



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 11:00 PM UTC

PDB ID : 6FQX / pdb_00006fqx
Title : Plasmodium falciparum 6-phosphogluconate dehydrogenase in its apo form,
in complex with its cofactor NADP⁺ and in complex with its substrate 6-
phosphogluconate
Authors : Fritz-Wolf, K.; Haeussler, K.; Reichmann, M.; Rahlfs, S.; Becker, K.
Deposited on : 2018-02-15
Resolution : 2.80 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

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
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

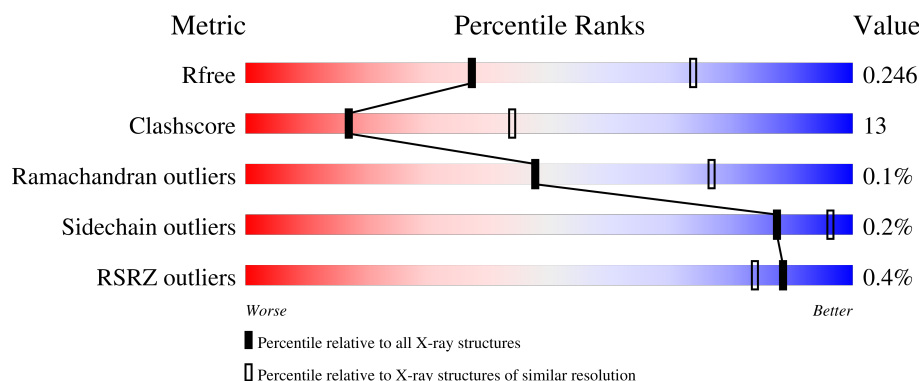
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

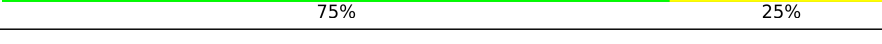
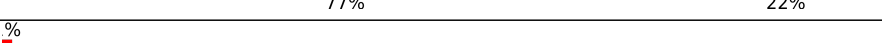
The reported resolution of this entry is 2.80 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	3866 (2.80-2.80)
Clashscore	190562	4276 (2.80-2.80)
Ramachandran outliers	187476	4196 (2.80-2.80)
Sidechain outliers	187428	4198 (2.80-2.80)
RSRZ outliers	180081	3869 (2.80-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	468	 75% 24%
1	B	468	 79% 21%
1	C	468	 75% 25%
1	D	468	 77% 22%
1	E	468	 71% 28%

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Mol	Chain	Length	Quality of chain
1	F	468	 76%24%
1	G	468	 73%26%.
1	H	468	 %65%35%

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 29994 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called 6-phosphogluconate dehydrogenase, decarboxylating.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	B	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	C	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	D	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	E	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	F	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	G	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			
1	H	468	Total	C	N	O	S	0	0	0
			3715	2362	627	702	24			

- Molecule 2 is GLYCEROL (CCD ID: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	0
			6	3	3		
2	A	1	Total	C	O	0	0
			6	3	3		
2	B	1	Total	C	O	0	0
			6	3	3		
2	B	1	Total	C	O	0	0
			6	3	3		
2	B	1	Total	C	O	0	0
			6	3	3		
2	B	1	Total	C	O	0	0
			6	3	3		
2	C	1	Total	C	O	0	0
			6	3	3		
2	D	1	Total	C	O	0	0
			6	3	3		
2	E	1	Total	C	O	0	0
			6	3	3		
2	E	1	Total	C	O	0	0
			6	3	3		
2	F	1	Total	C	O	0	0
			6	3	3		
2	F	1	Total	C	O	0	0
			6	3	3		
2	F	1	Total	C	O	0	0
			6	3	3		
2	H	1	Total	C	O	0	0
			6	3	3		

- Molecule 3 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



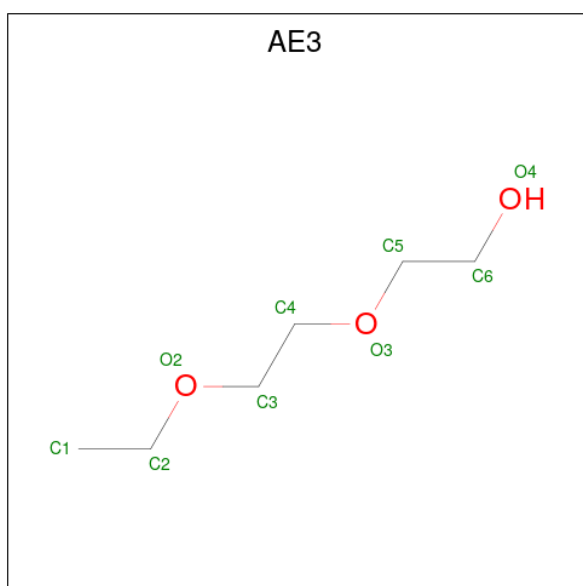
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			7	4	3		
3	A	1	Total	C	O	0	0
			7	4	3		
3	B	1	Total	C	O	0	0
			7	4	3		
3	C	1	Total	C	O	0	0
			7	4	3		
3	E	1	Total	C	O	0	0
			7	4	3		
3	E	1	Total	C	O	0	0
			7	4	3		
3	F	1	Total	C	O	0	0
			7	4	3		
3	H	1	Total	C	O	0	0
			7	4	3		
3	H	1	Total	C	O	0	0
			7	4	3		

- Molecule 4 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula: $C_6H_{14}O_4$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
4	A	1	Total	C	O	0	0
			10	6	4		
4	B	1	Total	C	O	0	0
			10	6	4		

- Molecule 5 is 2-(2-ETHOXYETHOXY)ETHANOL (CCD ID: AE3) (formula: $C_6H_{14}O_3$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	D	1	Total	C	O	0	0
			9	6	3		

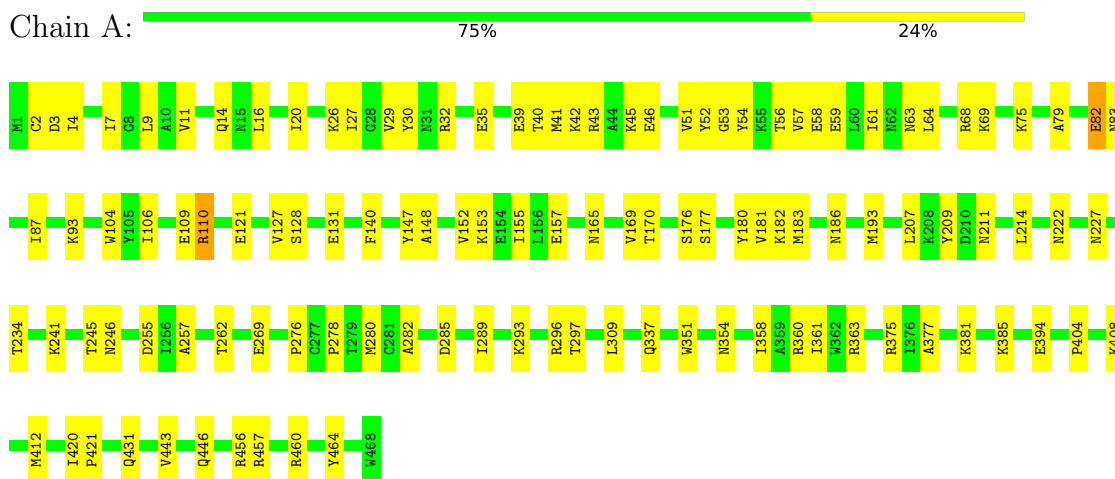
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	12	Total 12	O 12	0	0
6	B	21	Total 21	O 21	0	0
6	C	11	Total 11	O 11	0	0
6	D	10	Total 10	O 10	0	0
6	E	14	Total 14	O 14	0	0
6	F	13	Total 13	O 13	0	0
6	G	12	Total 12	O 12	0	0
6	H	5	Total 5	O 5	0	0

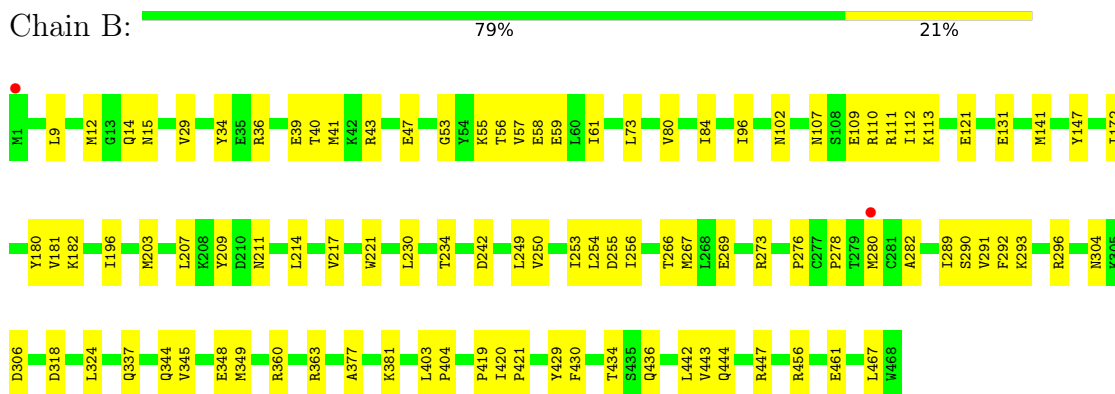
3 Residue-property plots

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

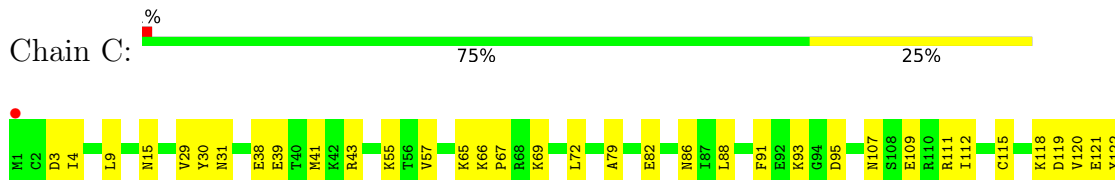
- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating

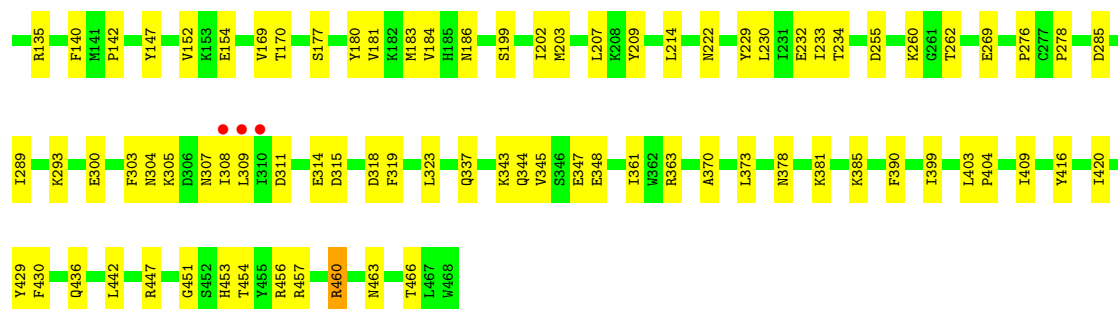


- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating



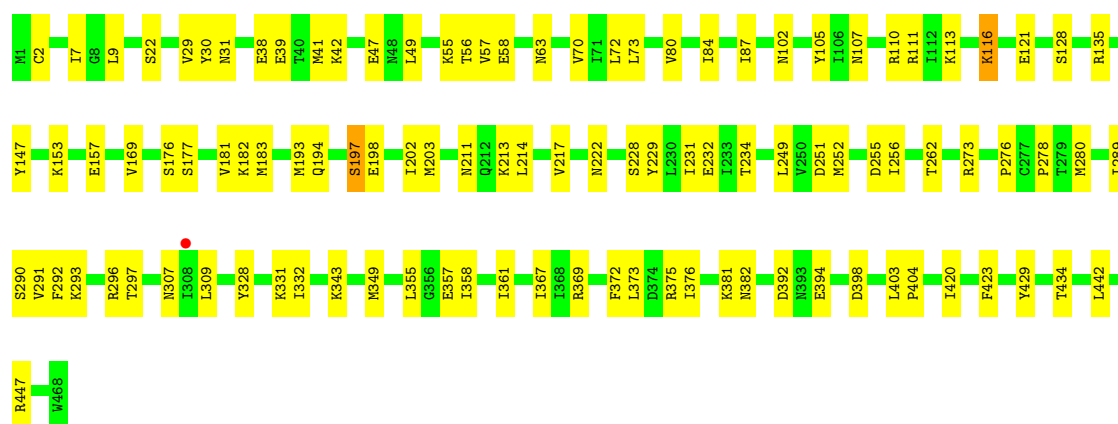
- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating





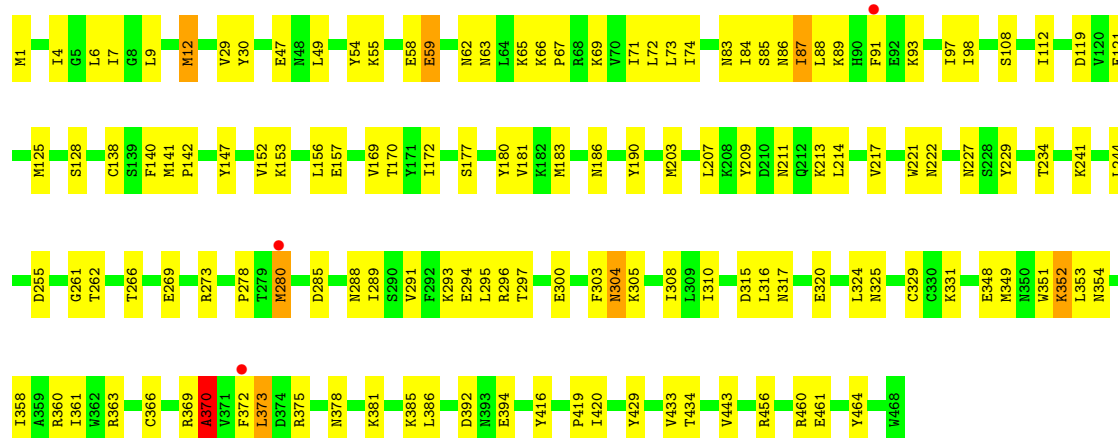
- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating

Chain D: 77% 22%



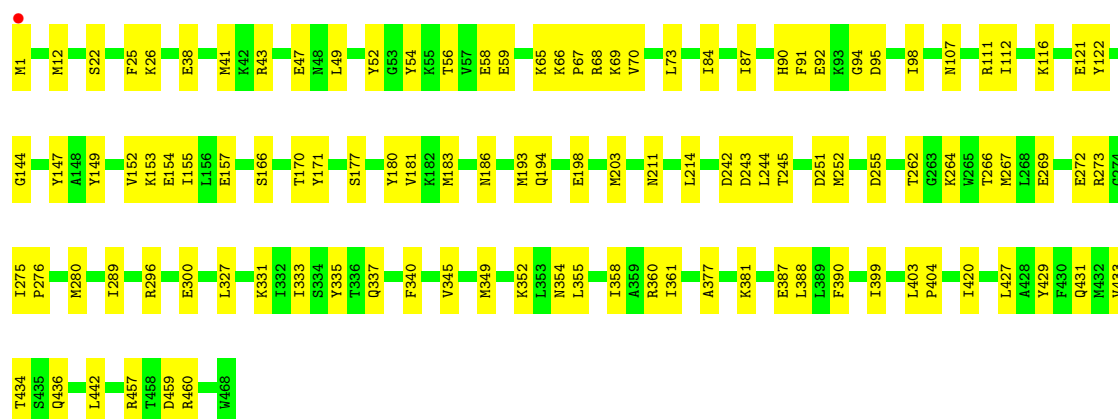
- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating

Chain E: 71% 28%



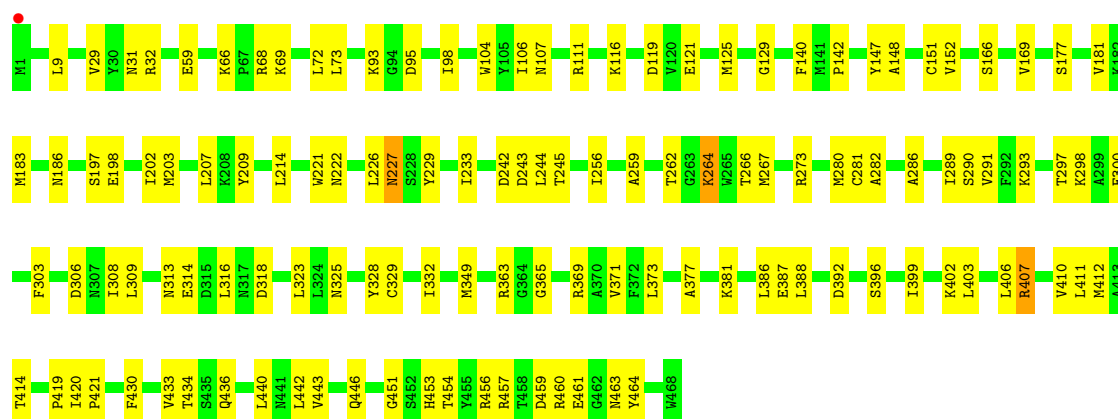
- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating

Chain F: 76% 24%



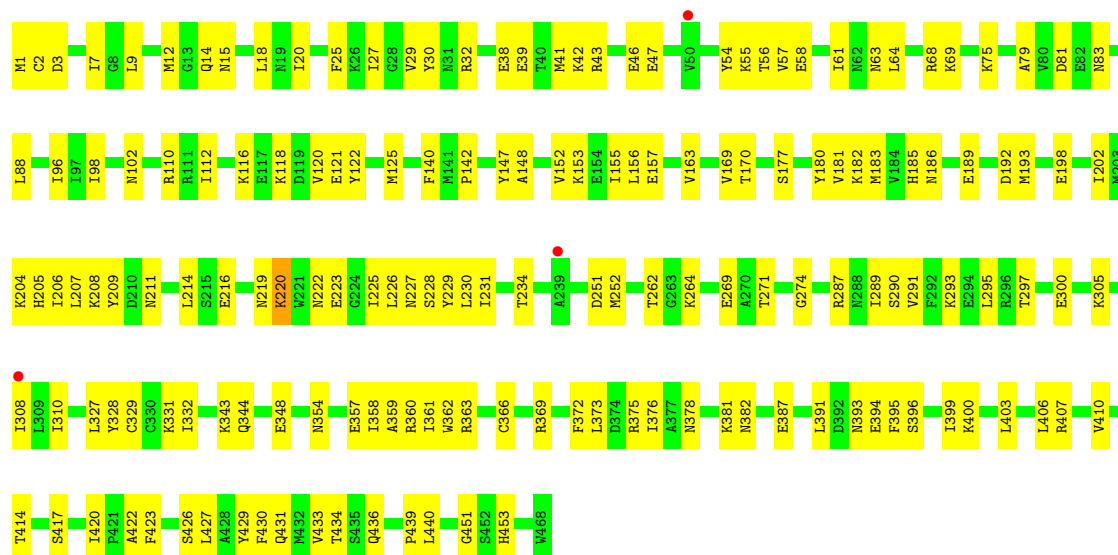
- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating

Chain G: 73% 26% .



- Molecule 1: 6-phosphogluconate dehydrogenase, decarboxylating

Chain H: 65% 35%



4 Data and refinement statistics

Property	Value	Source
Space group	P 65	Depositor
Cell constants a, b, c, α , β , γ	134.45Å 134.45Å 406.05Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	46.53 – 2.80 46.53 – 2.80	Depositor EDS
% Data completeness (in resolution range)	99.6 (46.53-2.80) 92.4 (46.53-2.80)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.75 (at 2.81Å)	Xtriage
Refinement program	PHENIX (dev_2645: ???)	Depositor
R, R_{free}	0.188 , 0.242 0.192 , 0.246	Depositor DCC
R_{free} test set	2023 reflections (2.00%)	wwPDB-VP
Wilson B-factor (Å ²)	63.5	Xtriage
Anisotropy	0.377	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 49.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	0.047 for h,-h-k,-l	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	29994	wwPDB-VP
Average B, all atoms (Å ²)	72.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.28% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, PGE, AE3, PEG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.43	0/3781	0.73	4/5098 (0.1%)
1	B	0.46	0/3781	0.68	0/5098
1	C	0.43	0/3781	0.68	2/5098 (0.0%)
1	D	0.41	0/3781	0.65	1/5098 (0.0%)
1	E	0.51	1/3781 (0.0%)	0.78	10/5098 (0.2%)
1	F	0.44	0/3781	0.69	0/5098
1	G	0.46	0/3781	0.75	3/5098 (0.1%)
1	H	0.46	0/3781	0.81	8/5098 (0.2%)
All	All	0.45	1/30248 (0.0%)	0.72	28/40784 (0.1%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	H	0	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	370	ALA	C-O	5.36	1.30	1.24

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	H	264	LYS	CB-CG-CD	-9.69	89.01	111.30
1	E	59	GLU	CB-CG-CD	-9.56	96.35	112.60
1	H	220	LYS	CA-CB-CG	8.90	131.91	114.10
1	E	59	GLU	CA-CB-CG	8.62	131.34	114.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	58	GLU	CA-C-N	-8.13	107.66	122.38
1	E	58	GLU	C-N-CA	-8.13	107.66	122.38
1	G	264	LYS	CB-CG-CD	7.18	127.82	111.30
1	G	59	GLU	CA-CB-CG	6.79	127.68	114.10
1	H	264	LYS	CA-CB-CG	6.48	127.06	114.10
1	A	82	GLU	CA-CB-CG	6.21	126.52	114.10
1	A	110	ARG	CD-NE-CZ	-6.08	115.89	124.40
1	C	460	ARG	CB-CG-CD	-5.82	97.91	111.30
1	A	110	ARG	CB-CA-C	5.80	120.70	110.85
1	H	216	GLU	CB-CA-C	5.73	122.07	110.38
1	H	219	ASN	CA-C-N	5.68	128.35	120.29
1	H	219	ASN	C-N-CA	5.68	128.35	120.29
1	H	204	LYS	CA-CB-CG	5.67	125.44	114.10
1	H	216	GLU	CA-CB-CG	5.62	125.34	114.10
1	A	241	LYS	CB-CG-CD	5.61	124.21	111.30
1	C	154	GLU	CB-CA-C	-5.52	101.98	110.81
1	E	280	MET	CB-CG-SD	-5.45	96.35	112.70
1	E	87	ILE	CG1-CB-CG2	5.31	126.63	110.70
1	E	241	LYS	CG-CD-CE	-5.25	99.23	111.30
1	D	382	ASN	N-CA-C	5.21	117.03	111.36
1	G	407	ARG	CA-CB-CG	-5.10	103.89	114.10
1	E	59	GLU	N-CA-CB	5.10	118.24	110.44
1	E	59	GLU	CA-C-N	-5.00	113.18	120.29
1	E	59	GLU	C-N-CA	-5.00	113.18	120.29

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	H	47	GLU	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3715	0	3733	93	0
1	B	3715	0	3733	86	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	3715	0	3733	92	0
1	D	3715	0	3733	83	0
1	E	3715	0	3733	111	0
1	F	3715	0	3733	91	0
1	G	3715	0	3733	139	0
1	H	3715	0	3731	145	0
2	A	12	0	16	1	0
2	B	24	0	32	2	0
2	C	6	0	8	0	0
2	D	6	0	8	0	0
2	E	12	0	16	1	0
2	F	18	0	24	2	0
2	H	6	0	8	0	0
3	A	14	0	20	0	0
3	B	7	0	10	0	0
3	C	7	0	10	0	0
3	E	14	0	20	2	0
3	F	7	0	10	0	0
3	H	14	0	20	0	0
4	A	10	0	14	1	0
4	B	10	0	14	0	0
5	D	9	0	14	3	0
6	A	12	0	0	0	0
6	B	21	0	0	1	0
6	C	11	0	0	0	0
6	D	10	0	0	2	0
6	E	14	0	0	0	0
6	F	13	0	0	1	0
6	G	12	0	0	0	0
6	H	5	0	0	2	0
All	All	29994	0	30106	761	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 13.

All (761) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:264:LYS:HE2	1:H:271:THR:O	1.39	1.20
1:A:58:GLU:HA	1:A:61:ILE:HD13	1.31	1.12
1:G:308:ILE:HD12	1:G:309:LEU:N	1.64	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:436:GLN:HG3	1:H:297:THR:HG22	1.44	0.98
1:G:264:LYS:CE	1:H:271:THR:O	2.10	0.98
1:B:36:ARG:NH2	1:B:39:GLU:OE1	1.96	0.98
1:B:36:ARG:NH2	1:B:39:GLU:CD	2.22	0.98
1:G:264:LYS:HZ1	1:H:274:GLY:N	1.63	0.96
1:E:297:THR:HG22	1:F:436:GLN:HG3	1.47	0.95
1:C:436:GLN:HG3	1:D:297:THR:HG22	1.47	0.94
1:F:12:MET:HE2	1:F:73:LEU:HD13	1.50	0.94
1:H:403:LEU:HD11	1:H:430:PHE:CE2	2.04	0.92
1:B:36:ARG:HH22	1:B:39:GLU:CD	1.77	0.91
1:E:125:MET:HE2	1:E:140:PHE:HB3	1.53	0.91
1:G:308:ILE:HD12	1:G:309:LEU:H	1.22	0.91
1:G:290:SER:HB3	1:H:440:LEU:HD13	1.51	0.90
1:B:348:GLU:HA	1:H:56:THR:HG21	1.54	0.89
1:G:227:ASN:OD1	1:G:371:VAL:HG13	1.73	0.89
1:G:267:MET:HE2	1:G:281:CYS:SG	2.14	0.88
1:G:407:ARG:NH1	1:H:417:SER:OG	2.07	0.87
1:C:88:LEU:HD21	1:C:120:VAL:HG11	1.59	0.85
1:F:273:ARG:HH22	1:F:349:MET:HE3	1.41	0.85
1:B:56:THR:HG23	1:B:59:GLU:HB2	1.57	0.84
1:B:203:MET:HE1	1:B:217:VAL:HG11	1.59	0.84
1:F:69:LYS:HD3	1:F:152:VAL:HG12	1.59	0.84
1:A:297:THR:HG22	1:B:436:GLN:HG3	1.61	0.83
1:B:381:LYS:NZ	6:B:601:HOH:O	2.12	0.83
1:A:61:ILE:O	1:A:68:ARG:NH1	2.11	0.82
1:G:264:LYS:NZ	1:H:274:GLY:N	2.26	0.82
1:D:198:GLU:OE1	1:D:423:PHE:HD2	1.62	0.82
1:G:69:LYS:HD3	1:G:152:VAL:HG12	1.61	0.82
1:H:3:ASP:O	1:H:69:LYS:NZ	2.13	0.81
1:G:306:ASP:HB3	1:G:308:ILE:HG23	1.62	0.81
1:G:443:VAL:HG23	1:H:193:MET:HE2	1.63	0.80
1:G:399:ILE:HG22	1:G:403:LEU:HD11	1.65	0.79
1:G:309:LEU:HD11	1:H:407:ARG:HB3	1.65	0.78
1:C:203:MET:HE3	1:C:214:LEU:HD23	1.65	0.78
1:G:308:ILE:CD1	1:G:309:LEU:H	1.95	0.78
1:C:180:TYR:OH	1:C:269:GLU:HG2	1.83	0.78
1:C:93:LYS:HD2	1:C:119:ASP:HB2	1.65	0.77
1:B:56:THR:CG2	1:B:59:GLU:HB2	2.14	0.77
1:H:225:ILE:HD12	1:H:328:TYR:CD1	2.20	0.77
1:G:440:LEU:HD22	1:G:443:VAL:HG11	1.65	0.77
1:D:198:GLU:OE1	1:D:423:PHE:CD2	2.37	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:360:ARG:O	1:A:363:ARG:HG3	1.86	0.76
1:E:180:TYR:CE1	1:E:269:GLU:OE2	2.39	0.76
1:H:116:LYS:HE3	1:H:121:GLU:HA	1.66	0.76
1:H:183:MET:HG3	1:H:262:THR:HG23	1.69	0.75
1:D:42:LYS:NZ	6:D:601:HOH:O	2.18	0.75
1:G:264:LYS:HZ1	1:H:274:GLY:H	1.32	0.75
1:C:454:THR:HG22	1:C:456:ARG:NH1	2.02	0.74
1:G:264:LYS:HZ2	1:H:274:GLY:CA	1.99	0.74
1:G:325:ASN:ND2	1:G:402:LYS:CE	2.50	0.74
1:G:229:TYR:HB2	1:G:369:ARG:HD2	1.67	0.74
1:G:308:ILE:CD1	1:G:309:LEU:HG	2.17	0.74
1:C:121:GLU:HG3	1:C:147:TYR:CD2	2.23	0.73
1:G:125:MET:HE2	1:G:142:PRO:HB3	1.70	0.73
1:G:325:ASN:ND2	1:G:402:LYS:HE3	2.04	0.72
1:E:180:TYR:OH	1:E:269:GLU:OE2	2.07	0.72
1:G:308:ILE:CD1	1:G:309:LEU:N	2.50	0.72
1:C:378:ASN:HA	1:C:381:LYS:HG2	1.70	0.72
1:C:311:ASP:HB3	1:C:314:GLU:HG2	1.71	0.72
1:H:125:MET:HE3	1:H:142:PRO:HB3	1.71	0.72
1:G:325:ASN:HB3	1:G:402:LYS:CD	2.20	0.72
1:G:329:CYS:SG	1:G:406:LEU:HD12	2.29	0.72
1:E:266:THR:HG22	1:E:280:MET:HE1	1.72	0.71
1:G:325:ASN:HB3	1:G:402:LYS:HD3	1.71	0.71
1:C:115:CYS:HB3	1:C:120:VAL:HG13	1.73	0.70
1:G:443:VAL:HA	1:G:446:GLN:OE1	1.91	0.70
1:C:289:ILE:HG12	1:D:276:PRO:HG3	1.74	0.70
1:A:93:LYS:H	1:A:93:LYS:HD2	1.55	0.70
1:G:264:LYS:NZ	1:H:274:GLY:CA	2.54	0.70
1:B:110:ARG:HA	1:B:113:LYS:HE3	1.74	0.70
1:F:12:MET:HE2	1:F:73:LEU:CD1	2.22	0.69
1:F:112:ILE:HD13	1:F:122:TYR:HB3	1.74	0.69
1:F:121:GLU:HG3	1:F:147:TYR:CD1	2.27	0.69
1:E:375:ARG:HG2	1:E:394:GLU:OE1	1.93	0.69
1:G:325:ASN:ND2	1:G:402:LYS:CD	2.56	0.69
1:G:32:ARG:HE	1:G:32:ARG:C	2.01	0.68
1:H:202:ILE:HD11	1:H:420:ILE:HD12	1.75	0.68
1:H:420:ILE:HG12	1:H:423:PHE:HB2	1.75	0.68
1:G:297:THR:HG22	1:H:436:GLN:HG3	1.76	0.68
1:H:116:LYS:HZ1	1:H:122:TYR:H	1.41	0.68
1:A:3:ASP:O	1:A:69:LYS:NZ	2.26	0.67
1:F:427:LEU:O	1:F:431:GLN:HG3	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:420:ILE:HD11	1:H:423:PHE:CD2	2.29	0.67
1:E:255:ASP:OD2	1:E:296:ARG:NH2	2.28	0.67
1:E:203:MET:HE3	1:E:214:LEU:HD23	1.75	0.67
1:G:266:THR:HB	1:G:280:MET:HE1	1.76	0.67
1:H:9:LEU:HD11	1:H:29:VAL:HG12	1.77	0.67
1:G:329:CYS:HA	1:G:332:ILE:HD12	1.76	0.66
1:A:83:ASN:O	1:A:87:ILE:HG12	1.95	0.66
1:A:289:ILE:HG12	1:B:276:PRO:HG3	1.77	0.66
1:E:295:LEU:HD21	1:F:388:LEU:HG	1.78	0.66
1:A:57:VAL:O	1:A:61:ILE:HD12	1.96	0.66
1:B:56:THR:HG21	1:C:347:GLU:HB3	1.77	0.66
1:A:285:ASP:OD1	2:B:501:GOL:H31	1.95	0.66
1:G:440:LEU:HD11	1:H:287:ARG:HA	1.78	0.66
1:H:230:LEU:O	1:H:234:THR:OG1	2.12	0.66
1:E:180:TYR:HE1	1:E:269:GLU:OE2	1.78	0.66
1:H:222:ASN:OD1	1:H:227:ASN:ND2	2.29	0.66
1:E:351:TRP:O	1:E:353:LEU:N	2.29	0.65
1:B:304:ASN:ND2	1:B:306:ASP:OD2	2.29	0.65
1:D:55:LYS:NZ	6:D:602:HOH:O	2.27	0.65
1:B:255:ASP:OD1	1:B:293:LYS:HE2	1.96	0.65
1:E:360:ARG:HA	1:E:363:ARG:HD2	1.78	0.65
1:B:266:THR:HG21	1:B:280:MET:SD	2.36	0.65
1:B:269:GLU:OE2	1:B:273:ARG:NE	2.24	0.65
1:A:180:TYR:OH	1:A:269:GLU:HG2	1.97	0.65
1:G:227:ASN:CG	1:G:371:VAL:HG13	2.22	0.64
1:C:285:ASP:O	1:C:289:ILE:HG13	1.97	0.64
1:G:412:MET:HA	1:G:412:MET:HE2	1.78	0.64
1:E:125:MET:HE3	1:E:142:PRO:HB3	1.79	0.64
1:A:276:PRO:HG3	1:B:289:ILE:HG12	1.80	0.64
1:B:467:LEU:HD22	1:G:460:ARG:NH2	2.11	0.64
1:H:112:ILE:HG23	1:H:116:LYS:HZ3	1.62	0.64
1:A:35:GLU:HG3	1:H:291:VAL:HG13	1.78	0.64
1:B:12:MET:HE1	1:B:73:LEU:HD22	1.80	0.64
1:A:32:ARG:HD3	2:A:501:GOL:H12	1.80	0.64
1:F:211:ASN:HA	1:F:214:LEU:HD12	1.80	0.64
1:A:2:CYS:N	1:A:63:ASN:O	2.30	0.64
1:G:314:GLU:OE1	1:G:412:MET:HE1	1.99	0.63
1:A:58:GLU:CA	1:A:61:ILE:HD13	2.19	0.63
1:E:121:GLU:HG3	1:E:147:TYR:CD2	2.32	0.63
1:E:140:PHE:HB2	1:E:169:VAL:HG23	1.80	0.63
1:G:9:LEU:HD21	1:G:29:VAL:HG13	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:14:GLN:HE21	1:H:43:ARG:HH11	1.45	0.63
1:A:457:ARG:HH22	1:B:242:ASP:CG	2.06	0.63
4:A:505:PGE:H1	1:B:447:ARG:HH21	1.64	0.63
1:B:348:GLU:HA	1:H:56:THR:CG2	2.27	0.63
1:F:180:TYR:OH	1:F:269:GLU:HG2	1.99	0.63
1:G:116:LYS:HE2	1:G:121:GLU:HA	1.80	0.63
1:H:225:ILE:CD1	1:H:328:TYR:CD1	2.82	0.63
1:D:70:VAL:HG11	1:D:87:ILE:HD13	1.80	0.62
1:G:318:ASP:OD1	1:G:318:ASP:N	2.31	0.62
1:H:359:ALA:O	1:H:373:LEU:HD21	1.99	0.62
1:C:121:GLU:HG3	1:C:147:TYR:HD2	1.61	0.62
1:G:430:PHE:O	1:G:434:THR:OG1	2.15	0.62
1:E:227:ASN:O	1:E:370:ALA:HB1	2.00	0.62
1:F:22:SER:HA	1:F:49:LEU:HD11	1.80	0.62
1:H:378:ASN:HA	1:H:381:LYS:HB2	1.81	0.62
1:G:267:MET:CE	1:G:281:CYS:SG	2.85	0.62
1:C:199:SER:HB2	1:C:323:LEU:HD21	1.82	0.62
1:C:43:ARG:CZ	1:E:461:GLU:HB3	2.29	0.61
1:H:375:ARG:NE	1:H:394:GLU:OE2	2.33	0.61
1:B:109:GLU:HA	1:B:112:ILE:HD12	1.82	0.61
1:D:56:THR:OG1	1:D:58:GLU:OE1	2.18	0.61
1:G:129:GLY:HA2	1:G:365:GLY:O	2.01	0.61
1:B:430:PHE:O	1:B:434:THR:OG1	2.13	0.61
1:F:94:GLY:O	1:F:147:TYR:OH	2.16	0.61
1:F:121:GLU:HG3	1:F:147:TYR:HD1	1.65	0.61
1:B:9:LEU:HD11	1:B:29:VAL:CG1	2.31	0.61
1:B:41:MET:HE3	1:B:53:GLY:H	1.66	0.61
1:E:121:GLU:HG3	1:E:147:TYR:HD2	1.66	0.61
1:F:84:ILE:HA	1:F:87:ILE:HG22	1.82	0.61
1:G:229:TYR:HB2	1:G:369:ARG:CD	2.31	0.61
1:F:12:MET:CE	1:F:73:LEU:CD1	2.79	0.60
1:F:26:LYS:HG3	1:F:52:TYR:CE2	2.36	0.60
1:F:242:ASP:OD2	1:F:245:THR:OG1	2.19	0.60
1:A:293:LYS:O	1:A:297:THR:HG23	2.02	0.60
1:B:57:VAL:O	1:B:61:ILE:HD12	2.01	0.60
1:C:447:ARG:HE	5:D:502:AE3:H1C1	1.65	0.60
1:H:180:TYR:OH	1:H:269:GLU:HG2	2.00	0.60
1:B:203:MET:HE2	1:B:209:TYR:CE2	2.36	0.60
1:E:273:ARG:HH22	1:E:349:MET:CE	2.13	0.60
1:D:102:ASN:HD21	1:D:182:LYS:NZ	1.99	0.60
1:E:244:LEU:HB3	1:F:460:ARG:HH12	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:377:ALA:O	1:B:381:LYS:HG2	2.02	0.60
1:E:177:SER:O	1:E:181:VAL:HG23	2.01	0.60
1:G:440:LEU:HA	1:G:443:VAL:HG12	1.84	0.60
1:C:308:ILE:HG23	1:C:416:TYR:HB3	1.84	0.60
1:G:300:GLU:HB2	1:H:434:THR:O	2.02	0.60
1:G:293:LYS:O	1:G:297:THR:HG23	2.01	0.59
1:C:177:SER:O	1:C:181:VAL:HG23	2.02	0.59
1:B:250:VAL:HA	1:B:253:ILE:HD13	1.85	0.59
1:G:303:PHE:HE1	1:H:391:LEU:HD23	1.66	0.59
1:H:125:MET:HE2	1:H:140:PHE:HB3	1.84	0.59
1:H:140:PHE:HB2	1:H:169:VAL:HG23	1.83	0.59
1:F:352:LYS:HD2	1:F:352:LYS:O	2.02	0.59
1:E:369:ARG:O	1:E:370:ALA:HB2	2.00	0.59
1:C:453:HIS:O	1:C:454:THR:HB	2.03	0.59
1:D:372:PHE:CE2	1:D:376:ILE:HD11	2.38	0.59
1:H:18:LEU:HD11	1:H:43:ARG:NE	2.17	0.59
1:A:177:SER:O	1:A:181:VAL:HG23	2.03	0.59
1:G:186:ASN:HD22	1:G:262:THR:HB	1.68	0.59
1:A:377:ALA:O	1:A:381:LYS:HG2	2.02	0.59
1:F:340:PHE:HE1	1:F:387:GLU:HG2	1.68	0.59
1:H:153:LYS:O	1:H:157:GLU:HG3	2.03	0.59
1:D:9:LEU:HD21	1:D:29:VAL:HG13	1.84	0.58
1:A:128:SER:HB2	1:A:182:LYS:HE2	1.83	0.58
1:B:36:ARG:NH2	1:B:39:GLU:OE2	2.18	0.58
1:E:273:ARG:HH22	1:E:349:MET:HE2	1.68	0.58
1:H:177:SER:O	1:H:181:VAL:HG23	2.03	0.58
1:B:180:TYR:OH	1:B:269:GLU:HG2	2.03	0.58
1:G:325:ASN:CB	1:G:402:LYS:CD	2.81	0.58
1:G:325:ASN:CB	1:G:402:LYS:HD3	2.34	0.58
1:H:118:LYS:NZ	6:H:602:HOH:O	2.34	0.58
1:G:440:LEU:HD12	1:H:290:SER:CB	2.34	0.58
1:B:318:ASP:OD2	1:B:318:ASP:N	2.35	0.58
1:H:185:HIS:HE2	1:H:366:CYS:HB2	1.69	0.58
1:D:211:ASN:HA	1:D:214:LEU:HD12	1.85	0.58
1:F:153:LYS:O	1:F:157:GLU:HG3	2.04	0.57
1:F:273:ARG:NH2	1:F:349:MET:HE3	2.17	0.57
1:B:344:GLN:OE1	1:H:55:LYS:HE3	2.04	0.57
1:H:211:ASN:HA	1:H:214:LEU:HD12	1.86	0.57
1:C:109:GLU:O	1:C:112:ILE:HG22	2.05	0.57
1:C:466:THR:HG21	1:D:249:LEU:HD21	1.87	0.57
1:C:95:ASP:O	1:C:120:VAL:HG23	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:357:GLU:O	1:D:361:ILE:HG12	2.04	0.57
1:C:55:LYS:H	1:C:55:LYS:HD2	1.70	0.57
1:D:203:MET:SD	1:D:217:VAL:HG11	2.44	0.57
1:D:293:LYS:O	1:D:297:THR:HG23	2.04	0.57
1:E:89:LYS:HE2	1:E:89:LYS:N	2.20	0.57
1:D:183:MET:HG3	1:D:262:THR:HG23	1.86	0.57
1:A:54:TYR:OH	1:A:63:ASN:ND2	2.38	0.57
1:C:203:MET:HE3	1:C:214:LEU:CD2	2.35	0.57
1:E:303:PHE:C	1:E:305:LYS:H	2.13	0.57
1:G:325:ASN:CG	1:G:402:LYS:CD	2.78	0.57
1:H:9:LEU:HD11	1:H:29:VAL:CG1	2.35	0.57
1:H:305:LYS:NZ	1:H:308:ILE:HD11	2.20	0.57
1:E:83:ASN:O	1:E:87:ILE:N	2.33	0.56
1:E:180:TYR:CZ	1:E:269:GLU:OE2	2.57	0.56
1:A:193:MET:HE2	1:B:443:VAL:HG13	1.86	0.56
1:G:121:GLU:HG3	1:G:147:TYR:CD2	2.41	0.56
1:A:404:PRO:O	1:A:408:LYS:HG3	2.05	0.56
1:D:135:ARG:O	1:D:135:ARG:NH1	2.38	0.56
1:A:234:THR:HG23	1:B:442:LEU:HD11	1.86	0.56
1:H:327:LEU:O	1:H:331:LYS:HG2	2.06	0.56
1:A:140:PHE:HB2	1:A:169:VAL:HG23	1.87	0.56
1:D:121:GLU:HG3	1:D:147:TYR:HD2	1.70	0.56
1:F:186:ASN:HD22	1:F:262:THR:HB	1.70	0.56
1:B:180:TYR:OH	1:B:345:VAL:HG21	2.05	0.56
1:B:266:THR:CG2	1:B:280:MET:SD	2.94	0.56
1:E:87:ILE:HG22	1:E:88:LEU:N	2.22	0.56
1:G:308:ILE:HD12	1:G:309:LEU:CA	2.36	0.56
1:H:228:SER:O	1:H:231:ILE:HG22	2.06	0.56
1:H:403:LEU:HD11	1:H:430:PHE:CD2	2.41	0.56
1:F:98:ILE:HD11	1:F:152:VAL:HG11	1.86	0.55
1:F:154:GLU:HB3	6:F:606:HOH:O	2.05	0.55
1:H:329:CYS:HB3	1:H:406:LEU:HD12	1.88	0.55
1:A:9:LEU:HD11	1:A:29:VAL:CG1	2.37	0.55
1:A:41:MET:O	1:A:45:LYS:HG2	2.06	0.55
1:C:112:ILE:HG13	1:C:122:TYR:HB3	1.88	0.55
1:G:325:ASN:CG	1:G:402:LYS:HD3	2.31	0.55
1:A:121:GLU:HG3	1:A:147:TYR:HD2	1.70	0.55
1:D:7:ILE:HG23	1:D:30:TYR:HD2	1.70	0.55
1:F:255:ASP:OD2	1:F:296:ARG:NH2	2.30	0.55
1:H:396:SER:O	1:H:400:LYS:HG3	2.07	0.55
1:E:72:LEU:HB3	1:E:74:ILE:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:7:ILE:HG23	1:H:30:TYR:HD2	1.71	0.55
1:D:328:TYR:OH	1:D:375:ARG:NH1	2.39	0.55
1:E:9:LEU:HD11	1:E:29:VAL:CG1	2.37	0.55
1:A:297:THR:CG2	1:B:436:GLN:HG3	2.34	0.55
1:E:354:ASN:O	1:E:358:ILE:HG13	2.07	0.55
1:H:102:ASN:HD21	1:H:182:LYS:HE3	1.71	0.55
1:H:366:CYS:O	1:H:369:ARG:HG2	2.07	0.55
1:C:454:THR:HG22	1:C:456:ARG:HH11	1.71	0.55
1:C:343:LYS:NZ	1:C:385:LYS:HD2	2.21	0.54
1:E:360:ARG:O	1:E:363:ARG:HD3	2.07	0.54
1:A:121:GLU:HG3	1:A:147:TYR:CD2	2.43	0.54
1:B:467:LEU:CD2	1:G:460:ARG:NH2	2.70	0.54
1:E:125:MET:HE1	1:E:156:LEU:HD22	1.88	0.54
1:H:88:LEU:HD21	1:H:120:VAL:HG11	1.90	0.54
1:E:221:TRP:CD1	1:E:324:LEU:HD13	2.42	0.54
1:F:243:ASP:OD2	1:F:244:LEU:HD12	2.08	0.54
1:H:170:THR:HG22	1:H:361:ILE:HD13	1.90	0.54
1:H:202:ILE:HG23	1:H:206:ILE:HD12	1.88	0.54
1:E:278:PRO:HG2	1:E:429:TYR:HB2	1.89	0.54
1:A:16:LEU:O	1:A:20:ILE:HD12	2.07	0.54
1:B:456:ARG:HD2	1:H:39:GLU:CD	2.33	0.54
1:D:153:LYS:O	1:D:157:GLU:HG3	2.08	0.54
1:A:27:ILE:HG23	1:A:51:VAL:HG13	1.89	0.54
1:A:79:ALA:HA	1:A:82:GLU:HG3	1.89	0.54
1:H:15:ASN:OD1	1:H:43:ARG:NH1	2.39	0.54
1:H:183:MET:HA	1:H:262:THR:HG21	1.90	0.54
1:H:393:ASN:HA	1:H:396:SER:HB3	1.89	0.54
1:B:269:GLU:O	1:B:273:ARG:HG3	2.07	0.54
1:F:43:ARG:O	1:F:47:GLU:HG3	2.08	0.54
1:H:121:GLU:HG3	1:H:147:TYR:HD2	1.71	0.54
1:A:420:ILE:HG13	1:A:420:ILE:O	2.08	0.54
1:F:354:ASN:HD22	1:F:354:ASN:C	2.15	0.54
1:G:442:LEU:HD21	1:H:234:THR:HG23	1.90	0.54
1:D:331:LYS:HE3	1:D:372:PHE:CD2	2.44	0.53
1:E:86:ASN:C	1:E:86:ASN:HD22	2.16	0.53
1:G:198:GLU:O	1:G:202:ILE:HG12	2.08	0.53
1:H:403:LEU:CD1	1:H:430:PHE:CE2	2.85	0.53
1:G:98:ILE:HD11	1:G:152:VAL:HG11	1.89	0.53
1:G:222:ASN:O	1:G:227:ASN:HB2	2.08	0.53
1:C:107:ASN:O	1:C:111:ARG:HG3	2.08	0.53
1:E:234:THR:HG23	1:F:442:LEU:HD11	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:177:SER:O	1:G:181:VAL:HG23	2.09	0.53
1:H:229:TYR:HB2	1:H:369:ARG:HG3	1.90	0.53
1:D:177:SER:O	1:D:181:VAL:HG23	2.08	0.53
1:G:386:LEU:HD11	1:G:388:LEU:O	2.08	0.53
1:A:3:ASP:OD1	1:A:26:LYS:HB2	2.08	0.53
1:C:303:PHE:O	1:C:305:LYS:N	2.42	0.53
1:F:121:GLU:HG3	1:F:147:TYR:CE1	2.44	0.53
1:G:325:ASN:HD22	1:G:402:LYS:HD2	1.73	0.53
1:D:72:LEU:O	1:D:73:LEU:HD12	2.08	0.53
1:F:12:MET:HE1	1:F:73:LEU:CD2	2.39	0.53
1:G:243:ASP:HB2	1:G:244:LEU:HD12	1.91	0.53
1:C:454:THR:CG2	1:C:463:ASN:HB3	2.38	0.52
1:D:9:LEU:HD12	1:D:31:ASN:HB2	1.90	0.52
1:D:375:ARG:NH2	1:D:398:ASP:OD2	2.42	0.52
1:G:325:ASN:CB	1:G:402:LYS:HD2	2.39	0.52
1:A:57:VAL:HG12	1:A:61:ILE:HD11	1.90	0.52
1:A:153:LYS:O	1:A:157:GLU:HG3	2.10	0.52
1:C:202:ILE:HD11	1:C:420:ILE:HG21	1.91	0.52
1:G:454:THR:HG21	1:G:463:ASN:HB3	1.91	0.52
1:A:110:ARG:NH1	1:A:110:ARG:HG2	2.25	0.52
1:F:429:TYR:O	1:F:433:VAL:HG22	2.10	0.52
1:A:282:ALA:HB1	1:A:421:PRO:HB2	1.91	0.52
1:F:68:ARG:NH1	1:F:95:ASP:OD2	2.42	0.52
1:F:266:THR:CG2	1:F:280:MET:HE1	2.39	0.52
1:H:202:ILE:HD11	1:H:420:ILE:CD1	2.38	0.52
1:F:177:SER:O	1:F:181:VAL:HG23	2.09	0.52
1:H:293:LYS:O	1:H:297:THR:HG23	2.10	0.52
1:A:309:LEU:O	1:A:309:LEU:HD12	2.10	0.52
1:D:38:GLU:HA	1:D:41:MET:HE2	1.91	0.52
1:H:427:LEU:O	1:H:431:GLN:HG3	2.10	0.52
1:D:373:LEU:HA	1:D:376:ILE:HD12	1.91	0.52
1:A:278:PRO:HD2	1:A:337:GLN:CD	2.35	0.52
1:C:307:ASN:HB2	1:C:309:LEU:CD2	2.39	0.52
1:H:58:GLU:HA	1:H:61:ILE:HD12	1.92	0.52
1:B:249:LEU:O	1:B:253:ILE:HD12	2.10	0.52
1:D:9:LEU:HD11	1:D:29:VAL:CG1	2.40	0.52
1:E:366:CYS:O	1:E:369:ARG:HG2	2.09	0.52
1:F:333:ILE:O	1:F:337:GLN:HG3	2.09	0.52
1:B:57:VAL:HG12	1:B:61:ILE:HD11	1.92	0.52
1:A:385:LYS:HG2	1:A:385:LYS:O	2.08	0.51
1:D:392:ASP:OD2	1:D:394:GLU:HG2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:38:GLU:HA	1:F:41:MET:HE2	1.92	0.51
1:G:328:TYR:CE2	1:G:332:ILE:HD11	2.45	0.51
1:C:307:ASN:HB2	1:C:309:LEU:HD21	1.91	0.51
1:E:308:ILE:HG21	1:E:416:TYR:HA	1.91	0.51
1:G:166:SER:OG	1:G:363:ARG:NH2	2.43	0.51
1:G:93:LYS:HD2	1:G:119:ASP:CB	2.40	0.51
1:G:363:ARG:HA	1:G:373:LEU:HD11	1.92	0.51
1:C:229:TYR:O	1:C:233:ILE:HG23	2.11	0.51
1:A:39:GLU:OE2	1:G:456:ARG:NE	2.44	0.51
1:A:41:MET:HE3	1:A:53:GLY:H	1.76	0.51
1:A:57:VAL:CG1	1:A:61:ILE:HD11	2.39	0.51
1:B:267:MET:HE1	2:B:501:GOL:H32	1.93	0.51
1:H:198:GLU:O	1:H:202:ILE:HG13	2.09	0.51
1:H:378:ASN:O	1:H:382:ASN:HB2	2.09	0.51
1:H:186:ASN:ND2	1:H:189:GLU:OE1	2.44	0.51
1:H:30:TYR:CE2	1:H:57:VAL:HG22	2.46	0.51
1:G:454:THR:CG2	1:G:463:ASN:HB3	2.41	0.51
1:H:20:ILE:HD12	1:H:27:ILE:HD12	1.92	0.51
1:D:203:MET:HE3	1:D:214:LEU:HD23	1.92	0.51
1:D:229:TYR:HB2	1:D:369:ARG:HG2	1.91	0.51
1:E:288:ASN:O	1:E:291:VAL:HG22	2.10	0.51
1:G:387:GLU:HB2	1:H:295:LEU:HD21	1.93	0.51
1:H:208:LYS:HZ2	1:H:310:ILE:HD12	1.75	0.50
1:B:55:LYS:HD3	1:B:55:LYS:N	2.26	0.50
1:C:4:ILE:HD12	1:C:69:LYS:HB2	1.93	0.50
1:H:406:LEU:O	1:H:410:VAL:HG23	2.11	0.50
1:E:66:LYS:HA	1:E:67:PRO:C	2.36	0.50
1:E:141:MET:HB3	1:E:172:ILE:CD1	2.41	0.50
2:E:501:GOL:H32	1:F:272:GLU:OE1	2.12	0.50
1:H:125:MET:HE1	1:H:156:LEU:HD22	1.93	0.50
1:A:245:THR:HG22	1:A:246:ASN:H	1.74	0.50
1:C:9:LEU:HD11	1:C:29:VAL:CG1	2.41	0.50
1:E:98:ILE:HD11	1:E:152:VAL:HG21	1.93	0.50
1:G:273:ARG:HH22	1:G:349:MET:HE3	1.77	0.50
1:D:256:ILE:HG23	1:D:291:VAL:HA	1.94	0.50
1:E:285:ASP:OD1	2:F:502:GOL:H12	2.11	0.50
1:E:310:ILE:HA	1:E:416:TYR:CE1	2.46	0.50
1:E:360:ARG:HG3	1:E:363:ARG:NH1	2.27	0.50
1:D:121:GLU:HG3	1:D:147:TYR:CD2	2.47	0.50
1:G:308:ILE:HD12	1:G:309:LEU:CB	2.42	0.50
1:A:43:ARG:NH2	1:G:457:ARG:O	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:107:ASN:O	1:B:111:ARG:HG3	2.11	0.50
1:C:170:THR:HG22	1:C:361:ILE:HD13	1.92	0.50
1:E:209:TYR:OH	1:E:320:GLU:OE1	2.12	0.50
1:B:34:TYR:CZ	1:B:55:LYS:HD2	2.47	0.50
1:D:169:VAL:N	1:D:361:ILE:HD12	2.27	0.50
1:G:32:ARG:O	1:G:32:ARG:NE	2.29	0.49
1:B:221:TRP:CD1	1:B:324:LEU:HD12	2.47	0.49
1:E:331:LYS:HZ3	1:E:372:PHE:HE1	1.59	0.49
1:F:340:PHE:CE1	1:F:387:GLU:HG2	2.46	0.49
1:A:57:VAL:O	1:A:61:ILE:CD1	2.60	0.49
1:E:55:LYS:O	1:E:55:LYS:HD3	2.13	0.49
1:H:186:ASN:HA	1:H:189:GLU:HB3	1.94	0.49
1:F:377:ALA:O	1:F:381:LYS:HG3	2.12	0.49
1:A:148:ALA:O	1:A:152:VAL:HG22	2.13	0.49
1:G:308:ILE:HD12	1:G:309:LEU:HG	1.90	0.49
1:F:56:THR:HG23	1:F:59:GLU:H	1.77	0.49
1:F:166:SER:HB3	1:F:360:ARG:HH11	1.78	0.49
1:F:331:LYS:O	1:F:335:TYR:HD1	1.95	0.49
1:A:165:ASN:N	1:A:165:ASN:OD1	2.45	0.49
1:G:203:MET:HB2	1:G:214:LEU:HD21	1.94	0.49
1:A:104:TRP:NE1	1:A:106:ILE:HB	2.28	0.49
1:B:273:ARG:HH22	1:B:349:MET:CE	2.25	0.49
1:G:420:ILE:O	1:G:420:ILE:HG13	2.12	0.49
1:H:32:ARG:NH1	1:H:83:ASN:OD1	2.46	0.49
1:E:59:GLU:O	1:E:63:ASN:ND2	2.46	0.49
1:G:226:LEU:HD21	1:G:328:TYR:HA	1.94	0.49
1:G:325:ASN:ND2	1:G:402:LYS:HD2	2.27	0.49
1:H:1:MET:N	6:H:603:HOH:O	2.45	0.49
1:H:211:ASN:ND2	1:H:251:ASP:OD2	2.43	0.49
1:A:255:ASP:OD1	1:A:293:LYS:NZ	2.45	0.48
1:B:282:ALA:HB1	1:B:421:PRO:HB2	1.95	0.48
1:B:403:LEU:N	1:B:404:PRO:HD2	2.28	0.48
1:D:80:VAL:O	1:D:84:ILE:HG13	2.12	0.48
1:E:84:ILE:HA	1:E:87:ILE:HB	1.95	0.48
1:E:300:GLU:HB2	1:F:434:THR:O	2.13	0.48
1:F:25:PHE:CE1	1:F:155:ILE:HG12	2.48	0.48
1:B:344:GLN:CD	1:H:55:LYS:HE3	2.38	0.48
1:D:273:ARG:HH22	1:D:349:MET:HE2	1.78	0.48
1:E:153:LYS:O	1:E:157:GLU:HG3	2.13	0.48
1:F:399:ILE:O	1:F:403:LEU:HB2	2.13	0.48
1:G:72:LEU:O	1:G:73:LEU:HD12	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:252:MET:HE2	1:H:252:MET:HA	1.95	0.48
1:C:278:PRO:HG2	1:C:429:TYR:HB2	1.95	0.48
1:E:172:ILE:HD13	1:E:181:VAL:HG21	1.94	0.48
1:G:325:ASN:HD22	1:G:402:LYS:CD	2.25	0.48
1:H:79:ALA:O	1:H:83:ASN:ND2	2.32	0.48
1:A:42:LYS:HD3	1:H:293:LYS:HD2	1.95	0.48
1:G:259:ALA:HB3	1:G:264:LYS:HD2	1.96	0.48
1:G:459:ASP:OD2	1:G:460:ARG:HG2	2.14	0.48
1:H:148:ALA:O	1:H:152:VAL:HG22	2.14	0.48
1:H:451:GLY:HA3	1:H:453:HIS:CD2	2.49	0.48
1:A:56:THR:HG23	1:A:59:GLU:H	1.79	0.48
1:C:319:PHE:CE1	1:C:409:ILE:HD13	2.49	0.48
1:D:22:SER:HB3	1:D:49:LEU:HD21	1.96	0.48
1:G:308:ILE:CD1	1:G:309:LEU:CG	2.91	0.48
1:H:226:LEU:CD1	1:H:327:LEU:HD12	2.44	0.48
1:E:304:ASN:OD1	1:E:304:ASN:N	2.47	0.48
1:G:443:VAL:HG23	1:H:193:MET:CE	2.41	0.48
1:B:207:LEU:HB3	1:B:209:TYR:CE1	2.49	0.47
1:F:1:MET:O	1:F:26:LYS:HE3	2.14	0.47
1:G:289:ILE:HD11	1:H:433:VAL:CG2	2.44	0.47
1:H:395:PHE:O	1:H:399:ILE:HD12	2.13	0.47
1:E:293:LYS:O	1:E:297:THR:HG23	2.14	0.47
1:E:460:ARG:HG3	1:E:464:TYR:OH	2.14	0.47
1:F:70:VAL:HG11	1:F:87:ILE:HD12	1.96	0.47
1:H:422:ALA:O	1:H:426:SER:HB2	2.15	0.47
1:B:292:PHE:O	1:B:296:ARG:HG3	2.14	0.47
1:D:181:VAL:HG11	1:D:358:ILE:HD12	1.95	0.47
1:H:98:ILE:HD11	1:H:152:VAL:HG11	1.95	0.47
1:A:35:GLU:OE1	1:A:35:GLU:N	2.36	0.47
1:B:96:ILE:HD11	1:B:147:TYR:CE2	2.50	0.47
1:A:104:TRP:CD1	1:A:106:ILE:HB	2.50	0.47
1:E:69:LYS:HD3	1:E:152:VAL:HG22	1.96	0.47
1:F:203:MET:HE3	1:F:214:LEU:HD23	1.95	0.47
1:G:197:SER:OG	1:H:439:PRO:HB2	2.14	0.47
1:A:14:GLN:HG2	1:A:40:THR:OG1	2.14	0.47
1:A:375:ARG:HH12	1:A:394:GLU:HB3	1.79	0.47
1:B:461:GLU:CD	1:B:461:GLU:H	2.21	0.47
1:C:30:TYR:CE1	1:C:57:VAL:HG22	2.50	0.47
1:C:180:TYR:O	1:C:184:VAL:HG23	2.14	0.47
1:G:107:ASN:O	1:G:111:ARG:HG3	2.13	0.47
1:G:282:ALA:HB1	1:G:421:PRO:HB2	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:290:SER:CB	1:H:440:LEU:HD13	2.33	0.47
1:E:88:LEU:C	1:E:89:LYS:HE2	2.40	0.47
1:E:186:ASN:HD22	1:E:262:THR:HB	1.79	0.47
1:E:378:ASN:HA	1:E:381:LYS:HB3	1.97	0.47
1:G:207:LEU:HB3	1:G:209:TYR:CE1	2.50	0.47
1:G:377:ALA:O	1:G:381:LYS:HG3	2.15	0.47
1:A:456:ARG:HD2	1:D:39:GLU:CD	2.39	0.47
1:B:211:ASN:HA	1:B:214:LEU:HD12	1.97	0.47
1:E:108:SER:O	1:E:112:ILE:HG13	2.14	0.47
1:E:289:ILE:HG12	1:F:276:PRO:HG3	1.96	0.47
1:F:273:ARG:O	1:F:275:ILE:HD12	2.15	0.47
1:G:242:ASP:OD1	1:G:243:ASP:N	2.48	0.47
1:B:256:ILE:HG23	1:B:291:VAL:HA	1.97	0.47
1:E:170:THR:HG22	1:E:361:ILE:HD13	1.97	0.47
1:F:91:PHE:CD1	1:F:95:ASP:HB3	2.50	0.47
1:D:290:SER:HA	1:D:296:ARG:NH1	2.30	0.46
1:G:392:ASP:O	1:G:396:SER:OG	2.33	0.46
1:H:226:LEU:HD13	1:H:327:LEU:HD12	1.97	0.46
1:C:260:LYS:HD3	1:D:447:ARG:HH12	1.79	0.46
1:E:9:LEU:HD21	1:E:29:VAL:HG13	1.97	0.46
1:H:38:GLU:HA	1:H:41:MET:HE3	1.96	0.46
1:H:220:LYS:O	1:H:223:GLU:HB2	2.15	0.46
1:A:354:ASN:O	1:A:358:ILE:HG12	2.16	0.46
1:C:442:LEU:HD11	1:D:234:THR:HG23	1.97	0.46
1:F:26:LYS:HD3	1:F:52:TYR:OH	2.15	0.46
1:G:116:LYS:N	1:G:116:LYS:HD2	2.30	0.46
1:G:229:TYR:O	1:G:233:ILE:HG23	2.15	0.46
1:C:399:ILE:O	1:C:403:LEU:HB2	2.15	0.46
1:D:110:ARG:O	1:D:113:LYS:HG3	2.15	0.46
1:B:14:GLN:HG2	1:B:40:THR:OG1	2.16	0.46
1:C:69:LYS:HD3	1:C:152:VAL:HG22	1.96	0.46
1:E:325:ASN:O	1:E:329:CYS:HB2	2.15	0.46
1:E:386:LEU:CD1	1:E:392:ASP:HB2	2.45	0.46
1:G:121:GLU:HG3	1:G:147:TYR:HD2	1.80	0.46
1:C:88:LEU:HA	1:C:88:LEU:HD23	1.70	0.46
1:H:198:GLU:HB3	1:H:420:ILE:HG13	1.97	0.46
1:H:205:HIS:HB3	1:H:308:ILE:HD13	1.97	0.46
1:B:141:MET:HB3	1:B:172:ILE:CD1	2.46	0.46
1:B:203:MET:HE2	1:B:209:TYR:CD2	2.50	0.46
1:F:12:MET:CE	1:F:73:LEU:HD13	2.29	0.46
1:H:332:ILE:HG12	1:H:372:PHE:CE2	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:257:ALA:HB2	1:B:444:GLN:HG2	1.98	0.46
1:D:84:ILE:CD1	1:D:111:ARG:HD3	2.46	0.46
1:D:202:ILE:HD11	1:D:420:ILE:HG21	1.98	0.46
1:F:65:LYS:HA	1:F:65:LYS:HD3	1.56	0.46
1:H:121:GLU:HG3	1:H:147:TYR:CD2	2.50	0.46
1:H:344:GLN:O	1:H:348:GLU:HG3	2.15	0.46
1:C:255:ASP:OD1	1:C:293:LYS:NZ	2.47	0.46
1:D:213:LYS:O	1:D:217:VAL:HG23	2.16	0.46
1:E:244:LEU:HD13	1:F:460:ARG:HH11	1.81	0.46
1:G:440:LEU:HD12	1:H:290:SER:HB3	1.98	0.46
1:D:30:TYR:CE2	1:D:57:VAL:HG13	2.51	0.45
1:D:107:ASN:O	1:D:111:ARG:HG3	2.16	0.45
1:E:47:GLU:O	1:E:49:LEU:HD12	2.16	0.45
1:E:261:GLY:H	3:E:503:PEG:H22	1.82	0.45
1:G:203:MET:CB	1:G:214:LEU:HD21	2.46	0.45
1:B:230:LEU:O	1:B:234:THR:HG23	2.16	0.45
1:C:447:ARG:HE	5:D:502:AE3:C1	2.28	0.45
1:G:264:LYS:NZ	1:H:271:THR:O	2.50	0.45
1:A:79:ALA:O	1:A:83:ASN:ND2	2.38	0.45
1:C:142:PRO:HD2	1:C:170:THR:O	2.17	0.45
1:G:308:ILE:HD13	1:G:309:LEU:HG	1.98	0.45
1:H:64:LEU:HB2	1:H:68:ARG:HG2	1.98	0.45
1:H:116:LYS:NZ	1:H:122:TYR:H	2.12	0.45
1:B:360:ARG:O	1:B:363:ARG:HG3	2.15	0.45
1:F:457:ARG:NH1	1:F:459:ASP:OD2	2.49	0.45
1:H:226:LEU:O	1:H:231:ILE:HG21	2.16	0.45
1:D:331:LYS:CE	1:D:372:PHE:CD2	3.00	0.45
1:A:4:ILE:HG23	1:A:27:ILE:HD12	1.99	0.45
1:B:172:ILE:HD13	1:B:181:VAL:HG21	1.98	0.45
1:B:255:ASP:OD2	1:B:296:ARG:NH2	2.50	0.45
1:C:451:GLY:HA3	1:C:453:HIS:CE1	2.52	0.45
1:C:454:THR:HG23	1:C:463:ASN:HB3	1.97	0.45
1:E:207:LEU:HD23	1:E:316:LEU:HD13	1.99	0.45
1:H:207:LEU:HB3	1:H:209:TYR:CE2	2.51	0.45
1:H:185:HIS:NE2	1:H:366:CYS:HB2	2.32	0.45
1:A:443:VAL:HA	1:A:446:GLN:NE2	2.32	0.45
1:B:80:VAL:O	1:B:84:ILE:HG13	2.16	0.45
1:B:278:PRO:HG2	1:B:429:TYR:HB2	1.99	0.45
1:C:88:LEU:HD11	1:C:115:CYS:SG	2.57	0.45
1:F:170:THR:HG22	1:F:361:ILE:HD13	1.98	0.45
1:G:66:LYS:HD3	1:G:66:LYS:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:75:LYS:HD3	1:H:75:LYS:HA	1.81	0.45
1:C:183:MET:HE2	1:C:183:MET:HB3	1.88	0.45
1:D:222:ASN:ND2	1:D:232:GLU:HB2	2.32	0.45
1:D:381:LYS:HD3	1:D:381:LYS:HA	1.72	0.45
1:E:229:TYR:HB2	1:E:369:ARG:HG3	1.98	0.45
1:C:121:GLU:HG3	1:C:147:TYR:CE2	2.52	0.45
1:D:193:MET:O	1:D:197:SER:HB3	2.17	0.45
1:D:331:LYS:NZ	1:D:372:PHE:CD2	2.84	0.45
1:E:4:ILE:HD12	1:E:69:LYS:HB2	1.97	0.45
1:G:434:THR:O	1:H:300:GLU:HB2	2.17	0.45
1:H:20:ILE:HG22	1:H:25:PHE:HB2	1.99	0.45
1:H:372:PHE:CZ	1:H:376:ILE:HD11	2.52	0.45
1:H:429:TYR:CZ	1:H:433:VAL:HG21	2.52	0.45
1:B:57:VAL:HG12	1:B:61:ILE:CD1	2.48	0.44
1:D:105:TYR:HB2	1:D:176:SER:OG	2.18	0.44
1:D:128:SER:HB2	1:D:182:LYS:HE3	1.98	0.44
1:A:431:GLN:HB2	1:B:419:PRO:HB3	2.00	0.44
1:B:467:LEU:HD22	1:G:460:ARG:HH22	1.81	0.44
1:C:91:PHE:CD2	1:C:95:ASP:HB3	2.52	0.44
1:C:403:LEU:N	1:C:404:PRO:HD2	2.31	0.44
1:E:369:ARG:O	1:E:370:ALA:CB	2.65	0.44
1:H:2:CYS:HB2	1:H:63:ASN:O	2.17	0.44
1:A:207:LEU:HB3	1:A:209:TYR:CE1	2.53	0.44
1:B:254:LEU:HD13	1:D:42:LYS:HE3	1.99	0.44
1:C:38:GLU:HA	1:C:41:MET:HE3	2.00	0.44
1:C:91:PHE:O	1:C:118:LYS:NZ	2.37	0.44
1:G:9:LEU:HD12	1:G:31:ASN:HB2	1.98	0.44
1:D:47:GLU:O	1:D:49:LEU:HD12	2.17	0.44
1:E:125:MET:HE3	1:E:142:PRO:CB	2.46	0.44
1:F:144:GLY:O	1:F:171:TYR:OH	2.34	0.44
1:A:412:MET:HB3	1:A:412:MET:HE3	1.89	0.44
1:D:280:MET:HE2	1:D:280:MET:HB2	1.81	0.44
1:D:292:PHE:O	1:D:296:ARG:HG3	2.17	0.44
1:F:68:ARG:HH12	1:F:92:GLU:HG2	1.82	0.44
1:H:96:ILE:HA	1:H:121:GLU:O	2.17	0.44
1:B:102:ASN:OD1	1:B:182:LYS:NZ	2.44	0.44
1:C:72:LEU:N	1:C:72:LEU:HD12	2.33	0.44
1:C:363:ARG:HG2	1:C:373:LEU:HD12	1.99	0.44
1:D:278:PRO:HG2	1:D:429:TYR:HB2	1.99	0.44
1:E:141:MET:HB3	1:E:172:ILE:HD12	1.99	0.44
1:F:54:TYR:CD2	1:F:59:GLU:HG2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:116:LYS:HE2	1:F:121:GLU:OE1	2.18	0.44
1:F:403:LEU:N	1:F:404:PRO:HD2	2.33	0.44
1:A:460:ARG:HG3	1:A:464:TYR:OH	2.17	0.44
1:C:66:LYS:HA	1:C:67:PRO:C	2.41	0.44
1:D:102:ASN:HD21	1:D:182:LYS:HZ3	1.64	0.44
1:D:222:ASN:HD21	1:D:232:GLU:HB2	1.82	0.44
1:E:128:SER:O	1:E:138:CYS:HB2	2.18	0.44
1:E:443:VAL:HG13	1:F:193:MET:HE2	2.00	0.44
1:F:52:TYR:N	1:F:52:TYR:CD2	2.86	0.44
1:G:140:PHE:HB2	1:G:169:VAL:HG23	1.99	0.44
1:H:354:ASN:O	1:H:358:ILE:HG13	2.17	0.44
1:A:211:ASN:HA	1:A:214:LEU:HD12	2.00	0.44
1:A:222:ASN:OD1	1:A:227:ASN:ND2	2.51	0.44
1:D:307:ASN:HB3	1:D:309:LEU:CD2	2.48	0.44
1:A:280:MET:HE2	1:A:280:MET:HB2	1.77	0.43
1:C:79:ALA:HA	1:C:82:GLU:HG2	1.99	0.43
1:C:370:ALA:O	1:C:373:LEU:HG	2.18	0.43
1:D:198:GLU:HB2	1:D:420:ILE:HG22	2.00	0.43
1:E:222:ASN:OD1	1:E:227:ASN:ND2	2.51	0.43
1:B:9:LEU:HD21	1:B:29:VAL:HG13	2.00	0.43
1:C:457:ARG:HD3	1:C:460:ARG:HG3	2.01	0.43
1:E:85:SER:O	1:E:89:LYS:HE3	2.19	0.43
1:H:208:LYS:NZ	1:H:310:ILE:HD12	2.33	0.43
1:A:2:CYS:HB2	1:A:64:LEU:HD23	1.99	0.43
1:A:26:LYS:HE3	1:A:52:TYR:CZ	2.53	0.43
1:A:109:GLU:HG2	1:A:176:SER:OG	2.18	0.43
1:E:93:LYS:HA	1:E:119:ASP:O	2.17	0.43
1:F:194:GLN:O	1:F:198:GLU:HG3	2.18	0.43
1:F:390:PHE:HB2	1:F:399:ILE:HD12	2.01	0.43
1:E:72:LEU:CD1	1:E:97:ILE:HG23	2.48	0.43
1:C:207:LEU:HB3	1:C:209:TYR:CE1	2.53	0.43
1:E:190:TYR:OH	3:E:504:PEG:H12	2.18	0.43
1:E:385:LYS:HD3	1:E:385:LYS:HA	1.86	0.43
1:H:125:MET:HE1	1:H:156:LEU:CD2	2.48	0.43
1:A:183:MET:HA	1:A:262:THR:CG2	2.49	0.43
1:C:278:PRO:HD2	1:C:337:GLN:CD	2.44	0.43
1:C:315:ASP:OD2	1:C:315:ASP:N	2.40	0.43
1:G:325:ASN:HB3	1:G:402:LYS:HD2	1.94	0.43
1:E:1:MET:C	1:E:65:LYS:HZ2	2.26	0.43
1:G:69:LYS:HE3	1:G:151:CYS:HB3	2.00	0.43
1:H:54:TYR:CZ	1:H:63:ASN:ND2	2.86	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:343:LYS:NZ	1:H:387:GLU:HA	2.33	0.43
1:C:140:PHE:HB2	1:C:169:VAL:HG23	2.00	0.43
1:F:327:LEU:O	1:F:331:LYS:HG3	2.19	0.43
1:G:256:ILE:HG23	1:G:291:VAL:HA	1.99	0.43
1:B:15:ASN:ND2	1:B:131:GLU:HB2	2.33	0.43
1:C:300:GLU:HB2	1:D:434:THR:O	2.19	0.43
1:F:166:SER:HB3	1:F:360:ARG:NH1	2.34	0.43
1:G:68:ARG:HG3	1:G:95:ASP:CG	2.43	0.43
1:G:264:LYS:HZ2	1:H:274:GLY:HA3	1.77	0.43
1:H:12:MET:HE3	1:H:12:MET:HB2	1.89	0.43
1:H:81:ASP:CG	1:H:110:ARG:HH22	2.26	0.43
1:C:230:LEU:O	1:C:234:THR:OG1	2.33	0.43
1:H:163:VAL:HG13	1:H:363:ARG:NH2	2.33	0.43
1:A:42:LYS:NZ	1:A:46:GLU:OE1	2.52	0.42
1:F:183:MET:HE2	1:F:183:MET:HB3	1.87	0.42
1:F:420:ILE:O	1:F:420:ILE:HG13	2.19	0.42
1:A:296:ARG:NH2	1:B:436:GLN:O	2.52	0.42
1:E:72:LEU:HD21	1:E:87:ILE:CD1	2.49	0.42
1:E:392:ASP:OD2	1:E:394:GLU:HG3	2.19	0.42
1:C:15:ASN:HB3	1:C:135:ARG:HB2	2.02	0.42
1:C:318:ASP:OD1	1:C:318:ASP:N	2.51	0.42
1:C:454:THR:HG21	1:C:463:ASN:HB3	2.00	0.42
1:E:7:ILE:HG23	1:E:30:TYR:HD2	1.85	0.42
1:E:315:ASP:OD1	1:E:317:ASN:ND2	2.51	0.42
1:E:372:PHE:CD2	1:E:373:LEU:N	2.88	0.42
1:E:372:PHE:HD2	1:E:373:LEU:N	2.17	0.42
1:E:433:VAL:HG23	1:F:289:ILE:HD11	2.01	0.42
1:F:107:ASN:O	1:F:111:ARG:HG3	2.19	0.42
1:F:58:GLU:OE1	1:F:90:HIS:NE2	2.52	0.42
1:G:183:MET:HE2	1:G:183:MET:HB3	1.86	0.42
1:G:411:LEU:HD23	1:G:411:LEU:HA	1.92	0.42
1:G:419:PRO:HG3	1:H:431:GLN:CB	2.50	0.42
1:G:451:GLY:HA3	1:G:453:HIS:CE1	2.54	0.42
1:H:357:GLU:CD	1:H:360:ARG:HE	2.27	0.42
1:A:7:ILE:HG23	1:A:30:TYR:HD2	1.84	0.42
1:B:420:ILE:HG13	1:B:420:ILE:O	2.18	0.42
1:C:305:LYS:HD2	1:D:434:THR:O	2.19	0.42
1:C:343:LYS:HE2	1:C:347:GLU:OE2	2.20	0.42
1:A:11:VAL:HG11	1:A:131:GLU:OE1	2.19	0.42
1:B:278:PRO:HD2	1:B:337:GLN:NE2	2.35	0.42
1:C:39:GLU:CD	1:E:456:ARG:HD2	2.44	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:12:MET:HB2	1:E:12:MET:HE3	1.65	0.42
1:A:35:GLU:O	1:A:39:GLU:HG3	2.19	0.42
1:A:110:ARG:CG	1:A:110:ARG:HH11	2.30	0.42
1:B:196:ILE:HG21	1:B:234:THR:HG21	2.02	0.42
1:C:9:LEU:HD11	1:C:29:VAL:HG12	2.01	0.42
1:E:59:GLU:HG3	1:E:62:ASN:HB2	2.02	0.42
1:E:420:ILE:O	1:E:420:ILE:HG13	2.20	0.42
1:A:75:LYS:H	1:A:75:LYS:HD3	1.85	0.42
1:A:127:VAL:HG12	1:A:140:PHE:HD1	1.84	0.42
1:B:58:GLU:H	1:B:58:GLU:HG2	1.52	0.42
1:B:121:GLU:HG3	1:B:147:TYR:CD2	2.54	0.42
1:D:343:LYS:HB2	1:D:355:LEU:HD11	2.01	0.42
1:E:7:ILE:HD12	1:E:87:ILE:HD11	2.00	0.42
1:H:192:ASP:CG	1:H:331:LYS:HE3	2.44	0.42
1:B:43:ARG:O	1:B:47:GLU:HG3	2.19	0.42
1:C:4:ILE:HD12	1:C:69:LYS:CB	2.50	0.42
1:C:390:PHE:CD1	1:C:390:PHE:C	2.98	0.42
1:D:228:SER:HG	1:D:231:ILE:HB	1.84	0.42
5:D:502:AE3:H4C1	5:D:502:AE3:H6C1	1.86	0.42
1:E:434:THR:O	1:F:300:GLU:HB2	2.19	0.42
1:A:186:ASN:HD22	1:A:262:THR:HB	1.85	0.42
1:C:3:ASP:OD1	1:C:65:LYS:NZ	2.52	0.42
1:C:343:LYS:HZ1	1:C:385:LYS:HD2	1.85	0.42
1:D:328:TYR:O	1:D:332:ILE:HG13	2.20	0.42
1:E:180:TYR:CE1	1:E:183:MET:HE1	2.54	0.42
1:E:294:GLU:O	1:E:297:THR:OG1	2.37	0.42
1:G:221:TRP:HH2	1:G:323:LEU:HD23	1.84	0.42
1:H:163:VAL:HG13	1:H:163:VAL:O	2.20	0.42
1:H:375:ARG:HH21	1:H:394:GLU:HB2	1.85	0.42
1:A:155:ILE:HD12	1:A:155:ILE:H	1.85	0.41
1:B:290:SER:HA	1:B:296:ARG:NH1	2.34	0.41
1:E:211:ASN:HA	1:E:214:LEU:HD12	2.02	0.41
1:C:186:ASN:HD22	1:C:262:THR:HB	1.84	0.41
1:C:276:PRO:HG3	1:D:289:ILE:HG12	2.02	0.41
1:D:2:CYS:N	1:D:63:ASN:O	2.50	0.41
1:E:386:LEU:HD11	1:E:392:ASP:HB2	2.02	0.41
1:F:12:MET:CE	1:F:73:LEU:HD11	2.50	0.41
1:G:298:LYS:HA	1:G:298:LYS:HD3	1.82	0.41
1:A:293:LYS:NZ	1:B:436:GLN:O	2.52	0.41
1:E:73:LEU:HD23	1:E:73:LEU:HA	1.75	0.41
1:F:12:MET:HE1	1:F:73:LEU:HD21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:69:LYS:HD3	1:G:152:VAL:CG1	2.42	0.41
1:A:177:SER:HB3	1:A:351:TRP:CD2	2.55	0.41
1:C:88:LEU:CD2	1:C:120:VAL:HG11	2.40	0.41
1:D:255:ASP:OD2	1:D:296:ARG:NH2	2.54	0.41
1:C:180:TYR:OH	1:C:345:VAL:HG21	2.21	0.41
1:C:399:ILE:HG21	1:C:430:PHE:CE1	2.56	0.41
1:E:213:LYS:O	1:E:217:VAL:HG23	2.20	0.41
1:G:9:LEU:HD11	1:G:29:VAL:CG1	2.50	0.41
1:A:110:ARG:HG2	1:A:110:ARG:HH11	1.85	0.41
1:C:222:ASN:HD21	1:C:232:GLU:HB2	1.86	0.41
1:D:309:LEU:H	1:D:309:LEU:HD23	1.86	0.41
1:E:419:PRO:HB3	1:F:431:GLN:HB2	2.02	0.41
1:F:149:TYR:CE2	1:F:153:LYS:HG3	2.56	0.41
1:G:286:ALA:O	1:G:289:ILE:HG22	2.20	0.41
1:G:289:ILE:HD11	1:H:433:VAL:HG23	2.02	0.41
1:G:313:ASN:O	1:G:313:ASN:OD1	2.39	0.41
1:H:226:LEU:HD23	1:H:226:LEU:HA	1.89	0.41
1:D:251:ASP:O	1:D:252:MET:HE2	2.20	0.41
1:F:70:VAL:HG11	1:F:87:ILE:CD1	2.50	0.41
1:F:180:TYR:OH	1:F:345:VAL:HG21	2.20	0.41
1:F:266:THR:HG21	1:F:280:MET:HE1	2.01	0.41
1:F:267:MET:HE3	1:F:267:MET:O	2.20	0.41
1:G:461:GLU:O	1:G:464:TYR:OH	2.28	0.41
1:A:59:GLU:O	1:A:59:GLU:HG3	2.21	0.41
1:A:170:THR:HG22	1:A:361:ILE:HD13	2.03	0.41
1:A:360:ARG:HG3	1:A:363:ARG:NH2	2.36	0.41
1:D:116:LYS:HE2	1:D:116:LYS:HB2	1.71	0.41
1:D:194:GLN:O	1:D:198:GLU:HG2	2.20	0.41
1:E:54:TYR:CE1	1:E:63:ASN:ND2	2.89	0.41
1:E:352:LYS:HD3	1:E:352:LYS:HA	1.91	0.41
1:F:243:ASP:OD2	1:F:243:ASP:N	2.54	0.41
1:F:267:MET:HE1	2:F:502:GOL:O1	2.20	0.41
1:G:242:ASP:OD2	1:G:245:THR:OG1	2.35	0.41
1:G:314:GLU:O	1:G:316:LEU:HD13	2.21	0.41
1:G:407:ARG:HB3	1:H:414:THR:HG22	2.03	0.41
1:G:410:VAL:O	1:G:414:THR:OG1	2.24	0.41
1:H:185:HIS:HB2	1:H:362:TRP:CZ2	2.56	0.41
1:C:9:LEU:HD12	1:C:31:ASN:HB2	2.03	0.41
1:F:355:LEU:HD23	1:F:358:ILE:HD12	2.02	0.41
1:G:433:VAL:HG22	1:H:289:ILE:HD11	2.03	0.41
1:H:25:PHE:CE1	1:H:155:ILE:HG13	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:344:GLN:O	1:C:348:GLU:HG3	2.20	0.40
1:D:403:LEU:N	1:D:404:PRO:HD2	2.36	0.40
1:A:289:ILE:CG1	1:B:276:PRO:HG3	2.48	0.40
1:D:102:ASN:HD21	1:D:182:LYS:HZ2	1.66	0.40
1:E:273:ARG:NH1	1:E:348:GLU:OE1	2.54	0.40
1:F:251:ASP:O	1:F:252:MET:HE2	2.21	0.40
1:H:42:LYS:NZ	1:H:46:GLU:OE1	2.54	0.40
1:E:87:ILE:HG23	1:E:91:PHE:CE2	2.57	0.40
1:F:264:LYS:HE3	1:F:264:LYS:HB2	1.85	0.40
1:G:406:LEU:O	1:G:406:LEU:HD23	2.22	0.40
1:C:82:GLU:O	1:C:86:ASN:HB2	2.21	0.40
1:C:234:THR:HG23	1:D:442:LEU:HD11	2.02	0.40
1:D:307:ASN:HB3	1:D:309:LEU:HD22	2.03	0.40
1:D:367:ILE:HD12	1:D:367:ILE:HG23	1.86	0.40
1:E:6:LEU:HA	1:E:71:ILE:O	2.22	0.40
1:E:255:ASP:OD1	1:E:255:ASP:N	2.52	0.40
1:F:66:LYS:HA	1:F:67:PRO:C	2.47	0.40
1:G:104:TRP:NE1	1:G:106:ILE:HB	2.36	0.40
1:G:148:ALA:O	1:G:152:VAL:HG22	2.20	0.40
1:H:18:LEU:HD11	1:H:43:ARG:HE	1.84	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	466/468 (100%)	453 (97%)	13 (3%)	0	100	100
1	B	466/468 (100%)	452 (97%)	14 (3%)	0	100	100
1	C	466/468 (100%)	453 (97%)	12 (3%)	1 (0%)	43	72
1	D	466/468 (100%)	454 (97%)	12 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	E	466/468 (100%)	449 (96%)	14 (3%)	3 (1%)	21	51
1	F	466/468 (100%)	456 (98%)	10 (2%)	0	100	100
1	G	466/468 (100%)	454 (97%)	12 (3%)	0	100	100
1	H	466/468 (100%)	450 (97%)	16 (3%)	0	100	100
All	All	3728/3744 (100%)	3621 (97%)	103 (3%)	4 (0%)	48	77

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	304	ASN
1	E	304	ASN
1	E	352	LYS
1	E	370	ALA

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	405/406 (100%)	405 (100%)	0	100	100
1	B	405/406 (100%)	405 (100%)	0	100	100
1	C	405/406 (100%)	405 (100%)	0	100	100
1	D	405/406 (100%)	403 (100%)	2 (0%)	81	93
1	E	405/406 (100%)	403 (100%)	2 (0%)	81	93
1	F	405/406 (100%)	405 (100%)	0	100	100
1	G	405/406 (100%)	404 (100%)	1 (0%)	87	96
1	H	405/406 (100%)	405 (100%)	0	100	100
All	All	3240/3248 (100%)	3235 (100%)	5 (0%)	87	96

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	116	LYS
1	D	197	SER
1	E	12	MET
1	E	373	LEU
1	G	227	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	162	GLN
1	A	212	GLN
1	A	227	ASN
1	A	437	ASN
1	B	63	ASN
1	B	236	ASN
1	B	337	GLN
1	B	378	ASN
1	C	247	ASN
1	C	313	ASN
1	C	344	GLN
1	C	453	HIS
1	D	48	ASN
1	D	102	ASN
1	D	107	ASN
1	D	302	ASN
1	D	344	GLN
1	E	63	ASN
1	E	165	ASN
1	E	205	HIS
1	E	317	ASN
1	E	378	ASN
1	E	431	GLN
1	E	437	ASN
1	F	354	ASN
1	F	383	ASN
1	G	186	ASN
1	G	247	ASN
1	G	325	ASN
1	G	437	ASN
1	G	453	HIS
1	H	14	GLN
1	H	463	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

26 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	GOL	D	501	-	5,5,5	0.85	0	5,5,5	1.09	0
2	GOL	E	501	-	5,5,5	1.15	0	5,5,5	0.94	0
2	GOL	B	503	-	5,5,5	0.93	0	5,5,5	1.10	0
2	GOL	E	502	-	5,5,5	0.99	0	5,5,5	1.29	1 (20%)
2	GOL	F	502	-	5,5,5	0.82	0	5,5,5	1.23	0
3	PEG	A	504	-	6,6,6	0.81	0	5,5,5	0.24	0
4	PGE	B	506	-	9,9,9	0.97	0	8,8,8	0.59	0
2	GOL	B	501	-	5,5,5	0.88	0	5,5,5	1.53	1 (20%)
2	GOL	B	502	-	5,5,5	1.33	1 (20%)	5,5,5	0.97	0
2	GOL	F	501	-	5,5,5	0.89	0	5,5,5	1.23	0
3	PEG	E	504	-	6,6,6	0.90	0	5,5,5	0.50	0
3	PEG	H	502	-	6,6,6	1.01	0	5,5,5	0.62	0
3	PEG	B	505	-	6,6,6	0.86	0	5,5,5	0.46	0
3	PEG	H	503	-	6,6,6	0.87	0	5,5,5	0.32	0
3	PEG	A	503	-	6,6,6	0.88	0	5,5,5	0.43	0
3	PEG	E	503	-	6,6,6	0.88	0	5,5,5	0.44	0
4	PGE	A	505	-	9,9,9	0.86	0	8,8,8	0.31	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	AE3	D	502	-	8,8,8	0.84	0	7,7,7	0.68	0
2	GOL	H	501	-	5,5,5	0.92	0	5,5,5	1.11	0
2	GOL	B	504	-	5,5,5	1.00	0	5,5,5	1.09	0
2	GOL	A	501	-	5,5,5	1.39	1 (20%)	5,5,5	1.06	0
2	GOL	A	502	-	5,5,5	0.82	0	5,5,5	1.06	0
3	PEG	C	502	-	6,6,6	0.87	0	5,5,5	0.48	0
3	PEG	F	504	-	6,6,6	0.74	0	5,5,5	0.49	0
2	GOL	F	503	-	5,5,5	1.62	1 (20%)	5,5,5	0.63	0
2	GOL	C	501	-	5,5,5	0.77	0	5,5,5	1.22	1 (20%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	GOL	D	501	-	-	0/4/4/4	-
2	GOL	E	501	-	-	2/4/4/4	-
2	GOL	B	503	-	-	0/4/4/4	-
2	GOL	E	502	-	-	0/4/4/4	-
2	GOL	F	502	-	-	4/4/4/4	-
3	PEG	A	504	-	-	1/4/4/4	-
4	PGE	B	506	-	-	2/7/7/7	-
2	GOL	B	501	-	-	2/4/4/4	-
2	GOL	B	502	-	-	0/4/4/4	-
2	GOL	F	501	-	-	0/4/4/4	-
3	PEG	E	504	-	-	1/4/4/4	-
3	PEG	H	502	-	-	4/4/4/4	-
3	PEG	B	505	-	-	0/4/4/4	-
3	PEG	H	503	-	-	3/4/4/4	-
3	PEG	A	503	-	-	1/4/4/4	-
3	PEG	E	503	-	-	2/4/4/4	-
4	PGE	A	505	-	-	4/7/7/7	-
5	AE3	D	502	-	-	4/6/6/6	-
2	GOL	H	501	-	-	0/4/4/4	-
2	GOL	B	504	-	-	2/4/4/4	-
2	GOL	A	501	-	-	4/4/4/4	-
2	GOL	A	502	-	-	2/4/4/4	-
3	PEG	C	502	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PEG	F	504	-	-	1/4/4/4	-
2	GOL	F	503	-	-	2/4/4/4	-
2	GOL	C	501	-	-	4/4/4/4	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	503	GOL	C3-C2	2.71	1.62	1.51
2	A	501	GOL	C3-C2	2.34	1.60	1.51
2	B	502	GOL	C3-C2	2.26	1.60	1.51

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	501	GOL	C3-C2-C1	-2.61	102.21	111.80
2	E	502	GOL	C3-C2-C1	-2.17	103.84	111.80
2	C	501	GOL	C3-C2-C1	-2.13	103.98	111.80

There are no chirality outliers.

All (47) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	GOL	O1-C1-C2-C3
2	A	502	GOL	C1-C2-C3-O3
2	B	504	GOL	O1-C1-C2-C3
2	E	501	GOL	O1-C1-C2-C3
2	F	502	GOL	O1-C1-C2-O2
2	F	502	GOL	O1-C1-C2-C3
2	F	502	GOL	C1-C2-C3-O3
5	D	502	AE3	C4-C3-O2-C2
4	A	505	PGE	O2-C3-C4-O3
2	A	502	GOL	O2-C2-C3-O3
3	E	504	PEG	O1-C1-C2-O2
4	B	506	PGE	O2-C3-C4-O3
3	A	504	PEG	O1-C1-C2-O2
3	C	502	PEG	O2-C3-C4-O4
2	A	501	GOL	C1-C2-C3-O3
2	B	501	GOL	C1-C2-C3-O3
2	C	501	GOL	O1-C1-C2-C3
2	C	501	GOL	C1-C2-C3-O3
3	F	504	PEG	O2-C3-C4-O4

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Mol	Chain	Res	Type	Atoms
5	D	502	AE3	O3-C5-C6-O4
5	D	502	AE3	C6-C5-O3-C4
2	A	501	GOL	O1-C1-C2-O2
2	B	504	GOL	O1-C1-C2-O2
2	E	501	GOL	O1-C1-C2-O2
2	F	502	GOL	O2-C2-C3-O3
3	E	503	PEG	O2-C3-C4-O4
3	H	502	PEG	O2-C3-C4-O4
2	A	501	GOL	O2-C2-C3-O3
2	B	501	GOL	O2-C2-C3-O3
5	D	502	AE3	O2-C3-C4-O3
2	F	503	GOL	O1-C1-C2-O2
3	H	503	PEG	O2-C3-C4-O4
2	C	501	GOL	O2-C2-C3-O3
3	H	502	PEG	C4-C3-O2-C2
2	F	503	GOL	O1-C1-C2-C3
3	C	502	PEG	C4-C3-O2-C2
4	A	505	PGE	C6-C5-O3-C4
3	H	502	PEG	O1-C1-C2-O2
3	A	503	PEG	C4-C3-O2-C2
3	H	503	PEG	C1-C2-O2-C3
4	A	505	PGE	O3-C5-C6-O4
3	E	503	PEG	C1-C2-O2-C3
3	H	503	PEG	O1-C1-C2-O2
3	H	502	PEG	C1-C2-O2-C3
2	C	501	GOL	O1-C1-C2-O2
4	A	505	PGE	C3-C4-O3-C5
4	B	506	PGE	C3-C4-O3-C5

There are no ring outliers.

8 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	E	501	GOL	1	0
2	F	502	GOL	2	0
2	B	501	GOL	2	0
3	E	504	PEG	1	0
3	E	503	PEG	1	0
4	A	505	PGE	1	0
5	D	502	AE3	3	0
2	A	501	GOL	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	468/468 (100%)	-0.29	0 100 100	52, 70, 95, 110	0
1	B	468/468 (100%)	-0.42	2 (0%) 88 84	51, 66, 87, 116	0
1	C	468/468 (100%)	-0.32	4 (0%) 81 74	53, 68, 90, 124	0
1	D	468/468 (100%)	-0.33	1 (0%) 91 88	53, 68, 91, 123	0
1	E	468/468 (100%)	-0.34	3 (0%) 85 80	51, 67, 87, 109	0
1	F	468/468 (100%)	-0.38	1 (0%) 91 88	52, 68, 90, 102	0
1	G	468/468 (100%)	-0.13	1 (0%) 91 88	57, 76, 97, 123	0
1	H	468/468 (100%)	0.01	3 (0%) 85 80	58, 80, 102, 126	0
All	All	3744/3744 (100%)	-0.28	15 (0%) 88 84	51, 70, 94, 126	0

All (15) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	372	PHE	4.9
1	G	1	MET	3.2
1	H	239	ALA	2.7
1	F	1	MET	2.6
1	C	1	MET	2.5
1	C	310	ILE	2.4
1	C	308	ILE	2.4
1	E	91	PHE	2.3
1	B	1	MET	2.3
1	B	280	MET	2.2
1	H	50	VAL	2.2
1	D	308	ILE	2.1
1	E	280	MET	2.1
1	C	309	LEU	2.1
1	H	308	ILE	2.1

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
3	PEG	H	502	7/7	0.59	0.28	79,82,87,88	0
3	PEG	C	502	7/7	0.65	0.30	79,80,86,88	0
3	PEG	A	504	7/7	0.66	0.18	93,94,103,105	0
3	PEG	E	504	7/7	0.70	0.29	71,78,81,85	0
3	PEG	F	504	7/7	0.73	0.28	75,77,87,89	0
2	GOL	B	502	6/6	0.74	0.14	93,101,106,111	0
2	GOL	B	503	6/6	0.75	0.19	75,81,85,85	0
2	GOL	F	503	6/6	0.77	0.17	67,75,76,84	0
3	PEG	H	503	7/7	0.77	0.15	70,71,86,87	0
5	AE3	D	502	9/9	0.80	0.19	71,76,81,85	0
4	PGE	B	506	10/10	0.81	0.15	61,76,81,83	0
3	PEG	E	503	7/7	0.83	0.13	76,82,99,103	0
2	GOL	E	502	6/6	0.85	0.14	72,74,86,93	0
2	GOL	A	501	6/6	0.85	0.15	86,90,93,94	0
2	GOL	H	501	6/6	0.85	0.13	82,87,97,99	0
3	PEG	A	503	7/7	0.86	0.13	71,76,81,87	0
2	GOL	E	501	6/6	0.86	0.12	78,84,86,89	0
4	PGE	A	505	10/10	0.88	0.13	69,73,80,81	0
2	GOL	B	504	6/6	0.89	0.14	76,78,83,86	0
3	PEG	B	505	7/7	0.90	0.13	82,84,88,99	0
2	GOL	A	502	6/6	0.94	0.10	62,64,71,75	0
2	GOL	F	501	6/6	0.95	0.13	64,66,69,70	0
2	GOL	F	502	6/6	0.95	0.11	65,69,72,72	0
2	GOL	B	501	6/6	0.95	0.10	63,66,68,74	0
2	GOL	D	501	6/6	0.95	0.09	64,67,70,70	0
2	GOL	C	501	6/6	0.96	0.09	63,65,69,79	0

6.5 Other polymers [i](#)

There are no such residues in this entry.