Full wwPDB NMR Structure Validation Report (i)

Jun 12, 2024 – 01:18 PM EDT

PDB ID	:	2KX9
Title	:	Solution Structure of the Enzyme I dimer Using Residual Dipolar Couplings and Small Angle X-Ray Scattering
Authors	:	Schwieters, C.D.; Suh, J.; Grishaev, A.; Takayama, Y.; Guirlando, R.; Clore, G.
Deposited on	:	2010-04-29

This is a Full wwPDB NMR Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/NMRValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

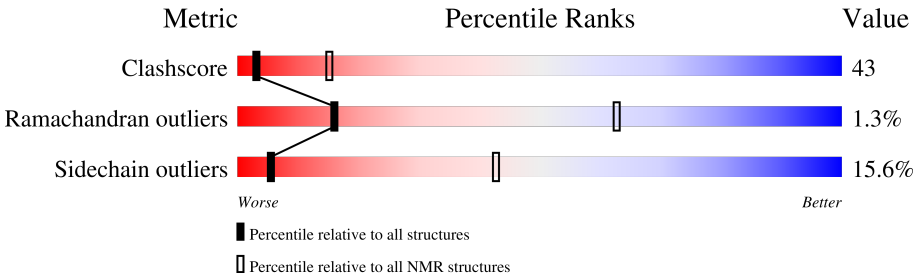
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
wwPDB-RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
wwPDB-ShiftChecker	:	v1.2
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
SOLUTION NMR, SOLUTION SCATTERING

The overall completeness of chemical shifts assignment was not calculated.

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)	NMR archive (#Entries)
Clashscore	158937	12864
Ramachandran outliers	154571	11451
Sidechain outliers	154315	11428

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and 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%

Mol	Chain	Length	Quality of chain
1	A	573	55% 33% 12%
1	B	573	56% 32% 12%

2 Ensemble composition and analysis (i)

This entry contains 2 models. Identification of well-defined residues and clustering analysis are not possible.

3 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 17912 atoms, of which 9028 are hydrogens and 0 are deuteriums.

- Molecule 1 is a protein called Phosphoenolpyruvate-protein phosphotransferase.

Mol	Chain	Residues	Atoms						Trace
1	A	573	Total	C	H	N	O	S	0
			8956	2790	4514	757	874	21	
1	B	573	Total	C	H	N	O	S	0
			8956	2790	4514	757	874	21	

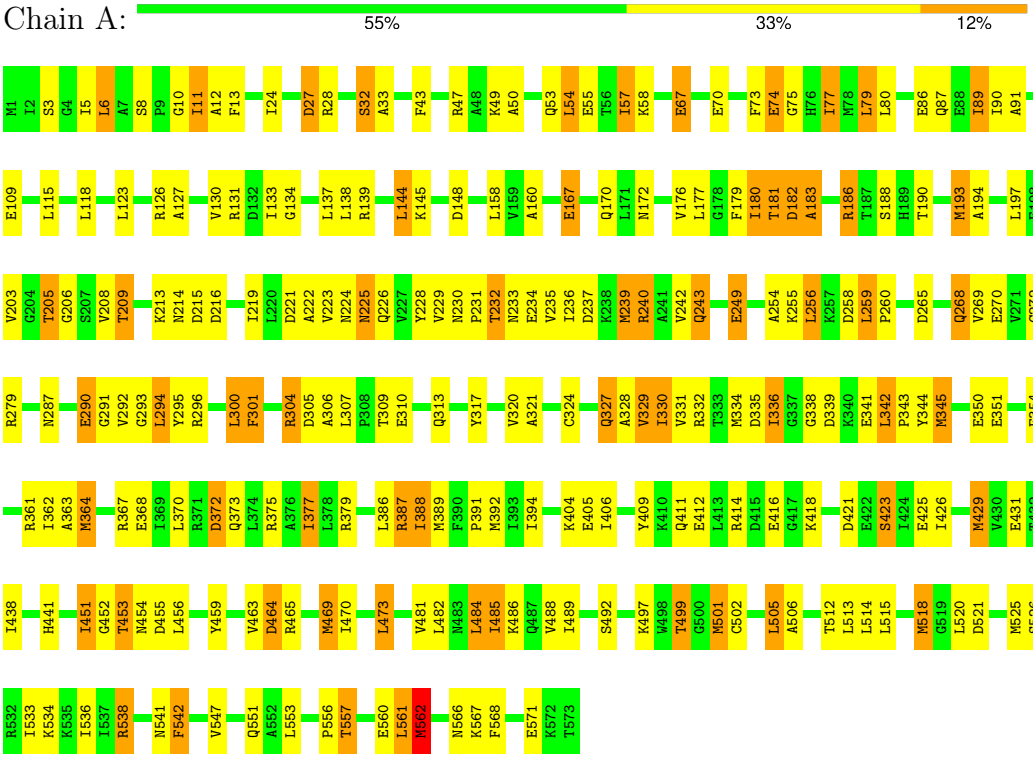
4 Residue-property plots

4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-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. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

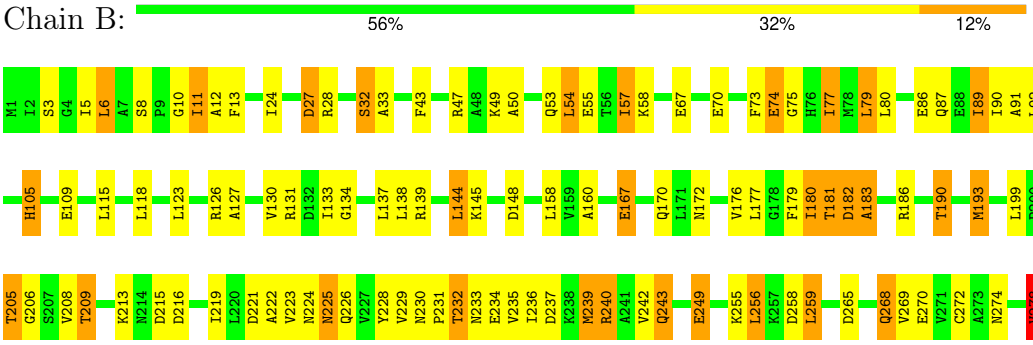
• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

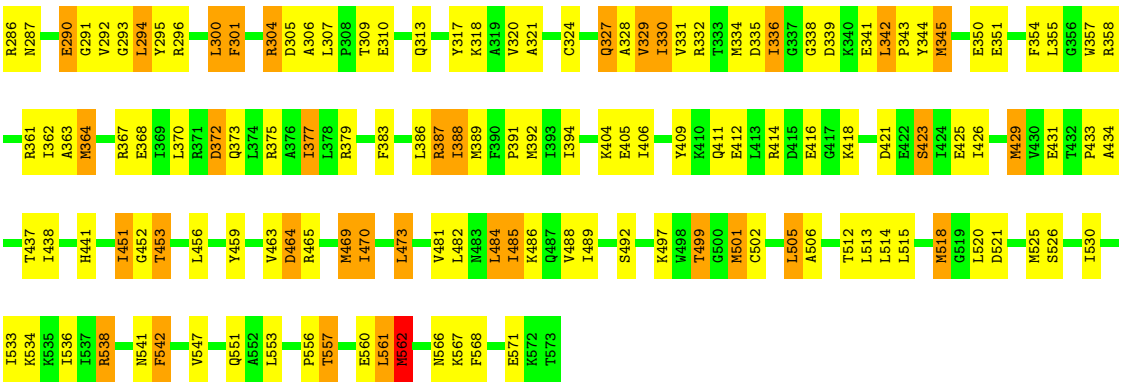
Chain A:



• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

Chain B:





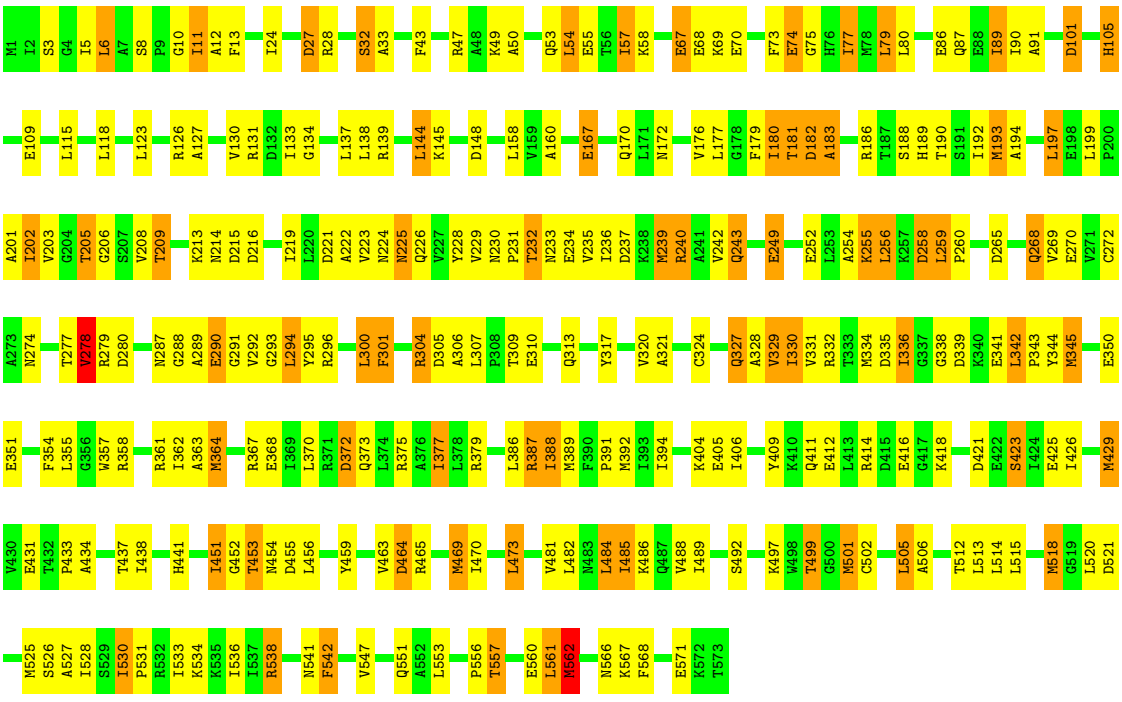
4.2 Scores per residue for each member of the ensemble

Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

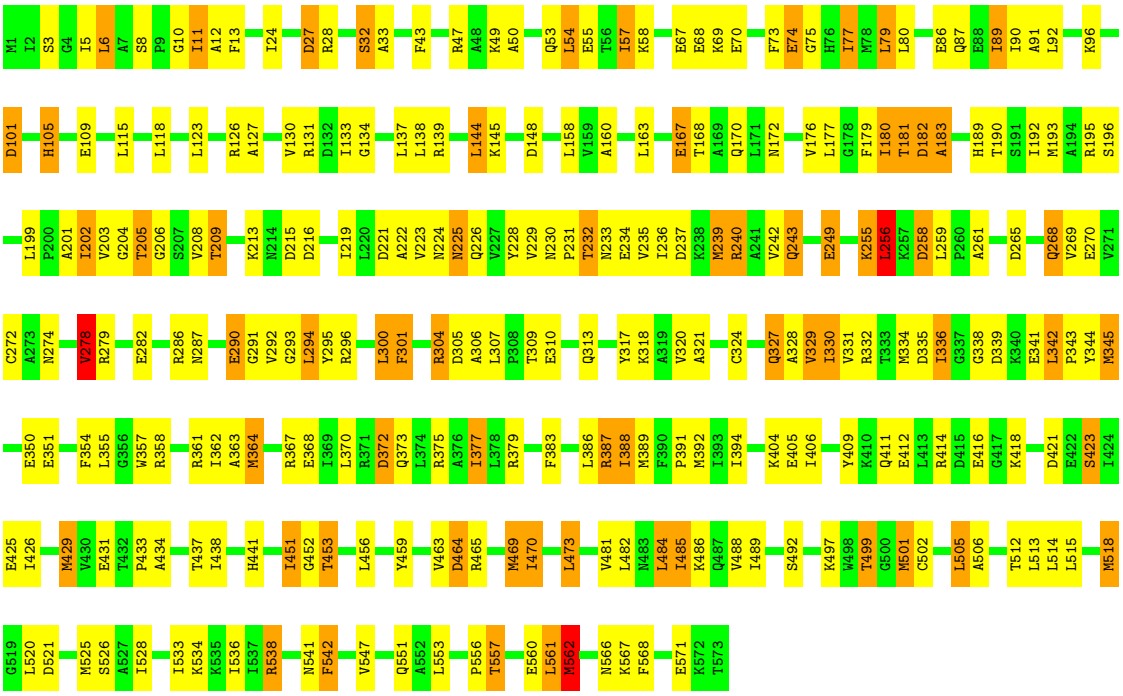
• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

Chain A:



• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

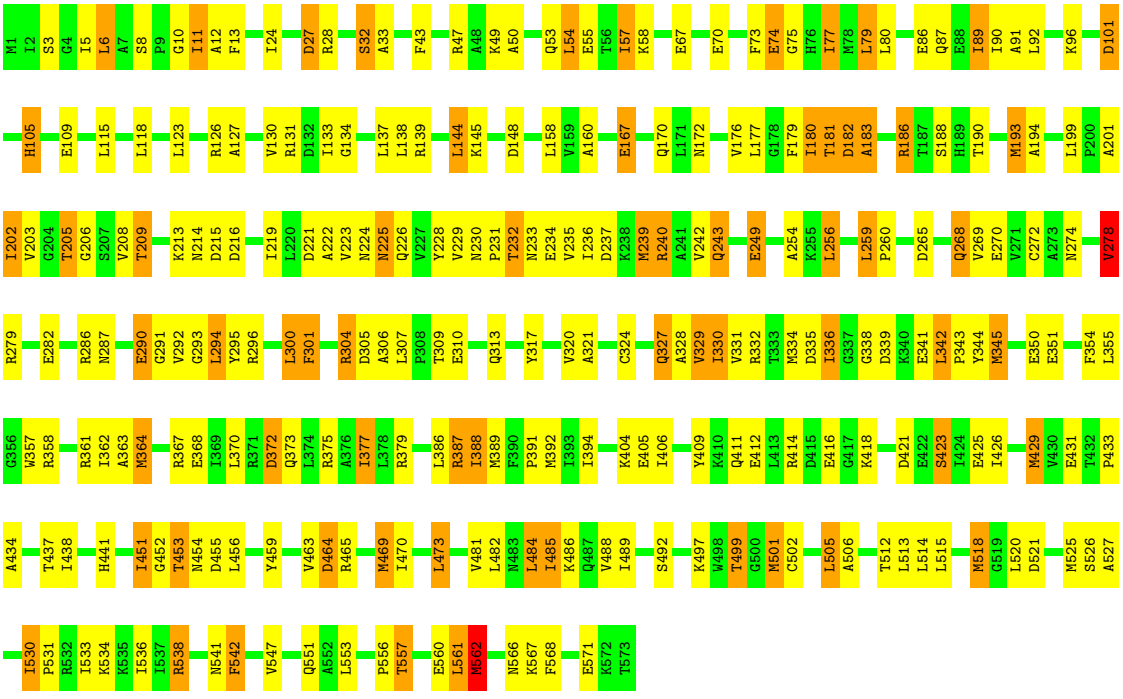
Chain B:



4.2.2 Score per residue for model 2

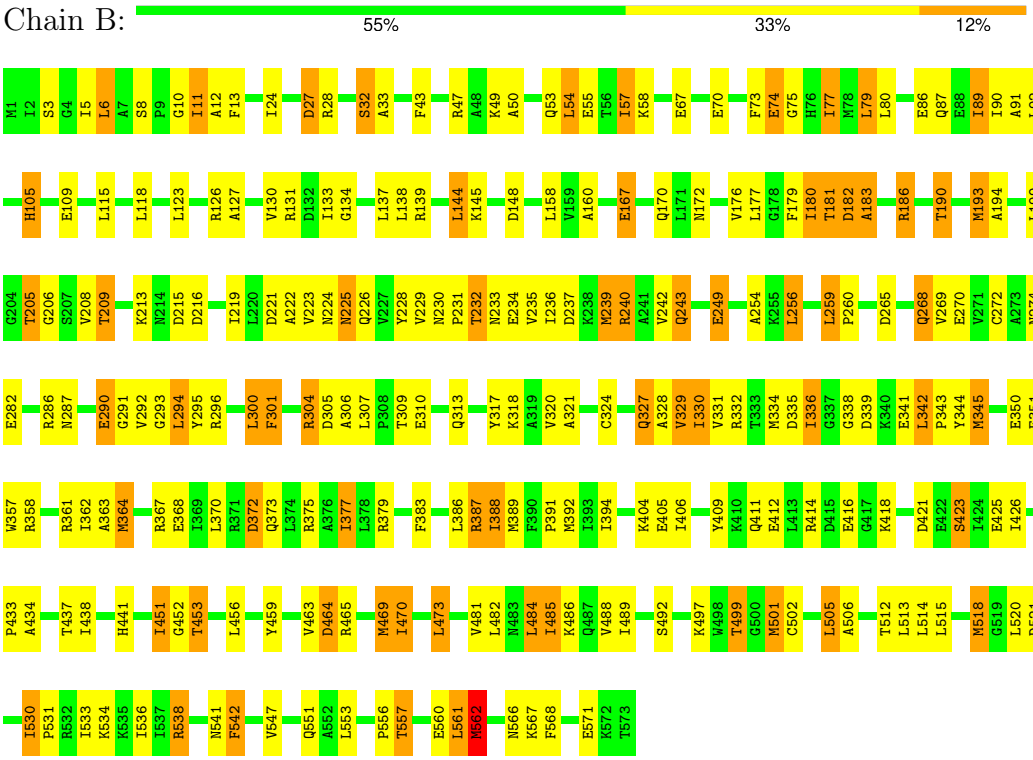
• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

Chain A: 



• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

Chain B:


55%
33%
12%
M1 I2 S3 G4 I5 L6 A7 S8 P9 G10 I11 A12 F13 I24 D27 R28 S32 A33 F43 R47 A48 K49 A50 Q53 L54 E55 T56 I57 K58 E67 E70 F73 E74 G75 H76 I77 M78 L79 L80 E86 Q87 E88 I89 I90 A91 L92 K96 D101
H105 E109 L115 L118 L123 R126 A127 V130 R131 D132 I133 G134 L137 L138 R139 L144 K145 D148 L158 V159 A160 E167 Q170 L171 N172 V176 L177 G178 F179 I180 T181 D182 A183 R186 T190 M193 A194 L199 P200 A201 I202 V203
G204 T205 G206 S207 V208 T209 K213 N214 D215 D216 I219 L220 D221 A222 V223 N224 N225 Q226 V227 Y228 V229 N230 P231 T232 N233 E234 V235 I236 D237 K238 M239 R240 A241 V242 Q243 E249 A254 K255 I256 L259 P260 D265 Q268 V269 E270 V271 C272 A273 N274 V278 R279
E282 R286 N287 E290 G291 V292 G293 L294 Y295 R296 L300 F301 R304 D305 A306 L307 P308 T309 E310 Q313 Y317 K318 A319 V320 A321 C324 Q327 A328 V329 I330 V331 R332 T333 M334 D335 I336 G337 G338 D339 K340 E341 L342 P343 Y344 M345 E350 E351 F354 L355 G356
W357 R358 R361 I362 A363 W364 R367 E368 I369 L370 R371 D372 Q373 L374 R375 A376 I377 L378 R379 F383 L386 R387 I388 M389 F390 P391 M392 I393 I394 K404 E405 I406 Y409 K410 Q411 E412 L413 R414 D415 E416 G417 K418 D421 E422 S423 I424 E425 I426 M429 V430 E431 T432
P433 A434 T437 I438 H441 I451 G452 T453 L456 Y459 V463 D464 R465 M469 I470 L473 V481 L482 N483 L484 I485 K486 Q487 V488 I489 S492 K497 W498 T499 G500 M501 C502 L505 A506 T512 L513 L514 L515 M518 G519 L520 D521 M525 S526 A527
I530 P531 R532 I533 K534 K535 I536 I537 R538 N541 F542 V547 Q551 A552 L553 P556 T557 E560 L561 M562 N566 K567 F568 E571 K572 T573

5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing.*

Of the 120 calculated structures, 2 were deposited, based on the following criterion: *target function.*

The following table shows the software used for structure solution, optimisation and refinement.

Software name	Classification	Version
Xplor-NIH	structure solution	2.25
Xplor-NIH	refinement	2.25

No chemical shift data was provided.

6 Model quality

6.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#Z>5	RMSZ	#Z>5
1	A	1.04±0.00	10±0/4495 (0.2± 0.0%)	0.89±0.00	5±0/6061 (0.1± 0.0%)
1	B	1.05±0.00	10±0/4495 (0.2± 0.0%)	0.89±0.00	5±0/6061 (0.1± 0.0%)
All	All	1.04	40/17980 (0.2%)	0.89	20/24244 (0.1%)

All unique bond outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
1	B	562	MET	CG-SD	7.12	1.99	1.81	1	2
1	A	562	MET	CG-SD	7.09	1.99	1.81	1	2
1	A	345	MET	SD-CE	6.55	2.14	1.77	1	2
1	B	345	MET	SD-CE	6.55	2.14	1.77	1	2
1	B	469	MET	SD-CE	6.46	2.14	1.77	1	2
1	A	469	MET	SD-CE	6.45	2.13	1.77	1	2
1	B	364	MET	CG-SD	6.40	1.97	1.81	1	2
1	A	364	MET	CG-SD	6.38	1.97	1.81	1	2
1	A	345	MET	CG-SD	6.06	1.97	1.81	1	2
1	B	345	MET	CG-SD	6.02	1.96	1.81	1	2
1	A	334	MET	CG-SD	5.73	1.96	1.81	1	2
1	B	334	MET	CG-SD	5.73	1.96	1.81	1	2
1	B	501	MET	CG-SD	5.73	1.96	1.81	1	2
1	A	501	MET	CG-SD	5.70	1.96	1.81	1	2
1	A	239	MET	CG-SD	5.43	1.95	1.81	1	2
1	B	239	MET	CG-SD	5.34	1.95	1.81	2	2
1	B	272	CYS	CB-SG	-5.33	1.73	1.81	1	2
1	A	272	CYS	CB-SG	-5.25	1.73	1.81	1	2
1	A	364	MET	SD-CE	5.04	2.06	1.77	1	2
1	B	364	MET	SD-CE	5.04	2.06	1.77	1	2

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})	Models	
								Worst	Total
1	A	561	LEU	CA-CB-CG	10.52	139.50	115.30	1	2
1	B	561	LEU	CA-CB-CG	10.52	139.49	115.30	1	2
1	A	278	VAL	CB-CA-C	-5.45	101.05	111.40	1	2
1	B	278	VAL	CB-CA-C	-5.44	101.06	111.40	1	2
1	A	300	LEU	CA-CB-CG	5.33	127.57	115.30	1	2
1	B	300	LEU	CA-CB-CG	5.31	127.52	115.30	1	2
1	A	414	ARG	NE-CZ-NH2	-5.31	117.64	120.30	1	2
1	B	414	ARG	NE-CZ-NH2	-5.31	117.64	120.30	1	2
1	B	338	GLY	N-CA-C	-5.04	100.51	113.10	1	2
1	A	338	GLY	N-CA-C	-5.03	100.52	113.10	1	2

There are no chirality outliers.

There are no planarity outliers.

6.2 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 each 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 averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	A	4442	4514	4506	394±0
1	B	4442	4514	4506	386±4
All	All	17768	18056	18024	1524

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 43.

All unique clashes are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:562:MET:SD	1:B:562:MET:CE	1.48	2.01	1	2
1:B:364:MET:SD	1:B:364:MET:CE	1.43	2.06	1	2
1:A:364:MET:SD	1:A:364:MET:CE	1.42	2.06	1	2
1:A:469:MET:SD	1:A:469:MET:CE	1.36	2.14	1	2
1:B:469:MET:CE	1:B:469:MET:SD	1.36	2.14	1	2
1:B:345:MET:SD	1:B:345:MET:CE	1.35	2.14	1	2
1:A:345:MET:SD	1:A:345:MET:CE	1.35	2.14	1	2
1:B:54:LEU:O	1:B:54:LEU:HD22	1.25	1.27	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:54:LEU:O	1:A:54:LEU:HD22	1.24	1.28	1	2
1:B:54:LEU:HD13	1:B:55:GLU:N	1.20	1.52	1	2
1:A:54:LEU:HD13	1:A:55:GLU:N	1.19	1.52	1	2
1:B:527:ALA:O	1:B:530:ILE:CG2	1.18	1.92	2	1
1:A:527:ALA:O	1:A:530:ILE:CG2	1.17	1.92	2	2
1:A:54:LEU:HD22	1:A:54:LEU:C	1.16	1.60	1	2
1:A:301:PHE:O	1:A:304:ARG:NE	1.14	1.79	1	2
1:B:301:PHE:O	1:B:304:ARG:NE	1.14	1.80	1	2
1:B:54:LEU:HD22	1:B:54:LEU:C	1.12	1.61	1	2
1:B:144:LEU:HD13	1:B:144:LEU:O	1.11	1.46	2	2
1:A:144:LEU:HD13	1:A:144:LEU:O	1.07	1.46	1	2
1:B:291:GLY:HA2	1:B:327:GLN:CG	1.07	1.79	1	2
1:A:291:GLY:HA2	1:A:327:GLN:CG	1.06	1.79	1	2
1:B:11:ILE:HD12	1:B:12:ALA:N	1.04	1.67	2	2
1:A:527:ALA:O	1:A:530:ILE:HG22	1.04	1.52	1	2
1:A:11:ILE:HD12	1:A:12:ALA:N	1.02	1.67	1	2
1:A:77:ILE:HD13	1:A:77:ILE:N	1.02	1.68	1	2
1:B:77:ILE:HD13	1:B:77:ILE:N	1.02	1.68	2	2
1:A:291:GLY:HA2	1:A:327:GLN:HG3	1.00	1.03	1	2
1:B:232:THR:CG2	1:B:233:ASN:H	1.00	1.69	2	2
1:A:221:ASP:HA	1:A:239:MET:CE	0.99	1.87	2	2
1:A:232:THR:CG2	1:A:233:ASN:H	0.99	1.69	2	2
1:B:291:GLY:HA2	1:B:327:GLN:HG3	0.99	1.02	1	2
1:B:221:ASP:HA	1:B:239:MET:CE	0.98	1.87	1	2
1:A:232:THR:CG2	1:A:233:ASN:N	0.98	2.26	2	2
1:A:232:THR:HG22	1:A:233:ASN:N	0.98	1.71	2	2
1:B:232:THR:HG22	1:B:233:ASN:N	0.98	1.71	2	2
1:B:232:THR:CG2	1:B:233:ASN:N	0.97	2.26	2	2
1:B:304:ARG:NE	1:B:304:ARG:O	0.96	1.97	1	2
1:A:304:ARG:NE	1:A:304:ARG:O	0.96	1.98	1	2
1:B:527:ALA:O	1:B:530:ILE:HG22	0.94	1.58	2	1
1:B:527:ALA:O	1:B:530:ILE:HG23	0.94	1.61	2	1
1:A:527:ALA:O	1:A:530:ILE:HG23	0.93	1.61	2	1
1:A:11:ILE:HG21	1:A:243:GLN:CA	0.92	1.95	1	2
1:A:484:LEU:HD23	1:A:485:ILE:N	0.92	1.80	1	2
1:A:54:LEU:C	1:A:54:LEU:CD2	0.92	2.37	1	2
1:B:11:ILE:HG21	1:B:243:GLN:HA	0.91	1.42	2	2
1:A:160:ALA:O	1:A:181:THR:HG22	0.91	1.65	1	2
1:B:484:LEU:HD23	1:B:485:ILE:N	0.91	1.80	1	2
1:B:11:ILE:HG21	1:B:243:GLN:CA	0.91	1.95	2	2
1:B:160:ALA:O	1:B:181:THR:HG22	0.91	1.65	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:481:VAL:O	1:A:485:ILE:HG23	0.90	1.66	1	2
1:A:11:ILE:HG21	1:A:243:GLN:HA	0.89	1.42	1	2
1:A:456:LEU:HD13	1:A:484:LEU:HD21	0.89	1.45	1	2
1:B:228:TYR:HB3	1:B:231:PRO:HG3	0.88	1.45	2	2
1:A:228:TYR:HB3	1:A:231:PRO:HG3	0.88	1.46	1	2
1:A:11:ILE:HD12	1:A:12:ALA:H	0.87	1.27	2	2
1:B:481:VAL:O	1:B:485:ILE:HG23	0.87	1.66	1	2
1:A:388:ILE:HD12	1:A:389:MET:N	0.87	1.83	1	2
1:B:54:LEU:C	1:B:54:LEU:CD2	0.87	2.37	2	2
1:B:456:LEU:HD13	1:B:484:LEU:HD21	0.87	1.45	1	2
1:A:180:ILE:HD11	1:A:208:VAL:HG11	0.86	1.47	2	2
1:B:144:LEU:C	1:B:144:LEU:HD22	0.86	1.91	1	2
1:B:388:ILE:HD12	1:B:389:MET:N	0.86	1.86	1	2
1:B:221:ASP:HA	1:B:239:MET:HE2	0.85	1.48	2	2
1:A:144:LEU:C	1:A:144:LEU:HD22	0.85	1.91	1	2
1:A:221:ASP:HA	1:A:239:MET:HE2	0.85	1.46	1	2
1:B:518:MET:SD	1:B:553:LEU:HD11	0.84	2.13	1	2
1:A:518:MET:SD	1:A:553:LEU:HD11	0.83	2.13	1	2
1:B:11:ILE:HD12	1:B:12:ALA:H	0.83	1.27	1	2
1:A:473:LEU:HD12	1:B:394:ILE:HD11	0.82	1.51	1	2
1:B:225:ASN:O	1:B:225:ASN:CG	0.81	2.19	2	2
1:A:54:LEU:O	1:A:54:LEU:CD2	0.81	2.23	1	2
1:B:291:GLY:CA	1:B:327:GLN:HG3	0.81	1.98	1	2
1:A:556:PRO:HB3	1:B:441:HIS:ND1	0.81	1.89	1	2
1:B:429:MET:SD	1:B:431:GLU:HG3	0.81	2.16	1	2
1:B:77:ILE:N	1:B:77:ILE:CD1	0.81	2.44	2	2
1:B:180:ILE:HD11	1:B:208:VAL:HG11	0.81	1.51	2	2
1:A:77:ILE:N	1:A:77:ILE:CD1	0.80	2.43	2	2
1:A:225:ASN:CG	1:A:225:ASN:O	0.80	2.19	1	2
1:A:429:MET:SD	1:A:431:GLU:HG3	0.80	2.16	1	2
1:A:291:GLY:CA	1:A:327:GLN:HG3	0.79	1.99	1	2
1:A:189:HIS:O	1:A:192:ILE:HG22	0.79	1.77	1	1
1:A:11:ILE:HD11	1:A:13:PHE:CZ	0.79	2.13	2	2
1:B:54:LEU:O	1:B:54:LEU:CD2	0.79	2.23	1	2
1:B:163:LEU:HB3	1:B:190:THR:HG21	0.79	1.53	1	1
1:B:11:ILE:HD11	1:B:13:PHE:CZ	0.78	2.13	1	2
1:B:482:LEU:O	1:B:485:ILE:HG12	0.78	1.79	1	2
1:B:139:ARG:HB3	1:B:144:LEU:HG	0.78	1.55	1	2
1:A:139:ARG:HB3	1:A:144:LEU:HG	0.77	1.56	2	2
1:B:13:PHE:CZ	1:B:240:ARG:HD2	0.77	2.15	1	2
1:A:13:PHE:CZ	1:A:240:ARG:HD2	0.77	2.15	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:54:LEU:CD1	1:B:55:GLU:N	0.76	2.44	2	2
1:A:144:LEU:O	1:A:144:LEU:CD1	0.76	2.32	1	2
1:A:372:ASP:C	1:A:372:ASP:OD1	0.76	2.24	1	2
1:A:482:LEU:O	1:A:485:ILE:HG12	0.76	1.79	1	2
1:A:505:LEU:HD13	1:A:506:ALA:H	0.76	1.41	1	2
1:A:394:ILE:HD11	1:B:473:LEU:HD12	0.76	1.58	1	2
1:B:530:ILE:HD12	1:B:530:ILE:O	0.76	1.81	2	1
1:A:330:ILE:HD12	1:A:330:ILE:C	0.75	2.02	1	2
1:B:372:ASP:OD1	1:B:372:ASP:C	0.75	2.24	1	2
1:B:330:ILE:C	1:B:330:ILE:HD12	0.74	2.02	1	2
1:A:530:ILE:O	1:A:530:ILE:HD12	0.74	1.80	2	1
1:B:505:LEU:CD1	1:B:505:LEU:N	0.74	2.50	1	2
1:A:54:LEU:CD1	1:A:55:GLU:N	0.74	2.44	1	2
1:B:144:LEU:CD2	1:B:145:LYS:O	0.74	2.35	2	2
1:A:11:ILE:CG2	1:A:243:GLN:HA	0.74	2.13	1	2
1:A:144:LEU:CD2	1:A:145:LYS:O	0.74	2.35	1	2
1:B:144:LEU:O	1:B:144:LEU:CD1	0.74	2.32	2	2
1:A:54:LEU:HD21	1:A:77:ILE:HG13	0.74	1.60	2	2
1:B:11:ILE:CG2	1:B:243:GLN:HA	0.74	2.13	1	2
1:B:429:MET:SD	1:B:431:GLU:CG	0.74	2.76	1	2
1:A:429:MET:SD	1:A:431:GLU:CG	0.73	2.76	1	2
1:A:505:LEU:CD1	1:A:505:LEU:N	0.73	2.50	1	2
1:A:193:MET:SD	1:A:197:LEU:HD22	0.73	2.24	1	1
1:A:228:TYR:CD1	1:A:235:VAL:HG11	0.73	2.19	2	2
1:B:294:LEU:HD12	1:B:502:CYS:SG	0.73	2.23	1	2
1:B:456:LEU:HD22	1:B:484:LEU:HD11	0.73	1.60	1	2
1:B:228:TYR:CB	1:B:231:PRO:HG3	0.73	2.14	2	2
1:B:168:THR:CG2	1:B:193:MET:SD	0.73	2.76	1	1
1:A:228:TYR:CB	1:A:231:PRO:HG3	0.73	2.14	1	2
1:A:73:PHE:O	1:A:77:ILE:HG12	0.73	1.84	1	2
1:A:294:LEU:HD12	1:A:502:CYS:SG	0.72	2.24	1	2
1:B:202:ILE:O	1:B:202:ILE:HD13	0.72	1.84	2	2
1:A:291:GLY:CA	1:A:327:GLN:CG	0.72	2.65	1	2
1:B:505:LEU:HD13	1:B:506:ALA:H	0.72	1.42	1	2
1:A:232:THR:O	1:A:236:ILE:HG13	0.72	1.84	1	2
1:A:202:ILE:HD13	1:A:202:ILE:O	0.72	1.85	2	2
1:A:441:HIS:ND1	1:B:556:PRO:HB3	0.72	1.99	1	2
1:B:11:ILE:CD1	1:B:12:ALA:N	0.72	2.51	1	2
1:B:73:PHE:O	1:B:77:ILE:HG12	0.72	1.84	2	2
1:B:232:THR:O	1:B:236:ILE:HG13	0.72	1.84	1	2
1:B:54:LEU:HD21	1:B:77:ILE:HG13	0.71	1.61	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:228:TYR:CD1	1:B:235:VAL:HG11	0.71	2.19	1	2
1:A:130:VAL:O	1:A:133:ILE:HG22	0.71	1.85	2	2
1:A:530:ILE:HG23	1:A:531:PRO:HD3	0.71	1.61	1	2
1:A:221:ASP:HA	1:A:239:MET:HE1	0.71	1.60	2	2
1:A:464:ASP:CG	1:B:355:LEU:O	0.71	2.29	1	2
1:B:221:ASP:HA	1:B:239:MET:HE1	0.71	1.59	2	2
1:B:130:VAL:O	1:B:133:ILE:HG22	0.71	1.85	1	2
1:A:11:ILE:CD1	1:A:12:ALA:N	0.71	2.51	1	2
1:A:219:ILE:HD11	1:A:236:ILE:HG12	0.70	1.62	1	2
1:A:301:PHE:CD1	1:A:342:LEU:HD13	0.70	2.21	1	2
1:B:287:ASN:O	1:B:530:ILE:HG12	0.70	1.86	2	1
1:A:567:LYS:O	1:A:571:GLU:HG3	0.70	1.87	1	2
1:B:321:ALA:O	1:B:324:CYS:SG	0.70	2.49	1	2
1:A:433:PRO:O	1:A:437:THR:HG23	0.70	1.85	1	2
1:A:287:ASN:O	1:A:530:ILE:HG12	0.70	1.86	2	1
1:A:321:ALA:O	1:A:324:CYS:SG	0.70	2.49	1	2
1:A:530:ILE:HD12	1:A:530:ILE:C	0.70	2.07	2	1
1:B:224:ASN:O	1:B:225:ASN:OD1	0.70	2.09	2	2
1:A:11:ILE:HD11	1:A:13:PHE:CE1	0.70	2.22	1	2
1:B:287:ASN:O	1:B:530:ILE:CG1	0.70	2.40	2	1
1:A:180:ILE:HD11	1:A:208:VAL:CG1	0.70	2.16	1	2
1:A:392:MET:N	1:A:429:MET:SD	0.70	2.64	1	2
1:B:11:ILE:HD11	1:B:13:PHE:CE1	0.70	2.22	2	2
1:B:219:ILE:HD11	1:B:236:ILE:HG12	0.70	1.62	2	2
1:B:179:PHE:CZ	1:B:181:THR:OG1	0.69	2.45	1	2
1:B:567:LYS:O	1:B:571:GLU:HG3	0.69	1.87	1	2
1:B:13:PHE:CE2	1:B:240:ARG:HD2	0.69	2.23	1	2
1:B:392:MET:N	1:B:429:MET:SD	0.69	2.64	1	2
1:A:456:LEU:HD22	1:A:484:LEU:HD11	0.69	1.62	1	2
1:B:291:GLY:CA	1:B:327:GLN:CG	0.69	2.65	1	2
1:B:301:PHE:CD1	1:B:342:LEU:HD13	0.69	2.22	1	2
1:A:224:ASN:O	1:A:225:ASN:OD1	0.69	2.10	1	2
1:A:287:ASN:O	1:A:530:ILE:CG1	0.69	2.40	2	1
1:A:13:PHE:CE2	1:A:240:ARG:HD2	0.69	2.23	1	2
1:A:317:TYR:CE2	1:A:377:ILE:HD13	0.69	2.23	1	2
1:B:228:TYR:CG	1:B:235:VAL:HG11	0.69	2.23	1	2
1:B:144:LEU:HD22	1:B:145:LYS:O	0.69	1.88	2	2
1:A:556:PRO:HB3	1:B:441:HIS:CG	0.69	2.23	1	2
1:A:144:LEU:HD22	1:A:145:LYS:O	0.68	1.88	1	2
1:B:274:ASN:ND2	1:B:526:SER:N	0.68	2.42	1	2
1:B:429:MET:O	1:B:429:MET:HG3	0.68	1.88	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:530:ILE:HD12	1:B:530:ILE:C	0.68	2.08	2	1
1:A:54:LEU:HD13	1:A:55:GLU:H	0.68	1.46	2	2
1:A:429:MET:O	1:A:429:MET:HG3	0.68	1.88	1	2
1:B:317:TYR:CE2	1:B:377:ILE:HD13	0.68	2.22	1	2
1:A:228:TYR:CG	1:A:235:VAL:HG11	0.68	2.22	2	2
1:A:431:GLU:HA	1:A:456:LEU:HG	0.68	1.65	1	2
1:B:304:ARG:CD	1:B:306:ALA:O	0.68	2.42	1	2
1:B:431:GLU:HA	1:B:456:LEU:HG	0.68	1.66	1	2
1:B:139:ARG:HB3	1:B:144:LEU:CG	0.68	2.18	2	2
1:B:434:ALA:O	1:B:437:THR:OG1	0.68	2.11	1	2
1:A:464:ASP:N	1:A:464:ASP:OD1	0.68	2.27	1	2
1:B:433:PRO:O	1:B:437:THR:HG23	0.68	1.89	1	2
1:A:139:ARG:HB3	1:A:144:LEU:CG	0.67	2.18	1	2
1:B:464:ASP:OD1	1:B:464:ASP:N	0.67	2.27	1	2
1:A:232:THR:HG23	1:A:233:ASN:H	0.67	1.47	1	2
1:A:274:ASN:ND2	1:A:526:SER:N	0.67	2.41	1	2
1:B:13:PHE:CG	1:B:240:ARG:NH1	0.67	2.63	2	2
1:A:304:ARG:CD	1:A:306:ALA:O	0.67	2.43	1	2
1:A:13:PHE:CG	1:A:240:ARG:NH1	0.67	2.63	2	2
1:A:179:PHE:CZ	1:A:181:THR:OG1	0.67	2.46	1	2
1:B:232:THR:HG23	1:B:233:ASN:H	0.67	1.48	1	2
1:B:505:LEU:N	1:B:505:LEU:HD13	0.67	2.04	1	2
1:A:232:THR:HG22	1:A:234:GLU:H	0.66	1.51	1	2
1:B:54:LEU:HD13	1:B:55:GLU:H	0.66	1.47	2	2
1:A:434:ALA:O	1:A:437:THR:OG1	0.66	2.12	1	2
1:B:304:ARG:O	1:B:304:ARG:CZ	0.66	2.43	1	2
1:A:505:LEU:HD13	1:A:505:LEU:N	0.66	2.05	1	2
1:B:180:ILE:HD11	1:B:208:VAL:CG1	0.66	2.21	1	2
1:A:127:ALA:O	1:A:130:VAL:HG22	0.66	1.90	2	2
1:A:230:ASN:N	1:A:231:PRO:CD	0.66	2.59	1	2
1:A:160:ALA:O	1:A:181:THR:CG2	0.65	2.44	2	2
1:A:230:ASN:N	1:A:231:PRO:HD3	0.65	2.07	1	2
1:A:375:ARG:HH11	1:A:379:ARG:HH21	0.65	1.33	1	2
1:A:301:PHE:O	1:A:304:ARG:CD	0.65	2.44	1	2
1:A:304:ARG:O	1:A:304:ARG:CZ	0.65	2.44	1	2
1:B:160:ALA:O	1:B:181:THR:CG2	0.65	2.43	2	2
1:B:438:ILE:O	1:B:438:ILE:HG23	0.65	1.91	1	2
1:A:10:GLY:O	1:A:222:ALA:HB3	0.65	1.92	1	2
1:A:406:ILE:HD13	1:A:426:ILE:HD13	0.65	1.68	1	2
1:B:232:THR:HG22	1:B:234:GLU:H	0.65	1.51	1	2
1:B:406:ILE:HD13	1:B:426:ILE:HD13	0.65	1.68	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:180:ILE:CD1	1:A:208:VAL:HG11	0.65	2.21	1	2
1:A:258:ASP:OD1	1:A:258:ASP:N	0.65	2.30	1	1
1:B:230:ASN:N	1:B:231:PRO:CD	0.65	2.59	1	2
1:B:232:THR:HG22	1:B:233:ASN:H	0.65	1.34	1	2
1:B:456:LEU:CD2	1:B:484:LEU:HD11	0.65	2.22	1	2
1:B:230:ASN:N	1:B:231:PRO:HD3	0.64	2.07	1	2
1:B:505:LEU:HD22	1:B:506:ALA:N	0.64	2.07	1	2
1:A:355:LEU:O	1:B:464:ASP:CG	0.64	2.36	1	2
1:A:373:GLN:O	1:A:377:ILE:HG12	0.64	1.92	1	2
1:B:301:PHE:O	1:B:304:ARG:CD	0.64	2.45	1	2
1:B:375:ARG:HH11	1:B:379:ARG:HH21	0.64	1.34	1	2
1:A:438:ILE:HG23	1:A:438:ILE:O	0.64	1.91	1	2
1:A:259:LEU:CB	1:A:260:PRO:CD	0.64	2.75	1	1
1:B:10:GLY:O	1:B:222:ALA:HB3	0.64	1.92	1	2
1:B:127:ALA:O	1:B:130:VAL:HG22	0.63	1.93	2	2
1:B:373:GLN:O	1:B:377:ILE:HG12	0.63	1.93	1	2
1:A:431:GLU:CD	1:A:452:GLY:HA3	0.63	2.13	1	2
1:A:505:LEU:HD22	1:A:506:ALA:N	0.63	2.08	1	2
1:B:54:LEU:HD13	1:B:54:LEU:C	0.63	2.14	2	2
1:B:431:GLU:CD	1:B:452:GLY:HA3	0.63	2.14	1	2
1:B:304:ARG:HD2	1:B:306:ALA:O	0.63	1.94	1	2
1:A:456:LEU:CD2	1:A:484:LEU:HD11	0.63	2.24	1	2
1:B:54:LEU:CD2	1:B:77:ILE:HG13	0.63	2.24	2	2
1:A:441:HIS:CG	1:B:556:PRO:HB3	0.62	2.28	1	2
1:B:180:ILE:CD1	1:B:208:VAL:HG11	0.62	2.25	1	2
1:B:505:LEU:CD1	1:B:505:LEU:H	0.62	2.07	1	2
1:A:505:LEU:CD1	1:A:505:LEU:H	0.62	2.07	1	2
1:A:228:TYR:HB3	1:A:231:PRO:CG	0.62	2.25	1	2
1:A:501:MET:SD	1:A:520:LEU:HD22	0.62	2.35	1	2
1:A:301:PHE:O	1:A:304:ARG:CZ	0.62	2.47	1	2
1:B:205:THR:CG2	1:B:208:VAL:H	0.62	2.08	1	2
1:A:54:LEU:CD2	1:A:77:ILE:HG13	0.61	2.24	1	2
1:A:304:ARG:HD2	1:A:306:ALA:O	0.61	1.94	1	2
1:B:533:ILE:O	1:B:536:ILE:HG22	0.61	1.95	2	2
1:A:205:THR:CG2	1:A:208:VAL:H	0.61	2.08	2	2
1:A:489:ILE:O	1:A:492:SER:HB2	0.61	1.95	1	2
1:A:391:PRO:HA	1:A:429:MET:HG2	0.61	1.73	1	2
1:A:431:GLU:HG2	1:A:452:GLY:H	0.61	1.54	1	2
1:B:139:ARG:HB3	1:B:144:LEU:CD1	0.61	2.25	1	2
1:A:533:ILE:O	1:A:536:ILE:HG22	0.61	1.96	2	2
1:A:144:LEU:HD13	1:A:144:LEU:C	0.61	2.10	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:139:ARG:HB3	1:A:144:LEU:CD1	0.61	2.26	2	2
1:B:501:MET:SD	1:B:520:LEU:HD22	0.61	2.36	1	2
1:B:296:ARG:NE	1:B:332:ARG:NH2	0.61	2.49	1	2
1:B:391:PRO:HA	1:B:429:MET:HG2	0.61	1.72	1	2
1:A:90:ILE:HD12	1:A:91:ALA:N	0.60	2.11	1	2
1:A:193:MET:HG3	1:A:194:ALA:N	0.60	2.11	2	2
1:B:228:TYR:HB3	1:B:231:PRO:CG	0.60	2.25	2	2
1:A:287:ASN:HB3	1:A:530:ILE:HG23	0.60	1.72	1	2
1:B:90:ILE:HD12	1:B:91:ALA:N	0.60	2.10	1	2
1:B:489:ILE:O	1:B:492:SER:HB2	0.60	1.95	1	2
1:A:375:ARG:NH2	1:A:416:GLU:OE1	0.60	2.35	1	2
1:B:193:MET:HG3	1:B:194:ALA:N	0.60	2.10	2	1
1:A:296:ARG:NE	1:A:332:ARG:NH2	0.60	2.49	1	2
1:B:387:ARG:HH21	1:B:425:GLU:H	0.60	1.40	1	2
1:B:301:PHE:O	1:B:304:ARG:CZ	0.60	2.48	1	2
1:B:193:MET:SD	1:B:193:MET:C	0.60	2.80	2	1
1:A:321:ALA:C	1:A:324:CYS:SG	0.60	2.80	1	2
1:A:193:MET:SD	1:A:197:LEU:CD2	0.59	2.90	1	1
1:B:79:LEU:HD13	1:B:79:LEU:O	0.59	1.98	2	2
1:A:310:GLU:N	1:A:372:ASP:OD2	0.59	2.34	1	2
1:B:431:GLU:HG2	1:B:452:GLY:H	0.59	1.54	1	2
1:A:79:LEU:HD13	1:A:79:LEU:O	0.59	1.98	1	2
1:B:320:VAL:O	1:B:324:CYS:SG	0.59	2.61	1	2
1:B:321:ALA:C	1:B:324:CYS:SG	0.59	2.81	1	2
1:A:54:LEU:O	1:A:57:ILE:HG12	0.59	1.98	1	2
1:A:505:LEU:HD13	1:A:506:ALA:N	0.59	2.12	1	2
1:B:375:ARG:NH2	1:B:416:GLU:OE1	0.58	2.36	1	2
1:A:387:ARG:HH21	1:A:425:GLU:H	0.58	1.40	1	2
1:B:225:ASN:O	1:B:225:ASN:ND2	0.58	2.37	2	2
1:A:193:MET:SD	1:A:193:MET:C	0.58	2.81	2	1
1:A:320:VAL:O	1:A:324:CYS:SG	0.58	2.61	1	2
1:A:562:MET:SD	1:A:566:ASN:ND2	0.58	2.77	1	2
1:B:310:GLU:N	1:B:372:ASP:OD2	0.58	2.36	1	2
1:B:484:LEU:HD23	1:B:484:LEU:C	0.58	2.18	1	2
1:A:421:ASP:OD1	1:A:423:SER:HB2	0.58	1.99	1	2
1:B:514:LEU:O	1:B:518:MET:CG	0.58	2.52	1	2
1:B:421:ASP:OD1	1:B:423:SER:HB2	0.58	1.99	1	2
1:A:89:ILE:HD13	1:A:89:ILE:O	0.58	1.99	1	2
1:A:481:VAL:O	1:A:485:ILE:CG2	0.57	2.48	1	2
1:B:54:LEU:HG	1:B:77:ILE:HD12	0.57	1.76	1	2
1:B:182:ASP:OD1	1:B:182:ASP:N	0.57	2.38	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:481:VAL:O	1:B:485:ILE:CG2	0.57	2.48	1	2
1:B:562:MET:SD	1:B:566:ASN:ND2	0.57	2.78	1	2
1:A:464:ASP:OD1	1:B:355:LEU:O	0.57	2.23	1	2
1:A:484:LEU:HD23	1:A:484:LEU:C	0.57	2.19	1	2
1:B:54:LEU:HG	1:B:77:ILE:CD1	0.57	2.29	1	2
1:B:451:ILE:CD1	1:B:451:ILE:N	0.57	2.68	1	2
1:B:505:LEU:HD13	1:B:506:ALA:N	0.57	2.13	1	2
1:A:514:LEU:O	1:A:518:MET:CG	0.57	2.52	1	2
1:A:225:ASN:O	1:A:225:ASN:ND2	0.57	2.37	1	2
1:B:54:LEU:O	1:B:57:ILE:HG12	0.57	1.99	1	2
1:B:176:VAL:HG13	1:B:176:VAL:O	0.57	1.99	2	2
1:A:11:ILE:HG21	1:A:243:GLN:CB	0.57	2.30	1	2
1:A:89:ILE:CG2	1:A:90:ILE:N	0.57	2.68	2	2
1:A:287:ASN:HB3	1:A:530:ILE:CG2	0.57	2.30	1	1
1:A:13:PHE:CD2	1:A:240:ARG:NH1	0.57	2.73	1	2
1:A:451:ILE:N	1:A:451:ILE:CD1	0.57	2.68	1	2
1:A:133:ILE:CG2	1:A:134:GLY:N	0.57	2.67	2	2
1:A:176:VAL:HG13	1:A:176:VAL:O	0.57	2.00	2	2
1:A:179:PHE:CE2	1:A:190:THR:OG1	0.56	2.51	2	1
1:B:179:PHE:CE2	1:B:190:THR:OG1	0.56	2.51	2	1
1:A:54:LEU:HD13	1:A:54:LEU:C	0.56	2.15	2	2
1:A:54:LEU:HG	1:A:77:ILE:HD12	0.56	1.76	2	2
1:A:292:VAL:HG12	1:A:327:GLN:NE2	0.56	2.15	1	2
1:A:486:LYS:HD2	1:A:553:LEU:HD13	0.56	1.76	1	2
1:A:182:ASP:OD1	1:A:182:ASP:N	0.56	2.37	2	2
1:B:13:PHE:CD2	1:B:240:ARG:NH1	0.56	2.73	2	2
1:B:89:ILE:CG2	1:B:90:ILE:N	0.56	2.68	2	2
1:B:133:ILE:CG2	1:B:134:GLY:N	0.56	2.67	2	2
1:B:223:VAL:HG23	1:B:224:ASN:N	0.56	2.16	1	2
1:B:294:LEU:CB	1:B:502:CYS:SG	0.56	2.94	1	2
1:B:321:ALA:HA	1:B:324:CYS:SG	0.56	2.40	1	2
1:B:486:LYS:HD2	1:B:553:LEU:HD13	0.56	1.75	1	2
1:B:485:ILE:CG1	1:B:486:LYS:N	0.56	2.68	1	2
1:A:74:GLU:HG3	1:A:75:GLY:N	0.56	2.16	2	2
1:A:54:LEU:HG	1:A:77:ILE:CD1	0.56	2.31	1	2
1:B:89:ILE:HD13	1:B:89:ILE:O	0.56	1.99	2	2
1:B:278:VAL:HG23	1:B:279:ARG:N	0.56	2.16	1	2
1:A:485:ILE:CG1	1:A:486:LYS:N	0.56	2.68	1	2
1:B:330:ILE:C	1:B:330:ILE:CD1	0.56	2.72	1	2
1:B:412:GLU:O	1:B:416:GLU:HG3	0.56	2.01	1	2
1:A:77:ILE:HD13	1:A:77:ILE:H	0.56	1.57	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:294:LEU:CB	1:A:502:CYS:SG	0.56	2.93	1	2
1:A:321:ALA:HA	1:A:324:CYS:SG	0.56	2.41	1	2
1:B:11:ILE:HG21	1:B:243:GLN:CB	0.56	2.30	1	2
1:B:292:VAL:HG12	1:B:327:GLN:NE2	0.56	2.15	1	2
1:B:505:LEU:H	1:B:505:LEU:HD12	0.56	1.61	1	2
1:A:223:VAL:HG23	1:A:224:ASN:N	0.55	2.16	2	2
1:A:412:GLU:O	1:A:416:GLU:HG3	0.55	2.01	1	2
1:B:74:GLU:HG3	1:B:75:GLY:N	0.55	2.17	2	2
1:A:324:CYS:CB	1:A:327:GLN:NE2	0.55	2.70	1	2
1:B:221:ASP:OD2	1:B:226:GLN:HB2	0.55	2.02	1	2
1:A:67:GLU:CD	1:A:67:GLU:H	0.55	2.05	2	2
1:A:105:HIS:CE1	1:A:109:GLU:OE1	0.55	2.60	1	2
1:A:278:VAL:HG23	1:A:279:ARG:N	0.55	2.16	1	2
1:B:74:GLU:CD	1:B:74:GLU:C	0.55	2.64	1	2
1:B:530:ILE:C	1:B:530:ILE:CD1	0.55	2.72	2	1
1:A:221:ASP:OD2	1:A:226:GLN:HB2	0.55	2.02	1	2
1:B:13:PHE:N	1:B:13:PHE:CD1	0.55	2.74	2	2
1:B:105:HIS:CE1	1:B:109:GLU:OE1	0.55	2.60	1	2
1:B:67:GLU:H	1:B:67:GLU:CD	0.55	2.04	2	1
1:A:74:GLU:C	1:A:74:GLU:CD	0.55	2.65	1	2
1:A:505:LEU:H	1:A:505:LEU:HD12	0.55	1.61	1	2
1:B:179:PHE:CE2	1:B:181:THR:OG1	0.55	2.60	1	2
1:A:252:GLU:O	1:A:255:LYS:HG2	0.54	2.02	1	1
1:A:13:PHE:CD1	1:A:13:PHE:N	0.54	2.74	1	2
1:A:144:LEU:HD22	1:A:145:LYS:C	0.54	2.22	1	2
1:A:221:ASP:CA	1:A:239:MET:CE	0.54	2.78	1	2
1:A:259:LEU:HB3	1:A:260:PRO:CD	0.54	2.31	1	1
1:B:330:ILE:CG1	1:B:330:ILE:O	0.54	2.55	1	2
1:A:330:ILE:O	1:A:330:ILE:CG1	0.54	2.55	1	2
1:A:179:PHE:CE2	1:A:181:THR:OG1	0.54	2.61	1	2
1:A:294:LEU:CD1	1:A:502:CYS:SG	0.54	2.95	1	2
1:A:405:GLU:HG3	1:A:409:TYR:CE2	0.54	2.38	1	2
1:B:324:CYS:CB	1:B:327:GLN:NE2	0.54	2.71	1	2
1:B:144:LEU:C	1:B:144:LEU:CD2	0.54	2.63	2	1
1:B:54:LEU:C	1:B:54:LEU:CD1	0.54	2.76	2	2
1:B:268:GLN:H	1:B:268:GLN:CD	0.54	2.06	1	2
1:A:388:ILE:HD12	1:A:388:ILE:C	0.54	2.23	1	2
1:B:513:LEU:CD2	1:B:568:PHE:CE1	0.54	2.91	1	2
1:B:193:MET:CG	1:B:194:ALA:N	0.54	2.71	2	1
1:A:513:LEU:CD2	1:A:568:PHE:CE1	0.53	2.92	1	2
1:B:221:ASP:OD2	1:B:224:ASN:ND2	0.53	2.41	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:294:LEU:CD1	1:B:502:CYS:SG	0.53	2.94	1	2
1:B:331:VAL:HG11	1:B:377:ILE:HD12	0.53	1.80	1	2
1:A:202:ILE:HD11	1:A:205:THR:HB	0.53	1.79	2	2
1:A:221:ASP:OD2	1:A:224:ASN:ND2	0.53	2.41	1	2
1:A:473:LEU:N	1:A:473:LEU:CD2	0.53	2.71	1	2
1:B:144:LEU:HD22	1:B:145:LYS:C	0.53	2.22	2	2
1:B:350:GLU:OE1	1:B:350:GLU:N	0.53	2.41	1	2
1:A:355:LEU:O	1:B:464:ASP:OD1	0.53	2.25	1	2
1:B:54:LEU:CG	1:B:77:ILE:HG13	0.53	2.33	1	2
1:B:144:LEU:HD22	1:B:145:LYS:N	0.53	2.19	2	2
1:B:405:GLU:HG3	1:B:409:TYR:CE2	0.53	2.38	1	2
1:A:73:PHE:O	1:A:77:ILE:CG1	0.53	2.57	1	2
1:B:202:ILE:HD11	1:B:205:THR:HB	0.53	1.80	2	2
1:A:54:LEU:C	1:A:54:LEU:CD1	0.53	2.77	2	2
1:B:265:ASP:OD2	1:B:541:ASN:ND2	0.53	2.42	1	2
1:B:473:LEU:CD2	1:B:473:LEU:N	0.53	2.72	1	2
1:A:268:GLN:CD	1:A:268:GLN:H	0.53	2.06	1	2
1:A:278:VAL:CG2	1:A:279:ARG:N	0.53	2.72	1	2
1:A:309:THR:C	1:A:372:ASP:OD2	0.53	2.48	1	2
1:A:375:ARG:NH1	1:A:379:ARG:NH2	0.53	2.57	1	2
1:B:73:PHE:O	1:B:77:ILE:CG1	0.53	2.57	1	2
1:B:294:LEU:HA	1:B:330:ILE:HG13	0.53	1.81	1	2
1:B:453:THR:OG1	1:B:505:LEU:CD1	0.52	2.58	1	2
1:A:54:LEU:HD21	1:A:77:ILE:CG1	0.52	2.33	1	2
1:A:265:ASP:OD2	1:A:541:ASN:ND2	0.52	2.42	1	2
1:A:350:GLU:N	1:A:350:GLU:OE1	0.52	2.42	1	2
1:B:451:ILE:HD13	1:B:499:THR:HG23	0.52	1.81	1	2
1:A:193:MET:CG	1:A:194:ALA:N	0.52	2.71	2	1
1:B:438:ILE:O	1:B:438:ILE:CG2	0.52	2.57	1	2
1:B:54:LEU:HD13	1:B:55:GLU:CA	0.52	2.32	1	2
1:A:438:ILE:O	1:A:438:ILE:CG2	0.52	2.58	1	2
1:A:514:LEU:O	1:A:518:MET:HG3	0.52	2.05	1	2
1:A:205:THR:HG21	1:A:208:VAL:HG12	0.52	1.81	2	2
1:A:451:ILE:HD13	1:A:499:THR:HG23	0.52	1.81	1	2
1:A:453:THR:OG1	1:A:505:LEU:CD1	0.52	2.57	1	2
1:A:463:VAL:CG1	1:B:361:ARG:NH1	0.52	2.73	1	2
1:B:309:THR:C	1:B:372:ASP:OD2	0.52	2.48	1	2
1:A:274:ASN:ND2	1:A:525:MET:C	0.52	2.63	1	2
1:A:331:VAL:HG11	1:A:377:ILE:HD12	0.52	1.80	1	2
1:B:229:VAL:C	1:B:231:PRO:HD3	0.52	2.25	1	2
1:B:278:VAL:CG2	1:B:279:ARG:N	0.52	2.72	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:375:ARG:NH1	1:B:379:ARG:NH2	0.52	2.58	1	2
1:B:54:LEU:HD21	1:B:77:ILE:CG1	0.52	2.33	1	2
1:B:68:GLU:CB	1:B:279:ARG:HH21	0.52	2.18	1	1
1:B:86:GLU:O	1:B:90:ILE:CG1	0.52	2.58	2	2
1:B:292:VAL:HG22	1:B:329:VAL:HA	0.52	1.82	1	2
1:A:54:LEU:CG	1:A:77:ILE:HG13	0.52	2.34	1	2
1:A:205:THR:CG2	1:A:206:GLY:N	0.52	2.73	1	2
1:A:321:ALA:CA	1:A:324:CYS:SG	0.52	2.98	1	2
1:B:321:ALA:CA	1:B:324:CYS:SG	0.52	2.98	1	2
1:B:514:LEU:O	1:B:518:MET:HG3	0.52	2.05	1	2
1:A:86:GLU:O	1:A:90:ILE:CG1	0.51	2.58	1	2
1:A:515:LEU:CD1	1:A:515:LEU:N	0.51	2.74	1	2
1:B:274:ASN:ND2	1:B:525:MET:C	0.51	2.64	1	2
1:B:292:VAL:O	1:B:330:ILE:HG23	0.51	2.05	1	2
1:A:221:ASP:OD1	1:A:239:MET:SD	0.51	2.68	1	2
1:A:229:VAL:C	1:A:231:PRO:HD3	0.51	2.25	1	2
1:A:3:SER:OG	1:A:225:ASN:ND2	0.51	2.43	1	2
1:A:144:LEU:HD22	1:A:145:LYS:N	0.51	2.19	1	2
1:B:205:THR:CG2	1:B:206:GLY:N	0.51	2.73	2	2
1:B:221:ASP:OD1	1:B:239:MET:SD	0.51	2.69	1	2
1:B:255:LYS:NZ	1:B:258:ASP:OD2	0.51	2.40	1	1
1:B:557:THR:HB	1:B:560:GLU:OE1	0.51	2.05	1	2
1:A:294:LEU:HA	1:A:330:ILE:HG13	0.51	1.81	1	2
1:B:77:ILE:HD13	1:B:77:ILE:H	0.51	1.58	1	2
1:B:202:ILE:HD13	1:B:202:ILE:C	0.51	2.26	1	2
1:B:168:THR:HG21	1:B:193:MET:SD	0.51	2.45	1	1
1:A:292:VAL:HG22	1:A:329:VAL:HA	0.51	1.81	1	2
1:B:3:SER:OG	1:B:225:ASN:ND2	0.51	2.43	2	2
1:A:219:ILE:CD1	1:A:236:ILE:HG12	0.51	2.36	2	2
1:A:292:VAL:O	1:A:330:ILE:HG23	0.51	2.04	1	2
1:A:324:CYS:HB2	1:A:327:GLN:NE2	0.51	2.21	1	2
1:B:431:GLU:HG2	1:B:452:GLY:N	0.51	2.21	1	2
1:A:451:ILE:N	1:A:451:ILE:HD12	0.50	2.20	1	2
1:B:221:ASP:CA	1:B:239:MET:CE	0.50	2.78	1	2
1:B:388:ILE:HD12	1:B:388:ILE:C	0.50	2.26	1	2
1:B:219:ILE:CD1	1:B:236:ILE:HG12	0.50	2.36	1	2
1:B:451:ILE:N	1:B:451:ILE:HD12	0.50	2.20	1	2
1:B:205:THR:HG22	1:B:206:GLY:N	0.50	2.21	1	2
1:B:375:ARG:HH11	1:B:379:ARG:NH2	0.50	2.04	1	2
1:A:172:ASN:O	1:A:176:VAL:HG12	0.50	2.06	2	2
1:B:144:LEU:O	1:B:144:LEU:HD22	0.50	2.07	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:324:CYS:HB2	1:B:327:GLN:NE2	0.50	2.22	1	2
1:A:294:LEU:HB2	1:A:502:CYS:SG	0.50	2.46	1	2
1:A:375:ARG:HH11	1:A:379:ARG:NH2	0.50	2.03	1	2
1:A:556:PRO:HB3	1:B:441:HIS:CE1	0.50	2.41	1	2
1:B:205:THR:HG21	1:B:208:VAL:HG12	0.50	1.83	2	2
1:B:256:LEU:CD1	1:B:256:LEU:C	0.50	2.80	1	1
1:B:386:LEU:O	1:B:387:ARG:CZ	0.50	2.59	1	2
1:B:456:LEU:HD22	1:B:484:LEU:CD1	0.50	2.36	1	2
1:B:53:GLN:O	1:B:57:ILE:HG23	0.50	2.06	1	2
1:B:221:ASP:O	1:B:223:VAL:HG13	0.50	2.06	2	2
1:B:294:LEU:HB2	1:B:502:CYS:SG	0.50	2.47	1	2
1:A:144:LEU:O	1:A:144:LEU:HD22	0.50	2.07	1	2
1:A:431:GLU:HG2	1:A:452:GLY:N	0.50	2.21	1	2
1:A:557:THR:HB	1:A:560:GLU:OE1	0.50	2.05	1	2
1:A:205:THR:HG22	1:A:206:GLY:N	0.49	2.22	1	2
1:A:293:GLY:O	1:A:330:ILE:HG12	0.49	2.07	1	2
1:A:330:ILE:HD12	1:A:330:ILE:O	0.49	2.06	1	2
1:B:515:LEU:CD1	1:B:515:LEU:N	0.49	2.74	1	2
1:A:53:GLN:O	1:A:57:ILE:HG23	0.49	2.06	1	2
1:A:459:TYR:HB3	1:B:459:TYR:O	0.49	2.07	1	2
1:A:80:LEU:HD13	1:A:137:LEU:HD11	0.49	1.84	2	2
1:A:386:LEU:O	1:A:387:ARG:CZ	0.49	2.59	1	2
1:B:144:LEU:C	1:B:144:LEU:CD1	0.49	2.78	2	2
1:A:105:HIS:NE2	1:A:109:GLU:CD	0.49	2.66	1	2
1:A:202:ILE:HD13	1:A:202:ILE:C	0.49	2.27	2	2
1:A:293:GLY:O	1:A:330:ILE:CG1	0.49	2.61	1	2
1:B:68:GLU:OE2	1:B:69:LYS:NZ	0.49	2.36	1	1
1:B:158:LEU:O	1:B:180:ILE:HG23	0.49	2.07	1	2
1:A:182:ASP:OD2	1:A:209:THR:CG2	0.49	2.61	1	2
1:A:252:GLU:O	1:A:255:LYS:CG	0.49	2.61	1	1
1:B:105:HIS:NE2	1:B:109:GLU:CD	0.49	2.66	1	2
1:A:57:ILE:CG1	1:A:58:LYS:N	0.49	2.76	1	2
1:A:233:ASN:O	1:A:237:ASP:OD2	0.49	2.31	2	2
1:B:57:ILE:CG1	1:B:58:LYS:N	0.49	2.76	1	2
1:B:80:LEU:HD13	1:B:137:LEU:HD11	0.49	1.84	1	2
1:B:182:ASP:OD2	1:B:209:THR:CG2	0.49	2.60	1	2
1:B:233:ASN:O	1:B:237:ASP:OD2	0.49	2.31	1	2
1:B:363:ALA:HB1	1:B:370:LEU:HB2	0.49	1.85	1	2
1:A:221:ASP:O	1:A:223:VAL:HG13	0.49	2.08	1	2
1:B:330:ILE:HD12	1:B:330:ILE:O	0.49	2.06	1	2
1:B:330:ILE:O	1:B:330:ILE:HG13	0.49	2.08	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:330:ILE:C	1:A:330:ILE:CD1	0.49	2.72	1	2
1:B:341:GLU:OE1	1:B:343:PRO:N	0.49	2.46	1	2
1:A:431:GLU:CA	1:A:456:LEU:HG	0.48	2.37	1	2
1:B:293:GLY:O	1:B:330:ILE:CG1	0.48	2.61	1	2
1:A:74:GLU:CG	1:A:75:GLY:N	0.48	2.76	1	2
1:A:101:ASP:OD1	1:A:101:ASP:N	0.48	2.45	2	2
1:A:557:THR:HG22	1:A:560:GLU:H	0.48	1.69	1	2
1:A:341:GLU:OE1	1:A:343:PRO:N	0.48	2.47	1	2
1:B:74:GLU:CG	1:B:75:GLY:N	0.48	2.76	1	2
1:B:144:LEU:CD1	1:B:144:LEU:N	0.48	2.77	2	2
1:B:172:ASN:O	1:B:176:VAL:HG12	0.48	2.08	1	2
1:B:293:GLY:O	1:B:330:ILE:HG12	0.48	2.08	1	2
1:B:429:MET:CE	1:B:431:GLU:CD	0.48	2.82	1	2
1:A:8:SER:OG	1:A:199:LEU:O	0.48	2.28	2	2
1:A:144:LEU:C	1:A:144:LEU:CD2	0.48	2.63	2	2
1:A:139:ARG:CB	1:A:144:LEU:CD1	0.48	2.92	2	2
1:A:270:GLU:N	1:A:270:GLU:OE1	0.48	2.47	1	2
1:A:388:ILE:C	1:A:388:ILE:CD1	0.48	2.81	1	2
1:B:139:ARG:CB	1:B:144:LEU:CD1	0.48	2.92	2	2
1:A:10:GLY:O	1:A:221:ASP:O	0.48	2.32	2	2
1:B:10:GLY:O	1:B:221:ASP:O	0.48	2.32	1	2
1:B:301:PHE:O	1:B:301:PHE:HD1	0.48	1.92	1	2
1:B:282:GLU:O	1:B:286:ARG:HG2	0.48	2.09	2	1
1:A:54:LEU:HD13	1:A:55:GLU:CA	0.47	2.33	1	2
1:A:330:ILE:O	1:A:330:ILE:HG13	0.47	2.08	1	2
1:A:363:ALA:HB1	1:A:370:LEU:HB2	0.47	1.85	1	2
1:B:557:THR:HG22	1:B:560:GLU:H	0.47	1.69	1	2
1:A:324:CYS:HB2	1:A:327:GLN:CD	0.47	2.30	1	2
1:A:327:GLN:C	1:A:327:GLN:OE1	0.47	2.52	1	2
1:B:221:ASP:O	1:B:223:VAL:N	0.47	2.48	1	2
1:B:221:ASP:C	1:B:223:VAL:N	0.47	2.66	1	2
1:B:530:ILE:HG23	1:B:531:PRO:HD3	0.47	1.85	2	1
1:A:144:LEU:CD1	1:A:144:LEU:N	0.47	2.77	2	2
1:B:388:ILE:C	1:B:388:ILE:CD1	0.47	2.83	1	2
1:A:335:ASP:OD1	1:A:335:ASP:O	0.47	2.33	1	2
1:B:202:ILE:C	1:B:202:ILE:CD1	0.47	2.83	2	2
1:B:391:PRO:CA	1:B:429:MET:HG2	0.47	2.38	1	2
1:A:126:ARG:O	1:A:130:VAL:HG13	0.47	2.10	1	2
1:A:330:ILE:O	1:A:330:ILE:CD1	0.47	2.62	1	2
1:A:429:MET:CE	1:A:431:GLU:CD	0.47	2.83	1	2
1:B:274:ASN:HD22	1:B:525:MET:C	0.47	2.13	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:358:ARG:NH1	1:A:392:MET:SD	0.47	2.87	1	2
1:A:538:ARG:O	1:A:538:ARG:NE	0.47	2.45	1	2
1:B:11:ILE:CD1	1:B:13:PHE:CZ	0.47	2.94	2	2
1:B:324:CYS:HB2	1:B:327:GLN:CD	0.47	2.30	1	2
1:A:254:ALA:O	1:A:255:LYS:C	0.47	2.53	1	1
1:B:68:GLU:HB2	1:B:279:ARG:HH21	0.47	1.69	1	1
1:B:123:LEU:N	1:B:123:LEU:HD12	0.47	2.24	2	2
1:B:270:GLU:OE1	1:B:270:GLU:N	0.47	2.48	1	2
1:B:330:ILE:CD1	1:B:330:ILE:O	0.47	2.62	1	2
1:B:335:ASP:OD1	1:B:335:ASP:O	0.47	2.33	1	2
1:B:451:ILE:HG23	1:B:456:LEU:HD12	0.47	1.86	1	2
1:B:542:PHE:C	1:B:542:PHE:CD1	0.47	2.88	1	2
1:B:562:MET:CE	1:B:562:MET:CG	0.47	2.92	1	2
1:A:11:ILE:CG2	1:A:243:GLN:HB2	0.47	2.40	1	2
1:A:451:ILE:HG23	1:A:456:LEU:HD12	0.47	1.86	1	2
1:B:8:SER:OG	1:B:199:LEU:O	0.47	2.28	1	2
1:B:27:ASP:OD1	1:B:27:ASP:N	0.47	2.48	2	2
1:A:221:ASP:O	1:A:223:VAL:N	0.47	2.48	1	2
1:B:43:PHE:CZ	1:B:47:ARG:NE	0.47	2.83	1	2
1:B:431:GLU:CA	1:B:456:LEU:HG	0.47	2.37	1	2
1:A:123:LEU:HD12	1:A:123:LEU:N	0.47	2.24	1	2
1:A:202:ILE:C	1:A:202:ILE:CD1	0.47	2.84	2	2
1:A:300:LEU:HD12	1:A:313:GLN:HE22	0.47	1.70	1	2
1:A:339:ASP:OD1	1:B:351:GLU:OE1	0.47	2.33	1	2
1:A:391:PRO:CA	1:A:429:MET:HG2	0.47	2.39	1	2
1:B:327:GLN:C	1:B:327:GLN:OE1	0.47	2.53	1	2
1:B:429:MET:HE1	1:B:431:GLU:CD	0.47	2.30	1	2
1:A:11:ILE:CD1	1:A:13:PHE:CZ	0.46	2.94	1	2
1:A:27:ASP:OD1	1:A:27:ASP:N	0.46	2.48	1	2
1:A:130:VAL:CG2	1:A:131:ARG:N	0.46	2.77	2	2
1:A:377:ILE:HG22	1:A:386:LEU:CD2	0.46	2.40	1	2
1:A:292:VAL:CG1	1:A:327:GLN:NE2	0.46	2.79	1	2
1:B:11:ILE:CG2	1:B:243:GLN:HB2	0.46	2.40	2	2
1:B:313:GLN:OE1	1:B:317:TYR:OH	0.46	2.28	1	2
1:B:377:ILE:HG22	1:B:386:LEU:CD2	0.46	2.40	1	2
1:B:429:MET:SD	1:B:431:GLU:HB2	0.46	2.49	1	2
1:A:282:GLU:O	1:A:286:ARG:HG2	0.46	2.10	2	1
1:A:67:GLU:N	1:A:67:GLU:OE1	0.46	2.48	1	1
1:A:301:PHE:O	1:A:301:PHE:HD1	0.46	1.92	1	2
1:A:542:PHE:CD1	1:A:542:PHE:C	0.46	2.88	1	2
1:B:223:VAL:CG2	1:B:224:ASN:N	0.46	2.79	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:221:ASP:C	1:A:223:VAL:N	0.46	2.66	2	2
1:A:361:ARG:NH2	1:A:394:ILE:HG21	0.46	2.25	1	2
1:B:123:LEU:N	1:B:123:LEU:CD1	0.46	2.79	2	2
1:B:358:ARG:NH1	1:B:392:MET:SD	0.46	2.87	1	2
1:A:43:PHE:CZ	1:A:47:ARG:NE	0.46	2.83	2	2
1:A:274:ASN:HD22	1:A:525:MET:C	0.46	2.13	1	2
1:A:429:MET:SD	1:A:431:GLU:HB2	0.46	2.49	1	2
1:A:459:TYR:O	1:B:459:TYR:HB3	0.46	2.10	1	2
1:B:202:ILE:HG12	1:B:203:VAL:N	0.46	2.26	1	2
1:A:256:LEU:O	1:A:259:LEU:HD21	0.46	2.11	1	1
1:B:300:LEU:HD12	1:B:313:GLN:HE22	0.46	1.69	1	2
1:A:249:GLU:C	1:A:249:GLU:CD	0.46	2.74	1	1
1:B:512:THR:CB	1:B:536:ILE:HG21	0.46	2.41	1	2
1:A:249:GLU:CD	1:A:249:GLU:C	0.46	2.74	2	1
1:A:256:LEU:HD23	1:A:256:LEU:H	0.46	1.71	2	1
1:A:294:LEU:HD23	1:A:295:TYR:N	0.46	2.26	1	2
1:A:512:THR:CB	1:A:536:ILE:HG21	0.46	2.41	1	2
1:B:11:ILE:CG2	1:B:243:GLN:CA	0.46	2.82	2	2
1:B:318:LYS:NZ	1:B:383:PHE:CE2	0.46	2.81	1	2
1:A:463:VAL:CG1	1:B:361:ARG:HH12	0.46	2.24	1	2
1:B:5:ILE:O	1:B:6:LEU:O	0.46	2.34	2	2
1:B:361:ARG:NH2	1:B:394:ILE:HG21	0.46	2.26	1	2
1:B:521:ASP:OD1	1:B:521:ASP:O	0.46	2.34	1	2
1:A:54:LEU:CD2	1:A:77:ILE:CG1	0.45	2.94	1	2
1:A:429:MET:HE1	1:A:431:GLU:CD	0.45	2.31	1	2
1:B:54:LEU:CD2	1:B:77:ILE:CG1	0.45	2.94	2	2
1:B:87:GLN:O	1:B:90:ILE:HG13	0.45	2.11	1	2
1:A:5:ILE:O	1:A:6:LEU:O	0.45	2.34	2	2
1:A:158:LEU:O	1:A:180:ILE:HG23	0.45	2.11	1	2
1:A:190:THR:O	1:A:193:MET:HG3	0.45	2.11	1	2
1:A:223:VAL:CG2	1:A:224:ASN:N	0.45	2.79	2	2
1:A:255:LYS:O	1:A:256:LEU:HG	0.45	2.11	1	1
1:A:562:MET:CE	1:A:566:ASN:HD21	0.45	2.24	1	2
1:B:249:GLU:CD	1:B:249:GLU:C	0.45	2.74	1	1
1:B:290:GLU:O	1:B:290:GLU:OE1	0.45	2.34	1	2
1:B:249:GLU:C	1:B:249:GLU:CD	0.45	2.74	2	1
1:A:118:LEU:N	1:A:118:LEU:CD2	0.45	2.80	2	2
1:A:133:ILE:HG23	1:A:134:GLY:N	0.45	2.25	2	2
1:A:202:ILE:HG12	1:A:203:VAL:N	0.45	2.26	2	2
1:B:130:VAL:CG2	1:B:131:ARG:N	0.45	2.79	2	2
1:B:292:VAL:CG1	1:B:327:GLN:NE2	0.45	2.79	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:144:LEU:HD13	1:B:144:LEU:C	0.45	2.10	2	2
1:B:101:ASP:N	1:B:101:ASP:OD1	0.45	2.47	2	1
1:B:256:LEU:H	1:B:256:LEU:HD23	0.45	1.72	2	1
1:A:123:LEU:N	1:A:123:LEU:CD1	0.45	2.79	1	2
1:B:101:ASP:OD1	1:B:101:ASP:N	0.45	2.47	1	1
1:B:294:LEU:HD23	1:B:295:TYR:N	0.45	2.26	1	2
1:A:265:ASP:OD2	1:A:541:ASN:OD1	0.45	2.34	1	2
1:A:361:ARG:NH1	1:B:463:VAL:CG1	0.45	2.79	1	2
1:B:118:LEU:N	1:B:118:LEU:CD2	0.45	2.79	1	2
1:B:133:ILE:HG23	1:B:134:GLY:N	0.45	2.25	1	2
1:A:186:ARG:HH11	1:A:186:ARG:CG	0.45	2.25	2	1
1:B:195:ARG:O	1:B:195:ARG:NH1	0.45	2.50	1	1
1:A:205:THR:HG23	1:A:208:VAL:H	0.45	1.71	2	2
1:A:290:GLU:OE1	1:A:290:GLU:O	0.45	2.35	1	2
1:B:562:MET:CE	1:B:566:ASN:HD21	0.45	2.25	1	2
1:B:186:ARG:HH11	1:B:186:ARG:CG	0.45	2.25	2	1
1:B:126:ARG:O	1:B:130:VAL:HG13	0.45	2.12	1	2
1:B:189:HIS:O	1:B:192:ILE:HG22	0.45	2.12	1	1
1:B:224:ASN:OD1	1:B:224:ASN:C	0.45	2.55	2	2
1:A:68:GLU:OE1	1:A:69:LYS:NZ	0.45	2.35	1	1
1:B:375:ARG:HH22	1:B:418:LYS:HZ2	0.45	1.53	1	2
1:A:274:ASN:OD1	1:A:274:ASN:O	0.44	2.35	1	2
1:A:521:ASP:O	1:A:521:ASP:OD1	0.44	2.35	1	2
1:A:86:GLU:OE1	1:A:87:GLN:NE2	0.44	2.50	2	2
1:A:177:LEU:N	1:A:177:LEU:CD2	0.44	2.80	1	2
1:A:224:ASN:C	1:A:224:ASN:OD1	0.44	2.56	2	2
1:A:289:ALA:N	1:A:530:ILE:HD13	0.44	2.28	1	1
1:B:57:ILE:HD11	1:B:73:PHE:CD1	0.44	2.48	1	2
1:A:530:ILE:C	1:A:530:ILE:CD1	0.44	2.72	2	1
1:A:50:ALA:O	1:A:54:LEU:HB3	0.44	2.11	1	2
1:A:87:GLN:O	1:A:90:ILE:HG13	0.44	2.12	1	2
1:A:351:GLU:OE1	1:B:339:ASP:OD1	0.44	2.35	1	2
1:B:484:LEU:O	1:B:488:VAL:HG23	0.44	2.12	1	2
1:A:473:LEU:N	1:A:473:LEU:HD22	0.44	2.28	1	2
1:B:163:LEU:CB	1:B:190:THR:HG21	0.44	2.35	1	1
1:B:177:LEU:N	1:B:177:LEU:CD2	0.44	2.80	1	2
1:B:274:ASN:OD1	1:B:274:ASN:O	0.44	2.35	1	2
1:B:327:GLN:HG2	1:B:328:ALA:N	0.44	2.27	1	2
1:A:144:LEU:C	1:A:144:LEU:CD1	0.44	2.78	2	2
1:A:484:LEU:O	1:A:488:VAL:HG23	0.44	2.12	1	2
1:B:50:ALA:O	1:B:54:LEU:HB3	0.44	2.12	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:138:LEU:N	1:A:138:LEU:CD2	0.44	2.80	1	2
1:A:391:PRO:HA	1:A:429:MET:CG	0.44	2.42	1	2
1:A:538:ARG:HE	1:A:538:ARG:C	0.44	2.16	1	2
1:B:86:GLU:OE1	1:B:87:GLN:NE2	0.44	2.51	1	2
1:B:92:LEU:O	1:B:96:LYS:N	0.44	2.50	1	2
1:B:243:GLN:CD	1:B:243:GLN:C	0.44	2.76	1	2
1:B:388:ILE:O	1:B:388:ILE:HG13	0.44	2.13	1	2
1:A:243:GLN:C	1:A:243:GLN:CD	0.44	2.76	2	1
1:A:327:GLN:HG2	1:A:328:ALA:N	0.44	2.27	1	2
1:A:429:MET:SD	1:A:431:GLU:CB	0.44	3.06	1	2
1:B:305:ASP:O	1:B:344:TYR:CD1	0.44	2.71	1	2
1:A:11:ILE:CG2	1:A:243:GLN:CA	0.44	2.82	2	2
1:A:224:ASN:OD1	1:A:226:GLN:N	0.44	2.51	1	2
1:A:305:ASP:O	1:A:344:TYR:CD1	0.44	2.70	1	2
1:A:324:CYS:HB3	1:A:327:GLN:HE22	0.44	1.73	1	2
1:B:265:ASP:OD2	1:B:541:ASN:OD1	0.44	2.35	1	2
1:B:324:CYS:HB3	1:B:327:GLN:HE22	0.44	1.73	1	2
1:A:57:ILE:HD11	1:A:73:PHE:CD1	0.43	2.48	2	2
1:B:301:PHE:CZ	1:B:307:LEU:HA	0.43	2.48	1	2
1:B:287:ASN:O	1:B:530:ILE:HG13	0.43	2.11	2	1
1:B:538:ARG:O	1:B:538:ARG:NE	0.43	2.45	1	2
1:A:105:HIS:HE2	1:A:109:GLU:CD	0.43	2.17	2	2
1:A:221:ASP:CA	1:A:239:MET:HE1	0.43	2.38	1	1
1:A:243:GLN:CD	1:A:243:GLN:C	0.43	2.76	1	1
1:A:301:PHE:CZ	1:A:307:LEU:HA	0.43	2.49	1	2
1:B:224:ASN:OD1	1:B:226:GLN:N	0.43	2.51	1	2
1:B:274:ASN:OD1	1:B:274:ASN:C	0.43	2.57	1	2
1:A:182:ASP:O	1:A:183:ALA:O	0.43	2.37	1	2
1:A:336:ILE:HG23	1:A:362:ILE:HD12	0.43	1.89	1	2
1:B:429:MET:SD	1:B:431:GLU:CB	0.43	3.06	1	2
1:A:92:LEU:O	1:A:96:LYS:N	0.43	2.50	2	1
1:A:49:LYS:O	1:A:50:ALA:C	0.43	2.57	2	2
1:A:361:ARG:HH22	1:A:394:ILE:HG21	0.43	1.73	1	2
1:B:49:LYS:O	1:B:50:ALA:C	0.43	2.57	2	2
1:B:57:ILE:HG12	1:B:58:LYS:N	0.43	2.28	1	2
1:B:336:ILE:HG23	1:B:362:ILE:HD12	0.43	1.89	1	2
1:A:24:ILE:CG1	1:A:139:ARG:HH11	0.43	2.27	2	2
1:A:268:GLN:CD	1:A:268:GLN:N	0.43	2.72	1	2
1:B:138:LEU:N	1:B:138:LEU:CD2	0.43	2.81	1	2
1:A:274:ASN:OD1	1:A:274:ASN:C	0.43	2.57	1	2
1:B:208:VAL:CG1	1:B:209:THR:N	0.43	2.82	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:186:ARG:CG	1:B:186:ARG:NH1	0.43	2.81	2	1
1:A:305:ASP:O	1:A:344:TYR:CE1	0.43	2.72	1	2
1:B:547:VAL:O	1:B:551:GLN:HG3	0.43	2.14	1	2
1:A:208:VAL:CG1	1:A:209:THR:N	0.42	2.82	2	2
1:B:182:ASP:O	1:B:183:ALA:O	0.42	2.37	2	2
1:A:341:GLU:OE2	1:A:342:LEU:O	0.42	2.37	1	2
1:A:441:HIS:CE1	1:B:556:PRO:HB3	0.42	2.48	1	2
1:A:287:ASN:O	1:A:530:ILE:HG13	0.42	2.10	2	1
1:B:287:ASN:HB3	1:B:530:ILE:HG23	0.42	1.90	2	1
1:A:221:ASP:CB	1:A:224:ASN:OD1	0.42	2.68	2	2
1:B:205:THR:HG23	1:B:208:VAL:H	0.42	1.72	1	2
1:B:287:ASN:HD21	1:B:528:ILE:HD13	0.42	1.73	1	1
1:A:282:GLU:OE2	1:A:286:ARG:NH2	0.42	2.52	2	1
1:A:304:ARG:CD	1:A:304:ARG:C	0.42	2.88	1	2
1:B:8:SER:CB	1:B:199:LEU:O	0.42	2.67	1	2
1:A:186:ARG:CG	1:A:186:ARG:NH1	0.42	2.82	2	1
1:A:259:LEU:N	1:A:260:PRO:HD2	0.42	2.29	2	1
1:A:8:SER:CB	1:A:199:LEU:O	0.42	2.68	1	2
1:A:277:THR:N	1:A:280:ASP:OD2	0.42	2.52	1	1
1:A:294:LEU:C	1:A:294:LEU:CD2	0.42	2.88	1	2
1:A:375:ARG:HH22	1:A:418:LYS:NZ	0.42	2.12	1	2
1:A:513:LEU:HD22	1:A:568:PHE:CD1	0.42	2.50	1	2
1:B:282:GLU:OE1	1:B:286:ARG:NH2	0.42	2.52	1	1
1:B:330:ILE:HD13	1:B:389:MET:HB2	0.42	1.91	1	2
1:B:361:ARG:HH22	1:B:394:ILE:HG21	0.42	1.74	1	2
1:A:301:PHE:O	1:A:301:PHE:CD1	0.42	2.73	1	2
1:B:221:ASP:CB	1:B:224:ASN:OD1	0.42	2.67	1	2
1:A:547:VAL:O	1:A:551:GLN:HG3	0.42	2.14	1	2
1:B:32:SER:OG	1:B:33:ALA:N	0.42	2.52	1	2
1:B:89:ILE:HG23	1:B:90:ILE:N	0.42	2.30	1	2
1:B:105:HIS:HE2	1:B:109:GLU:CD	0.42	2.17	1	2
1:B:167:GLU:N	1:B:167:GLU:OE1	0.42	2.52	2	2
1:B:304:ARG:CD	1:B:304:ARG:C	0.42	2.88	1	2
1:B:392:MET:H	1:B:429:MET:CE	0.42	2.27	1	2
1:A:57:ILE:HG12	1:A:58:LYS:N	0.42	2.29	1	2
1:A:179:PHE:O	1:A:201:ALA:HB1	0.42	2.15	1	2
1:B:294:LEU:C	1:B:294:LEU:CD2	0.42	2.88	1	2
1:B:304:ARG:HD3	1:B:306:ALA:O	0.42	2.15	1	2
1:B:305:ASP:O	1:B:344:TYR:CE1	0.42	2.73	1	2
1:B:259:LEU:N	1:B:260:PRO:HD2	0.42	2.29	2	1
1:B:179:PHE:O	1:B:201:ALA:HB1	0.42	2.15	2	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:232:THR:HG22	1:A:234:GLU:N	0.41	2.27	2	2
1:A:330:ILE:HD13	1:A:389:MET:HB2	0.41	1.92	1	2
1:B:115:LEU:O	1:B:118:LEU:HB2	0.41	2.15	1	2
1:A:214:ASN:OD1	1:A:214:ASN:O	0.41	2.38	1	2
1:B:24:ILE:CG1	1:B:139:ARG:HH11	0.41	2.27	1	2
1:B:301:PHE:O	1:B:301:PHE:CD1	0.41	2.73	1	2
1:A:11:ILE:CG2	1:A:243:GLN:CB	0.41	2.99	2	2
1:A:167:GLU:OE1	1:A:167:GLU:N	0.41	2.53	1	2
1:A:388:ILE:O	1:A:388:ILE:HG13	0.41	2.14	1	2
1:B:513:LEU:HD22	1:B:568:PHE:CD1	0.41	2.49	1	2
1:A:89:ILE:HG23	1:A:90:ILE:N	0.41	2.31	2	2
1:A:115:LEU:O	1:A:118:LEU:HB2	0.41	2.15	2	2
1:A:180:ILE:O	1:A:180:ILE:HG12	0.41	2.15	1	2
1:A:288:GLY:C	1:A:530:ILE:CD1	0.41	2.88	1	1
1:A:327:GLN:OE1	1:A:327:GLN:O	0.41	2.38	1	2
1:B:221:ASP:CA	1:B:239:MET:HE1	0.41	2.37	1	2
1:A:387:ARG:CD	1:A:387:ARG:N	0.41	2.83	1	2
1:A:392:MET:H	1:A:429:MET:CE	0.41	2.28	1	2
1:B:375:ARG:HH22	1:B:418:LYS:NZ	0.41	2.13	1	2
1:B:473:LEU:N	1:B:473:LEU:HD22	0.41	2.30	1	2
1:B:190:THR:O	1:B:193:MET:HG3	0.41	2.15	2	1
1:B:221:ASP:C	1:B:223:VAL:H	0.41	2.19	2	2
1:B:391:PRO:HA	1:B:429:MET:CG	0.41	2.41	1	2
1:A:32:SER:OG	1:A:33:ALA:N	0.41	2.52	2	2
1:A:177:LEU:N	1:A:177:LEU:HD22	0.41	2.31	1	2
1:A:265:ASP:CG	1:A:541:ASN:ND2	0.41	2.74	1	2
1:B:327:GLN:OE1	1:B:327:GLN:O	0.41	2.38	1	2
1:A:176:VAL:O	1:A:176:VAL:CG1	0.41	2.69	1	2
1:A:221:ASP:C	1:A:223:VAL:H	0.41	2.19	1	2
1:B:11:ILE:CG2	1:B:243:GLN:CB	0.41	2.99	1	2
1:B:176:VAL:O	1:B:176:VAL:CG1	0.41	2.68	1	2
1:B:204:GLY:O	1:B:205:THR:C	0.41	2.60	1	1
1:B:341:GLU:OE2	1:B:342:LEU:O	0.41	2.38	1	2
1:B:470:ILE:O	1:B:470:ILE:HG23	0.41	2.16	1	2
1:B:282:GLU:OE2	1:B:286:ARG:NH2	0.41	2.52	2	1
1:A:292:VAL:O	1:A:330:ILE:CG2	0.41	2.69	1	2
1:A:454:ASN:CG	1:A:455:ASP:N	0.41	2.74	1	2
1:A:456:LEU:HD22	1:A:484:LEU:CD1	0.41	2.38	1	2
1:A:484:LEU:C	1:A:484:LEU:CD2	0.41	2.86	1	2
1:B:11:ILE:CD1	1:B:13:PHE:CE1	0.41	3.01	1	2
1:A:130:VAL:HG23	1:A:131:ARG:N	0.40	2.31	1	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:205:THR:HG21	1:A:208:VAL:CG1	0.40	2.46	1	2
1:A:274:ASN:HD22	1:A:526:SER:N	0.40	2.13	1	2
1:A:295:TYR:HB3	1:A:331:VAL:HA	0.40	1.94	1	2
1:A:367:ARG:O	1:A:368:GLU:C	0.40	2.60	1	2
1:A:186:ARG:C	1:A:188:SER:H	0.40	2.20	2	2
1:B:86:GLU:O	1:B:90:ILE:HG12	0.40	2.15	1	2
1:B:265:ASP:CG	1:B:541:ASN:ND2	0.40	2.74	1	2
1:B:181:THR:H	1:B:202:ILE:HD13	0.40	1.76	1	1
1:B:292:VAL:O	1:B:330:ILE:CG2	0.40	2.69	1	2
1:B:295:TYR:HB3	1:B:331:VAL:HA	0.40	1.93	1	2
1:B:485:ILE:HG13	1:B:486:LYS:N	0.40	2.32	1	2
1:A:324:CYS:HB3	1:A:327:GLN:NE2	0.40	2.31	1	2
1:A:456:LEU:HD23	1:A:456:LEU:HA	0.40	1.80	1	2
1:A:470:ILE:O	1:A:470:ILE:HG23	0.40	2.16	1	2
1:B:367:ARG:O	1:B:368:GLU:C	0.40	2.60	1	2
1:B:538:ARG:HE	1:B:538:ARG:C	0.40	2.17	1	2

6.3 Torsion angles (i)

6.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the backbone conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	571/573 (100%)	536±0 (94±0%)	28±0 (5±0%)	7±0 (1±0%)	17	64
1	B	571/573 (100%)	536±0 (94±0%)	27±1 (5±0%)	8±0 (1±0%)	16	63
All	All	2284/2292 (100%)	2146 (94%)	109 (5%)	29 (1%)	16	63

All 19 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	6	LEU	2
1	A	148	ASP	2
1	A	183	ALA	2
1	A	232	THR	2
1	A	278	VAL	2

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Mol	Chain	Res	Type	Models (Total)
1	B	6	LEU	2
1	B	148	ASP	2
1	B	183	ALA	2
1	B	232	THR	2
1	B	278	VAL	2
1	A	255	LYS	1
1	A	256	LEU	1
1	B	255	LYS	1
1	B	256	LEU	1
1	B	261	ALA	1
1	A	254	ALA	1
1	A	259	LEU	1
1	B	254	ALA	1
1	B	259	LEU	1

6.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all NMR entries. The Analysed column shows the number of residues for which the sidechain conformation was analysed and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	474/474 (100%)	400±2 (84±0%)	74±2 (16±0%)	5 43
1	B	474/474 (100%)	400±0 (84±0%)	74±0 (16±0%)	5 43
All	All	1896/1896 (100%)	1601 (84%)	295 (16%)	5 43

All 155 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
1	A	11	ILE	2
1	A	27	ASP	2
1	A	28	ARG	2
1	A	32	SER	2
1	A	54	LEU	2
1	A	57	ILE	2
1	A	70	GLU	2
1	A	74	GLU	2
1	A	77	ILE	2
1	A	79	LEU	2

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Mol	Chain	Res	Type	Models (Total)
1	A	89	ILE	2
1	A	101	ASP	2
1	A	105	HIS	2
1	A	144	LEU	2
1	A	167	GLU	2
1	A	170	GLN	2
1	A	180	ILE	2
1	A	181	THR	2
1	A	182	ASP	2
1	A	193	MET	2
1	A	202	ILE	2
1	A	205	THR	2
1	A	209	THR	2
1	A	213	LYS	2
1	A	215	ASP	2
1	A	216	ASP	2
1	A	225	ASN	2
1	A	240	ARG	2
1	A	242	VAL	2
1	A	243	GLN	2
1	A	249	GLU	2
1	A	268	GLN	2
1	A	269	VAL	2
1	A	290	GLU	2
1	A	294	LEU	2
1	A	301	PHE	2
1	A	304	ARG	2
1	A	327	GLN	2
1	A	329	VAL	2
1	A	330	ILE	2
1	A	336	ILE	2
1	A	342	LEU	2
1	A	354	PHE	2
1	A	357	TRP	2
1	A	372	ASP	2
1	A	377	ILE	2
1	A	387	ARG	2
1	A	388	ILE	2
1	A	404	LYS	2
1	A	411	GLN	2
1	A	423	SER	2
1	A	429	MET	2

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Mol	Chain	Res	Type	Models (Total)
1	A	451	ILE	2
1	A	453	THR	2
1	A	464	ASP	2
1	A	465	ARG	2
1	A	473	LEU	2
1	A	484	LEU	2
1	A	485	ILE	2
1	A	497	LYS	2
1	A	499	THR	2
1	A	505	LEU	2
1	A	518	MET	2
1	A	530	ILE	2
1	A	534	LYS	2
1	A	538	ARG	2
1	A	542	PHE	2
1	A	557	THR	2
1	A	561	LEU	2
1	A	562	MET	2
1	B	11	ILE	2
1	B	27	ASP	2
1	B	28	ARG	2
1	B	32	SER	2
1	B	54	LEU	2
1	B	57	ILE	2
1	B	70	GLU	2
1	B	74	GLU	2
1	B	77	ILE	2
1	B	79	LEU	2
1	B	89	ILE	2
1	B	101	ASP	2
1	B	105	HIS	2
1	B	144	LEU	2
1	B	167	GLU	2
1	B	170	GLN	2
1	B	180	ILE	2
1	B	181	THR	2
1	B	182	ASP	2
1	B	202	ILE	2
1	B	205	THR	2
1	B	209	THR	2
1	B	213	LYS	2
1	B	215	ASP	2

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Mol	Chain	Res	Type	Models (Total)
1	B	216	ASP	2
1	B	225	ASN	2
1	B	240	ARG	2
1	B	242	VAL	2
1	B	243	GLN	2
1	B	249	GLU	2
1	B	256	LEU	2
1	B	268	GLN	2
1	B	269	VAL	2
1	B	290	GLU	2
1	B	294	LEU	2
1	B	301	PHE	2
1	B	304	ARG	2
1	B	327	GLN	2
1	B	329	VAL	2
1	B	330	ILE	2
1	B	336	ILE	2
1	B	342	LEU	2
1	B	354	PHE	2
1	B	357	TRP	2
1	B	372	ASP	2
1	B	377	ILE	2
1	B	387	ARG	2
1	B	388	ILE	2
1	B	404	LYS	2
1	B	411	GLN	2
1	B	423	SER	2
1	B	429	MET	2
1	B	451	ILE	2
1	B	453	THR	2
1	B	464	ASP	2
1	B	465	ARG	2
1	B	470	ILE	2
1	B	473	LEU	2
1	B	484	LEU	2
1	B	485	ILE	2
1	B	497	LYS	2
1	B	499	THR	2
1	B	505	LEU	2
1	B	518	MET	2
1	B	534	LYS	2
1	B	538	ARG	2

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Mol	Chain	Res	Type	Models (Total)
1	B	542	PHE	2
1	B	557	THR	2
1	B	561	LEU	2
1	B	562	MET	2
1	A	67	GLU	1
1	A	197	LEU	1
1	A	258	ASP	1
1	A	259	LEU	1
1	A	528	ILE	1
1	B	67	GLU	1
1	B	196	SER	1
1	B	258	ASP	1
1	B	259	LEU	1
1	A	186	ARG	1
1	A	256	LEU	1
1	B	186	ARG	1
1	B	190	THR	1
1	B	193	MET	1
1	B	530	ILE	1

6.3.3 RNA

There are no RNA molecules in this entry.

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

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

6.5 Carbohydrates

There are no monosaccharides in this entry.

6.6 Ligand geometry

There are no ligands in this entry.

6.7 Other polymers

There are no such molecules in this entry.

6.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

7 Chemical shift validation

No chemical shift data were provided