



Full wwPDB NMR Structure Validation Report ⓘ

Mar 27, 2026 – 10:26 AM UTC

PDB ID : 2N5T / pdb_00002n5t
BMRB ID : 25731
Title : Ensemble solution structure of the phosphoenolpyruvate-Enzyme I complex from the bacterial phosphotransferase system
Authors : Venditti, V.; Schwieters, C.D.; Grishaev, A.; Clore, G.
Deposited on : 2015-07-28

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 ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
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) : 2.49

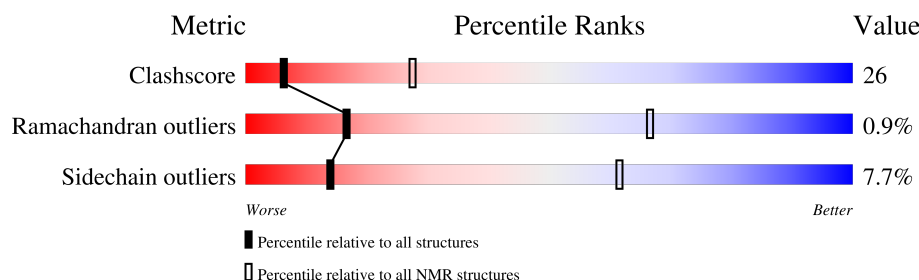
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

SOLUTION NMR, SOLUTION SCATTERING

The overall completeness of chemical shifts assignment is 1%.

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	229148	14424
Ramachandran outliers	224038	12848
Sidechain outliers	223484	12823

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 $\leq 5\%$.

Mol	Chain	Length	Quality of chain
1	A	575	
1	B	575	

2 Ensemble composition and analysis

This entry contains 11 models. Model 6 is the overall representative, medoid model (most similar to other models). The authors have identified model 1 as representative, based on the following criterion: *lowest energy*.

The following residues are included in the computation of the global validation metrics.

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	A:1-A:254 (254)	0.25	2
2	A:255-A:255, A:260-A:573, B:255-B:255, B:260-B:573 (630)	0.09	6
3	B:1-B:254 (254)	0.20	4

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 1 clusters and 1 single-model cluster was found.

Cluster number	Models
1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
Single-model clusters	11

3 Entry composition

There is only 1 type of molecule in this entry. The entry contains 17910 atoms, of which 9028 are hydrogens and 0 are deuteriums.

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

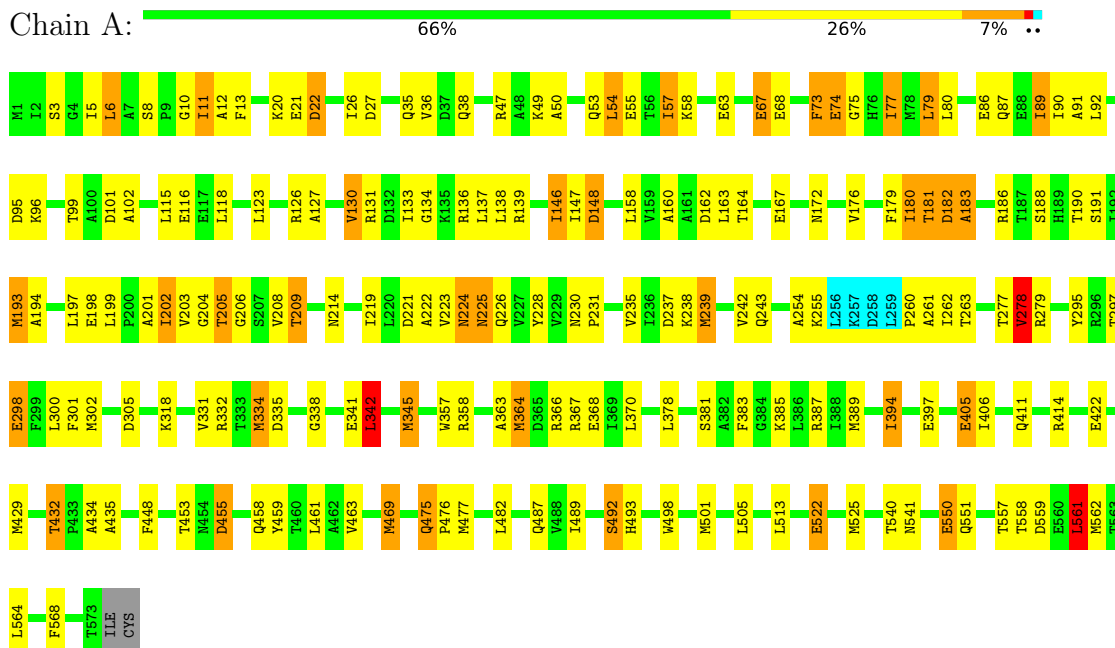
Mol	Chain	Residues	Atoms						Trace
1	A	573	Total	C	H	N	O	S	0
			8955	2790	4514	757	873	21	
1	B	573	Total	C	H	N	O	S	0
			8955	2790	4514	757	873	21	

4 Residue-property plots

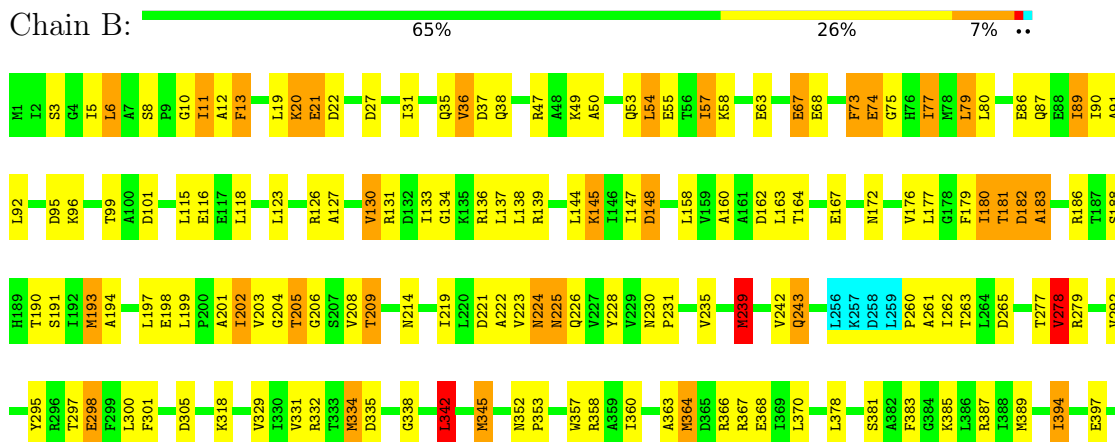
4.1 Average score per residue in the NMR ensemble

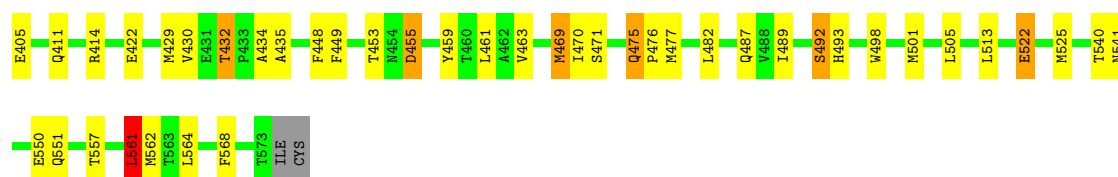
These plots are provided for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-coded according to the number of geometric quality criteria for 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



- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



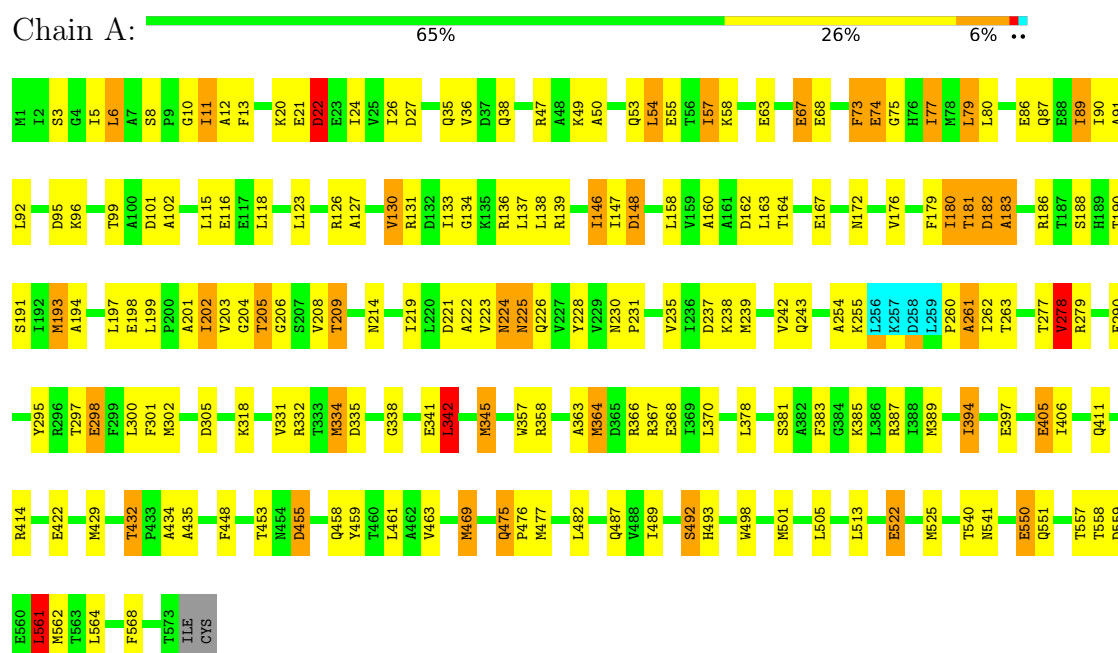


4.2 Scores per residue for each member of the ensemble

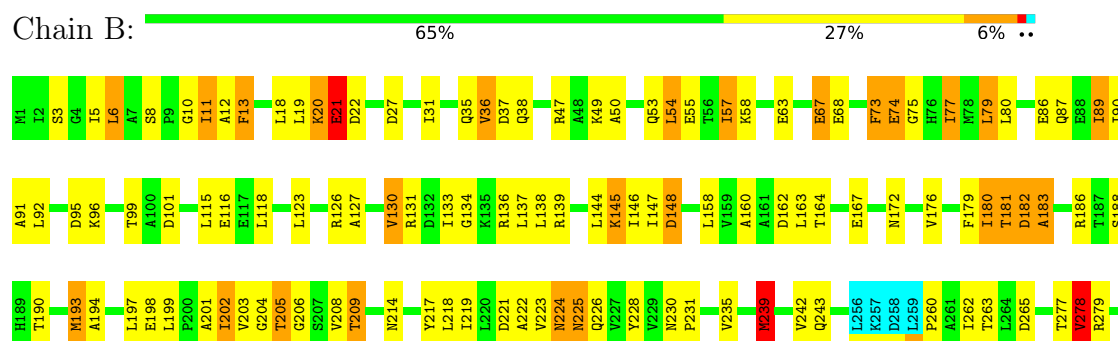
Colouring as in section 4.1 above.

4.2.1 Score per residue for model 1

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

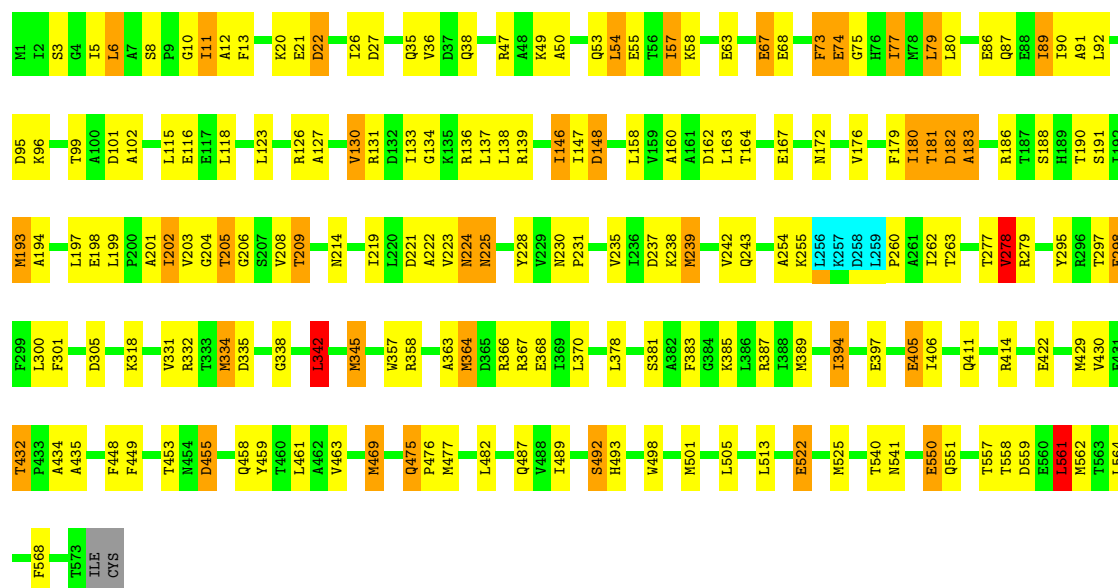




4.2.2 Score per residue for model 2

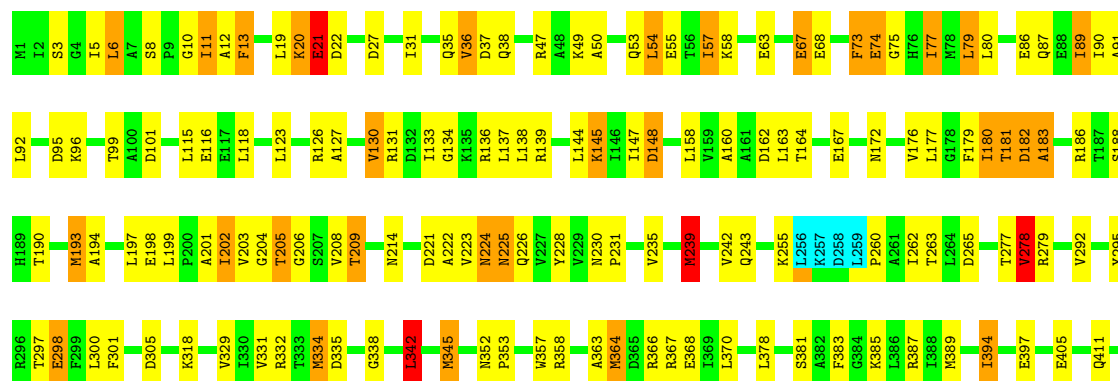
- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

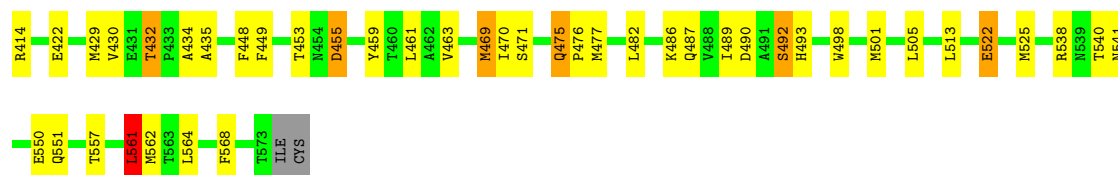
Chain A: 66% 26% 7% ..



- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

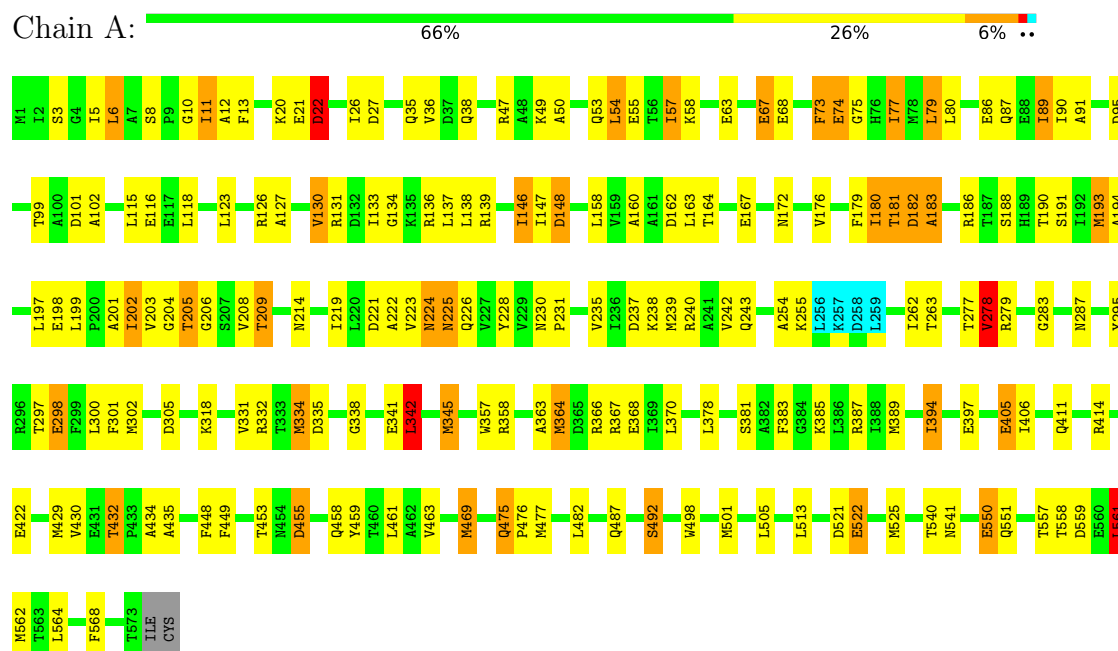
Chain B: 65% 26% 6% ..



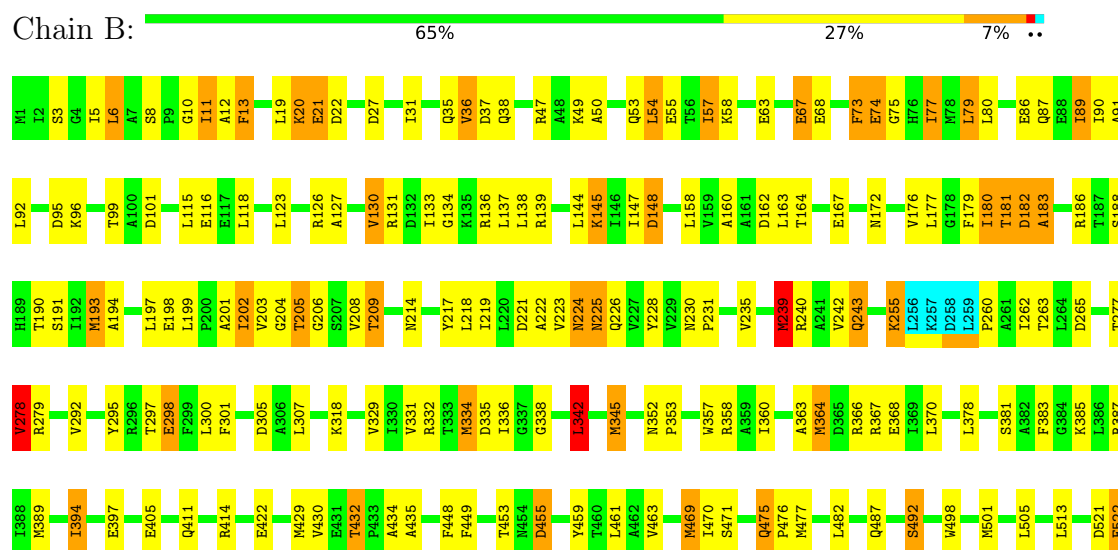


4.2.3 Score per residue for model 3

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



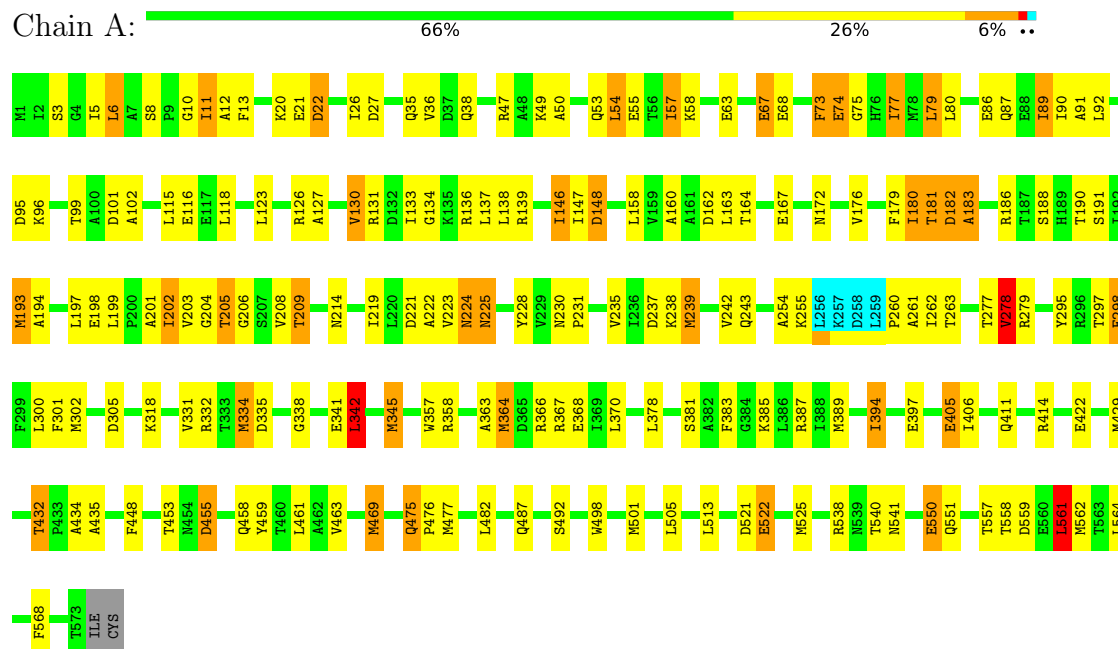
- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



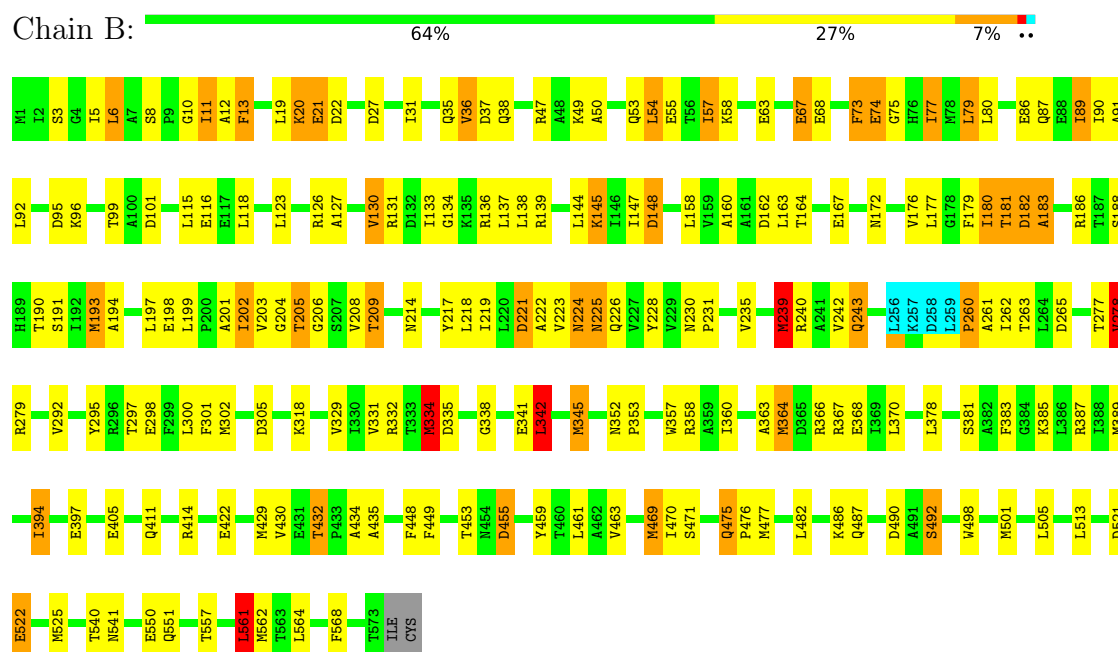


4.2.4 Score per residue for model 4

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

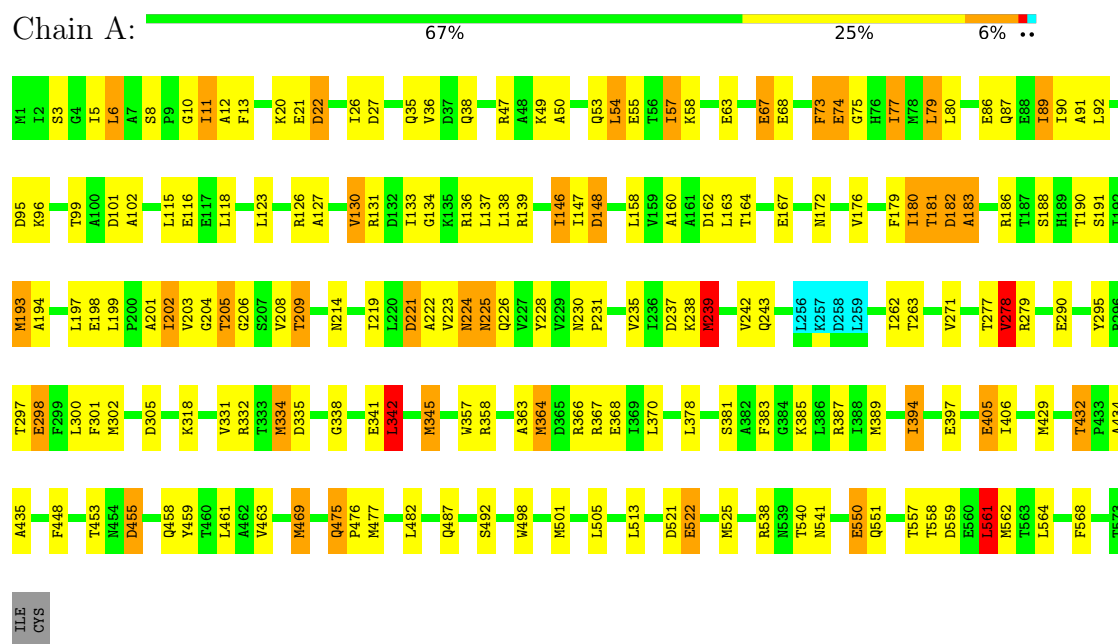


- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

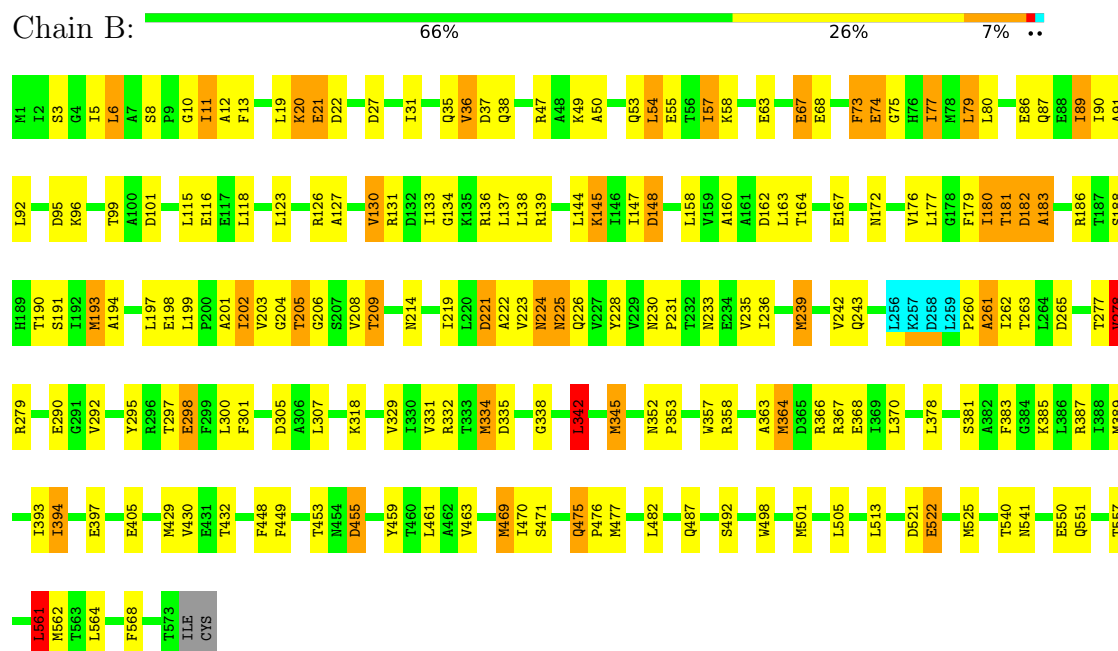


4.2.5 Score per residue for model 5

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

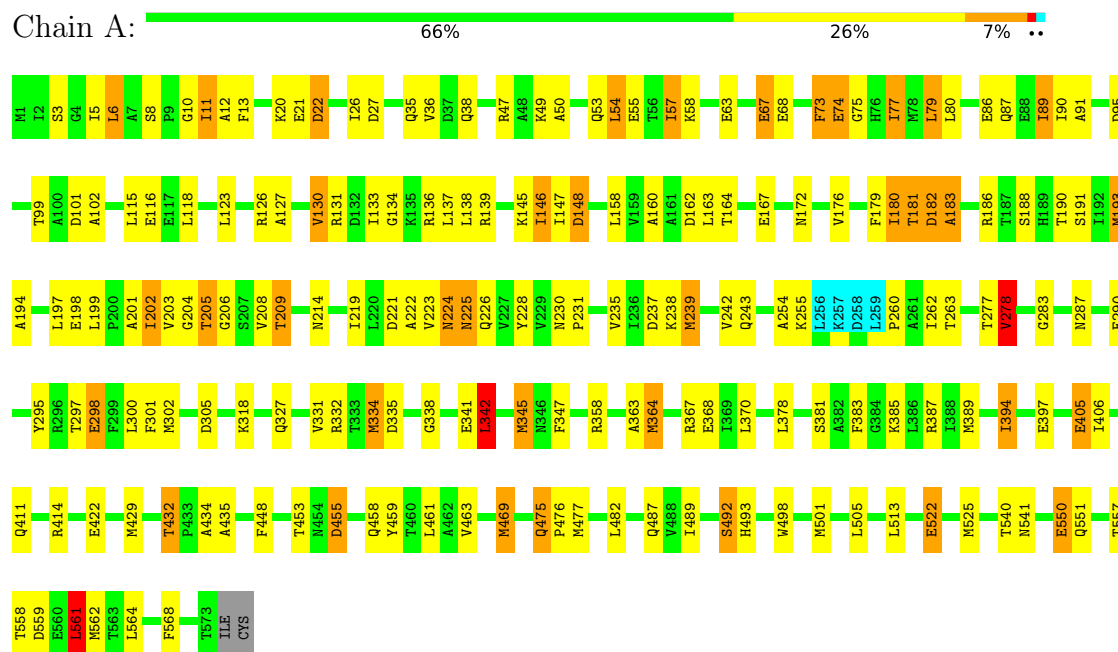


- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

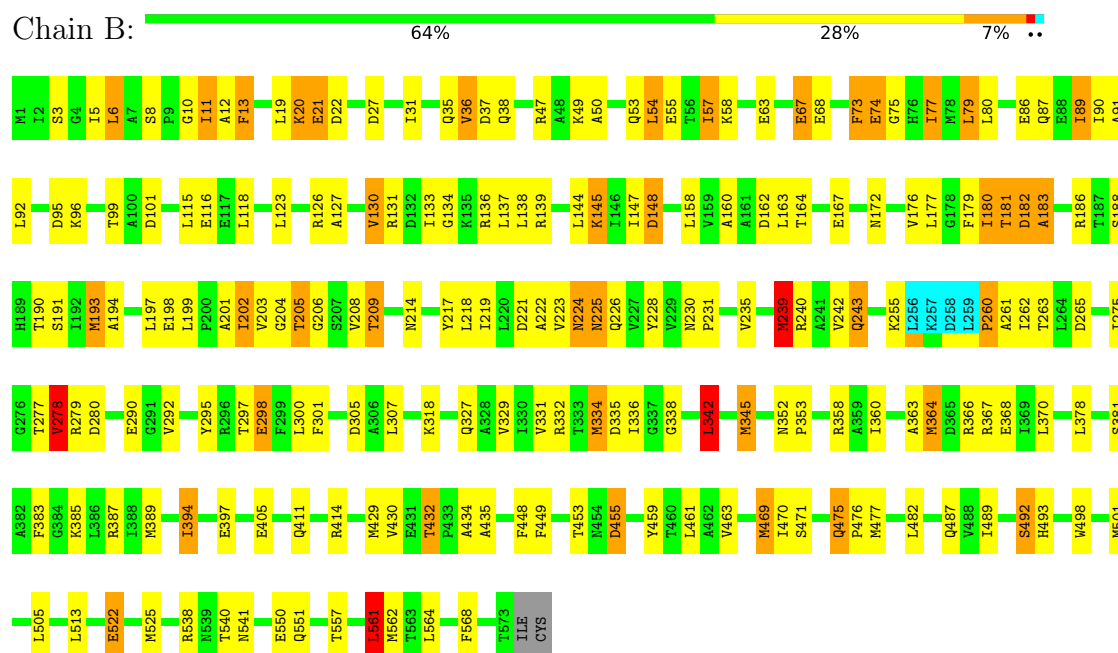


4.2.6 Score per residue for model 6 (medoid)

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

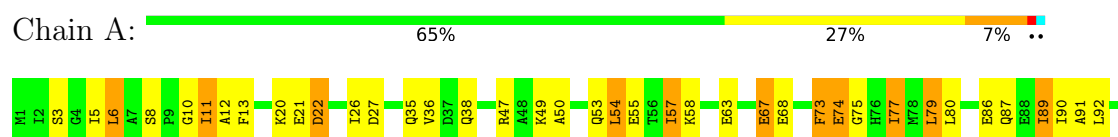


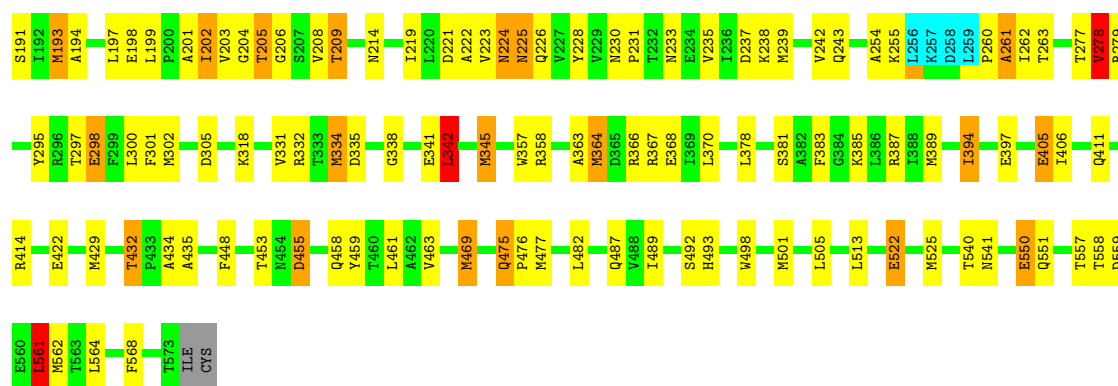
- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



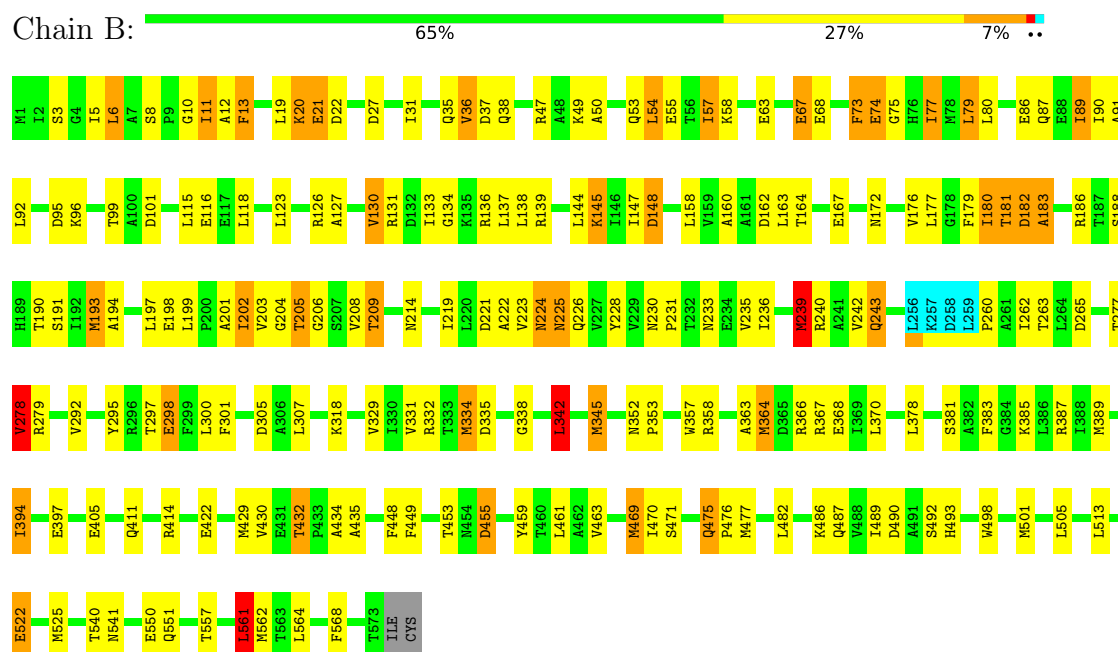
4.2.7 Score per residue for model 7

- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



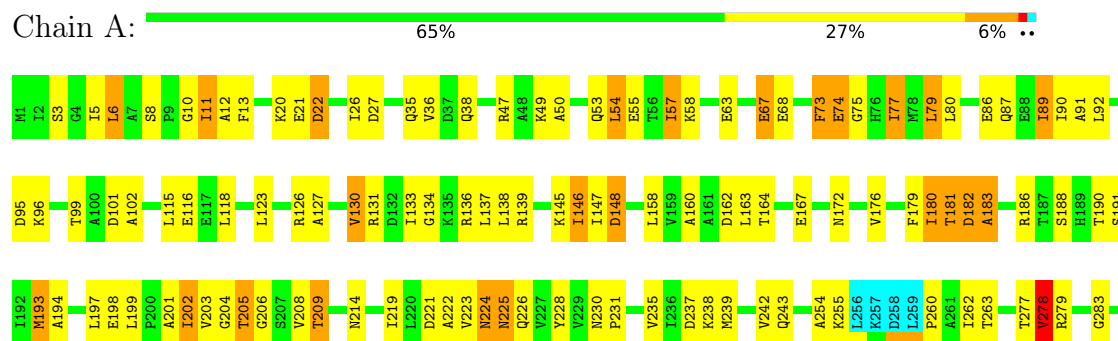


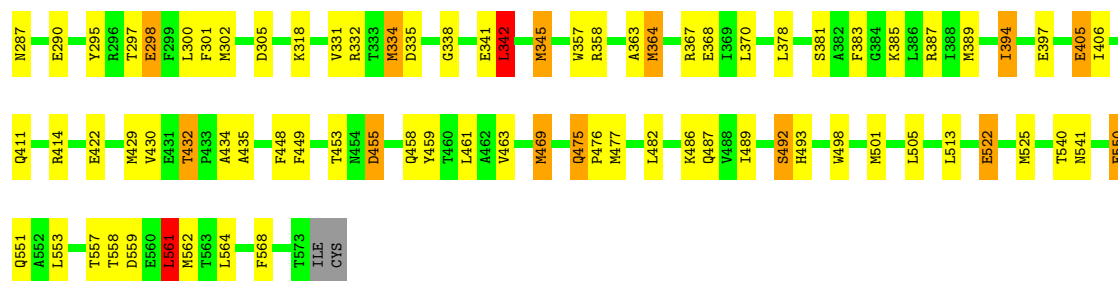
- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase



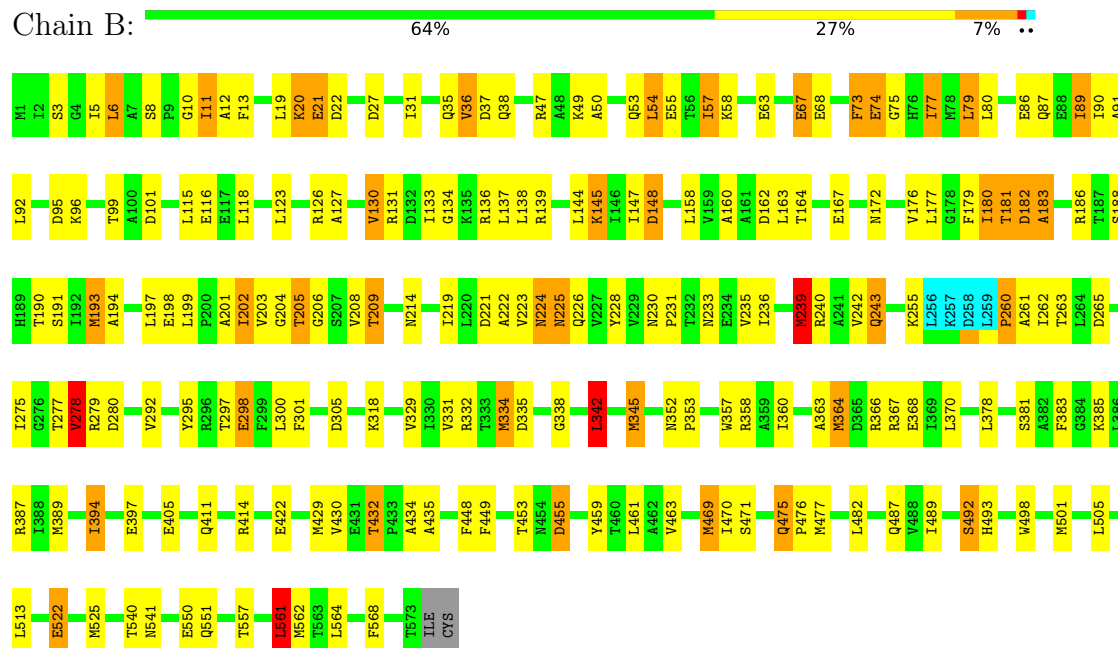
4.2.9 Score per residue for model 9

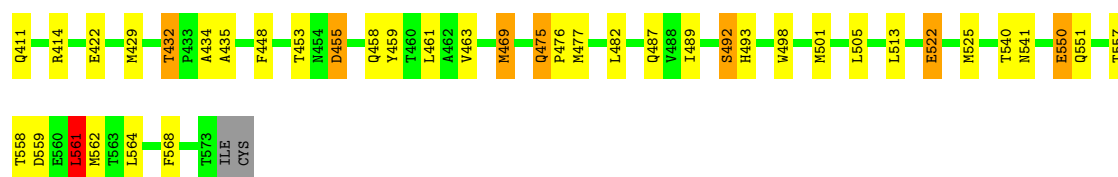
- Molecule 1: Phosphoenolpyruvate-protein phosphotransferase





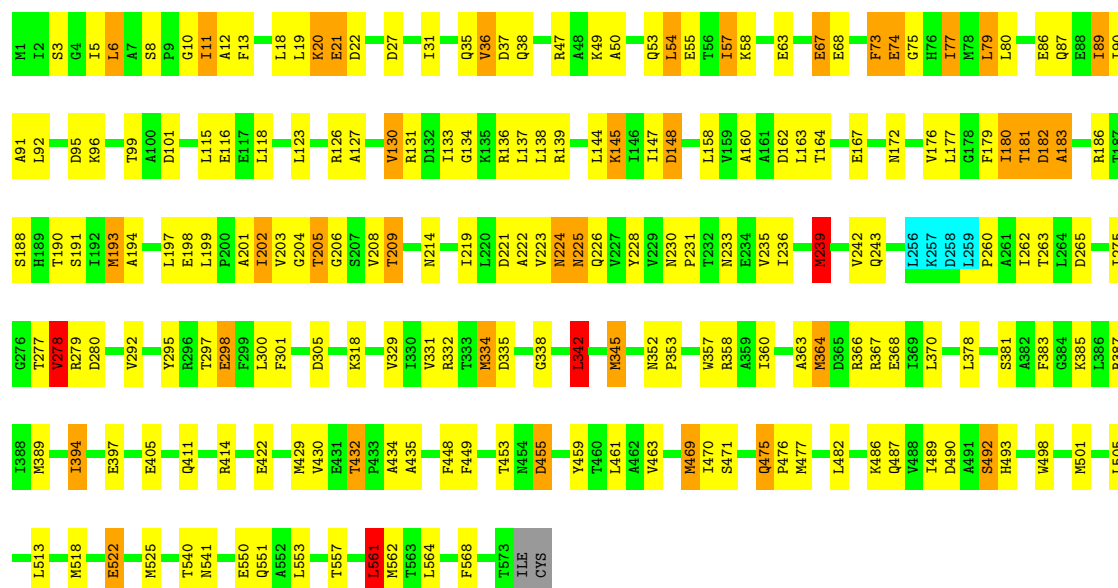
• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase





• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

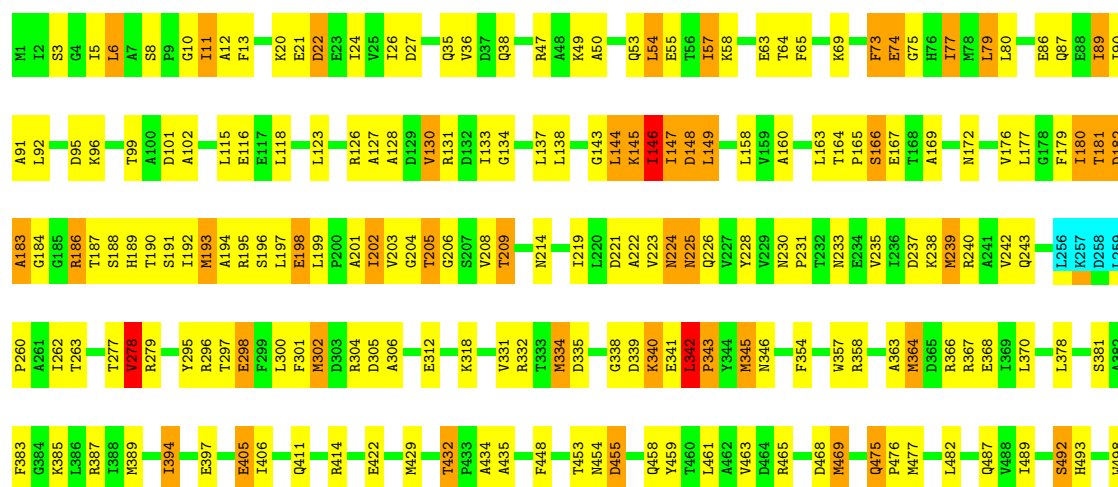
Chain B: 64% 28% 6% ..

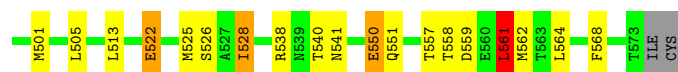


4.2.11 Score per residue for model 11

• Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

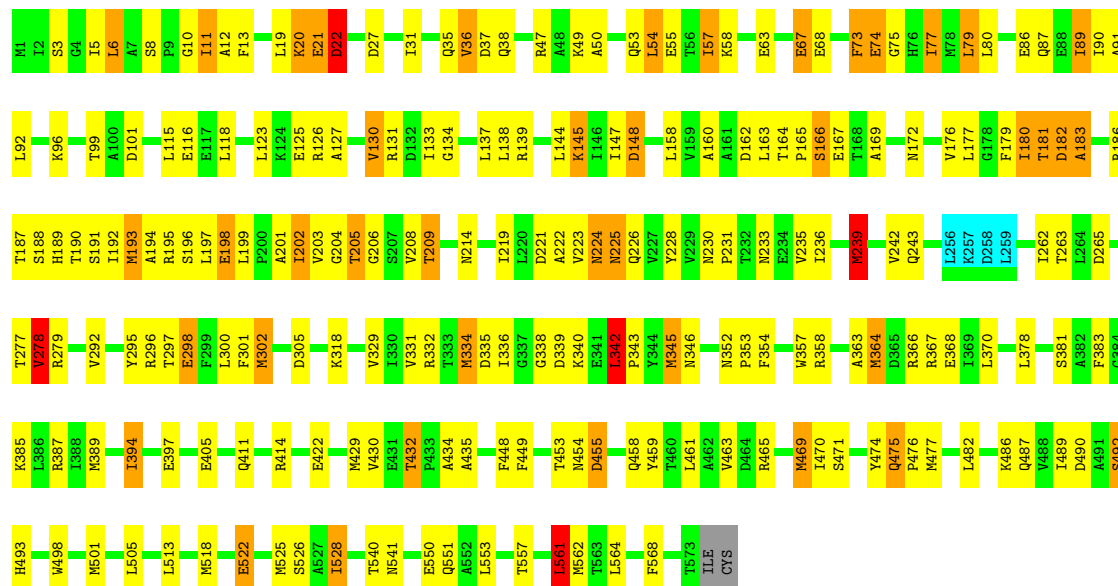
Chain A: 61% 29% 8% ..





● Molecule 1: Phosphoenolpyruvate-protein phosphotransferase

Chain B: 61% 30% 7% ..



5 Refinement protocol and experimental data overview

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

Of the 200 calculated structures, 11 were deposited, based on the following criterion: *structures with the lowest energy*.

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

Software name	Classification	Version
Xplor-NIH	refinement	

The following table shows chemical shift validation statistics as aggregates over all chemical shift files. Detailed validation can be found in section 7 of this report.

Chemical shift file(s)	working_cs.cif
Number of chemical shift lists	1
Total number of shifts	190
Number of shifts mapped to atoms	190
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Assignment completeness (well-defined parts)	1%

6 Model quality [i](#)

6.1 Standard geometry [i](#)

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	1.39±0.00	21±0/4461 (0.5± 0.0%)	1.20±0.00	11±1/6016 (0.2± 0.0%)
1	B	1.40±0.00	22±0/4461 (0.5± 0.0%)	1.20±0.00	12±0/6016 (0.2± 0.0%)
All	All	1.39	482/98142 (0.5%)	1.20	255/132352 (0.2%)

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	345	MET	SD-CE	14.04	2.14	1.79	4	11
1	A	345	MET	SD-CE	14.01	2.14	1.79	3	11
1	B	469	MET	SD-CE	13.79	2.14	1.79	3	11
1	A	469	MET	SD-CE	13.77	2.13	1.79	5	11
1	A	364	MET	SD-CE	10.61	2.06	1.79	9	11
1	B	364	MET	SD-CE	10.60	2.06	1.79	3	11
1	A	562	MET	SD-CE	8.76	2.01	1.79	1	11
1	B	562	MET	SD-CE	8.74	2.01	1.79	4	11
1	B	562	MET	CG-SD	7.61	1.99	1.80	11	11
1	A	562	MET	CG-SD	7.59	1.99	1.80	4	11
1	A	239	MET	SD-CE	7.20	1.97	1.79	2	11
1	A	364	MET	CG-SD	6.79	1.97	1.80	6	11
1	B	364	MET	CG-SD	6.78	1.97	1.80	7	11
1	B	239	MET	SD-CE	6.70	1.96	1.79	3	11
1	B	345	MET	CG-SD	6.51	1.97	1.80	8	11
1	A	345	MET	CG-SD	6.50	1.97	1.80	1	11
1	A	475	GLN	CA-C	-6.48	1.45	1.52	1	11
1	B	475	GLN	CA-C	-6.47	1.45	1.52	1	11
1	A	525	MET	SD-CE	6.45	1.95	1.79	4	11
1	B	525	MET	SD-CE	6.43	1.95	1.79	11	11
1	B	239	MET	CG-SD	6.30	1.96	1.80	7	11
1	B	334	MET	CG-SD	6.22	1.96	1.80	2	11
1	A	334	MET	CG-SD	6.20	1.96	1.80	5	11
1	A	501	MET	CG-SD	6.18	1.96	1.80	7	11

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)	Models	
								Worst	Total
1	B	19	LEU	C-N	-6.16	1.25	1.33	2	11
1	B	501	MET	CG-SD	6.16	1.96	1.80	7	11
1	A	389	MET	SD-CE	5.97	1.94	1.79	11	11
1	B	389	MET	SD-CE	5.96	1.94	1.79	3	11
1	B	475	GLN	C-O	-5.85	1.19	1.24	1	11
1	A	239	MET	CG-SD	5.84	1.95	1.80	7	11
1	A	475	GLN	C-O	-5.83	1.19	1.24	1	11
1	B	255	LYS	N-CA	5.81	1.53	1.46	3	4
1	B	20	LYS	CA-C	-5.64	1.43	1.52	9	11
1	B	477	MET	SD-CE	5.46	1.93	1.79	1	11
1	A	477	MET	SD-CE	5.43	1.93	1.79	1	11
1	A	144	LEU	CA-C	-5.40	1.45	1.52	11	1
1	A	22	ASP	N-CA	5.38	1.53	1.46	1	4
1	B	429	MET	SD-CE	5.25	1.92	1.79	4	11
1	A	334	MET	SD-CE	5.24	1.92	1.79	4	11
1	B	334	MET	SD-CE	5.24	1.92	1.79	5	11
1	A	429	MET	SD-CE	5.23	1.92	1.79	7	11
1	A	525	MET	CG-SD	5.12	1.93	1.80	3	11
1	B	525	MET	CG-SD	5.11	1.93	1.80	5	11
1	A	469	MET	CG-SD	5.08	1.93	1.80	5	11
1	B	469	MET	CG-SD	5.07	1.93	1.80	1	11
1	A	550	GLU	N-CA	-5.02	1.40	1.46	1	11

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(°)	Ideal(°)	Models	
								Worst	Total
1	A	148	ASP	N-CA-C	-12.32	92.37	110.23	8	11
1	B	148	ASP	N-CA-C	-10.35	96.27	110.35	9	11
1	A	255	LYS	N-CA-C	8.95	123.10	109.23	1	3
1	B	20	LYS	N-CA-C	-8.40	100.35	110.44	7	11
1	B	255	LYS	N-CA-C	6.65	119.27	108.76	3	1
1	A	561	LEU	CA-CB-CG	6.63	139.50	116.30	11	11
1	B	561	LEU	CA-CB-CG	6.62	139.47	116.30	8	11
1	A	254	ALA	CA-C-N	-6.61	110.30	121.94	10	3
1	A	254	ALA	C-N-CA	-6.61	110.30	121.94	10	3
1	A	144	LEU	N-CA-C	-6.35	97.28	110.80	11	1
1	A	278	VAL	CB-CA-C	-6.28	100.99	111.29	1	11
1	B	278	VAL	CB-CA-C	-6.27	101.00	111.29	1	11
1	B	487	GLN	N-CA-C	-5.78	105.11	111.82	1	11
1	A	487	GLN	N-CA-C	-5.76	105.13	111.82	1	11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
1	B	148	ASP	CA-C-O	-5.74	115.47	121.55	1	11
1	B	224	ASN	N-CA-C	-5.42	106.34	113.17	5	11
1	B	338	GLY	N-CA-C	-5.38	100.43	113.18	1	11
1	A	224	ASN	N-CA-C	-5.36	106.41	113.17	9	11
1	A	338	GLY	N-CA-C	-5.36	100.48	113.18	1	11
1	A	342	LEU	CA-C-N	5.23	126.38	119.84	1	11
1	A	342	LEU	C-N-CA	5.23	126.38	119.84	1	11
1	B	21	GLU	O-C-N	-5.21	115.66	122.59	1	2
1	B	342	LEU	CA-C-N	5.19	126.33	119.84	1	11
1	B	342	LEU	C-N-CA	5.19	126.33	119.84	1	11
1	A	73	PHE	CA-CB-CG	-5.09	108.71	113.80	8	11
1	B	73	PHE	CA-CB-CG	-5.07	108.73	113.80	8	11
1	A	476	PRO	N-CA-C	-5.04	107.83	114.03	1	11
1	B	476	PRO	N-CA-C	-5.03	107.85	114.03	1	11

There are no chirality outliers.

There are no planarity outliers.

6.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in 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	4408	4475	4466	231±19
1	B	4408	4475	4466	233±16
All	All	96976	98450	98272	5018

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 26.

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

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:364:MET:SD	1:B:364:MET:CE	1.44	2.06	4	11
1:A:364:MET:SD	1:A:364:MET:CE	1.44	2.06	6	11
1:A:469:MET:SD	1:A:469:MET:CE	1.36	2.14	6	11
1:B:469:MET:CE	1:B:469:MET:SD	1.36	2.14	4	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:345:MET:SD	1:A:345:MET:CE	1.35	2.14	5	11
1:B:345:MET:SD	1:B:345:MET:CE	1.35	2.14	6	11
1:A:169:ALA:CB	1:A:302:MET:O	1.30	1.77	11	1
1:B:54:LEU:O	1:B:54:LEU:HD22	1.27	1.28	7	11
1:A:54:LEU:O	1:A:54:LEU:HD22	1.25	1.28	5	11
1:B:169:ALA:HB2	1:B:302:MET:O	1.24	1.28	11	1
1:B:11:ILE:HG21	1:B:243:GLN:CA	1.22	1.65	5	11
1:B:54:LEU:HD13	1:B:55:GLU:N	1.19	1.51	11	11
1:A:54:LEU:HD22	1:A:54:LEU:C	1.19	1.63	11	11
1:B:54:LEU:HD22	1:B:54:LEU:C	1.19	1.62	11	11
1:A:54:LEU:HD13	1:A:55:GLU:N	1.18	1.51	11	11
1:B:169:ALA:CB	1:B:302:MET:O	1.18	1.91	11	1
1:B:11:ILE:CG2	1:B:243:GLN:HA	1.18	1.69	11	11
1:A:169:ALA:HB2	1:A:302:MET:O	1.13	1.30	11	1
1:A:166:SER:CB	1:A:343:PRO:HG2	1.13	1.73	11	1
1:A:11:ILE:HD12	1:A:12:ALA:N	1.08	1.62	2	11
1:A:77:ILE:HD13	1:A:77:ILE:N	1.07	1.65	6	11
1:B:223:VAL:HG21	1:B:242:VAL:HG11	1.06	1.28	11	11
1:A:223:VAL:HG21	1:A:242:VAL:HG11	1.05	1.29	11	11
1:B:20:LYS:O	1:B:22:ASP:N	1.04	1.90	11	11
1:B:77:ILE:HD13	1:B:77:ILE:N	1.03	1.65	11	11
1:B:11:ILE:HG21	1:B:243:GLN:HA	1.00	1.01	6	11
1:B:11:ILE:HD12	1:B:12:ALA:N	1.00	1.72	5	11
1:A:180:ILE:HD11	1:A:208:VAL:HG11	0.99	1.35	3	11
1:B:180:ILE:HD11	1:B:208:VAL:HG11	0.99	1.35	4	11
1:A:166:SER:HB3	1:A:343:PRO:HG2	0.98	1.35	11	1
1:B:11:ILE:HG12	1:B:243:GLN:HB2	0.95	1.38	3	11
1:B:342:LEU:HD12	1:B:342:LEU:H	0.95	1.20	4	11
1:A:11:ILE:HG21	1:A:243:GLN:CA	0.94	1.92	3	11
1:A:166:SER:OG	1:A:343:PRO:HG2	0.93	1.63	11	1
1:A:11:ILE:HD12	1:A:12:ALA:H	0.92	1.24	7	11
1:A:169:ALA:HB1	1:A:302:MET:O	0.92	1.60	11	1
1:A:160:ALA:O	1:A:181:THR:HG22	0.92	1.65	11	11
1:A:189:HIS:CE1	1:A:340:LYS:HB3	0.91	1.97	11	1
1:A:54:LEU:C	1:A:54:LEU:CD2	0.91	2.38	11	11
1:B:160:ALA:O	1:B:181:THR:HG22	0.90	1.65	11	11
1:A:11:ILE:HG21	1:A:243:GLN:HA	0.89	1.42	7	11
1:A:189:HIS:CE1	1:A:340:LYS:CB	0.89	2.54	11	1
1:B:54:LEU:C	1:B:54:LEU:CD2	0.89	2.38	7	11
1:B:35:GLN:O	1:B:38:GLN:N	0.89	2.06	2	11
1:B:189:HIS:CE1	1:B:340:LYS:HB3	0.89	2.03	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:11:ILE:HD12	1:B:12:ALA:H	0.88	1.26	5	11
1:B:225:ASN:O	1:B:225:ASN:CG	0.88	2.17	1	11
1:A:342:LEU:H	1:A:342:LEU:HD12	0.88	1.25	4	11
1:A:225:ASN:CG	1:A:225:ASN:O	0.87	2.17	11	11
1:B:193:MET:SD	1:B:197:LEU:HD22	0.87	2.10	11	11
1:A:193:MET:SD	1:A:197:LEU:HD22	0.87	2.10	7	11
1:B:189:HIS:CE1	1:B:340:LYS:CB	0.87	2.55	11	1
1:A:144:LEU:O	1:A:145:LYS:C	0.86	2.19	11	1
1:A:11:ILE:HD11	1:A:13:PHE:CE1	0.85	2.06	4	11
1:A:77:ILE:N	1:A:77:ILE:CD1	0.83	2.41	3	11
1:B:35:GLN:O	1:B:36:VAL:C	0.83	2.22	11	11
1:B:197:LEU:O	1:B:198:GLU:HG3	0.82	1.75	11	1
1:B:77:ILE:N	1:B:77:ILE:CD1	0.82	2.41	3	11
1:A:197:LEU:O	1:A:198:GLU:HG3	0.81	1.75	11	1
1:A:54:LEU:O	1:A:54:LEU:CD2	0.81	2.23	7	11
1:B:54:LEU:O	1:B:54:LEU:CD2	0.80	2.23	11	11
1:A:166:SER:OG	1:A:343:PRO:CG	0.80	2.29	11	1
1:B:195:ARG:HB3	1:B:526:SER:OG	0.79	1.77	11	1
1:B:342:LEU:HD12	1:B:342:LEU:N	0.79	1.90	4	11
1:B:11:ILE:CG1	1:B:243:GLN:HB2	0.79	2.08	11	11
1:B:54:LEU:CD1	1:B:55:GLU:N	0.79	2.44	9	11
1:A:54:LEU:CD1	1:A:55:GLU:N	0.79	2.44	11	11
1:B:166:SER:CB	1:B:343:PRO:HG2	0.79	2.07	11	1
1:A:180:ILE:HD11	1:A:208:VAL:CG1	0.77	2.10	7	11
1:B:180:ILE:HD11	1:B:208:VAL:CG1	0.77	2.10	11	11
1:B:35:GLN:O	1:B:37:ASP:N	0.77	2.17	1	11
1:A:221:ASP:O	1:A:223:VAL:HG22	0.76	1.80	4	11
1:A:342:LEU:HD12	1:A:342:LEU:N	0.76	1.96	10	11
1:A:11:ILE:CD1	1:A:12:ALA:N	0.76	2.47	2	11
1:A:223:VAL:HG21	1:A:242:VAL:CG1	0.76	2.11	7	11
1:B:197:LEU:O	1:B:198:GLU:CG	0.75	2.35	11	1
1:B:166:SER:OG	1:B:343:PRO:HG2	0.74	1.81	11	1
1:A:197:LEU:O	1:A:198:GLU:CG	0.74	2.35	11	1
1:A:73:PHE:O	1:A:77:ILE:HG12	0.74	1.83	4	11
1:B:73:PHE:O	1:B:77:ILE:HG12	0.74	1.83	11	11
1:B:147:ILE:O	1:B:147:ILE:HG22	0.74	1.80	11	11
1:A:11:ILE:CG2	1:A:243:GLN:HA	0.73	2.13	7	11
1:B:11:ILE:CG2	1:B:243:GLN:CA	0.73	2.49	11	11
1:B:394:ILE:HG13	1:B:432:THR:HG21	0.73	1.57	1	11
1:A:146:ILE:HD12	1:A:146:ILE:H	0.73	1.43	11	9
1:A:432:THR:HG22	1:A:435:ALA:H	0.73	1.44	2	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:166:SER:CB	1:A:343:PRO:CG	0.73	2.62	11	1
1:B:432:THR:HG22	1:B:435:ALA:H	0.73	1.43	2	9
1:A:166:SER:HB3	1:A:343:PRO:CG	0.72	2.13	11	1
1:B:54:LEU:HD21	1:B:77:ILE:HG13	0.72	1.61	5	11
1:B:130:VAL:O	1:B:133:ILE:HG22	0.71	1.86	11	11
1:A:54:LEU:HD21	1:A:77:ILE:HG13	0.71	1.61	11	11
1:B:11:ILE:HD11	1:B:13:PHE:CE2	0.71	2.21	1	6
1:B:11:ILE:HD11	1:B:13:PHE:CZ	0.71	2.21	5	4
1:B:221:ASP:OD1	1:B:239:MET:HE2	0.71	1.85	11	8
1:A:180:ILE:CD1	1:A:208:VAL:HG11	0.70	2.16	7	11
1:A:146:ILE:O	1:A:148:ASP:N	0.70	2.24	11	2
1:B:11:ILE:CD1	1:B:12:ALA:N	0.70	2.54	5	11
1:A:130:VAL:O	1:A:133:ILE:HG22	0.70	1.86	11	11
1:B:189:HIS:CE1	1:B:339:ASP:CG	0.70	2.70	11	1
1:B:27:ASP:O	1:B:99:THR:HG21	0.69	1.87	2	11
1:A:11:ILE:HD11	1:A:13:PHE:CZ	0.69	2.22	2	11
1:B:219:ILE:HD12	1:B:219:ILE:N	0.69	2.02	3	5
1:B:180:ILE:CD1	1:B:208:VAL:HG11	0.69	2.16	1	11
1:A:144:LEU:O	1:A:146:ILE:N	0.69	2.26	11	1
1:A:139:ARG:NH2	1:A:146:ILE:HG23	0.69	2.03	1	8
1:A:189:HIS:ND1	1:A:340:LYS:HB3	0.69	2.02	11	1
1:B:179:PHE:CE2	1:B:181:THR:OG1	0.68	2.46	1	11
1:B:202:ILE:O	1:B:202:ILE:HD13	0.68	1.89	7	11
1:A:54:LEU:C	1:A:54:LEU:HD13	0.68	2.13	6	11
1:B:54:LEU:HD13	1:B:55:GLU:H	0.68	1.48	11	11
1:B:394:ILE:CG1	1:B:432:THR:HG21	0.68	2.19	1	11
1:A:186:ARG:HH12	1:A:465:ARG:HH21	0.68	1.31	11	1
1:A:179:PHE:CE2	1:A:181:THR:OG1	0.68	2.47	1	11
1:A:202:ILE:HD13	1:A:202:ILE:O	0.68	1.89	1	11
1:A:221:ASP:OD1	1:A:239:MET:HE2	0.68	1.88	11	3
1:B:239:MET:SD	1:B:239:MET:N	0.68	2.67	3	11
1:B:166:SER:HB3	1:B:343:PRO:HG2	0.68	1.66	11	1
1:B:54:LEU:HD13	1:B:54:LEU:C	0.67	2.13	11	11
1:B:144:LEU:O	1:B:145:LYS:C	0.67	2.36	11	1
1:A:11:ILE:HG12	1:A:243:GLN:HB2	0.67	1.66	2	11
1:A:160:ALA:O	1:A:181:THR:CG2	0.67	2.43	11	11
1:A:221:ASP:OD2	1:A:224:ASN:ND2	0.67	2.28	5	8
1:B:221:ASP:OD1	1:B:221:ASP:N	0.67	2.25	4	2
1:A:11:ILE:HG21	1:A:243:GLN:CB	0.67	2.20	11	11
1:B:169:ALA:HB1	1:B:302:MET:O	0.67	1.89	11	1
1:B:127:ALA:O	1:B:130:VAL:HG22	0.67	1.90	1	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:127:ALA:O	1:A:130:VAL:HG22	0.66	1.90	6	11
1:A:224:ASN:O	1:A:225:ASN:OD1	0.66	2.14	3	11
1:B:198:GLU:CB	1:B:528:ILE:HB	0.66	2.20	11	1
1:A:35:GLN:O	1:A:36:VAL:C	0.66	2.39	6	11
1:A:11:ILE:HD13	1:A:239:MET:HE2	0.66	1.66	4	2
1:A:189:HIS:CG	1:A:340:LYS:HB3	0.66	2.25	11	1
1:A:147:ILE:O	1:A:148:ASP:C	0.66	2.38	3	11
1:A:228:TYR:CG	1:A:235:VAL:HG11	0.66	2.26	6	11
1:B:394:ILE:CD1	1:B:432:THR:HG21	0.66	2.19	1	11
1:B:228:TYR:CG	1:B:235:VAL:HG11	0.65	2.26	6	11
1:A:54:LEU:HD13	1:A:55:GLU:H	0.65	1.47	11	11
1:B:160:ALA:O	1:B:181:THR:CG2	0.65	2.43	3	11
1:A:198:GLU:HB2	1:A:528:ILE:HB	0.65	1.67	11	1
1:B:224:ASN:O	1:B:225:ASN:OD1	0.65	2.14	11	11
1:B:195:ARG:CB	1:B:526:SER:OG	0.65	2.44	11	1
1:A:10:GLY:O	1:A:222:ALA:HB3	0.65	1.92	11	11
1:B:10:GLY:O	1:B:222:ALA:HB3	0.64	1.92	2	11
1:B:77:ILE:HD13	1:B:77:ILE:H	0.64	1.52	2	11
1:A:195:ARG:HB3	1:A:526:SER:OG	0.64	1.93	11	1
1:A:77:ILE:HD13	1:A:77:ILE:H	0.64	1.52	3	11
1:A:221:ASP:N	1:A:221:ASP:OD1	0.64	2.28	5	1
1:A:21:GLU:O	1:A:22:ASP:C	0.64	2.41	11	1
1:A:195:ARG:C	1:A:526:SER:OG	0.64	2.40	11	1
1:B:223:VAL:HG21	1:B:242:VAL:CG1	0.64	2.16	4	11
1:A:318:LYS:NZ	1:A:383:PHE:CD2	0.64	2.66	11	1
1:A:165:PRO:CG	1:A:340:LYS:HA	0.63	2.23	11	1
1:B:20:LYS:O	1:B:21:GLU:C	0.63	2.41	6	11
1:B:318:LYS:NZ	1:B:383:PHE:CE1	0.63	2.67	1	10
1:B:318:LYS:NZ	1:B:383:PHE:CD2	0.63	2.66	11	1
1:A:397:GLU:OE2	1:B:557:THR:HG23	0.63	1.93	2	11
1:A:189:HIS:CE1	1:A:339:ASP:OD1	0.63	2.52	11	1
1:A:318:LYS:NZ	1:A:383:PHE:CE1	0.63	2.67	1	10
1:B:295:TYR:CD2	1:B:331:VAL:HG13	0.62	2.29	8	11
1:A:295:TYR:CD2	1:A:331:VAL:HG13	0.62	2.29	4	11
1:A:469:MET:SD	1:B:357:TRP:CE3	0.62	2.92	2	9
1:B:90:ILE:HD12	1:B:91:ALA:N	0.62	2.09	7	11
1:B:318:LYS:NZ	1:B:383:PHE:CD1	0.62	2.67	4	10
1:A:205:THR:CG2	1:A:208:VAL:H	0.62	2.08	4	11
1:A:74:GLU:C	1:A:74:GLU:CD	0.62	2.68	7	11
1:A:318:LYS:NZ	1:A:383:PHE:CD1	0.62	2.67	2	10
1:B:221:ASP:OD2	1:B:224:ASN:ND2	0.62	2.32	4	4

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:318:LYS:NZ	1:B:383:PHE:CE2	0.62	2.68	11	1
1:A:469:MET:SD	1:B:357:TRP:CD2	0.61	2.93	9	9
1:B:74:GLU:CD	1:B:74:GLU:C	0.61	2.68	11	11
1:A:230:ASN:N	1:A:231:PRO:CD	0.61	2.63	7	11
1:B:205:THR:CG2	1:B:208:VAL:H	0.61	2.08	11	11
1:B:260:PRO:O	1:B:261:ALA:HB3	0.61	1.96	7	1
1:A:318:LYS:NZ	1:A:383:PHE:CE2	0.61	2.68	11	1
1:A:189:HIS:CE1	1:A:340:LYS:CG	0.61	2.83	11	1
1:B:186:ARG:HH12	1:B:465:ARG:HH21	0.61	1.38	11	1
1:A:54:LEU:CD2	1:A:77:ILE:HG13	0.61	2.25	7	11
1:B:54:LEU:CD2	1:B:77:ILE:HG13	0.61	2.25	11	11
1:A:357:TRP:CE3	1:B:469:MET:SD	0.61	2.94	10	9
1:B:145:LYS:H	1:B:145:LYS:CD	0.60	2.09	7	11
1:A:184:GLY:HA2	1:A:468:ASP:N	0.60	2.10	11	1
1:A:198:GLU:CG	1:A:198:GLU:O	0.60	2.49	11	1
1:B:228:TYR:CD2	1:B:235:VAL:CG1	0.60	2.85	1	11
1:A:26:ILE:CG2	1:A:102:ALA:HB2	0.60	2.27	11	11
1:B:189:HIS:CD2	1:B:340:LYS:HB3	0.60	2.32	11	1
1:B:195:ARG:C	1:B:526:SER:OG	0.60	2.44	11	1
1:B:198:GLU:CG	1:B:198:GLU:O	0.60	2.49	11	1
1:A:357:TRP:CD2	1:B:469:MET:SD	0.60	2.95	1	9
1:A:345:MET:CE	1:A:366:ARG:NH1	0.60	2.65	5	8
1:B:13:PHE:N	1:B:13:PHE:CD1	0.60	2.68	8	5
1:B:189:HIS:CG	1:B:340:LYS:HB3	0.60	2.31	11	1
1:A:54:LEU:C	1:A:54:LEU:CD1	0.59	2.75	3	11
1:B:189:HIS:CE1	1:B:340:LYS:CG	0.59	2.85	11	1
1:A:260:PRO:O	1:A:262:ILE:HG13	0.59	1.97	4	3
1:B:54:LEU:C	1:B:54:LEU:CD1	0.59	2.75	3	11
1:B:67:GLU:H	1:B:67:GLU:CD	0.59	2.06	5	11
1:A:224:ASN:C	1:A:224:ASN:OD1	0.59	2.45	5	9
1:A:260:PRO:O	1:A:261:ALA:HB3	0.59	1.96	7	2
1:A:528:ILE:C	1:A:528:ILE:HD13	0.58	2.23	11	1
1:B:189:HIS:ND1	1:B:340:LYS:HB3	0.58	2.12	11	1
1:B:221:ASP:CG	1:B:239:MET:HE2	0.58	2.23	2	1
1:A:67:GLU:CD	1:A:67:GLU:H	0.58	2.06	5	10
1:B:298:GLU:CD	1:B:298:GLU:H	0.58	2.05	11	4
1:A:198:GLU:CB	1:A:528:ILE:HB	0.58	2.28	11	1
1:A:453:THR:HG21	1:A:505:LEU:HD12	0.58	1.75	9	11
1:A:133:ILE:CG2	1:A:134:GLY:N	0.58	2.67	1	11
1:B:230:ASN:N	1:B:231:PRO:CD	0.58	2.67	11	11
1:B:219:ILE:HD11	1:B:236:ILE:HG12	0.58	1.75	5	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:240:ARG:HH11	1:A:243:GLN:NE2	0.58	1.96	11	2
1:A:146:ILE:H	1:A:146:ILE:CD1	0.58	2.07	11	4
1:A:557:THR:HG23	1:B:397:GLU:OE2	0.58	1.98	8	11
1:B:205:THR:HG21	1:B:208:VAL:HG12	0.58	1.76	10	11
1:A:89:ILE:CG2	1:A:90:ILE:N	0.57	2.68	2	11
1:B:133:ILE:CG2	1:B:134:GLY:N	0.57	2.67	2	11
1:B:179:PHE:CZ	1:B:181:THR:OG1	0.57	2.57	4	11
1:A:205:THR:HG21	1:A:208:VAL:HG12	0.57	1.76	7	11
1:A:394:ILE:CD1	1:A:432:THR:HG21	0.57	2.30	5	11
1:B:89:ILE:CG2	1:B:90:ILE:N	0.57	2.68	8	11
1:A:195:ARG:CB	1:A:526:SER:OG	0.57	2.53	11	1
1:A:74:GLU:HG3	1:A:75:GLY:N	0.57	2.15	11	11
1:A:27:ASP:O	1:A:99:THR:CG2	0.57	2.53	4	11
1:B:74:GLU:HG3	1:B:75:GLY:N	0.57	2.15	9	11
1:B:260:PRO:O	1:B:262:ILE:N	0.57	2.38	6	3
1:A:278:VAL:HG23	1:A:279:ARG:N	0.56	2.15	3	10
1:B:13:PHE:CD2	1:B:219:ILE:HG23	0.56	2.35	5	4
1:A:136:ARG:CD	1:A:139:ARG:HH21	0.56	2.14	4	10
1:B:189:HIS:CE1	1:B:339:ASP:OD1	0.56	2.59	11	1
1:A:179:PHE:CZ	1:A:181:THR:OG1	0.56	2.57	11	11
1:B:11:ILE:HG21	1:B:243:GLN:N	0.56	2.15	7	11
1:B:278:VAL:HG23	1:B:279:ARG:N	0.56	2.15	6	11
1:B:345:MET:CE	1:B:366:ARG:NH1	0.56	2.68	10	11
1:B:411:GLN:NE2	1:B:414:ARG:HH21	0.56	1.99	9	10
1:B:21:GLU:C	1:B:139:ARG:NH2	0.56	2.64	11	1
1:B:342:LEU:N	1:B:342:LEU:CD1	0.56	2.67	4	1
1:A:123:LEU:CD1	1:A:123:LEU:N	0.56	2.69	7	11
1:A:411:GLN:NE2	1:A:414:ARG:HH21	0.56	1.98	4	10
1:B:11:ILE:HD11	1:B:13:PHE:CE1	0.56	2.36	5	4
1:A:202:ILE:HD11	1:A:205:THR:HB	0.55	1.78	3	11
1:B:54:LEU:HG	1:B:77:ILE:HD12	0.55	1.79	11	11
1:A:186:ARG:HH12	1:A:465:ARG:NH2	0.55	1.98	11	1
1:A:176:VAL:HG13	1:A:176:VAL:O	0.55	2.01	11	11
1:B:73:PHE:O	1:B:77:ILE:CG1	0.55	2.55	1	11
1:B:176:VAL:HG13	1:B:176:VAL:O	0.55	2.01	6	11
1:A:90:ILE:HD12	1:A:91:ALA:N	0.55	2.17	11	11
1:B:123:LEU:CD1	1:B:123:LEU:N	0.55	2.69	5	11
1:A:165:PRO:HG2	1:A:340:LYS:HA	0.55	1.78	11	1
1:A:182:ASP:OD1	1:A:182:ASP:N	0.55	2.40	2	11
1:B:54:LEU:HD13	1:B:55:GLU:CA	0.55	2.32	2	11
1:B:482:LEU:HD12	1:B:561:LEU:HD11	0.55	1.78	1	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:233:ASN:HA	1:B:236:ILE:HD12	0.55	1.78	5	5
1:A:143:GLY:O	1:A:145:LYS:N	0.55	2.39	11	1
1:A:528:ILE:HD13	1:A:528:ILE:O	0.55	2.01	11	1
1:B:186:ARG:NH2	1:B:454:ASN:CG	0.55	2.65	11	1
1:A:27:ASP:O	1:A:99:THR:OG1	0.55	2.20	2	11
1:B:260:PRO:O	1:B:262:ILE:HG13	0.55	2.02	5	1
1:A:221:ASP:OD2	1:A:226:GLN:O	0.55	2.25	10	3
1:A:11:ILE:HG21	1:A:243:GLN:HB2	0.55	1.79	11	11
1:B:298:GLU:HG2	1:B:335:ASP:O	0.55	2.02	4	11
1:B:240:ARG:NH1	1:B:243:GLN:OE1	0.55	2.39	4	5
1:A:189:HIS:CE1	1:A:339:ASP:CG	0.55	2.85	11	1
1:A:54:LEU:HG	1:A:77:ILE:HD12	0.54	1.79	11	11
1:A:225:ASN:O	1:A:225:ASN:ND2	0.54	2.40	11	11
1:B:219:ILE:HD11	1:B:236:ILE:CG1	0.54	2.32	11	5
1:A:298:GLU:HG3	1:A:335:ASP:H	0.54	1.63	4	11
1:A:358:ARG:NH2	1:A:455:ASP:OD2	0.54	2.40	6	11
1:B:67:GLU:CD	1:B:67:GLU:N	0.54	2.66	11	11
1:B:136:ARG:CD	1:B:139:ARG:HH21	0.54	2.15	4	10
1:B:182:ASP:OD1	1:B:182:ASP:N	0.54	2.40	3	11
1:A:73:PHE:O	1:A:77:ILE:CG1	0.54	2.55	11	11
1:A:86:GLU:O	1:A:90:ILE:CG1	0.54	2.55	6	11
1:B:54:LEU:O	1:B:57:ILE:HG12	0.54	2.03	11	11
1:B:298:GLU:HG3	1:B:335:ASP:H	0.54	1.63	11	11
1:A:67:GLU:CD	1:A:67:GLU:N	0.54	2.65	5	10
1:A:193:MET:SD	1:A:193:MET:C	0.54	2.91	7	11
1:B:432:THR:CG2	1:B:434:ALA:HB3	0.54	2.31	2	9
1:A:11:ILE:CD1	1:A:13:PHE:CE1	0.54	2.89	4	11
1:A:123:LEU:N	1:A:123:LEU:HD12	0.54	2.18	1	11
1:B:193:MET:SD	1:B:193:MET:C	0.54	2.90	3	11
1:A:184:GLY:HA2	1:A:468:ASP:H	0.54	1.62	11	1
1:A:432:THR:CG2	1:A:434:ALA:HB3	0.54	2.32	1	11
1:A:189:HIS:CD2	1:A:340:LYS:HB3	0.54	2.32	11	1
1:B:225:ASN:O	1:B:225:ASN:ND2	0.53	2.40	1	11
1:A:11:ILE:CG1	1:A:243:GLN:HB2	0.53	2.31	2	11
1:A:414:ARG:NH1	1:A:422:GLU:OE1	0.53	2.41	1	10
1:B:123:LEU:N	1:B:123:LEU:HD12	0.53	2.18	3	11
1:A:54:LEU:O	1:A:57:ILE:HG12	0.53	2.03	6	11
1:A:394:ILE:HG13	1:A:432:THR:HG21	0.53	1.78	1	11
1:B:172:ASN:O	1:B:176:VAL:HG12	0.53	2.04	11	11
1:B:202:ILE:HD11	1:B:205:THR:HB	0.53	1.78	11	11
1:A:254:ALA:O	1:A:255:LYS:C	0.53	2.50	2	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:278:VAL:CG2	1:A:279:ARG:N	0.53	2.70	2	9
1:B:11:ILE:HG21	1:B:243:GLN:CB	0.53	2.31	11	11
1:B:186:ARG:HH12	1:B:465:ARG:NH2	0.53	2.00	11	1
1:B:186:ARG:NH1	1:B:465:ARG:HE	0.53	2.01	11	1
1:B:54:LEU:HG	1:B:77:ILE:CD1	0.53	2.34	3	11
1:B:20:LYS:C	1:B:22:ASP:N	0.53	2.66	11	1
1:A:172:ASN:O	1:A:176:VAL:HG12	0.53	2.04	3	11
1:B:67:GLU:N	1:B:67:GLU:OE1	0.53	2.42	4	11
1:B:358:ARG:NH2	1:B:455:ASP:OD2	0.53	2.41	7	11
1:B:224:ASN:OD1	1:B:224:ASN:C	0.53	2.52	7	9
1:A:54:LEU:HD13	1:A:55:GLU:CA	0.53	2.32	7	11
1:B:221:ASP:C	1:B:223:VAL:N	0.53	2.66	6	11
1:A:221:ASP:OD2	1:A:224:ASN:OD1	0.53	2.27	2	2
1:B:125:GLU:OE2	1:B:346:ASN:ND2	0.53	2.42	11	1
1:A:54:LEU:HD21	1:A:77:ILE:CG1	0.52	2.34	7	11
1:A:238:LYS:O	1:A:242:VAL:HG23	0.52	2.05	2	11
1:B:278:VAL:CG2	1:B:279:ARG:N	0.52	2.71	1	11
1:A:54:LEU:HG	1:A:77:ILE:CD1	0.52	2.34	11	11
1:B:455:ASP:OD1	1:B:458:GLN:NE2	0.52	2.42	11	1
1:A:67:GLU:N	1:A:67:GLU:OE1	0.52	2.43	6	3
1:B:22:ASP:OD2	1:B:145:LYS:NZ	0.52	2.41	7	2
1:A:145:LYS:C	1:A:147:ILE:N	0.52	2.66	11	1
1:A:186:ARG:NH1	1:A:465:ARG:HE	0.52	2.01	11	1
1:A:20:LYS:C	1:A:22:ASP:H	0.52	2.13	3	11
1:A:24:ILE:HD13	1:A:138:LEU:CB	0.52	2.35	10	4
1:A:298:GLU:H	1:A:298:GLU:CD	0.52	2.13	11	3
1:B:11:ILE:CG2	1:B:243:GLN:CB	0.52	2.88	5	11
1:B:188:SER:O	1:B:191:SER:OG	0.52	2.28	11	8
1:A:145:LYS:C	1:A:147:ILE:H	0.52	2.13	11	1
1:A:20:LYS:C	1:A:22:ASP:N	0.52	2.68	7	11
1:A:221:ASP:C	1:A:223:VAL:N	0.52	2.66	6	11
1:B:540:THR:HG22	1:B:541:ASN:N	0.52	2.19	10	11
1:A:540:THR:HG22	1:A:541:ASN:N	0.52	2.20	3	11
1:A:458:GLN:NE2	1:A:459:TYR:CZ	0.52	2.78	11	1
1:A:54:LEU:CG	1:A:77:ILE:HG13	0.51	2.36	1	11
1:A:79:LEU:HD13	1:A:79:LEU:O	0.51	2.05	6	11
1:A:89:ILE:HD13	1:A:89:ILE:O	0.51	2.05	11	11
1:A:202:ILE:HD13	1:A:202:ILE:C	0.51	2.30	5	11
1:B:202:ILE:HD13	1:B:202:ILE:C	0.51	2.30	6	11
1:B:218:LEU:C	1:B:219:ILE:HD12	0.51	2.31	4	5
1:A:262:ILE:HG22	1:A:263:THR:O	0.51	2.04	4	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:147:ILE:O	1:B:147:ILE:CG2	0.51	2.51	11	11
1:B:221:ASP:CB	1:B:224:ASN:OD1	0.51	2.58	5	5
1:B:54:LEU:CG	1:B:77:ILE:HG13	0.51	2.36	11	11
1:A:342:LEU:N	1:A:342:LEU:CD1	0.51	2.72	10	11
1:B:35:GLN:C	1:B:37:ASP:N	0.51	2.68	7	11
1:B:54:LEU:HD21	1:B:77:ILE:CG1	0.51	2.34	11	11
1:B:79:LEU:HD13	1:B:79:LEU:O	0.51	2.06	11	11
1:A:67:GLU:OE2	1:A:68:GLU:N	0.51	2.44	4	7
1:A:8:SER:OG	1:A:199:LEU:O	0.51	2.28	11	11
1:A:205:THR:CG2	1:A:206:GLY:N	0.51	2.74	1	11
1:A:224:ASN:OD1	1:A:226:GLN:N	0.51	2.43	5	9
1:B:363:ALA:HB1	1:B:370:LEU:HB2	0.51	1.81	1	11
1:B:186:ARG:NH1	1:B:465:ARG:HH21	0.51	2.03	11	1
1:A:13:PHE:CD2	1:A:219:ILE:HG23	0.51	2.40	2	11
1:A:221:ASP:CB	1:A:224:ASN:OD1	0.51	2.59	4	7
1:B:89:ILE:HD13	1:B:89:ILE:O	0.51	2.06	7	11
1:A:363:ALA:HB1	1:A:370:LEU:HB2	0.50	1.81	1	11
1:A:221:ASP:CG	1:A:224:ASN:HD21	0.50	2.13	2	2
1:A:482:LEU:HD12	1:A:561:LEU:HD11	0.50	1.82	2	11
1:A:260:PRO:O	1:A:261:ALA:CB	0.50	2.60	7	2
1:A:3:SER:OG	1:A:225:ASN:ND2	0.50	2.45	1	11
1:B:334:MET:SD	1:B:334:MET:O	0.50	2.69	4	1
1:A:304:ARG:HH12	1:A:312:GLU:CD	0.50	2.14	11	1
1:A:53:GLN:O	1:A:57:ILE:HG23	0.50	2.06	4	11
1:A:205:THR:HG22	1:A:206:GLY:N	0.50	2.22	8	11
1:B:53:GLN:O	1:B:57:ILE:HG23	0.50	2.06	2	11
1:A:221:ASP:CG	1:A:239:MET:SD	0.50	2.95	4	2
1:B:21:GLU:O	1:B:22:ASP:C	0.50	2.53	7	11
1:B:205:THR:HG22	1:B:206:GLY:N	0.50	2.22	7	11
1:B:518:MET:HE3	1:B:553:LEU:HD21	0.50	1.84	10	2
1:B:3:SER:OG	1:B:225:ASN:ND2	0.50	2.44	6	11
1:B:205:THR:CG2	1:B:206:GLY:N	0.50	2.74	1	11
1:A:221:ASP:OD1	1:A:239:MET:SD	0.50	2.69	2	2
1:B:223:VAL:HG23	1:B:224:ASN:N	0.49	2.22	7	11
1:B:498:TRP:CB	1:B:521:ASP:OD2	0.49	2.60	3	3
1:A:459:TYR:HB3	1:B:459:TYR:O	0.49	2.07	11	11
1:A:489:ILE:CG2	1:A:493:HIS:NE2	0.49	2.75	6	8
1:B:489:ILE:CG2	1:B:493:HIS:NE2	0.49	2.76	6	8
1:B:186:ARG:HH22	1:B:465:ARG:HH21	0.49	1.50	11	1
1:A:11:ILE:CG2	1:A:243:GLN:HB2	0.49	2.37	3	11
1:B:219:ILE:N	1:B:219:ILE:CD1	0.49	2.75	3	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:22:ASP:CB	1:B:144:LEU:HD13	0.49	2.38	3	9
1:B:486:LYS:NZ	1:B:490:ASP:OD2	0.49	2.42	10	5
1:A:57:ILE:CG1	1:A:58:LYS:N	0.49	2.76	11	11
1:B:74:GLU:CG	1:B:75:GLY:N	0.49	2.76	11	11
1:B:86:GLU:O	1:B:90:ILE:CG1	0.49	2.61	11	11
1:B:221:ASP:O	1:B:223:VAL:HG22	0.49	2.07	4	9
1:A:498:TRP:CB	1:A:521:ASP:OD2	0.49	2.60	3	3
1:A:189:HIS:N	1:A:339:ASP:OD2	0.49	2.45	11	1
1:A:164:THR:CG2	1:A:167:GLU:OE1	0.49	2.60	5	11
1:A:86:GLU:OE1	1:A:87:GLN:NE2	0.49	2.45	6	3
1:A:186:ARG:NH1	1:A:465:ARG:HH21	0.49	2.03	11	1
1:B:166:SER:OG	1:B:343:PRO:CG	0.49	2.59	11	1
1:B:187:THR:O	1:B:339:ASP:OD2	0.49	2.31	11	1
1:A:57:ILE:HD11	1:A:73:PHE:CD1	0.49	2.43	1	11
1:A:385:LYS:NZ	1:A:387:ARG:NH2	0.49	2.61	1	11
1:B:57:ILE:HD11	1:B:73:PHE:CD1	0.49	2.43	11	11
1:B:202:ILE:C	1:B:202:ILE:CD1	0.49	2.86	1	11
1:B:414:ARG:NH1	1:B:422:GLU:OE1	0.49	2.46	11	9
1:B:394:ILE:HD11	1:B:432:THR:OG1	0.49	2.08	2	9
1:A:224:ASN:ND2	1:A:226:GLN:OE1	0.49	2.45	5	2
1:B:217:TYR:CE2	1:B:219:ILE:HD11	0.49	2.43	1	5
1:B:164:THR:CG2	1:B:167:GLU:OE1	0.49	2.60	11	11
1:B:179:PHE:CE2	1:B:190:THR:HG21	0.49	2.43	11	11
1:A:202:ILE:C	1:A:202:ILE:CD1	0.48	2.86	11	11
1:A:394:ILE:HD11	1:A:432:THR:OG1	0.48	2.08	1	11
1:A:394:ILE:CG1	1:A:432:THR:HG21	0.48	2.38	1	11
1:B:57:ILE:CG1	1:B:58:LYS:N	0.48	2.76	5	11
1:B:513:LEU:HD13	1:B:568:PHE:CD1	0.48	2.43	1	11
1:A:64:THR:HG22	1:A:65:PHE:CE1	0.48	2.43	11	1
1:A:528:ILE:O	1:A:528:ILE:CG1	0.48	2.61	11	1
1:A:179:PHE:CE2	1:A:190:THR:HG21	0.48	2.43	11	11
1:B:147:ILE:O	1:B:148:ASP:C	0.48	2.53	11	11
1:B:186:ARG:CZ	1:B:454:ASN:OD1	0.48	2.61	11	1
1:A:221:ASP:OD1	1:A:226:GLN:O	0.48	2.31	5	1
1:A:195:ARG:O	1:A:526:SER:HB3	0.48	2.08	11	1
1:A:74:GLU:CG	1:A:75:GLY:N	0.48	2.76	11	11
1:A:139:ARG:CZ	1:A:146:ILE:HG23	0.48	2.38	1	8
1:A:145:LYS:O	1:A:147:ILE:N	0.48	2.42	11	1
1:A:198:GLU:O	1:A:199:LEU:HD12	0.48	2.09	11	11
1:A:228:TYR:CD2	1:A:235:VAL:CG1	0.48	2.96	5	5
1:A:67:GLU:OE1	1:A:68:GLU:N	0.48	2.47	8	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:188:SER:O	1:A:191:SER:OG	0.48	2.28	10	11
1:A:11:ILE:CG2	1:A:243:GLN:CB	0.48	2.91	9	11
1:A:10:GLY:O	1:A:221:ASP:O	0.48	2.32	3	11
1:B:145:LYS:H	1:B:145:LYS:CE	0.48	2.22	7	2
1:A:49:LYS:O	1:A:50:ALA:C	0.48	2.57	6	11
1:B:198:GLU:O	1:B:199:LEU:HD12	0.48	2.09	10	11
1:A:271:VAL:N	1:A:290:GLU:OE1	0.48	2.45	5	1
1:A:158:LEU:O	1:A:180:ILE:HG23	0.48	2.09	8	11
1:A:513:LEU:HD13	1:A:568:PHE:CD1	0.48	2.43	1	11
1:A:146:ILE:HD12	1:A:146:ILE:N	0.48	2.20	11	1
1:B:10:GLY:O	1:B:221:ASP:O	0.47	2.32	1	11
1:B:22:ASP:CB	1:B:144:LEU:HD22	0.47	2.39	1	8
1:A:165:PRO:HB2	1:A:341:GLU:O	0.47	2.09	11	1
1:B:186:ARG:CZ	1:B:454:ASN:CG	0.47	2.87	11	1
1:B:198:GLU:HB3	1:B:528:ILE:HB	0.47	1.83	11	1
1:B:182:ASP:OD2	1:B:209:THR:CG2	0.47	2.62	1	11
1:B:221:ASP:OD1	1:B:226:GLN:O	0.47	2.32	4	2
1:B:335:ASP:O	1:B:340:LYS:NZ	0.47	2.40	11	1
1:B:158:LEU:O	1:B:180:ILE:HG23	0.47	2.10	1	11
1:B:393:ILE:C	1:B:394:ILE:HD12	0.47	2.35	1	2
1:A:128:ALA:CB	1:A:346:ASN:ND2	0.47	2.77	11	1
1:B:20:LYS:O	1:B:22:ASP:CA	0.47	2.62	11	1
1:B:198:GLU:HB2	1:B:528:ILE:HB	0.47	1.83	11	1
1:A:126:ARG:O	1:A:130:VAL:HG13	0.47	2.10	1	11
1:A:182:ASP:OD2	1:A:209:THR:CG2	0.47	2.63	1	11
1:B:126:ARG:O	1:B:130:VAL:HG13	0.47	2.10	11	11
1:B:190:THR:O	1:B:193:MET:HG3	0.47	2.10	6	11
1:A:130:VAL:CG2	1:A:131:ARG:N	0.47	2.78	11	11
1:B:130:VAL:CG2	1:B:131:ARG:N	0.47	2.77	7	11
1:A:486:LYS:NZ	1:A:490:ASP:OD2	0.47	2.43	7	1
1:A:24:ILE:HD13	1:A:138:LEU:HB3	0.47	1.86	10	2
1:A:459:TYR:O	1:B:459:TYR:HB3	0.47	2.10	1	11
1:B:49:LYS:O	1:B:50:ALA:C	0.47	2.57	11	11
1:B:260:PRO:O	1:B:261:ALA:CB	0.47	2.59	7	1
1:A:458:GLN:NE2	1:A:459:TYR:CE1	0.47	2.82	11	1
1:A:13:PHE:CD1	1:A:13:PHE:N	0.47	2.83	11	11
1:B:202:ILE:HG12	1:B:203:VAL:N	0.47	2.25	8	11
1:B:221:ASP:O	1:B:223:VAL:N	0.47	2.48	11	11
1:B:221:ASP:CG	1:B:224:ASN:HD21	0.47	2.17	3	1
1:A:221:ASP:O	1:A:223:VAL:N	0.47	2.48	11	11
1:B:219:ILE:HD12	1:B:231:PRO:HG3	0.47	1.86	5	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:528:ILE:O	1:A:528:ILE:CD1	0.47	2.63	11	1
1:B:187:THR:HA	1:B:465:ARG:NE	0.47	2.25	11	1
1:A:27:ASP:O	1:A:99:THR:HG21	0.46	2.10	7	11
1:B:219:ILE:CD1	1:B:236:ILE:CG1	0.46	2.93	11	5
1:B:195:ARG:O	1:B:526:SER:HB3	0.46	2.10	11	1
1:B:80:LEU:HD13	1:B:137:LEU:HD11	0.46	1.88	11	11
1:B:133:ILE:HG23	1:B:134:GLY:N	0.46	2.25	1	11
1:A:11:ILE:CD1	1:A:11:ILE:C	0.46	2.89	2	2
1:B:219:ILE:CD1	1:B:236:ILE:HG12	0.46	2.40	9	5
1:B:192:ILE:CD1	1:B:296:ARG:CZ	0.46	2.92	11	1
1:A:80:LEU:HD13	1:A:137:LEU:HD11	0.46	1.87	3	11
1:A:133:ILE:HG23	1:A:134:GLY:N	0.46	2.25	3	11
1:A:186:ARG:CZ	1:A:454:ASN:CG	0.46	2.88	11	1
1:B:196:SER:N	1:B:526:SER:OG	0.46	2.49	11	1
1:A:11:ILE:CG2	1:A:243:GLN:CA	0.46	2.80	11	7
1:A:86:GLU:O	1:A:90:ILE:HG12	0.46	2.11	6	11
1:A:190:THR:O	1:A:193:MET:HG3	0.46	2.11	3	11
1:A:5:ILE:O	1:A:6:LEU:O	0.46	2.34	11	11
1:A:21:GLU:C	1:A:21:GLU:CD	0.46	2.83	5	11
1:B:224:ASN:OD1	1:B:226:GLN:N	0.46	2.48	6	9
1:B:5:ILE:O	1:B:6:LEU:O	0.46	2.34	1	11
1:B:8:SER:OG	1:B:199:LEU:O	0.46	2.27	1	11
1:B:87:GLN:O	1:B:90:ILE:HG13	0.46	2.11	4	11
1:A:57:ILE:HG12	1:A:58:LYS:N	0.46	2.26	11	11
1:B:67:GLU:OE1	1:B:68:GLU:N	0.46	2.49	1	11
1:A:202:ILE:HG12	1:A:203:VAL:N	0.46	2.25	7	11
1:A:198:GLU:HG3	1:A:198:GLU:O	0.46	2.10	11	1
1:B:453:THR:HG21	1:B:505:LEU:HD12	0.46	1.88	3	11
1:B:224:ASN:HD21	1:B:239:MET:HE2	0.46	1.71	4	1
1:B:198:GLU:HG3	1:B:198:GLU:O	0.46	2.11	11	1
1:A:35:GLN:O	1:A:38:GLN:N	0.46	2.49	11	11
1:B:57:ILE:HG12	1:B:58:LYS:N	0.46	2.26	3	11
1:B:146:ILE:N	1:B:146:ILE:HD12	0.46	2.26	1	1
1:B:262:ILE:HG22	1:B:263:THR:O	0.46	2.11	6	11
1:A:239:MET:SD	1:A:239:MET:N	0.46	2.88	5	1
1:A:87:GLN:O	1:A:90:ILE:HG13	0.45	2.12	11	11
1:B:50:ALA:O	1:B:54:LEU:HB3	0.45	2.12	4	11
1:A:345:MET:CE	1:A:366:ARG:HH12	0.45	2.24	5	1
1:A:165:PRO:HG3	1:A:340:LYS:HA	0.45	1.88	11	1
1:A:69:LYS:NZ	1:A:306:ALA:HB3	0.45	2.26	11	1
1:B:165:PRO:HG3	1:B:189:HIS:CD2	0.45	2.46	11	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:298:GLU:O	1:A:301:PHE:HB2	0.45	2.12	3	11
1:B:186:ARG:C	1:B:188:SER:H	0.45	2.20	11	11
1:B:228:TYR:CG	1:B:235:VAL:CG1	0.45	2.99	11	11
1:A:298:GLU:HG2	1:A:335:ASP:O	0.45	2.11	4	11
1:B:367:ARG:O	1:B:368:GLU:C	0.45	2.60	1	11
1:A:260:PRO:O	1:A:261:ALA:C	0.45	2.60	1	2
1:B:221:ASP:OD2	1:B:226:GLN:O	0.45	2.34	11	7
1:A:198:GLU:O	1:A:198:GLU:CD	0.45	2.60	11	1
1:B:298:GLU:O	1:B:301:PHE:HB2	0.45	2.12	1	11
1:A:67:GLU:N	1:A:67:GLU:OE2	0.45	2.50	9	6
1:A:50:ALA:O	1:A:54:LEU:HB3	0.45	2.12	11	11
1:A:221:ASP:OD2	1:A:226:GLN:HB2	0.45	2.12	1	5
1:A:22:ASP:HB3	1:A:144:LEU:HD22	0.45	1.88	11	1
1:A:189:HIS:NE2	1:A:339:ASP:CG	0.45	2.75	11	1
1:B:339:ASP:OD1	1:B:354:PHE:CZ	0.45	2.69	11	1
1:A:145:LYS:HD3	1:A:145:LYS:N	0.45	2.27	6	2
1:B:63:GLU:CD	1:B:63:GLU:C	0.45	2.85	8	11
1:B:221:ASP:OD2	1:B:226:GLN:HB2	0.45	2.12	3	2
1:A:345:MET:HE2	1:A:347:PHE:CZ	0.45	2.47	7	2
1:A:179:PHE:CE2	1:A:190:THR:CG2	0.45	3.00	11	11
1:A:235:VAL:C	1:A:237:ASP:N	0.45	2.75	11	11
1:B:53:GLN:HE22	1:B:146:ILE:HD13	0.45	1.71	1	1
1:B:179:PHE:CE2	1:B:190:THR:CG2	0.45	3.00	11	11
1:B:221:ASP:C	1:B:223:VAL:H	0.45	2.19	6	11
1:B:522:GLU:OE1	1:B:522:GLU:O	0.45	2.35	2	6
1:B:260:PRO:O	1:B:290:GLU:OE2	0.45	2.35	7	1
1:A:63:GLU:C	1:A:63:GLU:CD	0.44	2.84	11	11
1:B:265:ASP:OD2	1:B:541:ASN:OD1	0.44	2.35	3	11
1:A:240:ARG:NH1	1:A:243:GLN:NE2	0.44	2.65	3	1
1:B:260:PRO:O	1:B:261:ALA:C	0.44	2.60	5	1
1:A:186:ARG:C	1:A:188:SER:H	0.44	2.20	11	11
1:A:221:ASP:C	1:A:223:VAL:H	0.44	2.19	1	11
1:A:228:TYR:CD1	1:A:235:VAL:HG11	0.44	2.47	3	7
1:B:21:GLU:O	1:B:139:ARG:NH2	0.44	2.51	11	1
1:B:204:GLY:O	1:B:205:THR:C	0.44	2.60	6	11
1:B:214:ASN:OD1	1:B:214:ASN:O	0.44	2.35	3	11
1:B:221:ASP:OD2	1:B:224:ASN:OD1	0.44	2.36	5	2
1:A:205:THR:HG21	1:A:208:VAL:CG1	0.44	2.43	5	11
1:A:228:TYR:CD2	1:A:235:VAL:HG11	0.44	2.47	5	1
1:A:214:ASN:OD1	1:A:214:ASN:O	0.44	2.36	6	11
1:B:205:THR:HG23	1:B:208:VAL:H	0.44	1.71	3	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:198:GLU:O	1:B:198:GLU:CD	0.44	2.61	11	1
1:B:393:ILE:O	1:B:394:ILE:HD12	0.44	2.12	1	2
1:A:115:LEU:O	1:A:118:LEU:HB2	0.44	2.13	9	11
1:A:186:ARG:C	1:A:188:SER:N	0.44	2.76	7	11
1:A:367:ARG:O	1:A:368:GLU:C	0.44	2.60	1	11
1:A:522:GLU:C	1:A:522:GLU:OE1	0.44	2.60	9	4
1:B:522:GLU:OE1	1:B:522:GLU:C	0.44	2.60	1	11
1:A:20:LYS:O	1:A:22:ASP:N	0.44	2.51	11	1
1:A:86:GLU:C	1:A:86:GLU:CD	0.44	2.86	6	11
1:A:205:THR:HG23	1:A:208:VAL:H	0.44	1.72	1	11
1:A:221:ASP:HA	1:A:239:MET:CE	0.44	2.43	4	2
1:B:290:GLU:C	1:B:327:GLN:OE1	0.44	2.61	6	2
1:A:204:GLY:O	1:A:205:THR:C	0.43	2.60	3	11
1:A:290:GLU:C	1:A:327:GLN:OE1	0.43	2.61	6	2
1:A:196:SER:N	1:A:526:SER:OG	0.43	2.50	11	1
1:A:339:ASP:OD1	1:A:339:ASP:N	0.43	2.50	11	1
1:B:138:LEU:N	1:B:138:LEU:CD2	0.43	2.81	6	11
1:B:186:ARG:C	1:B:188:SER:N	0.43	2.76	6	11
1:B:461:LEU:CD1	1:B:475:GLN:H	0.43	2.26	2	11
1:B:198:GLU:HB2	1:B:528:ILE:HD12	0.43	1.89	11	1
1:A:182:ASP:O	1:A:183:ALA:O	0.43	2.37	3	11
1:B:492:SER:OG	1:B:498:TRP:C	0.43	2.62	5	11
1:B:486:LYS:HD2	1:B:553:LEU:HD13	0.43	1.90	11	2
1:A:492:SER:OG	1:A:498:TRP:C	0.43	2.62	4	11
1:B:86:GLU:C	1:B:86:GLU:CD	0.43	2.86	2	11
1:B:115:LEU:O	1:B:118:LEU:HB2	0.43	2.13	3	11
1:B:305:ASP:CG	1:B:305:ASP:O	0.43	2.62	4	11
1:A:522:GLU:O	1:A:522:GLU:OE1	0.43	2.35	2	7
1:A:54:LEU:CD2	1:A:77:ILE:CG1	0.43	2.96	6	8
1:B:47:ARG:NH2	1:B:80:LEU:HD11	0.43	2.28	7	11
1:B:297:THR:HG23	1:B:332:ARG:O	0.43	2.14	1	11
1:A:277:THR:O	1:A:278:VAL:C	0.43	2.62	1	11
1:B:116:GLU:C	1:B:116:GLU:CD	0.43	2.87	11	11
1:B:205:THR:HG21	1:B:208:VAL:CG1	0.43	2.43	11	11
1:A:233:ASN:O	1:A:237:ASP:OD2	0.43	2.37	7	2
1:A:522:GLU:OE1	1:A:522:GLU:O	0.43	2.35	7	1
1:A:128:ALA:HB1	1:A:346:ASN:ND2	0.43	2.28	11	1
1:A:192:ILE:CD1	1:A:296:ARG:CZ	0.43	2.95	11	1
1:A:193:MET:HG3	1:A:194:ALA:N	0.43	2.29	1	11
1:A:522:GLU:OE1	1:A:522:GLU:C	0.43	2.61	2	7
1:A:92:LEU:O	1:A:96:LYS:N	0.43	2.50	11	9

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:A:116:GLU:C	1:A:116:GLU:CD	0.43	2.87	5	11
1:B:385:LYS:NZ	1:B:387:ARG:NH2	0.43	2.66	1	11
1:B:145:LYS:H	1:B:145:LYS:HD3	0.43	1.73	6	2
1:B:454:ASN:HA	1:B:474:TYR:OH	0.43	2.14	11	1
1:A:138:LEU:N	1:A:138:LEU:CD2	0.43	2.82	7	10
1:A:448:PHE:CG	1:A:498:TRP:CH2	0.43	3.07	4	11
1:B:92:LEU:O	1:B:96:LYS:N	0.43	2.50	11	11
1:A:558:THR:O	1:A:559:ASP:C	0.43	2.62	1	11
1:B:193:MET:HG3	1:B:194:ALA:N	0.43	2.29	3	11
1:B:448:PHE:CG	1:B:498:TRP:CH2	0.43	3.07	3	11
1:B:186:ARG:HH12	1:B:465:ARG:HE	0.43	1.55	11	1
1:A:8:SER:CB	1:A:199:LEU:O	0.42	2.67	11	11
1:A:47:ARG:NH2	1:A:80:LEU:HD11	0.42	2.29	11	11
1:A:301:PHE:HB3	1:A:342:LEU:HD23	0.42	1.91	9	8
1:B:182:ASP:O	1:B:183:ALA:O	0.42	2.37	8	11
1:A:339:ASP:OD1	1:A:354:PHE:CZ	0.42	2.71	11	1
1:B:54:LEU:CD2	1:B:77:ILE:CG1	0.42	2.96	7	11
1:A:181:THR:O	1:A:203:VAL:C	0.42	2.63	2	11
1:A:305:ASP:O	1:A:305:ASP:CG	0.42	2.61	6	11
1:A:283:GLY:O	1:A:287:ASN:ND2	0.42	2.51	6	4
1:A:208:VAL:CG1	1:A:209:THR:N	0.42	2.83	7	11
1:A:297:THR:HG23	1:A:332:ARG:O	0.42	2.13	1	11
1:A:139:ARG:NH2	1:A:146:ILE:CG2	0.42	2.83	5	5
1:A:385:LYS:HZ3	1:A:387:ARG:NH2	0.42	2.13	10	3
1:A:64:THR:CG2	1:A:65:PHE:CE1	0.42	3.03	11	1
1:B:21:GLU:CB	1:B:139:ARG:NH2	0.42	2.83	11	1
1:A:378:LEU:O	1:A:381:SER:OG	0.42	2.34	1	11
1:B:181:THR:O	1:B:203:VAL:C	0.42	2.63	11	11
1:B:277:THR:O	1:B:278:VAL:C	0.42	2.62	1	11
1:A:461:LEU:CD1	1:A:475:GLN:H	0.42	2.28	1	11
1:B:8:SER:CB	1:B:199:LEU:O	0.42	2.68	1	11
1:A:146:ILE:N	1:A:146:ILE:CD1	0.42	2.81	11	1
1:A:260:PRO:O	1:A:538:ARG:NH1	0.42	2.52	11	1
1:A:95:ASP:OD1	1:A:95:ASP:C	0.42	2.62	11	11
1:B:179:PHE:O	1:B:201:ALA:HB1	0.42	2.15	6	11
1:A:138:LEU:CD2	1:A:138:LEU:N	0.42	2.82	11	1
1:A:187:THR:O	1:A:339:ASP:OD2	0.42	2.37	11	1
1:A:221:ASP:OD1	1:A:239:MET:CE	0.42	2.66	11	1
1:B:22:ASP:OD2	1:B:145:LYS:CE	0.42	2.68	11	1
1:B:186:ARG:HH12	1:B:465:ARG:NE	0.42	2.13	11	1
1:B:18:LEU:HD23	1:B:20:LYS:HE3	0.42	1.91	10	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:22:ASP:HB2	1:B:144:LEU:HD22	0.42	1.91	1	6
1:B:208:VAL:CG1	1:B:209:THR:N	0.42	2.83	11	11
1:B:540:THR:HG22	1:B:541:ASN:O	0.42	2.15	1	11
1:B:186:ARG:NH2	1:B:465:ARG:HH21	0.42	2.11	11	1
1:B:292:VAL:CG1	1:B:329:VAL:HG13	0.41	2.45	2	11
1:B:301:PHE:HB3	1:B:342:LEU:HD23	0.41	1.92	5	9
1:B:342:LEU:HD13	1:B:345:MET:HG2	0.41	1.91	7	2
1:A:3:SER:CB	1:A:225:ASN:ND2	0.41	2.83	11	11
1:A:540:THR:CG2	1:A:541:ASN:N	0.41	2.83	1	11
1:B:235:VAL:O	1:B:239:MET:SD	0.41	2.78	5	1
1:A:147:ILE:HG22	1:A:149:LEU:HD22	0.41	1.92	11	1
1:B:540:THR:CG2	1:B:541:ASN:N	0.41	2.82	10	11
1:B:219:ILE:HD13	1:B:231:PRO:HG3	0.41	1.91	3	1
1:A:73:PHE:O	1:A:77:ILE:CD1	0.41	2.69	1	11
1:A:550:GLU:O	1:A:551:GLN:C	0.41	2.62	1	11
1:B:378:LEU:O	1:B:381:SER:OG	0.41	2.34	3	11
1:B:230:ASN:OD1	1:B:230:ASN:O	0.41	2.39	7	2
1:B:3:SER:CB	1:B:225:ASN:ND2	0.41	2.84	11	11
1:B:27:ASP:O	1:B:99:THR:CG2	0.41	2.66	2	10
1:B:90:ILE:CD1	1:B:91:ALA:N	0.41	2.84	6	10
1:A:232:THR:HG21	1:A:234:GLU:OE1	0.41	2.16	7	1
1:B:260:PRO:O	1:B:538:ARG:CG	0.41	2.69	2	1
1:B:492:SER:OG	1:B:498:TRP:CA	0.41	2.69	8	1
1:A:405:GLU:O	1:A:406:ILE:C	0.41	2.62	1	11
1:B:221:ASP:HB2	1:B:224:ASN:OD1	0.41	2.16	5	2
1:A:492:SER:OG	1:A:498:TRP:CA	0.41	2.69	8	1
1:A:233:ASN:OD1	1:A:233:ASN:O	0.41	2.39	11	1
1:A:3:SER:CB	1:A:225:ASN:HD21	0.41	2.28	4	10
1:A:179:PHE:O	1:A:201:ALA:HB1	0.41	2.15	5	11
1:A:455:ASP:O	1:A:458:GLN:HB3	0.41	2.16	6	10
1:B:3:SER:CB	1:B:225:ASN:HD21	0.41	2.28	8	11
1:B:73:PHE:O	1:B:77:ILE:CD1	0.41	2.69	11	7
1:B:470:ILE:O	1:B:471:SER:C	0.41	2.64	1	11
1:A:430:VAL:CG2	1:A:449:PHE:CD1	0.41	3.03	3	3
1:B:177:LEU:N	1:B:177:LEU:CD2	0.41	2.84	2	10
1:B:394:ILE:CD1	1:B:432:THR:OG1	0.41	2.69	2	9
1:A:77:ILE:CD1	1:A:77:ILE:H	0.41	2.22	3	3
1:A:540:THR:HG22	1:A:541:ASN:O	0.41	2.15	7	11
1:B:95:ASP:OD1	1:B:95:ASP:C	0.41	2.62	3	10
1:B:550:GLU:O	1:B:551:GLN:C	0.41	2.62	1	11
1:A:177:LEU:N	1:A:177:LEU:CD2	0.41	2.84	11	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:B:339:ASP:OD1	1:B:339:ASP:N	0.41	2.53	11	1
1:A:302:MET:CE	1:A:341:GLU:O	0.40	2.69	10	8
1:B:130:VAL:HG23	1:B:131:ARG:N	0.40	2.31	5	11
1:B:352:ASN:O	1:B:353:PRO:C	0.40	2.63	1	11
1:B:430:VAL:CG2	1:B:449:PHE:CD1	0.40	3.05	6	11
1:A:221:ASP:OD2	1:A:224:ASN:CG	0.40	2.63	4	2
1:B:336:ILE:HG21	1:B:342:LEU:HD11	0.40	1.93	3	1
1:A:221:ASP:C	1:A:223:VAL:HG22	0.40	2.40	4	4
1:A:145:LYS:HB3	1:A:147:ILE:HD11	0.40	1.93	9	1
1:B:118:LEU:N	1:B:118:LEU:CD2	0.40	2.85	1	10
1:B:275:ILE:HG22	1:B:280:ASP:HB3	0.40	1.92	6	3
1:A:118:LEU:N	1:A:118:LEU:CD2	0.40	2.85	3	9
1:A:130:VAL:HG23	1:A:131:ARG:N	0.40	2.32	1	8
1:A:394:ILE:CD1	1:A:432:THR:OG1	0.40	2.69	2	11
1:B:307:LEU:C	1:B:307:LEU:HD23	0.40	2.42	3	4
1:B:302:MET:CE	1:B:341:GLU:O	0.40	2.69	4	1
1:A:486:LYS:HD2	1:A:553:LEU:HD13	0.40	1.92	9	1
1:A:19:LEU:HD12	1:A:160:ALA:HB2	0.40	1.93	10	1
1:A:221:ASP:O	1:A:222:ALA:C	0.40	2.65	6	1
1:B:455:ASP:O	1:B:458:GLN:HB3	0.40	2.16	11	1

6.3 Torsion angles ⓘ

6.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all 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	567/575 (99%)	532±1 (94±0%)	30±1 (5±0%)	5±1 (1±0%)	18	68
1	B	567/575 (99%)	535±1 (94±0%)	26±1 (5±0%)	6±1 (1±0%)	15	65
All	All	12474/12650 (99%)	11736 (94%)	624 (5%)	114 (1%)	16	66

All 16 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	11

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Mol	Chain	Res	Type	Models (Total)
1	A	22	ASP	11
1	A	183	ALA	11
1	A	278	VAL	11
1	B	6	LEU	11
1	B	21	GLU	11
1	B	36	VAL	11
1	B	183	ALA	11
1	B	278	VAL	11
1	B	261	ALA	5
1	A	261	ALA	3
1	B	260	PRO	3
1	A	145	LYS	1
1	A	146	ILE	1
1	A	147	ILE	1
1	B	22	ASP	1

6.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all 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	470/476 (99%)	435±2 (93±0%)	35±2 (7±0%)	15	63
1	B	470/476 (99%)	432±2 (92±0%)	38±2 (8±0%)	13	60
All	All	10340/10472 (99%)	9539 (92%)	801 (8%)	14	61

All 93 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	11
1	A	54	LEU	11
1	A	57	ILE	11
1	A	74	GLU	11
1	A	77	ILE	11
1	A	79	LEU	11
1	A	89	ILE	11
1	A	101	ASP	11
1	A	130	VAL	11

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Mol	Chain	Res	Type	Models (Total)
1	A	146	ILE	11
1	A	163	LEU	11
1	A	180	ILE	11
1	A	181	THR	11
1	A	182	ASP	11
1	A	193	MET	11
1	A	202	ILE	11
1	A	205	THR	11
1	A	209	THR	11
1	A	225	ASN	11
1	A	298	GLU	11
1	A	300	LEU	11
1	A	334	MET	11
1	A	342	LEU	11
1	A	394	ILE	11
1	A	405	GLU	11
1	A	432	THR	11
1	A	455	ASP	11
1	A	463	VAL	11
1	A	522	GLU	11
1	A	561	LEU	11
1	A	564	LEU	11
1	B	11	ILE	11
1	B	31	ILE	11
1	B	54	LEU	11
1	B	57	ILE	11
1	B	67	GLU	11
1	B	74	GLU	11
1	B	77	ILE	11
1	B	79	LEU	11
1	B	89	ILE	11
1	B	101	ASP	11
1	B	130	VAL	11
1	B	145	LYS	11
1	B	162	ASP	11
1	B	163	LEU	11
1	B	180	ILE	11
1	B	181	THR	11
1	B	182	ASP	11
1	B	193	MET	11
1	B	202	ILE	11
1	B	205	THR	11

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Mol	Chain	Res	Type	Models (Total)
1	B	209	THR	11
1	B	225	ASN	11
1	B	300	LEU	11
1	B	334	MET	11
1	B	342	LEU	11
1	B	394	ILE	11
1	B	405	GLU	11
1	B	455	ASP	11
1	B	463	VAL	11
1	B	522	GLU	11
1	B	561	LEU	11
1	B	564	LEU	11
1	A	67	GLU	10
1	A	162	ASP	10
1	B	239	MET	10
1	B	298	GLU	10
1	B	492	SER	9
1	B	432	THR	9
1	A	492	SER	8
1	B	13	PHE	7
1	B	360	ILE	7
1	B	243	GLN	6
1	B	221	ASP	2
1	B	336	ILE	2
1	A	290	GLU	1
1	A	221	ASP	1
1	A	239	MET	1
1	B	290	GLU	1
1	A	278	VAL	1
1	A	149	LEU	1
1	A	166	SER	1
1	A	186	ARG	1
1	A	198	GLU	1
1	A	302	MET	1
1	A	340	LYS	1
1	A	343	PRO	1
1	A	528	ILE	1
1	B	22	ASP	1
1	B	166	SER	1
1	B	198	GLU	1
1	B	302	MET	1
1	B	528	ILE	1

6.3.3 RNA [i](#)

There are no RNA molecules in this entry.

6.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.6 Ligand geometry [i](#)

There are no ligands in this entry.

6.7 Other polymers [i](#)

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

The completeness of assignment taking into account all chemical shift lists is 1% for the well-defined parts and 1% for the entire structure.

7.1 Chemical shift list 1

File name: working_cs.cif

Chemical shift list name: *assigned_chem_shift_list_1*

7.1.1 Bookkeeping

The following table shows the results of parsing the chemical shift list and reports the number of nuclei with statistically unusual chemical shifts.

Total number of shifts	190
Number of shifts mapped to atoms	190
Number of unparsed shifts	0
Number of shifts with mapping errors	0
Number of shifts with mapping warnings	0
Number of shift outliers (ShiftChecker)	0

7.1.2 Chemical shift referencing

The following table shows the suggested chemical shift referencing corrections.

Nucleus	# values	Correction $\pm$ precision, ppm	Suggested action
$^{13}\text{C}_\alpha$	0	—	None (insufficient data)
$^{13}\text{C}_\beta$	0	—	None (insufficient data)
$^{13}\text{C}'$	0	—	None (insufficient data)
^{15}N	95	0.15 ± 0.40	None needed (< 0.5 ppm)

7.1.3 Completeness of resonance assignments

The following table shows the completeness of the chemical shift assignments for the well-defined regions of the structure. The overall completeness is 1%, i.e. 190 atoms were assigned a chemical shift out of a possible 15536. 0 out of 182 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	^1H	^{13}C	^{15}N
Backbone	190/5702 (3%)	95/2318 (4%)	0/2276 (0%)	95/1108 (9%)
Sidechain	0/9136 (0%)	0/5950 (0%)	0/2856 (0%)	0/330 (0%)

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	Total	¹ H	¹³ C	¹⁵ N
Aromatic	0/698 (0%)	0/340 (0%)	0/322 (0%)	0/36 (0%)
Overall	190/15536 (1%)	95/8608 (1%)	0/5454 (0%)	95/1474 (6%)

The following table shows the completeness of the chemical shift assignments for the full structure. The overall completeness is 1%, i.e. 190 atoms were assigned a chemical shift out of a possible 15662. 0 out of 186 assigned methyl groups (LEU and VAL) were assigned stereospecifically.

	Total	¹ H	¹³ C	¹⁵ N
Backbone	190/5742 (3%)	95/2334 (4%)	0/2292 (0%)	95/1116 (9%)
Sidechain	0/9222 (0%)	0/6006 (0%)	0/2884 (0%)	0/332 (0%)
Aromatic	0/698 (0%)	0/340 (0%)	0/322 (0%)	0/36 (0%)
Overall	190/15662 (1%)	95/8680 (1%)	0/5498 (0%)	95/1484 (6%)

7.1.4 Statistically unusual chemical shifts [i](#)

There are no statistically unusual chemical shifts.

7.1.5 Random Coil Index (RCI) plots [i](#)

The image below reports *random coil index* values for the protein chains in the structure. The height of each bar gives a probability of a given residue to be disordered, as predicted from the available chemical shifts and the amino acid sequence. A value above 0.2 is an indication of significant predicted disorder. The colour of the bar shows whether the residue is in the well-defined core (black) or in the ill-defined residue ranges (cyan), as described in section 2 on ensemble composition. If well-defined core and ill-defined regions are not identified then it is shown as gray bars.

Random coil index (RCI) for chain A:

