Full wwPDB X-ray Structure Validation Report (i)

Mar 21, 2016 – 06:05 PM EDT

PDB ID	:	5B04
Title	:	Crystal structure of the eukaryotic translation initiation factor 2B from Schizosaccharomyces pombe
Authors	:	Kashiwagi, K.; Ito, T.; Yokoyama, S.
Deposited on	:	2015-10-27
Resolution	:	2.99 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
http://wwpdb.org/validation/2016/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The following versions of software and data (see references (1)) were used in the production of this report:

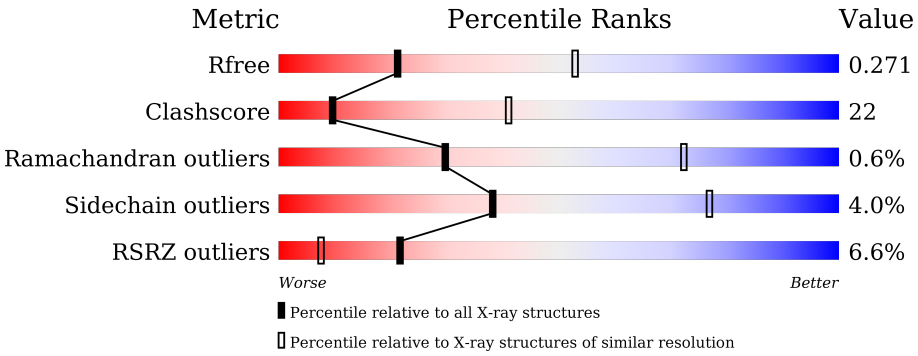
MolProbity	:	4.02b-467
Mogul	:	1.7.1 (RC1), CSD as537be (2016)
Xtriage (Phenix)	:	1.9-1692
EDS	:	rb-20027107
Percentile statistics	:	20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac	:	5.8.0122
CCP4	:	6.5.0
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	rb-20027107

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.99 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	91344	1578 (3.00-3.00)
Clashscore	102246	1912 (3.00-3.00)
Ramachandran outliers	100387	1853 (3.00-3.00)
Sidechain outliers	100360	1856 (3.00-3.00)
RSRZ outliers	91569	1592 (3.00-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	341	9% 59% 29% • 7%
1	B	341	5% 75% 17% • 6%
2	C	399	5% 66% 19% • 13%
2	D	399	2% 69% 17% • 13%
3	E	458	9% 45% 30% 7% • 16%
3	F	458	12% 38% 36% 9% • 16%

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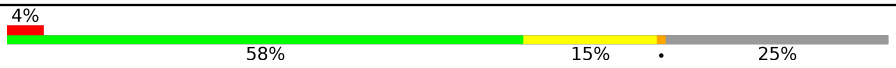
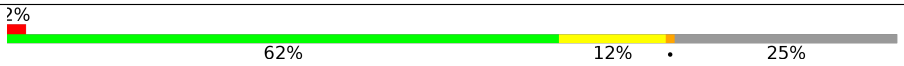
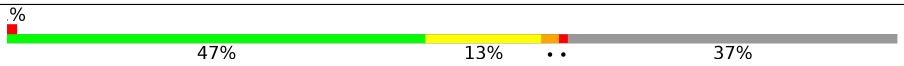
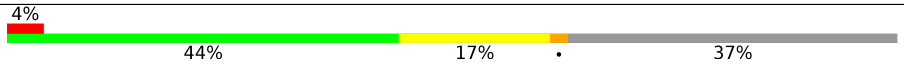
Mol	Chain	Length	Quality of chain
4	G	467	
4	H	467	
5	I	678	
5	J	678	

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 28584 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Translation initiation factor eIF-2B subunit alpha.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	317	Total	C	N	O	S	0	0	0
			2472	1571	430	458	13			
1	B	319	Total	C	N	O	S	0	0	0
			2489	1582	434	460	13			

- Molecule 2 is a protein called Probable translation initiation factor eIF-2B subunit beta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	C	349	Total	C	N	O	S	0	0	0
			2702	1714	459	515	14			
2	D	346	Total	C	N	O	S	0	0	0
			2674	1697	453	511	13			

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	-5	GLY	-	expression tag	UNP Q9UT76
C	-4	PRO	-	expression tag	UNP Q9UT76
C	-3	ILE	-	expression tag	UNP Q9UT76
C	-2	SER	-	expression tag	UNP Q9UT76
C	-1	GLU	-	expression tag	UNP Q9UT76
C	0	PHE	-	expression tag	UNP Q9UT76
D	-5	GLY	-	expression tag	UNP Q9UT76
D	-4	PRO	-	expression tag	UNP Q9UT76
D	-3	ILE	-	expression tag	UNP Q9UT76
D	-2	SER	-	expression tag	UNP Q9UT76
D	-1	GLU	-	expression tag	UNP Q9UT76
D	0	PHE	-	expression tag	UNP Q9UT76

- Molecule 3 is a protein called Probable translation initiation factor eIF-2B subunit gamma.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	384	Total	C	N	O	S	0	0	0
			2976	1895	511	553	17			
3	F	383	Total	C	N	O	S	0	0	0
			2967	1890	509	551	17			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	157	TYR	ILE	engineered mutation	UNP P56288
E	158	THR	TYR	engineered mutation	UNP P56288
E	159	VAL	GLY	engineered mutation	UNP P56288
F	157	TYR	ILE	engineered mutation	UNP P56288
F	158	THR	TYR	engineered mutation	UNP P56288
F	159	VAL	GLY	engineered mutation	UNP P56288

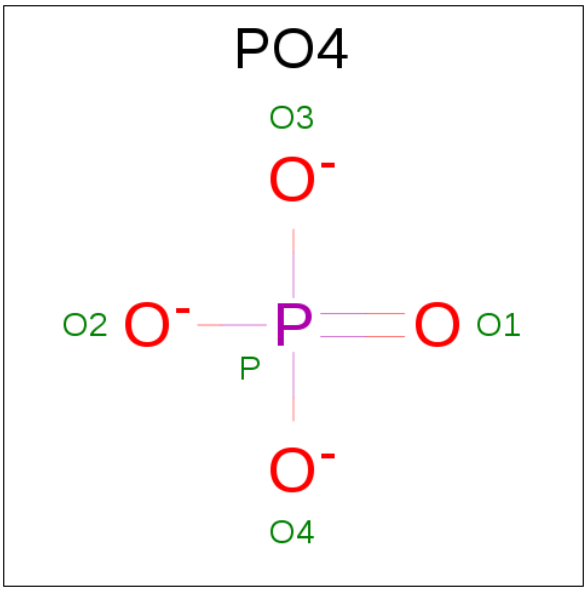
- Molecule 4 is a protein called Probable translation initiation factor eIF-2B subunit delta.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	G	349	Total	C	N	O	S	0	0	0
			2755	1763	466	513	13			
4	H	349	Total	C	N	O	S	0	0	0
			2755	1763	466	513	13			

- Molecule 5 is a protein called Probable translation initiation factor eIF-2B subunit epsilon.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	I	428	Total	C	N	O	S	0	0	0
			3377	2123	592	647	15			
5	J	428	Total	C	N	O	S	0	0	0
			3372	2119	591	647	15			

- Molecule 6 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P).



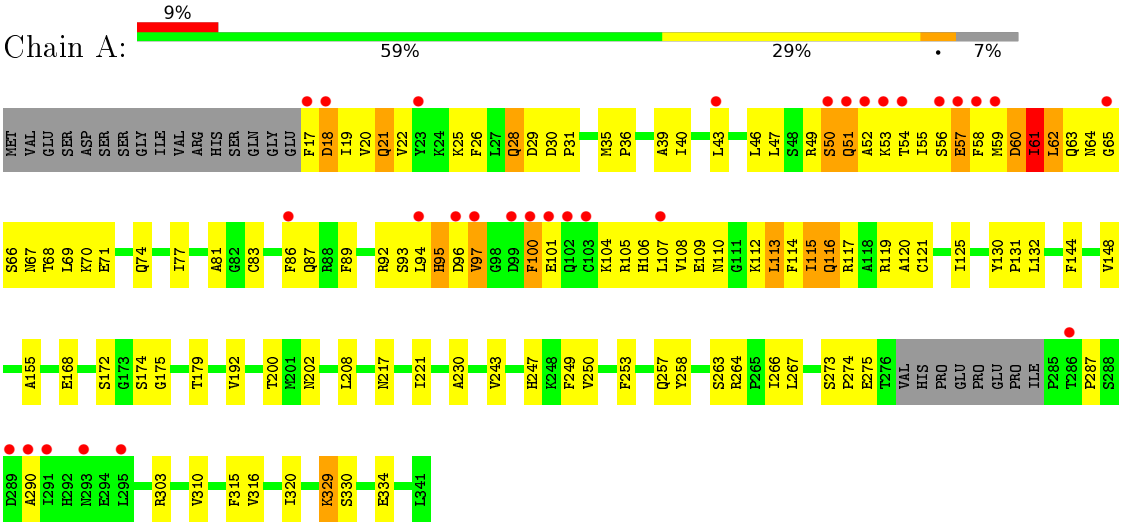
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total O P 5 4 1	0	0
6	B	1	Total O P 5 4 1	0	0
6	C	1	Total O P 5 4 1	0	0
6	D	1	Total O P 5 4 1	0	0
6	G	1	Total O P 5 4 1	0	0
6	G	1	Total O P 5 4 1	0	0
6	H	1	Total O P 5 4 1	0	0
6	H	1	Total O P 5 4 1	0	0
6	I	1	Total O P 5 4 1	0	0

3 Residue-property plots (i)

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

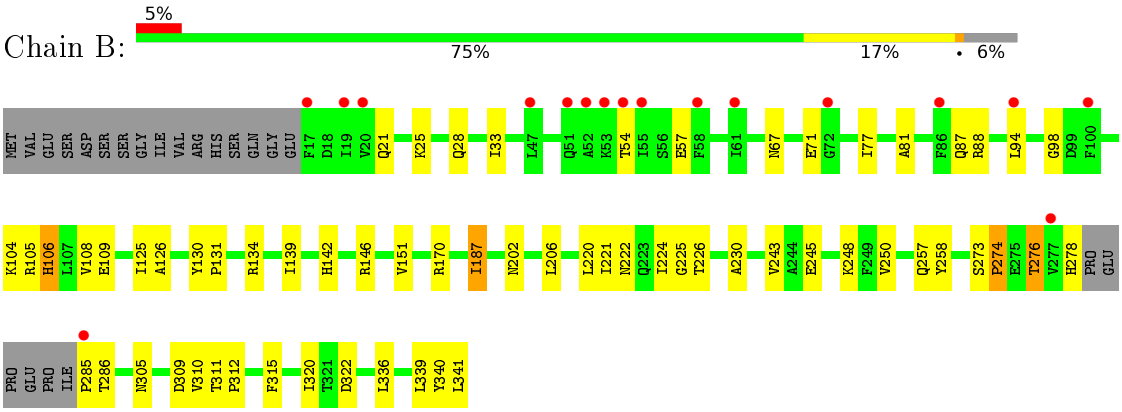
• Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain A:



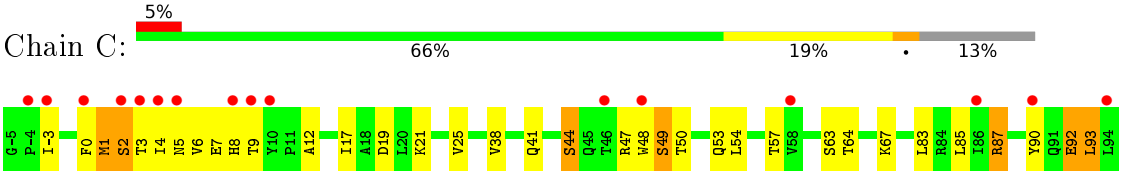
• Molecule 1: Translation initiation factor eIF-2B subunit alpha

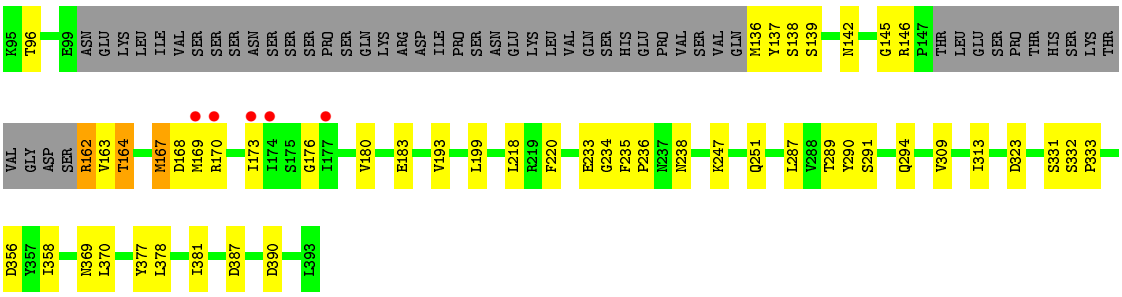
Chain B:

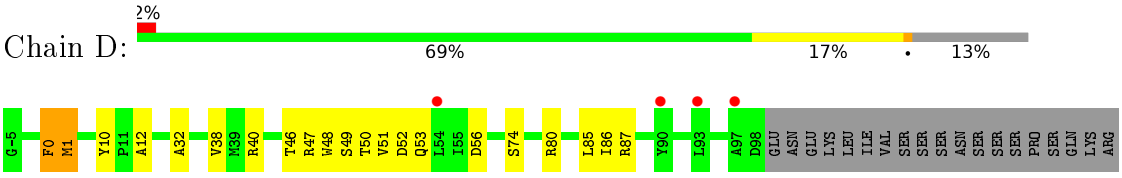


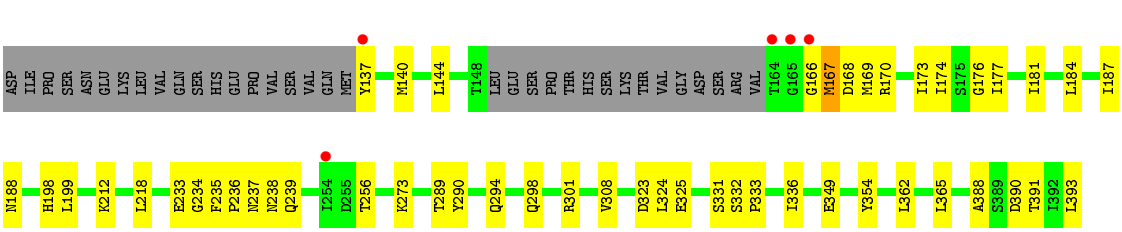
• Molecule 2: Probable translation initiation factor eIF-2B subunit beta

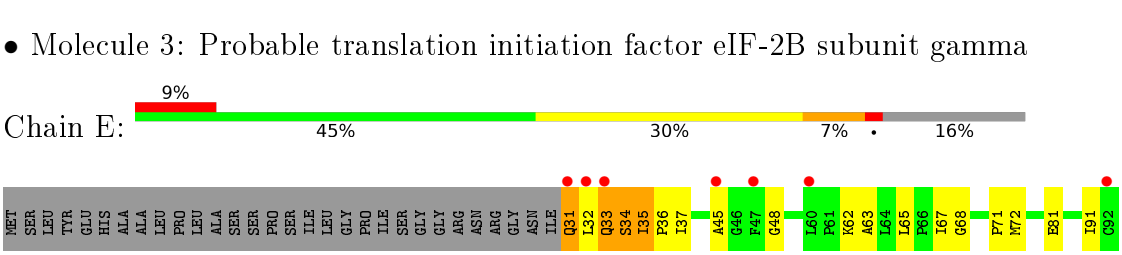
Chain C:

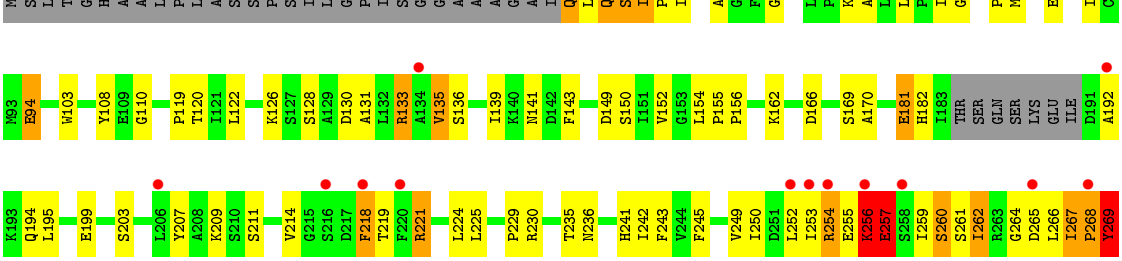


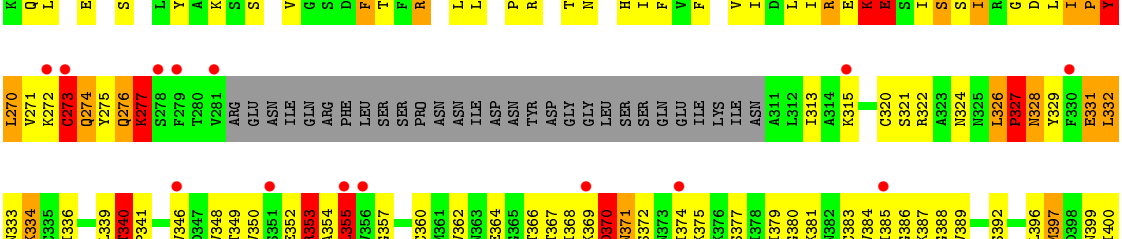


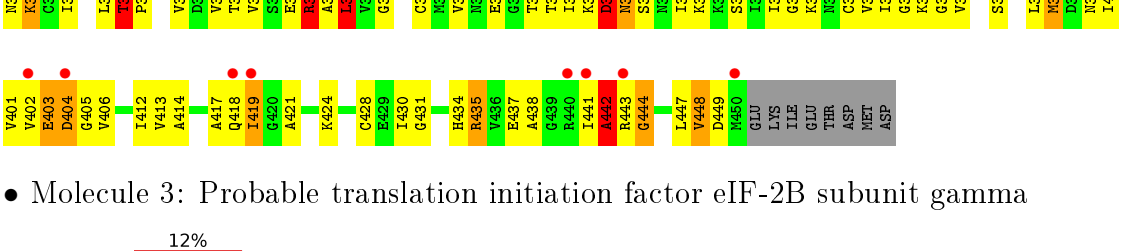


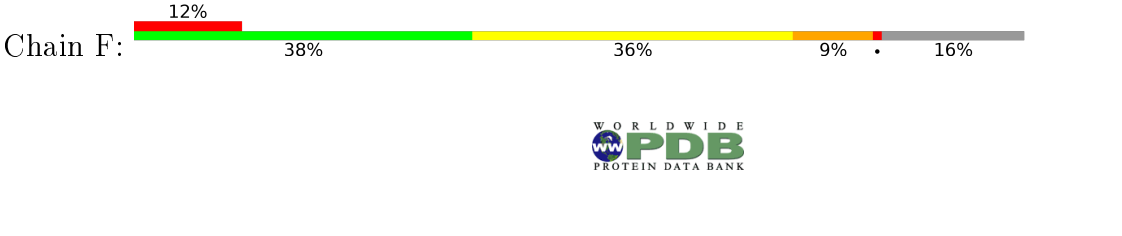












• Molecule 2: Probable translation initiation factor eIF-2B subunit beta

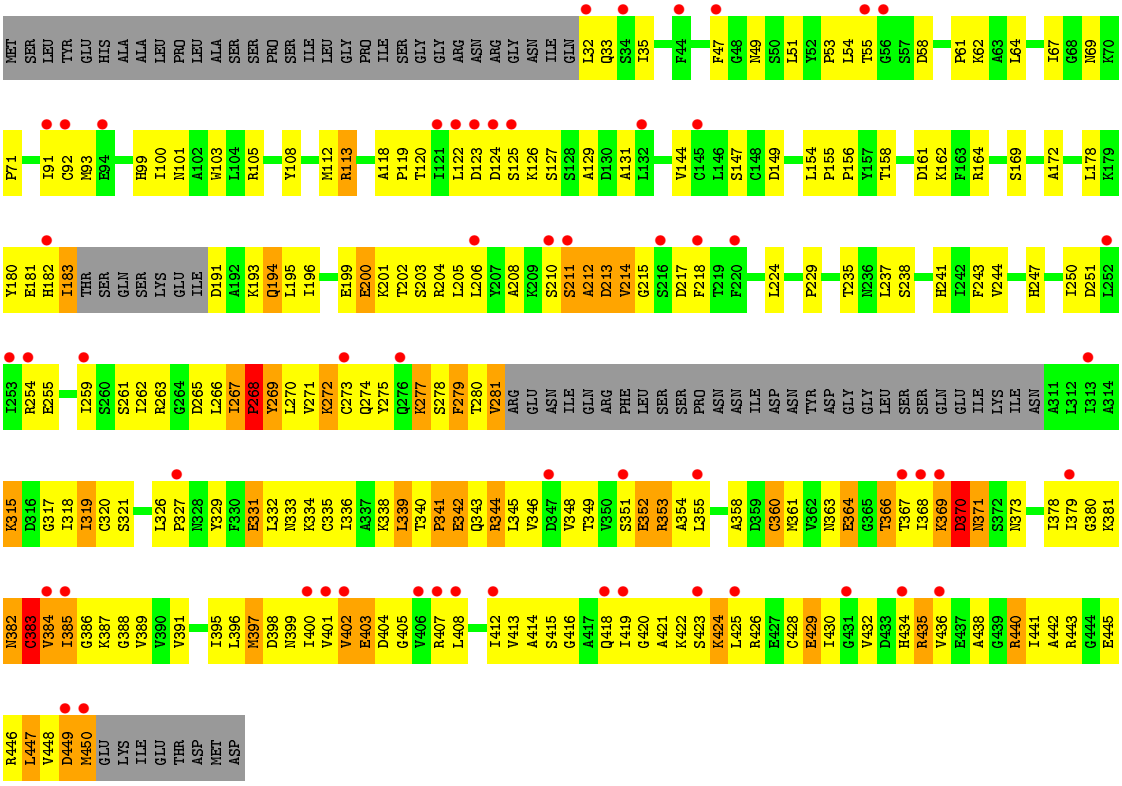
Chain D:

• Molecule 3: Probable translation initiation factor eIF-2B subunit gamma

Chain E:

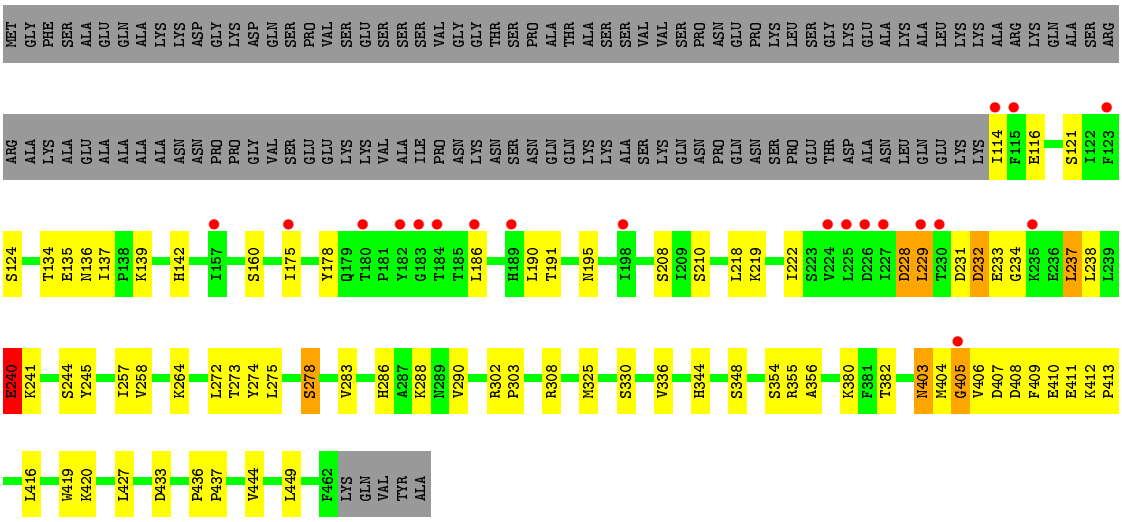
• Molecule 3: Probable translation initiation factor eIF-2B subunit gamma

Chain F:



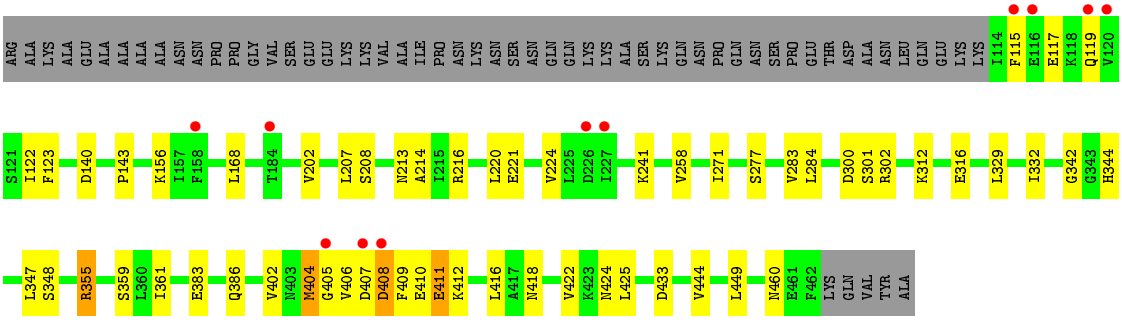
• Molecule 4: Probable translation initiation factor eIF-2B subunit delta

Chain G:



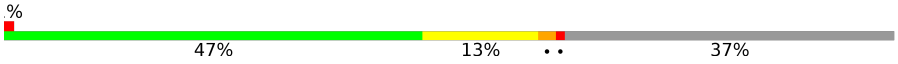
• Molecule 4: Probable translation initiation factor eIF-2B subunit delta

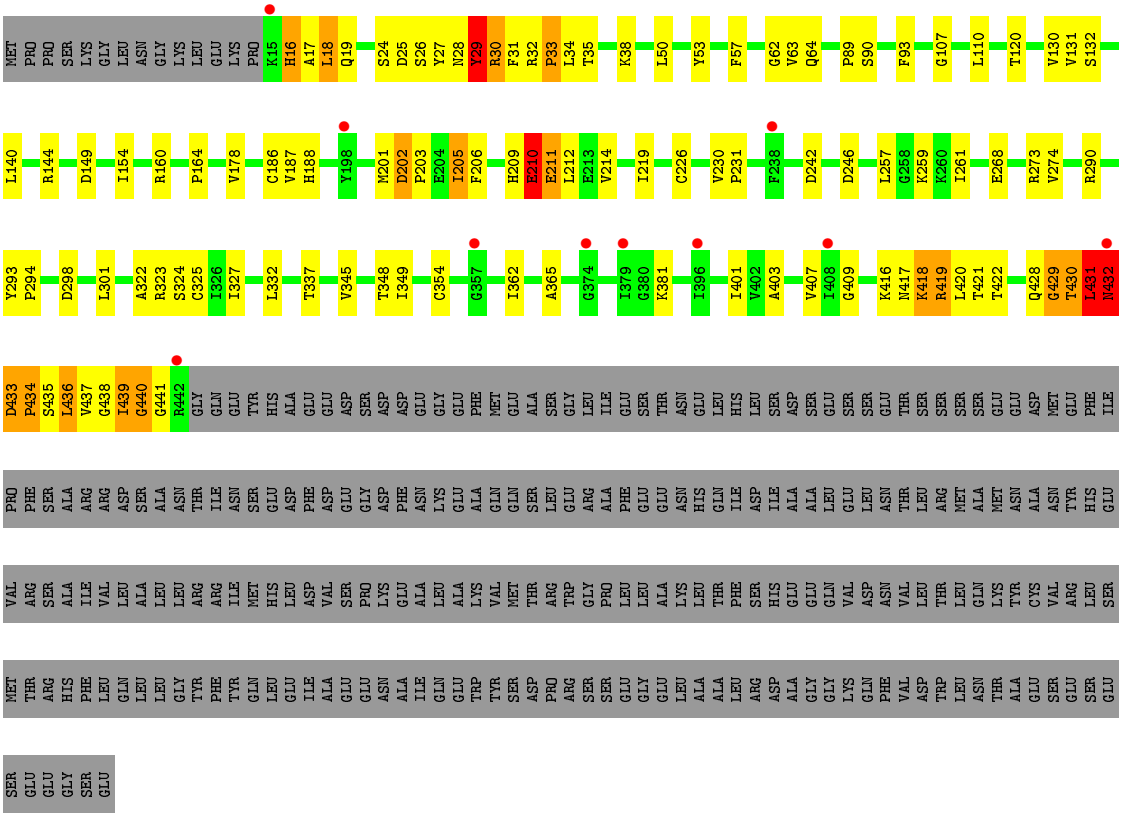
Chain H:



• Molecule 5: Probable translation initiation factor eIF-2B subunit epsilon

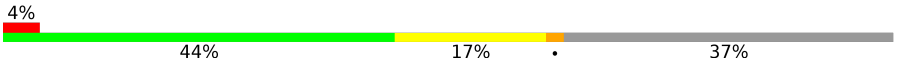
Chain I:

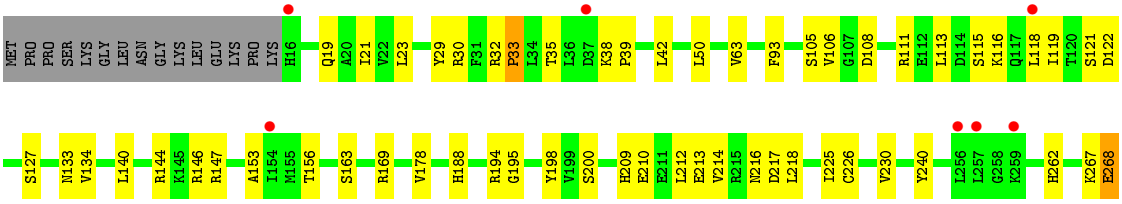


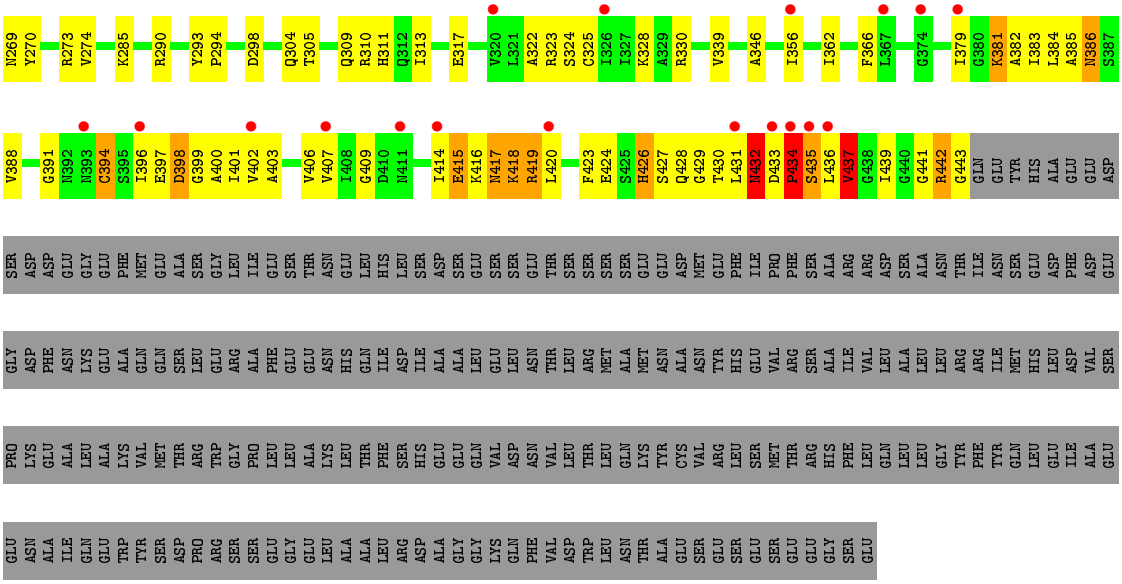


• Molecule 5: Probable translation initiation factor eIF-2B subunit epsilon

Chain J:






N269 Y270 R273 V274 K285 R290 Y293 P294 D298 Q304 T305 Q309 R310 H311 Q312 I313 E317 V320 L321 A322 R323 S324 C325 I326 I327 K328 A329 R330 V339 A346 I356 I362 F366 L367 G374 I379 G380 K381 A382 I383 L384 A385 N386 S387
V388 G391 N392 N393 C394 S395 I396 E397 D398 G399 A400 I401 V402 A403 V406 V407 I408 G409 D410 N411 I414 E415 K416 N417 K418 R419 L420 F423 E424 S425 H426 S427 Q428 G429 T430 L431 N432 D433 P434 S435 L436 V437 G438 I439 G440 G441 R442 G443 GLN GLU TYR HIS ALA GLU GLU ASP
SER ASP ASP GLU GLY GLU PHE MET GLU ALA SER GLY LEU ILE GLU SER THR ASN GLU LEU HIS LEU SER ASP SER GLU SER SER GLU THR SER SER SER GLU GLU ASP MET GLU PHE ILE PRO PHE SER ALA ARG ARG ASP SER ALA ASN THR ILE ASN SER GLU ASP PHE ASP GLU
GLY ASP PHE ASN LYS GLU ALA GLN GLN SER LEU GLU ARG ALA PHE GLU GLU ASN HIS GLN ILE ASP ILE ALA ALA LEU GLU LEU ASN THR LEU ARG MET ALA MET ASN ALA ASN TYR HIS GLU VAL ARG SER ALA ILE VAL LEU ALA LEU LEU ARG ARG ILE MET HIS LEU ASP VAL SER
PRO LYS GLU ALA LEU ALA LYS VAL MET THR ARG TRP GLY PRO LEU LEU ALA LYS LEU THR PHE SER HIS GLU GLU GLN VAL ASP ASN VAL LEU THR LEU GLN LYS TYR CYS VAL ARG LEU SER MET THR ARG HIS PHE LEU GLN LEU LEU LEU GLY TYR PHE TYR GLN LEU GLU ILE ALA GLU
GLU ASN ALA ILE GLN GLU TRP TYR SER ASP PRO ARG SER SER GLU GLY GLU LEU ALA ALA LEU ARG ASP ALA GLY GLY LYS GLN PHE VAL ASP TRP LEU ASN THR ALA GLU SER GLU SER GLU GLU GLY SER GLU

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	144.50Å 209.23Å 223.53Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.29 – 2.99 49.29 – 2.99	Depositor EDS
% Data completeness (in resolution range)	99.6 (49.29-2.99) 99.6 (49.29-2.99)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.40 (at 3.01Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.222 , 0.271 0.224 , 0.271	Depositor DCC
R_{free} test set	6802 reflections (5.00%)	DCC
Wilson B-factor (Å^2)	80.9	Xtriage
Anisotropy	0.445	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 52.5	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.31$	Xtriage
Outliers	0 of 136110 reflections	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	28584	wwPDB-VP
Average B, all atoms (Å^2)	86.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.99% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.375 respectively for untwinned datasets, and 0.333, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PO4

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.32	0/2519	0.63	5/3409 (0.1%)
1	B	0.29	0/2537	0.48	2/3434 (0.1%)
2	C	0.31	0/2747	0.49	1/3726 (0.0%)
2	D	0.26	0/2719	0.46	2/3690 (0.1%)
3	E	0.57	2/3029 (0.1%)	0.91	21/4100 (0.5%)
3	F	0.51	3/3020 (0.1%)	1.08	30/4088 (0.7%)
4	G	0.38	1/2802 (0.0%)	0.58	3/3797 (0.1%)
4	H	0.27	0/2802	0.43	0/3797
5	I	0.46	1/3437 (0.0%)	0.77	14/4658 (0.3%)
5	J	0.45	2/3432 (0.1%)	0.63	5/4652 (0.1%)
All	All	0.40	9/29044 (0.0%)	0.69	83/39351 (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	A	0	2
3	E	0	5
3	F	0	6
4	H	0	1
5	I	0	1
5	J	0	1
All	All	0	16

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	E	268	PRO	N-CD	-13.76	1.28	1.47
5	J	434	PRO	N-CD	-9.39	1.34	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	J	33	PRO	N-CD	8.86	1.60	1.47
5	I	434	PRO	N-CD	7.20	1.57	1.47
3	E	257	GLU	CG-CD	-6.17	1.42	1.51
3	F	382	ASN	CA-C	5.67	1.67	1.52
3	F	211	SER	CA-C	5.63	1.67	1.52
4	G	413	PRO	N-CD	5.42	1.55	1.47
3	F	268	PRO	N-CD	5.25	1.55	1.47

All (83) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	I	429	GLY	N-CA-C	16.66	154.74	113.10
3	F	370	ASP	N-CA-C	16.40	155.28	111.00
3	F	370	ASP	CB-CA-C	-15.86	78.69	110.40
5	I	432	ASN	CB-CA-C	-14.98	80.44	110.40
3	F	212	ALA	CB-CA-C	13.37	130.15	110.10
3	F	213	ASP	CB-CA-C	-12.36	85.68	110.40
3	F	213	ASP	N-CA-C	11.85	142.99	111.00
5	J	434	PRO	N-CA-CB	-11.58	89.41	103.30
3	F	384	VAL	N-CA-C	11.32	141.57	111.00
3	E	353	ARG	CB-CA-C	-11.28	87.84	110.40
5	I	431	LEU	N-CA-C	11.23	141.31	111.00
5	I	433	ASP	N-CA-CB	-10.64	91.44	110.60
3	F	371	ASN	N-CA-C	10.54	139.45	111.00
5	I	433	ASP	N-CA-C	10.26	138.70	111.00
3	F	212	ALA	N-CA-CB	9.87	123.92	110.10
1	A	95	HIS	CB-CA-C	9.40	129.21	110.40
5	I	432	ASN	N-CA-C	9.33	136.19	111.00
1	A	115	ILE	CB-CA-C	-9.32	92.95	111.60
3	F	383	CYS	N-CA-CB	9.08	126.95	110.60
3	F	211	SER	CB-CA-C	-8.72	93.53	110.10
5	J	434	PRO	N-CD-CG	-8.70	90.16	103.20
3	F	382	ASN	N-CA-C	8.53	134.02	111.00
3	E	435	ARG	CG-CD-NE	8.39	129.41	111.80
3	E	435	ARG	NE-CZ-NH1	8.30	124.45	120.30
3	E	435	ARG	N-CA-CB	-8.02	96.16	110.60
1	A	116	GLN	N-CA-CB	-7.89	96.39	110.60
3	E	355	LEU	CA-CB-CG	7.75	133.12	115.30
5	I	433	ASP	CB-CA-C	-7.34	95.71	110.40
3	F	385	ILE	N-CA-CB	7.31	127.62	110.80
3	E	403	GLU	CB-CA-C	6.89	124.18	110.40
3	F	364	GLU	N-CA-CB	-6.88	98.21	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	116	GLN	N-CA-C	6.71	129.12	111.00
3	F	382	ASN	CB-CA-C	-6.68	97.03	110.40
4	G	229	LEU	CA-CB-CG	6.62	130.53	115.30
4	G	405	GLY	N-CA-C	6.60	129.59	113.10
3	E	444	GLY	N-CA-C	6.47	129.26	113.10
3	E	370	ASP	N-CA-C	6.46	128.43	111.00
3	E	435	ARG	NE-CZ-NH2	-6.38	117.11	120.30
2	D	0	PHE	CB-CA-C	-6.36	97.68	110.40
3	F	194	GLN	N-CA-CB	-6.35	99.17	110.60
1	B	273	SER	C-N-CD	6.26	141.55	128.40
3	F	353	ARG	N-CA-C	-6.26	94.10	111.00
3	E	35	ILE	C-N-CD	6.23	141.49	128.40
3	F	210	SER	N-CA-C	-6.22	94.19	111.00
3	F	382	ASN	CA-C-O	6.16	133.03	120.10
3	E	257	GLU	N-CA-C	6.07	127.39	111.00
3	E	419	ILE	CB-CA-C	-6.04	99.52	111.60
3	F	449	ASP	N-CA-CB	-6.02	99.76	110.60
3	E	326	LEU	C-N-CD	6.01	141.02	128.40
3	F	382	ASN	CA-C-N	-5.95	104.11	117.20
3	F	118	ALA	C-N-CD	5.91	140.82	128.40
5	J	163	SER	C-N-CD	5.91	140.81	128.40
3	F	267	ILE	C-N-CD	5.88	140.75	128.40
3	E	404	ASP	CB-CA-C	-5.83	98.73	110.40
5	J	268	GLU	CB-CA-C	5.83	122.07	110.40
3	F	424	LYS	CA-CB-CG	5.81	126.19	113.40
5	I	202	ASP	C-N-CD	5.76	140.50	128.40
3	F	214	VAL	N-CA-C	-5.70	95.60	111.00
3	F	384	VAL	CB-CA-C	-5.66	100.65	111.40
5	I	440	GLY	N-CA-C	-5.63	99.02	113.10
3	F	366	THR	N-CA-C	5.63	126.21	111.00
3	E	355	LEU	CB-CG-CD2	5.49	120.33	111.00
3	F	397	MET	CB-CA-C	-5.48	99.44	110.40
3	E	371	ASN	CA-C-N	-5.44	105.24	117.20
3	E	435	ARG	CD-NE-CZ	5.43	131.21	123.60
2	C	167	MET	CB-CA-C	-5.43	99.54	110.40
5	J	415	GLU	N-CA-C	5.42	125.64	111.00
5	I	211	GLU	CB-CA-C	5.41	121.22	110.40
1	A	95	HIS	N-CA-C	-5.39	96.44	111.00
5	I	211	GLU	N-CA-C	-5.37	96.49	111.00
3	E	268	PRO	N-CD-CG	5.37	111.26	103.20
1	B	274	PRO	CA-N-CD	-5.28	104.11	111.50
5	I	210	GLU	CB-CA-C	-5.26	99.89	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	352	GLU	N-CA-C	5.25	125.16	111.00
5	I	29	TYR	CB-CA-C	-5.22	99.95	110.40
3	F	397	MET	N-CA-C	5.18	124.99	111.00
3	E	371	ASN	N-CA-CB	-5.18	101.28	110.60
3	E	256	LYS	C-N-CA	-5.12	108.89	121.70
3	E	435	ARG	N-CA-C	5.12	124.82	111.00
4	G	240	GLU	OE1-CD-OE2	-5.08	117.20	123.30
5	I	211	GLU	N-CA-CB	5.05	119.69	110.60
3	F	422	LYS	N-CA-C	5.05	124.62	111.00
2	D	1	MET	N-CA-CB	5.04	119.67	110.60

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	329	LYS	Peptide
1	A	60	ASP	Peptide
3	E	257	GLU	Peptide
3	E	260	SER	Peptide
3	E	269	TYR	Peptide
3	E	340	THR	Peptide
3	E	442	ALA	Peptide
3	F	269	TYR	Peptide
3	F	369	LYS	Peptide
3	F	370	ASP	Peptide
3	F	383	CYS	Peptide
3	F	403	GLU	Peptide
3	F	447	LEU	Peptide
4	H	355	ARG	Peptide
5	I	31	PHE	Peptide
5	J	432	ASN	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2472	0	2492	150	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2489	0	2512	52	0
2	C	2702	0	2744	95	0
2	D	2674	0	2714	52	1
3	E	2976	0	3032	265	0
3	F	2967	0	3022	325	7
4	G	2755	0	2841	91	0
4	H	2755	0	2841	45	0
5	I	3377	0	3361	140	1
5	J	3372	0	3351	134	7
6	A	5	0	0	0	0
6	B	5	0	0	0	0
6	C	5	0	0	0	0
6	D	5	0	0	1	0
6	G	10	0	0	1	0
6	H	10	0	0	0	0
6	I	5	0	0	1	0
All	All	28584	0	28910	1287	8

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 22.

All (1287) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:218:PHE:CE2	5:I:203:PRO:HB3	1.37	1.58
3:F:368:ILE:HA	3:F:385:ILE:O	1.17	1.24
3:E:355:LEU:HD21	3:E:369:LYS:O	1.05	1.23
3:F:218:PHE:HE2	5:I:203:PRO:CB	1.54	1.21
3:F:265:ASP:O	3:F:268:PRO:HD2	1.35	1.21
1:A:62:LEU:O	1:A:65:GLY:N	1.72	1.20
3:E:355:LEU:CD2	3:E:369:LYS:O	1.89	1.20
3:E:371:ASN:O	3:E:388:GLY:HA2	1.42	1.19
3:F:212:ALA:O	3:F:213:ASP:CG	1.81	1.18
1:A:18:ASP:HB3	1:A:21:GLN:HG3	1.25	1.18
3:E:276:GLN:O	3:E:277:LYS:CG	1.92	1.18
3:E:276:GLN:O	3:E:277:LYS:HG2	1.02	1.17
3:E:37:ILE:HD11	3:E:141:ASN:CG	1.66	1.16
3:F:368:ILE:CA	3:F:385:ILE:O	1.94	1.14
3:F:348:VAL:CG1	3:F:364:GLU:HG2	1.78	1.13
1:A:52:ALA:O	1:A:57:GLU:OE1	1.67	1.13
3:E:355:LEU:HD23	3:E:370:ASP:HA	1.31	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:238:LEU:O	4:G:240:GLU:OE1	1.66	1.12
5:J:399:GLY:O	5:J:417:ASN:HA	1.49	1.12
1:B:106:HIS:CE1	2:C:146:ARG:HG2	1.86	1.10
5:I:18:LEU:CD2	5:I:63:VAL:HA	1.82	1.10
3:F:201:LYS:HE3	4:G:409:PHE:HE1	1.01	1.10
2:D:48:TRP:NE1	2:D:166:GLY:O	1.83	1.10
5:J:439:ILE:HG22	5:J:441:GLY:H	1.14	1.09
3:E:276:GLN:C	3:E:277:LYS:HG2	1.66	1.09
1:A:53:LYS:CE	1:A:104:LYS:NZ	2.15	1.09
3:F:201:LYS:CE	4:G:409:PHE:HE1	1.63	1.08
3:E:269:TYR:CE1	3:E:270:LEU:HD23	1.88	1.08
3:F:351:SER:OG	3:F:355:LEU:HD11	1.51	1.08
5:I:439:ILE:HD12	5:I:440:GLY:N	1.66	1.08
5:I:431:LEU:HD23	5:I:432:ASN:H	1.17	1.08
1:A:53:LYS:NZ	1:A:104:LYS:CE	2.15	1.08
3:F:397:MET:O	3:F:398:ASP:OD1	1.72	1.06
3:E:149:ASP:HB2	3:E:327:PRO:HD2	1.38	1.06
5:I:33:PRO:HG2	5:I:419:ARG:HG2	1.37	1.06
4:G:403:ASN:ND2	4:G:404:MET:O	1.88	1.06
3:F:218:PHE:CE2	5:I:203:PRO:CB	2.31	1.06
3:F:218:PHE:CD2	5:I:203:PRO:HB3	1.90	1.06
5:J:439:ILE:HD12	5:J:439:ILE:H	1.19	1.06
3:F:385:ILE:HG12	3:F:402:VAL:HB	1.35	1.03
3:E:355:LEU:CD2	3:E:370:ASP:HA	1.88	1.03
3:F:348:VAL:HG11	3:F:364:GLU:HG2	1.08	1.02
3:E:211:SER:HA	3:E:214:VAL:CG1	1.90	1.02
3:F:201:LYS:HE3	4:G:409:PHE:CE1	1.93	1.02
5:I:187:VAL:HG11	5:I:205:ILE:CG2	1.90	1.02
3:E:418:GLN:OE1	3:E:435:ARG:NH1	1.92	1.01
3:F:343:GLN:HG3	3:F:344:ARG:H	1.21	1.01
1:A:115:ILE:O	1:A:115:ILE:HG22	1.59	1.00
3:F:385:ILE:HG12	3:F:402:VAL:CB	1.91	1.00
3:F:343:GLN:HG3	3:F:344:ARG:HG3	1.43	0.99
3:F:421:ALA:O	3:F:438:ALA:HA	1.61	0.99
3:F:446:ARG:HG2	3:F:447:LEU:HB2	1.44	0.99
1:A:62:LEU:C	1:A:65:GLY:H	1.66	0.99
2:D:239:GLN:NE2	4:H:404:MET:HB2	1.76	0.98
3:F:123:ASP:OD1	3:F:124:ASP:N	1.95	0.98
3:F:265:ASP:C	3:F:268:PRO:HD2	1.82	0.98
3:F:447:LEU:O	3:F:448:VAL:HG23	1.64	0.98
3:E:355:LEU:HD21	3:E:369:LYS:C	1.83	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:430:THR:O	5:I:439:ILE:HD13	1.63	0.97
3:E:37:ILE:HD11	3:E:141:ASN:OD1	1.61	0.97
5:I:18:LEU:HD21	5:I:63:VAL:HA	1.43	0.97
3:E:355:LEU:HD23	3:E:370:ASP:CA	1.96	0.96
3:F:363:ASN:OD1	3:F:364:GLU:N	1.99	0.95
5:I:407:VAL:O	5:I:431:LEU:O	1.83	0.95
3:E:274:GLN:HB3	3:E:276:GLN:HE22	1.27	0.95
5:I:32:ARG:O	5:I:33:PRO:C	2.01	0.94
5:I:439:ILE:HD12	5:I:440:GLY:C	1.87	0.94
3:F:193:LYS:O	3:F:211:SER:HB3	1.65	0.94
3:F:352:GLU:O	3:F:355:LEU:HG	1.65	0.94
3:F:201:LYS:NZ	4:G:409:PHE:CE1	2.34	0.94
3:F:363:ASN:OD1	3:F:381:LYS:HG3	1.67	0.94
3:E:91:ILE:HG21	3:E:131:ALA:HB1	1.49	0.94
5:I:431:LEU:HD23	5:I:432:ASN:N	1.83	0.94
3:E:355:LEU:HD23	3:E:370:ASP:C	1.88	0.94
3:F:191:ASP:N	3:F:329:TYR:CZ	2.36	0.94
3:E:269:TYR:CD1	3:E:270:LEU:HA	2.02	0.93
5:J:418:LYS:HZ1	5:J:420:LEU:HA	1.31	0.93
3:F:336:ILE:HD12	3:F:395:ILE:HD13	1.50	0.93
2:C:47:ARG:CG	2:C:167:MET:HE1	1.99	0.92
5:J:418:LYS:NZ	5:J:420:LEU:HD23	1.83	0.92
3:E:355:LEU:HB3	3:E:372:SER:O	1.70	0.92
3:F:348:VAL:HG11	3:F:364:GLU:CG	2.00	0.92
1:A:46:LEU:O	1:A:50:SER:OG	1.87	0.92
3:F:367:THR:O	3:F:385:ILE:N	2.02	0.92
3:E:37:ILE:HD11	3:E:141:ASN:ND2	1.85	0.92
3:F:446:ARG:CG	3:F:447:LEU:HB2	1.99	0.91
3:F:201:LYS:CE	4:G:409:PHE:CE1	2.50	0.91
3:F:351:SER:OG	3:F:355:LEU:CD1	2.19	0.91
3:F:191:ASP:N	3:F:329:TYR:CE2	2.38	0.90
2:C:167:MET:HG2	2:C:168:ASP:H	1.33	0.90
5:J:409:GLY:HA3	5:J:433:ASP:O	1.70	0.90
3:F:349:THR:OG1	3:F:366:THR:O	1.90	0.90
3:E:37:ILE:CD1	3:E:141:ASN:CG	2.41	0.89
3:F:424:LYS:C	3:F:425:LEU:HD12	1.92	0.89
5:I:430:THR:OG1	5:I:441:GLY:HA2	1.71	0.89
5:J:397:GLU:HG3	5:J:398:ASP:H	1.34	0.89
1:A:52:ALA:C	1:A:57:GLU:OE1	2.10	0.88
1:A:62:LEU:O	1:A:65:GLY:CA	2.20	0.88
3:F:193:LYS:O	3:F:211:SER:CB	2.22	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:402:VAL:O	4:H:404:MET:HE2	1.73	0.88
3:F:199:GLU:OE1	3:F:202:THR:OG1	1.91	0.88
5:I:431:LEU:CD2	5:I:432:ASN:H	1.86	0.88
5:I:18:LEU:HD21	5:I:63:VAL:CA	2.04	0.88
3:F:426:ARG:HE	3:F:442:ALA:HB1	1.37	0.88
3:F:385:ILE:CG1	3:F:402:VAL:HB	2.04	0.87
2:C:87:ARG:HH11	2:C:87:ARG:HG3	1.36	0.87
4:G:238:LEU:C	4:G:240:GLU:OE1	2.11	0.87
5:J:439:ILE:CG2	5:J:442:ARG:H	1.86	0.87
5:J:418:LYS:HE2	5:J:420:LEU:HG	1.56	0.87
3:E:320:CYS:SG	3:E:321:SER:N	2.47	0.87
1:A:62:LEU:O	1:A:66:SER:N	2.08	0.86
3:F:366:THR:HG22	3:F:383:CYS:H	1.38	0.86
1:A:60:ASP:C	1:A:61:ILE:HD12	1.95	0.86
1:A:62:LEU:HD12	1:A:63:GLN:N	1.90	0.86
3:F:434:HIS:CD2	3:F:448:VAL:HG23	2.10	0.86
3:F:212:ALA:O	3:F:213:ASP:OD1	1.93	0.86
3:F:366:THR:HB	3:F:383:CYS:O	1.76	0.85
5:I:28:ASN:O	5:I:29:TYR:HD1	1.58	0.85
5:I:33:PRO:CG	5:I:419:ARG:HG2	2.06	0.85
1:B:105:ARG:HH11	1:B:105:ARG:HG3	1.40	0.85
5:J:33:PRO:CG	5:J:419:ARG:HB3	2.06	0.85
1:A:55:ILE:HA	1:A:58:PHE:HB3	1.59	0.85
1:A:18:ASP:CB	1:A:21:GLN:HG3	2.05	0.85
3:F:366:THR:HG21	3:F:380:GLY:O	1.77	0.85
3:F:396:LEU:HD23	3:F:413:VAL:HG22	1.58	0.85
3:F:354:ALA:HB3	3:F:370:ASP:OD1	1.77	0.84
2:C:93:LEU:O	2:C:96:THR:OG1	1.93	0.84
5:J:418:LYS:HZ1	5:J:420:LEU:HD23	1.41	0.84
3:E:368:ILE:HG22	3:E:385:ILE:HB	1.59	0.84
1:A:47:LEU:HA	1:A:50:SER:OG	1.78	0.84
3:F:396:LEU:HD22	3:F:413:VAL:HG21	1.60	0.83
2:C:136:MET:HG3	2:C:138:SER:O	1.78	0.83
3:F:265:ASP:O	3:F:268:PRO:CD	2.25	0.83
3:F:434:HIS:CD2	3:F:448:VAL:CG2	2.62	0.83
1:A:61:ILE:HD13	1:A:62:LEU:HD12	1.60	0.82
1:B:105:ARG:O	1:B:109:GLU:HG3	1.79	0.82
5:I:187:VAL:HG11	5:I:205:ILE:HG22	1.60	0.82
3:F:367:THR:HB	3:F:384:VAL:HG12	1.58	0.82
3:E:348:VAL:HG21	3:E:364:GLU:HG2	1.62	0.82
2:C:47:ARG:HG2	2:C:167:MET:HE1	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:187:VAL:CG1	5:I:205:ILE:CG2	2.58	0.81
2:C:47:ARG:HG3	2:C:167:MET:SD	2.20	0.81
4:H:402:VAL:O	4:H:404:MET:CE	2.27	0.81
1:A:55:ILE:HG13	1:A:56:SER:H	1.46	0.81
5:I:187:VAL:HG11	5:I:205:ILE:HG21	1.63	0.81
3:E:274:GLN:HB3	3:E:276:GLN:NE2	1.96	0.81
3:F:446:ARG:CB	3:F:447:LEU:HB2	2.10	0.81
3:F:396:LEU:CD2	3:F:413:VAL:CG2	2.58	0.81
3:E:211:SER:HA	3:E:214:VAL:HG11	1.60	0.81
3:E:329:TYR:HB2	3:E:331:GLU:OE1	1.79	0.81
1:A:113:LEU:HA	1:A:116:GLN:HG3	1.62	0.80
3:E:130:ASP:HA	3:E:133:ARG:CZ	2.13	0.79
4:G:228:ASP:CB	4:G:229:LEU:HD12	2.13	0.79
3:E:385:ILE:HG23	3:E:389:VAL:HG21	1.64	0.79
5:I:18:LEU:HD23	5:I:63:VAL:HA	1.62	0.79
3:E:352:GLU:O	3:E:353:ARG:CG	2.29	0.79
5:I:202:ASP:OD1	5:I:205:ILE:HD11	1.82	0.79
1:A:53:LYS:HZ3	1:A:104:LYS:CE	1.83	0.79
3:E:396:LEU:HD22	3:E:400:ILE:HD11	1.64	0.79
5:I:187:VAL:CG1	5:I:205:ILE:HG21	2.13	0.79
5:I:429:GLY:HA3	5:I:436:LEU:HD23	1.64	0.79
1:A:25:LYS:HA	1:A:28:GLN:OE1	1.83	0.78
3:F:434:HIS:CG	3:F:448:VAL:HG23	2.19	0.78
5:J:397:GLU:HG3	5:J:398:ASP:N	1.94	0.78
5:J:409:GLY:CA	5:J:433:ASP:O	2.32	0.78
3:F:367:THR:O	3:F:384:VAL:CA	2.32	0.78
2:D:50:THR:HB	2:D:53:GLN:HG3	1.65	0.78
3:F:421:ALA:O	3:F:438:ALA:CA	2.30	0.78
5:J:33:PRO:HG3	5:J:419:ARG:HB3	1.64	0.78
5:J:381:LYS:HB3	5:J:398:ASP:HA	1.66	0.78
3:E:267:ILE:N	3:E:267:ILE:HD13	1.98	0.78
3:E:352:GLU:O	3:E:353:ARG:CB	2.32	0.77
5:I:439:ILE:CD1	5:I:441:GLY:N	2.47	0.77
3:F:366:THR:CB	3:F:383:CYS:O	2.32	0.77
1:B:106:HIS:NE2	2:C:146:ARG:CG	2.46	0.77
2:C:167:MET:HG2	2:C:168:ASP:N	1.98	0.77
3:E:211:SER:CA	3:E:214:VAL:CG1	2.63	0.77
4:G:228:ASP:HB2	4:G:229:LEU:CD1	2.13	0.77
2:C:48:TRP:CD1	2:C:54:LEU:HB2	2.18	0.77
3:F:358:ALA:N	3:F:360:CYS:SG	2.58	0.77
4:G:278:SER:OG	6:G:501:PO4:O4	2.02	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:0:PHE:O	2:D:1:MET:HG3	1.86	0.76
1:B:106:HIS:CE1	2:C:146:ARG:CG	2.68	0.76
2:C:162:ARG:NE	2:C:162:ARG:HA	1.97	0.76
2:C:93:LEU:HA	2:C:96:THR:CG2	2.16	0.76
5:I:205:ILE:H	5:I:205:ILE:HD13	1.50	0.76
3:F:341:PRO:C	3:F:342:GLU:HG2	2.05	0.76
3:E:182:HIS:CD2	3:E:334:LYS:HE3	2.21	0.76
3:F:343:GLN:HA	3:F:343:GLN:HE21	1.50	0.76
1:A:63:GLN:O	1:A:67:ASN:OD1	2.02	0.75
3:F:343:GLN:CG	3:F:344:ARG:H	1.99	0.75
1:A:61:ILE:HD13	1:A:62:LEU:N	2.00	0.75
3:E:369:LYS:HB2	3:E:386:GLY:CA	2.17	0.75
3:F:385:ILE:HG12	3:F:402:VAL:CG2	2.16	0.75
3:F:181:GLU:H	3:F:334:LYS:HE3	1.52	0.75
3:E:369:LYS:HB2	3:E:386:GLY:HA3	1.68	0.75
5:J:386:ASN:H	5:J:386:ASN:ND2	1.84	0.75
3:E:269:TYR:CD1	3:E:270:LEU:CA	2.70	0.75
5:J:431:LEU:O	5:J:432:ASN:HB2	1.86	0.75
3:F:320:CYS:SG	3:F:321:SER:N	2.60	0.75
3:F:343:GLN:HA	3:F:343:GLN:NE2	2.03	0.74
5:I:32:ARG:O	5:I:34:LEU:N	2.19	0.74
5:I:205:ILE:HD13	5:I:205:ILE:N	2.03	0.74
1:A:62:LEU:HD12	1:A:63:GLN:H	1.51	0.74
3:F:269:TYR:CD1	3:F:270:LEU:HA	2.21	0.74
3:F:396:LEU:HD22	3:F:413:VAL:CG2	2.16	0.74
3:F:426:ARG:HE	3:F:442:ALA:CB	2.00	0.74
3:E:211:SER:C	3:E:214:VAL:HG13	2.06	0.74
3:F:361:MET:HB2	3:F:378:ILE:HD13	1.70	0.74
1:A:22:VAL:O	1:A:25:LYS:HB2	1.88	0.74
4:G:241:LYS:HA	4:G:244:SER:HB2	1.68	0.74
5:I:188:HIS:HD2	5:I:201:MET:HB3	1.52	0.74
5:I:439:ILE:CD1	5:I:440:GLY:C	2.56	0.74
3:F:363:ASN:CG	3:F:381:LYS:HG3	2.07	0.74
3:F:447:LEU:O	3:F:448:VAL:CG2	2.36	0.74
3:E:252:LEU:HD12	3:E:256:LYS:HE3	1.70	0.73
1:A:18:ASP:HB3	1:A:21:GLN:CG	2.14	0.73
3:E:269:TYR:HD1	3:E:270:LEU:CA	2.01	0.73
1:A:94:LEU:C	1:A:95:HIS:O	2.22	0.73
3:F:266:LEU:O	3:F:269:TYR:HD2	1.71	0.73
3:F:371:ASN:O	3:F:388:GLY:HA2	1.88	0.73
2:C:50:THR:OG1	2:C:53:GLN:OE1	2.06	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:430:THR:OG1	5:I:439:ILE:HD11	1.88	0.73
3:F:119:PRO:HG2	3:F:122:LEU:HG	1.70	0.73
3:F:430:ILE:HA	3:F:446:ARG:O	1.89	0.73
5:I:28:ASN:O	5:I:29:TYR:CD1	2.40	0.73
5:J:399:GLY:C	5:J:417:ASN:HA	2.09	0.73
3:F:265:ASP:C	3:F:268:PRO:CD	2.57	0.73
5:I:430:THR:O	5:I:439:ILE:CD1	2.35	0.73
5:I:437:VAL:HG22	5:I:438:GLY:H	1.54	0.73
2:C:47:ARG:HG3	2:C:167:MET:HE1	1.70	0.73
2:C:87:ARG:NH1	2:C:87:ARG:HG3	1.98	0.72
3:F:366:THR:CA	3:F:383:CYS:O	2.36	0.72
1:A:115:ILE:CG2	1:A:115:ILE:O	2.31	0.72
1:A:25:LYS:O	1:A:28:GLN:OE1	2.06	0.72
1:A:26:PHE:O	1:A:29:ASP:N	2.22	0.72
3:E:182:HIS:CD2	3:E:334:LYS:CE	2.72	0.72
3:F:418:GLN:O	3:F:435:ARG:HA	1.89	0.72
5:I:439:ILE:HD12	5:I:441:GLY:N	2.05	0.72
3:E:81:GLU:OE2	3:E:110:GLY:O	2.07	0.72
3:E:269:TYR:CE1	3:E:270:LEU:HA	2.24	0.72
1:A:61:ILE:HD13	1:A:62:LEU:CD1	2.19	0.72
2:D:48:TRP:HE1	2:D:166:GLY:C	1.92	0.72
3:F:267:ILE:N	3:F:267:ILE:HD13	2.05	0.72
5:J:418:LYS:NZ	5:J:420:LEU:HA	2.03	0.72
3:F:124:ASP:OD1	3:F:125:SER:N	2.23	0.72
2:C:377:TYR:OH	4:H:460:ASN:ND2	2.23	0.72
5:J:385:ALA:O	5:J:388:VAL:HG23	1.90	0.72
3:E:274:GLN:CB	3:E:276:GLN:HE22	2.02	0.71
1:A:57:GLU:O	1:A:61:ILE:HG23	1.91	0.71
1:B:104:LYS:O	1:B:108:VAL:HG23	1.90	0.71
3:F:446:ARG:HG2	3:F:447:LEU:CB	2.19	0.71
1:B:106:HIS:NE2	2:C:146:ARG:HG2	2.06	0.71
3:E:349:THR:OG1	3:E:366:THR:O	2.04	0.71
5:J:418:LYS:HE2	5:J:420:LEU:CG	2.21	0.71
2:D:51:VAL:HG13	2:D:52:ASP:OD1	1.91	0.71
4:G:228:ASP:HB3	4:G:229:LEU:HD12	1.71	0.71
2:C:235:PHE:HE1	4:G:405:GLY:HA3	1.55	0.71
3:E:355:LEU:HD23	3:E:371:ASN:N	2.05	0.71
4:G:240:GLU:CD	4:G:241:LYS:H	1.93	0.71
1:A:59:MET:C	1:A:61:ILE:HG13	2.11	0.71
3:F:426:ARG:NE	3:F:442:ALA:HB1	2.04	0.71
5:J:439:ILE:HG22	5:J:441:GLY:N	1.99	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:170:ALA:HB3	3:E:315:LYS:HG2	1.74	0.70
3:F:387:LYS:HB2	3:F:404:ASP:HB3	1.73	0.70
5:I:130:VAL:HG12	5:I:273:ARG:HG2	1.73	0.70
5:I:437:VAL:HG22	5:I:438:GLY:N	2.04	0.70
3:E:269:TYR:CD1	3:E:270:LEU:N	2.58	0.70
1:A:63:GLN:O	1:A:67:ASN:CG	2.29	0.70
2:C:167:MET:CG	2:C:168:ASP:H	2.04	0.70
3:E:387:LYS:HD3	3:E:404:ASP:HA	1.73	0.70
3:F:122:LEU:HD11	3:F:131:ALA:HA	1.74	0.70
3:F:169:SER:HB2	3:F:315:LYS:HZ3	1.56	0.70
3:E:371:ASN:O	3:E:388:GLY:CA	2.33	0.70
3:E:403:GLU:O	3:E:406:VAL:HG13	1.90	0.70
3:F:212:ALA:O	3:F:213:ASP:CB	2.39	0.70
2:C:47:ARG:CG	2:C:167:MET:CE	2.68	0.70
5:J:418:LYS:HE3	5:J:420:LEU:N	2.05	0.70
3:F:373:ASN:N	3:F:389:VAL:O	2.23	0.69
1:A:59:MET:CA	1:A:61:ILE:HG13	2.22	0.69
5:J:439:ILE:HG21	5:J:442:ARG:H	1.55	0.69
3:F:127:SER:HB3	3:F:261:SER:HB2	1.74	0.69
3:F:396:LEU:CD2	3:F:413:VAL:HG21	2.20	0.69
5:I:188:HIS:CD2	5:I:201:MET:HB3	2.27	0.69
5:J:418:LYS:CE	5:J:420:LEU:HG	2.22	0.69
1:A:64:ASN:O	1:A:68:THR:OG1	2.01	0.69
5:I:439:ILE:HD11	5:I:441:GLY:CA	2.22	0.69
5:J:409:GLY:N	5:J:433:ASP:O	2.25	0.69
5:J:418:LYS:HE2	5:J:420:LEU:CD2	2.23	0.69
3:E:37:ILE:CD1	3:E:141:ASN:ND2	2.56	0.69
3:E:352:GLU:C	3:E:353:ARG:HG2	2.13	0.69
3:F:368:ILE:HG22	3:F:385:ILE:HB	1.74	0.69
5:J:433:ASP:HB2	5:J:434:PRO:HD3	1.73	0.69
2:C:47:ARG:HG3	2:C:167:MET:CE	2.22	0.69
2:C:48:TRP:HH2	2:C:170:ARG:HG2	1.56	0.69
3:F:180:TYR:OH	3:F:331:GLU:OE2	2.09	0.69
5:I:433:ASP:O	5:I:433:ASP:OD2	2.11	0.69
4:G:229:LEU:HD23	4:G:233:GLU:CB	2.23	0.69
2:C:333:PRO:HD3	5:I:290:ARG:HB2	1.75	0.69
3:F:407:ARG:HD2	3:F:424:LYS:HE3	1.75	0.69
4:G:410:GLU:C	4:G:411:GLU:HG3	2.14	0.68
5:J:400:ALA:O	5:J:401:ILE:HG13	1.92	0.68
3:E:37:ILE:CD1	3:E:141:ASN:OD1	2.40	0.68
5:I:18:LEU:HD21	5:I:63:VAL:N	2.07	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:26:PHE:HA	1:A:29:ASP:CG	2.13	0.68
3:E:387:LYS:CD	3:E:404:ASP:HA	2.24	0.68
3:F:397:MET:O	3:F:398:ASP:CG	2.31	0.68
3:F:403:GLU:CB	3:F:420:GLY:HA2	2.23	0.68
1:B:105:ARG:NH1	1:B:105:ARG:HG3	2.09	0.68
3:E:355:LEU:HD11	3:E:368:ILE:HG13	1.75	0.68
5:I:257:LEU:O	5:I:259:LYS:HG2	1.93	0.68
5:J:111:ARG:NH2	5:J:240:TYR:O	2.27	0.68
2:C:291:SER:HA	2:C:356:ASP:HB2	1.75	0.68
1:A:53:LYS:CE	1:A:104:LYS:HZ1	1.92	0.68
3:F:343:GLN:HG3	3:F:344:ARG:N	2.03	0.68
4:H:411:GLU:OE1	4:H:411:GLU:N	2.27	0.68
5:J:290:ARG:NH1	5:J:298:ASP:OD1	2.27	0.67
5:J:439:ILE:CD1	5:J:439:ILE:H	1.94	0.67
3:E:255:GLU:HG2	3:E:256:LYS:HD3	1.75	0.67
4:G:228:ASP:CB	4:G:229:LEU:CD1	2.72	0.67
3:E:133:ARG:NE	3:E:257:GLU:OE1	2.27	0.67
3:E:355:LEU:HD22	3:E:372:SER:HB2	1.77	0.67
5:J:406:VAL:HG11	5:J:420:LEU:HD13	1.76	0.67
5:I:433:ASP:HA	5:I:434:PRO:C	2.15	0.67
5:J:418:LYS:HZ1	5:J:420:LEU:CA	2.07	0.67
3:E:68:GLY:HA3	3:E:339:LEU:HD22	1.75	0.67
3:F:407:ARG:HB2	3:F:424:LYS:HD3	1.76	0.67
2:D:50:THR:HG22	2:D:52:ASP:H	1.60	0.67
5:J:391:GLY:C	5:J:394:CYS:SG	2.73	0.67
5:J:414:ILE:C	5:J:415:GLU:HG2	2.15	0.67
3:E:249:VAL:O	3:E:253:ILE:HG13	1.94	0.67
5:J:169:ARG:NH1	5:J:218:LEU:O	2.27	0.67
3:E:274:GLN:OE1	3:E:274:GLN:N	2.27	0.67
3:E:385:ILE:HA	3:E:402:VAL:O	1.94	0.67
5:I:209:HIS:O	5:I:210:GLU:HB2	1.95	0.67
1:A:53:LYS:NZ	1:A:104:LYS:NZ	0.69	0.66
5:I:436:LEU:HD12	5:I:436:LEU:C	2.16	0.66
5:I:290:ARG:NH1	5:I:298:ASP:OD1	2.24	0.66
5:J:416:LYS:C	5:J:417:ASN:ND2	2.48	0.66
2:C:93:LEU:HA	2:C:96:THR:HG21	1.76	0.66
3:E:352:GLU:C	3:E:353:ARG:CG	2.63	0.66
5:J:383:ILE:C	5:J:384:LEU:HD23	2.15	0.66
1:A:55:ILE:O	1:A:59:MET:N	2.27	0.66
3:F:403:GLU:HB3	3:F:420:GLY:HA2	1.76	0.66
3:F:161:ASP:OD1	4:G:134:THR:CG2	2.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:397:MET:SD	3:F:414:ALA:HA	2.36	0.66
4:H:117:GLU:O	4:H:119:GLN:NE2	2.29	0.66
5:J:33:PRO:HG2	5:J:419:ARG:HB3	1.77	0.66
3:E:413:VAL:HG22	3:E:430:ILE:HD12	1.78	0.66
3:F:91:ILE:HG21	3:F:131:ALA:HB1	1.78	0.66
5:I:439:ILE:HG13	5:I:441:GLY:HA3	1.78	0.66
1:B:339:LEU:HD23	1:B:340:TYR:CE2	2.29	0.65
3:E:211:SER:HA	3:E:214:VAL:HG12	1.75	0.65
3:F:144:VAL:HG22	3:F:244:VAL:HG12	1.77	0.65
1:A:55:ILE:HG13	1:A:56:SER:N	2.07	0.65
1:A:59:MET:HA	1:A:61:ILE:HG13	1.79	0.65
3:F:391:VAL:HG12	3:F:408:LEU:HB2	1.78	0.65
5:I:18:LEU:CD2	5:I:62:GLY:O	2.45	0.65
1:A:53:LYS:CE	1:A:104:LYS:HZ2	1.94	0.65
3:E:352:GLU:O	3:E:353:ARG:HB2	1.97	0.65
4:H:405:GLY:O	4:H:406:VAL:HG12	1.96	0.65
3:E:385:ILE:HG12	3:E:402:VAL:HB	1.79	0.65
4:H:408:ASP:OD1	4:H:408:ASP:N	2.27	0.65
5:I:18:LEU:CD2	5:I:63:VAL:CA	2.64	0.65
3:E:211:SER:C	3:E:214:VAL:CG1	2.65	0.64
3:E:348:VAL:HG21	3:E:364:GLU:CG	2.27	0.64
3:F:262:ILE:HG23	3:F:266:LEU:HD13	1.79	0.64
3:F:420:GLY:N	3:F:436:VAL:O	2.26	0.64
4:G:407:ASP:OD1	4:G:408:ASP:N	2.30	0.64
3:E:339:LEU:C	3:E:341:PRO:HD2	2.18	0.64
3:E:355:LEU:CD2	3:E:370:ASP:CA	2.64	0.64
3:F:169:SER:CB	3:F:315:LYS:HZ3	2.10	0.64
4:G:237:LEU:HD12	4:G:238:LEU:N	2.12	0.64
3:E:221:ARG:NH1	5:J:198:TYR:OH	2.30	0.64
3:E:418:GLN:OE1	3:E:435:ARG:HD3	1.96	0.64
1:A:47:LEU:CA	1:A:50:SER:OG	2.44	0.64
3:F:396:LEU:CD2	3:F:413:VAL:HG22	2.18	0.64
1:A:58:PHE:O	1:A:61:ILE:HG21	1.97	0.64
3:F:446:ARG:CA	3:F:447:LEU:HB2	2.28	0.64
3:F:202:THR:O	3:F:203:SER:HB2	1.97	0.64
5:I:348:THR:HG21	5:I:362:ILE:HG22	1.79	0.64
2:C:87:ARG:NH1	2:C:387:ASP:OD2	2.31	0.64
4:G:241:LYS:O	4:G:245:TYR:HB2	1.96	0.64
5:J:226:CYS:HB3	5:J:230:VAL:HG21	1.78	0.64
5:I:50:LEU:HD11	5:I:274:VAL:HG21	1.80	0.64
3:F:202:THR:HB	3:F:204:ARG:HG2	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:29:TYR:O	5:I:29:TYR:CD2	2.51	0.63
3:E:352:GLU:HG3	3:E:370:ASP:N	2.13	0.63
3:F:339:LEU:HD13	3:F:339:LEU:O	1.99	0.63
3:F:368:ILE:C	3:F:385:ILE:O	2.37	0.63
2:C:-3:ILE:HG22	2:C:64:THR:HG21	1.80	0.63
1:A:53:LYS:HD3	1:A:53:LYS:N	2.13	0.63
2:C:92:GLU:O	2:C:96:THR:HG23	1.99	0.63
5:I:439:ILE:C	5:I:439:ILE:HD12	2.18	0.63
4:G:444:VAL:HG22	4:G:449:LEU:HG	1.80	0.63
2:C:93:LEU:HA	2:C:96:THR:HG23	1.80	0.63
3:F:367:THR:CB	3:F:384:VAL:HG12	2.29	0.63
3:E:385:ILE:CG2	3:E:389:VAL:HG21	2.29	0.62
5:I:154:ILE:HD11	5:I:259:LYS:HE3	1.80	0.62
1:A:28:GLN:CD	1:A:28:GLN:H	2.02	0.62
1:B:106:HIS:NE2	2:C:146:ARG:HG3	2.13	0.62
5:J:386:ASN:HD22	5:J:386:ASN:H	1.46	0.62
1:A:117:ARG:O	1:A:120:ALA:N	2.32	0.62
3:F:423:SER:OG	3:F:438:ALA:O	2.18	0.62
5:I:420:LEU:HA	5:I:428:GLN:O	1.98	0.62
2:C:47:ARG:HG2	2:C:167:MET:CE	2.27	0.62
3:E:276:GLN:CD	3:E:276:GLN:H	2.01	0.62
4:G:228:ASP:HB2	4:G:229:LEU:HD13	1.81	0.62
2:C:163:VAL:HG12	2:C:164:THR:OG1	1.99	0.62
2:D:50:THR:HB	2:D:53:GLN:CG	2.30	0.62
3:F:194:GLN:HB2	3:F:237:LEU:O	2.00	0.62
5:J:430:THR:HG22	5:J:431:LEU:H	1.64	0.62
1:A:25:LYS:CA	1:A:28:GLN:OE1	2.47	0.62
2:C:136:MET:O	2:C:137:TYR:HB2	2.00	0.62
3:E:352:GLU:HG3	3:E:369:LYS:HA	1.81	0.62
3:E:48:GLY:HA2	3:E:62:LYS:HD2	1.80	0.62
3:F:363:ASN:OD1	3:F:381:LYS:CG	2.43	0.61
2:C:294:GLN:HG2	4:G:330:SER:HB2	1.81	0.61
5:J:391:GLY:O	5:J:394:CYS:SG	2.58	0.61
5:I:439:ILE:CD1	5:I:441:GLY:CA	2.78	0.61
3:E:261:SER:O	3:E:262:ILE:HB	1.99	0.61
3:E:355:LEU:HD22	3:E:372:SER:N	2.15	0.61
1:B:336:LEU:O	1:B:340:TYR:HD2	1.82	0.61
1:A:117:ARG:O	1:A:121:CYS:N	2.26	0.61
1:A:168:GLU:OE2	1:B:170:ARG:NH1	2.32	0.61
1:B:25:LYS:HA	1:B:28:GLN:NE2	2.15	0.61
3:E:354:ALA:HB3	3:E:370:ASP:HB3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:396:LEU:HD22	3:E:400:ILE:CD1	2.30	0.61
3:F:273:CYS:O	3:F:275:TYR:HD2	1.83	0.61
5:I:439:ILE:HD12	5:I:440:GLY:CA	2.31	0.61
5:J:439:ILE:HD12	5:J:439:ILE:N	2.04	0.61
3:E:119:PRO:HG2	3:E:122:LEU:HG	1.82	0.61
5:J:156:THR:HG22	5:J:262:HIS:HB2	1.82	0.61
3:E:182:HIS:CD2	3:E:334:LYS:HE2	2.35	0.61
3:E:389:VAL:HG12	3:E:406:VAL:N	2.16	0.61
3:F:426:ARG:O	3:F:426:ARG:HG3	2.01	0.61
4:G:114:ILE:HG22	4:G:116:GLU:H	1.65	0.61
3:E:418:GLN:OE1	3:E:435:ARG:CD	2.49	0.61
1:A:101:GLU:O	1:A:105:ARG:HG2	2.01	0.60
4:G:356:ALA:HA	4:G:433:ASP:HB2	1.83	0.60
1:A:113:LEU:O	1:A:113:LEU:HD12	2.01	0.60
1:A:51:GLN:O	1:A:53:LYS:HG2	2.01	0.60
3:F:218:PHE:CD2	5:I:203:PRO:CB	2.76	0.60
1:A:172:SER:HB2	1:B:286:THR:HG21	1.83	0.60
3:F:269:TYR:CE1	3:F:270:LEU:HA	2.35	0.60
4:G:272:LEU:HD12	4:G:336:VAL:HG21	1.82	0.60
3:F:366:THR:HG22	3:F:383:CYS:N	2.12	0.60
5:J:407:VAL:HB	5:J:431:LEU:HG	1.83	0.60
1:A:113:LEU:HA	1:A:116:GLN:CG	2.30	0.60
3:E:32:LEU:O	3:E:32:LEU:HD23	2.02	0.60
1:A:95:HIS:CD2	1:A:96:ASP:H	2.20	0.60
3:F:213:ASP:OD1	3:F:214:VAL:N	2.35	0.60
3:F:161:ASP:OD1	4:G:134:THR:HG23	2.01	0.60
2:D:198:HIS:O	2:D:273:LYS:NZ	2.32	0.60
2:C:93:LEU:CA	2:C:96:THR:HG23	2.32	0.60
3:E:404:ASP:OD2	3:E:421:ALA:N	2.28	0.60
3:F:403:GLU:HG2	3:F:421:ALA:H	1.67	0.60
3:F:270:LEU:HD23	3:F:270:LEU:N	2.17	0.60
3:E:154:LEU:HD12	3:E:155:PRO:HD2	1.84	0.59
3:E:380:GLY:N	3:E:396:LEU:O	2.35	0.59
3:F:183:ILE:HG22	3:F:183:ILE:O	2.01	0.59
1:A:249:PHE:HB2	2:D:140:MET:HE1	1.85	0.59
1:A:53:LYS:HZ3	1:A:104:LYS:NZ	0.74	0.59
3:E:269:TYR:HD1	3:E:270:LEU:HA	1.53	0.59
3:E:182:HIS:HD2	3:E:334:LYS:HE2	1.67	0.59
3:F:336:ILE:CD1	3:F:395:ILE:HD13	2.30	0.59
3:F:346:VAL:HG12	3:F:348:VAL:H	1.67	0.59
3:F:419:ILE:HB	3:F:436:VAL:HB	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:449:ASP:OD1	3:F:450:MET:N	2.35	0.59
3:F:251:ASP:HA	3:F:254:ARG:HB2	1.82	0.59
3:F:154:LEU:HD12	3:F:155:PRO:HD2	1.83	0.59
3:F:214:VAL:HG23	3:F:218:PHE:CD1	2.38	0.59
2:C:136:MET:HG2	2:C:137:TYR:H	1.68	0.59
2:C:0:PHE:C	2:C:1:MET:HG3	2.23	0.59
3:E:387:LYS:HB2	3:E:404:ASP:H	1.68	0.59
5:J:398:ASP:N	5:J:398:ASP:OD1	2.32	0.59
3:E:441:ILE:HG13	3:E:443:ARG:HH21	1.66	0.58
3:E:224:LEU:HD23	3:E:225:LEU:HD12	1.84	0.58
2:D:10:TYR:OH	2:D:46:THR:OG1	1.79	0.58
3:E:256:LYS:O	3:E:259:ILE:CG1	2.51	0.58
3:F:367:THR:O	3:F:384:VAL:HA	2.01	0.58
4:G:240:GLU:OE1	4:G:241:LYS:N	2.28	0.58
3:F:194:GLN:HG3	3:F:238:SER:HA	1.86	0.58
4:G:237:LEU:HD12	4:G:238:LEU:H	1.69	0.58
5:I:436:LEU:HA	5:I:437:VAL:C	2.23	0.58
2:C:19:ASP:HB3	2:C:25:VAL:HG12	1.85	0.58
5:I:409:GLY:HA3	5:I:434:PRO:HA	1.86	0.58
1:A:61:ILE:CD1	1:A:62:LEU:HD12	2.32	0.58
3:E:434:HIS:CG	3:E:447:LEU:HA	2.39	0.58
3:F:424:LYS:O	3:F:425:LEU:HD12	2.03	0.58
3:F:446:ARG:HG2	3:F:447:LEU:HD22	1.85	0.58
5:J:285:LYS:HE2	5:J:330:ARG:HH21	1.69	0.58
5:J:33:PRO:HG2	5:J:419:ARG:HG2	1.85	0.58
5:J:418:LYS:CE	5:J:420:LEU:HD23	2.32	0.58
1:A:113:LEU:CD1	1:A:116:GLN:HG3	2.34	0.58
2:D:46:THR:O	2:D:170:ARG:NH2	2.36	0.58
3:E:260:SER:OG	3:E:264:GLY:HA3	2.03	0.58
3:E:328:ASN:N	3:E:328:ASN:OD1	2.30	0.58
3:E:274:GLN:CD	3:E:274:GLN:H	2.07	0.57
4:H:258:VAL:HA	4:H:283:VAL:HG22	1.86	0.57
2:C:41:GLN:HA	2:C:44:SER:HB3	1.85	0.57
2:C:5:ASN:O	2:C:9:THR:OG1	2.16	0.57
3:E:211:SER:CA	3:E:214:VAL:HG11	2.29	0.57
3:E:195:LEU:HD23	3:E:218:PHE:CE2	2.39	0.57
3:F:122:LEU:HD11	3:F:131:ALA:CB	2.34	0.57
1:A:74:GLN:HB3	1:A:263:SER:HB2	1.86	0.57
3:F:122:LEU:CD1	3:F:131:ALA:CB	2.82	0.57
4:G:160:SER:HB3	4:G:344:HIS:HD2	1.70	0.57
5:I:226:CYS:HB3	5:I:230:VAL:HG21	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:418:LYS:HE3	5:J:419:ARG:C	2.24	0.57
5:J:429:GLY:HA2	5:J:436:LEU:HD21	1.85	0.57
1:A:61:ILE:HD13	1:A:62:LEU:H	1.68	0.57
1:A:67:ASN:O	1:A:71:GLU:HG3	2.03	0.57
4:H:411:GLU:O	4:H:412:LYS:HG2	2.04	0.57
2:D:236:PRO:HG3	2:D:336:ILE:HG22	1.87	0.57
2:D:12:ALA:HB1	2:D:38:VAL:HG22	1.85	0.57
3:E:136:SER:HB2	3:E:254:ARG:HH11	1.70	0.57
3:E:256:LYS:O	3:E:259:ILE:HG13	2.05	0.57
3:E:369:LYS:HB2	3:E:386:GLY:HA2	1.86	0.57
3:E:357:GLY:HA3	3:E:374:ILE:HG13	1.87	0.57
3:F:122:LEU:HD13	3:F:131:ALA:HB2	1.85	0.57
3:F:430:ILE:HD12	3:F:430:ILE:O	2.04	0.57
3:F:447:LEU:HG	3:F:448:VAL:N	2.19	0.57
5:I:431:LEU:CD2	5:I:432:ASN:N	2.57	0.57
3:F:401:VAL:O	3:F:401:VAL:HG23	2.05	0.57
4:G:231:ASP:O	4:G:234:GLY:N	2.37	0.57
3:F:413:VAL:HA	3:F:430:ILE:HG13	1.87	0.56
4:H:213:ASN:OD1	4:H:216:ARG:NH1	2.37	0.56
2:D:325:GLU:OE2	5:J:310:ARG:NE	2.37	0.56
5:I:24:SER:O	5:I:25:ASP:HB3	2.04	0.56
2:C:21:LYS:HE3	5:I:301:LEU:HA	1.86	0.56
5:J:416:LYS:C	5:J:417:ASN:HD22	2.09	0.56
3:E:182:HIS:H	3:E:334:LYS:HE3	1.70	0.56
3:F:380:GLY:HA3	3:F:397:MET:O	2.06	0.56
4:G:234:GLY:O	4:G:237:LEU:HD12	2.05	0.56
5:I:186:CYS:HB3	5:I:261:ILE:HG23	1.88	0.56
3:E:437:GLU:H	3:E:437:GLU:CD	2.08	0.56
3:F:343:GLN:CA	3:F:343:GLN:HE21	2.16	0.56
3:F:229:PRO:HB3	5:I:164:PRO:HG3	1.88	0.56
2:D:239:GLN:CD	4:H:404:MET:HB2	2.25	0.56
3:E:255:GLU:OE1	3:E:255:GLU:N	2.31	0.56
3:F:398:ASP:O	3:F:399:ASN:HB2	2.04	0.56
3:F:385:ILE:HG12	3:F:402:VAL:HG21	1.86	0.56
1:A:117:ARG:HA	1:A:120:ALA:HB3	1.86	0.56
4:G:232:ASP:N	4:G:232:ASP:OD1	2.39	0.56
5:I:409:GLY:HA3	5:I:433:ASP:HB2	1.88	0.56
5:J:415:GLU:HB3	5:J:416:LYS:HG2	1.88	0.56
3:F:369:LYS:N	3:F:385:ILE:O	2.38	0.56
3:F:363:ASN:CG	3:F:364:GLU:H	2.02	0.56
5:I:348:THR:HG22	5:I:365:ALA:H	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:127:SER:O	5:J:273:ARG:NH1	2.37	0.56
1:A:266:ILE:HG12	1:A:267:LEU:HG	1.87	0.55
4:G:229:LEU:HD23	4:G:233:GLU:HB2	1.86	0.55
3:F:69:ASN:HB3	3:F:363:ASN:HD22	1.71	0.55
3:E:152:VAL:HG11	3:E:242:ILE:HD11	1.89	0.55
3:F:367:THR:CA	3:F:384:VAL:HG12	2.37	0.55
3:F:447:LEU:HD12	3:F:448:VAL:H	1.72	0.55
3:F:342:GLU:OE1	3:F:361:MET:CE	2.55	0.55
3:F:387:LYS:CG	3:F:404:ASP:HB3	2.36	0.55
5:J:433:ASP:CB	5:J:434:PRO:HD3	2.36	0.55
2:C:2:SER:HB3	2:C:4:ILE:HG22	1.89	0.55
5:I:403:ALA:HB3	5:I:421:THR:HA	1.88	0.55
1:A:53:LYS:NZ	1:A:104:LYS:HZ2	0.69	0.55
3:F:367:THR:O	3:F:384:VAL:C	2.45	0.55
5:I:35:THR:HA	5:I:38:LYS:O	2.07	0.55
5:I:416:LYS:HB3	5:I:417:ASN:ND2	2.22	0.55
3:E:236:ASN:N	5:J:210:GLU:OE1	2.40	0.55
1:A:287:PRO:HG2	1:A:290:ALA:HB2	1.89	0.55
3:E:386:GLY:O	3:E:389:VAL:HG13	2.06	0.55
1:A:25:LYS:C	1:A:28:GLN:OE1	2.45	0.55
1:A:51:GLN:O	1:A:53:LYS:HE2	2.07	0.55
2:C:234:GLY:HA3	2:C:238:ASN:HB2	1.88	0.55
3:E:108:TYR:CZ	3:E:110:GLY:HA3	2.41	0.55
5:J:434:PRO:HD2	5:J:434:PRO:O	2.06	0.55
5:I:17:ALA:HA	5:I:64:GLN:HG3	1.88	0.55
3:E:352:GLU:O	3:E:353:ARG:HG3	2.08	0.54
1:A:58:PHE:CE2	1:A:94:LEU:HD21	2.43	0.54
3:F:385:ILE:CG1	3:F:402:VAL:CG2	2.83	0.54
3:F:401:VAL:O	3:F:403:GLU:N	2.40	0.54
3:F:366:THR:CG2	3:F:380:GLY:O	2.52	0.54
4:G:229:LEU:HD23	4:G:233:GLU:HB3	1.89	0.54
5:J:178:VAL:HB	5:J:188:HIS:HB3	1.89	0.54
5:J:418:LYS:CE	5:J:420:LEU:CD2	2.86	0.54
5:J:39:PRO:HG2	5:J:42:LEU:HB2	1.89	0.54
1:A:83:CYS:HB3	1:A:87:GLN:HE22	1.72	0.54
1:B:222:ASN:HB3	1:B:226:THR:HG21	1.90	0.54
3:F:149:ASP:O	3:F:327:PRO:HD2	2.07	0.54
3:F:432:VAL:O	3:F:434:HIS:CD2	2.60	0.54
3:F:161:ASP:OD1	4:G:134:THR:HG21	2.07	0.54
2:D:237:ASN:ND2	2:D:354:TYR:HA	2.21	0.54
3:F:92:CYS:SG	3:F:93:MET:N	2.80	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:48:TRP:CD2	2:C:54:LEU:HD13	2.43	0.54
3:E:91:ILE:HG12	3:E:135:VAL:HG21	1.89	0.54
3:E:275:TYR:HD1	3:E:275:TYR:O	1.91	0.54
3:E:352:GLU:HG2	3:E:368:ILE:O	2.07	0.54
3:F:32:LEU:HD12	3:F:33:GLN:N	2.23	0.54
3:F:161:ASP:OD2	4:G:134:THR:HG23	2.07	0.54
1:B:224:ILE:HA	1:B:309:ASP:HB2	1.90	0.54
2:D:86:ILE:HG12	2:D:173:ILE:HD12	1.89	0.54
3:E:253:ILE:HG22	3:E:253:ILE:O	2.08	0.54
5:J:397:GLU:CG	5:J:398:ASP:H	2.14	0.54
1:A:61:ILE:HD13	1:A:63:GLN:H	1.73	0.54
2:C:142:ASN:O	2:C:145:GLY:N	2.30	0.54
5:I:187:VAL:HG12	5:I:205:ILE:HG21	1.90	0.54
3:F:193:LYS:O	3:F:211:SER:HB2	2.05	0.54
3:F:366:THR:HA	3:F:383:CYS:O	2.08	0.54
3:F:53:PRO:HG2	3:F:429:GLU:HG3	1.90	0.54
5:I:431:LEU:CG	5:I:432:ASN:N	2.67	0.54
1:A:113:LEU:HD13	1:A:116:GLN:HG3	1.90	0.53
1:A:26:PHE:CA	1:A:29:ASP:CG	2.74	0.53
5:I:439:ILE:CG1	5:I:441:GLY:HA3	2.37	0.53
5:I:18:LEU:CD2	5:I:62:GLY:C	2.77	0.53
3:F:446:ARG:HA	3:F:447:LEU:HB2	1.90	0.53
1:A:273:SER:O	1:A:275:GLU:N	2.41	0.53
1:B:312:PRO:HG2	1:B:315:PHE:CD2	2.44	0.53
3:E:276:GLN:C	3:E:277:LYS:CG	2.53	0.53
3:E:355:LEU:HD22	3:E:372:SER:H	1.72	0.53
3:E:396:LEU:HB3	3:E:400:ILE:HD11	1.91	0.53
3:F:353:ARG:O	3:F:354:ALA:HB3	2.07	0.53
3:F:368:ILE:HA	3:F:385:ILE:C	2.17	0.53
3:F:429:GLU:HG3	3:F:445:GLU:CB	2.38	0.53
3:F:429:GLU:O	3:F:445:GLU:HA	2.09	0.53
3:F:67:ILE:HA	3:F:336:ILE:HG12	1.90	0.53
3:F:161:ASP:CG	4:G:134:THR:HG23	2.28	0.53
5:I:202:ASP:CG	5:I:205:ILE:HD11	2.28	0.53
5:I:202:ASP:O	5:I:205:ILE:HG12	2.08	0.53
3:E:162:LYS:NZ	3:E:166:ASP:OD2	2.35	0.53
3:E:260:SER:O	3:E:261:SER:OG	2.27	0.53
4:G:191:THR:HB	4:G:222:ILE:HG21	1.90	0.53
5:I:205:ILE:H	5:I:205:ILE:CD1	2.15	0.53
4:G:240:GLU:CD	4:G:241:LYS:N	2.61	0.53
3:E:389:VAL:HG12	3:E:406:VAL:H	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:204:ARG:HH11	3:F:204:ARG:HB3	1.73	0.53
3:F:425:LEU:N	3:F:425:LEU:HD12	2.22	0.53
5:I:29:TYR:CG	5:I:29:TYR:O	2.57	0.53
3:E:133:ARG:NE	3:E:257:GLU:CD	2.62	0.53
3:E:149:ASP:O	3:E:327:PRO:HD2	2.08	0.53
3:E:355:LEU:HD22	3:E:372:SER:CB	2.39	0.53
1:A:60:ASP:O	1:A:61:ILE:HD12	2.08	0.53
2:C:93:LEU:C	2:C:96:THR:HG23	2.28	0.53
3:F:181:GLU:H	3:F:334:LYS:CE	2.22	0.53
5:I:34:LEU:O	5:I:35:THR:OG1	2.26	0.53
5:I:436:LEU:HD12	5:I:437:VAL:N	2.24	0.53
5:J:439:ILE:HG22	5:J:442:ARG:H	1.69	0.53
2:D:301:ARG:HH21	2:D:362:LEU:HA	1.74	0.53
5:J:267:LYS:C	5:J:268:GLU:HG3	2.30	0.53
1:A:40:ILE:HG23	1:A:86:PHE:HD2	1.73	0.52
1:A:61:ILE:CD1	1:A:62:LEU:CD1	2.85	0.52
3:E:434:HIS:HB2	3:E:448:VAL:HG23	1.91	0.52
3:F:379:ILE:HA	3:F:396:LEU:HB2	1.91	0.52
3:F:403:GLU:HG3	3:F:404:ASP:H	1.74	0.52
3:F:419:ILE:HG22	3:F:436:VAL:CG2	2.39	0.52
3:E:182:HIS:HD2	3:E:334:LYS:CE	2.16	0.52
3:E:355:LEU:CD2	3:E:370:ASP:C	2.71	0.52
3:E:45:ALA:HB1	3:E:63:ALA:HB2	1.92	0.52
3:F:119:PRO:CG	3:F:122:LEU:HG	2.38	0.52
4:G:195:ASN:OD1	4:G:219:LYS:NZ	2.43	0.52
1:A:192:VAL:HG11	1:A:200:THR:HG21	1.92	0.52
3:E:340:THR:N	3:E:341:PRO:HD2	2.25	0.52
3:F:413:VAL:HB	3:F:430:ILE:HD11	1.91	0.52
4:H:117:GLU:C	4:H:119:GLN:HE21	2.12	0.52
5:I:431:LEU:CG	5:I:432:ASN:H	2.19	0.52
5:J:384:LEU:HD23	5:J:384:LEU:N	2.24	0.52
1:B:257:GLN:HA	1:B:310:VAL:HB	1.90	0.52
2:C:87:ARG:NH2	2:C:390:ASP:OD1	2.43	0.52
5:I:437:VAL:CG2	5:I:438:GLY:H	2.22	0.52
5:I:437:VAL:CG2	5:I:438:GLY:N	2.73	0.52
2:D:333:PRO:HD3	5:J:290:ARG:HB2	1.92	0.52
1:A:55:ILE:CG1	1:A:56:SER:N	2.73	0.52
3:E:269:TYR:HE1	3:E:270:LEU:HD23	1.62	0.52
3:F:429:GLU:CG	3:F:445:GLU:HB3	2.40	0.52
4:G:237:LEU:CD1	4:G:238:LEU:N	2.73	0.52
2:D:234:GLY:HA3	2:D:238:ASN:HB2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:447:LEU:CG	3:F:448:VAL:N	2.72	0.52
4:G:228:ASP:OD1	4:G:228:ASP:N	2.43	0.52
5:J:418:LYS:CE	5:J:420:LEU:CG	2.85	0.52
3:E:384:VAL:O	3:E:402:VAL:N	2.43	0.52
3:F:122:LEU:HD11	3:F:131:ALA:CA	2.39	0.52
3:F:162:LYS:HE3	3:F:318:ILE:HD13	1.92	0.52
1:B:245:GLU:H	1:B:248:LYS:HE3	1.75	0.51
1:B:312:PRO:HG2	1:B:315:PHE:HD2	1.75	0.51
5:J:396:ILE:HG22	5:J:397:GLU:N	2.26	0.51
3:E:126:LYS:HD2	3:E:130:ASP:HB3	1.92	0.51
3:E:348:VAL:CG2	3:E:364:GLU:HG2	2.36	0.51
3:F:212:ALA:C	3:F:213:ASP:OD1	2.49	0.51
3:F:446:ARG:CB	3:F:447:LEU:CB	2.85	0.51
5:I:16:HIS:ND1	5:I:16:HIS:O	2.43	0.51
1:A:81:ALA:HB2	1:A:250:VAL:HB	1.92	0.51
3:E:257:GLU:HA	3:E:259:ILE:H	1.75	0.51
4:H:168:LEU:HD21	4:H:214:ALA:HB1	1.92	0.51
2:C:136:MET:CG	2:C:137:TYR:N	2.73	0.51
3:F:108:TYR:OH	3:F:112:MET:HB3	2.10	0.51
3:F:32:LEU:HD12	3:F:33:GLN:H	1.75	0.51
5:J:418:LYS:CE	5:J:420:LEU:N	2.73	0.51
1:A:202:ASN:HB3	1:B:258:TYR:CE2	2.45	0.51
2:D:308:VAL:HG22	2:D:365:LEU:HB3	1.92	0.51
3:E:385:ILE:CG2	3:E:389:VAL:CG2	2.89	0.51
3:F:212:ALA:C	3:F:213:ASP:CG	2.66	0.51
4:G:137:ILE:O	4:G:137:ILE:HG23	2.10	0.51
2:D:48:TRP:CE2	2:D:166:GLY:O	2.63	0.51
2:D:323:ASP:OD1	2:D:324:LEU:N	2.44	0.51
3:E:199:GLU:O	3:E:203:SER:N	2.43	0.51
3:F:379:ILE:HG12	3:F:396:LEU:HD12	1.92	0.51
3:E:255:GLU:HG2	3:E:256:LYS:N	2.25	0.51
3:E:434:HIS:HB2	3:E:448:VAL:N	2.25	0.51
3:F:263:ARG:O	3:F:267:ILE:HD11	2.10	0.51
3:F:378:ILE:O	3:F:396:LEU:N	2.37	0.51
5:I:107:GLY:HA2	5:I:110:LEU:HB2	1.93	0.51
3:E:428:CYS:SG	3:E:442:ALA:O	2.69	0.51
1:A:17:PHE:CD2	1:A:46:LEU:HD12	2.46	0.51
1:A:95:HIS:O	1:A:96:ASP:OD1	2.29	0.51
3:E:194:GLN:O	3:E:235:THR:HA	2.11	0.51
3:F:224:LEU:O	3:F:224:LEU:HG	2.11	0.51
3:F:363:ASN:HB3	3:F:380:GLY:C	2.30	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:410:GLU:O	4:G:411:GLU:HG3	2.10	0.51
5:J:381:LYS:HB3	5:J:398:ASP:CA	2.39	0.51
4:H:444:VAL:HG22	4:H:449:LEU:HG	1.93	0.51
2:C:85:LEU:HD11	2:C:176:GLY:HA3	1.92	0.50
3:E:126:LYS:HB3	3:E:130:ASP:HB2	1.93	0.50
3:F:215:GLY:HA2	3:F:218:PHE:CZ	2.46	0.50
3:F:385:ILE:HG23	3:F:389:VAL:HG21	1.93	0.50
5:J:305:THR:HB	5:J:317:GLU:HG3	1.92	0.50
3:F:35:ILE:HG22	4:G:142:HIS:HA	1.92	0.50
1:A:53:LYS:HZ1	1:A:104:LYS:NZ	0.92	0.50
1:A:62:LEU:O	1:A:65:GLY:C	2.50	0.50
3:F:195:LEU:O	3:F:196:ILE:HD13	2.11	0.50
3:F:387:LYS:CB	3:F:404:ASP:HB3	2.40	0.50
5:I:435:SER:OG	5:I:436:LEU:N	2.44	0.50
3:F:169:SER:HB2	3:F:315:LYS:NZ	2.27	0.50
3:F:202:THR:CB	3:F:204:ARG:HG2	2.41	0.50
1:B:125:ILE:HG21	1:B:243:VAL:HG13	1.93	0.50
2:D:199:LEU:HD11	2:D:218:LEU:HD23	1.94	0.50
3:F:446:ARG:HG2	3:F:447:LEU:CD2	2.42	0.50
5:J:439:ILE:HG21	5:J:442:ARG:N	2.26	0.50
1:A:29:ASP:OD1	1:A:30:ASP:N	2.45	0.50
2:C:313:ILE:HG21	2:C:370:LEU:HD22	1.92	0.50
3:E:37:ILE:O	3:E:37:ILE:HG13	2.11	0.50
3:F:269:TYR:C	3:F:269:TYR:CD1	2.85	0.50
3:F:386:GLY:O	3:F:404:ASP:HA	2.11	0.50
5:J:328:LYS:HD3	5:J:346:ALA:HB2	1.94	0.50
1:B:67:ASN:O	1:B:71:GLU:HG3	2.12	0.50
2:D:48:TRP:NE1	2:D:166:GLY:C	2.59	0.50
3:E:130:ASP:HA	3:E:133:ARG:NH2	2.26	0.50
3:F:123:ASP:CG	3:F:124:ASP:N	2.63	0.50
4:G:228:ASP:HB2	4:G:229:LEU:HD12	1.77	0.50
5:J:116:LYS:HD2	5:J:116:LYS:N	2.27	0.50
1:B:134:ARG:NH1	2:C:323:ASP:OD2	2.45	0.50
3:F:419:ILE:HG22	3:F:436:VAL:HG23	1.94	0.50
1:A:63:GLN:O	1:A:67:ASN:CB	2.59	0.50
3:F:251:ASP:O	3:F:255:GLU:HG3	2.11	0.50
3:F:218:PHE:HE2	5:I:203:PRO:HB3	0.78	0.50
2:C:287:LEU:HD11	2:C:309:VAL:HG21	1.94	0.49
4:H:271:ILE:HG21	4:H:284:LEU:HD21	1.93	0.49
5:J:133:ASN:OD1	5:J:269:ASN:HB3	2.11	0.49
3:E:276:GLN:NE2	3:E:276:GLN:N	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:136:MET:HG2	2:C:137:TYR:N	2.27	0.49
3:E:255:GLU:CD	3:E:255:GLU:H	2.16	0.49
3:E:269:TYR:C	3:E:269:TYR:CD1	2.85	0.49
3:E:271:VAL:O	3:E:272:LYS:HD3	2.12	0.49
3:E:437:GLU:OE1	3:E:437:GLU:N	2.45	0.49
4:H:406:VAL:HG13	4:H:406:VAL:O	2.10	0.49
5:I:140:LEU:O	5:I:144:ARG:HG3	2.12	0.49
5:I:433:ASP:CG	5:I:433:ASP:O	2.48	0.49
5:J:147:ARG:NH1	5:J:153:ALA:O	2.44	0.49
2:D:167:MET:HG3	2:D:168:ASP:N	2.28	0.49
3:F:280:THR:OG1	3:F:281:VAL:N	2.45	0.49
3:F:47:PHE:CE2	3:F:93:MET:HE2	2.47	0.49
5:J:414:ILE:O	5:J:415:GLU:HG2	2.12	0.49
1:A:115:ILE:O	1:A:119:ARG:HG3	2.12	0.49
1:A:96:ASP:O	1:A:97:VAL:HG22	2.12	0.49
3:E:262:ILE:HA	3:E:265:ASP:HB3	1.94	0.49
1:A:257:GLN:HA	1:A:310:VAL:HB	1.95	0.49
1:B:54:THR:HG22	1:B:57:GLU:CD	2.33	0.49
2:D:51:VAL:HG13	2:D:52:ASP:N	2.28	0.49
3:E:218:PHE:C	3:E:218:PHE:CD1	2.85	0.49
3:F:279:PHE:C	3:F:279:PHE:CD1	2.85	0.49
3:F:61:PRO:HD2	3:F:64:LEU:HD12	1.95	0.49
3:E:352:GLU:CG	3:E:369:LYS:HA	2.43	0.49
3:E:421:ALA:HB1	3:E:438:ALA:HB2	1.93	0.49
3:F:367:THR:HB	3:F:384:VAL:CG1	2.36	0.49
3:E:384:VAL:HB	3:E:401:VAL:HG13	1.94	0.49
3:F:400:ILE:HD13	3:F:413:VAL:HG23	1.95	0.49
5:I:202:ASP:N	5:I:202:ASP:OD1	2.40	0.49
5:J:293:TYR:CG	5:J:294:PRO:HA	2.48	0.49
2:C:12:ALA:HB1	2:C:38:VAL:HG22	1.94	0.49
2:D:169:MET:O	2:D:173:ILE:HG12	2.12	0.49
2:D:85:LEU:HD21	2:D:176:GLY:HA3	1.95	0.49
3:E:400:ILE:HG22	3:E:417:ALA:H	1.77	0.49
3:F:275:TYR:O	3:F:275:TYR:HD1	1.96	0.49
1:A:104:LYS:O	1:A:108:VAL:HG23	2.13	0.48
2:C:48:TRP:CH2	2:C:170:ARG:HG2	2.44	0.48
3:E:260:SER:O	3:E:264:GLY:CA	2.61	0.48
3:E:269:TYR:HD1	3:E:270:LEU:N	2.03	0.48
3:F:385:ILE:CD1	3:F:402:VAL:HG21	2.43	0.48
3:F:58:ASP:O	3:F:99:HIS:NE2	2.46	0.48
4:H:406:VAL:HG22	4:H:406:VAL:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:431:LEU:HD23	5:I:432:ASN:CA	2.43	0.48
1:A:39:ALA:O	1:A:43:LEU:HG	2.13	0.48
3:F:182:HIS:ND1	3:F:183:ILE:N	2.60	0.48
5:I:33:PRO:HG2	5:I:419:ARG:CG	2.26	0.48
5:J:194:ARG:HD3	5:J:195:GLY:N	2.28	0.48
3:E:218:PHE:HD1	3:E:219:THR:N	2.11	0.48
3:E:414:ALA:HB3	3:E:431:GLY:C	2.33	0.48
1:A:112:LYS:O	1:A:116:GLN:HG2	2.14	0.48
1:B:106:HIS:CD2	2:C:146:ARG:HD3	2.48	0.48
3:E:252:LEU:HD12	3:E:256:LYS:CE	2.43	0.48
3:F:269:TYR:HD1	3:F:271:VAL:HG13	1.79	0.48
1:B:77:ILE:HG21	1:B:221:ILE:HD12	1.95	0.48
3:F:71:PRO:HG2	3:F:103:TRP:CE2	2.49	0.48
3:F:321:SER:OG	3:F:321:SER:O	2.28	0.48
3:F:368:ILE:HA	3:F:385:ILE:H	1.78	0.48
4:G:121:SER:HB3	4:G:124:SER:HB3	1.94	0.48
4:G:210:SER:HB3	4:G:380:LYS:HG2	1.96	0.48
1:A:230:ALA:HB1	1:A:315:PHE:HB3	1.96	0.48
1:B:94:LEU:HA	1:B:98:GLY:HA2	1.95	0.48
3:E:149:ASP:O	3:E:327:PRO:CD	2.61	0.48
3:E:149:ASP:CB	3:E:327:PRO:HD2	2.25	0.48
4:G:286:HIS:O	4:G:290:VAL:HG23	2.13	0.48
1:A:61:ILE:CD1	1:A:62:LEU:N	2.73	0.48
2:C:87:ARG:HH11	2:C:87:ARG:CG	2.12	0.48
4:G:416:LEU:HD13	4:G:427:LEU:HD11	1.96	0.48
4:H:312:LYS:NZ	4:H:316:GLU:OE2	2.44	0.48
5:I:327:ILE:HG22	5:I:345:VAL:HB	1.96	0.48
1:A:17:PHE:HE2	1:A:46:LEU:HB2	1.79	0.48
3:E:130:ASP:HA	3:E:133:ARG:NH1	2.28	0.48
3:E:349:THR:OG1	3:E:350:VAL:N	2.47	0.48
1:A:106:HIS:ND1	1:A:110:ASN:OD1	2.45	0.48
2:C:53:GLN:O	2:C:57:THR:OG1	2.22	0.48
3:E:441:ILE:HG13	3:E:443:ARG:NH2	2.28	0.48
3:E:149:ASP:HB2	3:E:327:PRO:CD	2.26	0.48
3:F:383:CYS:CB	3:F:400:ILE:O	2.62	0.48
4:G:240:GLU:N	4:G:240:GLU:OE1	2.47	0.48
5:J:21:ILE:HG12	5:J:113:LEU:HD11	1.94	0.48
2:D:388:ALA:HA	2:D:391:THR:HG23	1.96	0.47
3:E:81:GLU:CD	3:E:110:GLY:O	2.52	0.47
3:E:269:TYR:CE1	3:E:270:LEU:CD2	2.80	0.47
3:F:340:THR:N	3:F:341:PRO:HD3	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:59:MET:HA	1:A:61:ILE:CG1	2.43	0.47
3:E:276:GLN:O	3:E:277:LYS:CD	2.58	0.47
3:E:379:ILE:HA	3:E:396:LEU:HB2	1.96	0.47
3:F:269:TYR:CD1	3:F:271:VAL:HG13	2.49	0.47
5:J:169:ARG:NH2	5:J:216:ASN:OD1	2.47	0.47
1:A:89:PHE:HE2	1:A:107:LEU:HD21	1.79	0.47
2:C:83:LEU:O	2:C:87:ARG:HG3	2.14	0.47
3:F:241:HIS:HB2	3:F:326:LEU:HD21	1.95	0.47
3:F:419:ILE:CB	3:F:436:VAL:HB	2.43	0.47
4:G:308:ARG:NH2	4:G:406:VAL:O	2.47	0.47
5:J:29:TYR:CE2	5:J:30:ARG:CD	2.97	0.47
1:A:54:THR:H	1:A:57:GLU:HB3	1.80	0.47
2:C:199:LEU:HD11	2:C:218:LEU:HD23	1.95	0.47
3:E:370:ASP:OD1	3:E:370:ASP:N	2.36	0.47
5:I:18:LEU:HD21	5:I:62:GLY:C	2.34	0.47
5:J:105:SER:OG	5:J:108:ASP:OD2	2.32	0.47
1:A:130:TYR:HB2	1:A:155:ALA:HB2	1.95	0.47
2:C:169:MET:O	2:C:173:ILE:HG12	2.14	0.47
2:C:3:THR:O	2:C:6:VAL:HG12	2.14	0.47
2:C:4:ILE:O	2:C:7:GLU:HB2	2.15	0.47
2:C:7:GLU:OE2	5:I:90:SER:OG	2.24	0.47
1:A:316:VAL:HB	1:A:329:LYS:HE3	1.96	0.47
3:F:440:ARG:O	3:F:441:ILE:HG13	2.14	0.47
2:D:233:GLU:OE1	4:H:302:ARG:HD3	2.15	0.47
5:I:421:THR:OG1	5:I:422:THR:N	2.47	0.47
3:E:230:ARG:NH2	5:J:213:GLU:OE2	2.41	0.47
3:F:243:PHE:CE2	3:F:262:ILE:HG21	2.49	0.47
3:F:336:ILE:HD12	3:F:395:ILE:CD1	2.35	0.47
5:I:435:SER:O	5:I:436:LEU:C	2.53	0.47
3:E:245:PHE:HB3	3:E:249:VAL:HG21	1.97	0.47
3:E:256:LYS:O	3:E:259:ILE:HG12	2.15	0.47
3:E:346:VAL:HG13	3:E:348:VAL:HG22	1.97	0.47
4:H:220:LEU:O	4:H:224:VAL:HG23	2.15	0.47
5:I:178:VAL:HB	5:I:188:HIS:HB3	1.96	0.47
3:E:218:PHE:O	5:J:200:SER:HA	2.14	0.47
1:A:53:LYS:N	1:A:53:LYS:CD	2.73	0.47
3:F:329:TYR:HB2	3:F:331:GLU:HG3	1.95	0.47
3:F:399:ASN:HB2	3:F:416:GLY:H	1.80	0.47
1:A:100:PHE:N	1:A:100:PHE:CD1	2.78	0.47
1:B:125:ILE:HG23	1:B:320:ILE:HG22	1.96	0.47
3:E:218:PHE:CD1	3:E:219:THR:N	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:241:HIS:HA	3:E:243:PHE:CE2	2.50	0.47
3:F:413:VAL:HG12	3:F:430:ILE:HG12	1.97	0.47
4:G:274:TYR:CD1	4:G:275:LEU:HG	2.49	0.47
2:D:349:GLU:OE2	5:J:311:HIS:HA	2.15	0.46
3:E:355:LEU:CD2	3:E:372:SER:H	2.27	0.46
3:F:155:PRO:HA	3:F:156:PRO:HD3	1.80	0.46
3:F:206:LEU:HB3	3:F:224:LEU:HD11	1.98	0.46
3:F:235:THR:HG21	5:I:206:PHE:HB3	1.97	0.46
5:I:332:LEU:HD22	5:I:349:ILE:HG23	1.97	0.46
5:I:30:ARG:NH2	6:I:701:PO4:O3	2.48	0.46
3:E:260:SER:O	3:E:264:GLY:HA3	2.16	0.46
3:F:267:ILE:O	3:F:270:LEU:HD21	2.14	0.46
2:C:167:MET:CG	2:C:168:ASP:N	2.67	0.46
3:F:344:ARG:HG3	3:F:344:ARG:H	1.43	0.46
4:G:175:ILE:HG12	4:G:190:LEU:HD11	1.98	0.46
1:A:114:PHE:CE1	2:D:144:LEU:HA	2.50	0.46
2:C:87:ARG:HH22	2:C:390:ASP:CG	2.19	0.46
3:E:128:SER:N	3:E:261:SER:HA	2.30	0.46
3:F:224:LEU:HD12	3:F:272:LYS:HD2	1.97	0.46
5:I:439:ILE:CD1	5:I:440:GLY:N	2.57	0.46
5:J:115:SER:C	5:J:116:LYS:HD2	2.35	0.46
1:A:19:ILE:HD12	1:A:46:LEU:HD13	1.97	0.46
2:C:313:ILE:HG12	2:C:370:LEU:HD13	1.96	0.46
3:E:397:MET:HG3	3:E:413:VAL:O	2.16	0.46
1:A:61:ILE:HD13	1:A:62:LEU:CG	2.46	0.46
3:E:320:CYS:SG	3:E:322:ARG:N	2.89	0.46
3:E:34:SER:C	3:E:35:ILE:HG13	2.36	0.46
3:F:127:SER:CB	3:F:261:SER:HB2	2.43	0.46
4:G:218:LEU:O	4:G:222:ILE:HG12	2.16	0.46
4:H:411:GLU:CD	4:H:411:GLU:H	2.18	0.46
4:H:416:LEU:HD22	4:H:425:LEU:HD21	1.98	0.46
3:E:369:LYS:N	3:E:385:ILE:O	2.34	0.46
4:G:240:GLU:O	4:G:244:SER:OG	2.20	0.46
5:J:19:GLN:OE1	5:J:119:ILE:HA	2.15	0.46
1:A:92:ARG:CZ	2:D:137:TYR:HD2	2.29	0.46
2:C:162:ARG:HE	2:C:162:ARG:HA	1.74	0.46
3:E:257:GLU:HG3	3:E:259:ILE:HB	1.96	0.46
3:E:362:VAL:O	3:E:362:VAL:HG13	2.15	0.46
3:F:381:LYS:O	3:F:382:ASN:HB2	2.16	0.46
2:C:63:SER:OG	2:C:67:LYS:NZ	2.48	0.46
3:F:241:HIS:HA	3:F:243:PHE:CZ	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:274:GLN:O	3:F:275:TYR:CG	2.69	0.46
3:F:382:ASN:ND2	3:F:399:ASN:OD1	2.45	0.46
1:B:187:ILE:HA	1:B:187:ILE:HD12	1.88	0.45
3:E:34:SER:O	3:E:35:ILE:HG13	2.16	0.45
3:E:448:VAL:HG12	3:E:449:ASP:N	2.31	0.45
1:A:125:ILE:HG21	1:A:243:VAL:HG13	1.98	0.45
2:C:48:TRP:O	2:C:48:TRP:CD1	2.69	0.45
5:J:33:PRO:HG2	5:J:419:ARG:CB	2.46	0.45
3:E:346:VAL:CG1	3:E:348:VAL:HG22	2.46	0.45
3:F:164:ARG:NH1	4:G:134:THR:HG21	2.31	0.45
5:I:416:LYS:CB	5:I:417:ASN:ND2	2.79	0.45
1:A:66:SER:O	1:A:70:LYS:N	2.39	0.45
1:A:202:ASN:HB3	1:B:258:TYR:CZ	2.51	0.45
5:I:323:ARG:O	5:I:324:SER:OG	2.32	0.45
5:I:418:LYS:HD2	5:I:418:LYS:HA	1.90	0.45
1:A:22:VAL:O	1:A:25:LYS:N	2.50	0.45
1:A:192:VAL:HA	1:B:305:ASN:HD21	1.82	0.45
2:C:180:VAL:HA	2:C:183:GLU:HG3	1.99	0.45
3:E:181:GLU:OE1	3:E:182:HIS:CG	2.69	0.45
3:E:218:PHE:C	3:E:218:PHE:HD1	2.20	0.45
3:F:122:LEU:HD13	3:F:131:ALA:CB	2.46	0.45
3:F:125:SER:O	3:F:126:LYS:HG2	2.17	0.45
5:I:401:ILE:HB	5:I:419:ARG:HG3	1.97	0.45
5:J:402:VAL:HG22	5:J:420:LEU:HD12	1.97	0.45
1:A:18:ASP:CG	1:A:21:GLN:CG	2.85	0.45
2:C:162:ARG:NE	2:C:162:ARG:CA	2.75	0.45
2:C:247:LYS:NZ	2:C:251:GLN:OE1	2.45	0.45
4:H:409:PHE:CD1	4:H:409:PHE:O	2.70	0.45
5:J:146:ARG:HD2	5:J:262:HIS:CE1	2.51	0.45
5:J:309:GLN:HB2	5:J:313:ILE:HG13	1.99	0.45
5:J:339:VAL:HA	5:J:356:ILE:HB	1.98	0.45
1:B:220:LEU:HB2	1:B:311:THR:HB	1.97	0.45
2:C:49:SER:N	2:C:167:MET:HE2	2.31	0.45
2:D:80:ARG:NH1	2:D:391:THR:O	2.50	0.45
3:E:192:ALA:HB3	3:E:329:TYR:OH	2.17	0.45
3:E:397:MET:CE	3:E:414:ALA:HA	2.46	0.45
3:F:178:LEU:HD23	3:F:178:LEU:HA	1.79	0.45
3:F:71:PRO:HG2	3:F:103:TRP:NE1	2.32	0.45
4:G:240:GLU:HG2	4:G:241:LYS:HG2	1.99	0.45
4:G:436:PRO:HA	4:G:437:PRO:HD3	1.86	0.45
3:E:35:ILE:HD11	4:H:140:ASP:HA	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:27:TYR:C	5:I:28:ASN:O	2.51	0.45
3:E:71:PRO:HG2	3:E:103:TRP:NE1	2.32	0.45
3:E:366:THR:HG23	3:E:383:CYS:HB2	1.99	0.45
3:F:275:TYR:O	3:F:275:TYR:CD1	2.70	0.45
4:G:408:ASP:O	4:G:409:PHE:CG	2.70	0.45
5:I:439:ILE:HG13	5:I:441:GLY:CA	2.44	0.45
1:A:19:ILE:HG23	1:A:20:VAL:N	2.32	0.44
1:A:28:GLN:CD	1:A:28:GLN:N	2.71	0.44
1:A:36:PRO:HG2	1:A:247:HIS:HD2	1.82	0.44
3:E:434:HIS:HA	3:E:448:VAL:HG23	1.99	0.44
3:F:181:GLU:CG	3:F:182:HIS:N	2.79	0.44
3:F:259:ILE:HD12	3:F:259:ILE:O	2.17	0.44
3:F:332:LEU:O	3:F:336:ILE:HG13	2.17	0.44
4:G:274:TYR:CE1	4:G:275:LEU:HG	2.53	0.44
4:G:408:ASP:O	4:G:409:PHE:CD2	2.70	0.44
5:J:23:LEU:HD21	5:J:106:VAL:HA	1.99	0.44
1:A:46:LEU:C	1:A:50:SER:HG	2.02	0.44
3:E:155:PRO:HA	3:E:156:PRO:HD3	1.76	0.44
3:E:262:ILE:HG22	3:E:262:ILE:O	2.16	0.44
3:E:273:CYS:O	3:E:275:TYR:CD2	2.70	0.44
3:E:275:TYR:O	3:E:275:TYR:CD1	2.70	0.44
3:E:352:GLU:C	3:E:354:ALA:H	2.20	0.44
3:F:181:GLU:HG3	3:F:182:HIS:N	2.32	0.44
3:F:318:ILE:C	3:F:319:ILE:HG13	2.38	0.44
4:G:257:ILE:HG23	4:G:444:VAL:HG12	2.00	0.44
4:G:348:SER:OG	4:G:382:THR:O	2.31	0.44
4:G:409:PHE:O	4:G:409:PHE:CD1	2.70	0.44
4:H:221:GLU:OE1	4:H:241:LYS:NZ	2.40	0.44
4:H:277:SER:OG	4:H:342:GLY:HA3	2.17	0.44
5:I:24:SER:O	5:I:25:ASP:CB	2.63	0.44
5:J:418:LYS:NZ	5:J:420:LEU:CA	2.73	0.44
2:C:17:ILE:HG22	2:C:21:LYS:HD2	1.99	0.44
3:E:181:GLU:OE1	3:E:182:HIS:CE1	2.70	0.44
3:E:229:PRO:HB2	5:J:217:ASP:HB3	1.99	0.44
3:E:402:VAL:HA	3:E:419:ILE:HG13	1.99	0.44
3:F:381:LYS:N	3:F:398:ASP:OD1	2.51	0.44
4:H:115:PHE:CE1	4:H:117:GLU:O	2.71	0.44
5:J:418:LYS:HZ2	5:J:419:ARG:C	2.21	0.44
5:J:430:THR:O	5:J:435:SER:OG	2.32	0.44
2:C:8:HIS:CD2	5:I:89:PRO:HG3	2.53	0.44
2:D:87:ARG:NH1	2:D:390:ASP:OD2	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:139:ILE:HB	3:E:250:ILE:HD13	1.98	0.44
3:F:92:CYS:SG	3:F:100:ILE:HD12	2.57	0.44
1:B:88:ARG:HH22	1:B:341:LEU:HD12	1.82	0.44
2:C:47:ARG:HB2	2:C:170:ARG:NH2	2.33	0.44
3:E:35:ILE:HG23	4:H:143:PRO:HD3	1.98	0.44
3:E:360:CYS:HB2	3:E:377:SER:O	2.18	0.44
3:F:182:HIS:CE1	3:F:183:ILE:O	2.71	0.44
3:F:214:VAL:CG2	3:F:218:PHE:CD1	3.01	0.44
3:F:267:ILE:N	3:F:268:PRO:CD	2.81	0.44
3:F:333:ASN:HB2	3:F:412:ILE:HD11	1.99	0.44
3:F:339:LEU:HD22	3:F:339:LEU:HA	1.76	0.44
4:G:354:SER:OG	4:G:355:ARG:N	2.50	0.44
5:J:418:LYS:CD	5:J:418:LYS:C	2.85	0.44
2:C:93:LEU:O	2:C:96:THR:HG23	2.17	0.44
3:E:274:GLN:O	3:E:275:TYR:CD1	2.70	0.44
3:F:183:ILE:N	3:F:183:ILE:CD1	2.81	0.44
3:F:397:MET:HB3	3:F:415:SER:OG	2.17	0.44
4:G:408:ASP:OD1	4:G:409:PHE:CD2	2.71	0.44
1:A:58:PHE:CD1	1:A:58:PHE:O	2.70	0.44
1:A:59:MET:C	1:A:61:ILE:CD1	2.86	0.44
1:A:59:MET:C	1:A:61:ILE:CG1	2.85	0.44
1:B:33:ILE:O	1:B:146:ARG:NH1	2.46	0.44
3:E:434:HIS:CG	3:E:435:ARG:N	2.86	0.44
3:E:434:HIS:CD2	3:E:447:LEU:HA	2.52	0.44
3:F:122:LEU:CD1	3:F:131:ALA:HB2	2.48	0.44
3:F:274:GLN:O	3:F:275:TYR:CD2	2.70	0.44
4:G:408:ASP:OD1	4:G:409:PHE:CE2	2.70	0.44
2:D:256:THR:N	4:H:424:ASN:O	2.49	0.44
5:J:418:LYS:CE	5:J:419:ARG:C	2.85	0.44
1:A:130:TYR:CD2	1:A:131:PRO:HD3	2.52	0.44
1:A:17:PHE:CD1	1:A:17:PHE:O	2.70	0.44
1:B:25:LYS:HA	1:B:28:GLN:HE22	1.81	0.44
3:E:181:GLU:OE1	3:E:182:HIS:CD2	2.70	0.44
3:E:396:LEU:HD23	3:E:413:VAL:HB	1.98	0.44
5:J:385:ALA:HB3	5:J:403:ALA:HA	2.00	0.44
1:A:59:MET:O	1:A:61:ILE:HD11	2.17	0.44
2:D:184:LEU:O	2:D:187:ILE:HG12	2.18	0.44
2:D:331:SER:OG	2:D:332:SER:N	2.51	0.44
3:E:181:GLU:OE2	3:E:182:HIS:CE1	2.70	0.44
3:E:245:PHE:CD1	3:E:249:VAL:HG11	2.52	0.44
3:E:276:GLN:NE2	3:E:276:GLN:H	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:383:CYS:HB2	3:F:400:ILE:O	2.18	0.44
2:C:235:PHE:CE2	4:G:325:MET:HE2	2.53	0.44
4:G:208:SER:HB2	4:G:344:HIS:NE2	2.33	0.44
5:J:418:LYS:HD2	5:J:418:LYS:C	2.39	0.44
3:F:354:ALA:CB	3:F:370:ASP:OD1	2.56	0.43
4:H:329:LEU:HD21	4:H:361:ILE:HA	2.00	0.43
5:I:18:LEU:HD23	5:I:62:GLY:O	2.15	0.43
5:J:322:ALA:O	5:J:325:CYS:HB3	2.18	0.43
1:A:52:ALA:CA	1:A:57:GLU:OE1	2.65	0.43
1:B:28:GLN:CD	1:B:28:GLN:H	2.22	0.43
2:C:313:ILE:HG13	2:C:313:ILE:H	1.60	0.43
3:F:204:ARG:NH1	3:F:204:ARG:HB3	2.33	0.43
4:G:258:VAL:HA	4:G:283:VAL:HG22	2.00	0.43
3:F:214:VAL:HG23	3:F:218:PHE:HD1	1.81	0.43
3:F:315:LYS:N	3:F:315:LYS:HD2	2.33	0.43
3:F:434:HIS:CG	3:F:447:LEU:O	2.71	0.43
4:G:186:LEU:HD11	4:G:190:LEU:HD22	2.01	0.43
5:J:366:PHE:N	5:J:382:ALA:O	2.45	0.43
2:D:289:THR:OG1	2:D:290:TYR:N	2.52	0.43
3:F:446:ARG:CA	3:F:447:LEU:CB	2.93	0.43
3:F:51:LEU:HD22	3:F:54:LEU:HD12	2.00	0.43
4:H:411:GLU:O	4:H:412:LYS:CG	2.66	0.43
5:I:178:VAL:HG22	5:I:214:VAL:HG22	2.00	0.43
2:C:136:MET:CG	2:C:137:TYR:H	2.28	0.43
2:C:48:TRP:CE2	2:C:54:LEU:HD22	2.53	0.43
3:E:260:SER:O	3:E:264:GLY:N	2.51	0.43
1:A:53:LYS:HZ1	1:A:104:LYS:HZ3	0.44	0.43
1:B:54:THR:O	1:B:57:GLU:HG2	2.18	0.43
3:E:255:GLU:CD	3:E:255:GLU:N	2.71	0.43
3:E:327:PRO:HG2	3:E:327:PRO:O	2.19	0.43
3:F:269:TYR:CD1	3:F:270:LEU:CA	2.96	0.43
5:I:203:PRO:O	5:I:205:ILE:N	2.52	0.43
5:J:362:ILE:HA	5:J:379:ILE:O	2.18	0.43
1:B:134:ARG:HA	1:B:134:ARG:HD3	1.69	0.43
3:E:355:LEU:CD1	3:E:368:ILE:HG13	2.44	0.43
5:I:242:ASP:O	5:I:246:ASP:HB2	2.19	0.43
5:J:29:TYR:CE2	5:J:30:ARG:HD3	2.54	0.43
5:J:426:HIS:C	5:J:426:HIS:ND1	2.72	0.43
1:A:113:LEU:HD12	1:A:116:GLN:HG3	2.01	0.43
3:E:274:GLN:CB	3:E:276:GLN:NE2	2.73	0.43
1:A:105:ARG:O	1:A:109:GLU:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:139:ILE:HD12	1:B:206:LEU:HD22	2.00	0.43
3:E:355:LEU:CB	3:E:372:SER:O	2.56	0.43
3:E:375:LYS:O	3:E:392:SER:HA	2.18	0.43
3:F:213:ASP:OD1	3:F:214:VAL:HG22	2.19	0.43
3:F:247:HIS:O	3:F:250:ILE:HG22	2.19	0.43
4:H:348:SER:OG	4:H:383:GLU:HA	2.18	0.43
5:J:178:VAL:HG22	5:J:214:VAL:HG13	1.99	0.43
1:A:54:THR:O	1:A:57:GLU:N	2.51	0.43
1:A:60:ASP:N	1:A:61:ILE:HG13	2.34	0.43
1:A:77:ILE:HG21	1:A:221:ILE:HD12	2.01	0.43
3:E:211:SER:O	3:E:214:VAL:HG13	2.19	0.43
3:E:67:ILE:HA	3:E:336:ILE:HG12	2.01	0.43
3:F:101:ASN:O	3:F:105:ARG:HG2	2.18	0.43
3:F:155:PRO:O	3:F:158:THR:OG1	2.36	0.43
3:F:262:ILE:HA	3:F:265:ASP:HB3	2.01	0.42
2:C:233:GLU:OE2	4:G:302:ARG:HD3	2.19	0.42
5:J:209:HIS:HB3	5:J:212:LEU:HD21	2.01	0.42
5:J:423:PHE:HB3	5:J:424:GLU:H	1.58	0.42
1:B:130:TYR:CD2	1:B:131:PRO:HD3	2.54	0.42
2:D:187:ILE:HG13	2:D:188:ASN:H	1.84	0.42
3:E:143:PHE:CE1	3:E:250:ILE:HG23	2.54	0.42
3:F:401:VAL:HG22	3:F:418:GLN:HA	2.01	0.42
5:J:121:SER:OG	5:J:122:ASP:N	2.50	0.42
5:J:400:ALA:O	5:J:401:ILE:CG1	2.62	0.42
5:J:414:ILE:HG22	5:J:415:GLU:N	2.34	0.42
5:J:50:LEU:HD22	5:J:274:VAL:HG21	2.00	0.42
2:D:177:ILE:O	2:D:181:ILE:HG12	2.19	0.42
2:D:237:ASN:HD21	2:D:354:TYR:HA	1.84	0.42
3:E:31:GLN:HB3	3:E:33:GLN:OE1	2.19	0.42
3:E:334:LYS:HD2	3:E:334:LYS:HA	1.88	0.42
3:F:182:HIS:ND1	3:F:183:ILE:C	2.73	0.42
3:F:368:ILE:HG22	3:F:385:ILE:CB	2.46	0.42
3:F:429:GLU:HG3	3:F:445:GLU:HB3	1.98	0.42
5:I:416:LYS:C	5:I:417:ASN:ND2	2.73	0.42
5:J:116:LYS:HB2	5:J:118:LEU:HG	2.02	0.42
1:A:258:TYR:CE2	1:B:202:ASN:HB3	2.54	0.42
3:E:257:GLU:HA	3:E:259:ILE:HG12	2.01	0.42
3:E:381:LYS:O	3:E:399:ASN:N	2.41	0.42
3:E:389:VAL:HG12	3:E:405:GLY:CA	2.49	0.42
3:F:351:SER:OG	3:F:355:LEU:HD13	2.14	0.42
3:F:385:ILE:HD11	3:F:402:VAL:HG21	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:425:LEU:CD1	3:F:425:LEU:N	2.83	0.42
3:F:55:THR:HG21	3:F:62:LYS:HB2	2.00	0.42
4:G:419:TRP:CZ2	4:G:420:LYS:HD3	2.54	0.42
5:I:27:TYR:O	5:I:28:ASN:C	2.58	0.42
5:J:35:THR:HA	5:J:38:LYS:O	2.19	0.42
1:B:21:GLN:O	1:B:25:LYS:HB2	2.20	0.42
2:D:393:LEU:HA	2:D:393:LEU:HD12	1.88	0.42
3:F:205:LEU:HD21	3:F:208:ALA:HB2	2.01	0.42
5:I:53:TYR:CG	5:I:131:VAL:HG12	2.55	0.42
3:F:280:THR:O	3:F:281:VAL:HB	2.20	0.42
3:F:382:ASN:HB2	3:F:399:ASN:H	1.84	0.42
3:F:387:LYS:HB2	3:F:404:ASP:CB	2.45	0.42
4:G:135:GLU:O	4:G:136:ASN:HB2	2.20	0.42
4:G:241:LYS:HA	4:G:244:SER:CB	2.42	0.42
5:J:116:LYS:HA	5:J:116:LYS:HE3	2.02	0.42
5:J:304:GLN:N	5:J:304:GLN:OE1	2.50	0.42
5:J:323:ARG:O	5:J:324:SER:OG	2.28	0.42
5:J:386:ASN:N	5:J:386:ASN:ND2	2.60	0.42
1:B:257:GLN:HG3	1:B:257:GLN:H	1.58	0.42
2:C:53:GLN:OE1	2:C:53:GLN:N	2.53	0.42
3:E:272:LYS:O	3:E:273:CYS:HB2	2.20	0.42
3:E:352:GLU:HG3	3:E:369:LYS:C	2.40	0.42
3:E:384:VAL:HB	3:E:401:VAL:HG22	2.01	0.42
5:J:134:VAL:HG23	5:J:270:TYR:O	2.19	0.42
1:A:22:VAL:HA	1:A:25:LYS:HG3	2.02	0.42
2:D:212:LYS:N	6:D:401:PO4:O4	2.53	0.42
3:E:274:GLN:CD	3:E:274:GLN:N	2.72	0.42
3:E:36:PRO:HD2	4:H:143:PRO:HG2	2.02	0.42
3:E:442:ALA:O	3:E:444:GLY:N	2.53	0.42
3:F:147:SER:HB2	3:F:241:HIS:CE1	2.55	0.42
3:F:385:ILE:CG1	3:F:402:VAL:HG21	2.46	0.42
5:J:33:PRO:HG2	5:J:419:ARG:CG	2.49	0.42
5:J:418:LYS:NZ	5:J:419:ARG:C	2.72	0.42
5:J:431:LEU:HD23	5:J:432:ASN:N	2.35	0.42
2:C:93:LEU:HD12	2:C:96:THR:OG1	2.19	0.42
3:E:267:ILE:HB	3:E:268:PRO:HD3	2.02	0.42
3:F:124:ASP:C	3:F:126:LYS:H	2.21	0.42
4:H:122:ILE:HD11	4:H:123:PHE:CZ	2.55	0.42
4:H:208:SER:HB2	4:H:344:HIS:NE2	2.35	0.42
5:I:211:GLU:O	5:I:212:LEU:HG	2.19	0.42
5:I:63:VAL:O	5:I:93:PHE:HB3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:35:MET:HB3	1:A:35:MET:HE2	1.95	0.42
3:E:207:TYR:CE1	3:E:209:LYS:HB2	2.55	0.42
3:E:169:SER:OG	3:E:313:ILE:HG13	2.20	0.41
3:E:274:GLN:C	3:E:276:GLN:NE2	2.73	0.41
4:G:403:ASN:C	4:G:403:ASN:ND2	2.73	0.41
5:I:19:GLN:OE1	5:I:120:THR:N	2.45	0.41
1:A:175:GLY:O	1:A:179:THR:OG1	2.30	0.41
1:A:47:LEU:C	1:A:50:SER:OG	2.58	0.41
3:E:81:GLU:OE1	3:E:110:GLY:O	2.38	0.41
3:E:355:LEU:HD21	3:E:370:ASP:HA	1.83	0.41
3:F:274:GLN:HG3	3:F:274:GLN:H	1.57	0.41
3:F:367:THR:O	3:F:384:VAL:CB	2.68	0.41
3:F:385:ILE:CG2	3:F:386:GLY:N	2.82	0.41
2:C:287:LEU:HB2	2:C:358:ILE:HB	2.02	0.41
2:D:140:MET:HB3	2:D:140:MET:HE2	1.99	0.41
3:F:172:ALA:O	3:F:317:GLY:HA2	2.20	0.41
3:F:423:SER:HA	3:F:438:ALA:O	2.21	0.41
4:H:347:LEU:HD23	4:H:386:GLN:H	1.85	0.41
5:I:409:GLY:CA	5:I:433:ASP:HB2	2.50	0.41
1:B:276:THR:HG23	1:B:278:HIS:HB3	1.28	0.41
1:B:322:ASP:OD1	1:B:322:ASP:N	2.41	0.41
3:E:266:LEU:HB3	3:E:267:ILE:HD13	2.03	0.41
3:F:199:GLU:C	3:F:200:GLU:O	2.57	0.41
3:F:351:SER:HG	3:F:355:LEU:CD1	2.29	0.41
3:F:388:GLY:C	3:F:405:GLY:HA2	2.40	0.41
4:G:175:ILE:O	4:G:178:TYR:HB3	2.20	0.41
4:H:117:GLU:C	4:H:119:GLN:NE2	2.73	0.41
1:A:264:ARG:CZ	1:A:303:ARG:HD2	2.50	0.41
1:A:330:SER:O	1:A:334:GLU:HG3	2.20	0.41
2:C:193:VAL:HA	2:C:220:PHE:CE1	2.55	0.41
2:C:378:LEU:HD23	2:C:381:ILE:HD12	2.02	0.41
3:E:181:GLU:OE1	3:E:182:HIS:N	2.53	0.41
3:F:335:CYS:O	3:F:338:LYS:HB3	2.21	0.41
5:I:16:HIS:ND1	5:I:16:HIS:C	2.74	0.41
5:J:140:LEU:O	5:J:144:ARG:HG3	2.21	0.41
5:J:383:ILE:O	5:J:384:LEU:HD23	2.20	0.41
1:A:66:SER:HA	1:A:69:LEU:HB3	2.02	0.41
1:B:81:ALA:HB2	1:B:250:VAL:HB	2.03	0.41
3:E:276:GLN:CD	3:E:276:GLN:N	2.73	0.41
3:E:434:HIS:ND1	3:E:448:VAL:HA	2.35	0.41
3:F:129:ALA:HB2	3:F:262:ILE:HD12	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:278:SER:OG	3:F:278:SER:O	2.26	0.41
4:H:359:SER:OG	4:H:433:ASP:OD2	2.34	0.41
5:I:230:VAL:HB	5:I:231:PRO:HD3	2.02	0.41
5:J:436:LEU:HA	5:J:437:VAL:HA	1.97	0.41
3:E:332:LEU:O	3:E:336:ILE:HG13	2.19	0.41
4:H:411:GLU:CD	4:H:411:GLU:N	2.73	0.41
5:I:160:ARG:HB3	5:I:219:ILE:HB	2.03	0.41
5:I:293:TYR:CG	5:I:294:PRO:HA	2.56	0.41
1:A:148:VAL:HG13	1:A:208:LEU:HD23	2.03	0.41
3:F:214:VAL:CG2	3:F:218:PHE:HD1	2.33	0.41
4:G:139:LYS:H	4:G:139:LYS:CD	2.32	0.41
4:G:241:LYS:O	4:G:245:TYR:CB	2.67	0.41
4:G:403:ASN:ND2	4:G:407:ASP:O	2.54	0.41
2:C:377:TYR:HH	4:H:460:ASN:ND2	2.17	0.41
5:I:293:TYR:CD1	5:I:294:PRO:HA	2.56	0.41
5:I:436:LEU:CD1	5:I:436:LEU:C	2.85	0.41
5:J:293:TYR:CD1	5:J:294:PRO:HA	2.56	0.41
1:A:217:ASN:HB3	1:A:253:PHE:CZ	2.56	0.41
2:C:289:THR:OG1	2:C:290:TYR:N	2.54	0.41
2:D:187:ILE:HG13	2:D:188:ASN:N	2.36	0.41
2:D:294:GLN:HG2	2:D:298:GLN:HG2	2.02	0.41
3:F:205:LEU:C	3:F:206:LEU:HD12	2.41	0.41
3:F:429:GLU:HG3	3:F:445:GLU:HB2	2.03	0.41
4:G:238:LEU:HD23	4:G:238:LEU:HA	1.76	0.41
4:G:240:GLU:CD	4:G:241:LYS:HG2	2.41	0.41
4:G:274:TYR:CZ	4:G:275:LEU:HD11	2.55	0.41
4:H:332:ILE:HD12	4:H:332:ILE:HA	1.96	0.41
1:A:19:ILE:CG2	1:A:20:VAL:N	2.84	0.41
1:A:21:GLN:O	1:A:25:LYS:HG3	2.21	0.41
1:B:126:ALA:HA	1:B:151:VAL:HG22	2.03	0.41
2:C:313:ILE:HG13	2:C:369:ASN:OD1	2.21	0.41
3:F:353:ARG:O	3:F:354:ALA:CB	2.69	0.41
3:F:368:ILE:CG2	3:F:385:ILE:HB	2.47	0.41
3:F:434:HIS:CD2	3:F:448:VAL:HG21	2.52	0.41
5:I:322:ALA:O	5:I:325:CYS:HB3	2.20	0.41
1:A:62:LEU:HG	1:A:62:LEU:H	1.61	0.41
2:C:235:PHE:CD1	2:C:236:PRO:HA	2.56	0.41
3:E:267:ILE:H	3:E:267:ILE:HD13	1.78	0.41
3:E:364:GLU:C	3:E:366:THR:H	2.23	0.41
3:F:355:LEU:CD2	3:F:368:ILE:O	2.69	0.41
3:F:49:ASN:N	3:F:49:ASN:OD1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:144:PHE:HB3	1:A:174:SER:HB3	2.03	0.40
3:E:94:GLU:OE2	3:E:120:THR:HA	2.22	0.40
3:E:414:ALA:HB3	3:E:431:GLY:O	2.20	0.40
3:F:259:ILE:H	3:F:259:ILE:HG13	1.60	0.40
3:F:275:TYR:O	3:F:277:LYS:N	2.51	0.40
3:F:340:THR:HG23	3:F:342:GLU:HG3	2.03	0.40
4:H:300:ASP:OD1	4:H:301:SER:N	2.50	0.40
5:J:431:LEU:O	5:J:432:ASN:CB	2.62	0.40
5:J:63:VAL:O	5:J:93:PHE:HB3	2.21	0.40
1:A:132:LEU:HD12	1:A:320:ILE:HD11	2.02	0.40
1:B:142:HIS:CE1	1:B:225:GLY:HA3	2.56	0.40
1:B:341:LEU:HA	1:B:341:LEU:HD12	1.91	0.40
2:D:235:PHE:CD1	2:D:236:PRO:HA	2.56	0.40
3:E:266:LEU:HD23	3:E:266:LEU:C	2.41	0.40
3:E:333:ASN:HB2	3:E:412:ILE:HD11	2.04	0.40
3:E:67:ILE:HG22	3:E:68:GLY:N	2.36	0.40
1:A:18:ASP:CG	1:A:21:GLN:HG3	2.41	0.40
1:A:31:PRO:HB3	1:B:285:PRO:HD3	2.03	0.40
3:E:272:LYS:O	3:E:273:CYS:CB	2.68	0.40
3:E:354:ALA:HB3	3:E:370:ASP:CB	2.50	0.40
3:E:65:LEU:HB2	3:E:72:MET:HE3	2.03	0.40
3:F:385:ILE:HG22	3:F:386:GLY:N	2.36	0.40
4:G:288:LYS:HE3	4:G:288:LYS:HB2	1.90	0.40
4:H:418:ASN:O	4:H:422:VAL:HG23	2.21	0.40
5:I:337:THR:HG23	5:I:354:CYS:HB2	2.04	0.40
5:I:381:LYS:HA	5:I:381:LYS:HD3	1.93	0.40
5:I:419:ARG:C	5:I:420:LEU:HD23	2.41	0.40
2:C:331:SER:OG	2:C:332:SER:N	2.52	0.40
2:D:40:ARG:HG3	2:D:174:ILE:HD12	2.04	0.40
2:D:32:ALA:HB2	2:D:74:SER:OG	2.22	0.40
4:G:134:THR:O	4:G:137:ILE:HB	2.22	0.40
4:G:264:LYS:HA	4:G:264:LYS:HD3	1.85	0.40
5:I:57:PHE:CD1	5:I:132:SER:HB3	2.57	0.40
5:I:257:LEU:O	5:I:259:LYS:HD3	2.22	0.40
5:J:140:LEU:HD23	5:J:225:ILE:HD13	2.02	0.40
1:B:230:ALA:HB1	1:B:315:PHE:HB3	2.03	0.40
3:F:367:THR:N	3:F:383:CYS:O	2.55	0.40
4:G:273:THR:O	4:G:273:THR:HG23	2.21	0.40
4:H:202:VAL:HG22	4:H:207:LEU:HG	2.03	0.40
5:I:439:ILE:HD11	5:I:441:GLY:HA2	2.00	0.40

All (8) symmetry-related close contacts are listed below. The label for Atom-2 includes the sym-

metry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:113:ARG:NH2	5:J:443:GLY:C[2_555]	0.64	1.56
3:F:113:ARG:CZ	5:J:443:GLY:O[2_555]	0.66	1.54
3:F:113:ARG:NH2	5:J:443:GLY:O[2_555]	0.96	1.24
3:F:113:ARG:NH1	5:J:443:GLY:O[2_555]	1.51	0.69
3:F:113:ARG:CZ	5:J:443:GLY:C[2_555]	1.76	0.44
3:F:113:ARG:NE	5:J:443:GLY:O[2_555]	1.83	0.37
2:D:56:ASP:OD2	5:I:432:ASN:OD1[3_645]	1.95	0.25
3:F:113:ARG:NH2	5:J:443:GLY:CA[2_555]	2.04	0.16

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 X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	313/341 (92%)	293 (94%)	17 (5%)	3 (1%)	19 61
1	B	315/341 (92%)	302 (96%)	12 (4%)	1 (0%)	46 84
2	C	343/399 (86%)	330 (96%)	13 (4%)	0	100 100
2	D	340/399 (85%)	327 (96%)	13 (4%)	0	100 100
3	E	378/458 (82%)	334 (88%)	36 (10%)	8 (2%)	9 40
3	F	377/458 (82%)	334 (89%)	40 (11%)	3 (1%)	24 66
4	G	347/467 (74%)	331 (95%)	15 (4%)	1 (0%)	46 84
4	H	347/467 (74%)	339 (98%)	8 (2%)	0	100 100
5	I	426/678 (63%)	400 (94%)	24 (6%)	2 (0%)	34 76
5	J	426/678 (63%)	385 (90%)	37 (9%)	4 (1%)	21 64
All	All	3612/4686 (77%)	3375 (93%)	215 (6%)	22 (1%)	30 72

All (22) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	E	262	ILE

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Mol	Chain	Res	Type
3	E	442	ALA
3	E	270	LEU
3	E	277	LYS
5	J	432	ASN
5	I	432	ASN
1	A	61	ILE
3	E	273	CYS
3	E	340	THR
1	B	274	PRO
3	E	327	PRO
3	F	331	GLU
3	F	341	PRO
3	E	150	SER
5	J	32	ARG
5	J	434	PRO
1	A	97	VAL
1	A	274	PRO
3	F	402	VAL
5	J	437	VAL
5	I	33	PRO
4	G	303	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	276/298 (93%)	264 (96%)	12 (4%)	35 75
1	B	278/298 (93%)	274 (99%)	4 (1%)	74 93
2	C	301/350 (86%)	290 (96%)	11 (4%)	41 79
2	D	298/350 (85%)	295 (99%)	3 (1%)	82 95
3	E	330/395 (84%)	299 (91%)	31 (9%)	11 39
3	F	329/395 (83%)	306 (93%)	23 (7%)	19 55
4	G	314/408 (77%)	307 (98%)	7 (2%)	60 88
4	H	314/408 (77%)	307 (98%)	7 (2%)	60 88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	I	379/596 (64%)	363 (96%)	16 (4%)	36 76
5	J	378/596 (63%)	365 (97%)	13 (3%)	44 81
All	All	3197/4094 (78%)	3070 (96%)	127 (4%)	38 77

All (127) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	18	ASP
1	A	21	GLN
1	A	28	GLN
1	A	49	ARG
1	A	50	SER
1	A	51	GLN
1	A	57	GLU
1	A	61	ILE
1	A	62	LEU
1	A	93	SER
1	A	100	PHE
1	A	113	LEU
1	B	87	GLN
1	B	106	HIS
1	B	187	ILE
1	B	276	THR
2	C	1	MET
2	C	2	SER
2	C	44	SER
2	C	49	SER
2	C	87	ARG
2	C	90	TYR
2	C	92	GLU
2	C	93	LEU
2	C	139	SER
2	C	162	ARG
2	C	164	THR
2	D	47	ARG
2	D	49	SER
2	D	167	MET
3	E	31	GLN
3	E	33	GLN
3	E	34	SER
3	E	94	GLU

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Mol	Chain	Res	Type
3	E	133	ARG
3	E	135	VAL
3	E	181	GLU
3	E	218	PHE
3	E	221	ARG
3	E	254	ARG
3	E	256	LYS
3	E	267	ILE
3	E	269	TYR
3	E	273	CYS
3	E	274	GLN
3	E	276	GLN
3	E	277	LYS
3	E	324	ASN
3	E	326	LEU
3	E	327	PRO
3	E	328	ASN
3	E	331	GLU
3	E	332	LEU
3	E	334	LYS
3	E	353	ARG
3	E	355	LEU
3	E	367	THR
3	E	370	ASP
3	E	397	MET
3	E	424	LYS
3	E	448	VAL
3	F	113	ARG
3	F	120	THR
3	F	183	ILE
3	F	200	GLU
3	F	217	ASP
3	F	268	PRO
3	F	272	LYS
3	F	277	LYS
3	F	279	PHE
3	F	281	VAL
3	F	315	LYS
3	F	319	ILE
3	F	339	LEU
3	F	342	GLU
3	F	344	ARG

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Mol	Chain	Res	Type
3	F	345	LEU
3	F	360	CYS
3	F	428	CYS
3	F	429	GLU
3	F	435	ARG
3	F	440	ARG
3	F	443	ARG
3	F	450	MET
4	G	228	ASP
4	G	232	ASP
4	G	237	LEU
4	G	240	GLU
4	G	278	SER
4	G	403	ASN
4	G	412	LYS
4	H	156	LYS
4	H	355	ARG
4	H	404	MET
4	H	407	ASP
4	H	408	ASP
4	H	410	GLU
4	H	411	GLU
5	I	16	HIS
5	I	18	LEU
5	I	26	SER
5	I	29	TYR
5	I	30	ARG
5	I	149	ASP
5	I	205	ILE
5	I	210	GLU
5	I	268	GLU
5	I	418	LYS
5	I	419	ARG
5	I	430	THR
5	I	431	LEU
5	I	432	ASN
5	I	436	LEU
5	I	439	ILE
5	J	381	LYS
5	J	386	ASN
5	J	394	CYS
5	J	398	ASP

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Mol	Chain	Res	Type
5	J	417	ASN
5	J	418	LYS
5	J	419	ARG
5	J	426	HIS
5	J	427	SER
5	J	428	GLN
5	J	435	SER
5	J	437	VAL
5	J	442	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	21	GLN
1	A	95	HIS
1	B	305	ASN
2	C	142	ASN
2	D	239	GLN
3	E	182	HIS
3	E	276	GLN
3	F	325	ASN
3	F	343	GLN
4	G	403	ASN
4	G	460	ASN
4	H	119	GLN
4	H	460	ASN
5	I	188	HIS
5	I	347	ASN
5	I	417	ASN
5	J	386	ASN
5	J	393	ASN
5	J	417	ASN
5	J	428	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no carbohydrates in this entry.

5.6 Ligand geometry (i)

9 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	PO4	A	401	-	4,4,4	0.69	0	6,6,6	0.23	0
6	PO4	B	401	-	4,4,4	0.70	0	6,6,6	0.23	0
6	PO4	C	401	-	4,4,4	0.66	0	6,6,6	0.23	0
6	PO4	D	401	-	4,4,4	0.68	0	6,6,6	0.23	0
6	PO4	G	501	-	4,4,4	0.68	0	6,6,6	0.23	0
6	PO4	G	502	-	4,4,4	0.68	0	6,6,6	0.23	0
6	PO4	H	501	-	4,4,4	0.67	0	6,6,6	0.23	0
6	PO4	H	502	-	4,4,4	0.69	0	6,6,6	0.23	0
6	PO4	I	701	-	4,4,4	0.66	0	6,6,6	0.23	0

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	PO4	A	401	-	-	0/0/0/0	0/0/0/0
6	PO4	B	401	-	-	0/0/0/0	0/0/0/0
6	PO4	C	401	-	-	0/0/0/0	0/0/0/0
6	PO4	D	401	-	-	0/0/0/0	0/0/0/0
6	PO4	G	501	-	-	0/0/0/0	0/0/0/0
6	PO4	G	502	-	-	0/0/0/0	0/0/0/0

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	PO4	H	501	-	-	0/0/0/0	0/0/0/0
6	PO4	H	502	-	-	0/0/0/0	0/0/0/0
6	PO4	I	701	-	-	0/0/0/0	0/0/0/0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	D	401	PO4	1	0
6	G	501	PO4	1	0
6	I	701	PO4	1	0

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 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	317/341 (92%)	0.58	30 (9%) 10 4	55, 86, 150, 173	0
1	B	319/341 (93%)	0.47	17 (5%) 30 12	49, 80, 123, 180	0
2	C	349/399 (87%)	0.44	21 (6%) 25 9	42, 68, 138, 165	0
2	D	346/399 (86%)	0.17	9 (2%) 59 29	41, 66, 111, 161	0
3	E	384/458 (83%)	0.66	42 (10%) 7 3	61, 99, 142, 163	0
3	F	383/458 (83%)	0.78	56 (14%) 3 1	66, 108, 153, 168	0
4	G	349/467 (74%)	0.44	20 (5%) 27 10	44, 75, 136, 167	0
4	H	349/467 (74%)	0.17	11 (3%) 51 23	44, 65, 116, 153	0
5	I	428/678 (63%)	0.22	10 (2%) 64 33	42, 73, 115, 148	0
5	J	428/678 (63%)	0.38	25 (5%) 26 10	50, 87, 122, 153	0
All	All	3652/4686 (77%)	0.43	241 (6%) 22 7	41, 80, 137, 180	0

All (241) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	F	423	SER	7.6
2	C	8	HIS	7.5
3	E	450	MET	6.5
4	G	226	ASP	5.9
2	C	4	ILE	5.7
2	C	-3	ILE	5.6
5	I	442	ARG	5.6
5	J	433	ASP	5.6
2	C	2	SER	5.5
1	A	52	ALA	5.4
3	E	31	GLN	5.2
4	G	183	GLY	5.2
4	G	182	TYR	5.2

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Mol	Chain	Res	Type	RSRZ
1	A	58	PHE	5.1
4	G	184	THR	5.0
1	A	94	LEU	4.9
5	J	436	LEU	4.9
3	F	450	MET	4.8
2	C	169	MET	4.7
5	I	432	ASN	4.7
3	F	401	VAL	4.5
1	A	97	VAL	4.5
3	F	211	SER	4.4
2	D	137	TYR	4.3
3	F	122	LEU	4.3
2	C	173	ILE	4.3
1	A	51	GLN	4.3
2	D	165	GLY	4.2
2	D	90	TYR	4.2
5	J	16	HIS	4.0
4	G	229	LEU	4.0
1	B	277	VAL	4.0
1	B	17	PHE	4.0
3	F	434	HIS	4.0
1	B	285	PRO	4.0
2	C	48	TRP	4.0
3	F	34	SER	4.0
1	A	23	TYR	3.8
3	E	252	LEU	3.8
3	E	356	VAL	3.8
2	C	10	TYR	3.8
3	F	259	ILE	3.8
3	F	132	LEU	3.7
1	A	101	GLU	3.6
1	A	17	PHE	3.6
4	G	227	ILE	3.6
4	H	184	THR	3.6
3	F	418	GLN	3.6
2	C	9	THR	3.5
2	D	166	GLY	3.5
3	E	253	ILE	3.5
3	E	440	ARG	3.5
1	A	86	PHE	3.5
5	J	393	ASN	3.4
4	G	175	ILE	3.4

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Mol	Chain	Res	Type	RSRZ
4	H	119	GLN	3.4
3	E	273	CYS	3.3
3	E	402	VAL	3.3
5	J	414	ILE	3.3
4	G	224	VAL	3.2
3	E	418	GLN	3.2
4	G	405	GLY	3.2
3	E	32	LEU	3.2
3	E	220	PHE	3.2
1	A	289	ASP	3.2
2	C	3	THR	3.2
2	D	97	ALA	3.1
3	E	278	SER	3.1
3	F	44	PHE	3.1
4	G	114	ILE	3.1
3	F	367	THR	3.1
3	F	384	VAL	3.1
1	B	58	PHE	3.1
1	B	54	THR	3.1
3	F	385	ILE	3.0
3	E	47	PHE	3.0
3	F	402	VAL	3.0
3	F	218	PHE	3.0
3	F	351	SER	3.0
1	B	47	LEU	3.0
3	E	355	LEU	3.0
3	F	355	LEU	3.0
3	F	408	LEU	3.0
4	H	408	ASP	3.0
3	E	351	SER	2.9
5	J	435	SER	2.9
3	F	252	LEU	2.9
1	A	295	LEU	2.9
3	E	385	ILE	2.9
3	E	279	PHE	2.9
3	F	123	ASP	2.9
2	D	164	THR	2.9
3	F	419	ILE	2.9
3	F	56	GLY	2.9
3	E	256	LYS	2.8
1	B	94	LEU	2.8
3	F	425	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
3	F	125	SER	2.8
2	C	-4	PRO	2.8
1	B	55	ILE	2.8
2	C	46	THR	2.8
4	G	198	ILE	2.8
3	F	253	ILE	2.8
3	F	436	VAL	2.8
4	G	230	THR	2.8
5	I	374	GLY	2.7
1	A	291	ILE	2.7
3	E	268	PRO	2.7
5	J	434	PRO	2.7
2	D	93	LEU	2.7
4	H	120	VAL	2.7
5	J	37	ASP	2.7
1	A	53	LYS	2.7
4	G	235	LYS	2.7
1	B	53	LYS	2.7
3	F	431	GLY	2.7
3	F	220	PHE	2.7
5	J	420	LEU	2.7
1	A	56	SER	2.6
3	F	145	CYS	2.6
3	E	218	PHE	2.6
2	C	90	TYR	2.6
3	F	276	GLN	2.6
5	J	379	ILE	2.6
1	A	107	LEU	2.6
3	E	281	VAL	2.6
1	A	59	MET	2.6
1	A	50	SER	2.6
3	F	32	LEU	2.6
3	F	406	VAL	2.6
1	A	65	GLY	2.6
3	F	347	ASP	2.6
3	E	206	LEU	2.6
5	J	431	LEU	2.5
1	B	72	GLY	2.5
5	J	256	LEU	2.5
1	A	290	ALA	2.5
3	E	192	ALA	2.5
4	H	405	GLY	2.5

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Mol	Chain	Res	Type	RSRZ
3	F	449	ASP	2.5
1	B	51	GLN	2.5
4	G	189	HIS	2.5
3	F	91	ILE	2.5
3	E	369	LYS	2.5
1	A	18	ASP	2.5
5	J	356	ILE	2.5
4	H	116	GLU	2.4
1	A	293	ASN	2.4
3	F	182	HIS	2.4
3	F	254	ARG	2.4
3	E	404	ASP	2.4
1	A	286	THR	2.4
3	F	400	ILE	2.4
3	F	47	PHE	2.4
3	E	254	ARG	2.4
1	B	61	ILE	2.4
5	J	402	VAL	2.4
3	E	272	LYS	2.4
3	F	124	ASP	2.4
1	B	19	ILE	2.4
3	E	374	ILE	2.4
1	B	20	VAL	2.4
3	E	45	ALA	2.4
3	F	412	ILE	2.4
4	G	225	LEU	2.4
4	G	115	PHE	2.4
1	B	52	ALA	2.4
3	F	210	SER	2.3
4	H	158	PHE	2.3
1	A	96	ASP	2.3
4	H	226	ASP	2.3
2	C	5	ASN	2.3
3	E	216	SER	2.3
3	F	313	ILE	2.3
3	F	379	ILE	2.3
4	G	186	LEU	2.3
5	J	259	LYS	2.3
5	I	198	TYR	2.3
5	J	154	ILE	2.3
1	A	54	THR	2.3
1	A	99	ASP	2.3

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Mol	Chain	Res	Type	RSRZ
5	J	326	ILE	2.3
3	E	330	PHE	2.3
3	E	33	GLN	2.3
2	C	177	ILE	2.3
3	F	273	CYS	2.2
4	H	227	ILE	2.2
5	J	396	ILE	2.2
3	E	346	VAL	2.2
2	C	58	VAL	2.2
3	E	443	ARG	2.2
1	A	43	LEU	2.2
3	F	206	LEU	2.2
3	E	315	LYS	2.2
5	I	15	LYS	2.2
3	E	60	LEU	2.2
3	E	258	SER	2.2
1	A	100	PHE	2.2
1	B	86	PHE	2.2
3	E	441	ILE	2.2
5	I	357	GLY	2.2
2	D	54	LEU	2.2
3	E	92	CYS	2.2
3	F	55	THR	2.2
4	G	180	THR	2.2
2	C	174	ILE	2.2
3	E	134	ALA	2.2
3	F	368	ILE	2.2
5	I	379	ILE	2.2
3	F	121	ILE	2.1
4	G	123	PHE	2.1
5	J	411	ASN	2.1
4	G	157	ILE	2.1
5	I	396	ILE	2.1
5	J	374	GLY	2.1
3	F	407	ARG	2.1
5	J	118	LEU	2.1
5	J	257	LEU	2.1
5	J	320	VAL	2.1
1	A	57	GLU	2.1
4	H	407	ASP	2.1
2	C	170	ARG	2.1
3	F	94	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
2	C	94	LEU	2.1
2	C	86	ILE	2.1
3	E	265	ASP	2.1
3	E	419	ILE	2.1
5	I	408	ILE	2.1
5	I	238	PHE	2.1
1	A	103	CYS	2.0
1	B	100	PHE	2.0
2	C	0	PHE	2.0
4	H	115	PHE	2.0
3	F	216	SER	2.0
3	F	369	LYS	2.0
3	F	92	CYS	2.0
2	D	254	ILE	2.0
5	J	407	VAL	2.0
3	F	327	PRO	2.0
1	A	102	GLN	2.0
5	J	367	LEU	2.0

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

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

6.3 Carbohydrates (i)

There are no carbohydrates in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å^2)	Q<0.9
6	PO4	D	401	5/5	0.98	0.21	1.08	50,53,72,73	0
6	PO4	H	502	5/5	0.95	0.20	-0.27	71,82,90,98	0
6	PO4	H	501	5/5	0.89	0.17	-0.28	81,85,101,134	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors(Å^2)	Q<0.9
6	PO4	G	501	5/5	0.88	0.17	-0.34	91,94,118,136	0
6	PO4	B	401	5/5	0.98	0.19	-0.49	63,67,86,93	0
6	PO4	G	502	5/5	0.90	0.17	-0.58	62,67,102,104	0
6	PO4	C	401	5/5	0.99	0.18	-0.68	51,53,68,70	0
6	PO4	I	701	5/5	0.90	0.15	-0.97	101,102,127,141	0
6	PO4	A	401	5/5	0.98	0.15	-2.39	70,71,84,89	0

6.5 Other polymers

There are no such residues in this entry.