



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 20, 2026 – 07:09 AM UTC

PDB ID : 5FQ6 / pdb_00005fq6
Title : Crystal structure of the SusCD complex BT2261-2264 from Bacteroides thetaiotaomicron
Authors : Glenwright, A.J.; Pothula, K.R.; Chorev, D.S.; Basle, A.; Robinson, C.V.; Kleinekathoefer, U.; Bolam, D.N.; van den Berg, B.
Deposited on : 2015-12-07
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:

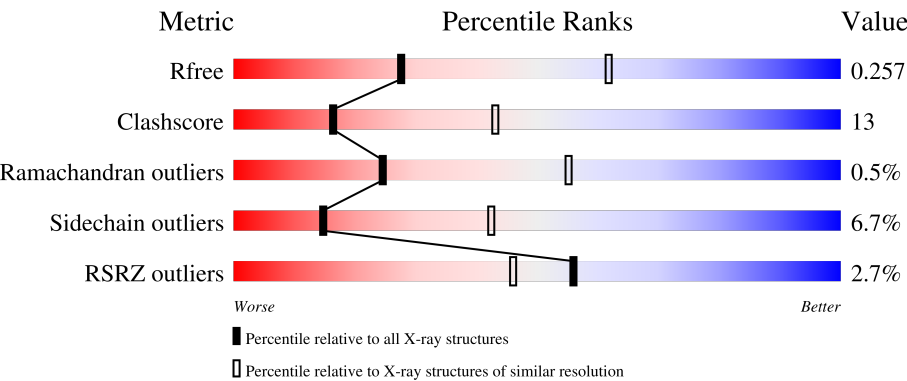
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal 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 i

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	480	2% 71% 27% .
1	C	480	% 76% 23% .
1	H	480	3% 69% 26% 5%
1	L	480	5% 61% 36% .

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Mol	Chain	Length	Quality of chain
2	B	984	
2	D	984	
2	I	984	
2	M	984	
3	E	148	
3	F	148	
3	J	148	
3	N	148	
4	G	10	
4	K	10	
4	O	10	
4	P	10	

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 49282 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 PUTATIVE LIPOPROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	480	Total	C	N	O	S	0	1	0
			3749	2373	616	743	17			
1	C	480	Total	C	N	O	S	0	1	0
			3749	2373	616	743	17			
1	H	480	Total	C	N	O	S	0	1	0
			3749	2373	616	743	17			
1	L	480	Total	C	N	O	S	0	1	0
			3749	2373	616	743	17			

- Molecule 2 is a protein called SUSC/RAGA FAMILY TONB-LINKED OUTER MEMBRANE PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	941	Total	C	N	O	S	0	0	0
			7326	4635	1222	1439	30			
2	D	945	Total	C	N	O	S	0	0	0
			7359	4658	1226	1445	30			
2	I	947	Total	C	N	O	S	0	0	0
			7374	4665	1230	1449	30			
2	M	948	Total	C	N	O	S	0	0	0
			7383	4670	1231	1452	30			

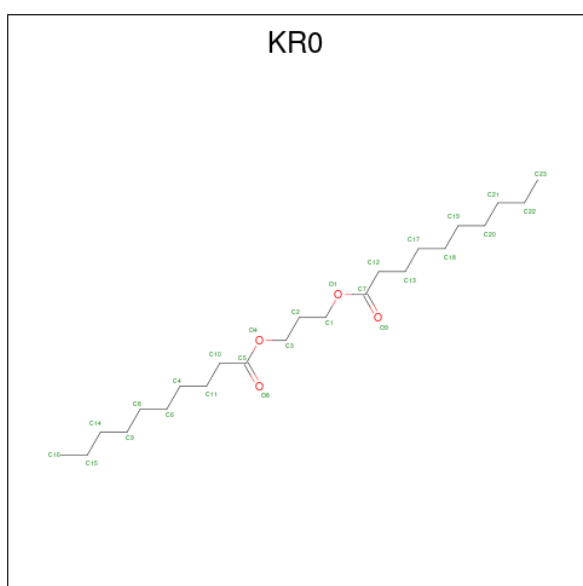
- Molecule 3 is a protein called UNCHARACTERIZED PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	E	146	Total	C	N	O	S	0	0	0
			1142	721	180	236	5			
3	F	146	Total	C	N	O	S	0	0	0
			1142	721	180	236	5			
3	J	146	Total	C	N	O	S	0	0	0
			1142	721	180	236	5			
3	N	146	Total	C	N	O	S	0	0	0
			1142	721	180	236	5			

- Molecule 4 is a protein called BT_2261.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
4	G	10	Total	C	N	O	0	0	0
			40	20	10	10			
4	K	10	Total	C	N	O	0	0	0
			40	20	10	10			
4	O	10	Total	C	N	O	0	0	0
			40	20	10	10			
4	P	10	Total	C	N	O	0	0	0
			40	20	10	10			

- Molecule 5 is 3-decanoyloxypropyl decanoate (CCD ID: KR0) (formula: C₂₃H₄₄O₄).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	B	1	Total	C	O	0	0
			27	23	4		
5	D	1	Total	C	O	0	0
			27	23	4		
5	I	1	Total	C	O	0	0
			27	23	4		
5	M	1	Total	C	O	0	0
			27	23	4		

- Molecule 6 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	B	1	Total	Na	0	0
			1	1		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	D	1	Total 1	Na 1	0	0
6	I	1	Total 1	Na 1	0	0
6	M	1	Total 1	Na 1	0	0

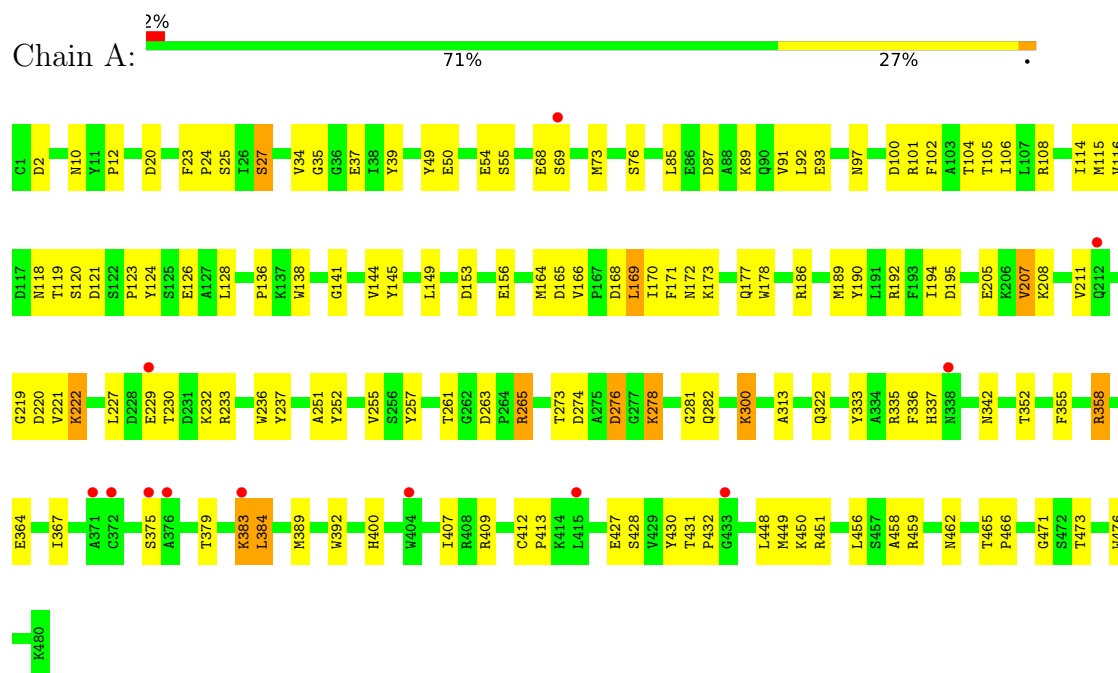
- Molecule 7 is CALCIUM ION (CCD ID: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	B	1	Total 1	Ca 1	0	0
7	D	1	Total 1	Ca 1	0	0
7	I	1	Total 1	Ca 1	0	0
7	M	1	Total 1	Ca 1	0	0

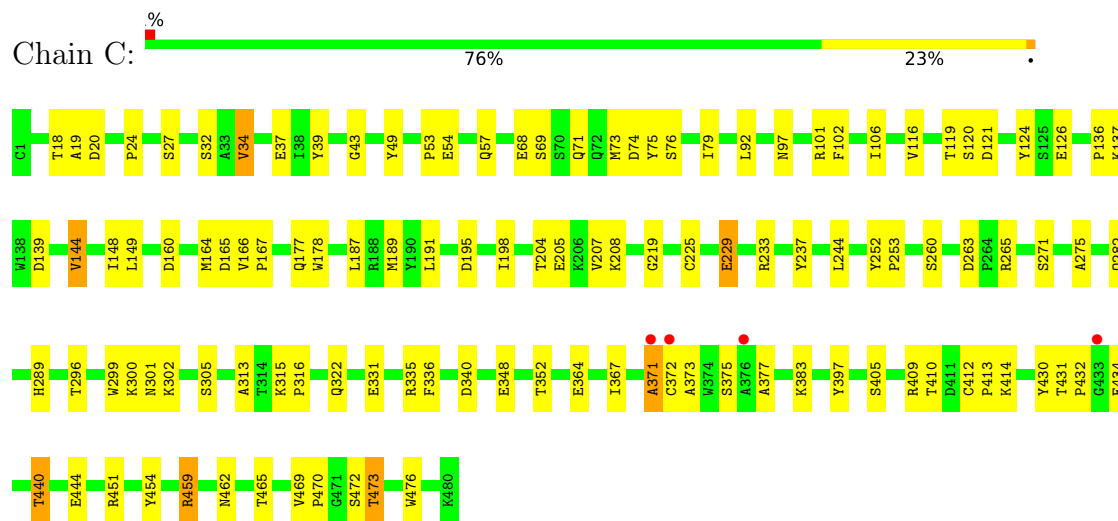
3 Residue-property plots [i](#)

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.

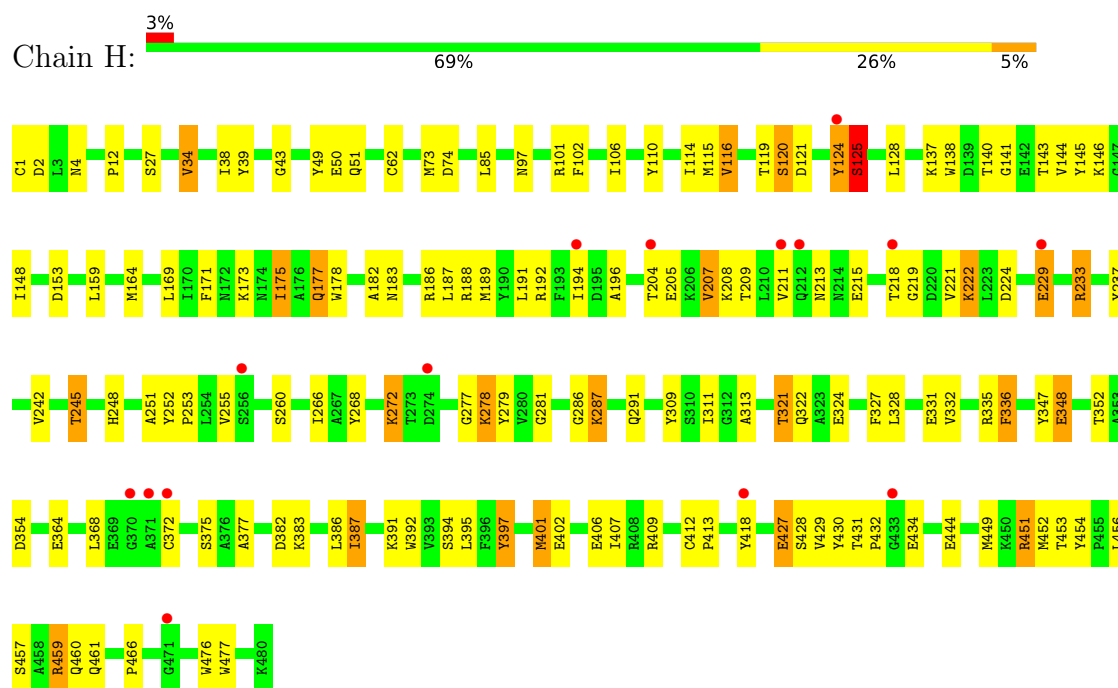
• Molecule 1: PUTATIVE LIPOPROTEIN



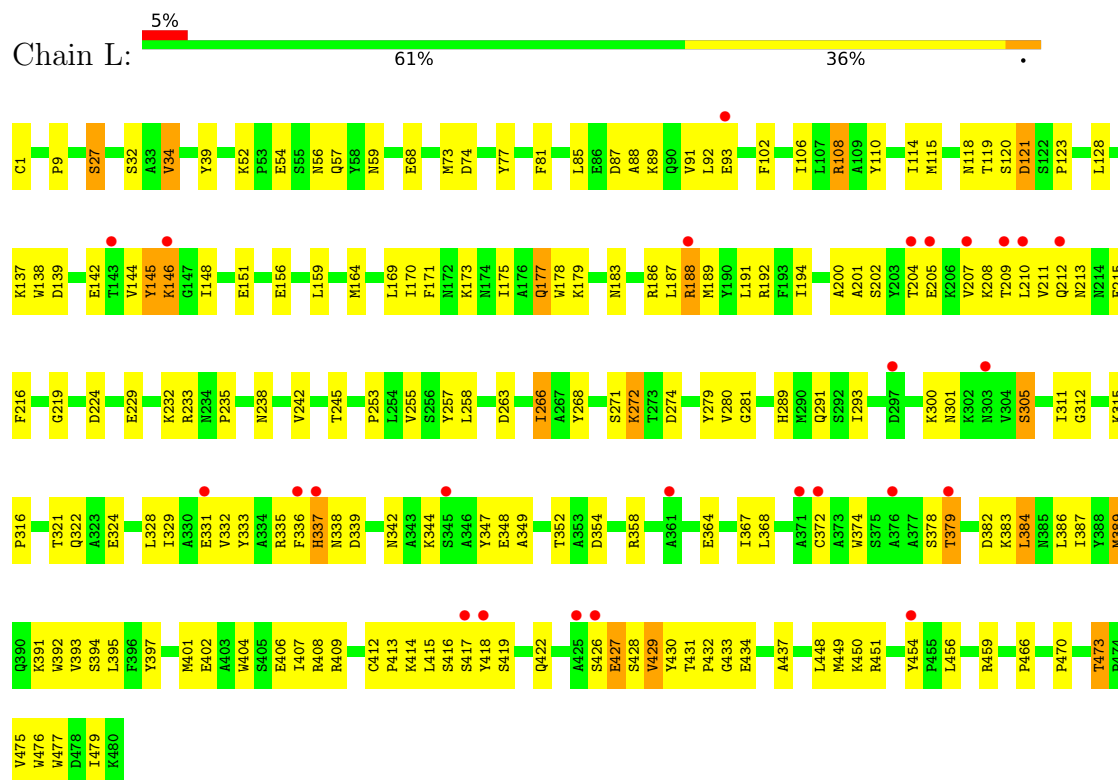
• Molecule 1: PUTATIVE LIPOPROTEIN



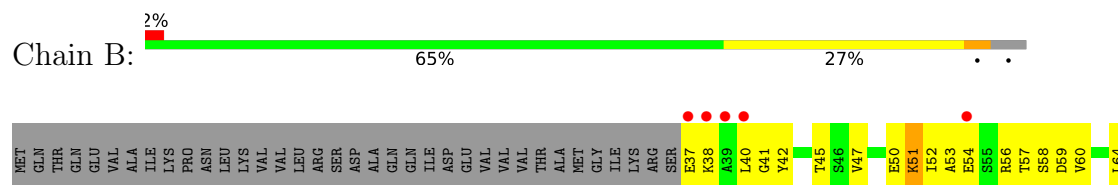
• Molecule 1: PUTATIVE LIPOPROTEIN

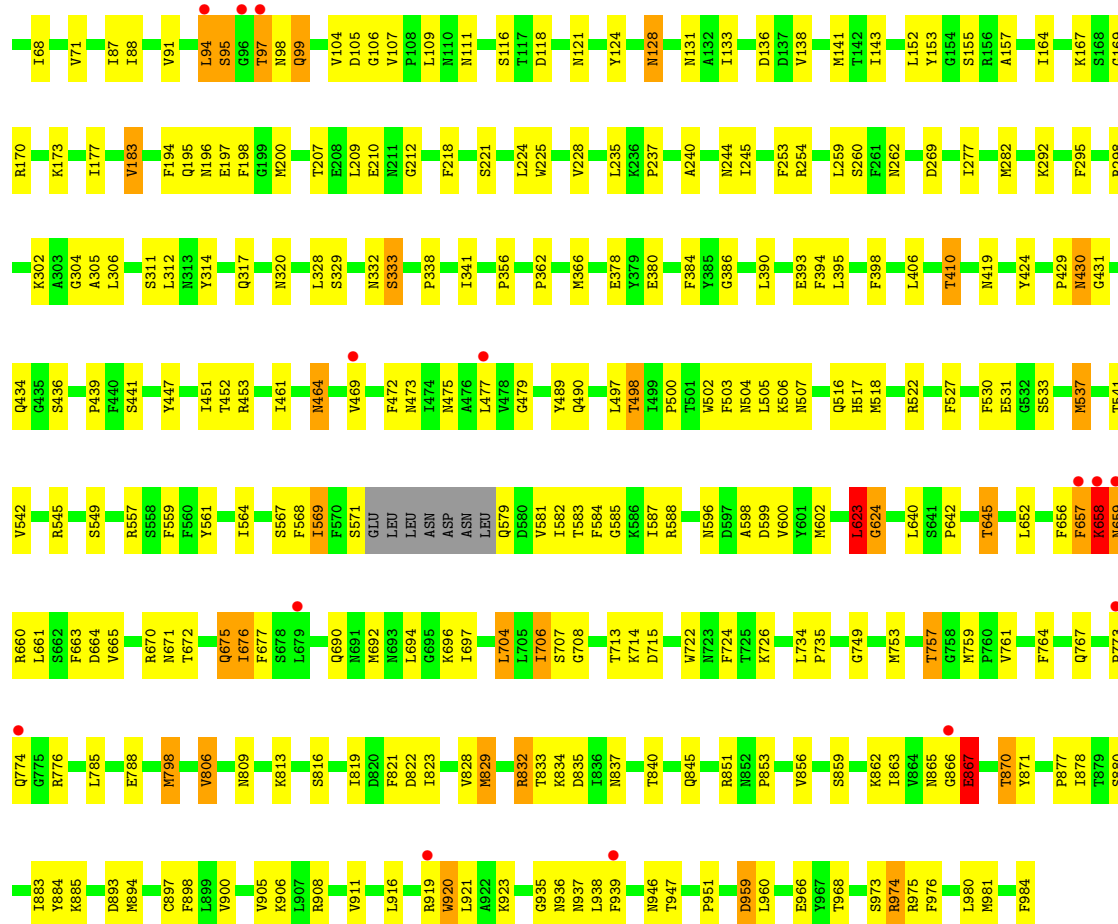


• Molecule 1: PUTATIVE LIPOPROTEIN

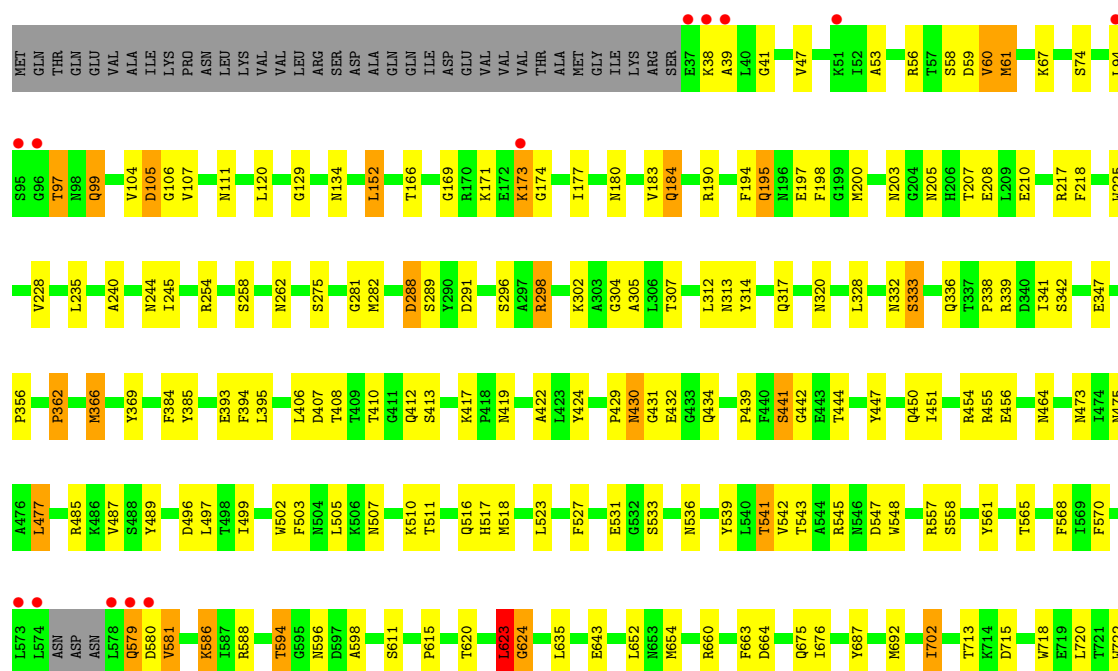


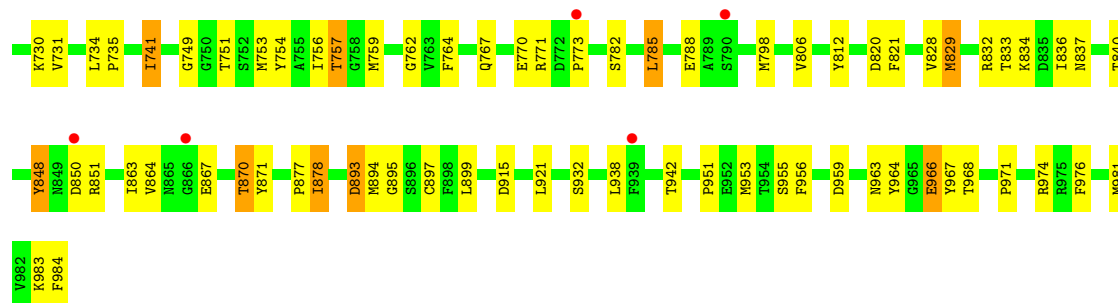
• Molecule 2: SUSC/RAGA FAMILY TONB-LINKED OUTER MEMBRANE PROTEIN



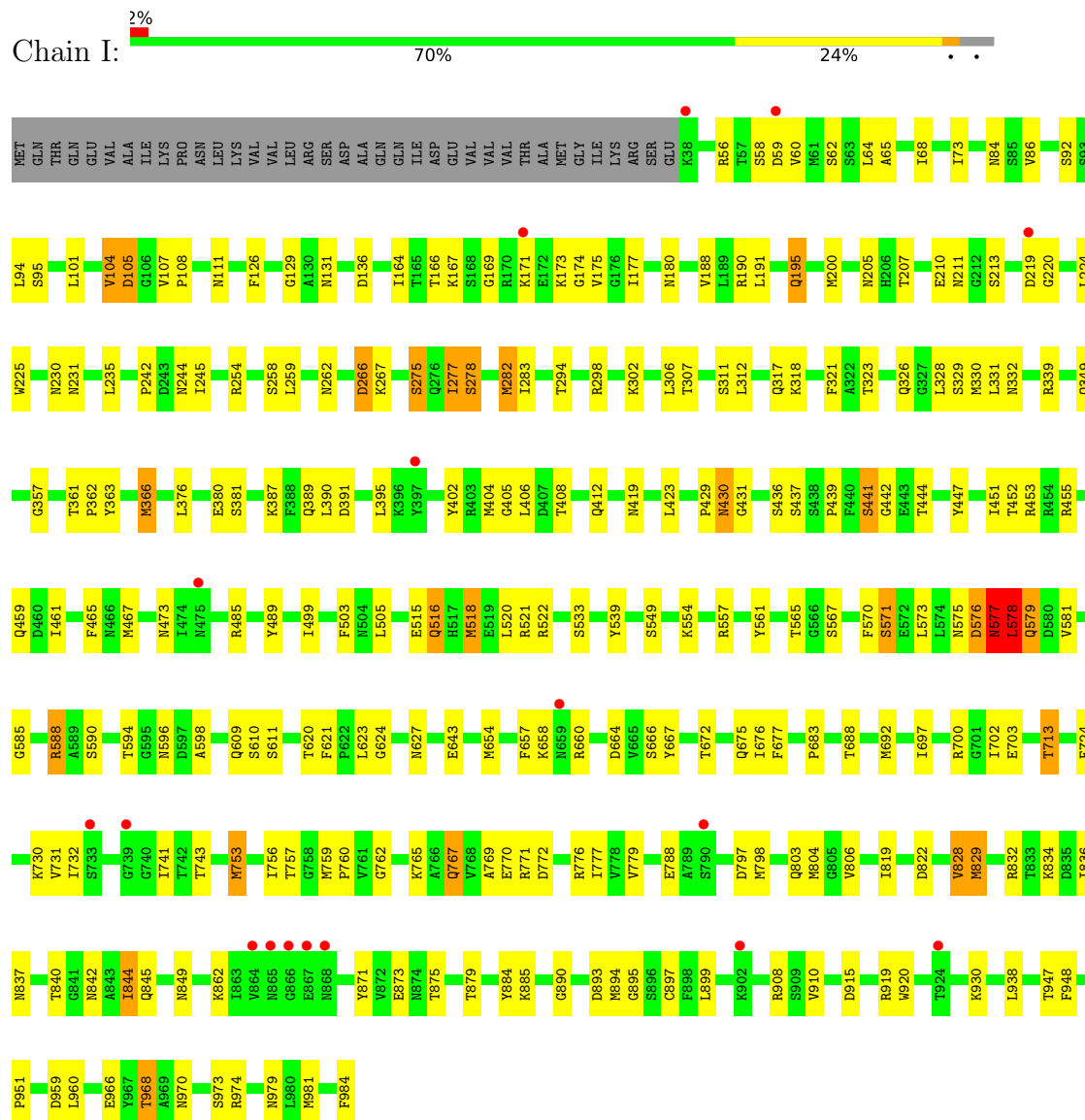


● Molecule 2: SUSC/RAGA FAMILY TONB-LINKED OUTER MEMBRANE PROTEIN



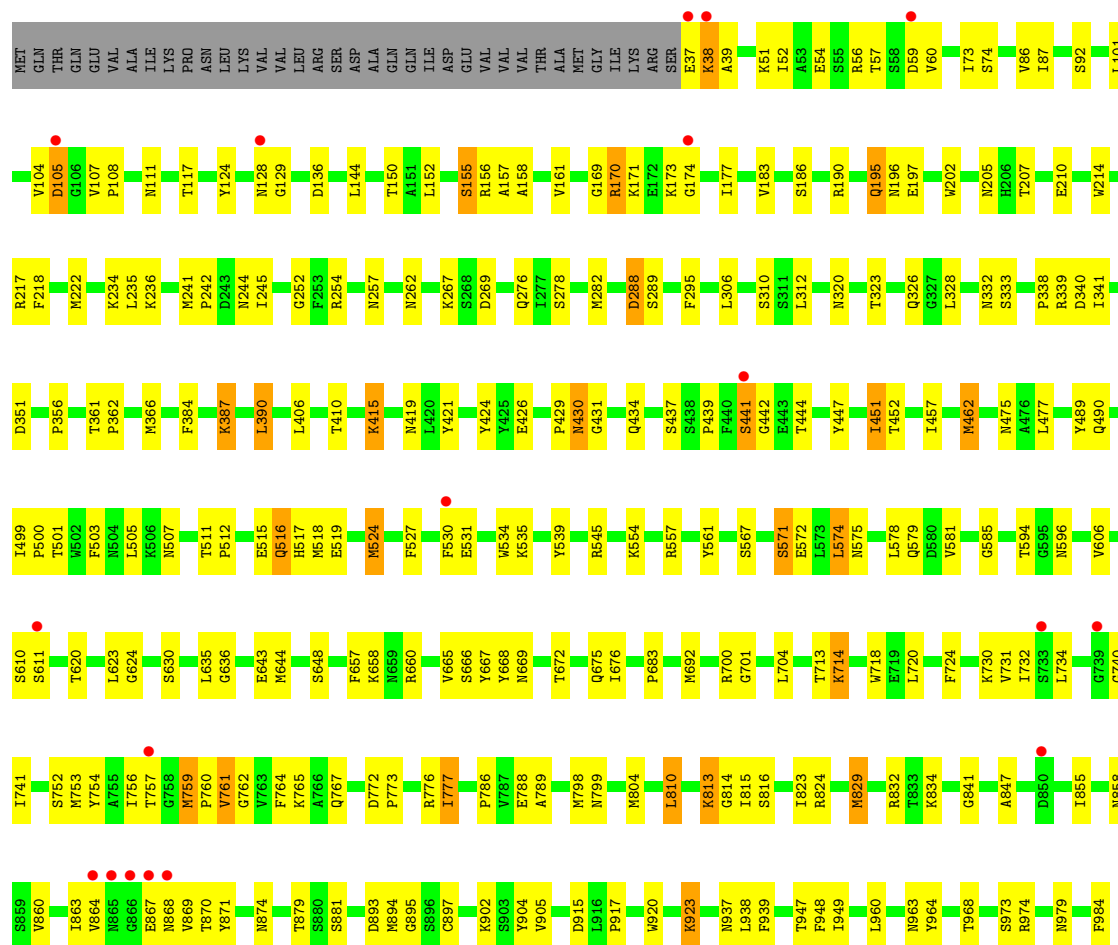


• Molecule 2: SUSC/RAGA FAMILY TONB-LINKED OUTER MEMBRANE PROTEIN

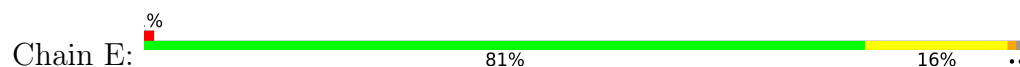


• Molecule 2: SUSC/RAGA FAMILY TONB-LINKED OUTER MEMBRANE PROTEIN

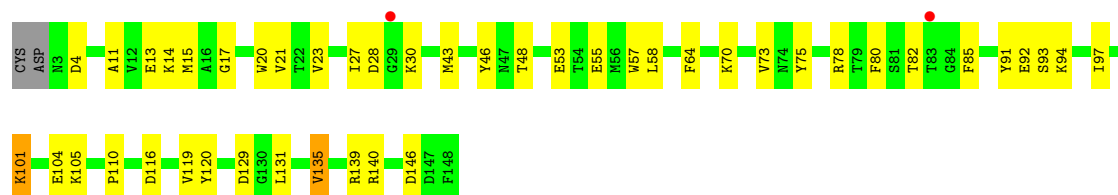




● Molecule 3: UNCHARACTERIZED PROTEIN

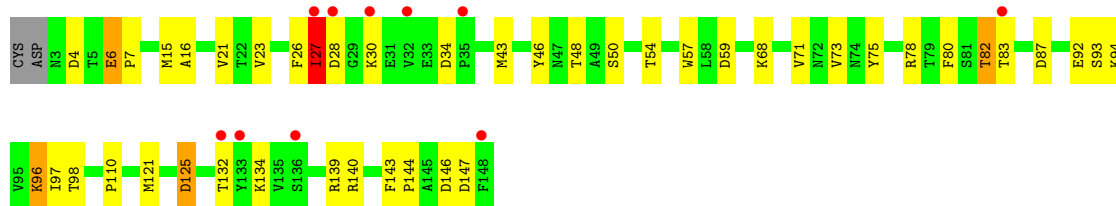


● Molecule 3: UNCHARACTERIZED PROTEIN

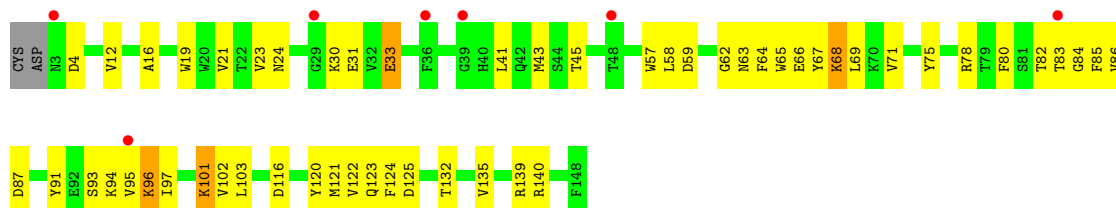


● Molecule 3: UNCHARACTERIZED PROTEIN





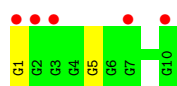
● Molecule 3: UNCHARACTERIZED PROTEIN



● Molecule 4: BT_2261



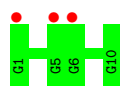
● Molecule 4: BT_2261



● Molecule 4: BT_2261



● Molecule 4: BT_2261



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	222.03Å 91.94Å 261.22Å 90.00° 98.23° 90.00°	Depositor
Resolution (Å)	48.80 – 2.80 48.80 – 2.80	Depositor EDS
% Data completeness (in resolution range)	99.2 (48.80-2.80) 91.4 (48.80-2.80)	Depositor EDS
R_{merge}	0.20	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.06 (at 2.81Å)	Xtrriage
Refinement program	PHENIX (1.10.1_2155: ???)	Depositor
R, R_{free}	0.198 , 0.255 0.201 , 0.257	Depositor DCC
R_{free} test set	10274 reflections (4.01%)	wwPDB-VP
Wilson B-factor (Å ²)	38.5	Xtrriage
Anisotropy	1.323	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 51.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	49282	wwPDB-VP
Average B, all atoms (Å ²)	62.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 51.10 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 5.8863e-05. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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: KR0, NA, CA

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	0.34	0/3843	0.55	0/5231
1	C	0.34	0/3843	0.60	2/5231 (0.0%)
1	H	0.37	0/3843	0.62	0/5231
1	L	0.37	0/3843	0.60	0/5231
2	B	0.38	0/7503	0.65	4/10176 (0.0%)
2	D	0.40	0/7536	0.68	9/10221 (0.1%)
2	I	0.40	0/7552	0.66	8/10245 (0.1%)
2	M	0.39	0/7561	0.68	5/10257 (0.0%)
3	E	0.35	0/1170	0.59	0/1589
3	F	0.34	0/1170	0.53	0/1589
3	J	0.32	0/1170	0.58	0/1589
3	N	0.33	0/1170	0.59	0/1589
4	G	0.58	0/39	1.62	1/47 (2.1%)
4	K	0.51	0/39	0.93	0/47
4	O	0.61	0/39	1.08	0/47
4	P	0.54	0/39	0.77	0/47
All	All	0.38	0/50360	0.64	29/68367 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1
1	H	0	1
1	L	0	2
2	B	0	2
2	D	0	1
2	I	0	2
2	M	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
All	All	0	11

There are no bond length outliers.

All (29) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	M	105	ASP	N-CA-C	12.21	124.81	110.41
2	D	430	ASN	N-CA-C	7.93	122.96	113.28
2	B	757	THR	CA-C-N	-7.84	108.72	122.83
2	B	757	THR	C-N-CA	-7.84	108.72	122.83
2	B	430	ASN	N-CA-C	7.58	122.52	113.28
2	M	430	ASN	N-CA-C	7.49	122.52	113.23
2	M	624	GLY	N-CA-C	-7.47	91.64	113.30
2	I	430	ASN	N-CA-C	7.41	122.61	112.90
2	M	104	VAL	CA-C-N	-7.13	110.62	121.53
2	M	104	VAL	C-N-CA	-7.13	110.62	121.53
2	D	105	ASP	N-CA-C	6.83	120.42	109.83
2	I	624	GLY	N-CA-C	-6.60	94.16	113.30
2	D	104	VAL	CA-C-N	-6.53	112.16	121.83
2	D	104	VAL	C-N-CA	-6.53	112.16	121.83
2	I	105	ASP	N-CA-C	6.28	121.11	109.24
2	D	579	GLN	CA-C-N	6.02	132.54	121.70
2	D	579	GLN	C-N-CA	6.02	132.54	121.70
2	I	104	VAL	CA-C-N	-5.95	110.90	122.62
2	I	104	VAL	C-N-CA	-5.95	110.90	122.62
2	D	624	GLY	N-CA-C	-5.78	96.53	113.30
2	D	757	THR	CA-C-N	-5.56	112.82	122.83
2	D	757	THR	C-N-CA	-5.56	112.82	122.83
4	G	2	GLY	N-CA-C	-5.29	101.87	110.55
2	B	624	GLY	N-CA-C	-5.20	98.22	113.30
2	I	576	ASP	CA-C-N	5.17	131.01	121.70
2	I	576	ASP	C-N-CA	5.17	131.01	121.70
1	C	472	SER	CA-C-N	-5.09	111.27	120.94
1	C	472	SER	C-N-CA	-5.09	111.27	120.94
2	I	577	ASN	N-CA-C	5.08	125.23	111.00

There are no chirality outliers.

All (11) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	37	GLU	Peptide

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Mol	Chain	Res	Type	Group
2	B	623	LEU	Peptide
1	C	336	PHE	Peptide
2	D	623	LEU	Peptide
1	H	336	PHE	Peptide
2	I	266	ASP	Peptide
2	I	623	LEU	Peptide
1	L	336	PHE	Peptide
1	L	337	HIS	Peptide
2	M	38	LYS	Peptide
2	M	623	LEU	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	3749	0	3566	96	0
1	C	3749	0	3566	76	0
1	H	3749	0	3566	114	0
1	L	3749	0	3566	155	0
2	B	7326	0	6994	206	0
2	D	7359	0	7033	162	0
2	I	7374	0	7044	174	0
2	M	7383	0	7050	175	0
3	E	1142	0	1056	19	0
3	F	1142	0	1056	29	0
3	J	1142	0	1056	26	0
3	N	1142	0	1056	61	0
4	G	40	0	32	1	0
4	K	40	0	32	3	0
4	O	40	0	32	2	0
4	P	40	0	32	0	0
5	B	27	0	0	0	0
5	D	27	0	0	0	0
5	I	27	0	0	0	0
5	M	27	0	0	0	0
6	B	1	0	0	0	0
6	D	1	0	0	0	0
6	I	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	M	1	0	0	0	0
7	B	1	0	0	0	0
7	D	1	0	0	0	0
7	I	1	0	0	0	0
7	M	1	0	0	0	0
All	All	49282	0	46737	1247	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 (1247) 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:H:211:VAL:HG21	1:H:332:VAL:HG21	1.51	0.92
3:N:85:PHE:HA	3:N:96:LYS:HE3	1.50	0.92
3:N:68:LYS:NZ	3:N:69:LEU:O	2.03	0.91
2:B:302:LYS:NZ	2:B:304:GLY:O	2.04	0.90
3:N:19:TRP:HE1	3:N:45:THR:HG22	1.35	0.89
2:M:658:LYS:HD2	2:M:660:ARG:HG2	1.55	0.88
1:H:34:VAL:HG11	1:H:114:ILE:HD13	1.55	0.88
1:C:296:THR:HG23	2:D:205:ASN:HD22	1.37	0.87
2:M:328:LEU:HD22	2:M:366:MET:HG3	1.57	0.87
2:D:190:ARG:HH12	2:D:942:THR:HG21	1.41	0.86
2:M:864:VAL:HG12	2:M:869:VAL:HA	1.58	0.86
1:L:34:VAL:HG11	1:L:114:ILE:HD13	1.57	0.85
1:C:412:CYS:SG	1:C:414:LYS:NZ	2.50	0.84
2:M:920:TRP:O	2:M:923:LYS:NZ	2.10	0.84
2:D:111:ASN:HA	2:D:129:GLY:HA3	1.60	0.84
1:L:192:ARG:HG2	1:L:409:ARG:HD3	1.60	0.84
2:B:207:THR:HG22	2:B:209:LEU:H	1.44	0.83
1:H:164:MET:HE3	1:H:173:LYS:HA	1.60	0.83
1:C:289:HIS:NE2	1:C:440:THR:HG22	1.95	0.82
2:D:833:THR:O	2:D:837:ASN:ND2	2.12	0.82
2:I:361:THR:HG22	2:I:363:TYR:H	1.42	0.81
1:H:245:THR:HG23	2:I:437:SER:HA	1.61	0.81
1:L:451:ARG:NH1	1:L:454:TYR:OH	2.15	0.80
2:M:73:ILE:HG12	2:M:86:VAL:HG22	1.64	0.80
2:I:788:GLU:HA	2:I:894:MET:HE1	1.64	0.79
2:B:136:ASP:O	2:B:167:LYS:NZ	2.16	0.78
2:B:195:GLN:NE2	2:B:198:PHE:H	1.82	0.78
2:D:767:GLN:HG2	2:D:895:GLY:H	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:837:ASN:HA	2:D:840:THR:HG22	1.66	0.77
2:I:111:ASN:HA	2:I:129:GLY:HA3	1.65	0.77
3:N:84:GLY:O	3:N:96:LYS:HD2	1.84	0.77
2:I:767:GLN:HG2	2:I:895:GLY:H	1.48	0.77
2:I:326:GLN:HE22	4:K:5:GLY:HA2	1.50	0.77
3:F:82:THR:HG22	3:F:97:ILE:H	1.49	0.77
1:L:454:TYR:HE2	1:L:466:PRO:HB2	1.49	0.77
2:D:207:THR:OG1	2:D:210:GLU:HG2	1.84	0.76
2:B:111:ASN:OD1	2:B:128:ASN:ND2	2.19	0.76
2:D:652:LEU:HD21	2:D:654:MET:HE3	1.68	0.76
1:A:164:MET:HE3	1:A:173:LYS:HA	1.67	0.76
2:I:577:ASN:O	2:I:579:GLN:N	2.19	0.75
2:I:570:PHE:HZ	2:I:654:MET:HE2	1.51	0.75
3:N:16:ALA:HA	3:N:45:THR:HG23	1.69	0.75
2:I:938:LEU:O	2:I:974:ARG:NH1	2.20	0.75
2:M:190:ARG:HH21	2:M:947:THR:HA	1.52	0.75
1:L:137:LYS:NZ	1:L:139:ASP:OD1	2.18	0.75
2:I:205:ASN:OD1	3:J:140:ARG:NH2	2.20	0.74
3:J:48:THR:HG22	3:J:50:SER:H	1.51	0.74
2:I:834:LYS:NZ	2:I:897:CYS:O	2.20	0.74
2:D:60:VAL:HG12	2:D:61:MET:HG2	1.69	0.74
1:H:321:THR:HG22	1:H:324:GLU:HB2	1.66	0.74
2:M:306:LEU:HD11	2:M:390:LEU:HD11	1.70	0.74
1:A:208:LYS:NZ	1:A:336:PHE:O	2.19	0.74
3:F:104:GLU:HG2	3:F:105:LYS:HG2	1.69	0.74
3:F:82:THR:CG2	3:F:97:ILE:H	2.00	0.74
2:I:211:ASN:HB3	2:I:361:THR:HG21	1.70	0.74
2:B:704:LEU:HD12	2:B:724:PHE:HB3	1.70	0.74
2:D:499:ILE:HB	2:D:507:ASN:HD21	1.53	0.73
2:I:56:ARG:HD2	2:I:979:ASN:HD22	1.53	0.73
3:N:57:TRP:HB3	3:N:68:LYS:HE3	1.70	0.73
2:M:879:THR:HG22	2:M:881:SER:H	1.52	0.73
2:B:581:VAL:HG13	2:B:582:ILE:HG12	1.71	0.73
2:M:596:ASN:HB3	2:M:643:GLU:HB3	1.70	0.73
1:H:449:MET:HE1	1:H:451:ARG:O	1.89	0.73
1:H:331:GLU:OE2	1:H:409:ARG:NH2	2.21	0.73
1:H:266:ILE:HG23	1:H:279:TYR:HE2	1.54	0.72
1:L:108:ARG:NH1	1:L:151:GLU:OE1	2.22	0.72
1:H:51:GLN:HB3	1:H:287:LYS:HD2	1.71	0.72
2:B:71:VAL:HG12	2:B:88:ILE:HG12	1.70	0.72
1:L:352:THR:HG22	1:L:364:GLU:HG3	1.69	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:893:ASP:HB2	2:B:897:CYS:HB2	1.71	0.72
1:H:352:THR:HG22	1:H:364:GLU:HG3	1.71	0.72
1:L:207:VAL:HG12	1:L:332:VAL:HG21	1.72	0.72
2:M:571:SER:OG	2:M:585:GLY:N	2.23	0.72
2:B:598:ALA:HB2	2:B:676:ILE:HD12	1.71	0.72
2:D:419:ASN:HD21	2:D:422:ALA:HB3	1.55	0.72
2:I:177:ILE:HB	2:I:984:PHE:HB2	1.72	0.71
2:M:177:ILE:HB	2:M:984:PHE:HB2	1.72	0.71
2:B:833:THR:O	2:B:837:ASN:ND2	2.23	0.71
2:M:923:LYS:H	2:M:923:LYS:HD3	1.54	0.71
2:D:451:ILE:HG21	2:M:451:ILE:HG21	1.72	0.71
2:B:823:ILE:HG12	2:B:905:VAL:HG22	1.73	0.70
2:I:59:ASP:OD1	2:I:131:ASN:ND2	2.24	0.70
2:M:762:GLY:HA3	2:M:798:MET:HG2	1.73	0.70
1:L:209:THR:C	1:L:212:GLN:HG2	2.16	0.70
1:L:211:VAL:HG21	1:L:332:VAL:HG11	1.74	0.70
1:H:219:GLY:O	1:H:322:GLN:HB2	1.92	0.69
2:B:195:GLN:HE21	2:B:198:PHE:H	1.37	0.69
1:H:73:MET:HE1	1:H:115:MET:HE1	1.75	0.69
1:L:213:ASN:HB3	1:L:215:GLU:HG3	1.72	0.69
1:H:4:ASN:OD1	2:I:557:ARG:NH2	2.25	0.69
2:D:579:GLN:HA	2:D:580:ASP:HB3	1.75	0.69
1:L:156:GLU:OE1	1:L:186:ARG:NH2	2.26	0.69
2:B:549:SER:O	2:B:557:ARG:HD3	1.93	0.69
2:I:167:LYS:O	2:I:298:ARG:NH1	2.26	0.69
1:L:110:TYR:CZ	1:L:114:ILE:HD11	2.27	0.69
2:M:205:ASN:OD1	3:N:140:ARG:NH2	2.25	0.69
3:N:21:VAL:HG21	3:N:43:MET:HE2	1.75	0.69
2:D:829:MET:HE1	2:D:951:PRO:HB3	1.74	0.69
3:N:85:PHE:HA	3:N:96:LYS:CE	2.22	0.69
1:A:459:ARG:NH2	1:A:466:PRO:O	2.26	0.68
2:D:197:GLU:OE2	2:D:217:ARG:NH1	2.25	0.68
2:B:863:ILE:HB	2:B:870:THR:HG23	1.75	0.68
2:D:430:ASN:O	2:D:439:PRO:HD2	1.93	0.68
3:J:140:ARG:NH1	3:J:147:ASP:OD1	2.27	0.68
2:B:713:THR:HG22	2:B:715:ASP:H	1.58	0.68
2:M:207:THR:OG1	2:M:210:GLU:HG2	1.92	0.68
1:A:168:ASP:OD1	1:A:172:ASN:N	2.26	0.68
2:I:339:ARG:HG2	2:I:842:ASN:HD22	1.57	0.68
2:B:865:ASN:O	2:B:867:GLU:N	2.28	0.68
3:J:110:PRO:HG2	3:J:146:ASP:HA	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:56:ARG:NH2	2:M:136:ASP:OD1	2.27	0.68
3:N:85:PHE:CA	3:N:96:LYS:HE3	2.24	0.67
2:B:177:ILE:HB	2:B:984:PHE:HB2	1.75	0.67
2:I:207:THR:OG1	2:I:210:GLU:HG2	1.94	0.67
1:A:138:TRP:NE1	1:A:465:THR:HG22	2.09	0.67
1:A:333:TYR:CD2	1:A:342:ASN:HB3	2.30	0.67
2:B:505:LEU:HD12	2:I:516:GLN:HB3	1.76	0.67
1:H:229:GLU:O	1:H:233:ARG:NH1	2.27	0.67
2:I:56:ARG:HD2	2:I:979:ASN:ND2	2.10	0.67
1:C:164:MET:HE1	1:C:178:TRP:CD1	2.30	0.67
1:A:265:ARG:HG2	1:A:358:ARG:HD2	1.77	0.67
2:I:107:VAL:HG11	2:I:405:GLY:HA3	1.76	0.67
2:B:56:ARG:O	2:B:254:ARG:NH2	2.22	0.67
2:D:893:ASP:HB2	2:D:897:CYS:HB2	1.77	0.67
1:H:38:ILE:HG22	1:H:401:MET:HG3	1.77	0.67
1:H:272:LYS:HG3	1:H:279:TYR:CE1	2.29	0.67
2:M:186:SER:HB2	2:M:252:GLY:HA3	1.77	0.67
2:I:753:MET:HE1	2:I:798:MET:HB3	1.75	0.66
2:B:753:MET:HE3	2:B:764:PHE:CZ	2.30	0.66
1:C:68:GLU:OE2	1:C:459:ARG:NH1	2.28	0.66
3:F:23:VAL:HG13	3:F:135:VAL:HG12	1.78	0.66
1:H:188:ARG:NE	1:H:402:GLU:OE2	2.28	0.66
2:I:402:TYR:OH	2:I:459:GLN:NE2	2.29	0.66
2:B:447:TYR:CD1	2:B:503:PHE:HB3	2.30	0.66
2:D:419:ASN:ND2	2:D:422:ALA:HB3	2.09	0.66
2:D:981:MET:HE1	2:D:983:LYS:HB2	1.76	0.66
1:H:124:TYR:O	1:H:125:SER:HB3	1.94	0.66
1:L:9:PRO:HG3	2:M:518:MET:HE2	1.77	0.66
2:M:333:SER:OG	2:M:366:MET:O	2.08	0.66
1:A:333:TYR:HD2	1:A:342:ASN:HB3	1.60	0.65
2:B:583:THR:HG21	2:B:658:LYS:HA	1.78	0.65
3:J:46:TYR:OH	3:J:68:LYS:NZ	2.29	0.65
2:B:833:THR:OG1	2:B:966:GLU:OE2	2.14	0.65
2:B:845:GLN:HE22	2:B:947:THR:HG21	1.59	0.65
2:D:611:SER:HB2	2:D:620:THR:HG22	1.79	0.65
2:B:64:LEU:HD11	2:B:141:MET:HE1	1.77	0.65
2:B:527:PHE:HB3	2:B:545:ARG:HD2	1.78	0.65
2:D:511:THR:HG23	2:M:511:THR:HG23	1.78	0.65
2:D:722:TRP:HD1	2:D:806:VAL:HG12	1.61	0.65
3:N:86:VAL:H	3:N:96:LYS:CE	2.10	0.65
2:M:288:ASP:OD1	2:M:288:ASP:N	2.28	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:832:ARG:HG2	2:I:968:THR:HG23	1.79	0.64
1:L:416:SER:HB2	1:L:434:GLU:HG3	1.79	0.64
3:N:12:VAL:HA	3:N:75:TYR:CE2	2.32	0.64
2:B:774:GLN:HE22	2:B:776:ARG:HG3	1.62	0.64
1:H:427:GLU:OE1	1:H:427:GLU:N	2.27	0.64
2:M:242:PRO:HA	2:M:339:ARG:HH12	1.62	0.64
1:C:271:SER:O	1:C:305:SER:HB2	1.97	0.64
2:D:579:GLN:HA	2:D:580:ASP:CB	2.27	0.64
2:I:575:ASN:HB2	2:I:577:ASN:HB2	1.80	0.64
1:L:205:GLU:O	1:L:209:THR:HG22	1.98	0.64
2:M:714:LYS:O	2:M:714:LYS:HD3	1.97	0.64
1:A:27:SER:HB3	1:A:170:ILE:HD11	1.80	0.63
2:B:788:GLU:HA	2:B:894:MET:HE1	1.79	0.63
2:D:502:TRP:HB3	2:D:507:ASN:HD22	1.63	0.63
2:I:658:LYS:HD3	2:I:660:ARG:HG3	1.79	0.63
1:A:263:ASP:OD2	1:A:265:ARG:NH1	2.31	0.63
1:H:406:GLU:OE1	1:H:409:ARG:NH1	2.32	0.63
3:N:86:VAL:H	3:N:96:LYS:HE3	1.63	0.63
3:N:116:ASP:OD2	3:N:139:ARG:NH1	2.31	0.63
1:C:282:GLN:NE2	1:C:299:TRP:HE1	1.95	0.63
2:M:169:GLY:HA2	2:M:262:ASN:OD1	1.97	0.63
3:N:86:VAL:H	3:N:96:LYS:NZ	1.97	0.63
2:B:105:ASP:H	2:B:107:VAL:H	1.45	0.63
1:L:272:LYS:HD3	1:L:279:TYR:HE1	1.64	0.63
1:L:339:ASP:CG	1:L:342:ASN:HB2	2.24	0.63
2:B:207:THR:HB	2:B:210:GLU:HG2	1.81	0.62
1:C:296:THR:CG2	2:D:205:ASN:HD22	2.12	0.62
1:L:354:ASP:OD2	1:L:394:SER:HA	1.99	0.62
2:B:785:LEU:HD23	2:B:878:ILE:HG12	1.82	0.62
1:A:255:VAL:HG11	1:A:281:GLY:HA3	1.80	0.62
2:B:332:ASN:OD1	2:B:832:ARG:NH2	2.32	0.62
2:D:741:ILE:HG13	2:D:756:ILE:HG12	1.79	0.62
1:L:354:ASP:OD1	1:L:358:ARG:NE	2.24	0.62
2:M:489:TYR:OH	2:M:515:GLU:OE2	2.13	0.62
1:C:137:LYS:NZ	1:C:139:ASP:OD1	2.33	0.62
1:A:257:TYR:CE2	1:A:389:MET:HE3	2.35	0.62
2:B:200:MET:HE1	2:B:225:TRP:HB2	1.81	0.62
1:H:213:ASN:HB3	1:H:215:GLU:HG3	1.80	0.62
2:I:65:ALA:HB3	2:I:908:ARG:HD3	1.82	0.62
2:I:724:PHE:HD1	2:I:804:MET:HE2	1.64	0.62
1:H:286:GLY:H	1:H:287:LYS:HZ3	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:414:LYS:HD2	1:L:415:LEU:H	1.63	0.62
3:N:23:VAL:HG11	3:N:64:PHE:CZ	2.34	0.62
1:A:257:TYR:HE2	1:A:389:MET:HB3	1.65	0.62
2:D:833:THR:OG1	2:D:966:GLU:OE2	2.16	0.62
2:D:430:ASN:N	2:D:431:GLY:HA3	2.15	0.62
1:L:229:GLU:O	1:L:233:ARG:CZ	2.48	0.62
1:L:407:ILE:HG12	1:L:413:PRO:HD2	1.81	0.62
3:J:82:THR:OG1	3:J:97:ILE:N	2.30	0.61
2:B:51:LYS:HA	2:B:54:GLU:OE1	1.99	0.61
1:H:119:THR:HG23	1:H:454:TYR:CE1	2.35	0.61
1:H:452:MET:HE3	1:H:453:THR:H	1.65	0.61
2:B:640:LEU:HD22	2:B:676:ILE:HD13	1.83	0.61
1:C:124:TYR:C	1:C:126:GLU:H	2.08	0.61
2:D:753:MET:HE3	2:D:764:PHE:CZ	2.36	0.61
2:D:598:ALA:HB2	2:D:676:ILE:HD12	1.82	0.61
3:E:23:VAL:HG11	3:E:64:PHE:CZ	2.35	0.61
1:H:205:GLU:O	1:H:209:THR:HG23	2.00	0.61
2:B:430:ASN:N	2:B:431:GLY:HA3	2.16	0.61
1:H:418:TYR:CD2	1:H:429:VAL:HG22	2.36	0.61
2:B:224:LEU:HD23	2:B:235:LEU:HD13	1.83	0.61
1:L:204:THR:O	1:L:208:LYS:HG3	2.00	0.61
1:H:119:THR:HG21	1:H:138:TRP:HZ3	1.66	0.60
2:M:244:ASN:OD1	2:M:339:ARG:NH2	2.34	0.60
2:B:877:PRO:HG3	3:F:46:TYR:CZ	2.37	0.60
2:M:753:MET:HE3	2:M:964:TYR:HA	1.83	0.60
1:C:371:ALA:O	1:C:373:ALA:N	2.32	0.60
1:L:123:PRO:HD3	1:L:138:TRP:CD2	2.36	0.60
2:B:68:ILE:HB	2:B:71:VAL:CG2	2.32	0.60
1:L:175:ILE:O	1:L:179:LYS:HG3	2.02	0.60
1:C:136:PRO:HD2	1:C:462:ASN:ND2	2.17	0.60
1:H:34:VAL:O	1:H:39:TYR:HB2	2.01	0.60
2:I:306:LEU:HD11	2:I:390:LEU:HD11	1.82	0.60
3:N:58:LEU:H	3:N:68:LYS:NZ	1.99	0.60
1:C:92:LEU:O	1:C:101:ARG:NH1	2.34	0.60
2:I:404:MET:SD	2:I:459:GLN:NE2	2.75	0.60
2:I:570:PHE:CZ	2:I:654:MET:HE2	2.35	0.60
2:I:430:ASN:N	2:I:431:GLY:HA3	2.17	0.60
2:M:56:ARG:HD2	2:M:979:ASN:CG	2.27	0.60
2:I:105:ASP:O	2:I:387:LYS:NZ	2.34	0.60
2:I:730:LYS:HG2	2:I:732:ILE:HD13	1.82	0.60
1:A:352:THR:HA	1:A:364:GLU:HG2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:391:LYS:O	1:L:395:LEU:HD12	2.01	0.60
2:M:920:TRP:C	2:M:923:LYS:HZ2	2.08	0.60
2:I:473:ASN:HB3	2:I:533:SER:HB3	1.82	0.59
2:M:813:LYS:CG	2:M:814:GLY:H	2.14	0.59
1:H:331:GLU:CD	1:H:409:ARG:HH22	2.09	0.59
1:L:164:MET:HE3	1:L:173:LYS:HA	1.83	0.59
1:L:418:TYR:HE2	1:L:429:VAL:HG12	1.67	0.59
1:C:340:ASP:OD2	1:C:383:LYS:NZ	2.34	0.59
2:M:813:LYS:HG3	2:M:814:GLY:H	1.67	0.59
2:I:95:SER:HB2	2:I:677:PHE:HE1	1.67	0.59
1:H:191:LEU:HD13	1:H:328:LEU:HD23	1.85	0.59
2:I:571:SER:OG	2:I:585:GLY:N	2.36	0.59
2:M:829:MET:HE3	2:M:949:ILE:HD11	1.85	0.59
3:E:21:VAL:HG12	3:E:137:GLY:HA3	1.84	0.59
1:H:459:ARG:NH2	1:H:466:PRO:O	2.35	0.59
2:B:138:VAL:HG22	2:B:164:ILE:HD11	1.83	0.59
1:L:232:LYS:NZ	2:M:620:THR:O	2.35	0.59
2:M:430:ASN:N	2:M:431:GLY:HA3	2.17	0.59
1:H:255:VAL:HG11	1:H:281:GLY:HA3	1.84	0.59
2:I:317:GLN:HG2	2:I:381:SER:HB3	1.83	0.59
1:A:263:ASP:OD1	1:A:265:ARG:HD3	2.01	0.59
2:D:785:LEU:HD23	2:D:878:ILE:CD1	2.32	0.59
1:H:354:ASP:OD2	1:H:394:SER:HA	2.02	0.59
3:N:12:VAL:HA	3:N:75:TYR:HE2	1.68	0.59
2:D:938:LEU:O	2:D:974:ARG:NH1	2.35	0.58
1:A:100:ASP:O	1:A:104:THR:HG23	2.04	0.58
2:I:829:MET:HE1	2:I:951:PRO:HB3	1.85	0.58
2:I:200:MET:HE1	2:I:225:TRP:HB2	1.84	0.58
2:I:893:ASP:HB2	2:I:897:CYS:HB2	1.85	0.58
2:B:774:GLN:HE21	2:B:776:ARG:HE	1.50	0.58
2:I:837:ASN:HA	2:I:840:THR:HG22	1.86	0.58
1:A:449:MET:HE3	1:A:471:GLY:HA3	1.85	0.58
2:B:834:LYS:NZ	2:B:897:CYS:O	2.36	0.58
2:M:105:ASP:O	2:M:387:LYS:NZ	2.30	0.58
2:M:195:GLN:HG2	2:M:197:GLU:H	1.67	0.58
1:L:266:ILE:HG13	1:L:279:TYR:CD2	2.39	0.58
2:I:389:GLN:NE2	2:I:391:ASP:OD1	2.36	0.58
2:B:516:GLN:HB2	2:I:505:LEU:HD12	1.86	0.58
2:B:853:PRO:HD2	3:F:17:GLY:HA2	1.84	0.58
1:H:171:PHE:HZ	1:H:221:VAL:HG22	1.68	0.58
1:A:50:GLU:HG3	1:A:282:GLN:HE21	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:40:LEU:HD21	2:B:42:TYR:CZ	2.39	0.57
2:D:447:TYR:CD1	2:D:503:PHE:HB3	2.38	0.57
1:L:171:PHE:CE1	1:L:177:GLN:HG2	2.39	0.57
1:L:255:VAL:HG11	1:L:281:GLY:N	2.19	0.57
1:A:2:ASP:O	2:B:522:ARG:NH1	2.34	0.57
1:A:68:GLU:OE1	1:A:459:ARG:HD2	2.04	0.57
3:E:116:ASP:OD2	3:E:139:ARG:NH2	2.32	0.57
2:I:596:ASN:HB3	2:I:643:GLU:HB3	1.86	0.57
3:N:24:ASN:HA	3:N:33:GLU:O	2.04	0.57
1:L:426:SER:O	1:L:429:VAL:HG23	2.03	0.57
1:H:141:GLY:HA3	1:H:476:TRP:CD1	2.39	0.57
1:H:348:GLU:HB3	1:H:368:LEU:HD22	1.85	0.57
2:I:822:ASP:OD2	2:I:908:ARG:NH1	2.37	0.57
2:B:588:ARG:NH2	2:B:664:ASP:OD2	2.37	0.57
1:C:68:GLU:OE1	1:C:459:ARG:HD2	2.04	0.57
2:D:579:GLN:HG3	2:D:581:VAL:N	2.19	0.57
2:B:58:SER:HB2	2:B:277:ILE:HD13	1.86	0.57
2:I:598:ALA:HB2	2:I:676:ILE:HD13	1.86	0.57
3:J:26:PHE:HA	3:J:30:LYS:O	2.05	0.57
2:M:195:GLN:NE2	2:M:841:GLY:O	2.36	0.57
2:M:937:ASN:ND2	2:M:973:SER:O	2.38	0.57
1:A:194:ILE:HG13	1:A:195:ASP:N	2.19	0.57
1:H:444:GLU:OE2	2:I:862:LYS:NZ	2.37	0.57
2:I:756:ILE:HB	2:I:759:MET:HG3	1.87	0.57
3:N:16:ALA:O	3:N:139:ARG:NH2	2.37	0.57
2:B:430:ASN:O	2:B:439:PRO:HD2	2.05	0.57
2:B:579:GLN:HB2	2:B:581:VAL:HG12	1.86	0.57
2:D:419:ASN:HD21	2:D:422:ALA:CB	2.16	0.57
3:F:120:TYR:CZ	3:F:135:VAL:HG21	2.39	0.57
1:H:187:LEU:O	1:H:191:LEU:HD12	2.05	0.57
1:L:392:TRP:CD1	1:L:407:ILE:HD11	2.40	0.57
2:B:195:GLN:HG2	2:B:197:GLU:H	1.69	0.57
1:C:119:THR:O	1:C:121:ASP:N	2.38	0.57
1:H:324:GLU:O	1:H:328:LEU:HD12	2.05	0.57
2:I:549:SER:O	2:I:557:ARG:HD3	2.05	0.57
1:L:212:GLN:HG3	1:L:213:ASN:N	2.19	0.57
2:B:53:ALA:O	2:B:56:ARG:HD2	2.05	0.56
2:M:236:LYS:NZ	2:M:340:ASP:OD2	2.35	0.56
2:I:267:LYS:HZ3	2:I:302:LYS:H	1.54	0.56
2:D:570:PHE:HZ	2:D:654:MET:HE2	1.69	0.56
3:E:92:GLU:O	3:E:92:GLU:HG3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:40:LEU:HD11	2:B:42:TYR:CE2	2.40	0.56
2:D:338:PRO:HB2	2:D:341:ILE:HG12	1.86	0.56
2:B:722:TRP:HD1	2:B:806:VAL:HG12	1.71	0.56
1:L:27:SER:HB3	1:L:170:ILE:HD11	1.88	0.56
2:M:406:LEU:HD13	2:M:457:ILE:HD11	1.87	0.56
2:B:657:PHE:O	2:B:658:LYS:HB2	2.06	0.56
1:H:427:GLU:OE2	1:H:428:SER:OG	2.23	0.56
2:B:104:VAL:HA	2:B:164:ILE:CG2	2.35	0.56
2:B:394:PHE:HD2	2:B:395:LEU:HG	1.71	0.56
2:M:611:SER:HB2	2:M:620:THR:HG22	1.87	0.56
1:A:24:PRO:HB3	1:A:169:LEU:HD11	1.87	0.56
2:D:97:THR:O	2:D:97:THR:OG1	2.24	0.56
1:A:119:THR:O	1:A:121:ASP:N	2.39	0.56
2:B:57:THR:OG1	2:B:59:ASP:O	2.24	0.56
2:I:959:ASP:OD1	2:I:960:LEU:N	2.38	0.56
2:M:581:VAL:HG13	2:M:657:PHE:CE1	2.41	0.56
2:D:545:ARG:NE	2:D:547:ASP:OD1	2.36	0.55
2:B:671:ASN:HD22	2:B:696:LYS:HD3	1.70	0.55
2:B:774:GLN:NE2	2:B:776:ARG:HE	2.04	0.55
2:D:579:GLN:CD	2:D:580:ASP:HB3	2.31	0.55
1:H:412:CYS:HA	1:H:413:PRO:C	2.31	0.55
2:D:200:MET:HE1	2:D:225:TRP:HB2	1.89	0.55
1:H:159:LEU:HD13	1:H:175:ILE:HD11	1.88	0.55
2:D:177:ILE:HB	2:D:984:PHE:HB2	1.88	0.55
2:I:845:GLN:HE22	2:I:947:THR:HG21	1.71	0.55
1:L:266:ILE:HG13	1:L:279:TYR:CE2	2.41	0.55
1:A:23:PHE:CE2	1:A:104:THR:HG22	2.41	0.55
3:F:11:ALA:HB1	3:F:53:GLU:HG3	1.87	0.55
2:I:188:VAL:CG2	2:I:282:MET:HE1	2.37	0.55
2:I:769:ALA:HA	2:I:894:MET:HE2	1.88	0.55
1:C:195:ASP:OD1	1:C:335:ARG:NH2	2.28	0.55
1:H:347:TYR:CD1	1:H:387:ILE:HG22	2.41	0.55
2:I:282:MET:SD	2:I:973:SER:HB3	2.46	0.55
2:I:430:ASN:O	2:I:439:PRO:HD2	2.07	0.55
1:H:119:THR:HG22	1:H:121:ASP:O	2.06	0.55
2:I:169:GLY:HA2	2:I:262:ASN:OD1	2.07	0.55
2:I:242:PRO:HA	2:I:339:ARG:HH22	1.72	0.55
1:L:142:GLU:HA	1:L:145:TYR:HB2	1.89	0.55
1:L:272:LYS:HD3	1:L:279:TYR:CE1	2.42	0.55
1:A:141:GLY:HA3	1:A:476:TRP:CD1	2.42	0.55
1:C:34:VAL:O	1:C:39:TYR:HB2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:447:TYR:CD1	2:I:503:PHE:HB3	2.41	0.54
2:M:124:TYR:OH	2:M:415:LYS:NZ	2.25	0.54
1:A:34:VAL:O	1:A:39:TYR:HB2	2.06	0.54
1:A:379:THR:O	1:A:383:LYS:HD3	2.08	0.54
2:B:665:VAL:HG12	2:B:704:LEU:HD23	1.89	0.54
1:L:321:THR:HG22	1:L:324:GLU:H	1.73	0.54
2:M:823:ILE:HG12	2:M:905:VAL:HG22	1.89	0.54
2:B:906:LYS:HD3	2:B:937:ASN:OD1	2.07	0.54
2:I:938:LEU:HA	2:I:974:ARG:HG3	1.89	0.54
2:B:645:THR:HG22	2:B:672:THR:HG23	1.89	0.54
2:D:38:LYS:O	2:D:586:LYS:NZ	2.40	0.54
2:D:281:GLY:H	2:D:288:ASP:HB2	1.73	0.54
1:L:87:ASP:O	1:L:91:VAL:HG23	2.07	0.54
1:A:220:ASP:HB2	1:A:222:LYS:HD2	1.89	0.54
2:D:218:PHE:CE2	2:D:240:ALA:HB2	2.43	0.54
2:D:579:GLN:NE2	2:D:580:ASP:HB3	2.21	0.54
1:A:430:TYR:CE2	1:A:432:PRO:HA	2.43	0.54
2:D:967:TYR:O	2:D:968:THR:OG1	2.20	0.54
1:L:120:SER:HB2	1:L:475:VAL:HG12	1.89	0.54
2:B:569:ILE:HD12	2:B:585:GLY:O	2.08	0.54
2:D:502:TRP:HB3	2:D:507:ASN:ND2	2.23	0.54
1:L:416:SER:C	1:L:418:TYR:H	2.15	0.54
2:B:195:GLN:NE2	2:B:198:PHE:O	2.34	0.54
2:B:829:MET:HE1	2:B:951:PRO:O	2.08	0.54
1:H:85:LEU:HB3	1:H:128:LEU:HD11	1.90	0.54
2:M:421:TYR:HD1	2:M:421:TYR:O	1.91	0.54
2:M:834:LYS:NZ	2:M:897:CYS:O	2.40	0.54
1:L:449:MET:HE1	1:L:451:ARG:O	2.07	0.54
1:C:124:TYR:O	1:C:126:GLU:N	2.40	0.54
3:F:85:PHE:HB3	3:F:94:LYS:HG2	1.90	0.54
2:M:289:SER:HB2	2:M:320:ASN:HB2	1.90	0.54
2:M:753:MET:HE3	2:M:764:PHE:CZ	2.43	0.53
1:A:257:TYR:HE1	1:A:261:THR:HG21	1.73	0.53
3:N:96:LYS:O	3:N:122:VAL:HA	2.07	0.53
1:A:451:ARG:HD2	1:A:473:THR:O	2.09	0.53
2:B:587:ILE:HD11	2:B:652:LEU:HD12	1.89	0.53
1:H:286:GLY:N	1:H:287:LYS:HZ3	2.06	0.53
2:B:40:LEU:HD12	2:B:41:GLY:H	1.74	0.53
2:B:453:ARG:NH2	2:I:380:GLU:OE1	2.40	0.53
1:H:255:VAL:HG11	1:H:281:GLY:CA	2.38	0.53
1:L:54:GLU:HB2	1:L:301:ASN:OD1	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:138:TRP:CE2	1:A:465:THR:HG22	2.43	0.53
1:H:272:LYS:HG3	1:H:279:TYR:HE1	1.71	0.53
2:I:788:GLU:CA	2:I:894:MET:HE1	2.38	0.53
1:A:145:TYR:CG	1:A:189:MET:HE3	2.43	0.53
2:I:328:LEU:HD22	2:I:366:MET:HE2	1.91	0.53
2:M:218:PHE:HE1	2:M:340:ASP:HB3	1.74	0.53
1:A:352:THR:HG22	1:A:364:GLU:HG2	1.90	0.53
1:L:34:VAL:O	1:L:39:TYR:HB2	2.09	0.53
2:D:762:GLY:HA3	2:D:798:MET:HG2	1.89	0.53
1:H:164:MET:HE1	1:H:178:TRP:CD1	2.44	0.53
1:H:248:HIS:ND1	1:H:309:TYR:OH	2.40	0.53
1:A:458:ALA:HB1	1:A:465:THR:HG21	1.89	0.53
2:D:302:LYS:HE2	2:D:304:GLY:O	2.08	0.53
1:H:407:ILE:HG12	1:H:413:PRO:HD2	1.89	0.53
2:I:267:LYS:NZ	2:I:302:LYS:H	2.05	0.53
2:I:753:MET:HE2	2:I:762:GLY:CA	2.37	0.53
2:B:919:ARG:O	2:B:921:LEU:N	2.41	0.53
1:C:229:GLU:O	1:C:233:ARG:NH2	2.42	0.53
2:D:848:TYR:C	2:D:850:ASP:H	2.17	0.53
2:I:419:ASN:ND2	2:I:444:THR:O	2.42	0.53
2:I:845:GLN:HE22	2:I:947:THR:CG2	2.22	0.53
1:L:27:SER:CB	1:L:170:ILE:HD11	2.39	0.53
3:N:67:TYR:CD2	3:N:95:VAL:HG11	2.44	0.53
3:N:85:PHE:HA	3:N:96:LYS:CD	2.38	0.53
2:B:475:ASN:HB3	2:B:531:GLU:HB3	1.89	0.52
2:B:675:GLN:HE22	2:B:697:ILE:HD13	1.74	0.52
2:B:935:GLY:C	2:B:936:ASN:HD22	2.16	0.52
3:F:110:PRO:HG2	3:F:146:ASP:HA	1.89	0.52
3:N:65:TRP:NE1	3:N:91:TYR:OH	2.40	0.52
2:M:105:ASP:H	2:M:107:VAL:H	1.58	0.52
2:M:430:ASN:O	2:M:439:PRO:HD2	2.08	0.52
2:M:511:THR:HG22	2:M:512:PRO:O	2.10	0.52
3:N:71:VAL:CG1	3:N:80:PHE:HB2	2.38	0.52
3:N:85:PHE:CD2	3:N:96:LYS:HG2	2.45	0.52
3:N:86:VAL:HG12	3:N:87:ASP:H	1.75	0.52
1:C:204:THR:O	1:C:207:VAL:HG12	2.10	0.52
2:B:104:VAL:HA	2:B:164:ILE:HG22	1.92	0.52
2:D:773:PRO:HD2	2:D:871:TYR:CE1	2.45	0.52
1:C:53:PRO:HD2	1:C:301:ASN:HD22	1.75	0.52
1:C:97:ASN:ND2	1:C:165[B]:ASP:OD1	2.42	0.52
1:L:418:TYR:CE2	1:L:429:VAL:HG12	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:111:ASN:HA	2:M:129:GLY:HA3	1.91	0.52
1:H:43:GLY:HA3	1:H:49:TYR:CZ	2.45	0.52
1:H:251:ALA:O	1:H:255:VAL:HG12	2.10	0.52
2:I:724:PHE:CD1	2:I:804:MET:HE2	2.44	0.52
2:D:545:ARG:HG2	2:D:561:TYR:CZ	2.45	0.52
1:L:102:PHE:CZ	1:L:106:ILE:HD11	2.45	0.52
3:N:97:ILE:HA	3:N:121:MET:O	2.10	0.52
1:C:375:SER:C	1:C:377:ALA:H	2.17	0.52
2:D:715:ASP:O	2:D:812:TYR:HA	2.09	0.52
1:H:145:TYR:CG	1:H:189:MET:HE3	2.45	0.52
2:I:224:LEU:HD23	2:I:235:LEU:HD13	1.92	0.52
1:L:253:PRO:HA	1:L:430:TYR:OH	2.09	0.52
2:M:938:LEU:O	2:M:974:ARG:NH1	2.42	0.52
2:D:523:LEU:HD21	2:D:547:ASP:HB3	1.92	0.52
1:L:476:TRP:CE2	1:L:477:TRP:HD1	2.27	0.52
2:B:713:THR:HG22	2:B:715:ASP:N	2.25	0.51
1:L:85:LEU:HB3	1:L:128:LEU:HD11	1.92	0.51
2:B:328:LEU:HD22	2:B:366:MET:HE2	1.91	0.51
3:F:27:ILE:HG12	3:F:131:LEU:HD21	1.91	0.51
2:I:767:GLN:HG2	2:I:895:GLY:N	2.23	0.51
2:M:635:LEU:HD23	2:M:636:GLY:O	2.10	0.51
2:M:731:VAL:HG23	2:M:761:VAL:HG12	1.92	0.51
1:A:257:TYR:HE2	1:A:389:MET:HE3	1.74	0.51
2:B:314:TYR:OH	2:I:455:ARG:NH1	2.43	0.51
2:D:169:GLY:HA2	2:D:262:ASN:HB2	1.92	0.51
1:L:123:PRO:HD3	1:L:138:TRP:CE2	2.45	0.51
2:D:834:LYS:NZ	2:D:897:CYS:O	2.35	0.51
2:B:419:ASN:HB3	2:B:500:PRO:HB3	1.92	0.51
2:B:665:VAL:CG1	2:B:704:LEU:HD23	2.41	0.51
2:D:863:ILE:HB	2:D:870:THR:HG23	1.92	0.51
2:I:419:ASN:O	2:I:423:LEU:HD12	2.11	0.51
2:I:836:ILE:O	2:I:840:THR:HG22	2.10	0.51
2:B:169:GLY:HA3	2:B:269:ASP:HB2	1.92	0.51
2:B:410:THR:HA	2:B:452:THR:O	2.11	0.51
1:H:191:LEU:HD22	1:H:409:ARG:NH2	2.26	0.51
2:I:762:GLY:HA3	2:I:798:MET:HE3	1.92	0.51
2:B:64:LEU:HD11	2:B:141:MET:CE	2.41	0.51
3:E:13:GLU:HG2	3:E:14:LYS:HG2	1.93	0.51
1:H:229:GLU:O	1:H:233:ARG:CZ	2.59	0.51
2:I:59:ASP:OD2	2:I:62:SER:N	2.40	0.51
1:L:145:TYR:CG	1:L:189:MET:HE3	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:335:ARG:HD2	1:A:384:LEU:HD21	1.92	0.51
2:D:579:GLN:HG3	2:D:581:VAL:H	1.74	0.51
1:H:418:TYR:CE2	1:H:429:VAL:HG22	2.45	0.51
2:I:331:LEU:HD22	2:I:970:ASN:HA	1.92	0.51
2:I:489:TYR:OH	2:I:515:GLU:OE2	2.20	0.51
1:L:219:GLY:O	1:L:322:GLN:HB2	2.10	0.51
2:M:767:GLN:CG	2:M:895:GLY:H	2.24	0.51
3:N:86:VAL:N	3:N:96:LYS:HE3	2.25	0.51
2:M:447:TYR:CD1	2:M:503:PHE:HB3	2.46	0.51
1:A:207:VAL:O	1:A:211:VAL:HG23	2.11	0.51
2:I:73:ILE:HG12	2:I:86:VAL:HG22	1.92	0.51
1:L:258:LEU:HB2	1:L:266:ILE:HD13	1.93	0.51
1:L:391:LYS:NZ	1:L:406:GLU:OE1	2.37	0.51
2:M:197:GLU:OE2	2:M:217:ARG:NH1	2.43	0.51
1:A:156:GLU:OE1	1:A:186:ARG:NH2	2.44	0.50
1:H:183:ASN:HA	1:H:186:ARG:HD2	1.93	0.50
1:L:73:MET:HE1	1:L:115:MET:SD	2.52	0.50
1:C:459:ARG:NH2	1:C:465:THR:O	2.44	0.50
2:D:579:GLN:HG3	2:D:581:VAL:HB	1.93	0.50
1:L:201:ALA:O	1:L:205:GLU:HG2	2.11	0.50
2:B:856:VAL:O	2:B:859:SER:OG	2.19	0.50
1:C:126:GLU:O	1:C:136:PRO:HB3	2.11	0.50
3:F:75:TYR:O	3:F:78:ARG:NH1	2.44	0.50
1:H:255:VAL:HG11	1:H:281:GLY:N	2.27	0.50
1:L:333:TYR:CD2	1:L:342:ASN:HB3	2.46	0.50
1:A:251:ALA:O	1:A:255:VAL:HG12	2.11	0.50
2:B:138:VAL:CG2	2:B:164:ILE:HD11	2.41	0.50
2:D:938:LEU:HA	2:D:974:ARG:HG3	1.92	0.50
1:L:148:ILE:HA	1:L:151:GLU:HG3	1.93	0.50
1:L:324:GLU:O	1:L:328:LEU:HD12	2.10	0.50
3:N:58:LEU:HD11	3:N:120:TYR:CE2	2.45	0.50
1:A:257:TYR:CE2	1:A:389:MET:HB3	2.44	0.50
2:B:498:THR:HG21	2:I:627:ASN:HD22	1.77	0.50
2:B:657:PHE:HB2	2:B:660:ARG:HB2	1.93	0.50
2:I:772:ASP:OD2	2:I:776:ARG:HB2	2.10	0.50
1:A:97:ASN:O	1:A:101:ARG:HG3	2.11	0.50
2:B:97:THR:O	2:B:97:THR:OG1	2.26	0.50
2:D:767:GLN:HG2	2:D:895:GLY:N	2.24	0.50
2:M:788:GLU:HA	2:M:894:MET:HE2	1.93	0.50
2:B:473:ASN:HB3	2:B:533:SER:HB3	1.93	0.50
2:B:704:LEU:HD11	2:B:722:TRP:CZ3	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:57:GLN:HG2	1:C:244:LEU:HD13	1.93	0.50
1:C:191:LEU:HD13	1:C:409:ARG:HH12	1.77	0.50
2:D:407:ASP:O	2:D:455:ARG:HA	2.12	0.50
1:A:114:ILE:O	1:A:118:ASN:ND2	2.43	0.50
1:A:229:GLU:O	1:A:233:ARG:NH2	2.45	0.50
2:B:537:MET:HE3	2:B:568:PHE:HE1	1.76	0.50
2:D:523:LEU:HD22	2:D:548:TRP:O	2.11	0.50
3:F:13:GLU:HG3	3:F:14:LYS:N	2.27	0.50
2:M:244:ASN:OD1	2:M:245:ILE:N	2.44	0.50
3:N:23:VAL:HG22	3:N:135:VAL:HG12	1.93	0.50
2:B:194:PHE:CZ	2:B:245:ILE:HD12	2.47	0.50
2:D:198:PHE:CZ	2:D:851:ARG:HD2	2.47	0.50
2:D:328:LEU:HD13	2:D:366:MET:HE2	1.93	0.50
1:H:164:MET:HE3	1:H:173:LYS:CA	2.38	0.50
1:L:164:MET:HE1	1:L:178:TRP:CD1	2.47	0.50
1:L:266:ILE:HG23	1:L:279:TYR:CE2	2.47	0.50
1:L:430:TYR:CE2	1:L:432:PRO:HA	2.47	0.50
2:M:37:GLU:HG3	2:M:38:LYS:H	1.77	0.50
2:M:669:ASN:OD1	2:M:700:ARG:HD3	2.12	0.50
1:A:190:TYR:HB3	1:A:207:VAL:HG23	1.94	0.49
1:A:333:TYR:CD1	1:A:337:HIS:CD2	3.00	0.49
3:F:129:ASP:HB3	3:F:131:LEU:HD13	1.94	0.49
2:B:661:LEU:HD12	2:B:708:GLY:HA3	1.94	0.49
1:C:275:ALA:HB2	1:C:302:LYS:HG2	1.94	0.49
2:D:753:MET:HE3	2:D:964:TYR:HA	1.94	0.49
1:H:145:TYR:CE2	1:H:189:MET:HG2	2.47	0.49
2:I:452:THR:HG23	2:I:489:TYR:HB3	1.94	0.49
2:D:536:ASN:HA	2:D:539:TYR:OH	2.12	0.49
1:H:277:GLY:O	1:H:278:LYS:HG2	2.12	0.49
2:I:576:ASP:HA	2:I:579:GLN:HB3	1.94	0.49
3:N:120:TYR:CZ	3:N:135:VAL:HG21	2.47	0.49
3:E:93:SER:OG	3:E:94:LYS:N	2.45	0.49
2:I:283:ILE:HD13	2:I:330:MET:HE2	1.92	0.49
1:L:34:VAL:HG11	1:L:114:ILE:CD1	2.37	0.49
3:N:41:LEU:HD23	3:N:63:ASN:HB3	1.94	0.49
1:A:123:PRO:HD3	1:A:138:TRP:CD2	2.48	0.49
1:C:75:TYR:CD2	2:D:615:PRO:HD3	2.48	0.49
3:E:113:MET:HG3	3:E:114:PRO:HD2	1.94	0.49
1:H:321:THR:HG23	1:H:324:GLU:H	1.77	0.49
1:L:183:ASN:OD1	1:L:186:ARG:NH1	2.46	0.49
2:B:834:LYS:HD3	2:B:898:PHE:HD1	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:454:ARG:HG2	2:D:487:VAL:HG23	1.94	0.49
2:I:760:PRO:HG2	2:I:797:ASP:OD2	2.13	0.49
2:I:771:ARG:NH1	2:I:777:ILE:HB	2.28	0.49
1:L:54:GLU:OE2	1:L:300:LYS:HB3	2.12	0.49
1:L:81:PHE:HE2	1:L:115:MET:HG2	1.76	0.49
2:D:456:GLU:HG3	2:D:485:ARG:HG2	1.95	0.49
1:H:266:ILE:HG12	1:H:279:TYR:CD2	2.47	0.49
3:N:21:VAL:HG11	3:N:43:MET:CE	2.42	0.49
2:B:295:PHE:HE2	2:I:312:LEU:HD21	1.77	0.49
1:H:38:ILE:CG2	1:H:401:MET:HG3	2.42	0.49
2:I:302:LYS:HB2	2:I:307:THR:HG23	1.93	0.49
3:J:15:MET:HE1	3:J:75:TYR:HA	1.93	0.49
2:B:356:PRO:HG2	2:B:424:TYR:CZ	2.47	0.49
1:C:37:GLU:HG2	1:C:76:SER:OG	2.12	0.49
2:D:596:ASN:HB3	2:D:643:GLU:HB3	1.94	0.49
2:I:518:MET:HE2	2:I:520:LEU:HB2	1.94	0.49
3:J:93:SER:OG	3:J:94:LYS:N	2.45	0.49
1:L:89:LYS:O	1:L:93:GLU:HG3	2.12	0.49
1:A:171:PHE:HZ	1:A:221:VAL:HG22	1.78	0.49
2:D:362:PRO:HB3	2:D:430:ASN:OD1	2.12	0.49
1:H:476:TRP:CZ3	1:H:477:TRP:HB3	2.47	0.49
3:J:21:VAL:HG21	3:J:43:MET:HE2	1.94	0.49
1:L:255:VAL:HG11	1:L:281:GLY:HA3	1.94	0.49
1:A:335:ARG:HG3	1:A:384:LEU:HD11	1.95	0.48
2:B:583:THR:OG1	2:B:658:LYS:N	2.36	0.48
2:B:690:GLN:HG2	2:B:692:MET:HG3	1.94	0.48
1:L:171:PHE:CD1	1:L:177:GLN:HG2	2.48	0.48
1:A:85:LEU:HB3	1:A:128:LEU:HD11	1.95	0.48
1:A:219:GLY:O	1:A:322:GLN:HB2	2.13	0.48
1:A:252:TYR:OH	1:A:427:GLU:OE1	2.24	0.48
1:L:194:ILE:HD11	1:L:204:THR:N	2.28	0.48
1:L:224:ASP:CG	1:L:316:PRO:HG3	2.38	0.48
2:M:724:PHE:CD1	2:M:804:MET:HE2	2.48	0.48
2:B:200:MET:HG3	2:B:210:GLU:HB2	1.94	0.48
2:D:184:GLN:HG2	2:D:254:ARG:HB3	1.95	0.48
2:D:190:ARG:HH22	2:D:942:THR:HG22	1.78	0.48
2:M:527:PHE:HB3	2:M:545:ARG:HD2	1.96	0.48
2:M:668:TYR:CZ	2:M:701:GLY:HA3	2.48	0.48
2:B:94:LEU:HD12	2:B:94:LEU:HA	1.63	0.48
2:M:56:ARG:HH22	2:M:136:ASP:CG	2.21	0.48
2:B:516:GLN:NE2	2:I:447:TYR:OH	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:190:ARG:HH12	2:D:942:THR:CG2	2.21	0.48
2:D:788:GLU:HA	2:D:894:MET:HE2	1.96	0.48
2:I:101:LEU:HD11	2:I:108:PRO:HB3	1.95	0.48
2:I:166:THR:HB	2:I:298:ARG:NH1	2.29	0.48
2:I:326:GLN:NE2	4:K:5:GLY:HA2	2.24	0.48
2:I:588:ARG:NH2	2:I:664:ASP:OD1	2.44	0.48
2:M:195:GLN:HG3	2:M:847:ALA:HB2	1.96	0.48
2:M:419:ASN:ND2	2:M:444:THR:O	2.47	0.48
2:B:99:GLN:NE2	2:B:959:ASP:OD1	2.43	0.48
1:H:268:TYR:CZ	1:H:311:ILE:HD12	2.49	0.48
2:I:875:THR:HG23	3:J:57:TRP:CZ2	2.49	0.48
1:A:73:MET:HE1	1:A:115:MET:SD	2.54	0.48
1:C:282:GLN:HE21	1:C:299:TRP:HE1	1.61	0.48
2:D:105:ASP:N	2:D:106:GLY:HA2	2.29	0.48
2:I:244:ASN:OD1	2:I:245:ILE:N	2.47	0.48
2:I:828:VAL:HG13	2:I:899:LEU:HB3	1.96	0.48
2:B:118:ASP:OD2	2:B:121:ASN:HB2	2.14	0.48
2:B:788:GLU:HA	2:B:894:MET:CE	2.43	0.48
1:C:412:CYS:HA	1:C:413:PRO:C	2.39	0.48
2:D:489:TYR:CE2	2:D:517:HIS:HB3	2.49	0.48
2:M:776:ARG:HB3	2:M:858:ASN:OD1	2.14	0.48
3:N:57:TRP:HE3	3:N:68:LYS:NZ	2.11	0.48
2:B:767:GLN:HE21	2:B:788:GLU:CD	2.21	0.48
2:M:762:GLY:HA3	2:M:798:MET:HE3	1.96	0.48
2:D:531:GLU:HG3	2:D:541:THR:HG22	1.95	0.47
2:I:188:VAL:HG11	2:I:191:LEU:HG	1.96	0.47
2:I:465:PHE:HZ	2:I:467:MET:HE2	1.79	0.47
2:I:565:THR:HG22	2:I:590:SER:HB2	1.95	0.47
2:M:57:THR:OG1	2:M:59:ASP:O	2.29	0.47
2:M:786:PRO:HB2	2:M:894:MET:SD	2.54	0.47
2:M:867:GLU:N	2:M:867:GLU:OE1	2.47	0.47
2:B:531:GLU:HG3	2:B:541:THR:HG22	1.96	0.47
2:D:105:ASP:OD2	2:D:166:THR:OG1	2.27	0.47
2:D:570:PHE:CZ	2:D:654:MET:HE2	2.48	0.47
2:I:798:MET:HE1	2:I:960:LEU:CD1	2.44	0.47
2:M:665:VAL:CG1	2:M:704:LEU:HD13	2.43	0.47
2:M:893:ASP:HB2	2:M:897:CYS:HB2	1.95	0.47
1:A:255:VAL:HG11	1:A:281:GLY:CA	2.43	0.47
2:B:923:LYS:HD2	2:B:923:LYS:N	2.29	0.47
2:D:173:LYS:HA	2:D:174:GLY:HA2	1.64	0.47
2:D:195:GLN:HG2	2:D:197:GLU:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:71:VAL:CG1	3:J:80:PHE:HB2	2.44	0.47
2:M:173:LYS:HA	2:M:174:GLY:HA2	1.60	0.47
1:A:92:LEU:HB3	1:A:101:ARG:HH21	1.79	0.47
2:B:822:ASP:HB2	2:B:908:ARG:HD2	1.94	0.47
1:C:54:GLU:HB2	1:C:301:ASN:OD1	2.14	0.47
1:C:204:THR:O	1:C:208:LYS:HG3	2.15	0.47
2:D:356:PRO:HG2	2:D:424:TYR:CZ	2.49	0.47
1:L:120:SER:HB2	1:L:475:VAL:HA	1.96	0.47
1:L:419:SER:OG	1:L:422:GLN:HG3	2.15	0.47
3:N:123:GLN:HG2	3:N:132:THR:HG22	1.96	0.47
1:C:149:LEU:HD21	1:C:189:MET:HE3	1.95	0.47
2:D:473:ASN:HB3	2:D:533:SER:HB3	1.97	0.47
2:D:753:MET:HE1	2:D:963:ASN:C	2.39	0.47
1:H:204:THR:O	1:H:207:VAL:HG12	2.14	0.47
3:J:43:MET:HG3	3:J:59:ASP:O	2.15	0.47
1:L:187:LEU:HD21	1:L:328:LEU:HB3	1.95	0.47
1:L:448:LEU:O	1:L:450:LYS:HG2	2.15	0.47
1:A:153:ASP:OD1	1:A:186:ARG:NH1	2.47	0.47
2:B:207:THR:CB	2:B:210:GLU:HG2	2.43	0.47
1:L:257:TYR:CZ	1:L:389:MET:HE2	2.49	0.47
2:M:421:TYR:HD1	2:M:421:TYR:C	2.23	0.47
3:N:93:SER:OG	3:N:94:LYS:N	2.47	0.47
2:B:380:GLU:OE2	2:I:453:ARG:NH2	2.33	0.47
1:C:198:ILE:HD12	1:C:476:TRP:HZ3	1.80	0.47
2:D:981:MET:CE	2:D:983:LYS:HB2	2.44	0.47
1:H:171:PHE:CZ	1:H:221:VAL:HG22	2.49	0.47
2:I:441:SER:HA	2:I:442:GLY:HA2	1.60	0.47
2:I:741:ILE:HG13	2:I:756:ILE:HG12	1.97	0.47
2:I:862:LYS:HD3	2:I:871:TYR:CE2	2.49	0.47
3:J:143:PHE:HB3	3:J:144:PRO:HD2	1.97	0.47
1:L:56:ASN:HB3	1:L:59:ASN:HD21	1.80	0.47
1:L:57:GLN:HE22	4:O:6:GLY:HA2	1.78	0.47
1:L:389:MET:HE2	1:L:389:MET:HB3	1.76	0.47
1:A:392:TRP:CD1	1:A:407:ILE:HD11	2.50	0.47
2:D:288:ASP:OD1	2:D:288:ASP:N	2.45	0.47
3:E:21:VAL:HG11	3:E:43:MET:HE1	1.96	0.47
1:H:375:SER:C	1:H:377:ALA:H	2.23	0.47
2:I:56:ARG:NH2	2:I:136:ASP:OD1	2.48	0.47
1:L:404:TRP:O	1:L:408:ARG:HG3	2.15	0.47
1:A:50:GLU:HG3	1:A:282:GLN:NE2	2.30	0.47
2:B:884:TYR:CG	2:B:885:LYS:N	2.83	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:938:LEU:HA	2:B:938:LEU:HD23	1.67	0.47
2:D:67:LYS:HE3	2:D:820:ASP:CG	2.40	0.47
2:I:104:VAL:O	2:I:164:ILE:O	2.33	0.47
2:I:788:GLU:HA	2:I:894:MET:CE	2.41	0.47
1:L:374:TRP:HZ3	1:L:387:ILE:HD11	1.80	0.47
2:M:863:ILE:HB	2:M:870:THR:CG2	2.44	0.47
2:B:320:ASN:OD1	2:B:378:GLU:HG3	2.15	0.47
1:C:373:ALA:O	1:C:375:SER:N	2.48	0.47
2:D:561:TYR:CD2	2:D:594:THR:HA	2.49	0.47
2:D:702:ILE:O	2:D:702:ILE:HG13	2.15	0.47
2:D:850:ASP:OD2	3:E:14:LYS:HE2	2.15	0.47
2:M:798:MET:O	2:M:902:LYS:NZ	2.26	0.47
3:N:71:VAL:HG11	3:N:80:PHE:CD1	2.50	0.47
2:B:469:VAL:O	2:B:472:PHE:HB2	2.15	0.46
1:H:34:VAL:CG1	1:H:114:ILE:HD13	2.37	0.46
1:L:56:ASN:HB3	1:L:59:ASN:ND2	2.30	0.46
1:L:142:GLU:O	1:L:146:LYS:HB3	2.15	0.46
2:M:158:ALA:HB2	2:M:594:THR:HG21	1.97	0.46
1:A:412:CYS:HA	1:A:413:PRO:C	2.40	0.46
1:L:156:GLU:O	1:L:159:LEU:HD13	2.15	0.46
3:N:85:PHE:CG	3:N:96:LYS:HG2	2.50	0.46
2:B:530:PHE:HB3	2:B:542:VAL:HG22	1.97	0.46
2:B:583:THR:HG1	2:B:658:LYS:H	1.59	0.46
2:B:773:PRO:HD2	2:B:871:TYR:CE1	2.51	0.46
1:C:315:LYS:HG3	1:C:316:PRO:HD2	1.97	0.46
1:C:409:ARG:HE	1:C:410:THR:HG23	1.80	0.46
1:C:444:GLU:HB3	2:D:864:VAL:HG11	1.97	0.46
1:H:431:THR:O	1:H:434:GLU:HG2	2.15	0.46
1:L:77:TYR:CE2	2:M:683:PRO:HG2	2.50	0.46
1:L:187:LEU:HD12	1:L:216:PHE:CZ	2.50	0.46
1:L:238:ASN:O	1:L:242:VAL:HG22	2.15	0.46
2:B:311:SER:O	2:B:386:GLY:HA2	2.16	0.46
1:H:456:LEU:O	1:H:460:GLN:HG2	2.15	0.46
2:M:798:MET:HE1	2:M:960:LEU:CD1	2.45	0.46
2:M:824:ARG:HG3	2:M:904:TYR:CZ	2.50	0.46
3:N:120:TYR:CE2	3:N:135:VAL:HG21	2.50	0.46
1:L:255:VAL:HG11	1:L:281:GLY:CA	2.45	0.46
2:M:169:GLY:HA3	2:M:269:ASP:HB2	1.96	0.46
2:M:257:ASN:HB2	2:M:276:GLN:OE1	2.16	0.46
2:M:421:TYR:C	2:M:421:TYR:CD1	2.93	0.46
2:M:534:TRP:CD1	2:M:534:TRP:C	2.93	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:97:ASN:ND2	1:A:165[B]:ASP:OD1	2.39	0.46
2:D:505:LEU:HD12	2:M:516:GLN:HB3	1.97	0.46
3:F:116:ASP:OD2	3:F:139:ARG:NH2	2.31	0.46
2:I:298:ARG:HG2	2:I:311:SER:OG	2.16	0.46
2:I:890:GLY:HA3	2:I:894:MET:O	2.15	0.46
3:J:96:LYS:HE2	3:J:96:LYS:HB3	1.64	0.46
2:M:356:PRO:HG2	2:M:424:TYR:CZ	2.50	0.46
2:M:554:LYS:HG3	2:M:557:ARG:NH2	2.30	0.46
2:M:855:ILE:HG23	2:M:874:ASN:ND2	2.30	0.46
3:N:94:LYS:HB2	3:N:125:ASP:HB2	1.97	0.46
1:A:37:GLU:HG2	1:A:76:SER:OG	2.16	0.46
2:B:212:GLY:HA2	2:B:840:THR:HG23	1.96	0.46
2:B:938:LEU:O	2:B:974:ARG:NH1	2.48	0.46
1:C:69:SER:O	2:D:749:GLY:HA2	2.16	0.46
1:C:144:VAL:O	1:C:148:ILE:HG12	2.16	0.46
2:D:99:GLN:NE2	2:D:959:ASP:OD2	2.48	0.46
2:I:188:VAL:HG23	2:I:282:MET:HE1	1.98	0.46
2:I:581:VAL:HG13	2:I:657:PHE:CE1	2.51	0.46
2:I:837:ASN:HA	2:I:840:THR:CG2	2.46	0.46
1:L:263:ASP:O	1:L:266:ILE:HB	2.15	0.46
1:L:364:GLU:OE1	1:L:364:GLU:N	2.45	0.46
1:L:367:ILE:HG23	1:L:372:CYS:HB2	1.98	0.46
2:M:361:THR:HA	2:M:362:PRO:HD3	1.76	0.46
2:M:441:SER:HA	2:M:442:GLY:HA2	1.61	0.46
2:B:312:LEU:HD22	2:B:384:PHE:CZ	2.50	0.46
1:C:352:THR:HG22	1:C:364:GLU:HG3	1.98	0.46
2:I:84:ASN:HD22	2:I:131:ASN:HD21	1.62	0.46
2:I:743:THR:HG21	4:K:1:GLY:HA3	1.97	0.46
1:L:312:GLY:HA2	1:L:315:LYS:HB3	1.98	0.46
1:L:412:CYS:HA	1:L:413:PRO:C	2.41	0.46
2:M:798:MET:HE2	2:M:963:ASN:HB2	1.98	0.46
3:N:62:GLY:HA2	3:N:66:GLU:HA	1.98	0.46
1:A:164:MET:HE1	1:A:178:TRP:CD1	2.51	0.46
2:B:116:SER:HB2	2:B:124:TYR:CD2	2.51	0.46
3:E:85:PHE:O	3:E:94:LYS:NZ	2.47	0.46
2:M:773:PRO:HD3	2:M:871:TYR:CE2	2.51	0.46
2:M:863:ILE:O	2:M:870:THR:HG22	2.16	0.46
2:B:333:SER:OG	2:B:366:MET:O	2.17	0.46
2:D:635:LEU:HD13	2:D:687:TYR:CE2	2.51	0.46
2:D:741:ILE:HD11	2:D:754:TYR:CD1	2.51	0.46
1:H:39:TYR:OH	1:H:397:TYR:HA	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:209:THR:O	1:L:209:THR:OG1	2.29	0.46
1:L:258:LEU:CB	1:L:266:ILE:HD13	2.46	0.46
2:D:718:TRP:CD1	2:D:718:TRP:C	2.94	0.45
1:L:263:ASP:HA	1:L:367:ILE:HD11	1.97	0.45
1:L:329:ILE:O	1:L:332:VAL:HG12	2.16	0.45
2:M:643:GLU:HG2	2:M:644:MET:N	2.31	0.45
1:A:276:ASP:HB3	1:A:278:LYS:HE2	1.97	0.45
2:B:504:ASN:OD1	2:B:506:LYS:HG2	2.15	0.45
1:C:53:PRO:HD2	1:C:301:ASN:ND2	2.31	0.45
2:D:475:ASN:HB3	2:D:531:GLU:HB3	1.97	0.45
2:I:762:GLY:HA3	2:I:798:MET:HG2	1.96	0.45
1:L:68:GLU:OE1	1:L:459:ARG:HD2	2.17	0.45
1:L:245:THR:HB	2:M:437:SER:HA	1.98	0.45
1:L:414:LYS:O	1:L:434:GLU:HB2	2.16	0.45
1:L:427:GLU:H	1:L:427:GLU:HG3	1.54	0.45
2:M:190:ARG:NH2	2:M:947:THR:HA	2.26	0.45
2:B:938:LEU:O	2:B:939:PHE:CD1	2.69	0.45
2:D:347:GLU:HG3	2:D:369:TYR:CD1	2.51	0.45
2:D:429:PRO:O	2:D:434:GLN:HG2	2.17	0.45
3:F:43:MET:HE2	3:F:43:MET:HB3	1.71	0.45
3:J:94:LYS:HB2	3:J:125:ASP:HB2	1.98	0.45
1:L:142:GLU:CD	1:L:142:GLU:N	2.74	0.45
1:L:476:TRP:CZ2	1:L:477:TRP:HD1	2.34	0.45
2:M:195:GLN:O	2:M:339:ARG:HD3	2.16	0.45
2:M:772:ASP:HB2	2:M:871:TYR:CE2	2.51	0.45
3:N:68:LYS:HZ2	3:N:69:LEU:N	2.13	0.45
2:B:54:GLU:HB3	2:B:911:VAL:HG11	1.98	0.45
2:B:788:GLU:CA	2:B:894:MET:HE1	2.47	0.45
1:H:208:LYS:HD2	1:H:336:PHE:HB3	1.98	0.45
2:I:180:ASN:HB2	2:I:258:SER:HB3	1.98	0.45
1:L:280:VAL:O	1:L:305:SER:HB2	2.17	0.45
1:L:344:LYS:HG3	1:L:374:TRP:CD1	2.52	0.45
2:B:338:PRO:HB2	2:B:341:ILE:HD12	1.98	0.45
1:C:18:THR:OG1	1:C:19:ALA:N	2.49	0.45
1:C:469:VAL:HB	1:C:473:THR:HG21	1.97	0.45
2:D:41:GLY:HA3	2:D:565:THR:HB	1.99	0.45
2:D:834:LYS:HE2	2:D:897:CYS:SG	2.56	0.45
3:E:57:TRP:CZ2	3:E:70:LYS:HE3	2.51	0.45
2:I:58:SER:HB2	2:I:277:ILE:HD12	1.99	0.45
1:A:164:MET:CE	1:A:173:LYS:HA	2.42	0.45
2:B:497:LEU:HA	2:B:507:ASN:O	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:331:GLU:O	1:C:335:ARG:HB3	2.16	0.45
2:D:785:LEU:HD23	2:D:878:ILE:HD13	1.99	0.45
3:E:12:VAL:HA	3:E:75:TYR:CE1	2.52	0.45
3:F:15:MET:HE2	3:F:75:TYR:CD1	2.52	0.45
1:H:102:PHE:CZ	1:H:106:ILE:HD11	2.51	0.45
1:H:372:CYS:HB3	1:H:386:LEU:HD11	1.97	0.45
3:J:27:ILE:HD12	3:J:28:ASP:H	1.81	0.45
1:L:379:THR:HB	1:L:382:ASP:H	1.82	0.45
2:M:56:ARG:HD2	2:M:979:ASN:ND2	2.32	0.45
2:M:574:LEU:HB3	2:M:579:GLN:HB3	1.98	0.45
2:M:777:ILE:HD11	2:M:786:PRO:HB3	1.97	0.45
2:B:451:ILE:HG21	2:I:451:ILE:HG21	1.98	0.45
2:M:938:LEU:O	2:M:939:PHE:CD1	2.69	0.45
3:N:68:LYS:HZ2	3:N:69:LEU:C	2.24	0.45
2:B:582:ILE:HD13	2:B:656:PHE:HD1	1.82	0.45
2:D:497:LEU:HA	2:D:507:ASN:O	2.17	0.45
2:I:195:GLN:O	2:I:339:ARG:HG3	2.16	0.45
2:I:213:SER:OG	2:I:842:ASN:ND2	2.49	0.45
2:M:282:MET:HE2	2:M:282:MET:HB3	1.67	0.45
3:N:58:LEU:H	3:N:68:LYS:HZ1	1.65	0.45
1:A:273:THR:HG23	1:A:278:LYS:O	2.17	0.45
2:B:545:ARG:HG2	2:B:561:TYR:CZ	2.52	0.45
1:C:73:MET:O	1:C:73:MET:HG2	2.16	0.45
2:I:697:ILE:HD13	2:I:731:VAL:HG13	1.99	0.45
1:A:35:GLY:O	1:A:236:TRP:HB2	2.18	0.45
2:B:198:PHE:CE1	2:B:851:ARG:HD2	2.52	0.45
2:B:305:ALA:HB1	2:B:393:GLU:O	2.16	0.45
2:D:105:ASP:H	2:D:107:VAL:H	1.64	0.45
2:I:64:LEU:HD22	2:I:68:ILE:HD11	1.99	0.45
2:I:94:LEU:O	2:I:95:SER:OG	2.32	0.45
3:J:71:VAL:HG11	3:J:80:PHE:HB2	1.99	0.45
2:M:724:PHE:HD1	2:M:804:MET:HE2	1.82	0.45
2:M:753:MET:HE1	2:M:963:ASN:C	2.42	0.45
1:A:105:THR:HA	1:A:108:ARG:HB3	1.99	0.44
1:A:149:LEU:CD2	1:A:186:ARG:HG2	2.47	0.44
2:B:569:ILE:HD13	2:B:584:PHE:CE1	2.52	0.44
2:B:663:PHE:HB2	2:B:706:ILE:HG22	1.99	0.44
1:C:24:PRO:HG3	1:C:167:PRO:HB2	1.99	0.44
2:D:312:LEU:HD11	2:M:295:PHE:HE1	1.82	0.44
2:D:767:GLN:CG	2:D:895:GLY:H	2.23	0.44
2:I:332:ASN:OD1	2:I:832:ARG:NH2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:16:ALA:O	3:J:139:ARG:NH1	2.49	0.44
1:L:32:SER:HA	1:L:235:PRO:HG3	1.99	0.44
1:L:476:TRP:CH2	1:L:477:TRP:HB3	2.53	0.44
2:B:253:PHE:CD1	2:B:254:ARG:N	2.85	0.44
2:B:845:GLN:HE22	2:B:947:THR:CG2	2.26	0.44
1:C:229:GLU:O	1:C:233:ARG:CZ	2.65	0.44
2:D:785:LEU:HD23	2:D:878:ILE:HD12	1.98	0.44
3:E:116:ASP:CG	3:E:139:ARG:HH21	2.23	0.44
2:I:195:GLN:HB2	2:I:844:ILE:HA	1.98	0.44
2:I:331:LEU:HD12	2:I:331:LEU:HA	1.78	0.44
1:L:188:ARG:NE	1:L:402:GLU:OE2	2.49	0.44
1:L:209:THR:O	1:L:210:LEU:HD12	2.17	0.44
2:M:338:PRO:HG2	2:M:341:ILE:HG13	1.98	0.44
2:M:740:GLY:O	2:M:757:THR:HG23	2.17	0.44
3:N:95:VAL:C	3:N:96:LYS:HE2	2.43	0.44
3:N:101:LYS:HD2	3:N:103:LEU:HD11	1.98	0.44
1:A:462:ASN:HB3	1:A:465:THR:HG23	1.99	0.44
2:B:52:ILE:HD11	2:B:141:MET:HE2	1.99	0.44
2:B:312:LEU:HB2	2:I:312:LEU:HD12	1.98	0.44
1:C:160:ASP:OD1	1:C:160:ASP:N	2.49	0.44
2:D:328:LEU:HD22	2:D:366:MET:HE2	1.99	0.44
2:D:955:SER:HB2	2:D:956:PHE:CE1	2.52	0.44
1:H:272:LYS:HG2	1:H:277:GLY:C	2.42	0.44
2:I:539:TYR:HB2	2:I:567:SER:HB3	1.99	0.44
2:M:111:ASN:OD1	2:M:128:ASN:ND2	2.50	0.44
3:N:58:LEU:HD21	3:N:120:TYR:OH	2.17	0.44
1:A:12:PRO:HB3	2:I:499:ILE:HD13	1.99	0.44
1:A:87:ASP:O	1:A:91:VAL:HG23	2.17	0.44
1:A:123:PRO:HD3	1:A:138:TRP:CE2	2.53	0.44
2:B:559:PHE:HB3	2:B:642:PRO:HG3	2.00	0.44
2:D:394:PHE:HD2	2:D:395:LEU:HG	1.82	0.44
1:L:349:ALA:HA	1:L:352:THR:OG1	2.17	0.44
1:L:456:LEU:HD12	1:L:459:ARG:HB3	1.99	0.44
2:M:406:LEU:HD13	2:M:457:ILE:CD1	2.48	0.44
2:M:575:ASN:HB2	2:M:578:LEU:HB3	1.98	0.44
2:B:68:ILE:HB	2:B:71:VAL:HG22	1.99	0.44
2:B:105:ASP:N	2:B:106:GLY:HA2	2.33	0.44
2:B:530:PHE:O	2:B:541:THR:HA	2.18	0.44
2:B:675:GLN:NE2	2:B:697:ILE:HD13	2.33	0.44
1:C:430:TYR:CE2	1:C:432:PRO:HA	2.53	0.44
2:D:441:SER:HA	2:D:442:GLY:HA2	1.68	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:561:TYR:CD2	2:I:594:THR:HA	2.52	0.44
2:I:884:TYR:CG	2:I:885:LYS:N	2.86	0.44
1:L:268:TYR:CZ	1:L:311:ILE:HD12	2.52	0.44
2:M:534:TRP:HD1	2:M:535:LYS:N	2.15	0.44
2:B:398:PHE:HA	2:B:464:ASN:O	2.18	0.44
2:B:537:MET:HA	2:B:569:ILE:HG23	2.00	0.44
1:C:348:GLU:O	1:C:352:THR:HG23	2.18	0.44
2:D:120:LEU:HA	2:D:967:TYR:CD2	2.52	0.44
2:D:134:ASN:ND2	2:D:275:SER:HB3	2.32	0.44
2:D:588:ARG:NH2	2:D:664:ASP:OD1	2.49	0.44
1:L:229:GLU:O	1:L:233:ARG:NH2	2.51	0.44
1:L:470:PRO:HD2	1:L:473:THR:HG21	2.00	0.44
2:M:101:LEU:HD11	2:M:108:PRO:HB3	1.98	0.44
2:M:241:MET:HE2	2:M:241:MET:HB3	1.85	0.44
2:M:752:SER:HB2	2:M:754:TYR:CE1	2.53	0.44
2:M:759:MET:HE2	2:M:759:MET:HB3	1.86	0.44
2:M:788:GLU:HG2	2:M:789:ALA:O	2.18	0.44
1:C:219:GLY:O	1:C:322:GLN:HB2	2.18	0.44
2:D:654:MET:HB2	2:D:663:PHE:CE2	2.53	0.44
2:D:660:ARG:HE	2:D:660:ARG:HB3	1.68	0.44
2:D:848:TYR:O	2:D:850:ASP:N	2.49	0.44
2:I:770:GLU:OE2	2:I:862:LYS:HE2	2.18	0.44
1:A:23:PHE:HE2	1:A:104:THR:HG22	1.81	0.44
1:C:124:TYR:C	1:C:126:GLU:N	2.75	0.44
2:D:94:LEU:HD23	2:D:94:LEU:HA	1.58	0.44
2:D:568:PHE:CE2	2:D:570:PHE:HB3	2.53	0.44
2:D:877:PRO:HG3	3:E:46:TYR:CZ	2.53	0.44
2:I:412:GLN:HB2	2:I:451:ILE:HD13	2.00	0.44
3:J:54:THR:C	3:J:73:VAL:HG12	2.42	0.44
1:L:386:LEU:HD12	1:L:386:LEU:HA	1.67	0.44
1:A:54:GLU:OE2	1:A:300:LYS:HB3	2.17	0.43
2:B:394:PHE:CD2	2:B:395:LEU:HG	2.52	0.43
2:B:429:PRO:O	2:B:434:GLN:HG2	2.17	0.43
1:C:470:PRO:O	1:C:473:THR:HG23	2.18	0.43
2:D:734:LEU:O	2:D:735:PRO:C	2.60	0.43
2:M:155:SER:OG	2:M:156:ARG:N	2.51	0.43
2:M:170:ARG:HD3	2:M:262:ASN:HD21	1.83	0.43
2:M:267:LYS:HA	2:M:267:LYS:HD3	1.76	0.43
1:A:102:PHE:CZ	1:A:106:ILE:HD11	2.53	0.43
1:A:192:ARG:HD3	1:A:409:ARG:HD3	1.99	0.43
1:A:449:MET:CE	1:A:471:GLY:HA3	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:531:GLU:HA	2:B:541:THR:HG22	1.99	0.43
2:B:835:ASP:HA	2:B:898:PHE:CE1	2.54	0.43
1:H:449:MET:HB3	1:H:449:MET:HE3	1.68	0.43
1:H:461:GLN:NE2	2:I:741:ILE:O	2.51	0.43
1:L:118:ASN:ND2	1:L:401:MET:HE2	2.33	0.43
1:L:142:GLU:N	1:L:142:GLU:OE2	2.52	0.43
1:L:191:LEU:HD23	1:L:191:LEU:HA	1.81	0.43
1:L:321:THR:HB	1:L:324:GLU:HB2	2.00	0.43
1:L:470:PRO:HD2	1:L:473:THR:CG2	2.47	0.43
2:M:332:ASN:OD1	2:M:832:ARG:NH2	2.51	0.43
2:M:824:ARG:NH1	2:M:904:TYR:OH	2.51	0.43
2:B:155:SER:HB2	2:B:596:ASN:HA	2.00	0.43
1:C:32:SER:HB2	1:C:79:ILE:HD12	2.00	0.43
2:D:751:THR:HG21	2:D:899:LEU:HD21	2.00	0.43
3:F:20:TRP:CD1	3:F:140:ARG:HG3	2.53	0.43
3:F:48:THR:HG21	3:F:55:GLU:HG3	2.00	0.43
1:H:50:GLU:HG3	1:H:287:LYS:HZ2	1.82	0.43
2:I:188:VAL:HG22	2:I:282:MET:HE1	2.00	0.43
1:L:52:LYS:HB3	1:L:301:ASN:HD21	1.83	0.43
2:B:531:GLU:HG3	2:B:541:THR:CG2	2.47	0.43
1:C:20:ASP:HB2	1:C:167:PRO:HD3	2.00	0.43
2:D:291:ASP:O	2:D:317:GLN:HA	2.18	0.43
2:I:126:PHE:CE1	2:I:321:PHE:HB2	2.53	0.43
2:I:230:ASN:O	2:I:231:ASN:HB3	2.18	0.43
1:L:142:GLU:CD	1:L:476:TRP:CD2	2.96	0.43
1:L:333:TYR:HD1	1:L:337:HIS:ND1	2.16	0.43
2:M:730:LYS:HG2	2:M:732:ILE:HD13	1.99	0.43
2:M:776:ARG:HG3	2:M:860:VAL:CG1	2.48	0.43
1:C:54:GLU:OE2	1:C:300:LYS:HB3	2.18	0.43
2:D:412:GLN:HA	2:D:450:GLN:O	2.19	0.43
1:H:153:ASP:OD1	1:H:186:ARG:NH2	2.41	0.43
2:I:282:MET:H	2:I:282:MET:HG3	1.56	0.43
2:I:577:ASN:HB3	2:I:578:LEU:H	1.55	0.43
2:I:834:LYS:HG3	2:I:948:PHE:CZ	2.54	0.43
2:M:658:LYS:O	2:M:658:LYS:HD3	2.18	0.43
3:N:43:MET:HB2	3:N:59:ASP:O	2.18	0.43
1:A:49:TYR:CE2	1:A:400:HIS:HE1	2.36	0.43
2:B:384:PHE:HE2	2:B:406:LEU:HD23	1.83	0.43
2:I:200:MET:HE1	2:I:225:TRP:CB	2.49	0.43
2:I:485:ARG:NH1	2:I:521:ARG:HD3	2.33	0.43
1:L:383:LYS:O	1:L:387:ILE:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:667:TYR:OH	2:M:700:ARG:HD2	2.18	0.43
2:M:718:TRP:CD1	2:M:810:LEU:HD21	2.53	0.43
3:N:71:VAL:HG12	3:N:80:PHE:HB2	2.00	0.43
3:F:91:TYR:O	3:F:91:TYR:CD2	2.72	0.43
2:I:302:LYS:HA	2:I:307:THR:HA	2.01	0.43
1:L:159:LEU:CD2	1:L:175:ILE:HD11	2.49	0.43
1:A:237:TYR:CD2	1:A:313:ALA:HA	2.53	0.43
2:B:94:LEU:O	2:B:960:LEU:HD23	2.18	0.43
2:B:111:ASN:CG	2:B:128:ASN:HD21	2.25	0.43
2:B:767:GLN:HG3	2:B:788:GLU:HG3	2.01	0.43
2:D:730:LYS:HG3	2:D:731:VAL:O	2.19	0.43
1:H:347:TYR:HD1	1:H:387:ILE:HG22	1.83	0.43
1:L:159:LEU:HD23	1:L:175:ILE:HD11	2.00	0.43
1:L:344:LYS:HG3	1:L:374:TRP:CG	2.53	0.43
2:M:499:ILE:O	2:M:507:ASN:ND2	2.43	0.43
2:B:734:LEU:O	2:B:735:PRO:C	2.60	0.43
1:C:102:PHE:CZ	1:C:106:ILE:HD11	2.53	0.43
1:C:116:VAL:HG21	1:C:144:VAL:CG2	2.48	0.43
1:C:252:TYR:HB3	1:C:253:PRO:HD3	2.01	0.43
1:C:260:SER:OG	1:C:432:PRO:HG2	2.18	0.43
2:D:410:THR:OG1	2:M:410:THR:HG21	2.19	0.43
3:F:21:VAL:HG11	3:F:43:MET:HE1	2.01	0.43
2:I:666:SER:O	2:I:702:ILE:HA	2.19	0.43
1:L:416:SER:O	1:L:418:TYR:N	2.52	0.43
2:M:610:SER:CB	2:M:630:SER:HB2	2.49	0.43
2:B:68:ILE:HB	2:B:71:VAL:HG21	2.01	0.43
2:B:726:LYS:HZ2	2:B:726:LYS:HG2	1.55	0.43
1:C:237:TYR:CD2	1:C:313:ALA:HA	2.54	0.43
2:D:244:ASN:OD1	2:D:245:ILE:N	2.51	0.43
1:H:391:LYS:O	1:H:395:LEU:HG	2.19	0.43
2:I:402:TYR:HD1	2:I:461:ILE:HG12	1.83	0.43
2:M:798:MET:HE1	2:M:960:LEU:HD12	2.01	0.43
2:B:50:GLU:HG2	2:B:54:GLU:OE2	2.19	0.42
2:B:109:LEU:HD22	2:B:133:ILE:HD11	2.01	0.42
2:B:298:ARG:HG2	2:B:311:SER:OG	2.18	0.42
2:D:296:SER:OG	2:D:298:ARG:NH1	2.52	0.42
3:F:85:PHE:HB3	3:F:94:LYS:CD	2.49	0.42
1:H:188:ARG:CZ	1:H:402:GLU:OE2	2.67	0.42
1:L:88:ALA:O	1:L:92:LEU:HD23	2.19	0.42
2:M:312:LEU:HD22	2:M:384:PHE:HZ	1.83	0.42
2:M:475:ASN:HB3	2:M:531:GLU:HG2	1.99	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:93:SER:OG	3:F:94:LYS:N	2.48	0.42
3:F:101:LYS:HG3	3:F:119:VAL:HG23	2.01	0.42
1:H:169:LEU:H	1:H:169:LEU:HD12	1.84	0.42
1:H:183:ASN:OD1	1:H:186:ARG:NH1	2.52	0.42
2:I:667:TYR:OH	2:I:700:ARG:HD2	2.19	0.42
3:J:26:PHE:HE2	3:J:121:MET:HE2	1.84	0.42
2:M:326:GLN:HE22	4:O:5:GLY:HA2	1.83	0.42
1:A:89:LYS:O	1:A:93:GLU:HG3	2.18	0.42
2:D:39:ALA:HB1	2:D:539:TYR:CG	2.54	0.42
2:D:444:THR:O	2:D:496:ASP:HA	2.19	0.42
3:E:43:MET:HB3	3:E:43:MET:HE2	1.69	0.42
1:H:386:LEU:HD12	1:H:386:LEU:HA	1.72	0.42
1:H:454:TYR:CE1	1:H:466:PRO:HG2	2.54	0.42
2:I:105:ASP:H	2:I:107:VAL:H	1.66	0.42
1:L:389:MET:O	1:L:393:VAL:HG23	2.19	0.42
2:M:202:TRP:HA	2:M:214:TRP:HB2	2.01	0.42
2:M:545:ARG:HG2	2:M:561:TYR:CZ	2.53	0.42
2:M:863:ILE:HB	2:M:870:THR:HG22	2.01	0.42
1:A:23:PHE:CD2	1:A:104:THR:HG22	2.54	0.42
2:I:275:SER:OG	2:I:294:THR:HG22	2.20	0.42
2:I:700:ARG:HH11	2:I:700:ARG:HD3	1.70	0.42
2:I:798:MET:HE1	2:I:960:LEU:HD12	1.99	0.42
3:N:69:LEU:HD21	3:N:97:ILE:HD11	2.02	0.42
1:A:230:THR:O	1:A:232:LYS:HG2	2.19	0.42
2:B:658:LYS:O	2:B:659:ASN:HB2	2.19	0.42
2:B:834:LYS:HD3	2:B:898:PHE:CD1	2.55	0.42
2:D:385:TYR:HA	2:D:406:LEU:O	2.19	0.42
2:I:819:ILE:HG23	2:I:910:VAL:HG22	2.02	0.42
1:L:289:HIS:O	1:L:293:ILE:HG13	2.19	0.42
1:L:415:LEU:HD11	1:L:437:ALA:HB2	2.01	0.42
2:M:39:ALA:HB1	2:M:539:TYR:CG	2.54	0.42
2:M:530:PHE:C	2:M:530:PHE:CD1	2.98	0.42
2:M:834:LYS:HE3	2:M:948:PHE:CE2	2.55	0.42
2:B:195:GLN:HG2	2:B:196:ASN:N	2.33	0.42
1:C:57:GLN:OE1	4:G:6:GLY:HA2	2.19	0.42
1:C:75:TYR:O	1:C:79:ILE:HG23	2.18	0.42
2:D:516:GLN:HB3	2:M:505:LEU:HD12	2.01	0.42
3:E:85:PHE:C	3:E:94:LYS:HZ2	2.27	0.42
2:M:657:PHE:O	2:M:658:LYS:HB3	2.20	0.42
3:N:85:PHE:HB3	3:N:94:LYS:HZ2	1.84	0.42
2:B:295:PHE:CE2	2:I:312:LEU:HD21	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:479:GLY:HA3	2:B:527:PHE:CZ	2.55	0.42
2:B:502:TRP:CZ3	1:H:12:PRO:HG3	2.54	0.42
1:C:451:ARG:NH2	1:C:454:TYR:OH	2.53	0.42
2:D:527:PHE:HB3	2:D:545:ARG:HD3	2.01	0.42
3:F:23:VAL:HG11	3:F:64:PHE:CZ	2.54	0.42
1:H:321:THR:CG2	1:H:324:GLU:H	2.32	0.42
2:I:829:MET:HE2	2:I:829:MET:HB3	1.94	0.42
2:M:51:LYS:O	2:M:54:GLU:HG2	2.20	0.42
2:M:534:TRP:HD1	2:M:535:LYS:CB	2.33	0.42
2:M:917:PRO:HG2	2:M:920:TRP:CD2	2.54	0.42
2:B:221:SER:O	2:B:237:PRO:HA	2.19	0.42
1:C:43:GLY:HA3	1:C:49:TYR:CZ	2.55	0.42
2:D:53:ALA:O	2:D:56:ARG:HD2	2.20	0.42
1:H:452:MET:HE3	1:H:453:THR:HG23	2.01	0.42
2:I:254:ARG:HA	2:I:278:SER:O	2.20	0.42
2:I:362:PRO:O	2:I:439:PRO:HD3	2.20	0.42
2:M:92:SER:HB3	2:M:672:THR:OG1	2.20	0.42
2:M:419:ASN:HB3	2:M:500:PRO:HB3	2.02	0.42
2:M:489:TYR:CE2	2:M:517:HIS:HB3	2.54	0.42
2:M:938:LEU:HD23	2:M:938:LEU:HA	1.87	0.42
1:A:10:ASN:OD1	2:B:517:HIS:HA	2.20	0.42
1:A:101:ARG:O	1:A:105:THR:HG23	2.19	0.42
2:B:95:SER:HB2	2:B:677:PHE:HE2	1.85	0.42
2:B:306:LEU:HD11	2:B:390:LEU:HD11	2.01	0.42
2:B:623:LEU:HA	2:B:624:GLY:HA2	1.83	0.42
2:D:753:MET:CE	2:D:764:PHE:CZ	3.03	0.42
2:D:848:TYR:C	2:D:850:ASP:N	2.78	0.42
1:H:192:ARG:HG2	1:H:409:ARG:HD2	2.01	0.42
1:H:229:GLU:O	1:H:233:ARG:NH2	2.52	0.42
1:H:401:MET:HE3	1:H:401:MET:HB3	1.68	0.42
2:I:92:SER:HB3	2:I:672:THR:OG1	2.20	0.42
1:L:89:LYS:HE2	1:L:93:GLU:OE2	2.20	0.42
3:N:95:VAL:HG22	3:N:124:PHE:HD2	1.83	0.42
2:B:761:VAL:HG12	2:B:798:MET:HE1	2.01	0.42
1:H:2:ASP:HB3	2:I:522:ARG:HH21	1.84	0.42
2:I:610:SER:HB2	2:I:621:PHE:CD2	2.55	0.42
1:L:202:SER:O	1:L:205:GLU:HB2	2.20	0.42
2:M:196:ASN:OD1	2:M:339:ARG:NH1	2.53	0.42
3:N:96:LYS:HD3	3:N:96:LYS:HA	1.11	0.42
1:A:20:ASP:OD1	1:A:20:ASP:N	2.53	0.41
2:B:104:VAL:HG22	2:B:164:ILE:HG21	2.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:187:LEU:HD12	1:C:207:VAL:HG23	2.01	0.41
1:C:296:THR:CG2	2:D:203:ASN:HB2	2.49	0.41
1:H:237:TYR:CD2	1:H:313:ALA:HA	2.54	0.41
1:L:87:ASP:OD2	2:M:630:SER:OG	2.31	0.41
1:L:145:TYR:CE2	1:L:189:MET:HG2	2.55	0.41
1:L:171:PHE:CG	1:L:177:GLN:HB3	2.55	0.41
1:L:187:LEU:C	1:L:187:LEU:HD23	2.45	0.41
1:L:200:ALA:O	1:L:204:THR:HG22	2.20	0.41
2:M:254:ARG:HA	2:M:278:SER:O	2.19	0.41
2:B:104:VAL:HG22	2:B:164:ILE:CG2	2.50	0.41
2:B:880:SER:HA	2:B:883:ILE:HG12	2.01	0.41
2:B:935:GLY:HA2	2:B:976:PHE:HA	2.02	0.41
2:D:806:VAL:HG22	2:D:821:PHE:HB2	2.01	0.41
1:H:62:CYS:HB3	1:H:287:LYS:HE3	2.01	0.41
1:H:146:LYS:HB2	1:H:146:LYS:HE2	1.68	0.41
1:H:222:LYS:HD3	1:H:224:ASP:HB2	2.01	0.41
2:I:581:VAL:HG13	2:I:657:PHE:HE1	1.83	0.41
1:L:348:GLU:HG2	1:L:368:LEU:HD22	2.02	0.41
2:M:731:VAL:O	2:M:757:THR:O	2.39	0.41
3:N:58:LEU:H	3:N:68:LYS:HZ3	1.67	0.41
2:D:314:TYR:CZ	2:M:406:LEU:HD21	2.55	0.41
2:D:332:ASN:OD1	2:D:832:ARG:NH2	2.53	0.41
2:D:384:PHE:HE2	2:D:406:LEU:HD23	1.84	0.41
2:M:429:PRO:O	2:M:434:GLN:HG2	2.20	0.41
2:M:575:ASN:HB2	2:M:578:LEU:CB	2.50	0.41
1:C:263:ASP:OD1	1:C:265:ARG:HD2	2.20	0.41
2:D:829:MET:HE1	2:D:951:PRO:CB	2.48	0.41
2:I:58:SER:HB3	2:I:254:ARG:NH1	2.35	0.41
2:I:611:SER:HB2	2:I:620:THR:HG22	2.02	0.41
2:I:683:PRO:HG3	2:I:688:THR:HG22	2.02	0.41
1:L:335:ARG:HG3	1:L:384:LEU:HD21	2.02	0.41
1:A:69:SER:O	2:B:749:GLY:HA2	2.21	0.41
1:A:116:VAL:HG21	1:A:144:VAL:CG2	2.50	0.41
2:B:715:ASP:CG	2:B:813:LYS:HD2	2.45	0.41
2:B:806:VAL:HG22	2:B:821:PHE:HB2	2.01	0.41
2:D:332:ASN:O	2:D:336:GLN:HG3	2.20	0.41
2:D:623:LEU:HA	2:D:624:GLY:HA2	1.87	0.41
1:H:331:GLU:HG3	1:H:335:ARG:HD3	2.03	0.41
2:I:219:ASP:OD1	2:I:220:GLY:N	2.53	0.41
2:I:862:LYS:HD3	2:I:871:TYR:CZ	2.55	0.41
2:B:71:VAL:HG11	2:B:143:ILE:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:91:VAL:HG13	2:B:98:ASN:ND2	2.35	0.41
2:B:713:THR:HG22	2:B:714:LYS:N	2.34	0.41
2:B:920:TRP:H	2:B:920:TRP:CD1	2.38	0.41
2:D:194:PHE:CZ	2:D:245:ILE:HD12	2.55	0.41
2:D:464:ASN:HD22	2:D:477:LEU:HB2	1.85	0.41
1:H:164:MET:HE1	1:H:178:TRP:NE1	2.36	0.41
1:H:177:GLN:OE1	1:H:218:THR:HB	2.20	0.41
2:I:175:VAL:HG23	2:I:177:ILE:HG13	2.02	0.41
3:J:121:MET:HE3	3:J:134:LYS:HD2	2.03	0.41
1:L:257:TYR:HB2	1:L:433:GLY:CA	2.50	0.41
2:M:554:LYS:HB2	2:M:554:LYS:HE3	1.63	0.41
2:M:776:ARG:HG3	2:M:860:VAL:HG11	2.03	0.41
1:A:69:SER:HA	1:A:456:LEU:HD22	2.03	0.41
2:B:183:VAL:HG13	2:B:253:PHE:CE1	2.56	0.41
2:B:244:ASN:OD1	2:B:245:ILE:N	2.54	0.41
2:B:489:TYR:CE2	2:B:517:HIS:HB3	2.56	0.41
2:B:599:ASP:CG	2:B:600:VAL:H	2.29	0.41
2:D:152:LEU:HD12	2:D:152:LEU:HA	1.83	0.41
2:D:289:SER:HB2	2:D:320:ASN:HB2	2.02	0.41
2:D:770:GLU:HG2	2:D:771:ARG:N	2.36	0.41
3:E:15:MET:SD	3:E:78:ARG:HA	2.60	0.41
1:H:106:ILE:CD1	1:H:182:ALA:HB2	2.51	0.41
2:I:849:ASN:ND2	2:I:849:ASN:O	2.53	0.41
2:M:462:MET:HE2	2:M:477:LEU:HD11	2.01	0.41
2:M:518:MET:HG2	2:M:519:GLU:N	2.35	0.41
3:N:86:VAL:HG12	3:N:87:ASP:N	2.36	0.41
2:B:54:GLU:O	2:B:56:ARG:HG2	2.20	0.41
2:B:761:VAL:O	2:B:798:MET:HE2	2.21	0.41
2:B:900:VAL:HG13	2:B:946:ASN:HB2	2.03	0.41
1:C:97:ASN:O	1:C:101:ARG:HG2	2.21	0.41
2:I:323:THR:O	2:I:329:SER:HB2	2.21	0.41
1:A:91:VAL:HG11	1:A:104:THR:HG21	2.03	0.41
1:A:190:TYR:CB	1:A:207:VAL:HG23	2.51	0.41
2:B:153:TYR:HB2	2:B:157:ALA:HB2	2.02	0.41
2:B:218:PHE:CE2	2:B:240:ALA:HB2	2.55	0.41
2:B:569:ILE:HD11	2:B:571:SER:OG	2.20	0.41
2:B:677:PHE:HB3	2:B:694:LEU:HD21	2.02	0.41
2:D:527:PHE:HB3	2:D:545:ARG:CD	2.51	0.41
1:H:252:TYR:N	1:H:253:PRO:HD2	2.35	0.41
1:H:287:LYS:O	1:H:291:GLN:HG2	2.21	0.41
1:H:392:TRP:CD1	1:H:407:ILE:HD11	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:430:TYR:CE2	1:H:432:PRO:HA	2.55	0.41
2:I:357:GLY:O	2:I:429:PRO:HD2	2.21	0.41
3:J:87:ASP:OD1	3:J:94:LYS:HE3	2.20	0.41
1:L:414:LYS:HD2	1:L:414:LYS:HA	1.84	0.41
1:L:449:MET:CE	1:L:451:ARG:H	2.34	0.41
1:L:454:TYR:N	1:L:454:TYR:CD1	2.88	0.41
2:M:834:LYS:HG3	2:M:948:PHE:CE2	2.56	0.41
3:N:78:ARG:HB3	3:N:102:VAL:O	2.21	0.41
1:A:265:ARG:HD2	1:A:355:PHE:CZ	2.56	0.41
1:H:110:TYR:CZ	1:H:114:ILE:HD11	2.56	0.41
1:H:327:PHE:CD2	1:H:391:LYS:HA	2.56	0.41
2:I:56:ARG:O	2:I:254:ARG:NH2	2.48	0.41
2:I:173:LYS:HA	2:I:174:GLY:HA2	1.70	0.41
3:J:6:GLU:OE2	3:J:7:PRO:HD2	2.21	0.41
1:L:347:TYR:CD1	1:L:387:ILE:HD13	2.56	0.41
1:L:347:TYR:HD1	1:L:387:ILE:HD13	1.86	0.41
2:M:144:LEU:HB2	2:M:161:VAL:HB	2.03	0.41
2:M:150:THR:HB	2:M:157:ALA:HB3	2.03	0.41
2:M:524:MET:HE2	2:M:524:MET:HB3	1.99	0.41
3:N:58:LEU:HD21	3:N:120:TYR:CZ	2.56	0.41
1:A:126:GLU:O	1:A:136:PRO:HB3	2.21	0.40
2:B:329:SER:O	2:B:333:SER:HB2	2.21	0.40
2:D:976:PHE:CD1	2:D:976:PHE:N	2.89	0.40
3:E:85:PHE:HB3	3:E:94:LYS:HG3	2.03	0.40
2:I:920:TRP:CD1	2:I:920:TRP:N	2.88	0.40
1:L:119:THR:C	1:L:121:ASP:N	2.79	0.40
3:N:58:LEU:N	3:N:68:LYS:NZ	2.66	0.40
2:B:131:ASN:O	2:B:292:LYS:NZ	2.45	0.40
2:B:197:GLU:HB3	2:B:198:PHE:CD1	2.56	0.40
2:B:657:PHE:CD1	2:B:657:PHE:N	2.89	0.40
1:C:451:ARG:HD2	1:C:473:THR:O	2.21	0.40
2:D:305:ALA:HB1	2:D:393:GLU:O	2.22	0.40
2:D:412:GLN:HG3	2:D:451:ILE:HG12	2.02	0.40
2:D:836:ILE:HD12	2:D:836:ILE:HA	1.76	0.40
3:F:57:TRP:CZ2	3:F:70:LYS:HE3	2.56	0.40
1:H:97:ASN:O	1:H:101:ARG:HG3	2.20	0.40
2:M:734:LEU:H	2:M:757:THR:HG22	1.86	0.40
1:A:427:GLU:H	1:A:427:GLU:HG2	1.75	0.40
1:A:448:LEU:O	1:A:450:LYS:HE3	2.21	0.40
1:C:409:ARG:HH21	1:C:410:THR:CG2	2.35	0.40
2:D:180:ASN:HB2	2:D:258:SER:HB3	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:58:LEU:HD11	3:F:120:TYR:CE2	2.56	0.40
3:F:73:VAL:HG12	3:F:80:PHE:HB3	2.03	0.40
1:H:196:ALA:HB2	1:H:477:TRP:HA	2.03	0.40
3:J:23:VAL:O	3:J:34:ASP:HA	2.22	0.40
3:J:75:TYR:O	3:J:78:ARG:HD3	2.20	0.40
3:N:95:VAL:C	3:N:96:LYS:CE	2.95	0.40
1:A:257:TYR:CD1	1:A:257:TYR:C	2.99	0.40
2:B:116:SER:HB2	2:B:124:TYR:CE2	2.56	0.40
2:B:461:ILE:O	2:B:479:GLY:HA2	2.21	0.40
2:B:973:SER:OG	2:B:975:ARG:NH1	2.55	0.40
1:C:71:GLN:HB3	1:C:74:ASP:CG	2.46	0.40
2:D:756:ILE:HB	2:D:759:MET:HE3	2.03	0.40
2:D:953:MET:HE2	2:D:971:PRO:HA	2.03	0.40
3:E:87:ASP:HA	3:E:94:LYS:HD2	2.04	0.40
1:H:116:VAL:HB	1:H:120:SER:O	2.21	0.40
1:H:144:VAL:O	1:H:148:ILE:HG12	2.21	0.40
2:I:349:GLN:HE21	2:I:349:GLN:HB3	1.71	0.40
1:L:142:GLU:OE2	1:L:476:TRP:CD2	2.74	0.40
1:L:476:TRP:CE2	1:L:477:TRP:CD1	3.08	0.40
2:M:665:VAL:HG13	2:M:704:LEU:HD13	2.03	0.40
3:N:21:VAL:HG11	3:N:43:MET:HE3	2.04	0.40
2:B:582:ILE:HD13	2:B:656:PHE:CD1	2.57	0.40
2:B:713:THR:CG2	2:B:714:LYS:N	2.85	0.40
2:D:333:SER:HG	2:D:366:MET:H	1.69	0.40
3:F:28:ASP:O	3:F:30:LYS:NZ	2.43	0.40
2:M:234:LYS:NZ	2:M:351:ASP:OD2	2.55	0.40
2:M:731:VAL:CG2	2:M:761:VAL:HG12	2.50	0.40
2:M:741:ILE:HG13	2:M:756:ILE:HG12	2.03	0.40
2:M:760:PRO:HB2	2:M:799:ASN:ND2	2.36	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	479/480 (100%)	453 (95%)	24 (5%)	2 (0%)	30	60
1	C	479/480 (100%)	452 (94%)	24 (5%)	3 (1%)	21	51
1	H	479/480 (100%)	441 (92%)	35 (7%)	3 (1%)	21	51
1	L	479/480 (100%)	436 (91%)	41 (9%)	2 (0%)	30	60
2	B	937/984 (95%)	880 (94%)	49 (5%)	8 (1%)	14	41
2	D	941/984 (96%)	885 (94%)	54 (6%)	2 (0%)	43	72
2	I	945/984 (96%)	882 (93%)	58 (6%)	5 (0%)	24	55
2	M	946/984 (96%)	893 (94%)	52 (6%)	1 (0%)	48	77
3	E	144/148 (97%)	138 (96%)	6 (4%)	0	100	100
3	F	144/148 (97%)	135 (94%)	9 (6%)	0	100	100
3	J	144/148 (97%)	136 (94%)	6 (4%)	2 (1%)	9	30
3	N	144/148 (97%)	138 (96%)	5 (4%)	1 (1%)	18	47
4	G	8/10 (80%)	6 (75%)	1 (12%)	1 (12%)	0	0
4	K	8/10 (80%)	7 (88%)	1 (12%)	0	100	100
4	O	8/10 (80%)	6 (75%)	0	2 (25%)	0	0
4	P	8/10 (80%)	7 (88%)	1 (12%)	0	100	100
All	All	6293/6488 (97%)	5895 (94%)	366 (6%)	32 (0%)	24	55

All (32) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	38	LYS
2	B	659	ASN
2	B	866	GLY
2	B	920	TRP
1	C	371	ALA
1	C	372	CYS
2	D	848	TYR
1	H	124	TYR
2	I	577	ASN
3	N	33	GLU
1	A	120	SER
1	C	120	SER
2	I	578	LEU
3	J	125	ASP
4	O	2	GLY
4	O	3	GLY

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Mol	Chain	Res	Type
2	B	658	LYS
1	H	125	SER
2	I	579	GLN
3	J	27	ILE
1	L	417	SER
2	B	95	SER
2	M	813	LYS
1	A	124	TYR
2	B	867	GLU
2	D	362	PRO
1	H	120	SER
2	I	713	THR
1	L	378	SER
4	G	3	GLY
2	I	573	LEU
2	B	362	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	393/392 (100%)	371 (94%)	22 (6%)	19	50
1	C	393/392 (100%)	377 (96%)	16 (4%)	27	62
1	H	393/392 (100%)	360 (92%)	33 (8%)	10	32
1	L	393/392 (100%)	363 (92%)	30 (8%)	12	36
2	B	793/836 (95%)	731 (92%)	62 (8%)	11	35
2	D	797/836 (95%)	735 (92%)	62 (8%)	11	35
2	I	799/836 (96%)	752 (94%)	47 (6%)	18	48
2	M	800/836 (96%)	747 (93%)	53 (7%)	15	43
3	E	122/124 (98%)	117 (96%)	5 (4%)	27	62
3	F	122/124 (98%)	118 (97%)	4 (3%)	33	69
3	J	122/124 (98%)	113 (93%)	9 (7%)	13	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	N	122/124 (98%)	114 (93%)	8 (7%)	15	43
All	All	5249/5408 (97%)	4898 (93%)	351 (7%)	15	42

All (351) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	25	SER
1	A	27	SER
1	A	55	SER
1	A	166	VAL
1	A	169	LEU
1	A	177	GLN
1	A	205	GLU
1	A	207	VAL
1	A	222	LYS
1	A	227	LEU
1	A	265	ARG
1	A	274	ASP
1	A	276	ASP
1	A	278	LYS
1	A	300	LYS
1	A	358	ARG
1	A	367	ILE
1	A	375	SER
1	A	383	LYS
1	A	384	LEU
1	A	428	SER
1	A	431	THR
2	B	45	THR
2	B	47	VAL
2	B	51	LYS
2	B	60	VAL
2	B	87	ILE
2	B	94	LEU
2	B	97	THR
2	B	99	GLN
2	B	128	ASN
2	B	152	LEU
2	B	170	ARG
2	B	173	LYS
2	B	183	VAL
2	B	228	VAL

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Mol	Chain	Res	Type
2	B	259	LEU
2	B	260	SER
2	B	262	ASN
2	B	282	MET
2	B	317	GLN
2	B	333	SER
2	B	410	THR
2	B	436	SER
2	B	441	SER
2	B	464	ASN
2	B	477	LEU
2	B	490	GLN
2	B	498	THR
2	B	518	MET
2	B	537	MET
2	B	564	ILE
2	B	567	SER
2	B	569	ILE
2	B	602	MET
2	B	623	LEU
2	B	645	THR
2	B	657	PHE
2	B	658	LYS
2	B	670	ARG
2	B	675	GLN
2	B	676	ILE
2	B	704	LEU
2	B	706	ILE
2	B	707	SER
2	B	757	THR
2	B	759	MET
2	B	798	MET
2	B	806	VAL
2	B	809	ASN
2	B	816	SER
2	B	819	ILE
2	B	828	VAL
2	B	829	MET
2	B	832	ARG
2	B	862	LYS
2	B	867	GLU
2	B	870	THR

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Mol	Chain	Res	Type
2	B	916	LEU
2	B	959	ASP
2	B	968	THR
2	B	974	ARG
2	B	980	LEU
2	B	981	MET
1	C	27	SER
1	C	34	VAL
1	C	144	VAL
1	C	166	VAL
1	C	177	GLN
1	C	205	GLU
1	C	225	CYS
1	C	229	GLU
1	C	367	ILE
1	C	397	TYR
1	C	405	SER
1	C	431	THR
1	C	434	GLU
1	C	440	THR
1	C	459	ARG
1	C	473	THR
2	D	47	VAL
2	D	58	SER
2	D	59	ASP
2	D	60	VAL
2	D	61	MET
2	D	74	SER
2	D	97	THR
2	D	99	GLN
2	D	152	LEU
2	D	171	LYS
2	D	173	LYS
2	D	183	VAL
2	D	184	GLN
2	D	195	GLN
2	D	208	GLU
2	D	228	VAL
2	D	235	LEU
2	D	282	MET
2	D	288	ASP
2	D	298	ARG

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Mol	Chain	Res	Type
2	D	307	THR
2	D	313	ASN
2	D	333	SER
2	D	339	ARG
2	D	342	SER
2	D	366	MET
2	D	408	THR
2	D	413	SER
2	D	417	LYS
2	D	432	GLU
2	D	441	SER
2	D	477	LEU
2	D	510	LYS
2	D	518	MET
2	D	541	THR
2	D	542	VAL
2	D	543	THR
2	D	557	ARG
2	D	558	SER
2	D	581	VAL
2	D	586	LYS
2	D	594	THR
2	D	623	LEU
2	D	675	GLN
2	D	692	MET
2	D	702	ILE
2	D	713	THR
2	D	720	LEU
2	D	741	ILE
2	D	757	THR
2	D	782	SER
2	D	785	LEU
2	D	828	VAL
2	D	829	MET
2	D	867	GLU
2	D	870	THR
2	D	878	ILE
2	D	893	ASP
2	D	915	ASP
2	D	921	LEU
2	D	932	SER
2	D	966	GLU

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Mol	Chain	Res	Type
3	E	13	GLU
3	E	22	THR
3	E	32	VAL
3	E	73	VAL
3	E	93	SER
3	F	4	ASP
3	F	92	GLU
3	F	101	LYS
3	F	135	VAL
1	H	1	CYS
1	H	27	SER
1	H	34	VAL
1	H	74	ASP
1	H	116	VAL
1	H	125	SER
1	H	137	LYS
1	H	140	THR
1	H	143	THR
1	H	175	ILE
1	H	177	GLN
1	H	194	ILE
1	H	207	VAL
1	H	222	LYS
1	H	229	GLU
1	H	233	ARG
1	H	242	VAL
1	H	245	THR
1	H	260	SER
1	H	272	LYS
1	H	278	LYS
1	H	287	LYS
1	H	321	THR
1	H	348	GLU
1	H	382	ASP
1	H	383	LYS
1	H	387	ILE
1	H	397	TYR
1	H	401	MET
1	H	427	GLU
1	H	451	ARG
1	H	457	SER
1	H	459	ARG

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Mol	Chain	Res	Type
2	I	60	VAL
2	I	171	LYS
2	I	190	ARG
2	I	195	GLN
2	I	259	LEU
2	I	266	ASP
2	I	275	SER
2	I	277	ILE
2	I	278	SER
2	I	282	MET
2	I	318	LYS
2	I	366	MET
2	I	376	LEU
2	I	395	LEU
2	I	406	LEU
2	I	408	THR
2	I	436	SER
2	I	441	SER
2	I	516	GLN
2	I	518	MET
2	I	554	LYS
2	I	571	SER
2	I	578	LEU
2	I	588	ARG
2	I	609	GLN
2	I	675	GLN
2	I	692	MET
2	I	703	GLU
2	I	713	THR
2	I	753	MET
2	I	757	THR
2	I	765	LYS
2	I	767	GLN
2	I	779	VAL
2	I	803	GLN
2	I	806	VAL
2	I	828	VAL
2	I	829	MET
2	I	844	ILE
2	I	873	GLU
2	I	879	THR
2	I	915	ASP

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Mol	Chain	Res	Type
2	I	919	ARG
2	I	930	LYS
2	I	966	GLU
2	I	968	THR
2	I	981	MET
3	J	4	ASP
3	J	6	GLU
3	J	27	ILE
3	J	82	THR
3	J	83	THR
3	J	92	GLU
3	J	96	LYS
3	J	98	THR
3	J	132	THR
1	L	1	CYS
1	L	27	SER
1	L	34	VAL
1	L	74	ASP
1	L	108	ARG
1	L	121	ASP
1	L	144	VAL
1	L	145	TYR
1	L	146	LYS
1	L	169	LEU
1	L	177	GLN
1	L	188	ARG
1	L	266	ILE
1	L	271	SER
1	L	272	LYS
1	L	274	ASP
1	L	291	GLN
1	L	305	SER
1	L	331	GLU
1	L	338	ASN
1	L	379	THR
1	L	384	LEU
1	L	389	MET
1	L	397	TYR
1	L	427	GLU
1	L	428	SER
1	L	429	VAL
1	L	431	THR

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Mol	Chain	Res	Type
1	L	473	THR
1	L	479	ILE
2	M	52	ILE
2	M	60	VAL
2	M	74	SER
2	M	87	ILE
2	M	117	THR
2	M	152	LEU
2	M	155	SER
2	M	170	ARG
2	M	171	LYS
2	M	183	VAL
2	M	195	GLN
2	M	222	MET
2	M	235	LEU
2	M	288	ASP
2	M	310	SER
2	M	323	THR
2	M	387	LYS
2	M	390	LEU
2	M	415	LYS
2	M	426	GLU
2	M	441	SER
2	M	451	ILE
2	M	452	THR
2	M	462	MET
2	M	490	GLN
2	M	501	THR
2	M	516	GLN
2	M	524	MET
2	M	567	SER
2	M	571	SER
2	M	572	GLU
2	M	574	LEU
2	M	606	VAL
2	M	648	SER
2	M	666	SER
2	M	675	GLN
2	M	676	ILE
2	M	692	MET
2	M	713	THR
2	M	714	LYS

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Mol	Chain	Res	Type
2	M	720	LEU
2	M	759	MET
2	M	761	VAL
2	M	765	LYS
2	M	777	ILE
2	M	810	LEU
2	M	815	ILE
2	M	816	SER
2	M	829	MET
2	M	868	ASN
2	M	915	ASP
2	M	923	LYS
2	M	968	THR
3	N	4	ASP
3	N	30	LYS
3	N	31	GLU
3	N	68	LYS
3	N	82	THR
3	N	83	THR
3	N	96	LYS
3	N	101	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (64) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	14	ASN
1	A	56	ASN
1	A	59	ASN
1	A	282	GLN
1	A	337	HIS
1	A	385	ASN
1	A	461	GLN
2	B	84	ASN
2	B	128	ASN
2	B	195	GLN
2	B	206	HIS
2	B	374	ASN
2	B	483	ASN
2	B	529	GLN
2	B	671	ASN
2	B	774	GLN
2	B	799	ASN

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Mol	Chain	Res	Type
2	B	861	ASN
2	B	979	ASN
1	C	14	ASN
1	C	129	GLN
1	C	282	GLN
1	C	298	ASN
1	C	326	GLN
1	C	460	GLN
2	D	180	ASN
2	D	262	ASN
2	D	374	ASN
2	D	419	ASN
2	D	464	ASN
2	D	490	GLN
2	D	516	GLN
2	D	612	ASN
2	D	861	ASN
2	D	874	ASN
3	E	40	HIS
2	I	131	ASN
2	I	140	ASN
2	I	206	HIS
2	I	301	HIS
2	I	459	GLN
2	I	473	ASN
2	I	748	ASN
2	I	767	GLN
2	I	799	ASN
2	I	800	ASN
2	I	842	ASN
2	I	852	ASN
2	I	979	ASN
1	L	56	ASN
1	L	59	ASN
1	L	113	GLN
1	L	212	GLN
1	L	338	ASN
1	L	464	ASN
2	M	110	ASN
2	M	180	ASN
2	M	612	ASN
2	M	690	GLN

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Mol	Chain	Res	Type
2	M	800	ASN
2	M	803	GLN
2	M	868	ASN
2	M	874	ASN
2	M	936	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 12 ligands modelled in this entry, 8 are monoatomic - leaving 4 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
5	KR0	B	1985	-	26,26,26	1.38	2 (7%)	27,27,27	1.17	3 (11%)
5	KR0	D	1985	-	26,26,26	1.26	2 (7%)	27,27,27	1.34	4 (14%)
5	KR0	I	1985	-	26,26,26	1.28	2 (7%)	27,27,27	1.35	4 (14%)
5	KR0	M	1985	-	26,26,26	1.25	2 (7%)	27,27,27	1.40	4 (14%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	KR0	B	1985	-	-	6/26/26/26	-
5	KR0	D	1985	-	-	9/26/26/26	-
5	KR0	I	1985	-	-	7/26/26/26	-
5	KR0	M	1985	-	-	8/26/26/26	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	B	1985	KR0	O4-C5	4.91	1.47	1.33
5	B	1985	KR0	O1-C7	4.59	1.46	1.33
5	I	1985	KR0	O1-C7	4.53	1.46	1.33
5	M	1985	KR0	O1-C7	4.42	1.46	1.33
5	D	1985	KR0	O1-C7	4.34	1.46	1.33
5	D	1985	KR0	O4-C5	4.20	1.45	1.33
5	I	1985	KR0	O4-C5	4.10	1.45	1.33
5	M	1985	KR0	O4-C5	4.04	1.45	1.33

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	I	1985	KR0	O1-C7-C12	4.13	124.42	111.83
5	M	1985	KR0	O1-C7-C12	3.73	123.22	111.83
5	D	1985	KR0	O4-C5-C10	3.68	123.06	111.83
5	M	1985	KR0	O4-C5-C10	3.66	122.98	111.83
5	B	1985	KR0	O1-C7-C12	3.39	122.18	111.83
5	D	1985	KR0	O1-C7-C12	3.25	121.73	111.83
5	I	1985	KR0	O4-C5-C10	3.10	121.30	111.83
5	M	1985	KR0	O4-C5-O8	-2.95	116.25	123.63
5	D	1985	KR0	O4-C5-O8	-2.95	116.26	123.63
5	B	1985	KR0	O4-C5-C10	2.80	120.36	111.83
5	I	1985	KR0	O4-C5-O8	-2.53	117.30	123.63
5	I	1985	KR0	O1-C7-O9	-2.41	117.59	123.63
5	M	1985	KR0	O1-C7-O9	-2.28	117.92	123.63
5	B	1985	KR0	O1-C7-O9	-2.16	118.23	123.63
5	D	1985	KR0	C3-C2-C1	-2.11	106.84	113.67

There are no chirality outliers.

All (30) torsion outliers are listed below:

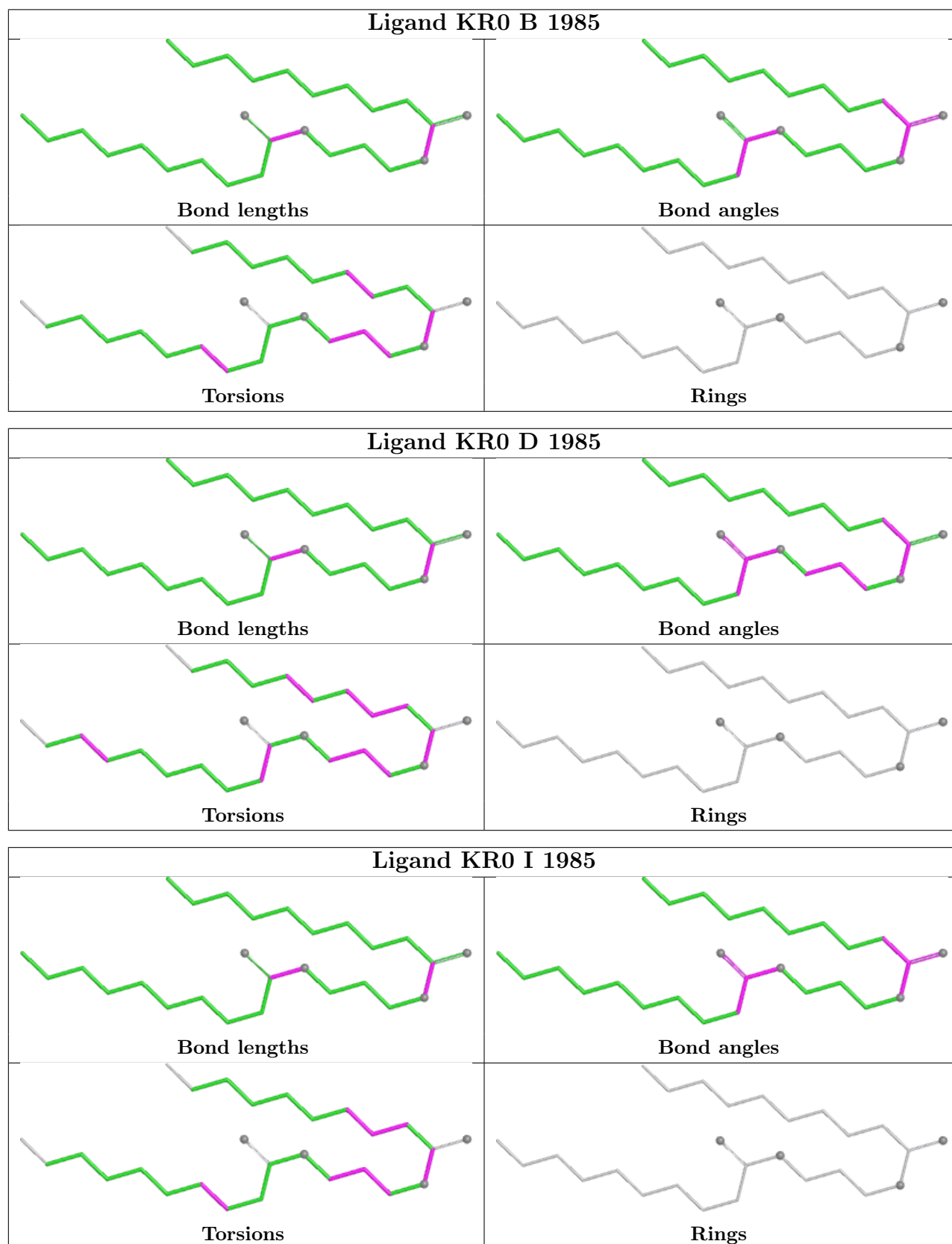
Mol	Chain	Res	Type	Atoms
5	B	1985	KR0	O9-C7-O1-C1
5	B	1985	KR0	C12-C7-O1-C1
5	D	1985	KR0	O9-C7-O1-C1
5	D	1985	KR0	C12-C7-O1-C1
5	I	1985	KR0	O9-C7-O1-C1
5	I	1985	KR0	C12-C7-O1-C1
5	M	1985	KR0	O9-C7-O1-C1
5	M	1985	KR0	C12-C7-O1-C1
5	D	1985	KR0	C1-C2-C3-O4
5	I	1985	KR0	C1-C2-C3-O4
5	M	1985	KR0	C1-C2-C3-O4
5	I	1985	KR0	C7-C12-C13-C17
5	M	1985	KR0	C7-C12-C13-C17
5	I	1985	KR0	O1-C1-C2-C3
5	M	1985	KR0	O1-C1-C2-C3
5	I	1985	KR0	C12-C13-C17-C18
5	D	1985	KR0	C12-C13-C17-C18
5	D	1985	KR0	O1-C1-C2-C3
5	M	1985	KR0	C12-C13-C17-C18
5	I	1985	KR0	C10-C11-C4-C6
5	D	1985	KR0	C7-C12-C13-C17
5	B	1985	KR0	C1-C2-C3-O4
5	B	1985	KR0	C12-C13-C17-C18
5	D	1985	KR0	C17-C18-C19-C20
5	D	1985	KR0	C15-C14-C9-C8
5	B	1985	KR0	O1-C1-C2-C3
5	D	1985	KR0	C11-C10-C5-O4
5	M	1985	KR0	C11-C10-C5-O4
5	B	1985	KR0	C10-C11-C4-C6
5	M	1985	KR0	C11-C10-C5-O8

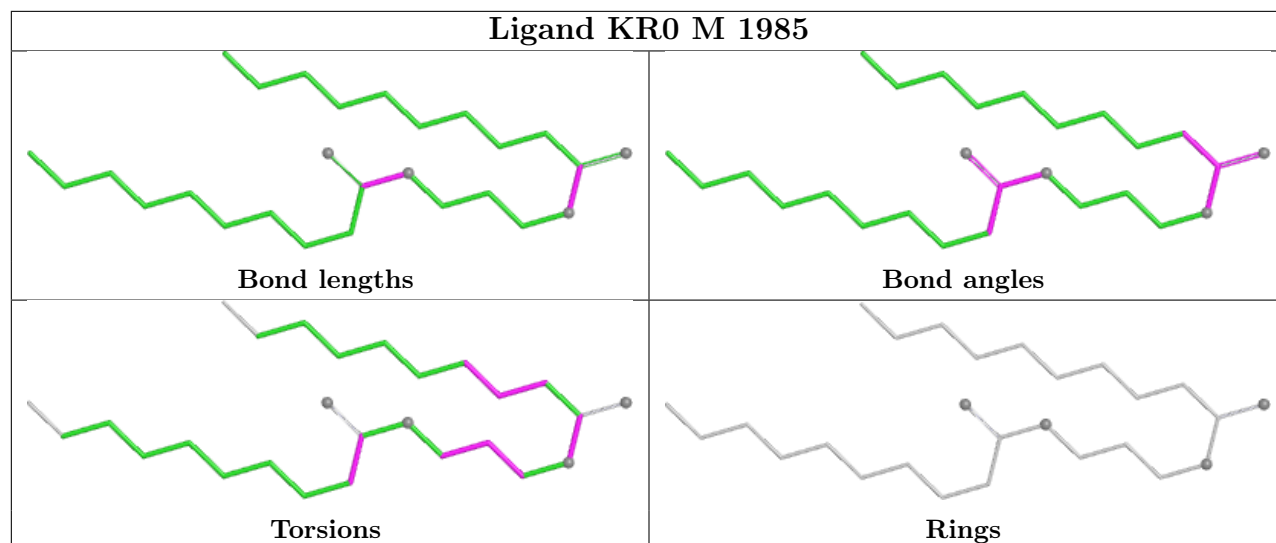
There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier.

The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





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	480/480 (100%)	0.30	12 (2%) 58 48	43, 66, 98, 161	1 (0%)
1	C	480/480 (100%)	0.06	4 (0%) 82 75	35, 57, 87, 116	1 (0%)
1	H	480/480 (100%)	0.43	15 (3%) 51 41	39, 68, 101, 166	1 (0%)
1	L	480/480 (100%)	0.55	26 (5%) 31 24	40, 77, 115, 171	1 (0%)
2	B	941/984 (95%)	0.25	19 (2%) 65 56	35, 60, 96, 135	0
2	D	945/984 (96%)	0.04	18 (1%) 66 57	31, 50, 80, 154	0
2	I	947/984 (96%)	0.09	17 (1%) 67 58	32, 52, 81, 160	0
2	M	948/984 (96%)	0.04	18 (1%) 66 57	31, 51, 79, 172	0
3	E	146/148 (98%)	0.14	1 (0%) 84 77	47, 63, 90, 118	0
3	F	146/148 (98%)	0.45	2 (1%) 73 64	58, 75, 100, 117	0
3	J	146/148 (98%)	0.60	10 (6%) 23 17	56, 81, 108, 154	0
3	N	146/148 (98%)	0.69	7 (4%) 35 28	63, 86, 112, 137	0
4	G	10/10 (100%)	2.39	6 (60%) 0 0	37, 49, 63, 75	0
4	K	10/10 (100%)	1.93	5 (50%) 0 0	39, 46, 64, 87	0
4	O	10/10 (100%)	2.13	6 (60%) 0 0	38, 51, 73, 88	0
4	P	10/10 (100%)	1.90	3 (30%) 1 1	41, 50, 62, 96	0
All	All	6325/6488 (97%)	0.22	169 (2%) 56 46	31, 59, 97, 172	4 (0%)

All (169) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	M	866	GLY	7.3
1	A	372	CYS	6.6
4	G	1	GLY	5.6
1	H	372	CYS	5.6
1	L	372	CYS	5.2

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Mol	Chain	Res	Type	RSRZ
1	A	371	ALA	4.9
2	B	774	GLN	4.5
2	I	865	ASN	4.5
2	I	866	GLY	4.5
4	K	1	GLY	4.5
2	I	864	VAL	4.3
1	L	417	SER	4.3
4	P	1	GLY	4.2
1	H	371	ALA	4.2
2	M	37	GLU	4.1
2	D	578	LEU	4.1
1	C	372	CYS	4.0
2	B	773	PRO	4.0
1	H	194	ILE	3.7
2	M	864	VAL	3.7
3	N	3	ASN	3.6
2	D	574	LEU	3.5
2	B	38	LYS	3.5
4	O	1	GLY	3.4
2	D	39	ALA	3.4
4	G	5	GLY	3.3
1	C	371	ALA	3.3
4	P	6	GLY	3.3
2	I	38	LYS	3.2
1	A	338	ASN	3.2
2	D	38	LYS	3.2
1	H	229	GLU	3.2
1	L	209	THR	3.1
2	D	580	ASP	3.1
1	L	212	GLN	3.1
2	D	37	GLU	3.1
1	L	426	SER	3.0
2	D	173	LYS	3.0
2	B	477	LEU	3.0
1	L	371	ALA	3.0
2	B	39	ALA	3.0
2	B	40	LEU	2.9
1	L	379	THR	2.9
3	N	83	THR	2.9
4	O	10	GLY	2.9
2	D	573	LEU	2.9
2	I	739	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
4	G	7	GLY	2.9
2	B	37	GLU	2.8
2	M	733	SER	2.8
1	H	218	THR	2.8
1	L	376	ALA	2.8
2	B	679	LEU	2.8
2	M	868	ASN	2.8
4	K	10	GLY	2.8
2	M	530	PHE	2.8
1	L	204	THR	2.7
2	M	865	ASN	2.7
2	I	867	GLU	2.7
3	J	148	PHE	2.7
2	I	397	TYR	2.7
3	F	83	THR	2.7
2	I	733	SER	2.7
3	N	95	VAL	2.7
3	J	30	LYS	2.7
2	B	866	GLY	2.7
4	O	9	GLY	2.7
1	L	303	ASN	2.6
2	B	658	LYS	2.6
3	J	27	ILE	2.6
4	K	2	GLY	2.6
2	B	94	LEU	2.6
1	L	297	ASP	2.6
1	A	229	GLU	2.6
2	D	579	GLN	2.6
1	L	425	ALA	2.6
2	B	939	PHE	2.5
1	L	345	SER	2.5
3	N	29	GLY	2.5
4	O	8	GLY	2.5
1	H	211	VAL	2.5
1	A	376	ALA	2.5
1	H	212	GLN	2.5
2	I	924	THR	2.5
1	H	471	GLY	2.5
4	O	7	GLY	2.5
3	J	83	THR	2.5
2	B	659	ASN	2.5
4	P	5	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
2	B	657	PHE	2.4
3	J	132	THR	2.4
2	I	219	ASP	2.4
3	J	28	ASP	2.4
1	C	376	ALA	2.4
2	D	51	LYS	2.4
1	L	336	PHE	2.4
1	A	212	GLN	2.4
2	B	97	THR	2.4
2	M	441	SER	2.4
3	J	136	SER	2.4
3	J	133	TYR	2.4
1	L	337	HIS	2.4
2	M	174	GLY	2.3
4	K	7	GLY	2.3
2	M	850	ASP	2.3
2	D	95	SER	2.3
2	I	902	LYS	2.3
3	J	35	PRO	2.3
1	A	433	GLY	2.3
3	E	53	GLU	2.3
2	B	96	GLY	2.3
2	I	659	ASN	2.3
2	M	59	ASP	2.3
1	A	69	SER	2.3
1	C	433	GLY	2.3
3	N	36	PHE	2.3
1	L	361	ALA	2.3
2	M	38	LYS	2.3
2	M	739	GLY	2.3
4	G	4	GLY	2.3
2	D	790	SER	2.2
2	I	790	SER	2.2
3	J	32	VAL	2.2
4	G	8	GLY	2.2
1	L	331	GLU	2.2
1	L	207	VAL	2.2
2	D	96	GLY	2.2
1	A	415	LEU	2.2
2	B	469	VAL	2.2
1	L	454	TYR	2.2
4	G	2	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
1	L	205	GLU	2.2
2	B	54	GLU	2.2
2	D	850	ASP	2.2
1	H	204	THR	2.2
1	L	143	THR	2.2
1	H	433	GLY	2.2
1	L	146	LYS	2.2
4	O	6	GLY	2.2
1	L	93	GLU	2.2
2	M	867	GLU	2.2
1	H	274	ASP	2.1
2	I	59	ASP	2.1
2	D	866	GLY	2.1
3	F	29	GLY	2.1
3	N	48	THR	2.1
1	H	256	SER	2.1
2	M	611	SER	2.1
2	I	868	ASN	2.1
3	N	39	GLY	2.1
4	K	3	GLY	2.1
1	H	124	TYR	2.1
2	I	475	ASN	2.1
1	A	375	SER	2.1
2	D	773	PRO	2.1
2	M	128	ASN	2.1
2	D	94	LEU	2.1
2	B	919	ARG	2.1
1	H	418	TYR	2.1
1	L	210	LEU	2.0
1	H	370	GLY	2.0
2	D	939	PHE	2.0
2	M	757	THR	2.0
1	A	404	TRP	2.0
1	L	188	ARG	2.0
2	M	105	ASP	2.0
1	A	383	LYS	2.0
2	I	171	LYS	2.0
1	L	418	TYR	2.0

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

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](#)

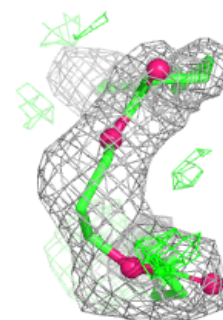
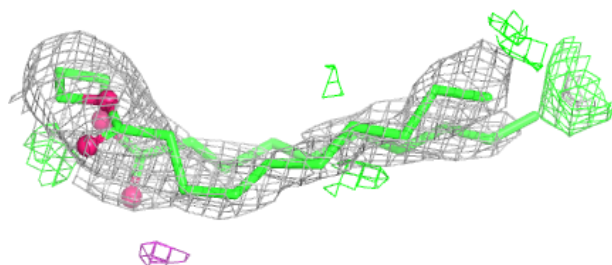
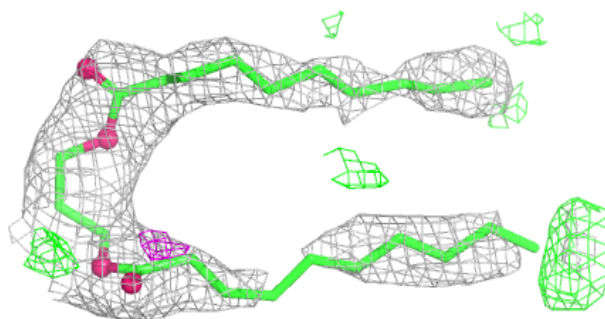
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists 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
5	KR0	B	1985	27/27	0.81	0.27	52,73,83,89	0
5	KR0	D	1985	27/27	0.81	0.24	46,69,76,78	0
5	KR0	I	1985	27/27	0.82	0.22	43,54,77,87	0
5	KR0	M	1985	27/27	0.84	0.20	42,59,75,81	0
6	NA	M	1986	1/1	0.89	0.21	42,42,42,42	0
6	NA	B	1986	1/1	0.92	0.12	30,30,30,30	0
6	NA	I	1986	1/1	0.95	0.18	32,32,32,32	0
6	NA	D	1986	1/1	0.96	0.14	34,34,34,34	0
7	CA	I	1987	1/1	0.97	0.05	58,58,58,58	0
7	CA	M	1987	1/1	0.97	0.19	114,114,114,114	0
7	CA	B	1987	1/1	0.99	0.02	51,51,51,51	0
7	CA	D	1987	1/1	0.99	0.04	47,47,47,47	0

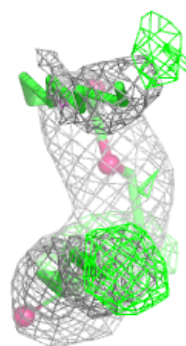
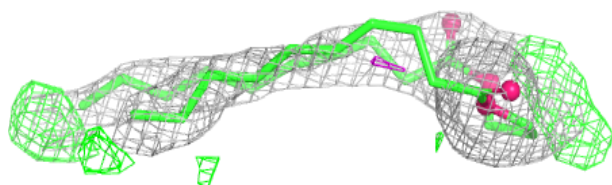
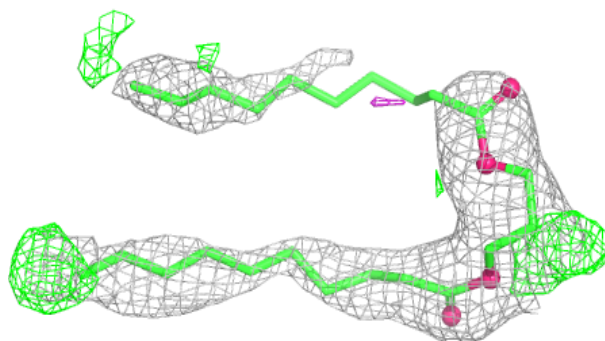
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around KR0 B 1985:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

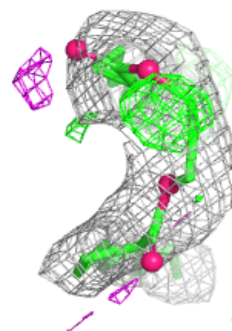
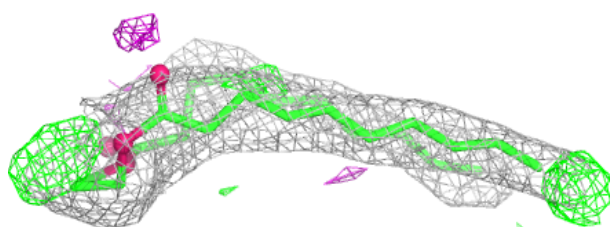
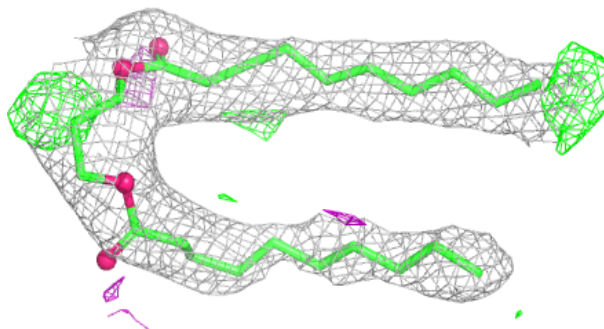
**Electron density around KR0 D 1985:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

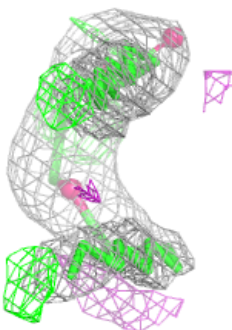
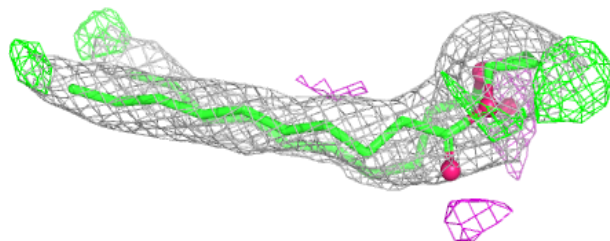
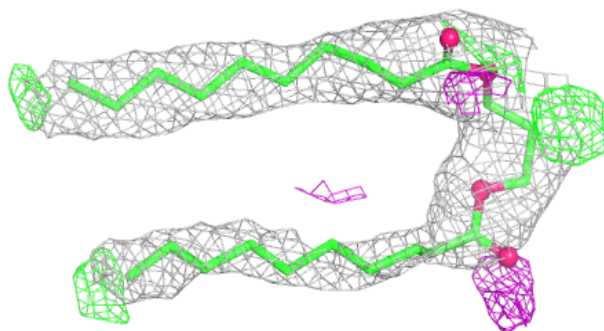


Electron density around KR0 I 1985:

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

**Electron density around KR0 M 1985:**

$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



6.5 Other polymers [i](#)

There are no such residues in this entry.