:ILE:HD13	2.25	0.61
1:B:354:PHE:HA	1:B:357:ILE:HG22	1.82	0.61
1:B:418:TRP:CE2	1:B:443:ARG:HB3	2.35	0.61
1:K:469:SER:N	1:K:525:GLU:HB2	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:546:ARG:O	1:K:546:ARG:HG2	2.00	0.61
3:P:529:LYS:HG3	3:P:534:TYR:HD2	1.65	0.61
4:S:31:GLY:HA3	4:S:94:LEU:CD2	2.15	0.61
1:A:508:GLU:HG2	1:A:509:PRO:HD2	1.80	0.61
1:B:445:LYS:CA	1:B:445:LYS:HZ3	2.13	0.61
3:P:529:LYS:HG3	3:P:534:TYR:HE2	1.62	0.61
1:E:459:PRO:HG3	1:E:470:ALA:HB1	1.82	0.61
4:R:46:ILE:O	4:R:64:THR:HG23	2.00	0.61
4:R:76:VAL:HG12	4:R:91:VAL:HG22	1.82	0.61
1:H:481:PRO:HB2	1:H:540:HIS:HE2	1.66	0.61
2:J:6:VAL:HA	2:J:18:THR:HG22	1.83	0.61
1:E:483:ASP:O	1:E:540:HIS:CE1	2.54	0.61
1:E:491:ARG:CD	4:V:44:VAL:HG11	2.29	0.61
1:C:566:LEU:HD21	1:H:564:VAL:HG11	1.81	0.61
3:P:264:VAL:HG13	3:P:275:PHE:CE2	2.35	0.61
3:P:462:VAL:HB	3:P:509:VAL:CB	2.30	0.61
3:P:466:PHE:CD1	3:P:470:PHE:CZ	2.83	0.61
1:A:356:SER:CA	2:J:117:TYR:CZ	2.76	0.61
1:A:518:HIS:CE1	1:B:520:ILE:HG21	2.36	0.61
2:J:106:ASN:HA	3:P:29:VAL:HG21	1.83	0.61
3:P:342:LYS:HA	3:P:438:LYS:O	2.00	0.61
3:P:342:LYS:HE3	3:P:438:LYS:HE2	1.82	0.61
4:U:94:LEU:C	4:U:96:GLU:H	2.04	0.61
1:B:510:GLN:HA	1:B:510:GLN:OE1	2.01	0.61
1:K:540:HIS:HB3	1:K:543:LEU:HD11	1.83	0.61
3:P:418:ALA:HA	3:P:439:ILE:CD1	2.27	0.61
1:A:490:GLN:HB3	1:A:495:LEU:HD21	1.83	0.60
1:A:518:HIS:HE1	1:B:520:ILE:HG21	1.63	0.60
1:B:363:THR:HG23	1:B:415:GLU:HA	1.82	0.60
1:G:506:MET:HE2	1:G:516:PHE:HE2	1.66	0.60
1:H:384:ARG:HE	1:H:390:VAL:HG22	1.66	0.60
2:J:115:LEU:HD12	2:J:124:VAL:CG2	2.24	0.60
4:V:112:ARG:HB3	4:V:112:ARG:CZ	2.31	0.60
1:A:567:VAL:O	1:A:567:VAL:HG12	2.02	0.60
3:P:276:GLU:OE1	3:P:372:ALA:HB2	2.01	0.60
4:S:49:CYS:N	4:S:103:ALA:O	2.33	0.60
1:C:467:ARG:HD3	1:C:467:ARG:H	1.66	0.60
1:C:482:ALA:HB2	1:C:515:TYR:CG	2.35	0.60
1:F:524:SER:OG	1:F:527:GLU:CG	2.50	0.60
1:G:352:PRO:HB2	1:G:357:ILE:HD11	1.83	0.60
1:K:484:VAL:CG2	1:K:540:HIS:HB2	2.25	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:443:ARG:HD3	1:L:443:ARG:C	2.21	0.60
1:L:537:VAL:HG23	1:L:548:THR:O	2.01	0.60
4:U:39:LEU:O	4:U:39:LEU:HD23	2.02	0.60
1:H:532:GLU:O	1:H:553:ASP:CB	2.49	0.60
1:L:538:VAL:CG1	1:L:548:THR:OG1	2.50	0.60
1:E:447:VAL:O	1:E:447:VAL:HG13	2.01	0.60
1:F:490:GLN:NE2	1:F:532:GLU:OE1	2.33	0.60
1:G:467:ARG:HH11	1:G:467:ARG:HG3	1.67	0.60
1:H:418:TRP:O	1:H:442:SER:O	2.18	0.60
3:P:466:PHE:HE2	3:P:507:ARG:HG3	0.72	0.60
4:V:95:THR:HG22	4:V:95:THR:O	2.02	0.60
1:A:516:PHE:CE1	1:B:520:ILE:HD11	2.37	0.60
1:L:479:PHE:CE2	1:L:484:VAL:CG1	2.85	0.60
3:P:462:VAL:CB	3:P:509:VAL:O	2.49	0.60
1:C:347:VAL:O	1:C:439:GLN:NE2	2.34	0.60
1:C:471:THR:HG22	1:C:522:THR:HG22	1.82	0.60
1:L:424:PHE:CA	1:L:441:ILE:CG1	2.78	0.60
1:L:480:SER:CB	1:L:481:PRO:HD3	2.32	0.60
1:L:543:LEU:CB	1:L:546:ARG:HA	2.27	0.60
3:P:366:TRP:O	3:P:379:LEU:HA	2.02	0.60
4:R:21:PRO:O	4:R:117:LYS:HB2	2.01	0.60
4:U:81:TYR:HD1	4:U:86:LEU:HB2	1.65	0.60
1:D:449:LEU:HB3	1:D:542:ALA:HB2	1.82	0.60
1:L:423:ARG:NH2	1:L:444:PRO:HB3	2.17	0.60
4:S:39:LEU:HD12	4:S:87:PHE:CD1	2.31	0.60
1:E:399:SER:HB3	1:E:403:ALA:HA	1.82	0.60
1:F:480:SER:CB	1:F:481:PRO:CD	2.80	0.60
1:L:417:ASP:OD2	1:L:418:TRP:N	2.35	0.60
2:J:48:ASN:HB3	2:J:51:ASP:HB3	1.84	0.59
3:P:348:SER:CB	3:P:537:THR:H	2.15	0.59
1:A:491:ARG:HG2	1:A:491:ARG:NH1	2.14	0.59
4:S:61:VAL:HG11	4:S:72:TYR:HD1	1.67	0.59
1:A:532:GLU:O	1:A:553:ASP:HB2	2.02	0.59
3:P:447:LYS:N	3:P:465:HIS:H	1.86	0.59
4:U:50:ARG:HH11	4:U:100:GLY:HA3	1.65	0.59
1:E:493:GLN:H	1:E:493:GLN:HE21	1.50	0.59
3:P:122:TYR:CE2	3:P:132:ILE:HG23	2.38	0.59
3:P:131:THR:HG22	3:P:188:VAL:HA	1.83	0.59
3:P:341:VAL:HG23	3:P:341:VAL:O	2.01	0.59
1:E:478:GLY:HA2	1:E:514:ARG:HB3	1.83	0.59
3:P:128:ARG:HE	3:P:320:PRO:HB3	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:248:VAL:HG12	3:P:311:SER:H	1.66	0.59
1:A:551:THR:HG23	1:A:551:THR:O	2.02	0.59
1:F:543:LEU:CD2	1:F:548:THR:HG21	2.32	0.59
2:J:42:PRO:HG3	2:J:102:THR:HG22	1.85	0.59
1:L:574:THR:HG23	1:L:574:THR:O	2.01	0.59
3:P:281:LEU:HD11	3:P:290:PHE:CE2	2.35	0.59
3:P:342:LYS:HE2	3:P:438:LYS:CE	2.32	0.59
3:P:342:LYS:CA	3:P:438:LYS:O	2.51	0.59
3:P:523:TRP:CH2	3:P:539:ALA:HB1	2.37	0.59
1:B:384:ARG:HB3	1:B:387:GLY:H	1.68	0.59
1:C:567:VAL:O	1:C:567:VAL:HG22	2.03	0.59
1:F:550:ARG:HG2	1:F:550:ARG:HH11	1.66	0.59
3:P:132:ILE:CD1	3:P:187:VAL:HG23	2.33	0.59
1:B:443:ARG:HD3	1:B:443:ARG:O	2.02	0.59
1:E:374:THR:OG1	1:E:398:GLU:O	2.18	0.59
1:E:493:GLN:CB	1:E:494:PRO:CD	2.64	0.59
1:L:537:VAL:HG13	1:L:537:VAL:O	2.02	0.59
3:P:43:ARG:HG2	3:P:43:ARG:O	2.03	0.59
3:P:361:LYS:CB	3:P:364:LYS:HE2	2.33	0.59
4:V:28:GLU:CA	4:V:96:GLU:OE1	2.51	0.59
1:A:493:GLN:CB	1:A:494:PRO:CD	2.73	0.59
1:L:363:THR:HG21	1:L:418:TRP:HB2	1.85	0.59
4:S:23:VAL:HB	4:S:35:ILE:HD13	1.85	0.59
4:U:101:VAL:O	4:U:101:VAL:HG13	2.02	0.59
1:E:456:LEU:HD23	1:E:552:VAL:HG12	1.83	0.58
1:G:468:GLU:HG2	4:S:60:THR:HG21	1.85	0.58
2:J:40:ILE:HD13	1:K:574:THR:HG21	1.83	0.58
3:P:159:ILE:HD11	3:P:173:ILE:HG21	1.85	0.58
4:R:20:LEU:CD2	4:R:117:LYS:HB2	2.33	0.58
4:U:41:GLU:OE1	4:U:41:GLU:HA	2.03	0.58
4:V:94:LEU:HD23	4:V:96:GLU:HG2	1.84	0.58
1:C:368:LEU:HD11	1:C:406:SER:HB3	1.85	0.58
1:E:565:SER:HB3	6:E:601:NAG:H62	1.85	0.58
1:F:545:ASN:HB3	1:G:358:PHE:CZ	2.38	0.58
3:P:149:LYS:O	3:P:155:PRO:HA	2.03	0.58
1:C:383:THR:HG1	1:C:425:THR:HG1	1.51	0.58
1:C:565:SER:O	1:C:565:SER:OG	2.17	0.58
1:E:354:PHE:HA	1:E:357:ILE:HG12	1.85	0.58
1:G:467:ARG:HH11	1:G:467:ARG:CG	2.16	0.58
3:P:445:ASN:O	3:P:467:PRO:CD	2.48	0.58
3:P:35:LYS:HB2	3:P:52:SER:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:122:TYR:HE2	3:P:132:ILE:HG23	1.68	0.58
3:P:131:THR:HG22	3:P:188:VAL:CA	2.33	0.58
3:P:528:VAL:HG13	3:P:535:GLY:HA3	1.85	0.58
4:R:20:LEU:CG	4:R:117:LYS:HG3	2.22	0.58
4:R:111:ASP:O	4:R:114:LYS:HD2	2.03	0.58
4:S:94:LEU:HD12	4:S:94:LEU:O	2.02	0.58
1:B:451:ARG:HB2	1:B:451:ARG:HH11	1.68	0.58
1:G:378:VAL:HG21	1:G:405:PHE:CE2	2.38	0.58
3:P:398:LEU:CD1	3:P:407:THR:O	2.52	0.58
4:R:45:ARG:NH2	4:R:110:THR:OG1	2.37	0.58
4:U:104:CYS:HB2	4:U:116:GLN:HG2	1.84	0.58
1:L:400:HIS:CE1	1:L:405:PHE:HA	2.38	0.58
3:P:189:ILE:HG23	3:P:192:LEU:HD11	1.85	0.58
3:P:476:TYR:CD1	3:P:529:LYS:HB2	2.38	0.58
1:F:372:LEU:H	1:F:404:THR:HA	1.69	0.58
1:F:449:LEU:HA	1:F:480:SER:HB2	1.84	0.58
1:H:562:TYR:CD2	1:H:562:TYR:N	2.71	0.58
1:K:520:ILE:O	1:K:520:ILE:HG23	2.03	0.58
1:L:430:HIS:CE1	1:L:432:ASP:HB3	2.37	0.58
4:V:22:GLU:HA	4:V:118:VAL:HA	1.84	0.58
1:A:393:HIS:HA	1:A:410:GLU:HB3	1.84	0.58
1:D:421:GLY:N	1:D:445:LYS:HZ2	1.82	0.58
1:B:454:VAL:HB	1:B:476:VAL:HG12	1.85	0.58
1:C:459:PRO:HD3	1:C:472:ILE:HG12	1.85	0.58
1:F:563:ASN:OD1	6:F:601:NAG:N2	2.36	0.58
2:J:31:ASP:HB2	1:L:554:LYS:NZ	2.19	0.58
1:K:545:ASN:ND2	1:K:545:ASN:H	2.00	0.58
1:L:424:PHE:CA	1:L:441:ILE:CD1	2.45	0.58
1:L:540:HIS:ND1	1:L:542:ALA:HB3	2.18	0.58
1:A:356:SER:N	2:J:117:TYR:HH	2.00	0.58
1:E:537:VAL:O	1:E:537:VAL:HG12	2.03	0.58
1:H:393:HIS:HB2	1:H:396:ILE:HD11	1.86	0.58
1:K:448:ALA:HB1	1:K:481:PRO:HG3	1.85	0.58
3:P:314:GLN:HE21	3:P:314:GLN:HA	1.69	0.58
4:R:47:TYR:CE2	4:R:49:CYS:HB2	2.38	0.58
4:S:99:SER:CB	4:S:120:LEU:HB3	2.34	0.58
4:V:84:LYS:HE3	4:V:86:LEU:HD23	1.86	0.58
1:C:567:VAL:HB	1:D:567:VAL:HG13	1.86	0.57
2:J:116:VAL:O	2:J:116:VAL:HG22	2.04	0.57
1:K:354:PHE:CE1	1:K:541:GLU:CA	2.87	0.57
1:L:367:CYS:HB2	1:L:382:TRP:CE3	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:450:HIS:CA	1:L:480:SER:CB	2.81	0.57
1:L:450:HIS:NE2	4:R:65:THR:HG22	2.18	0.57
3:P:398:LEU:HD13	3:P:407:THR:O	2.03	0.57
1:B:450:HIS:O	1:B:542:ALA:HB2	2.03	0.57
1:F:351:PRO:HB3	1:F:443:ARG:HD2	1.85	0.57
1:H:445:LYS:HA	1:H:445:LYS:HE3	1.86	0.57
3:P:314:GLN:HE21	3:P:314:GLN:N	2.02	0.57
4:R:46:ILE:N	4:R:64:THR:HG21	2.18	0.57
1:B:423:ARG:HA	1:B:442:SER:HB2	1.85	0.57
1:E:524:SER:OG	1:E:527:GLU:OE1	2.22	0.57
1:E:535:THR:CG2	1:E:550:ARG:O	2.52	0.57
1:H:364:LYS:HE3	1:H:410:GLU:HB3	1.87	0.57
3:P:529:LYS:NZ	3:P:534:TYR:CZ	2.71	0.57
1:C:556:THR:O	1:C:556:THR:HG22	2.04	0.57
1:D:349:ALA:HB2	1:D:439:GLN:HG3	1.85	0.57
1:D:377:SER:O	1:D:431:THR:OG1	2.22	0.57
2:J:36:ASN:ND2	1:L:563:ASN:OD1	2.37	0.57
2:J:116:VAL:O	2:J:116:VAL:HG13	2.05	0.57
4:U:102:TYR:HB2	4:U:118:VAL:CG2	2.34	0.57
1:A:489:MET:CE	1:A:537:VAL:HG21	2.33	0.57
2:J:52:PRO:HG3	2:J:128:LEU:HD21	1.86	0.57
1:L:540:HIS:ND1	1:L:542:ALA:CB	2.67	0.57
1:K:366:THR:HG23	1:K:409:GLY:H	1.69	0.57
1:K:476:VAL:O	1:K:476:VAL:HG12	2.04	0.57
1:A:491:ARG:HG2	1:A:491:ARG:O	2.04	0.57
1:K:521:LEU:HD23	1:K:521:LEU:C	2.25	0.57
3:P:475:LYS:HE2	3:P:475:LYS:N	2.20	0.57
1:A:488:TRP:NE1	1:A:519:SER:OG	2.24	0.57
1:A:491:ARG:HH11	1:A:491:ARG:CG	2.16	0.57
1:D:534:TYR:N	1:D:534:TYR:CD1	2.73	0.57
1:E:400:HIS:HB3	1:E:404:THR:H	1.69	0.57
1:L:543:LEU:HD13	1:L:543:LEU:N	2.19	0.57
3:P:201:LEU:HD13	3:P:214:ASN:HA	1.86	0.57
3:P:541:TYR:N	3:P:541:TYR:CD1	2.73	0.57
1:A:501:VAL:HG13	1:A:501:VAL:O	2.04	0.57
1:F:452:PRO:HD2	1:F:543:LEU:HG	1.86	0.57
1:G:398:GLU:HG3	1:G:399:SER:H	1.70	0.57
1:G:475:LEU:HG	1:G:475:LEU:O	2.04	0.57
1:L:534:TYR:CD2	1:L:534:TYR:N	2.73	0.57
3:P:147:LEU:HB3	3:P:159:ILE:HB	1.86	0.57
3:P:368:LEU:HB2	3:P:378:PRO:HD3	1.83	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:359:LEU:CD1	2:J:117:TYR:CB	2.82	0.57
1:A:489:MET:CE	1:A:537:VAL:CG2	2.83	0.57
1:C:566:LEU:H	1:C:566:LEU:CD1	2.01	0.57
1:F:548:THR:HG23	1:F:548:THR:O	2.05	0.57
4:U:22:GLU:HB2	4:U:119:THR:C	2.22	0.57
1:D:374:THR:HG22	1:D:403:ALA:HB1	1.85	0.56
1:G:363:THR:HG21	1:G:418:TRP:HB3	1.86	0.56
1:A:520:ILE:HD13	1:B:475:LEU:HD11	1.87	0.56
1:D:454:VAL:HG21	1:D:538:VAL:HG21	1.87	0.56
1:E:489:MET:SD	1:E:493:GLN:HA	2.45	0.56
1:H:568:MET:O	1:H:570:ASP:N	2.38	0.56
1:K:452:PRO:HD2	1:K:543:LEU:HG	1.86	0.56
5:I:2:NAG:O6	5:I:2:NAG:O4	2.02	0.56
1:B:484:VAL:HG13	1:B:484:VAL:O	2.05	0.56
1:E:364:LYS:NZ	1:E:412:SER:OG	2.31	0.56
1:K:477:THR:HG22	1:K:516:PHE:HB2	1.86	0.56
3:P:523:TRP:HZ3	3:P:539:ALA:HB1	1.68	0.56
4:R:35:ILE:HD12	4:R:118:VAL:HG11	1.87	0.56
4:S:72:TYR:HD2	4:S:72:TYR:N	2.03	0.56
4:U:22:GLU:HB3	4:U:119:THR:HG22	1.86	0.56
4:U:118:VAL:HG23	4:U:118:VAL:O	2.04	0.56
1:A:501:VAL:O	1:A:501:VAL:HG22	2.03	0.56
1:C:486:VAL:HG22	1:C:538:VAL:HG22	1.87	0.56
1:E:437:LEU:HG	1:E:438:LYS:H	1.69	0.56
1:G:396:ILE:HD11	1:G:407:ALA:HB1	1.88	0.56
1:G:467:ARG:O	4:S:60:THR:HG22	2.06	0.56
1:H:456:LEU:HD12	1:H:536:CYS:HB3	1.86	0.56
3:P:149:LYS:CD	3:P:151:ILE:HG22	2.34	0.56
1:H:479:PHE:HB2	1:H:540:HIS:CE1	2.41	0.56
1:K:478:GLY:HA2	1:K:514:ARG:HB3	1.86	0.56
1:C:508:GLU:CG	1:C:509:PRO:HD2	2.17	0.56
1:D:367:CYS:HB3	1:D:382:TRP:CZ2	2.40	0.56
1:H:452:PRO:HD2	1:H:543:LEU:HG	1.88	0.56
1:K:560:THR:O	1:K:560:THR:HG23	2.05	0.56
3:P:315:LEU:HG	3:P:315:LEU:O	2.05	0.56
3:P:407:THR:O	3:P:407:THR:HG22	2.06	0.56
1:B:564:VAL:CG2	1:C:564:VAL:HA	2.35	0.56
1:D:369:VAL:HG11	1:D:378:VAL:HG21	1.87	0.56
1:D:429:THR:HB	1:D:436:PRO:HA	1.87	0.56
1:E:367:CYS:H	1:E:382:TRP:HH2	1.52	0.56
3:P:286:LYS:C	3:P:286:LYS:HD3	2.26	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:51:GLU:HA	4:U:58:CYS:HA	1.88	0.56
1:A:450:HIS:N	1:A:450:HIS:CD2	2.72	0.56
1:G:501:VAL:O	1:G:501:VAL:HG12	2.06	0.56
1:G:502:THR:HG23	1:G:502:THR:O	2.04	0.56
2:J:64:LEU:H	2:J:64:LEU:CD2	2.18	0.56
3:P:366:TRP:CZ2	3:P:408:VAL:HG21	2.41	0.56
3:P:431:TRP:N	3:P:431:TRP:CD1	2.72	0.56
3:P:462:VAL:CB	3:P:509:VAL:HB	2.34	0.56
4:R:91:VAL:HG12	4:R:93:GLN:O	2.06	0.56
1:D:380:ILE:HD12	1:D:393:HIS:CD2	2.41	0.56
1:K:510:GLN:CG	1:L:522:THR:HG23	2.27	0.56
1:L:487:GLN:HB3	1:L:537:VAL:HG11	1.88	0.56
3:P:471:SER:C	3:P:475:LYS:NZ	2.59	0.56
4:R:20:LEU:HD22	4:R:20:LEU:C	2.26	0.56
4:S:34:THR:HB	4:S:88:LEU:HD11	1.88	0.56
1:A:564:VAL:HG22	1:B:564:VAL:HA	1.88	0.56
1:K:535:THR:HA	1:K:550:ARG:O	2.06	0.56
1:L:452:PRO:HB3	1:L:479:PHE:HD1	1.71	0.56
1:G:506:MET:HE3	1:G:516:PHE:HE2	1.71	0.55
2:J:21:ILE:CD1	1:L:555:SER:CB	2.65	0.55
3:P:250:LYS:HA	3:P:309:ALA:HA	1.87	0.55
4:S:61:VAL:HG13	4:S:72:TYR:CD1	2.41	0.55
1:B:449:LEU:HA	1:B:480:SER:HG	1.72	0.55
1:H:532:GLU:O	1:H:553:ASP:HB3	2.05	0.55
2:J:17:ILE:HD11	2:J:64:LEU:HD12	1.87	0.55
1:K:380:ILE:HB	1:K:393:HIS:HD2	1.71	0.55
3:P:421:TYR:CZ	3:P:437:ILE:HD12	2.37	0.55
1:B:451:ARG:CB	1:B:451:ARG:CZ	2.84	0.55
1:C:478:GLY:HA2	1:C:514:ARG:HG2	1.89	0.55
1:E:491:ARG:HG2	4:V:44:VAL:HG11	1.88	0.55
1:G:516:PHE:C	1:G:516:PHE:CD2	2.80	0.55
1:H:443:ARG:N	1:H:444:PRO:HD3	2.22	0.55
1:H:554:LYS:HE2	1:H:558:LYS:NZ	2.21	0.55
3:P:469:LYS:HG2	3:P:469:LYS:O	2.05	0.55
4:R:61:VAL:HG21	4:R:72:TYR:CE2	2.41	0.55
1:H:529:ASN:C	1:H:531:GLY:H	2.10	0.55
1:L:369:VAL:HG12	1:L:372:LEU:HD21	1.88	0.55
3:P:317:GLU:N	3:P:317:GLU:OE2	2.39	0.55
3:P:491:GLN:HE22	3:P:510:SER:HB2	1.72	0.55
1:B:553:ASP:OD1	1:B:554:LYS:N	2.36	0.55
3:P:395:LEU:CA	3:P:410:LEU:HD12	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:S:23:VAL:HG22	4:S:25:VAL:HG23	1.89	0.55
1:A:356:SER:N	2:J:117:TYR:CE2	2.75	0.55
1:A:574:THR:HA	1:K:461:ARG:NH1	2.21	0.55
1:B:461:ARG:CZ	1:L:570:ASP:OD2	2.55	0.55
1:C:423:ARG:HE	1:C:442:SER:HB3	1.71	0.55
2:J:21:ILE:CD1	1:L:554:LYS:HG2	2.37	0.55
1:L:424:PHE:N	1:L:441:ILE:HG13	2.10	0.55
1:L:424:PHE:CD2	1:L:441:ILE:HD13	2.41	0.55
1:L:450:HIS:CB	1:L:480:SER:CB	2.78	0.55
1:L:511:ALA:O	1:L:514:ARG:CG	2.55	0.55
3:P:38:CYS:SG	3:P:91:LYS:HB2	2.47	0.55
3:P:450:GLY:H	3:P:540:VAL:HG12	1.67	0.55
1:B:454:VAL:CG1	1:B:538:VAL:HG11	2.36	0.55
1:H:443:ARG:N	1:H:444:PRO:CD	2.68	0.55
1:L:508:GLU:CG	1:L:514:ARG:HB2	2.36	0.55
1:L:508:GLU:HG3	1:L:514:ARG:HB2	1.89	0.55
1:L:511:ALA:CB	1:L:514:ARG:HG2	2.34	0.55
3:P:249:ALA:O	3:P:309:ALA:HA	2.06	0.55
3:P:371:GLY:H	3:P:375:GLY:HA2	1.72	0.55
1:B:420:SER:CB	1:B:422:GLU:OE1	2.54	0.55
1:B:445:LYS:HZ3	1:B:445:LYS:N	2.05	0.55
1:D:384:ARG:NH1	1:D:390:VAL:HA	2.22	0.55
4:S:72:TYR:N	4:S:72:TYR:CD2	2.72	0.55
1:A:423:ARG:HE	1:A:440:THR:HG23	1.71	0.55
1:C:454:VAL:HG13	1:C:474:CYS:SG	2.46	0.55
1:D:369:VAL:HB	1:D:428:VAL:HG11	1.89	0.55
1:E:450:HIS:CE1	1:E:514:ARG:CZ	2.90	0.55
1:F:520:ILE:O	1:F:520:ILE:HG13	2.05	0.55
1:K:563:ASN:HB3	1:L:563:ASN:CA	2.35	0.55
3:P:39:ARG:HB2	3:P:49:LEU:HD11	1.87	0.55
5:I:1:NAG:C1	5:I:1:NAG:C8	2.85	0.55
1:B:380:ILE:HB	1:B:393:HIS:CD2	2.42	0.55
1:H:454:VAL:HG21	1:H:538:VAL:HG21	1.89	0.55
2:J:35:ARG:HH11	2:J:35:ARG:CG	2.19	0.55
1:K:354:PHE:CE1	1:K:541:GLU:CB	2.90	0.55
1:F:537:VAL:HG22	1:F:549:GLU:HB3	1.89	0.54
1:H:568:MET:O	1:H:569:SER:C	2.45	0.54
1:K:535:THR:CG2	1:K:551:THR:OG1	2.54	0.54
1:K:571:THR:O	1:K:572:ALA:C	2.45	0.54
3:P:471:SER:C	3:P:475:LYS:HZ1	2.05	0.54
1:A:400:HIS:ND1	1:A:402:ASN:OD1	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:476:VAL:O	1:G:476:VAL:HG12	2.06	0.54
1:K:496:SER:HG	1:K:499:LYS:HZ3	1.49	0.54
4:S:39:LEU:O	4:S:39:LEU:HD23	2.07	0.54
1:A:391:LYS:HA	1:A:391:LYS:HE3	1.90	0.54
1:E:454:VAL:HG22	1:E:538:VAL:HG21	1.87	0.54
1:E:479:PHE:HB2	1:E:540:HIS:CE1	2.41	0.54
1:K:464:LEU:HD11	1:K:525:GLU:CD	2.24	0.54
1:B:393:HIS:CD2	1:B:409:GLY:HA3	2.43	0.54
1:C:346:ARG:HG2	1:C:371:ASP:OD1	2.08	0.54
1:G:463:GLN:HG2	1:H:455:TYR:CZ	2.42	0.54
1:K:481:PRO:HG2	1:K:541:GLU:OE2	2.06	0.54
3:P:425:THR:O	3:P:430:LEU:CD2	2.54	0.54
1:C:419:ASN:OD1	1:C:420:SER:N	2.40	0.54
1:L:523:VAL:HG11	1:L:534:TYR:HE1	1.71	0.54
3:P:361:LYS:HB3	3:P:364:LYS:HE2	1.90	0.54
3:P:446:LEU:C	3:P:465:HIS:O	2.41	0.54
3:P:447:LYS:N	3:P:465:HIS:N	2.46	0.54
3:P:450:GLY:H	3:P:540:VAL:CG1	2.20	0.54
4:R:99:SER:HB2	4:R:120:LEU:HB2	1.89	0.54
1:B:369:VAL:HG23	1:B:407:ALA:HB2	1.89	0.54
1:B:400:HIS:HB3	1:B:403:ALA:HA	1.90	0.54
1:K:512:PRO:HD2	1:K:514:ARG:HG2	1.90	0.54
1:L:354:PHE:CD2	1:L:546:ARG:NH2	2.75	0.54
1:L:414:CYS:SG	3:P:497:LYS:NZ	2.75	0.54
3:P:263:VAL:HG21	3:P:314:GLN:NE2	2.23	0.54
3:P:399:GLU:O	3:P:406:PHE:HA	2.08	0.54
3:P:450:GLY:HA2	3:P:463:PRO:HD2	1.90	0.54
4:R:116:GLN:NE2	4:R:116:GLN:O	2.41	0.54
1:A:566:LEU:N	1:A:566:LEU:CD1	2.70	0.54
1:B:476:VAL:HG23	1:B:479:PHE:HE1	1.73	0.54
1:D:364:LYS:HA	1:D:411:ALA:O	2.08	0.54
1:E:482:ALA:CA	1:E:515:TYR:CE2	2.91	0.54
1:L:481:PRO:HD2	1:L:540:HIS:NE2	2.20	0.54
3:P:289:SER:O	3:P:289:SER:OG	2.20	0.54
4:V:61:VAL:HA	4:V:69:LYS:HB2	1.90	0.54
1:F:486:VAL:HG22	1:F:538:VAL:HG22	1.90	0.54
1:L:456:LEU:CG	1:L:552:VAL:HG21	2.35	0.54
3:P:462:VAL:HG11	3:P:509:VAL:CG1	2.37	0.54
1:B:443:ARG:HD3	1:B:443:ARG:N	2.15	0.54
1:D:454:VAL:CG2	1:D:538:VAL:HG21	2.38	0.54
3:P:473:TYR:CD2	3:P:473:TYR:N	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:531:GLY:HA2	1:B:554:LYS:HB2	1.90	0.54
1:C:448:ALA:O	1:C:481:PRO:HD3	2.08	0.54
1:L:456:LEU:CG	1:L:552:VAL:CG2	2.85	0.54
3:P:314:GLN:HA	3:P:314:GLN:NE2	2.23	0.54
1:D:487:GLN:NE2	1:D:494:PRO:HB3	2.22	0.53
1:B:473:THR:HG22	1:B:520:ILE:HG22	1.90	0.53
1:F:502:THR:O	1:F:502:THR:HG22	2.08	0.53
1:H:445:LYS:HA	1:H:445:LYS:CE	2.38	0.53
1:L:346:ARG:HG2	1:L:370:THR:H	1.73	0.53
3:P:264:VAL:HG13	3:P:275:PHE:HD2	1.66	0.53
3:P:264:VAL:CG1	3:P:275:PHE:CE2	2.91	0.53
3:P:366:TRP:CZ3	3:P:380:LEU:CD1	2.87	0.53
4:R:22:GLU:HG3	4:R:119:THR:HG22	1.90	0.53
1:A:489:MET:HE1	1:A:537:VAL:CG2	2.38	0.53
1:A:538:VAL:HG22	1:A:548:THR:CG2	2.38	0.53
1:C:457:LEU:CD1	1:D:457:LEU:HD23	2.38	0.53
1:F:449:LEU:CA	1:F:480:SER:HB2	2.37	0.53
1:K:463:GLN:HB2	1:L:455:TYR:CE1	2.37	0.53
3:P:445:ASN:OD1	3:P:467:PRO:CG	2.51	0.53
3:P:121:VAL:HA	3:P:216:ASP:HB3	1.90	0.53
3:P:541:TYR:N	3:P:541:TYR:HD1	2.06	0.53
4:U:105:GLY:HA2	4:U:115:THR:HG23	1.90	0.53
3:P:24:TYR:CD2	3:P:30:ASN:HB3	2.43	0.53
3:P:355:TYR:CD1	3:P:405:THR:HA	2.44	0.53
3:P:447:LYS:HE2	3:P:465:HIS:CG	2.44	0.53
1:A:384:ARG:NH1	1:A:388:GLU:OE2	2.42	0.53
1:A:483:ASP:O	1:A:540:HIS:CD2	2.62	0.53
1:B:421:GLY:N	1:B:443:ARG:HH21	2.04	0.53
1:C:457:LEU:CD1	1:C:473:THR:HG1	2.21	0.53
1:C:473:THR:HG22	1:C:520:ILE:HG22	1.91	0.53
1:K:562:TYR:N	1:K:562:TYR:HD1	2.06	0.53
3:P:37:TRP:HB3	3:P:50:ILE:HG22	1.89	0.53
3:P:134:CYS:O	3:P:185:PHE:HB3	2.09	0.53
3:P:197:ALA:HB2	3:P:219:VAL:HG13	1.91	0.53
3:P:477:TRP:HD1	3:P:526:CYS:HB2	1.74	0.53
1:E:383:THR:HB	1:E:387:GLY:HA2	1.91	0.53
1:E:482:ALA:CA	1:E:515:TYR:HE2	2.22	0.53
3:P:355:TYR:HE1	3:P:405:THR:O	1.92	0.53
1:C:477:THR:OG1	1:C:508:GLU:OE2	2.26	0.53
1:G:482:ALA:HB2	1:G:515:TYR:CE2	2.44	0.53
1:K:491:ARG:O	1:K:493:GLN:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:447:LYS:CD	3:P:465:HIS:HB3	2.37	0.53
1:C:506:MET:HG3	1:C:507:PRO:HD2	1.91	0.53
1:K:480:SER:HB2	1:K:481:PRO:HD3	1.91	0.53
3:P:479:LYS:HG3	3:P:524:TYR:HE1	1.73	0.53
1:A:459:PRO:HG2	1:A:470:ALA:HB1	1.90	0.53
1:A:538:VAL:CG2	1:A:548:THR:HG22	2.38	0.53
1:F:471:THR:HG22	1:F:522:THR:HG23	1.91	0.53
3:P:340:VAL:HG11	3:P:436:GLU:CD	2.29	0.53
4:R:46:ILE:N	4:R:64:THR:HG23	2.15	0.53
4:S:39:LEU:CD2	4:S:85:ASN:C	2.78	0.53
1:B:489:MET:HG2	1:B:494:PRO:HA	1.91	0.52
1:C:426:CYS:HB3	1:C:439:GLN:HB2	1.91	0.52
1:E:480:SER:O	1:E:480:SER:OG	2.25	0.52
1:G:481:PRO:HD2	1:G:540:HIS:CE1	2.44	0.52
1:G:482:ALA:HB2	1:G:515:TYR:CZ	2.44	0.52
1:L:511:ALA:HB2	1:L:514:ARG:HD2	1.81	0.52
3:P:8:GLU:OE1	3:P:8:GLU:N	2.42	0.52
3:P:463:PRO:HA	3:P:508:LEU:HD12	1.91	0.52
4:R:22:GLU:OE1	4:R:101:VAL:CG1	2.44	0.52
4:S:75:ARG:HG3	4:S:91:VAL:HG13	1.90	0.52
4:U:36:LYS:HA	4:U:88:LEU:HD23	1.90	0.52
1:A:466:LEU:N	1:A:466:LEU:CD1	2.72	0.52
1:A:489:MET:HG2	1:A:494:PRO:HA	1.91	0.52
1:A:538:VAL:HG22	1:A:548:THR:HG23	1.91	0.52
1:B:384:ARG:HA	1:B:424:PHE:CE2	2.45	0.52
1:E:535:THR:HG22	1:E:550:ARG:O	2.10	0.52
1:K:356:SER:O	1:K:360:THR:OG1	2.25	0.52
1:K:508:GLU:HG3	1:K:514:ARG:HB2	1.89	0.52
1:K:562:TYR:N	1:K:562:TYR:CD1	2.71	0.52
1:A:508:GLU:HG2	1:A:509:PRO:CD	2.40	0.52
1:F:456:LEU:HD11	1:F:536:CYS:HB3	1.91	0.52
1:K:480:SER:HA	1:K:513:GLY:O	2.09	0.52
1:L:449:LEU:HA	1:L:480:SER:HB3	1.89	0.52
1:C:466:LEU:HD21	4:V:45:ARG:CZ	2.39	0.52
1:L:556:THR:O	1:L:556:THR:HG23	2.10	0.52
3:P:196:ASP:O	3:P:200:TYR:OH	2.25	0.52
3:P:344:VAL:HG21	3:P:444:PRO:HA	1.92	0.52
3:P:470:PHE:CZ	3:P:528:VAL:HB	2.43	0.52
3:P:491:GLN:NE2	3:P:510:SER:HB2	2.24	0.52
1:F:449:LEU:N	1:F:449:LEU:CD2	2.73	0.52
1:F:453:ASP:OD2	1:F:455:TYR:OH	2.21	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:35:ARG:CG	2:J:35:ARG:NH1	2.70	0.52
1:L:430:HIS:HE1	1:L:432:ASP:HB3	1.74	0.52
4:U:48:LEU:HB2	4:U:89:VAL:HG11	1.91	0.52
1:K:558:LYS:NZ	1:L:461:ARG:HE	2.06	0.52
4:R:37:CYS:HA	4:R:116:GLN:HG3	1.91	0.52
1:B:420:SER:HB2	1:B:422:GLU:OE1	2.10	0.52
1:F:414:CYS:HB3	1:G:414:CYS:SG	2.50	0.52
1:L:456:LEU:CD2	1:L:552:VAL:HG21	2.32	0.52
4:R:25:VAL:HB	4:R:120:LEU:HG	1.91	0.52
1:B:454:VAL:HG22	1:B:550:ARG:CG	2.38	0.52
1:C:451:ARG:NH1	1:C:451:ARG:CG	2.72	0.52
1:L:450:HIS:CE1	4:R:65:THR:HG22	2.45	0.52
3:P:261:CYS:O	3:P:263:VAL:N	2.43	0.52
2:J:40:ILE:CD1	1:K:574:THR:HG21	2.39	0.52
1:K:565:SER:O	1:K:565:SER:OG	2.19	0.52
3:P:314:GLN:CA	3:P:314:GLN:NE2	2.72	0.52
4:U:22:GLU:CB	4:U:119:THR:N	2.72	0.52
1:A:489:MET:HE1	1:A:537:VAL:HG21	1.91	0.52
1:E:493:GLN:NE2	1:E:493:GLN:N	2.58	0.52
1:F:449:LEU:HD22	1:F:449:LEU:N	2.25	0.52
1:L:526:GLU:O	1:L:530:THR:HG23	2.10	0.52
1:A:356:SER:CA	2:J:117:TYR:CE2	2.92	0.51
1:E:368:LEU:HD21	1:E:406:SER:HB2	1.92	0.51
1:F:474:CYS:HB2	1:F:488:TRP:CZ2	2.45	0.51
1:K:450:HIS:NE2	1:K:514:ARG:NH1	2.54	0.51
3:P:227:VAL:HG23	3:P:326:LEU:HA	1.92	0.51
1:A:518:HIS:HE1	1:B:520:ILE:HG23	1.70	0.51
1:A:535:THR:HG22	1:A:551:THR:CB	2.37	0.51
1:E:467:ARG:HD3	1:E:525:GLU:HG3	1.92	0.51
1:L:354:PHE:HD2	1:L:546:ARG:HH21	1.55	0.51
3:P:63:ARG:NH2	3:P:86:ASP:OD2	2.41	0.51
3:P:355:TYR:CE1	3:P:405:THR:CA	2.93	0.51
3:P:525:TRP:CE3	3:P:537:THR:HG22	2.44	0.51
4:S:79:LYS:HD3	4:S:80:GLN:H	1.75	0.51
1:A:564:VAL:CG2	1:B:564:VAL:HA	2.40	0.51
1:C:429:THR:HG22	1:C:436:PRO:HB3	1.92	0.51
1:H:495:LEU:HD22	1:H:499:LYS:HE3	1.92	0.51
1:K:518:HIS:ND1	1:L:518:HIS:CG	2.78	0.51
1:A:467:ARG:HG3	1:A:525:GLU:OE1	2.11	0.51
1:C:466:LEU:CD2	4:V:45:ARG:CZ	2.88	0.51
1:D:562:TYR:CE1	1:H:568:MET:SD	3.04	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:361:LYS:HG2	3:P:364:LYS:HE3	1.91	0.51
3:P:450:GLY:N	3:P:540:VAL:HG13	2.26	0.51
1:E:453:ASP:OD2	1:E:455:TYR:OH	2.27	0.51
1:F:543:LEU:HD22	1:F:548:THR:HG21	1.92	0.51
1:G:518:HIS:NE2	1:H:520:ILE:HD11	2.25	0.51
3:P:295:THR:HG22	3:P:432:ARG:HB2	1.93	0.51
3:P:361:LYS:HD2	3:P:361:LYS:C	2.30	0.51
3:P:525:TRP:CZ3	3:P:537:THR:CG2	2.92	0.51
4:V:112:ARG:CB	4:V:112:ARG:NH1	2.73	0.51
1:C:482:ALA:CB	1:C:515:TYR:CE1	2.91	0.51
1:F:546:ARG:CG	1:F:546:ARG:NH1	2.72	0.51
2:J:28:PRO:HG3	1:L:467:ARG:NH2	2.24	0.51
1:K:423:ARG:HG3	1:K:442:SER:HB2	1.93	0.51
3:P:127:GLY:N	3:P:192:LEU:O	2.35	0.51
1:B:445:LYS:CB	1:B:445:LYS:NZ	2.72	0.51
1:B:498:GLU:O	1:B:498:GLU:HG2	2.11	0.51
1:H:453:ASP:OD1	1:H:455:TYR:OH	2.18	0.51
1:K:510:GLN:OE1	1:K:510:GLN:HA	2.09	0.51
3:P:368:LEU:CD1	3:P:378:PRO:HG2	2.39	0.51
1:A:380:ILE:H	1:A:393:HIS:CD2	2.29	0.51
1:C:383:THR:OG1	1:C:425:THR:OG1	2.26	0.51
1:D:421:GLY:CA	1:D:445:LYS:HZ1	2.10	0.51
1:G:352:PRO:HD3	1:G:365:LEU:HD13	1.92	0.51
3:P:132:ILE:HD12	3:P:187:VAL:O	2.11	0.51
3:P:239:CYS:HB2	3:P:290:PHE:CE1	2.46	0.51
3:P:248:VAL:HG12	3:P:311:SER:N	2.26	0.51
1:F:427:THR:HG23	1:F:438:LYS:HB3	1.92	0.51
1:G:516:PHE:C	1:G:516:PHE:HD2	2.14	0.51
1:L:514:ARG:CA	1:L:514:ARG:NH1	2.73	0.51
3:P:60:TYR:HB3	3:P:64:ALA:HB3	1.93	0.51
3:P:368:LEU:CG	3:P:378:PRO:HG2	2.40	0.51
3:P:391:TYR:N	3:P:391:TYR:CD1	2.79	0.51
4:S:29:LEU:HD22	4:S:95:THR:CG2	2.27	0.51
4:U:72:TYR:HA	4:U:75:ARG:HD3	1.92	0.51
1:A:400:HIS:HD2	1:A:406:SER:HB2	1.76	0.51
1:L:365:LEU:HD23	1:L:413:ILE:HD11	1.93	0.51
1:D:393:HIS:CD2	1:D:393:HIS:H	2.27	0.50
1:G:502:THR:HA	1:G:519:SER:HA	1.93	0.50
1:L:523:VAL:HG11	1:L:534:TYR:CE1	2.46	0.50
1:L:540:HIS:HB3	1:L:543:LEU:CG	2.32	0.50
3:P:446:LEU:CD2	3:P:538:ALA:CA	2.90	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:470:PHE:O	3:P:473:TYR:CE2	2.64	0.50
1:K:537:VAL:HG12	1:K:549:GLU:HG2	1.93	0.50
3:P:253:CYS:HB2	3:P:306:LEU:HB2	1.93	0.50
1:A:477:THR:HG22	1:A:508:GLU:OE2	2.12	0.50
1:G:450:HIS:CD2	1:G:514:ARG:NH1	2.80	0.50
2:J:21:ILE:CG1	1:L:555:SER:CB	2.90	0.50
3:P:243:PRO:CA	3:P:246:ALA:HB2	2.37	0.50
3:P:464:CYS:O	3:P:507:ARG:C	2.50	0.50
3:P:529:LYS:CG	3:P:534:TYR:HE2	2.17	0.50
4:R:28:GLU:HG3	4:R:29:LEU:H	1.76	0.50
4:U:48:LEU:HD22	4:U:89:VAL:HG21	1.93	0.50
1:C:384:ARG:NH2	1:C:422:GLU:O	2.44	0.50
1:E:484:VAL:O	1:E:484:VAL:HG13	2.12	0.50
1:F:523:VAL:CG1	1:F:534:TYR:OH	2.60	0.50
1:H:365:LEU:HD11	1:H:418:TRP:CZ2	2.40	0.50
1:K:477:THR:CG2	1:K:516:PHE:HB2	2.41	0.50
1:A:384:ARG:HG2	1:A:385:GLN:H	1.77	0.50
1:A:459:PRO:CB	1:A:470:ALA:HB1	2.41	0.50
1:A:516:PHE:C	1:A:516:PHE:CD2	2.85	0.50
1:F:545:ASN:N	1:F:545:ASN:ND2	2.58	0.50
1:K:430:HIS:CD2	1:K:432:ASP:HB2	2.47	0.50
1:K:490:GLN:O	1:K:490:GLN:HG3	2.10	0.50
3:P:448:VAL:HG23	3:P:463:PRO:CG	2.41	0.50
3:P:470:PHE:O	3:P:473:TYR:CD2	2.64	0.50
4:V:48:LEU:HD21	4:V:102:TYR:CG	2.47	0.50
1:A:560:THR:O	1:B:560:THR:N	2.43	0.50
1:L:511:ALA:O	1:L:514:ARG:HG2	2.11	0.50
3:P:148:TYR:HD2	3:P:202:CYS:HA	1.77	0.50
3:P:478:CYS:HA	3:P:487:ALA:HA	1.93	0.50
1:F:427:THR:HG22	1:F:436:PRO:HB2	1.94	0.50
2:J:115:LEU:CD1	2:J:124:VAL:HG21	2.25	0.50
3:P:27:THR:OG1	3:P:30:ASN:OD1	2.27	0.50
3:P:245:VAL:HG11	3:P:320:PRO:HG2	1.93	0.50
3:P:351:VAL:HG11	3:P:435:VAL:HG11	1.94	0.50
1:B:445:LYS:HZ3	1:B:445:LYS:CB	2.25	0.50
1:D:514:ARG:HH11	4:V:66:ASN:HD21	1.60	0.50
3:P:526:CYS:O	3:P:538:ALA:HB2	2.11	0.50
4:R:36:LYS:HE2	4:R:86:LEU:HG	1.93	0.50
1:A:359:LEU:CD1	2:J:117:TYR:CG	2.81	0.49
1:C:456:LEU:HD11	1:C:536:CYS:HB3	1.93	0.49
1:G:467:ARG:HD3	1:G:525:GLU:OE1	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:510:GLN:HG3	1:L:522:THR:HG21	1.72	0.49
3:P:476:TYR:O	3:P:527:GLY:N	2.45	0.49
1:C:484:VAL:O	1:C:484:VAL:HG13	2.11	0.49
1:D:500:TYR:C	1:D:500:TYR:CD1	2.85	0.49
1:F:500:TYR:CD1	1:F:500:TYR:C	2.84	0.49
1:H:480:SER:HB3	1:H:481:PRO:HD3	1.94	0.49
2:J:117:TYR:CD1	2:J:117:TYR:C	2.85	0.49
1:K:464:LEU:HD13	1:K:525:GLU:CG	2.42	0.49
1:K:473:THR:O	1:K:473:THR:HG22	2.12	0.49
1:K:479:PHE:HB2	1:K:540:HIS:CE1	2.47	0.49
3:P:24:TYR:HD2	3:P:30:ASN:HB3	1.75	0.49
3:P:99:ARG:HG3	3:P:99:ARG:O	2.11	0.49
3:P:290:PHE:CD1	3:P:290:PHE:C	2.85	0.49
3:P:368:LEU:CA	3:P:378:PRO:HD3	2.42	0.49
4:U:34:THR:HG22	4:U:90:GLU:HG3	1.94	0.49
1:A:489:MET:HB2	1:A:535:THR:OG1	2.13	0.49
1:K:459:PRO:HG3	1:K:470:ALA:HB1	1.95	0.49
4:R:81:TYR:HB2	4:R:86:LEU:HB2	1.95	0.49
1:A:485:PHE:CE2	2:J:115:LEU:HD22	2.41	0.49
1:L:484:VAL:HA	1:L:539:ALA:O	2.12	0.49
3:P:466:PHE:CE2	3:P:507:ARG:HB2	2.47	0.49
1:A:457:LEU:HB2	1:A:473:THR:CG2	2.42	0.49
1:B:496:SER:HB2	1:B:497:PRO:HD2	1.95	0.49
1:C:480:SER:O	1:C:540:HIS:HE1	1.93	0.49
3:P:310:HIS:CE1	3:P:316:GLN:HB2	2.47	0.49
4:U:50:ARG:NH1	4:U:100:GLY:CA	2.64	0.49
1:B:543:LEU:HD11	1:B:548:THR:HG22	1.95	0.49
1:E:514:ARG:NH1	1:E:514:ARG:HG2	2.27	0.49
1:G:489:MET:HA	1:G:494:PRO:HA	1.94	0.49
1:L:514:ARG:CB	1:L:514:ARG:NH1	2.72	0.49
3:P:351:VAL:HB	3:P:408:VAL:HG22	1.95	0.49
4:V:78:LEU:HB2	4:V:87:PHE:CE1	2.47	0.49
1:C:363:THR:OG1	1:C:413:ILE:O	2.30	0.49
1:K:463:GLN:O	1:K:463:GLN:HG2	2.09	0.49
4:R:50:ARG:NH1	4:R:51:GLU:O	2.45	0.49
4:S:46:ILE:HD13	4:S:87:PHE:CD2	2.47	0.49
4:V:75:ARG:NH2	4:V:95:THR:H	2.11	0.49
1:C:502:THR:HA	1:C:519:SER:HA	1.94	0.49
1:D:376:ASP:HB3	1:D:430:HIS:NE2	2.28	0.49
1:D:376:ASP:OD1	1:D:377:SER:N	2.45	0.49
1:E:514:ARG:HG2	1:E:514:ARG:HH11	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:378:VAL:HG21	1:G:405:PHE:HE2	1.77	0.49
1:K:380:ILE:HB	1:K:393:HIS:CD2	2.48	0.49
4:U:32:SER:HA	4:U:91:VAL:O	2.13	0.49
1:A:423:ARG:CZ	1:A:425:THR:HB	2.43	0.49
1:B:481:PRO:HD2	1:B:540:HIS:CE1	2.48	0.49
1:B:537:VAL:HG12	1:B:549:GLU:HG2	1.95	0.49
1:C:463:GLN:O	1:C:466:LEU:HB2	2.12	0.49
1:E:511:ALA:CB	1:E:514:ARG:HG3	2.38	0.49
3:P:340:VAL:HG11	3:P:436:GLU:CG	2.43	0.49
3:P:368:LEU:CB	3:P:378:PRO:CG	2.78	0.49
3:P:400:GLU:HA	3:P:402:GLY:N	2.27	0.49
1:B:354:PHE:CZ	1:B:546:ARG:CG	2.96	0.49
1:K:533:THR:HG22	1:K:551:THR:CG2	2.43	0.49
1:K:346:ARG:O	1:K:370:THR:OG1	2.24	0.48
1:K:487:GLN:HB3	1:K:537:VAL:HG23	1.95	0.48
3:P:263:VAL:HG21	3:P:314:GLN:HE22	1.78	0.48
1:F:561:LEU:HD12	1:F:561:LEU:HA	1.52	0.48
1:H:572:ALA:HB3	1:H:574:THR:HG22	1.93	0.48
1:K:463:GLN:HA	1:K:466:LEU:HD23	1.93	0.48
4:S:50:ARG:N	4:S:59:GLY:O	2.45	0.48
1:C:481:PRO:O	1:C:481:PRO:HG2	2.13	0.48
1:D:510:GLN:OE1	1:D:510:GLN:HA	2.14	0.48
1:K:386:ASN:OD1	1:K:387:GLY:N	2.46	0.48
1:K:545:ASN:ND2	1:K:545:ASN:N	2.60	0.48
3:P:29:VAL:O	3:P:33:THR:HG23	2.13	0.48
3:P:395:LEU:CB	3:P:410:LEU:HD11	2.20	0.48
3:P:411:ASN:ND2	3:P:525:TRP:CH2	2.81	0.48
4:S:39:LEU:HD23	4:S:85:ASN:HA	1.94	0.48
4:S:49:CYS:HB3	4:S:58:CYS:HB2	1.44	0.48
1:A:428:VAL:HG22	1:A:437:LEU:H	1.78	0.48
1:E:459:PRO:HD3	1:E:472:ILE:HG13	1.96	0.48
1:G:491:ARG:HD2	4:U:44:VAL:HG11	1.95	0.48
1:L:538:VAL:HG12	1:L:548:THR:HB	1.94	0.48
3:P:251:PHE:CZ	3:P:308:GLY:O	2.58	0.48
3:P:286:LYS:HD3	3:P:286:LYS:O	2.12	0.48
4:U:50:ARG:HH12	4:U:100:GLY:CA	2.24	0.48
1:B:414:CYS:SG	1:C:416:ASP:HB3	2.49	0.48
1:D:493:GLN:H	1:D:493:GLN:CD	2.09	0.48
1:F:470:ALA:HB3	1:F:523:VAL:HG23	1.95	0.48
1:F:554:LYS:O	1:F:554:LYS:HD3	2.13	0.48
1:L:540:HIS:HB3	1:L:543:LEU:CD1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:U:37:CYS:HB3	4:U:87:PHE:O	2.13	0.48
4:V:86:LEU:HD12	4:V:87:PHE:H	1.79	0.48
1:C:566:LEU:HD13	1:D:566:LEU:CD2	2.43	0.48
1:E:508:GLU:HB2	1:E:514:ARG:O	2.14	0.48
3:P:366:TRP:O	3:P:380:LEU:N	2.45	0.48
1:E:367:CYS:N	1:E:382:TRP:HH2	2.11	0.48
1:F:414:CYS:HB2	1:F:418:TRP:CD1	2.49	0.48
1:G:467:ARG:CG	1:G:467:ARG:NH1	2.72	0.48
1:K:467:ARG:NH2	4:R:111:ASP:OD1	2.46	0.48
3:P:447:LYS:HB2	3:P:464:CYS:CA	2.44	0.48
1:E:491:ARG:CG	4:V:44:VAL:HG11	2.44	0.48
1:H:565:SER:HB3	1:K:565:SER:HB2	1.96	0.48
1:L:345:ILE:HA	1:L:433:LEU:HD11	1.96	0.48
1:L:576:TYR:HD2	1:L:576:TYR:N	2.10	0.48
4:U:20:LEU:HG	4:U:117:LYS:HB2	1.94	0.48
4:U:80:GLN:OE1	4:U:87:PHE:HD1	1.95	0.48
1:D:514:ARG:HH21	1:D:514:ARG:CG	2.23	0.48
1:H:514:ARG:HH12	4:S:65:THR:HG23	1.79	0.48
1:H:554:LYS:HZ2	1:H:558:LYS:HZ2	1.52	0.48
1:H:554:LYS:HZ2	1:H:558:LYS:NZ	1.94	0.48
4:S:78:LEU:HD11	4:S:87:PHE:HD2	1.78	0.48
4:V:47:TYR:OH	4:V:113:GLY:HA3	2.14	0.48
1:A:531:GLY:HA2	1:A:554:LYS:HB2	1.96	0.48
1:B:461:ARG:HH22	1:K:570:ASP:HB3	1.79	0.48
1:B:472:ILE:HG21	1:B:552:VAL:HG11	1.96	0.48
1:D:348:PHE:HD2	1:D:370:THR:HB	1.79	0.48
1:B:476:VAL:HG11	1:B:538:VAL:HG21	1.96	0.47
1:C:379:THR:HB	1:C:429:THR:OG1	2.14	0.47
1:D:535:THR:HG22	1:D:551:THR:HB	1.96	0.47
4:R:47:TYR:OH	4:R:110:THR:O	2.32	0.47
4:R:62:VAL:HG12	4:R:68:ILE:HG22	1.94	0.47
1:B:384:ARG:HB3	1:B:387:GLY:N	2.29	0.47
1:D:384:ARG:HH11	1:D:390:VAL:HA	1.79	0.47
1:E:457:LEU:HB2	1:E:473:THR:CG2	2.44	0.47
1:E:489:MET:SD	1:E:494:PRO:N	2.87	0.47
1:L:449:LEU:CA	1:L:480:SER:HB3	2.44	0.47
3:P:120:LYS:O	3:P:216:ASP:N	2.47	0.47
3:P:445:ASN:CB	3:P:536:GLU:OE2	2.62	0.47
4:R:46:ILE:HG22	4:R:64:THR:HG21	1.95	0.47
4:S:105:GLY:HA3	4:S:114:LYS:HA	1.95	0.47
1:D:359:LEU:HD21	1:D:485:PHE:CZ	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:445:LYS:CE	1:K:445:LYS:CA	2.84	0.47
3:P:466:PHE:CD2	3:P:466:PHE:N	2.82	0.47
4:R:95:THR:C	4:R:97:SER:H	2.17	0.47
1:B:347:VAL:HG22	1:B:369:VAL:HG13	1.95	0.47
1:B:363:THR:HG21	1:B:418:TRP:HB2	1.96	0.47
1:C:382:TRP:CH2	1:C:426:CYS:HB2	2.50	0.47
4:V:75:ARG:HG3	4:V:76:VAL:HG13	1.97	0.47
1:A:510:GLN:H	1:A:510:GLN:CD	2.18	0.47
1:D:493:GLN:HA	1:D:494:PRO:HD2	1.45	0.47
2:J:42:PRO:HG3	2:J:102:THR:CG2	2.43	0.47
1:K:529:ASN:HA	1:K:554:LYS:HD3	1.97	0.47
1:K:556:THR:HG23	1:K:556:THR:O	2.14	0.47
1:L:424:PHE:CD1	1:L:441:ILE:HD11	2.46	0.47
1:L:452:PRO:HB3	1:L:479:PHE:CD1	2.48	0.47
1:L:480:SER:HB2	1:L:481:PRO:HD3	1.97	0.47
1:A:402:ASN:OD1	1:A:404:THR:OG1	2.22	0.47
1:A:466:LEU:N	1:A:466:LEU:HD13	2.29	0.47
1:E:490:GLN:HB3	1:E:534:TYR:HA	1.96	0.47
1:F:545:ASN:CB	1:G:358:PHE:HZ	2.27	0.47
1:G:443:ARG:HA	1:G:444:PRO:HD2	1.52	0.47
1:G:473:THR:O	1:G:473:THR:OG1	2.23	0.47
1:H:379:THR:HG21	1:H:429:THR:OG1	2.15	0.47
1:K:526:GLU:HA	1:K:529:ASN:OD1	2.14	0.47
1:L:417:ASP:O	1:L:420:SER:OG	2.31	0.47
1:A:491:ARG:NH1	1:A:491:ARG:CG	2.73	0.47
1:B:451:ARG:NH1	1:B:451:ARG:CB	2.72	0.47
1:C:526:GLU:CD	1:C:526:GLU:H	2.17	0.47
1:C:533:THR:O	1:C:552:VAL:O	2.33	0.47
1:G:468:GLU:O	1:G:525:GLU:HB2	2.15	0.47
1:K:416:ASP:OD1	1:K:417:ASP:N	2.47	0.47
3:P:56:VAL:O	3:P:56:VAL:HG23	2.14	0.47
3:P:445:ASN:HB2	3:P:536:GLU:OE2	2.14	0.47
4:S:81:TYR:HB3	4:S:84:LYS:HB2	1.96	0.47
4:U:22:GLU:CD	4:U:119:THR:HG23	2.33	0.47
1:E:489:MET:O	1:E:535:THR:CB	2.63	0.47
1:H:552:VAL:HG13	1:H:556:THR:HG21	1.95	0.47
2:J:21:ILE:HD11	1:L:555:SER:CA	2.44	0.47
3:P:526:CYS:CB	3:P:538:ALA:HB3	2.44	0.47
4:S:39:LEU:HD21	4:S:41:GLU:HG2	1.97	0.47
1:E:350:ILE:HB	1:E:366:THR:HB	1.96	0.47
1:F:452:PRO:HD3	1:F:540:HIS:HD2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:364:LYS:HB3	1:H:410:GLU:HB3	1.96	0.47
1:K:558:LYS:HG2	1:K:558:LYS:O	2.15	0.47
3:P:462:VAL:HG11	3:P:509:VAL:HG12	1.97	0.47
3:P:466:PHE:CD1	3:P:470:PHE:HZ	2.31	0.47
1:G:413:ILE:HD13	1:G:424:PHE:HZ	1.79	0.47
1:H:384:ARG:HD2	1:H:388:GLU:HB2	1.97	0.47
1:K:537:VAL:CG1	1:K:549:GLU:HG2	2.44	0.47
3:P:143:LYS:O	3:P:145:LYS:HG3	2.14	0.47
4:R:52:MET:HE1	4:R:69:LYS:NZ	2.30	0.47
4:S:105:GLY:HA2	4:S:115:THR:HG23	1.96	0.47
4:V:121:ASN:HD21	4:V:123:HIS:HB3	1.79	0.47
1:A:514:ARG:HH11	1:A:514:ARG:CG	2.28	0.46
1:B:410:GLU:H	1:B:410:GLU:HG3	1.47	0.46
1:F:546:ARG:HH11	1:F:546:ARG:HG3	1.79	0.46
1:G:493:GLN:HG2	4:U:42:MET:O	2.15	0.46
1:G:521:LEU:HD21	1:G:534:TYR:CE2	2.50	0.46
1:H:474:CYS:HB2	1:H:488:TRP:CZ2	2.50	0.46
1:K:528:TRP:HH2	1:K:552:VAL:HG22	1.79	0.46
1:L:423:ARG:HH21	1:L:444:PRO:HB3	1.80	0.46
1:L:445:LYS:H	1:L:445:LYS:HG3	1.48	0.46
3:P:462:VAL:O	3:P:509:VAL:N	2.47	0.46
1:E:423:ARG:HA	1:E:442:SER:HB3	1.96	0.46
1:E:467:ARG:NH1	4:U:111:ASP:OD2	2.48	0.46
1:K:464:LEU:HD13	1:K:464:LEU:HA	1.60	0.46
3:P:224:PRO:HG3	3:P:304:ARG:HH12	1.80	0.46
3:P:352:LEU:HD21	3:P:401:PRO:HG2	1.97	0.46
1:E:468:GLU:OE2	4:U:45:ARG:NH1	2.43	0.46
1:F:449:LEU:HA	1:F:481:PRO:HD2	1.97	0.46
1:L:478:GLY:O	1:L:515:TYR:N	2.39	0.46
3:P:38:CYS:HB2	3:P:46:CYS:HB3	1.52	0.46
4:R:45:ARG:HA	4:R:64:THR:OG1	2.16	0.46
4:S:79:LYS:HD3	4:S:80:GLN:N	2.30	0.46
4:U:39:LEU:HD23	4:U:39:LEU:C	2.35	0.46
1:G:363:THR:OG1	1:G:413:ILE:HG13	2.15	0.46
1:K:414:CYS:SG	1:K:415:GLU:N	2.88	0.46
4:S:39:LEU:CD2	4:S:85:ASN:CA	2.94	0.46
1:B:568:MET:HE2	1:K:562:TYR:CE2	2.51	0.46
1:E:535:THR:HG23	1:E:550:ARG:O	2.15	0.46
1:G:382:TRP:CG	1:G:411:ALA:HB2	2.50	0.46
1:H:532:GLU:O	1:H:553:ASP:HB2	2.14	0.46
3:P:365:TYR:CE1	3:P:379:LEU:HD13	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:395:LEU:CB	3:P:410:LEU:HD12	2.41	0.46
4:R:22:GLU:CG	4:R:119:THR:HG22	2.45	0.46
1:A:575:CYS:CB	2:J:7:LEU:HD23	2.46	0.46
1:F:479:PHE:CD1	1:F:479:PHE:N	2.84	0.46
1:F:506:MET:O	1:F:516:PHE:CE2	2.68	0.46
1:G:535:THR:HG22	1:G:551:THR:OG1	2.15	0.46
1:H:571:THR:O	1:H:572:ALA:HB3	2.15	0.46
1:K:484:VAL:HG23	1:K:540:HIS:CG	2.49	0.46
1:L:451:ARG:HH12	1:L:544:PRO:HG3	1.80	0.46
3:P:30:ASN:O	3:P:35:LYS:NZ	2.34	0.46
4:V:36:LYS:HG2	4:V:86:LEU:CD1	2.46	0.46
4:V:47:TYR:HA	4:V:63:SER:HA	1.97	0.46
4:V:86:LEU:HG	4:V:88:LEU:HD22	1.97	0.46
1:B:570:ASP:HB2	1:C:571:THR:HA	1.97	0.46
1:F:413:ILE:HG13	1:F:414:CYS:H	1.80	0.46
1:F:496:SER:OG	1:F:499:LYS:NZ	2.48	0.46
1:F:502:THR:OG1	1:F:519:SER:HB2	2.08	0.46
1:H:352:PRO:HD2	1:H:418:TRP:CH2	2.51	0.46
1:K:574:THR:OG1	1:K:575:CYS:N	2.49	0.46
3:P:344:VAL:HG21	3:P:443:GLU:O	2.16	0.46
1:A:390:VAL:HG13	1:A:391:LYS:N	2.31	0.46
1:B:568:MET:HE3	1:L:564:VAL:HG21	1.98	0.46
1:D:423:ARG:HD3	1:D:440:THR:HG23	1.98	0.46
1:G:372:LEU:HD11	1:G:433:LEU:HB2	1.97	0.46
1:H:554:LYS:CE	1:H:558:LYS:HZ1	2.14	0.46
1:L:457:LEU:HB2	1:L:473:THR:OG1	2.15	0.46
3:P:351:VAL:CG1	3:P:435:VAL:HG11	2.46	0.46
3:P:368:LEU:HB2	3:P:378:PRO:HG3	1.89	0.46
3:P:450:GLY:HA2	3:P:462:VAL:HA	1.97	0.46
4:V:28:GLU:O	4:V:94:LEU:HB3	2.15	0.46
1:D:382:TRP:CZ3	1:D:424:PHE:HB3	2.51	0.46
1:E:443:ARG:HG3	1:E:444:PRO:HD2	1.97	0.46
1:E:481:PRO:HD2	1:E:540:HIS:CE1	2.51	0.46
1:E:509:PRO:HG3	1:F:501:VAL:HG12	1.97	0.46
1:G:443:ARG:C	1:G:443:ARG:CD	2.84	0.46
1:H:554:LYS:NZ	1:H:558:LYS:HZ3	1.90	0.46
1:K:470:ALA:HB3	1:K:523:VAL:HG12	1.97	0.46
1:K:481:PRO:CG	1:K:541:GLU:OE2	2.63	0.46
1:L:506:MET:HB3	1:L:507:PRO:HD2	1.97	0.46
3:P:275:PHE:HB3	3:P:279:ILE:HD12	1.98	0.46
4:R:35:ILE:HB	4:R:89:VAL:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:S:39:LEU:HG	4:S:41:GLU:HG2	1.98	0.46
4:V:72:TYR:HA	4:V:75:ARG:HD3	1.97	0.46
1:D:363:THR:OG1	1:D:413:ILE:O	2.30	0.46
1:H:486:VAL:HG11	1:H:519:SER:OG	2.16	0.46
1:K:516:PHE:CD1	1:K:516:PHE:C	2.88	0.46
1:K:528:TRP:CD1	1:K:528:TRP:O	2.69	0.46
1:L:424:PHE:O	1:L:441:ILE:HG13	2.14	0.46
1:L:543:LEU:HA	1:L:544:PRO:HD3	1.51	0.46
3:P:237:PHE:O	3:P:291:SER:HA	2.16	0.46
3:P:368:LEU:C	3:P:378:PRO:HD3	2.36	0.46
4:S:61:VAL:HG13	4:S:72:TYR:CG	2.51	0.46
1:E:400:HIS:CD2	1:E:402:ASN:H	2.34	0.45
1:F:500:TYR:CD1	1:F:500:TYR:O	2.69	0.45
1:L:540:HIS:CE1	1:L:542:ALA:HB2	2.51	0.45
3:P:271:ARG:HB2	3:P:372:ALA:HB3	1.97	0.45
4:R:46:ILE:HG22	4:R:64:THR:HG22	1.99	0.45
1:A:352:PRO:HD3	1:A:365:LEU:HD23	1.97	0.45
1:B:414:CYS:CB	1:C:414:CYS:HG	2.28	0.45
1:C:555:SER:HA	1:C:558:LYS:HD2	1.96	0.45
1:K:378:VAL:HG23	1:K:380:ILE:HG12	1.97	0.45
1:L:382:TRP:CZ3	1:L:426:CYS:HB2	2.51	0.45
3:P:368:LEU:CB	3:P:378:PRO:HG2	2.43	0.45
4:S:36:LYS:HD3	4:S:86:LEU:HD13	1.98	0.45
4:S:102:TYR:N	4:S:118:VAL:O	2.34	0.45
1:A:356:SER:N	2:J:117:TYR:CZ	2.84	0.45
1:A:400:HIS:HB3	1:A:404:THR:H	1.82	0.45
1:A:476:VAL:O	1:A:516:PHE:HA	2.16	0.45
1:A:516:PHE:CD2	1:A:516:PHE:O	2.69	0.45
1:A:565:SER:HB2	2:J:59:ARG:HA	1.99	0.45
1:B:349:ALA:HB1	1:B:382:TRP:CZ3	2.51	0.45
1:D:363:THR:OG1	1:D:363:THR:O	2.34	0.45
1:E:501:VAL:HG21	1:F:509:PRO:HD3	1.99	0.45
1:F:363:THR:HG23	1:F:415:GLU:HG2	1.97	0.45
1:F:477:THR:HG22	1:F:516:PHE:HB2	1.98	0.45
1:F:481:PRO:HG2	1:F:481:PRO:O	2.16	0.45
1:H:418:TRP:HE3	1:H:443:ARG:HB2	1.80	0.45
1:L:372:LEU:HG	1:L:407:ALA:HB3	1.96	0.45
3:P:94:LEU:HB2	3:P:101:LEU:HD23	1.99	0.45
4:U:41:GLU:C	4:U:43:HIS:N	2.69	0.45
4:V:48:LEU:HD13	4:V:89:VAL:HG11	1.97	0.45
1:E:379:THR:HB	1:E:393:HIS:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:456:LEU:HD11	1:L:488:TRP:CH2	2.52	0.45
1:L:493:GLN:NE2	1:L:494:PRO:O	2.49	0.45
1:L:514:ARG:HH11	1:L:514:ARG:CA	2.30	0.45
1:L:514:ARG:NH1	1:L:514:ARG:HA	2.31	0.45
3:P:491:GLN:O	3:P:507:ARG:NH1	2.49	0.45
1:C:526:GLU:O	1:C:530:THR:HG21	2.15	0.45
1:E:489:MET:CE	1:E:494:PRO:HD3	2.44	0.45
1:F:382:TRP:HB2	1:F:392:THR:HA	1.98	0.45
1:F:438:LYS:HE2	1:F:438:LYS:HB2	1.36	0.45
1:H:454:VAL:CG2	1:H:538:VAL:HG21	2.47	0.45
4:S:47:TYR:CZ	4:S:110:THR:HA	2.51	0.45
4:U:94:LEU:C	4:U:96:GLU:N	2.69	0.45
4:V:112:ARG:CZ	4:V:112:ARG:CB	2.94	0.45
1:A:378:VAL:HG12	1:A:393:HIS:NE2	2.32	0.45
1:C:566:LEU:HD22	1:H:564:VAL:HG21	1.99	0.45
1:F:420:SER:HB2	1:F:421:GLY:H	1.50	0.45
1:G:365:LEU:HB2	1:G:411:ALA:HB3	1.98	0.45
1:G:490:GLN:NE2	1:G:532:GLU:OE2	2.30	0.45
1:H:383:THR:HA	1:H:390:VAL:HG23	1.99	0.45
1:K:516:PHE:CE2	1:L:520:ILE:HD11	2.46	0.45
3:P:136:PHE:O	3:P:136:PHE:CD2	2.70	0.45
3:P:413:LEU:H	3:P:413:LEU:CD2	2.07	0.45
1:A:485:PHE:CD2	1:A:485:PHE:O	2.70	0.45
1:A:510:GLN:H	1:A:510:GLN:HE21	1.63	0.45
1:B:528:TRP:O	1:B:528:TRP:CG	2.69	0.45
1:F:365:LEU:HD23	1:F:365:LEU:HA	1.84	0.45
1:G:481:PRO:HD2	1:G:540:HIS:HE1	1.81	0.45
1:K:485:PHE:O	1:K:485:PHE:CD1	2.70	0.45
1:L:372:LEU:HB2	1:L:405:PHE:O	2.17	0.45
3:P:272:ALA:HA	3:P:273:PRO:HD3	1.57	0.45
3:P:382:ASP:OD1	3:P:386:TRP:N	2.48	0.45
1:B:345:ILE:HG22	1:B:372:LEU:HD13	1.98	0.45
1:B:365:LEU:HB3	1:B:382:TRP:NE1	2.31	0.45
1:D:416:ASP:OD2	1:D:417:ASP:N	2.50	0.45
1:F:449:LEU:CA	1:F:480:SER:CB	2.93	0.45
1:F:523:VAL:HG11	1:F:534:TYR:OH	2.16	0.45
1:F:543:LEU:CD2	1:F:548:THR:CG2	2.94	0.45
1:K:468:GLU:HA	4:R:67:PHE:CE2	2.51	0.45
3:P:290:PHE:CD1	3:P:290:PHE:O	2.69	0.45
1:D:421:GLY:CA	1:D:445:LYS:HZ2	2.12	0.45
1:D:495:LEU:HD22	1:D:495:LEU:HA	1.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:560:THR:CB	1:K:560:THR:O	2.65	0.45
3:P:448:VAL:HG23	3:P:463:PRO:HG3	1.99	0.45
4:R:35:ILE:O	4:R:88:LEU:HA	2.17	0.45
1:A:500:TYR:HA	1:A:520:ILE:O	2.17	0.45
1:E:384:ARG:HD3	1:E:388:GLU:HB3	1.99	0.45
1:E:543:LEU:HD13	1:E:548:THR:OG1	2.15	0.45
1:F:536:CYS:O	1:F:549:GLU:HB2	2.17	0.45
1:K:485:PHE:O	1:K:485:PHE:CG	2.69	0.45
3:P:99:ARG:HA	3:P:99:ARG:HD3	1.58	0.45
3:P:173:ILE:HD13	3:P:189:ILE:HB	1.99	0.45
3:P:243:PRO:O	3:P:246:ALA:N	2.50	0.45
3:P:345:ALA:CA	3:P:413:LEU:CD1	2.74	0.45
4:V:36:LYS:HG2	4:V:86:LEU:HD11	1.98	0.45
1:B:500:TYR:HA	1:B:520:ILE:O	2.17	0.44
1:C:384:ARG:HG3	1:C:385:GLN:N	2.32	0.44
1:C:568:MET:CE	1:K:564:VAL:HG21	2.47	0.44
1:G:372:LEU:HD21	1:G:433:LEU:HD12	1.97	0.44
1:G:480:SER:OG	1:G:481:PRO:HD3	2.16	0.44
1:K:566:LEU:HD23	1:K:566:LEU:C	2.37	0.44
3:P:127:GLY:HA2	3:P:191:GLN:HA	1.99	0.44
3:P:149:LYS:HG2	3:P:200:TYR:CE1	2.52	0.44
3:P:526:CYS:HB3	3:P:538:ALA:CB	2.45	0.44
1:B:451:ARG:HB2	1:B:451:ARG:CZ	2.45	0.44
1:B:528:TRP:O	1:B:528:TRP:CD2	2.70	0.44
1:C:509:PRO:HG2	1:D:522:THR:HG21	1.98	0.44
1:F:471:THR:CG2	1:F:522:THR:HG23	2.47	0.44
1:G:363:THR:OG1	1:G:414:CYS:O	2.29	0.44
2:J:117:TYR:CG	2:J:117:TYR:O	2.69	0.44
3:P:149:LYS:HD2	3:P:151:ILE:HG21	1.99	0.44
3:P:310:HIS:O	3:P:310:HIS:CG	2.70	0.44
4:R:20:LEU:CD2	4:R:20:LEU:C	2.86	0.44
4:U:47:TYR:CE2	4:U:110:THR:HG23	2.53	0.44
1:A:514:ARG:CD	1:A:514:ARG:N	2.78	0.44
1:A:528:TRP:O	1:A:528:TRP:CG	2.70	0.44
1:B:461:ARG:NE	1:L:570:ASP:OD2	2.51	0.44
1:D:423:ARG:HH11	1:D:425:THR:HB	1.83	0.44
1:E:540:HIS:CD2	1:E:542:ALA:H	2.34	0.44
1:G:506:MET:HE2	1:G:516:PHE:CE2	2.51	0.44
1:H:573:GLY:O	1:H:574:THR:C	2.56	0.44
1:K:476:VAL:HG12	1:K:479:PHE:CD1	2.53	0.44
3:P:151:ILE:HD12	3:P:152:GLY:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:361:LYS:C	3:P:361:LYS:CD	2.85	0.44
3:P:439:ILE:CD1	3:P:439:ILE:H	2.22	0.44
4:V:104:CYS:HB2	4:V:116:GLN:HB3	1.98	0.44
1:A:372:LEU:HD21	1:A:405:PHE:HD2	1.83	0.44
1:A:386:ASN:OD1	1:A:388:GLU:HG2	2.17	0.44
1:D:452:PRO:HG3	1:D:479:PHE:HB3	1.97	0.44
1:E:417:ASP:HB3	1:E:424:PHE:CZ	2.52	0.44
1:F:456:LEU:HD13	1:F:550:ARG:HB2	1.99	0.44
1:H:367:CYS:HB2	1:H:380:ILE:HG13	1.99	0.44
1:K:345:ILE:HG22	1:K:372:LEU:HD21	1.98	0.44
1:K:428:VAL:HG12	1:K:430:HIS:HB2	2.00	0.44
1:L:511:ALA:O	1:L:514:ARG:HG3	2.16	0.44
3:P:31:ARG:HD2	3:P:70:PRO:HB3	1.98	0.44
3:P:287:ASP:HB2	3:P:288:GLY:H	1.47	0.44
3:P:368:LEU:CB	3:P:378:PRO:HD2	2.43	0.44
3:P:411:ASN:HD22	3:P:537:THR:HG21	1.83	0.44
3:P:418:ALA:N	3:P:439:ILE:HD11	2.31	0.44
4:S:99:SER:HB2	4:S:120:LEU:HB3	1.98	0.44
4:U:22:GLU:HB2	4:U:119:THR:CA	2.47	0.44
1:C:454:VAL:CG1	1:C:474:CYS:SG	3.05	0.44
1:C:459:PRO:HG3	1:C:470:ALA:HB1	2.00	0.44
1:D:350:ILE:HB	1:D:366:THR:OG1	2.17	0.44
1:E:391:LYS:HG3	1:E:412:SER:H	1.82	0.44
1:G:347:VAL:HG22	1:G:369:VAL:HG13	1.99	0.44
1:H:575:CYS:HB2	1:K:575:CYS:HB3	1.61	0.44
3:P:471:SER:HA	3:P:475:LYS:NZ	2.22	0.44
4:S:97:SER:O	4:S:97:SER:OG	2.29	0.44
1:B:421:GLY:H	1:B:443:ARG:NH2	2.11	0.44
1:C:371:ASP:N	1:C:404:THR:HG23	2.29	0.44
1:C:447:VAL:HG11	1:C:481:PRO:HB3	1.99	0.44
1:F:491:ARG:HE	1:F:491:ARG:HB2	1.58	0.44
1:F:554:LYS:C	1:F:554:LYS:CD	2.85	0.44
1:K:493:GLN:HG3	4:S:44:VAL:HG22	2.00	0.44
1:B:393:HIS:CG	1:B:409:GLY:HA3	2.53	0.44
1:F:501:VAL:O	1:F:501:VAL:HG22	2.17	0.44
4:S:28:GLU:O	4:S:94:LEU:HG	2.18	0.44
4:V:112:ARG:NH1	4:V:112:ARG:HB2	2.33	0.44
1:C:346:ARG:HH21	1:C:348:PHE:HB2	1.82	0.44
1:D:447:VAL:O	1:D:447:VAL:HG22	2.18	0.44
1:E:511:ALA:HB1	1:E:514:ARG:CG	2.39	0.44
1:F:365:LEU:HG	1:F:413:ILE:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:562:TYR:H	1:H:562:TYR:HD2	1.64	0.44
1:K:462:GLU:HB3	1:L:455:TYR:HE1	1.83	0.44
3:P:286:LYS:C	3:P:286:LYS:CD	2.85	0.44
4:V:41:GLU:OE1	4:V:82:PRO:HB3	2.18	0.44
1:A:390:VAL:O	1:A:391:LYS:HD2	2.18	0.44
1:B:426:CYS:O	1:B:438:LYS:HA	2.18	0.44
1:F:385:GLN:HG2	1:F:422:GLU:HB2	1.99	0.44
1:B:352:PRO:HG2	1:B:418:TRP:CZ2	2.53	0.43
1:D:345:ILE:HB	1:D:372:LEU:HD13	2.00	0.43
1:H:558:LYS:HA	1:H:559:PRO:HD3	1.79	0.43
1:K:385:GLN:HE21	1:K:423:ARG:H	1.66	0.43
3:P:47:ILE:HG13	3:P:47:ILE:O	2.17	0.43
4:R:36:LYS:O	4:R:116:GLN:HG3	2.18	0.43
4:R:46:ILE:N	4:R:64:THR:CG2	2.57	0.43
1:B:478:GLY:O	1:B:514:ARG:HG2	2.14	0.43
1:B:481:PRO:CD	1:B:540:HIS:NE2	2.72	0.43
1:E:382:TRP:CD2	1:E:411:ALA:HB2	2.53	0.43
1:F:364:LYS:HB3	1:F:364:LYS:HE3	1.80	0.43
4:S:19:ILE:HG22	4:S:21:PRO:HD3	2.00	0.43
4:V:49:CYS:HB3	4:V:103:ALA:HB3	2.00	0.43
1:A:514:ARG:NH1	1:A:514:ARG:CG	2.77	0.43
1:B:396:ILE:H	1:B:396:ILE:HG13	1.38	0.43
1:F:424:PHE:O	1:F:440:THR:HA	2.18	0.43
1:G:450:HIS:ND1	1:G:450:HIS:N	2.66	0.43
1:K:374:THR:HA	1:K:405:PHE:HB2	1.99	0.43
1:K:380:ILE:CG2	1:K:409:GLY:HA2	2.49	0.43
1:G:516:PHE:CZ	1:H:520:ILE:HD12	2.54	0.43
1:L:487:GLN:C	1:L:537:VAL:HG12	2.37	0.43
3:P:149:LYS:H	3:P:155:PRO:HB3	1.84	0.43
3:P:243:PRO:C	3:P:246:ALA:HB2	2.39	0.43
4:R:50:ARG:HG2	4:R:50:ARG:HH11	1.82	0.43
1:A:352:PRO:HD2	1:A:418:TRP:CH2	2.53	0.43
1:A:499:LYS:HB3	1:A:521:LEU:HD12	2.01	0.43
1:C:508:GLU:CB	1:C:509:PRO:CD	2.90	0.43
1:C:562:TYR:CD2	1:H:568:MET:HE2	2.54	0.43
1:E:354:PHE:HD1	1:E:357:ILE:HD11	1.84	0.43
1:F:390:VAL:HB	1:F:391:LYS:H	1.72	0.43
1:F:402:ASN:HD22	1:F:402:ASN:HA	1.49	0.43
1:F:450:HIS:HE2	1:F:514:ARG:NH1	1.99	0.43
1:H:457:LEU:HB2	1:H:473:THR:OG1	2.19	0.43
1:K:490:GLN:OE1	1:K:491:ARG:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:569:SER:HB3	1:L:572:ALA:HB2	1.99	0.43
3:P:345:ALA:O	3:P:413:LEU:CD1	2.46	0.43
4:R:22:GLU:HA	4:R:117:LYS:C	2.35	0.43
4:R:52:MET:CE	4:R:69:LYS:NZ	2.81	0.43
1:A:456:LEU:HD12	1:A:550:ARG:O	2.15	0.43
1:B:443:ARG:CG	1:B:443:ARG:NH1	2.73	0.43
1:E:534:TYR:CD2	1:E:534:TYR:N	2.85	0.43
1:L:430:HIS:CE1	1:L:432:ASP:CB	3.01	0.43
3:P:477:TRP:CD1	3:P:526:CYS:HB2	2.52	0.43
1:A:374:THR:HG22	1:A:405:PHE:HB2	2.01	0.43
1:A:467:ARG:HE	1:A:467:ARG:HB2	1.38	0.43
1:B:400:HIS:CE1	1:B:404:THR:HG22	2.53	0.43
1:D:451:ARG:HH12	1:D:544:PRO:HD3	1.83	0.43
6:H:601:NAG:C6	6:K:601:NAG:H61	2.37	0.43
2:J:32:ILE:HG23	1:L:560:THR:HB	2.00	0.43
2:J:46:ARG:HD2	2:J:54:SER:O	2.19	0.43
1:K:405:PHE:CE2	1:K:407:ALA:HB2	2.53	0.43
1:K:521:LEU:C	1:K:521:LEU:CD2	2.85	0.43
1:L:450:HIS:CA	1:L:480:SER:HB2	2.40	0.43
3:P:253:CYS:SG	3:P:315:LEU:CB	2.99	0.43
1:B:384:ARG:HG2	1:B:386:ASN:H	1.83	0.43
1:B:454:VAL:HG22	1:B:454:VAL:O	2.18	0.43
1:B:496:SER:CB	1:B:497:PRO:HD2	2.42	0.43
1:B:549:GLU:O	1:B:550:ARG:NH1	2.42	0.43
1:D:380:ILE:HD12	1:D:393:HIS:CG	2.54	0.43
1:D:384:ARG:HD3	1:D:390:VAL:HG22	2.01	0.43
1:F:447:VAL:HG21	1:F:481:PRO:HB3	2.01	0.43
1:G:353:SER:O	1:G:357:ILE:HG12	2.18	0.43
3:P:148:TYR:HB3	3:P:155:PRO:HB3	2.01	0.43
3:P:150:GLN:OE1	3:P:201:LEU:HD23	2.18	0.43
3:P:466:PHE:CE2	3:P:475:LYS:HB3	2.53	0.43
1:B:418:TRP:HE3	1:B:419:ASN:HB2	1.83	0.43
1:B:552:VAL:HG23	1:B:556:THR:HG21	2.00	0.43
1:C:450:HIS:ND1	1:C:450:HIS:N	2.67	0.43
1:D:485:PHE:HB3	1:D:539:ALA:HB3	2.00	0.43
1:F:382:TRP:HZ3	1:F:424:PHE:O	2.02	0.43
1:F:535:THR:CG2	1:F:551:THR:HG21	2.30	0.43
1:H:520:ILE:HG21	1:H:520:ILE:HD13	1.59	0.43
3:P:128:ARG:HD3	3:P:128:ARG:HA	1.77	0.43
3:P:410:LEU:HD12	3:P:410:LEU:HA	1.88	0.43
3:P:480:TRP:O	3:P:480:TRP:CE3	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:526:GLU:O	1:A:530:THR:N	2.52	0.43
1:C:451:ARG:O	1:C:451:ARG:HG3	2.19	0.43
1:E:400:HIS:CG	1:E:401:PRO:HD2	2.54	0.43
1:F:529:ASN:OD1	1:F:530:THR:N	2.52	0.43
1:G:347:VAL:HG22	1:G:369:VAL:HA	2.00	0.43
1:K:455:TYR:CZ	1:L:463:GLN:HB3	2.54	0.43
3:P:298:ARG:NH2	3:P:300:GLU:OE2	2.52	0.43
1:B:530:THR:O	1:B:530:THR:CG2	2.67	0.42
1:E:526:GLU:HG2	1:E:527:GLU:OE1	2.19	0.42
1:F:355:ALA:HA	1:F:485:PHE:HB2	2.00	0.42
1:K:450:HIS:CE1	1:K:514:ARG:NH1	2.87	0.42
1:L:550:ARG:HD3	1:L:550:ARG:HA	1.61	0.42
3:P:290:PHE:H	3:P:290:PHE:HD1	1.66	0.42
4:R:45:ARG:HD3	4:R:108:MET:HE2	2.01	0.42
4:R:46:ILE:CG2	4:R:64:THR:CG2	2.96	0.42
1:A:496:SER:O	1:A:496:SER:OG	2.28	0.42
1:B:450:HIS:C	1:B:542:ALA:HB1	2.39	0.42
1:C:466:LEU:CD2	4:V:45:ARG:NH2	2.82	0.42
1:E:395:ASN:HB3	1:E:408:VAL:HB	2.00	0.42
1:F:524:SER:OG	1:F:527:GLU:CD	2.58	0.42
1:F:543:LEU:HD21	1:F:548:THR:HG21	1.99	0.42
1:H:448:ALA:HB3	1:H:480:SER:OG	2.19	0.42
2:J:21:ILE:HG13	1:L:555:SER:CB	2.48	0.42
1:K:429:THR:HA	1:K:436:PRO:HB3	2.01	0.42
1:K:475:LEU:O	1:K:475:LEU:HG	2.19	0.42
1:K:554:LYS:HB3	1:K:554:LYS:HE3	1.81	0.42
4:U:28:GLU:HG3	4:U:30:GLY:H	1.84	0.42
1:B:452:PRO:HG2	1:B:452:PRO:O	2.19	0.42
1:B:478:GLY:HA2	1:B:514:ARG:HG2	2.00	0.42
1:E:457:LEU:HB2	1:E:473:THR:HG23	2.02	0.42
3:P:334:ILE:HG23	3:P:431:TRP:CE3	2.54	0.42
1:B:414:CYS:SG	1:B:415:GLU:N	2.92	0.42
1:C:347:VAL:HG22	1:C:369:VAL:HG23	2.01	0.42
1:E:474:CYS:HB2	1:E:488:TRP:CZ2	2.54	0.42
1:E:543:LEU:HD23	1:E:543:LEU:HA	1.61	0.42
1:F:449:LEU:H	1:F:449:LEU:CD2	2.30	0.42
1:H:445:LYS:HE2	1:H:445:LYS:HB3	1.56	0.42
1:H:481:PRO:HD2	1:H:540:HIS:CE1	2.55	0.42
1:H:516:PHE:CD2	1:H:516:PHE:C	2.93	0.42
3:P:530:GLN:NE2	3:P:530:GLN:C	2.73	0.42
4:R:48:LEU:HD22	4:R:89:VAL:HG21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:520:ILE:HD12	1:B:516:PHE:CE2	2.54	0.42
1:B:418:TRP:HB3	1:B:419:ASN:H	1.48	0.42
1:B:540:HIS:O	1:B:543:LEU:HB2	2.19	0.42
1:C:459:PRO:HD2	1:C:528:TRP:CZ2	2.54	0.42
1:D:508:GLU:HB3	1:D:514:ARG:O	2.19	0.42
1:G:413:ILE:HD13	1:G:424:PHE:CZ	2.54	0.42
1:G:561:LEU:HA	1:G:561:LEU:HD23	1.76	0.42
2:J:107:LYS:HB3	2:J:107:LYS:HE3	1.54	0.42
1:K:479:PHE:CD2	1:K:482:ALA:HA	2.55	0.42
1:L:476:VAL:O	1:L:516:PHE:HA	2.20	0.42
3:P:357:ARG:HG2	3:P:404:GLY:HA3	2.01	0.42
3:P:447:LYS:HD3	3:P:447:LYS:HA	1.37	0.42
4:S:19:ILE:HG22	4:S:21:PRO:CD	2.49	0.42
4:S:39:LEU:HD23	4:S:85:ASN:CA	2.49	0.42
4:S:39:LEU:HD23	4:S:85:ASN:C	2.39	0.42
1:A:375:TYR:HD2	1:A:430:HIS:CE1	2.38	0.42
1:A:375:TYR:HB2	1:A:430:HIS:NE2	2.35	0.42
1:A:511:ALA:HA	1:A:512:PRO:HD2	1.59	0.42
1:A:532:GLU:O	1:A:553:ASP:CB	2.67	0.42
1:B:466:LEU:O	3:P:34:ARG:NH1	2.51	0.42
1:C:400:HIS:CG	1:C:401:PRO:HD2	2.54	0.42
1:D:423:ARG:HA	1:D:442:SER:HB2	2.02	0.42
1:D:429:THR:OG1	1:D:433:LEU:O	2.38	0.42
1:F:449:LEU:N	1:F:481:PRO:HD3	2.34	0.42
1:F:506:MET:O	1:F:516:PHE:CD2	2.73	0.42
1:H:415:GLU:O	1:H:418:TRP:HB2	2.20	0.42
1:H:536:CYS:O	1:H:536:CYS:SG	2.77	0.42
1:H:558:LYS:HB2	1:K:559:PRO:HG2	2.00	0.42
1:K:518:HIS:CE1	1:L:518:HIS:CG	3.08	0.42
3:P:377:CYS:O	3:P:377:CYS:SG	2.78	0.42
3:P:395:LEU:CD1	3:P:410:LEU:HD12	2.35	0.42
3:P:462:VAL:HB	3:P:509:VAL:C	2.38	0.42
1:K:464:LEU:CD1	1:K:525:GLU:CG	2.97	0.42
1:L:474:CYS:HB2	1:L:488:TRP:CZ2	2.55	0.42
3:P:264:VAL:HG22	3:P:275:PHE:CE2	2.49	0.42
3:P:471:SER:HB2	3:P:475:LYS:HZ3	1.83	0.42
4:R:111:ASP:O	4:R:114:LYS:HE2	2.15	0.42
4:R:116:GLN:NE2	4:R:116:GLN:C	2.73	0.42
4:U:61:VAL:HG12	4:U:69:LYS:HD2	2.02	0.42
1:B:479:PHE:CD1	1:B:479:PHE:N	2.86	0.42
1:B:543:LEU:HA	1:B:543:LEU:HD23	1.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:370:THR:HG22	1:E:371:ASP:N	2.35	0.42
1:H:384:ARG:HE	1:H:390:VAL:CG2	2.31	0.42
1:K:405:PHE:HE2	1:K:407:ALA:HB2	1.85	0.42
1:K:476:VAL:O	1:K:479:PHE:HE1	2.02	0.42
1:K:489:MET:HE2	1:K:489:MET:HB2	1.75	0.42
1:L:400:HIS:HE1	1:L:405:PHE:HA	1.82	0.42
1:L:445:LYS:HB2	1:L:445:LYS:HE2	1.70	0.42
3:P:526:CYS:CA	3:P:538:ALA:HB3	2.50	0.42
4:U:37:CYS:CB	4:U:87:PHE:O	2.68	0.42
1:B:376:ASP:HB2	1:B:377:SER:H	1.61	0.42
1:B:568:MET:HB3	1:C:568:MET:HG2	2.02	0.42
1:C:466:LEU:HD23	4:V:45:ARG:NH2	2.34	0.42
1:E:515:TYR:CD1	1:E:515:TYR:N	2.83	0.42
1:F:461:ARG:HD3	1:F:461:ARG:HA	1.79	0.42
1:H:529:ASN:C	1:H:531:GLY:N	2.73	0.42
1:K:400:HIS:HB3	1:K:404:THR:O	2.20	0.42
3:P:412:GLN:NE2	3:P:412:GLN:C	2.73	0.42
4:V:86:LEU:HD12	4:V:87:PHE:N	2.35	0.42
1:A:484:VAL:O	1:A:484:VAL:HG13	2.16	0.42
1:A:486:VAL:HG22	1:A:538:VAL:HG12	2.02	0.42
1:A:496:SER:HA	1:A:497:PRO:HD3	1.75	0.42
1:A:543:LEU:HD23	1:A:544:PRO:HD2	2.02	0.42
1:B:500:TYR:CD1	1:B:500:TYR:N	2.86	0.42
1:C:461:ARG:NH1	1:C:465:ASN:CG	2.69	0.42
1:F:523:VAL:HB	1:F:524:SER:H	1.41	0.42
1:H:423:ARG:HH11	1:H:425:THR:HB	1.85	0.42
1:L:372:LEU:HD23	1:L:407:ALA:H	1.85	0.42
1:B:445:LYS:CA	1:B:445:LYS:NZ	2.82	0.41
1:C:454:VAL:CG2	1:C:538:VAL:CG2	2.98	0.41
1:F:536:CYS:O	1:F:549:GLU:HA	2.20	0.41
1:H:427:THR:OG1	1:H:436:PRO:HB3	2.20	0.41
1:K:369:VAL:O	1:K:406:SER:HA	2.21	0.41
3:P:148:TYR:CE2	3:P:203:GLN:HG2	2.55	0.41
4:S:49:CYS:HB2	4:S:103:ALA:HB3	2.01	0.41
4:U:104:CYS:O	4:U:115:THR:N	2.33	0.41
1:A:382:TRP:CD1	1:A:411:ALA:HB2	2.54	0.41
1:C:568:MET:HE1	1:K:564:VAL:HG21	2.01	0.41
1:G:365:LEU:HG	1:G:424:PHE:CD2	2.55	0.41
4:U:81:TYR:OH	4:U:88:LEU:HD12	2.20	0.41
4:V:75:ARG:O	4:V:92:THR:N	2.53	0.41
1:A:379:THR:H	1:A:429:THR:HB	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:495:LEU:CD1	1:A:521:LEU:HD11	2.50	0.41
1:B:384:ARG:HG3	1:B:424:PHE:CZ	2.55	0.41
1:B:525:GLU:O	1:B:525:GLU:CG	2.68	0.41
1:C:423:ARG:HE	1:C:442:SER:CB	2.33	0.41
1:C:462:GLU:O	1:C:465:ASN:HB2	2.20	0.41
1:C:467:ARG:N	1:C:467:ARG:CD	2.72	0.41
1:G:489:MET:SD	1:G:537:VAL:HG21	2.60	0.41
4:V:33:VAL:HG22	4:V:91:VAL:HB	2.01	0.41
1:B:483:ASP:O	1:B:540:HIS:HD2	2.03	0.41
1:D:533:THR:HA	1:D:552:VAL:O	2.21	0.41
1:E:370:THR:HG22	1:E:371:ASP:H	1.86	0.41
1:E:467:ARG:O	4:U:60:THR:HB	2.20	0.41
1:E:481:PRO:HD2	1:E:540:HIS:NE2	2.35	0.41
1:E:532:GLU:HB3	1:E:534:TYR:CE2	2.56	0.41
1:G:439:GLN:HG3	1:G:441:ILE:HG23	2.01	0.41
2:J:31:ASP:HB2	1:L:554:LYS:HZ3	1.84	0.41
2:J:104:ASP:HB3	2:J:107:LYS:HB2	2.03	0.41
1:L:354:PHE:CG	1:L:541:GLU:HB3	2.55	0.41
1:L:400:HIS:CD2	1:L:402:ASN:HB2	2.55	0.41
1:L:528:TRP:CH2	1:L:554:LYS:HA	2.55	0.41
1:L:556:THR:O	1:L:556:THR:CG2	2.69	0.41
3:P:25:PRO:HB3	3:P:329:ASN:HD21	1.86	0.41
3:P:479:LYS:CE	3:P:524:TYR:HE1	2.34	0.41
4:S:39:LEU:CD2	4:S:41:GLU:HG2	2.51	0.41
1:C:466:LEU:CD2	1:C:466:LEU:O	2.69	0.41
1:E:421:GLY:N	1:E:445:LYS:HE2	2.35	0.41
1:F:449:LEU:CA	1:F:481:PRO:HD3	2.44	0.41
1:F:546:ARG:NH1	1:F:546:ARG:HG2	2.35	0.41
1:G:432:ASP:OD1	1:G:433:LEU:N	2.53	0.41
1:K:558:LYS:HA	1:K:559:PRO:HD3	1.87	0.41
1:L:348:PHE:HB3	1:L:368:LEU:HB2	2.02	0.41
1:L:393:HIS:ND1	1:L:396:ILE:HD13	2.36	0.41
3:P:315:LEU:CG	3:P:315:LEU:O	2.69	0.41
3:P:388:LYS:HD2	3:P:388:LYS:HA	1.61	0.41
4:R:48:LEU:HD22	4:R:89:VAL:HG11	2.02	0.41
1:A:490:GLN:HB2	1:A:534:TYR:HE1	1.85	0.41
1:C:397:SER:H	1:C:408:VAL:HG22	1.85	0.41
1:C:509:PRO:HG2	1:D:522:THR:CG2	2.50	0.41
1:D:514:ARG:N	1:D:514:ARG:CD	2.77	0.41
1:D:535:THR:O	1:D:535:THR:OG1	2.33	0.41
1:F:348:PHE:N	1:F:369:VAL:HG13	2.29	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:484:VAL:O	1:F:484:VAL:HG13	2.18	0.41
1:H:352:PRO:HD2	1:H:418:TRP:HH2	1.84	0.41
1:H:572:ALA:C	1:H:574:THR:H	2.23	0.41
1:K:450:HIS:HB3	1:K:514:ARG:NH2	2.36	0.41
1:L:488:TRP:CE2	1:L:536:CYS:HB2	2.55	0.41
1:L:532:GLU:O	1:L:534:TYR:CE2	2.74	0.41
3:P:131:THR:HG22	3:P:188:VAL:N	2.36	0.41
3:P:295:THR:CG2	3:P:432:ARG:HB2	2.49	0.41
3:P:340:VAL:HG11	3:P:436:GLU:OE1	2.20	0.41
4:U:109:ASN:HD22	4:U:112:ARG:NH2	2.19	0.41
1:A:525:GLU:O	1:A:529:ASN:N	2.54	0.41
1:B:495:LEU:HA	1:B:495:LEU:HD23	1.60	0.41
1:D:449:LEU:H	1:D:449:LEU:HG	1.44	0.41
1:D:539:ALA:HA	1:D:546:ARG:O	2.20	0.41
1:E:450:HIS:HB3	1:E:514:ARG:HH21	1.85	0.41
1:F:368:LEU:HD12	1:F:408:VAL:HA	2.03	0.41
1:F:545:ASN:ND2	1:F:545:ASN:H	2.19	0.41
1:G:443:ARG:NE	1:G:443:ARG:C	2.73	0.41
1:H:489:MET:SD	1:H:537:VAL:HG11	2.61	0.41
1:K:509:PRO:O	1:L:498:GLU:OE2	2.39	0.41
1:L:362:SER:OG	1:L:363:THR:N	2.53	0.41
1:L:485:PHE:CE2	1:L:487:GLN:HB2	2.56	0.41
3:P:148:TYR:HB3	3:P:155:PRO:CG	2.51	0.41
3:P:245:VAL:CG2	3:P:309:ALA:HB3	2.51	0.41
3:P:466:PHE:CD2	3:P:507:ARG:HG2	2.55	0.41
1:A:548:THR:OG1	1:A:549:GLU:N	2.54	0.41
1:B:545:ASN:HD21	1:C:547:VAL:HG21	1.85	0.41
1:C:400:HIS:ND1	1:C:401:PRO:HD2	2.35	0.41
1:D:367:CYS:SG	1:D:382:TRP:NE1	2.93	0.41
1:F:481:PRO:O	1:F:540:HIS:HE1	2.04	0.41
1:G:455:TYR:CZ	1:H:463:GLN:HG3	2.56	0.41
1:L:354:PHE:HD2	1:L:546:ARG:NH2	2.16	0.41
3:P:25:PRO:HA	3:P:26:PRO:HD3	1.89	0.41
1:A:454:VAL:HG21	1:A:538:VAL:HG21	2.02	0.41
1:A:510:GLN:CD	1:A:510:GLN:N	2.73	0.41
1:A:552:VAL:O	1:A:552:VAL:CG1	2.69	0.41
1:B:568:MET:CE	1:L:564:VAL:HG21	2.51	0.41
1:C:484:VAL:O	1:C:484:VAL:CG1	2.69	0.41
1:C:564:VAL:H	1:C:564:VAL:HG23	1.56	0.41
1:D:536:CYS:O	1:D:536:CYS:SG	2.78	0.41
1:F:415:GLU:O	1:F:416:ASP:C	2.59	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:365:LEU:HD11	1:G:418:TRP:CZ3	2.55	0.41
1:K:463:GLN:HA	1:L:455:TYR:OH	2.21	0.41
1:K:564:VAL:H	1:K:564:VAL:HG23	1.59	0.41
1:L:454:VAL:HG13	1:L:550:ARG:HB2	2.02	0.41
1:L:459:PRO:HD3	1:L:472:ILE:HG12	2.02	0.41
3:P:140:ASN:ND2	3:P:143:LYS:HB2	2.35	0.41
3:P:239:CYS:HB2	3:P:290:PHE:HE1	1.86	0.41
3:P:462:VAL:CG1	3:P:509:VAL:HB	2.51	0.41
3:P:480:TRP:HH2	3:P:482:ASN:HB3	1.82	0.41
4:R:24:LYS:HD3	4:R:119:THR:HG23	2.03	0.41
4:V:22:GLU:HB2	4:V:119:THR:H	1.85	0.41
1:A:573:GLY:O	1:A:574:THR:C	2.59	0.41
1:B:456:LEU:HG	1:B:552:VAL:HB	2.02	0.41
1:C:532:GLU:OE2	1:C:532:GLU:HA	2.21	0.41
1:D:369:VAL:HG13	1:D:405:PHE:CD2	2.56	0.41
1:F:381:SER:O	1:F:426:CYS:HA	2.21	0.41
1:K:352:PRO:HG2	1:K:363:THR:HG23	2.02	0.41
1:K:430:HIS:HD2	1:K:433:LEU:H	1.69	0.41
1:L:511:ALA:HB1	1:L:514:ARG:NE	2.36	0.41
3:P:340:VAL:HG12	3:P:436:GLU:CA	2.51	0.41
4:V:69:LYS:O	4:V:73:LYS:HG2	2.21	0.41
4:V:112:ARG:HB2	4:V:112:ARG:HH11	1.85	0.41
1:A:502:THR:CB	1:A:519:SER:HB2	2.33	0.40
1:C:354:PHE:HD1	1:C:357:ILE:HD12	1.85	0.40
1:C:428:VAL:O	1:C:436:PRO:HA	2.21	0.40
1:D:382:TRP:HZ3	1:D:424:PHE:HB3	1.86	0.40
1:D:415:GLU:O	1:D:419:ASN:ND2	2.34	0.40
1:F:476:VAL:O	1:F:516:PHE:HA	2.21	0.40
1:F:523:VAL:HG12	1:F:534:TYR:OH	2.21	0.40
1:H:508:GLU:HB3	1:H:511:ALA:HB3	2.03	0.40
1:L:367:CYS:O	1:L:369:VAL:HG23	2.21	0.40
3:P:172:ARG:HD2	3:P:190:ASN:O	2.21	0.40
3:P:278:ARG:CA	3:P:422:TRP:HZ2	2.34	0.40
4:V:58:CYS:SG	4:V:110:THR:HG22	2.61	0.40
1:A:441:ILE:HD12	1:A:441:ILE:HA	1.90	0.40
1:A:500:TYR:CD2	1:A:500:TYR:C	2.94	0.40
1:B:456:LEU:HD11	1:B:472:ILE:HG22	2.03	0.40
1:B:510:GLN:OE1	1:B:510:GLN:CA	2.69	0.40
1:C:526:GLU:CD	1:C:526:GLU:N	2.73	0.40
1:F:438:LYS:H	1:F:438:LYS:HG3	1.72	0.40
1:F:523:VAL:HG11	1:F:534:TYR:CE2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:408:VAL:HG13	1:H:408:VAL:O	2.21	0.40
1:K:506:MET:HB2	1:K:516:PHE:HE1	1.85	0.40
1:A:390:VAL:HG13	1:A:391:LYS:H	1.86	0.40
1:A:452:PRO:HG3	1:A:479:PHE:HB3	2.02	0.40
1:A:489:MET:HE2	1:A:537:VAL:HG21	2.02	0.40
1:A:545:ASN:O	1:A:547:VAL:N	2.52	0.40
1:B:389:ALA:C	1:B:391:LYS:H	2.21	0.40
1:D:493:GLN:N	1:D:493:GLN:CD	2.71	0.40
1:E:543:LEU:HA	1:E:544:PRO:HD3	1.84	0.40
3:P:11:ASN:HA	3:P:108:GLU:O	2.21	0.40
4:R:20:LEU:HD23	4:R:117:LYS:HG2	1.92	0.40
1:C:510:GLN:OE1	1:C:510:GLN:CA	2.70	0.40
1:F:476:VAL:HG12	1:F:479:PHE:CE1	2.56	0.40
1:H:349:ALA:HA	1:H:366:THR:O	2.22	0.40
1:H:567:VAL:HG21	1:H:576:TYR:OH	2.21	0.40
1:K:385:GLN:NE2	1:K:423:ARG:H	2.20	0.40
3:P:354:PRO:HA	3:P:405:THR:HB	2.03	0.40
3:P:471:SER:CB	3:P:475:LYS:HZ3	2.29	0.40
4:S:93:GLN:OE1	4:S:93:GLN:CA	2.70	0.40
5:I:2:NAG:O3	5:I:2:NAG:C7	2.70	0.40
1:B:481:PRO:O	1:B:481:PRO:CG	2.69	0.40
1:B:498:GLU:O	1:B:498:GLU:CG	2.69	0.40
1:B:546:ARG:HE	1:B:546:ARG:HB2	1.47	0.40
1:C:464:LEU:O	1:C:466:LEU:N	2.55	0.40
1:D:365:LEU:HD23	1:D:365:LEU:H	1.86	0.40
1:D:367:CYS:SG	1:D:393:HIS:HE1	2.45	0.40
1:D:499:LYS:HB3	1:D:499:LYS:HE2	1.71	0.40
1:E:364:LYS:HD3	1:E:411:ALA:O	2.21	0.40
1:G:363:THR:OG1	1:G:413:ILE:O	2.40	0.40
1:H:363:THR:O	1:H:412:SER:HA	2.22	0.40
1:H:369:VAL:HG12	1:H:372:LEU:HD23	2.02	0.40
3:P:25:PRO:HB3	3:P:329:ASN:ND2	2.36	0.40
3:P:377:CYS:HA	3:P:378:PRO:HD3	1.97	0.40
3:P:447:LYS:H	3:P:465:HIS:CA	2.31	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	229/232 (99%)	195 (85%)	24 (10%)	10 (4%)	2	14
1	B	226/232 (97%)	192 (85%)	27 (12%)	7 (3%)	3	20
1	C	225/232 (97%)	188 (84%)	26 (12%)	11 (5%)	2	12
1	D	222/232 (96%)	204 (92%)	16 (7%)	2 (1%)	14	47
1	E	222/232 (96%)	198 (89%)	19 (9%)	5 (2%)	5	27
1	F	222/232 (96%)	185 (83%)	23 (10%)	14 (6%)	1	8
1	G	222/232 (96%)	205 (92%)	15 (7%)	2 (1%)	14	47
1	H	230/232 (99%)	202 (88%)	19 (8%)	9 (4%)	2	16
1	K	230/232 (99%)	202 (88%)	19 (8%)	9 (4%)	2	16
1	L	230/232 (99%)	193 (84%)	29 (13%)	8 (4%)	3	18
2	J	102/136 (75%)	92 (90%)	8 (8%)	2 (2%)	6	29
3	P	481/541 (89%)	408 (85%)	54 (11%)	19 (4%)	2	15
4	R	99/107 (92%)	80 (81%)	17 (17%)	2 (2%)	6	29
4	S	101/107 (94%)	88 (87%)	11 (11%)	2 (2%)	6	29
4	U	99/107 (92%)	88 (89%)	8 (8%)	3 (3%)	3	21
4	V	104/107 (97%)	97 (93%)	6 (6%)	1 (1%)	13	45
All	All	3244/3425 (95%)	2817 (87%)	321 (10%)	106 (3%)	5	18

All (106) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	546	ARG
1	A	554	LYS
1	B	415	GLU
1	B	418	TRP
1	B	480	SER
1	C	482	ALA

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Mol	Chain	Res	Type
1	E	494	PRO
1	E	533	THR
1	E	546	ARG
1	F	444	PRO
1	F	480	SER
1	F	546	ARG
1	G	444	PRO
1	H	442	SER
1	H	569	SER
1	H	574	THR
1	K	447	VAL
1	K	492	GLY
1	K	511	ALA
1	K	512	PRO
1	K	541	GLU
1	L	441	ILE
1	L	443	ARG
1	L	481	PRO
3	P	101	LEU
3	P	259	GLU
3	P	261	CYS
3	P	262	ASP
3	P	311	SER
3	P	379	LEU
3	P	399	GLU
3	P	413	LEU
3	P	448	VAL
4	R	66	ASN
4	S	53	ALA
4	S	98	ASP
4	U	96	GLU
1	A	446	GLY
1	B	405	PHE
1	B	410	GLU
1	B	497	PRO
1	C	531	GLY
1	E	534	TYR
1	F	390	VAL
1	F	419	ASN
1	F	421	GLY
1	F	449	LEU
1	F	507	PRO

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Mol	Chain	Res	Type
1	F	523	VAL
1	G	478	GLY
1	H	531	GLY
1	H	564	VAL
2	J	64	LEU
1	L	478	GLY
1	L	534	TYR
3	P	310	HIS
3	P	403	ASN
3	P	416	ARG
1	A	491	ARG
1	A	512	PRO
1	C	448	ALA
1	C	509	PRO
1	C	510	GLN
1	C	512	PRO
1	D	497	PRO
1	F	415	GLU
1	H	444	PRO
1	H	449	LEU
1	H	559	PRO
2	J	120	GLU
1	K	572	ALA
1	L	444	PRO
1	L	447	VAL
3	P	155	PRO
3	P	378	PRO
3	P	473	TYR
4	U	98	ASP
1	A	497	PRO
1	A	573	GLY
1	C	481	PRO
1	C	523	VAL
1	C	557	GLY
1	D	447	VAL
1	E	509	PRO
1	F	377	SER
1	F	544	PRO
1	H	560	THR
1	K	519	SER
1	K	544	PRO
1	L	483	ASP

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Mol	Chain	Res	Type
3	P	57	SER
3	P	287	ASP
4	R	96	GLU
4	V	113	GLY
1	C	466	LEU
1	C	558	LYS
3	P	157	LEU
1	A	501	VAL
1	F	559	PRO
4	U	42	MET
1	K	444	PRO
1	A	531	GLY
1	B	413	ILE
1	F	413	ILE
3	P	288	GLY
1	A	481	PRO

5.3.2　Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	205/206 (100%)	184 (90%)	21 (10%)	6	23
1	B	203/206 (98%)	156 (77%)	47 (23%)	0	3
1	C	203/206 (98%)	182 (90%)	21 (10%)	6	23
1	D	200/206 (97%)	194 (97%)	6 (3%)	36	64
1	E	200/206 (97%)	193 (96%)	7 (4%)	31	60
1	F	200/206 (97%)	152 (76%)	48 (24%)	0	2
1	G	200/206 (97%)	190 (95%)	10 (5%)	20	50
1	H	206/206 (100%)	188 (91%)	18 (9%)	8	30
1	K	206/206 (100%)	179 (87%)	27 (13%)	3	15
1	L	206/206 (100%)	183 (89%)	23 (11%)	5	20
2	J	100/128 (78%)	94 (94%)	6 (6%)	16	44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	P	423/461 (92%)	368 (87%)	55 (13%)	3	15
4	R	86/92 (94%)	76 (88%)	10 (12%)	4	19
4	S	88/92 (96%)	74 (84%)	14 (16%)	2	9
4	U	86/92 (94%)	79 (92%)	7 (8%)	9	33
4	V	91/92 (99%)	89 (98%)	2 (2%)	47	71
All	All	2903/3017 (96%)	2581 (89%)	322 (11%)	7	20

All (322) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	445	LYS
1	A	447	VAL
1	A	466	LEU
1	A	467	ARG
1	A	477	THR
1	A	490	GLN
1	A	502	THR
1	A	508	GLU
1	A	510	GLN
1	A	514	ARG
1	A	518	HIS
1	A	519	SER
1	A	532	GLU
1	A	543	LEU
1	A	545	ASN
1	A	550	ARG
1	A	554	LYS
1	A	566	LEU
1	A	568	MET
1	A	571	THR
1	A	574	THR
1	B	366	THR
1	B	368	LEU
1	B	371	ASP
1	B	374	THR
1	B	375	TYR
1	B	376	ASP
1	B	378	VAL
1	B	380	ILE
1	B	391	LYS

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Mol	Chain	Res	Type
1	B	392	THR
1	B	393	HIS
1	B	394	THR
1	B	395	ASN
1	B	396	ILE
1	B	397	SER
1	B	398	GLU
1	B	400	HIS
1	B	402	ASN
1	B	408	VAL
1	B	410	GLU
1	B	412	SER
1	B	413	ILE
1	B	420	SER
1	B	423	ARG
1	B	424	PHE
1	B	427	THR
1	B	429	THR
1	B	431	THR
1	B	433	LEU
1	B	437	LEU
1	B	440	THR
1	B	441	ILE
1	B	442	SER
1	B	443	ARG
1	B	445	LYS
1	B	449	LEU
1	B	451	ARG
1	B	454	VAL
1	B	456	LEU
1	B	462	GLU
1	B	480	SER
1	B	526	GLU
1	B	528	TRP
1	B	529	ASN
1	B	530	THR
1	B	532	GLU
1	B	546	ARG
1	C	445	LYS
1	C	450	HIS
1	C	451	ARG
1	C	453	ASP

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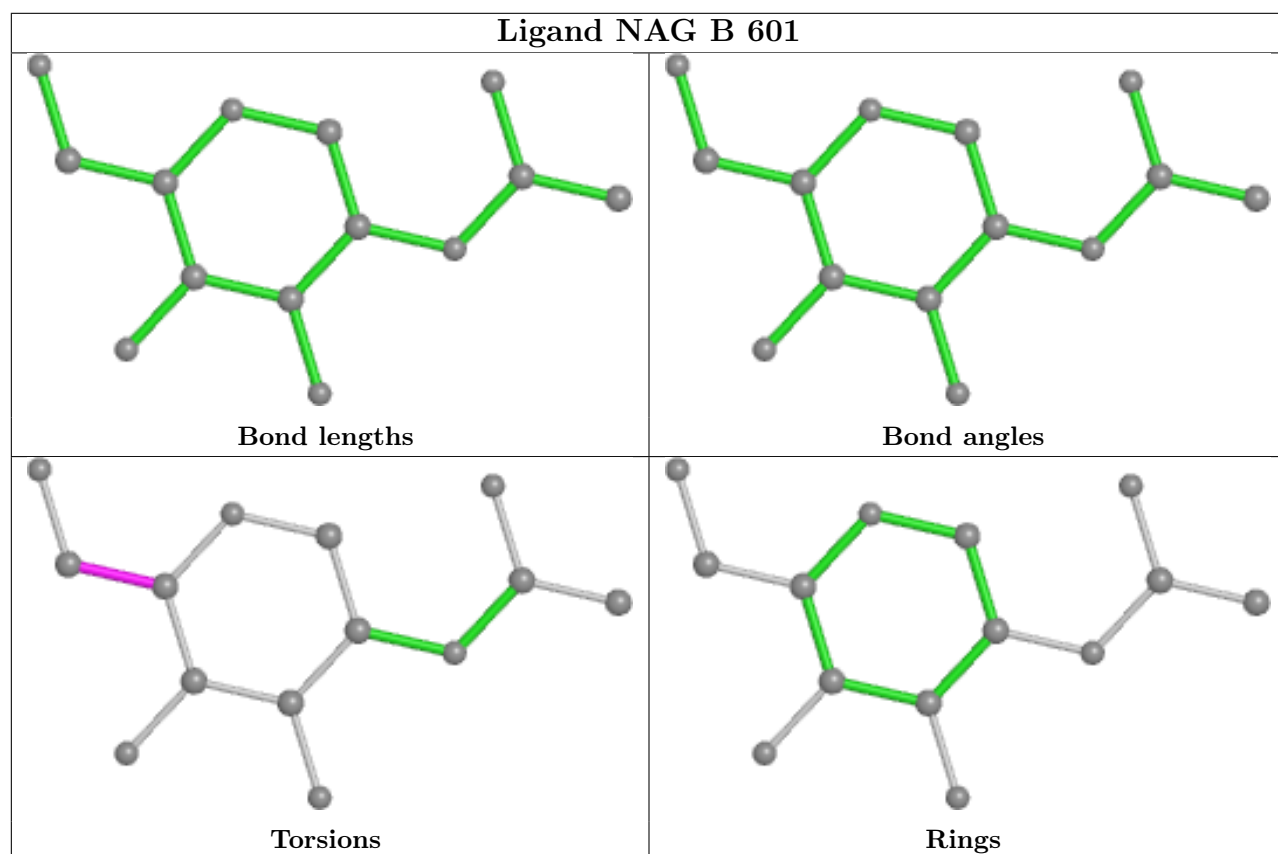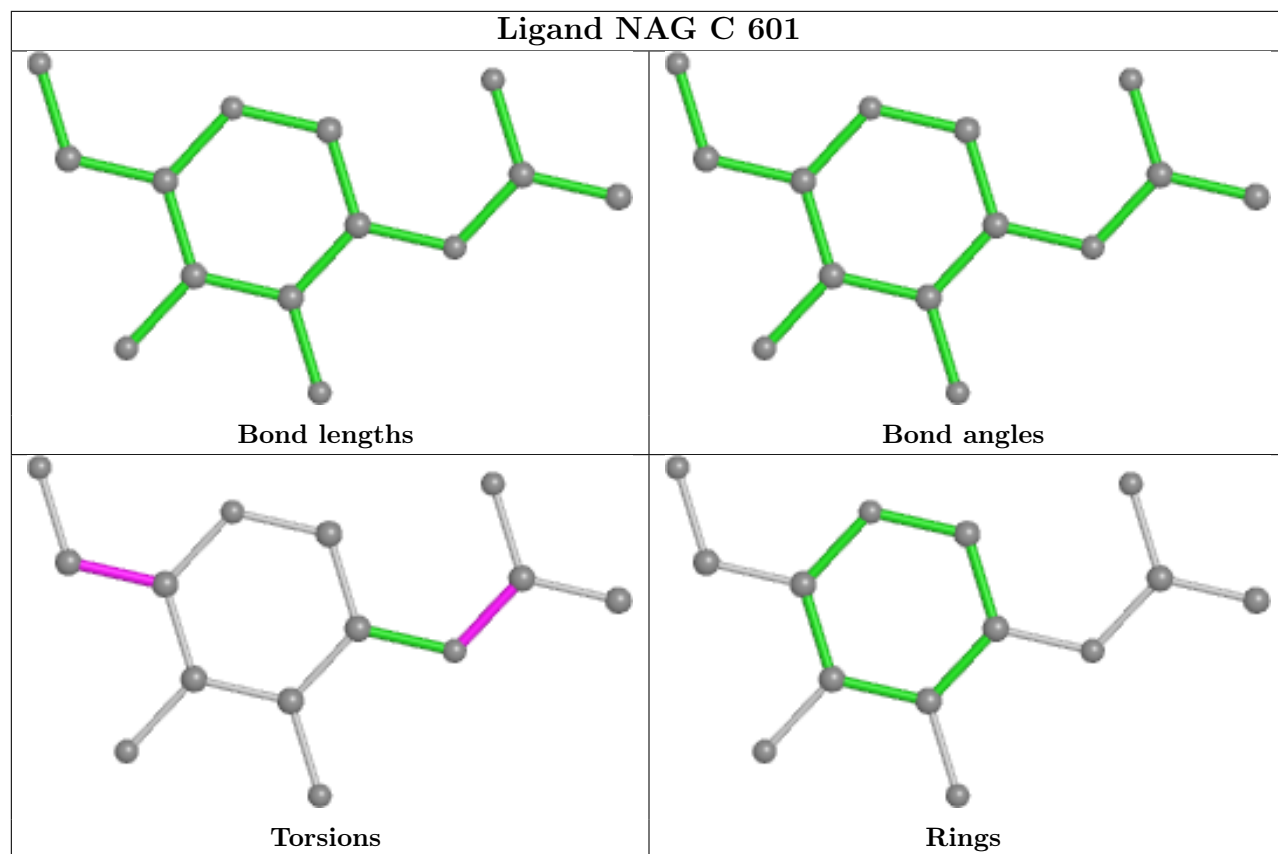| Mol	Chain	Res	Type
1	C	456	LEU
1	C	457	LEU
1	C	466	LEU
1	C	467	ARG
1	C	468	GLU
1	C	480	SER
1	C	494	PRO
1	C	508	GLU
1	C	510	GLN
1	C	514	ARG
1	C	525	GLU
1	C	526	GLU
1	C	533	THR
1	C	554	LYS
1	C	565	SER
1	C	566	LEU
1	C	567	VAL
1	D	493	GLN
1	D	495	LEU
1	D	499	LYS
1	D	510	GLN
1	D	514	ARG
1	D	536	CYS
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1	E	514	ARG
1	E	532	GLU
1	E	535	THR
1	E	538	VAL
1	E	545	ASN
1	F	363	THR
1	F	368	LEU
1	F	374	THR
1	F	376	ASP
1	F	377	SER
1	F	378	VAL
1	F	379	THR
1	F	380	ILE
1	F	383	THR
1	F	385	GLN
1	F	390	VAL
1	F	391	LYS

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Mol	Chain	Res	Type
1	F	393	HIS
1	F	396	ILE
1	F	402	ASN
1	F	405	PHE
1	F	406	SER
1	F	410	GLU
1	F	412	SER
1	F	414	CYS
1	F	416	ASP
1	F	420	SER
1	F	422	GLU
1	F	423	ARG
1	F	425	THR
1	F	429	THR
1	F	432	ASP
1	F	437	LEU
1	F	438	LYS
1	F	439	GLN
1	F	441	ILE
1	F	443	ARG
1	F	445	LYS
1	F	479	PHE
1	F	501	VAL
1	F	502	THR
1	F	506	MET
1	F	520	ILE
1	F	523	VAL
1	F	543	LEU
1	F	544	PRO
1	F	545	ASN
1	F	546	ARG
1	F	548	THR
1	F	550	ARG
1	F	554	LYS
1	F	556	THR
1	F	561	LEU
1	G	443	ARG
1	G	445	LYS
1	G	447	VAL
1	G	449	LEU
1	G	450	HIS
1	G	466	LEU

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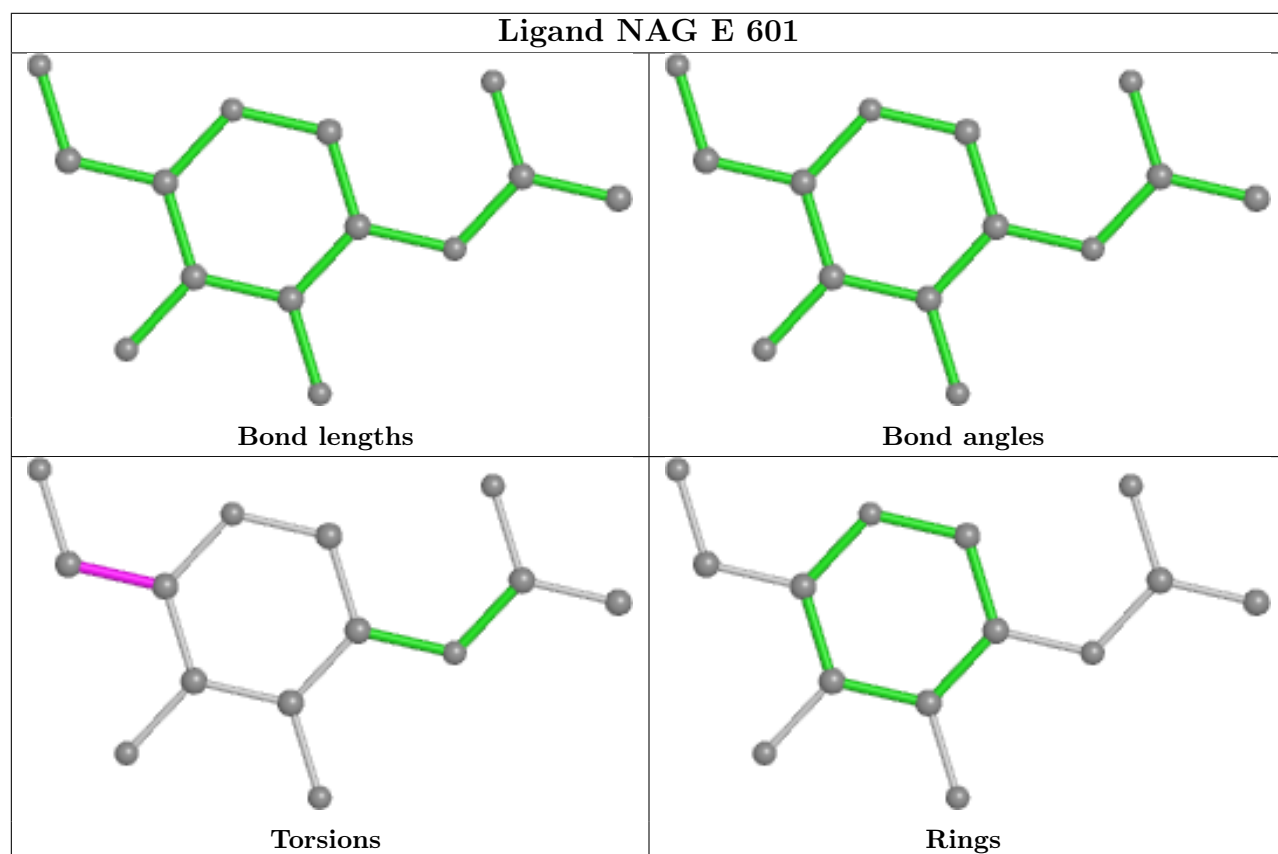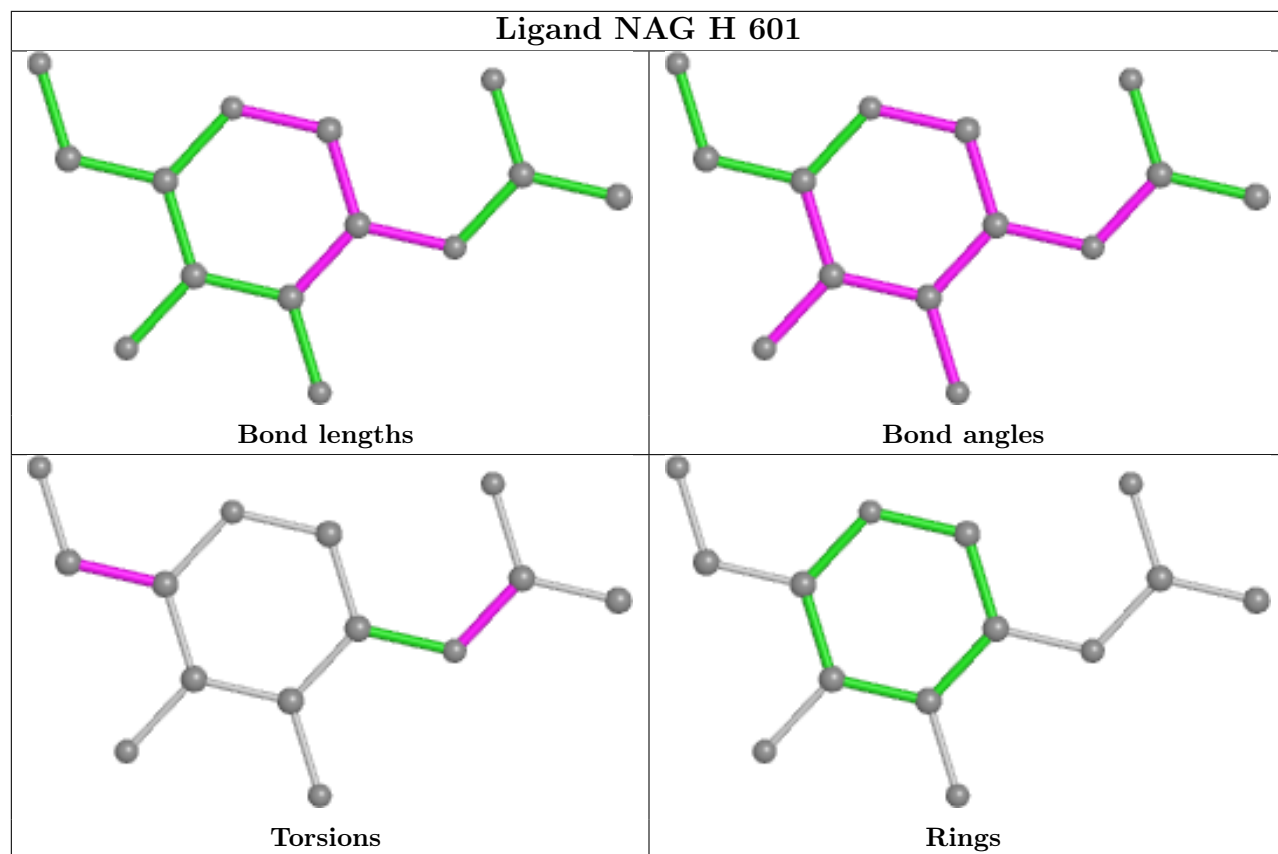| Mol	Chain	Res	Type
1	G	473	THR
1	G	475	LEU
1	G	477	THR
1	G	516	PHE
1	H	442	SER
1	H	443	ARG
1	H	444	PRO
1	H	445	LYS
1	H	449	LEU
1	H	519	SER
1	H	532	GLU
1	H	533	THR
1	H	535	THR
1	H	536	CYS
1	H	556	THR
1	H	561	LEU
1	H	563	ASN
1	H	566	LEU
1	H	568	MET
1	H	574	THR
1	H	575	CYS
1	H	576	TYR
2	J	23	ARG
2	J	26	GLU
2	J	34	GLU
2	J	35	ARG
2	J	107	LYS
2	J	117	TYR
1	K	445	LYS
1	K	449	LEU
1	K	462	GLU
1	K	464	LEU
1	K	474	CYS
1	K	475	LEU
1	K	477	THR
1	K	484	VAL
1	K	489	MET
1	K	490	GLN
1	K	491	ARG
1	K	514	ARG
1	K	516	PHE
1	K	520	ILE

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Mol	Chain	Res	Type
1	K	521	LEU
1	K	524	SER
1	K	526	GLU
1	K	530	THR
1	K	533	THR
1	K	543	LEU
1	K	545	ASN
1	K	556	THR
1	K	558	LYS
1	K	561	LEU
1	K	565	SER
1	K	568	MET
1	K	574	THR
1	L	441	ILE
1	L	443	ARG
1	L	445	LYS
1	L	449	LEU
1	L	450	HIS
1	L	479	PHE
1	L	480	SER
1	L	514	ARG
1	L	534	TYR
1	L	535	THR
1	L	536	CYS
1	L	543	LEU
1	L	545	ASN
1	L	547	VAL
1	L	548	THR
1	L	551	THR
1	L	552	VAL
1	L	556	THR
1	L	558	LYS
1	L	566	LEU
1	L	567	VAL
1	L	574	THR
1	L	575	CYS
3	P	10	VAL
3	P	43	ARG
3	P	60	TYR
3	P	99	ARG
3	P	131	THR
3	P	132	ILE

Continued from previous page...

Mol	Chain	Res	Type
3	P	151	ILE
3	P	245	VAL
3	P	247	ASN
3	P	257	SER
3	P	259	GLU
3	P	260	ASN
3	P	275	PHE
3	P	287	ASP
3	P	290	PHE
3	P	314	GLN
3	P	315	LEU
3	P	316	GLN
3	P	317	GLU
3	P	340	VAL
3	P	342	LYS
3	P	344	VAL
3	P	349	VAL
3	P	358	LYS
3	P	361	LYS
3	P	377	CYS
3	P	379	LEU
3	P	388	LYS
3	P	392	GLU
3	P	398	LEU
3	P	399	GLU
3	P	400	GLU
3	P	405	THR
3	P	409	ILE
3	P	412	GLN
3	P	413	LEU
3	P	414	THR
3	P	431	TRP
3	P	439	ILE
3	P	446	LEU
3	P	447	LYS
3	P	462	VAL
3	P	464	CYS
3	P	466	PHE
3	P	469	LYS
3	P	470	PHE
3	P	471	SER
3	P	473	TYR

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Mol	Chain	Res	Type
3	P	475	LYS
3	P	478	CYS
3	P	530	GLN
3	P	533	PHE
3	P	537	THR
3	P	540	VAL
3	P	541	TYR
4	R	20	LEU
4	R	24	LYS
4	R	55	SER
4	R	65	THR
4	R	93	GLN
4	R	94	LEU
4	R	95	THR
4	R	96	GLU
4	R	115	THR
4	R	116	GLN
4	S	39	LEU
4	S	42	MET
4	S	50	ARG
4	S	71	GLU
4	S	72	TYR
4	S	73	LYS
4	S	83	ARG
4	S	92	THR
4	S	93	GLN
4	S	94	LEU
4	S	96	GLU
4	S	115	THR
4	S	116	GLN
4	S	117	LYS
4	U	23	VAL
4	U	24	LYS
4	U	25	VAL
4	U	26	GLU
4	U	44	VAL
4	U	83	ARG
4	U	119	THR
4	V	96	GLU
4	V	114	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (34) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	510	GLN
1	A	518	HIS
1	A	540	HIS
1	B	393	HIS
1	B	400	HIS
1	B	402	ASN
1	B	450	HIS
1	B	529	ASN
1	B	545	ASN
1	C	400	HIS
1	C	465	ASN
1	D	393	HIS
1	D	545	ASN
1	E	400	HIS
1	E	487	GLN
1	E	493	GLN
1	F	402	ASN
1	F	540	HIS
1	F	545	ASN
1	G	563	ASN
1	K	430	HIS
1	K	545	ASN
1	K	563	ASN
1	L	490	GLN
1	L	545	ASN
3	P	310	HIS
3	P	314	GLN
3	P	316	GLN
3	P	403	ASN
3	P	412	GLN
3	P	530	GLN
4	R	93	GLN
4	R	116	GLN
4	V	66	ASN

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 ⓘ

2 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
5	NAG	I	1	2,5	14,14,15	3.15	2 (14%)	17,19,21	2.98	7 (41%)
5	NAG	I	2	5	14,14,15	1.09	0	17,19,21	3.30	7 (41%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	NAG	I	1	2,5	-	4/6/23/26	0/1/1/1
5	NAG	I	2	5	-	3/6/23/26	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	I	1	NAG	C1-C2	10.08	1.67	1.52
5	I	1	NAG	O5-C1	-4.51	1.36	1.43

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	I	2	NAG	C2-N2-C7	-9.79	108.97	122.90
5	I	1	NAG	O5-C5-C6	-6.42	97.13	107.20
5	I	1	NAG	C1-O5-C5	5.30	119.37	112.19
5	I	2	NAG	C1-O5-C5	5.11	119.11	112.19
5	I	1	NAG	C4-C3-C2	-4.59	104.29	111.02
5	I	2	NAG	C3-C4-C5	-4.37	102.44	110.24
5	I	2	NAG	C4-C3-C2	-4.22	104.84	111.02
5	I	1	NAG	O4-C4-C3	-3.46	102.35	110.35
5	I	1	NAG	O5-C1-C2	-3.22	106.20	111.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	I	1	NAG	C1-C2-N2	3.10	115.78	110.49
5	I	1	NAG	O3-C3-C2	-2.80	103.68	109.47
5	I	2	NAG	O3-C3-C2	-2.21	104.88	109.47
5	I	2	NAG	O5-C1-C2	2.17	114.72	111.29
5	I	2	NAG	C1-C2-N2	2.03	113.95	110.49

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	I	1	NAG	C8-C7-N2-C2
5	I	1	NAG	O7-C7-N2-C2
5	I	2	NAG	C8-C7-N2-C2
5	I	2	NAG	O7-C7-N2-C2
5	I	2	NAG	O5-C5-C6-O6
5	I	1	NAG	C3-C2-N2-C7
5	I	1	NAG	C1-C2-N2-C7

There are no ring outliers.

2 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	I	1	NAG	3	0
5	I	2	NAG	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

Oligosaccharide Chain I

Bond lengths

Bond angles

Torsions

Rings
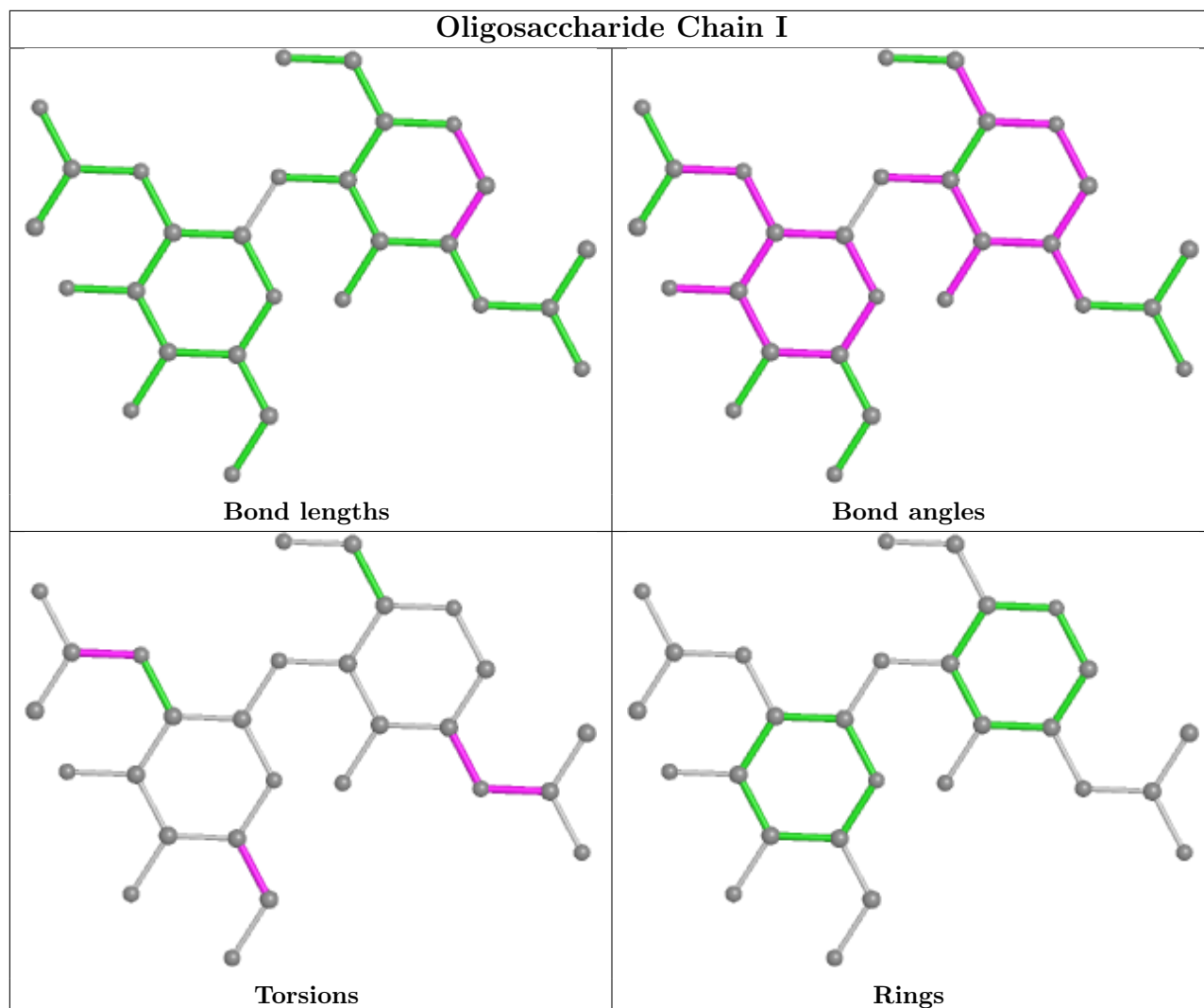
5.6 Ligand geometry (i)

10 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
6	NAG	D	601	1	14,14,15	0.20	0	17,19,21	0.42	0
6	NAG	C	601	-	14,14,15	0.24	0	17,19,21	0.41	0
6	NAG	B	601	1	14,14,15	0.21	0	17,19,21	0.41	0
6	NAG	F	601	1	14,14,15	0.35	0	17,19,21	0.48	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
6	NAG	L	601	1	14,14,15	0.27	0	17,19,21	0.51	0
6	NAG	H	601	1	14,14,15	2.59	4 (28%)	17,19,21	3.75	7 (41%)
6	NAG	E	601	1	14,14,15	0.21	0	17,19,21	0.42	0
6	NAG	A	601	1	14,14,15	0.26	0	17,19,21	0.35	0
6	NAG	K	601	-	14,14,15	0.25	0	17,19,21	0.33	0
6	NAG	G	601	-	15,15,15	0.46	0	21,21,21	1.55	2 (9%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	NAG	D	601	1	-	2/6/23/26	0/1/1/1
6	NAG	C	601	-	-	4/6/23/26	0/1/1/1
6	NAG	B	601	1	-	2/6/23/26	0/1/1/1
6	NAG	F	601	1	-	1/6/23/26	0/1/1/1
6	NAG	L	601	1	-	2/6/23/26	0/1/1/1
6	NAG	H	601	1	-	4/6/23/26	0/1/1/1
6	NAG	E	601	1	-	2/6/23/26	0/1/1/1
6	NAG	A	601	1	-	0/6/23/26	0/1/1/1
6	NAG	K	601	-	-	4/6/23/26	0/1/1/1
6	NAG	G	601	-	-	4/6/26/26	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	H	601	NAG	C1-C2	7.75	1.63	1.52
6	H	601	NAG	C2-N2	-4.09	1.39	1.46
6	H	601	NAG	C3-C2	-2.14	1.48	1.52
6	H	601	NAG	O5-C1	-2.11	1.40	1.43

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	H	601	NAG	C1-C2-N2	-9.97	93.46	110.49
6	H	601	NAG	C4-C3-C2	-8.07	99.20	111.02
6	H	601	NAG	O5-C1-C2	-5.85	102.05	111.29
6	G	601	NAG	O5-C1-C2	4.53	114.07	109.52
6	H	601	NAG	C3-C4-C5	-3.39	104.20	110.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	G	601	NAG	C1-O5-C5	3.33	119.94	113.66
6	H	601	NAG	C2-N2-C7	-3.17	118.39	122.90
6	H	601	NAG	O4-C4-C5	2.41	115.28	109.30
6	H	601	NAG	O3-C3-C2	2.31	114.24	109.47

There are no chirality outliers.

All (25) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	G	601	NAG	C8-C7-N2-C2
6	G	601	NAG	O7-C7-N2-C2
6	H	601	NAG	C8-C7-N2-C2
6	H	601	NAG	O7-C7-N2-C2
6	C	601	NAG	C4-C5-C6-O6
6	H	601	NAG	C4-C5-C6-O6
6	D	601	NAG	O5-C5-C6-O6
6	D	601	NAG	C4-C5-C6-O6
6	K	601	NAG	C4-C5-C6-O6
6	C	601	NAG	O5-C5-C6-O6
6	L	601	NAG	O5-C5-C6-O6
6	K	601	NAG	O5-C5-C6-O6
6	B	601	NAG	O5-C5-C6-O6
6	G	601	NAG	C4-C5-C6-O6
6	C	601	NAG	C8-C7-N2-C2
6	C	601	NAG	O7-C7-N2-C2
6	K	601	NAG	C8-C7-N2-C2
6	K	601	NAG	O7-C7-N2-C2
6	B	601	NAG	C4-C5-C6-O6
6	E	601	NAG	O5-C5-C6-O6
6	G	601	NAG	O5-C5-C6-O6
6	H	601	NAG	O5-C5-C6-O6
6	F	601	NAG	O5-C5-C6-O6
6	L	601	NAG	C4-C5-C6-O6
6	E	601	NAG	C4-C5-C6-O6

There are no ring outliers.

7 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	C	601	NAG	2	0
6	B	601	NAG	1	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	F	601	NAG	1	0
6	H	601	NAG	3	0
6	E	601	NAG	1	0
6	A	601	NAG	1	0
6	K	601	NAG	4	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand NAG D 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG C 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG B 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG F 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG L 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG H 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG E 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG A 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG K 601

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG G 601

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-34074. 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 ⓘ
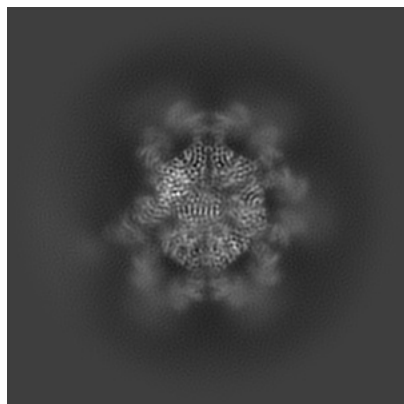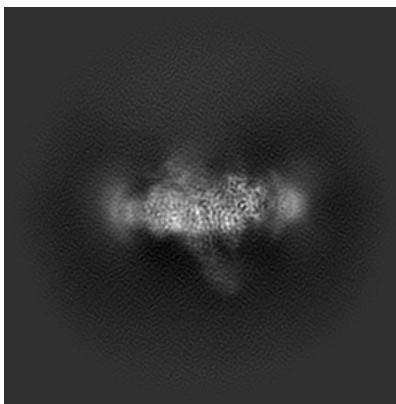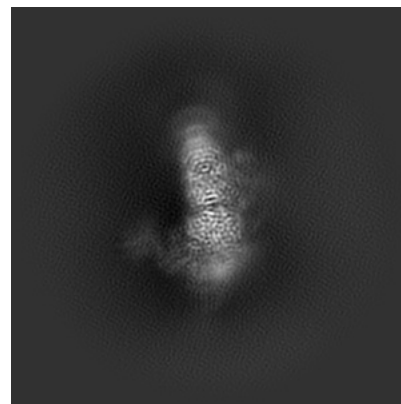
6.1.1 Primary map

X   Y   Z

6.1.2 Raw map

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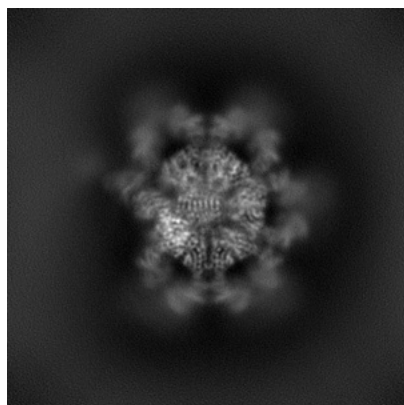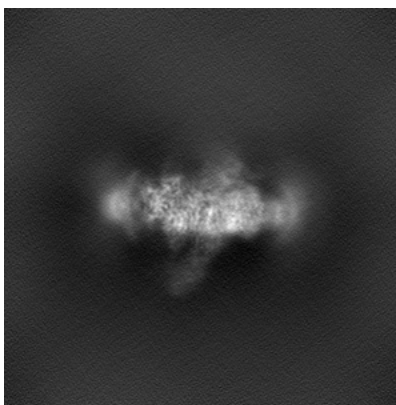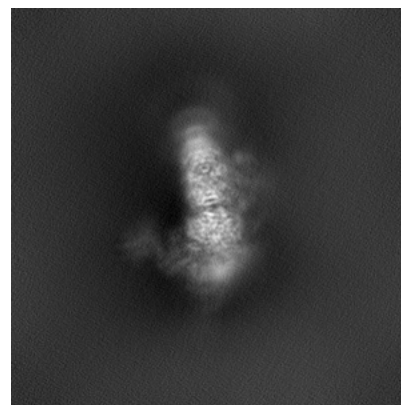
The images above show the map projected in three orthogonal directions.

6.2　Central slices ⓘ
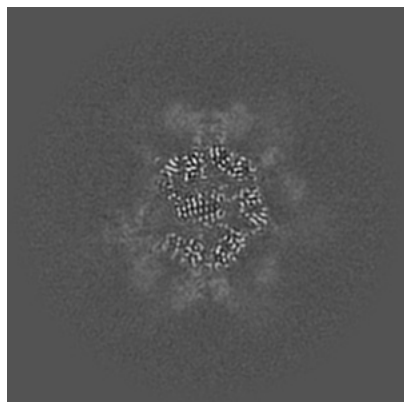
6.2.1　Primary map
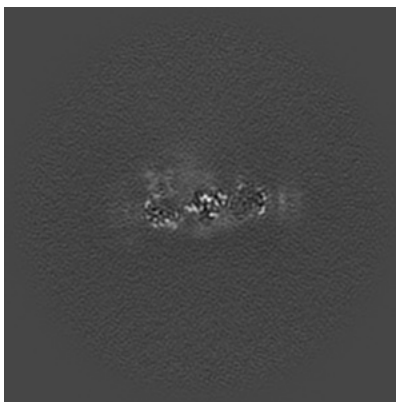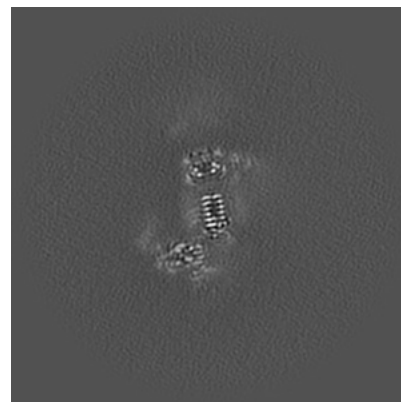
| X Index: 160 | Y Index: 160 | Z Index: 160 |

6.2.2　Raw map
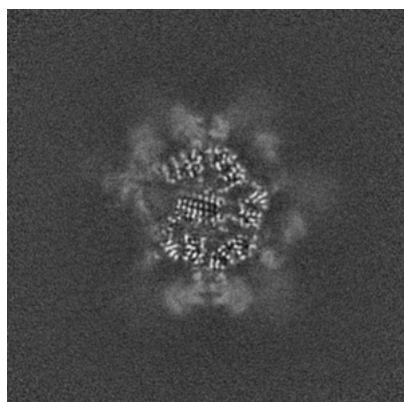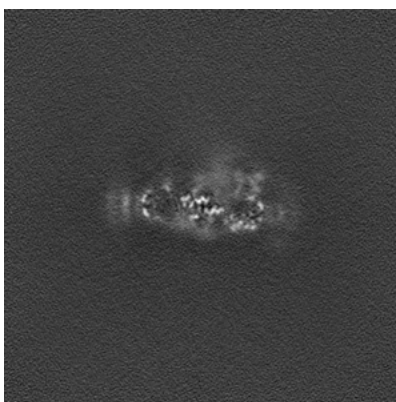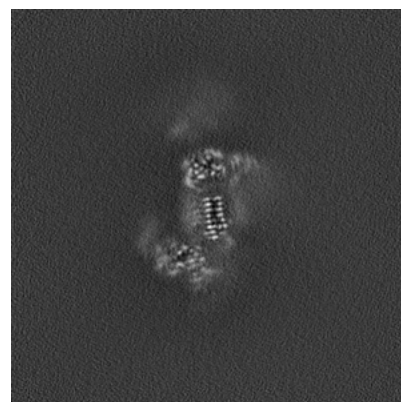
| X Index: 160 | Y Index: 160 | Z Index: 160 |

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

6.3 Largest variance slices ⓘ

6.3.1 Primary map
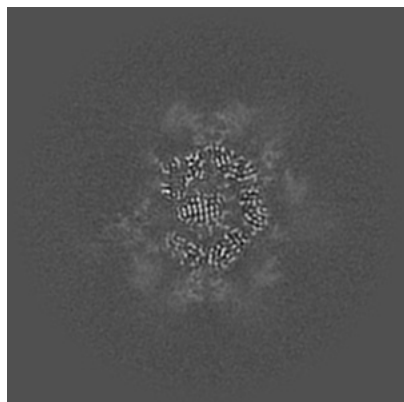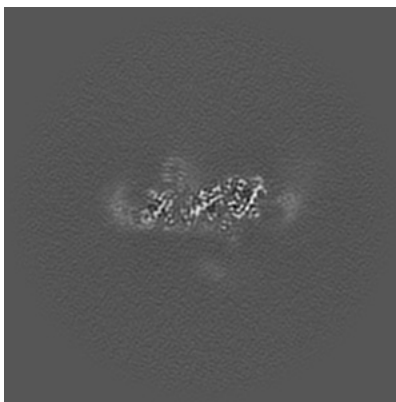
| X Index: 158 | Y Index: 146 | Z Index: 187 |
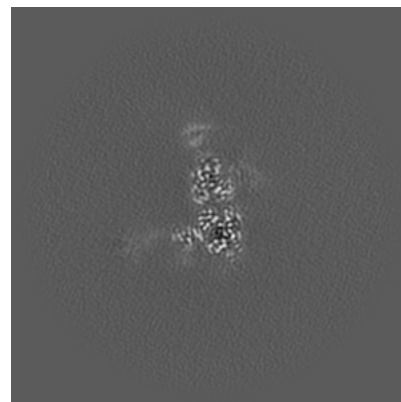
6.3.2 Raw map
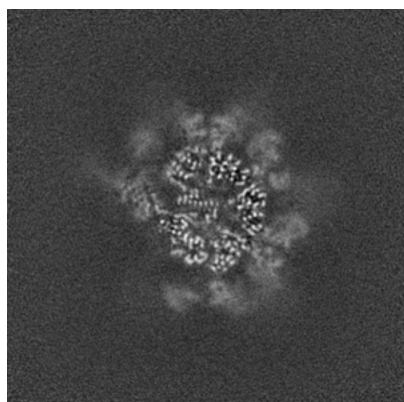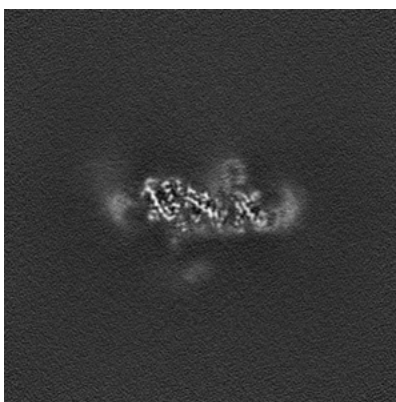
| X Index: 153 | Y Index: 146 | Z Index: 132 |
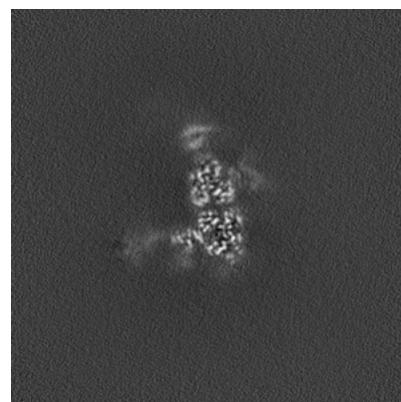
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map
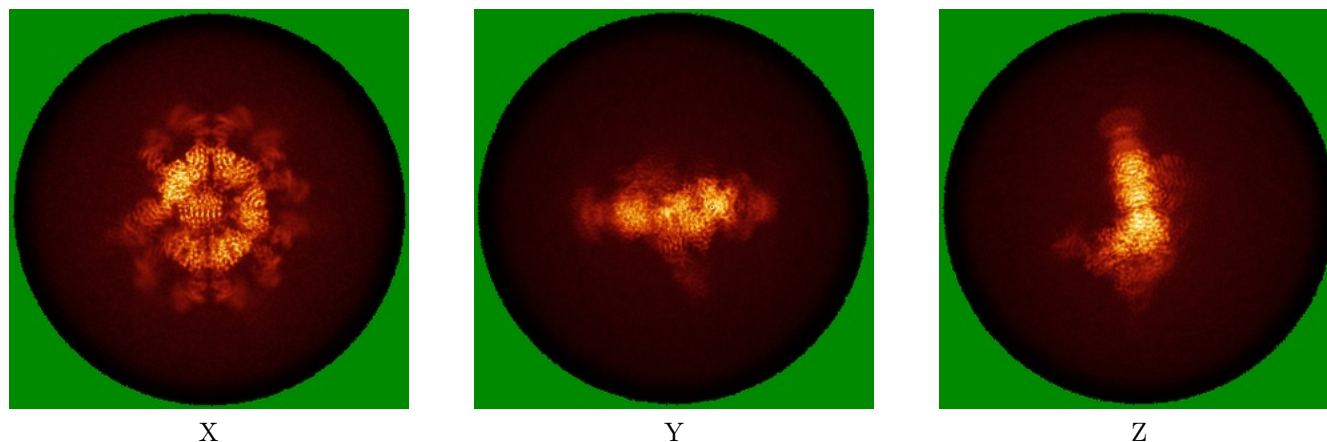
X   Y   Z

6.4.2 Raw map

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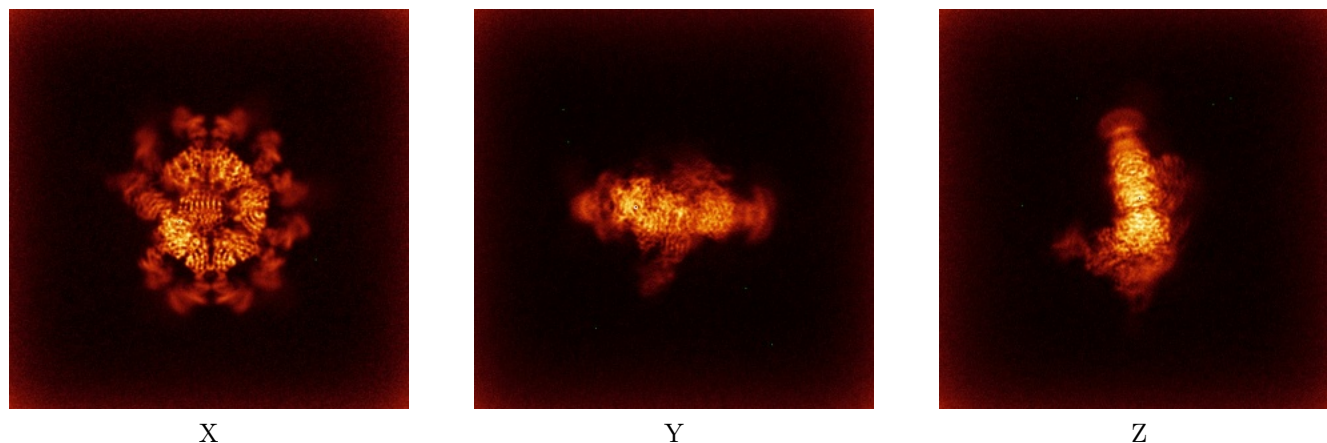
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X   Y   Z
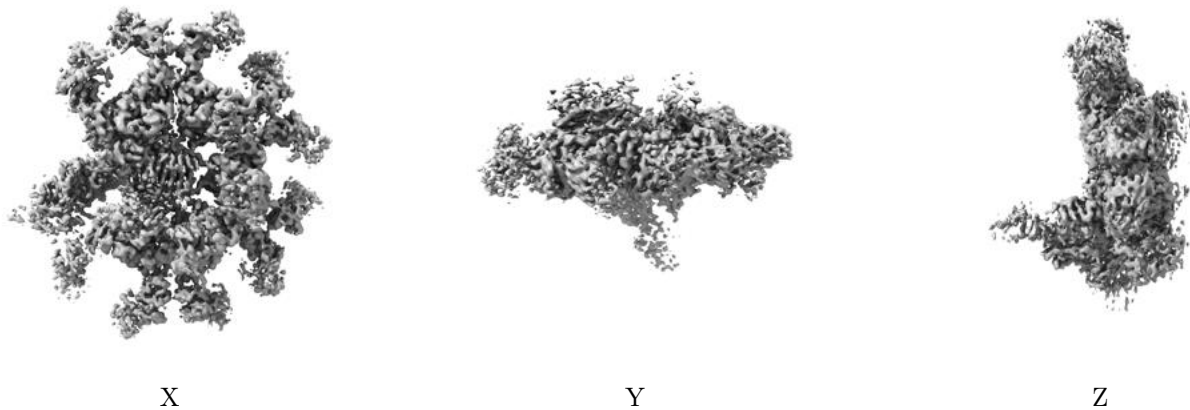
The images above show the 3D surface view of the map at the recommended contour level 0.27. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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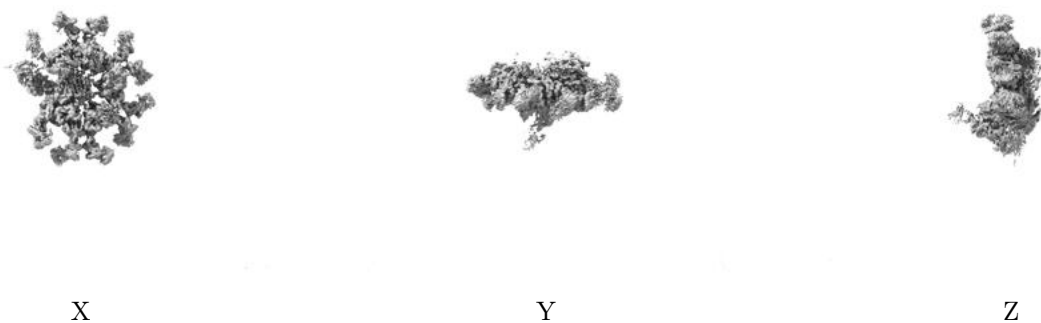
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

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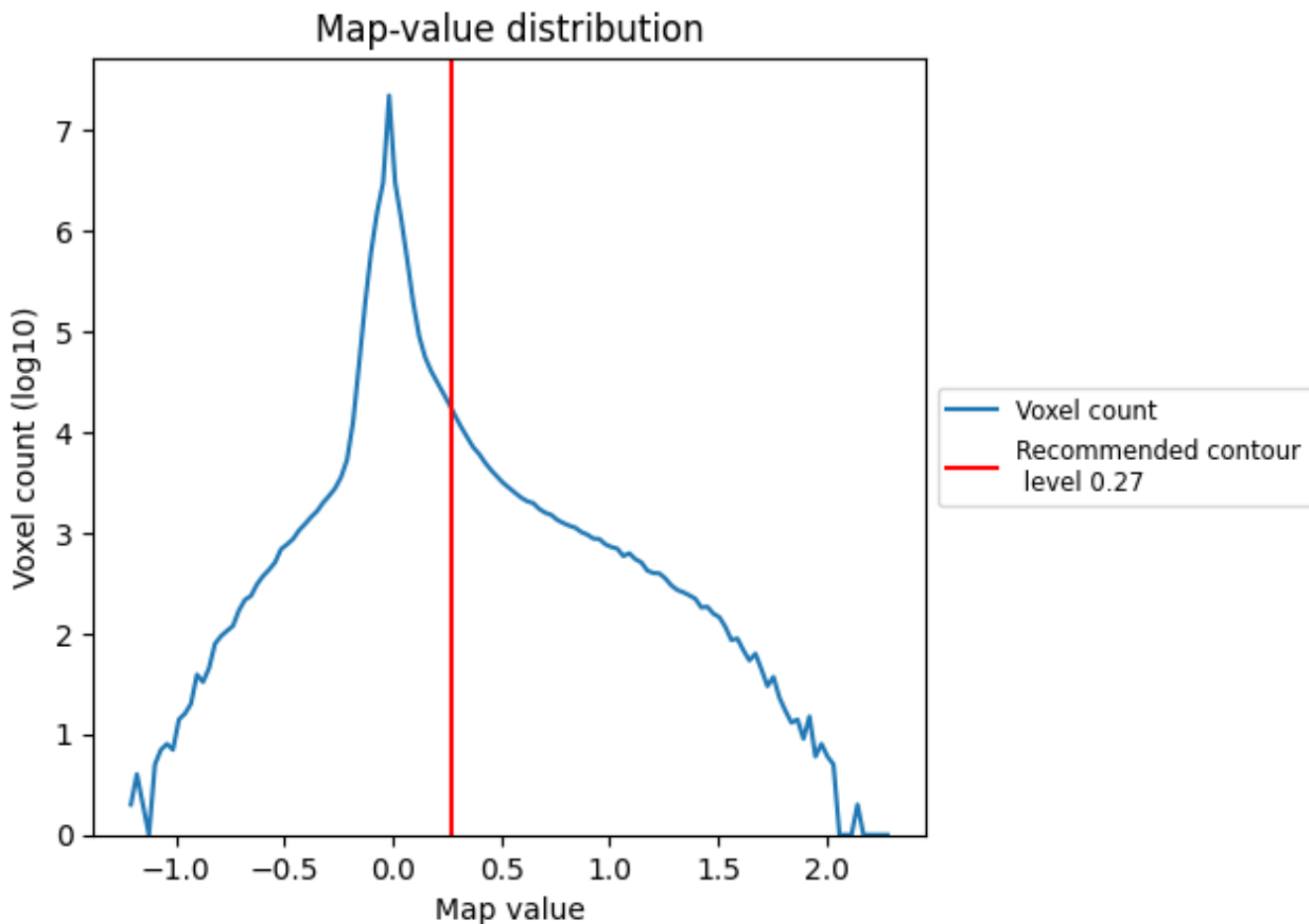
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2　Volume estimate ⓘ
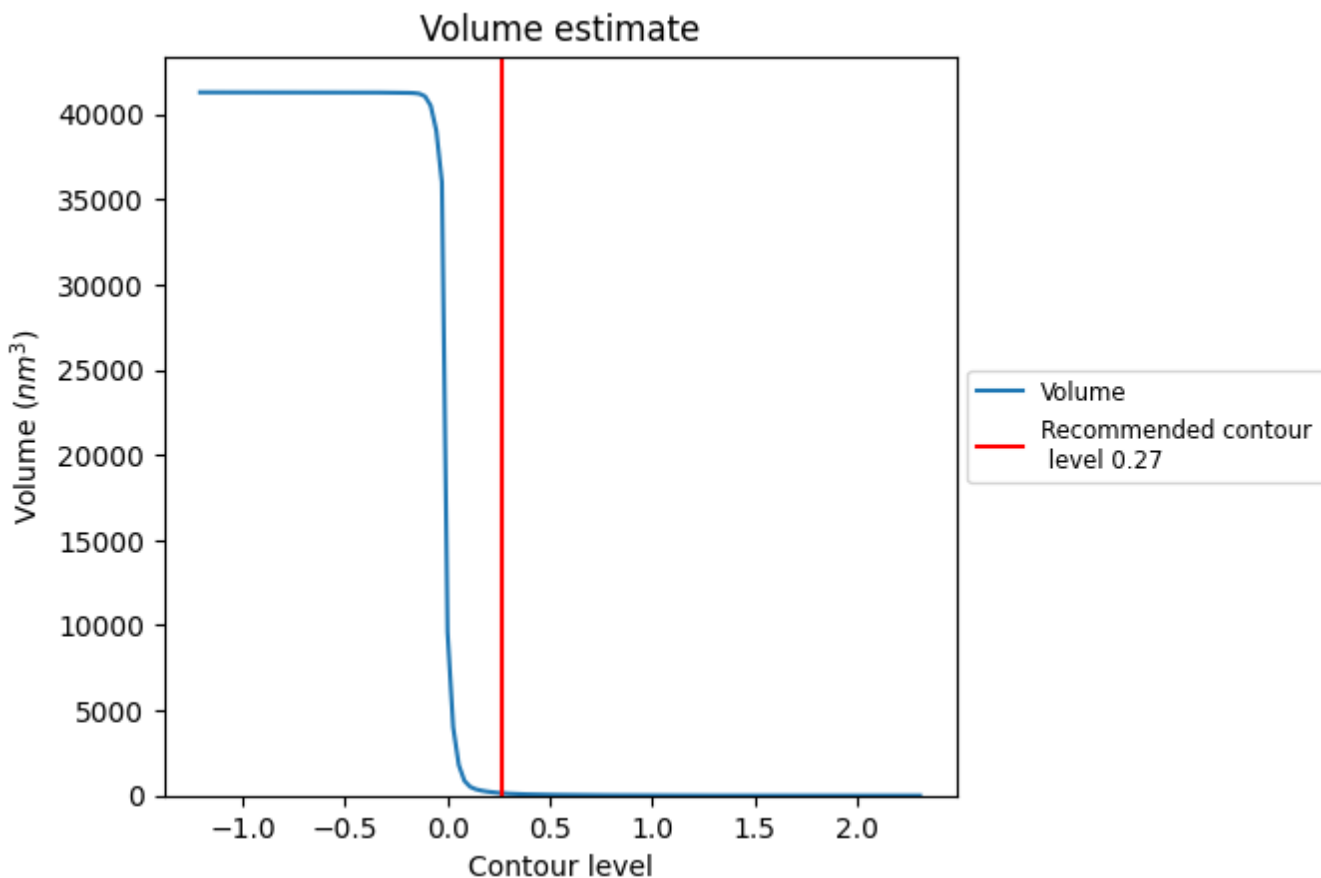
The volume at the recommended contour level is 137 nm^3; this corresponds to an approximate mass of 124 kDa.

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 ⓘ
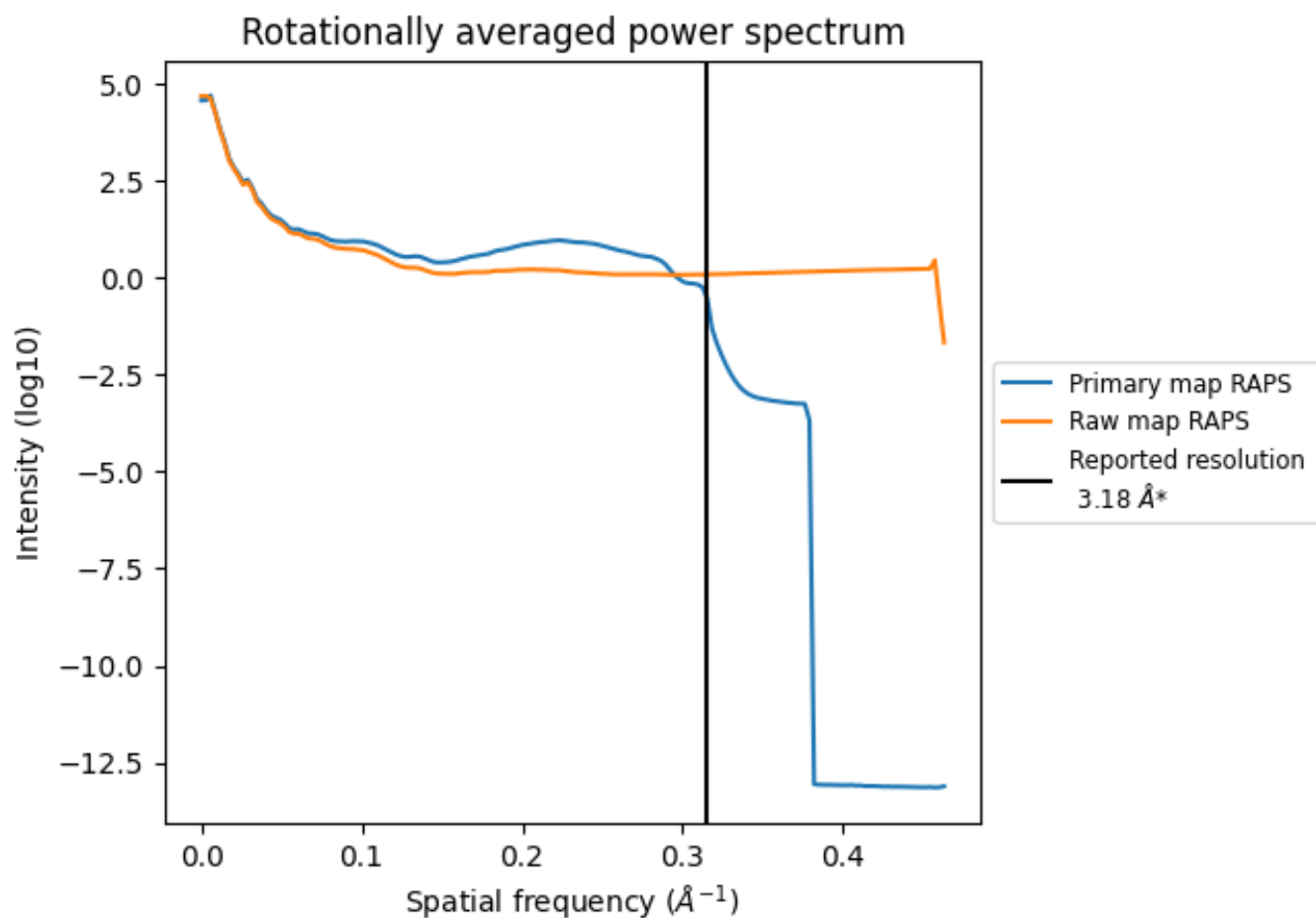
*Reported resolution corresponds to spatial frequency of 0.314 Å^{-1}

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 ⓘ
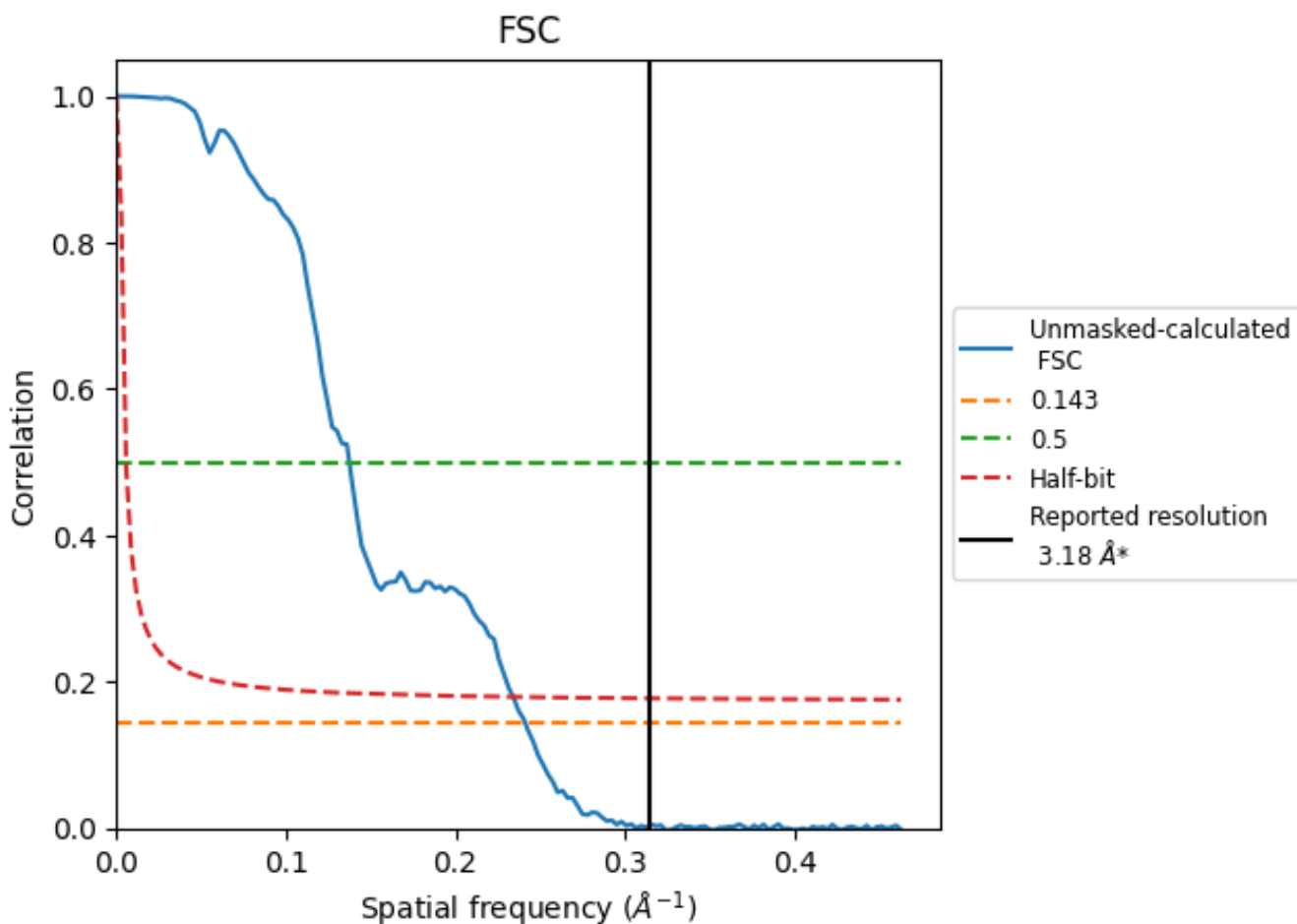
*Reported resolution corresponds to spatial frequency of 0.314 Å^{-1}

8.2 Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.18	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.15	7.28	4.27

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.15 differs from the reported value 3.18 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-34074 and PDB model 7YSG. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay ⓘ

| X | Y | Z |
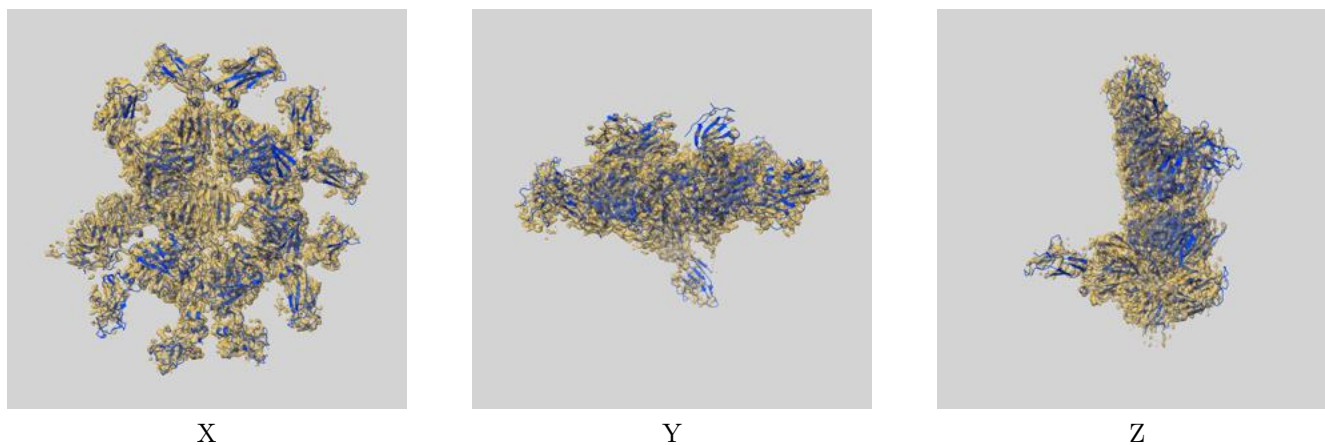
The images above show the 3D surface view of the map at the recommended contour level 0.27 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ

X Y Z
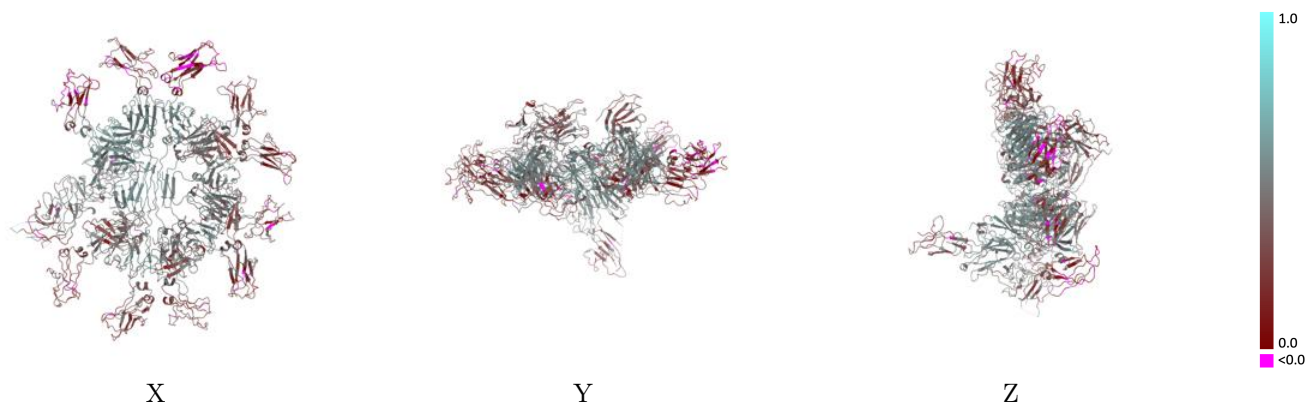
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
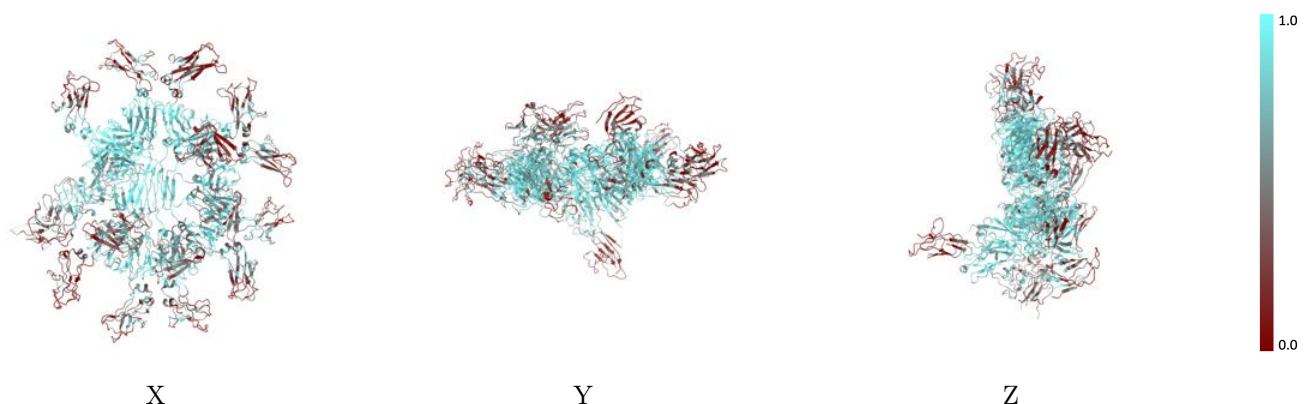
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.27).

9.4 Atom inclusion ⓘ
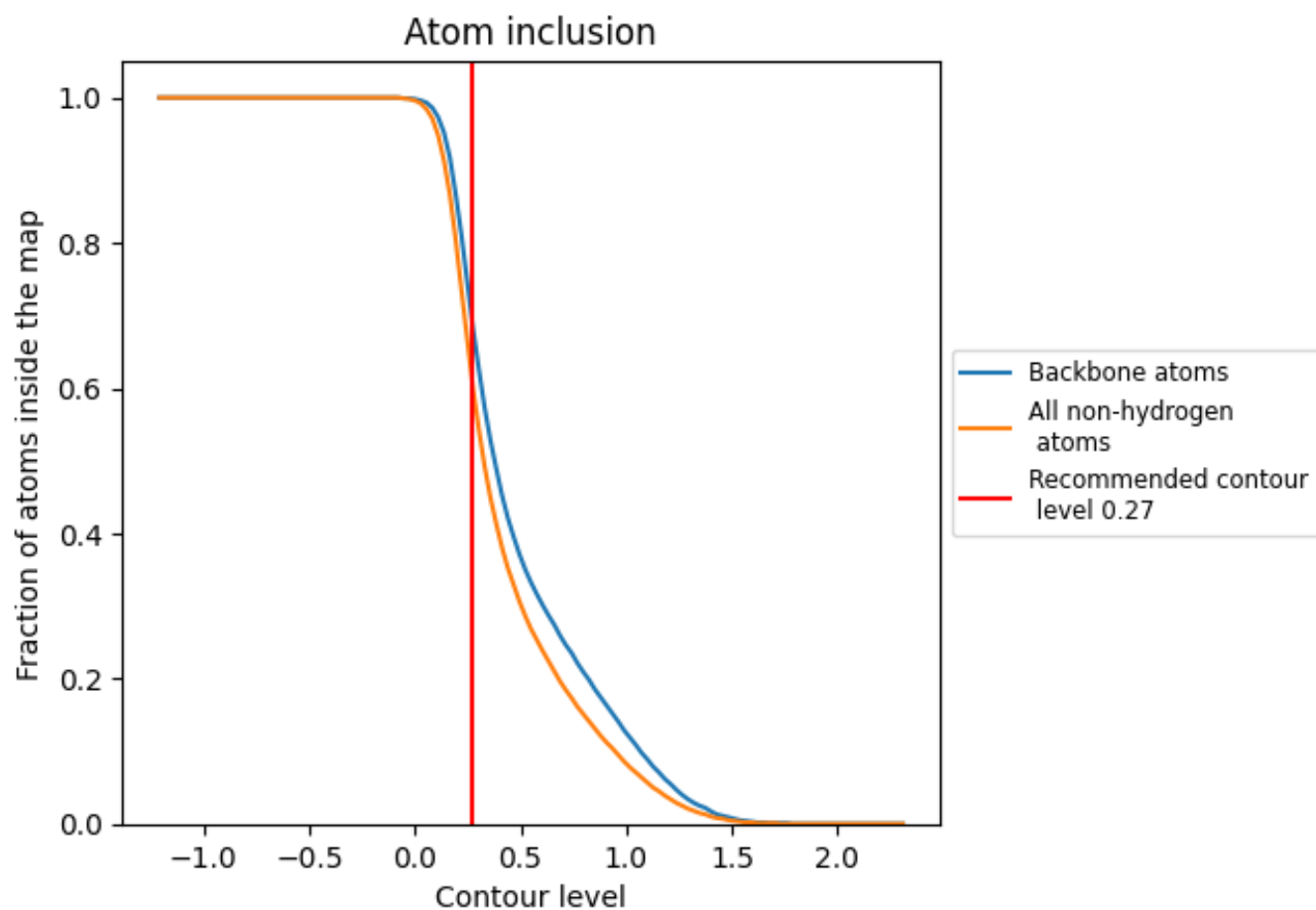
At the recommended contour level, 70% of all backbone atoms, 61% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.27) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6130	0.4170
A	0.7060	0.4120
B	0.6740	0.4140
C	0.6330	0.3630
D	0.6710	0.4220
E	0.6530	0.4120
F	0.6720	0.4230
G	0.6590	0.4200
H	0.6520	0.4220
I	0.8570	0.5310
J	0.8730	0.5460
K	0.6670	0.4280
L	0.5250	0.3900
P	0.5720	0.4370
R	0.3350	0.3800
S	0.4800	0.4030
U	0.4590	0.4160
V	0.2330	0.3610

1.0

0.0
<0.0