



Full wwPDB EM Validation Report ⓘ

Feb 27, 2024 – 01:54 PM EST

PDB ID : 6V8I
EMDB ID : EMD-20872
Title : Composite atomic model of the Staphylococcus aureus phage 80alpha base-plate
Authors : Kizziah, J.L.; Dokland, T.
Deposited on : 2019-12-11
Resolution : 3.70 Å (reported)
Based on initial model : 5EFV

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

EMDB validation analysis : 0.0.1.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

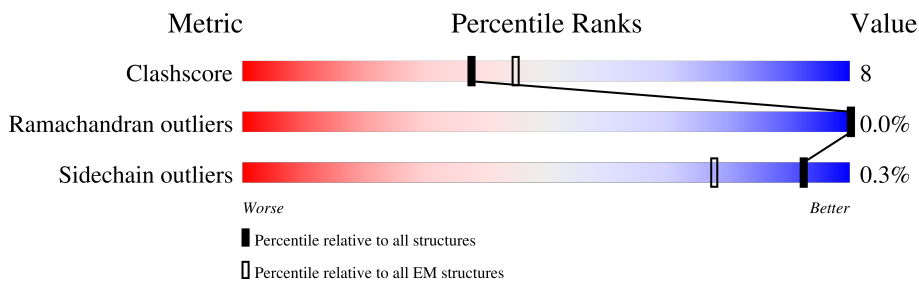
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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.



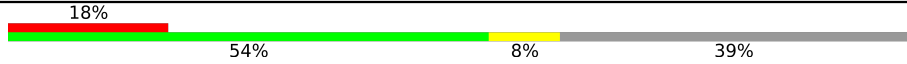
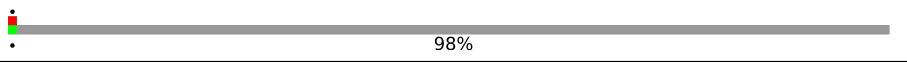
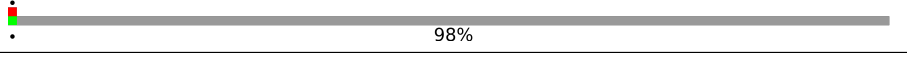
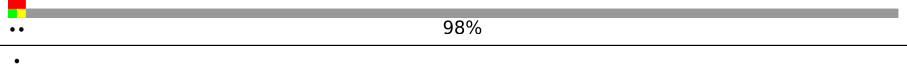



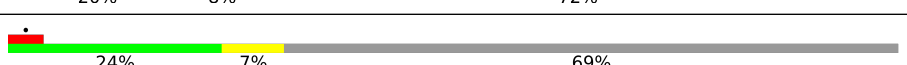


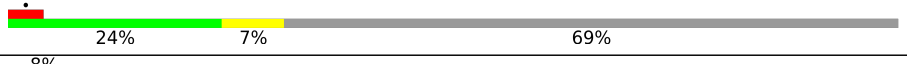




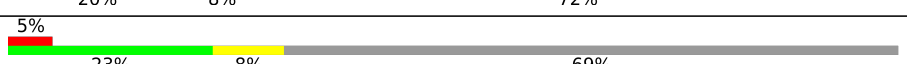
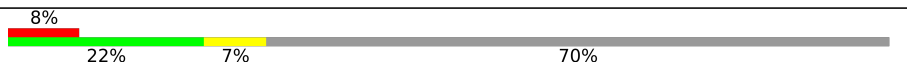








Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AC	315	82% 18%
1	AD	315	79% 21%
1	BC	315	7% 81% 18%
1	BD	315	80% 20%
1	CC	315	81% 19%
1	CD	315	81% 18%
2	AE	633	17% 54% 7% 39%
2	BE	633	17% 54% 7% 39%

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Mol	Chain	Length	Quality of chain
2	CE	633	
3	AF	1154	
3	BF	1154	
3	CF	1154	
4	AJ	607	
4	AK	607	
4	AL	607	
4	BJ	607	
4	BK	607	
4	BL	607	
4	CJ	607	
4	CK	607	
4	CL	607	
4	DJ	607	
4	DK	607	
4	DL	607	
4	EJ	607	
4	EK	607	
4	EL	607	
4	FJ	607	
4	FK	607	
4	FL	607	
5	AM	390	
5	AN	390	
5	BM	390	




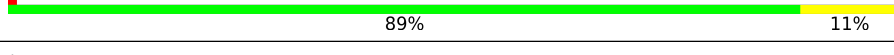
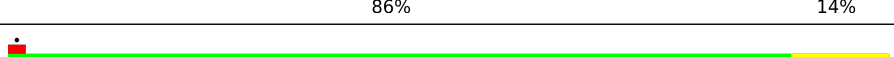


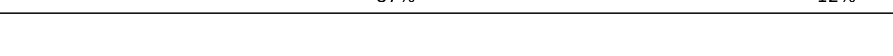
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Mol	Chain	Length	Quality of chain
5	BN	390	25% 6% 69%
5	CM	390	5% 23% 8% 68%
5	CN	390	26% 5% 69%
5	DM	390	5% 23% 8% 68%
5	DN	390	24% 7% 69%
5	EM	390	5% 23% 9% 68%
5	EN	390	26% 5% 69%
5	FM	390	6% 23% 8% 68%
5	FN	390	26% 5% 69%
6	AA	193	10% 52% 24% 24%
6	AB	193	5% 58% 28% 14%
6	BA	193	9% 52% 24% 24%
6	BB	193	53% 33% 14%
6	CA	193	9% 57% 19% 24%
6	CB	193	5% 55% 31% 14%
6	DA	193	9% 55% 21% 24%
6	DB	193	5% 52% 34% 14%
6	EA	193	11% 53% 23% 24%
6	EB	193	5% 55% 31% 14%
6	FA	193	8% 51% 25% 24%
6	FB	193	5% 54% 32% 14%
7	AG	636	89% 11%
7	AH	636	86% 14%
7	AI	636	85% 14%
7	BG	636	88% 12%

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Mol	Chain	Length	Quality of chain
7	BH	636	 85% 14%
7	BI	636	 87% 12%
7	CG	636	 88% 12%
7	CH	636	 86% 14%
7	CI	636	 86% 14%
7	DG	636	 89% 11%
7	DH	636	 87% 12%
7	DI	636	 87% 13%
7	EG	636	 88% 11%
7	EH	636	 87% 13%
7	EI	636	 86% 14%
7	FG	636	 88% 11%
7	FH	636	 87% 13%
7	FI	636	 87% 12%

2 Entry composition [i](#)

There are 8 unique types of molecules in this entry. The entry contains 171102 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Distal Tail Protein, gp58.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	AC	314	2601	1666	428	497	10	0	0
1	AD	314	2601	1666	428	497	10	0	0
1	CC	314	2601	1666	428	497	10	0	0
1	CD	314	2601	1666	428	497	10	0	0
1	BC	314	2601	1666	428	497	10	0	0
1	BD	314	2601	1666	428	497	10	0	0

- Molecule 2 is a protein called Tail-Associated Lysin, gp59.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	AE	387	3068	1944	518	598	8	0	0
2	CE	387	3068	1944	518	598	8	0	0
2	BE	387	3068	1944	518	598	8	0	0

- Molecule 3 is a protein called Tape Measure Protein, gp57.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	CF	20	160	98	30	32	0	0
3	BF	20	160	98	30	32	0	0
3	AF	20	160	98	30	32	0	0

- Molecule 4 is a protein called Fiber Lower, gp62.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	BJ	167	Total	C	N	O	S	0	0
			1331	839	223	268	1		
4	BK	189	Total	C	N	O	S	0	0
			1496	941	252	302	1		
4	BL	181	Total	C	N	O	S	0	0
			1430	899	243	287	1		
4	DJ	167	Total	C	N	O	S	0	0
			1331	839	223	268	1		
4	DK	189	Total	C	N	O	S	0	0
			1496	941	252	302	1		
4	DL	181	Total	C	N	O	S	0	0
			1430	899	243	287	1		
4	AJ	167	Total	C	N	O	S	0	0
			1331	839	223	268	1		
4	AK	189	Total	C	N	O	S	0	0
			1496	941	252	302	1		
4	AL	181	Total	C	N	O	S	0	0
			1430	899	243	287	1		
4	FJ	167	Total	C	N	O	S	0	0
			1331	839	223	268	1		
4	FK	189	Total	C	N	O	S	0	0
			1496	941	252	302	1		
4	FL	181	Total	C	N	O	S	0	0
			1430	899	243	287	1		
4	CJ	167	Total	C	N	O	S	0	0
			1331	839	223	268	1		
4	CK	189	Total	C	N	O	S	0	0
			1496	941	252	302	1		
4	CL	181	Total	C	N	O	S	0	0
			1430	899	243	287	1		
4	EJ	167	Total	C	N	O	S	0	0
			1331	839	223	268	1		
4	EK	189	Total	C	N	O	S	0	0
			1496	941	252	302	1		
4	EL	181	Total	C	N	O	S	0	0
			1430	899	243	287	1		

- Molecule 5 is a protein called Fiber Upper, gp68.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	BN	121	Total	C	N	O	S	0	0
			981	629	168	180	4		
5	BM	123	Total	C	N	O	S	0	0
			991	634	170	183	4		

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Mol	Chain	Residues	Atoms					AltConf	Trace
5	DN	121	Total	C	N	O	S	0	0
			981	629	168	180	4		
5	DM	123	Total	C	N	O	S	0	0
			991	634	170	183	4		
5	AN	121	Total	C	N	O	S	0	0
			981	629	168	180	4		
5	AM	123	Total	C	N	O	S	0	0
			991	634	170	183	4		
5	FN	121	Total	C	N	O	S	0	0
			981	629	168	180	4		
5	FM	123	Total	C	N	O	S	0	0
			991	634	170	183	4		
5	CN	121	Total	C	N	O	S	0	0
			981	629	168	180	4		
5	CM	123	Total	C	N	O	S	0	0
			991	634	170	183	4		
5	EN	121	Total	C	N	O	S	0	0
			981	629	168	180	4		
5	EM	123	Total	C	N	O	S	0	0
			991	634	170	183	4		

- Molecule 6 is a protein called Major Tail Protein, gp53.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	EB	166	Total	C	N	O	S	0	0
			1320	828	218	269	5		
6	EA	147	Total	C	N	O	S	0	0
			1165	731	190	239	5		
6	BB	166	Total	C	N	O	S	0	0
			1320	828	218	269	5		
6	BA	147	Total	C	N	O	S	0	0
			1165	731	190	239	5		
6	DB	166	Total	C	N	O	S	0	0
			1320	828	218	269	5		
6	DA	147	Total	C	N	O	S	0	0
			1165	731	190	239	5		
6	AB	166	Total	C	N	O	S	0	0
			1320	828	218	269	5		
6	AA	147	Total	C	N	O	S	0	0
			1165	731	190	239	5		
6	FB	166	Total	C	N	O	S	0	0
			1320	828	218	269	5		

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Mol	Chain	Residues	Atoms					AltConf	Trace
6	FA	147	Total	C	N	O	S	0	0
			1165	731	190	239	5		
6	CB	166	Total	C	N	O	S	0	0
			1320	828	218	269	5		
6	CA	147	Total	C	N	O	S	0	0
			1165	731	190	239	5		

- Molecule 7 is a protein called Receptor Binding Protein, gp61.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	BH	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	BG	635	Total	C	N	O	S	0	0
			5201	3308	895	983	15		
7	BI	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	DH	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	DG	635	Total	C	N	O	S	0	0
			5201	3308	895	983	15		
7	DI	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	AH	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	AG	635	Total	C	N	O	S	0	0
			5201	3308	895	983	15		
7	AI	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	FH	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	FG	635	Total	C	N	O	S	0	0
			5201	3308	895	983	15		
7	FI	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	CH	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	CG	635	Total	C	N	O	S	0	0
			5201	3308	895	983	15		
7	CI	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		
7	EH	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		

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Mol	Chain	Residues	Atoms					AltConf	Trace
7	EG	635	Total	C	N	O	S	0	0
			5201	3308	895	983	15		
7	EI	634	Total	C	N	O	S	0	0
			5193	3304	894	980	15		

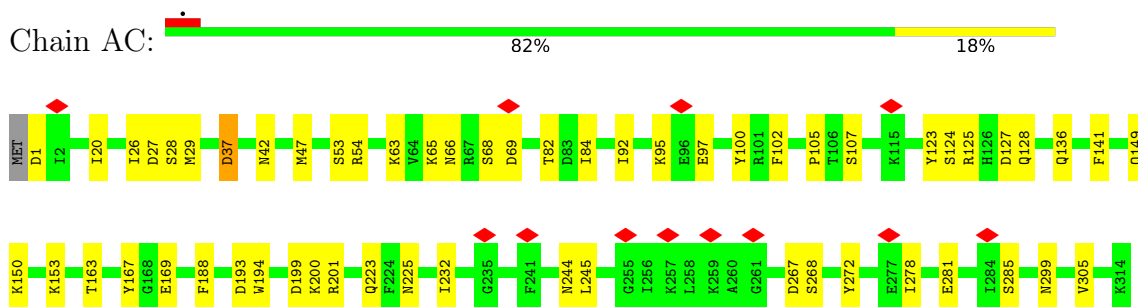
- Molecule 8 is FE (III) ION (three-letter code: FE) (formula: Fe).

Mol	Chain	Residues	Atoms		AltConf
8	BH	1	Total	Fe	0
			1	1	
8	DH	1	Total	Fe	0
			1	1	
8	AH	1	Total	Fe	0
			1	1	
8	FH	1	Total	Fe	0
			1	1	
8	CH	1	Total	Fe	0
			1	1	
8	EH	1	Total	Fe	0
			1	1	

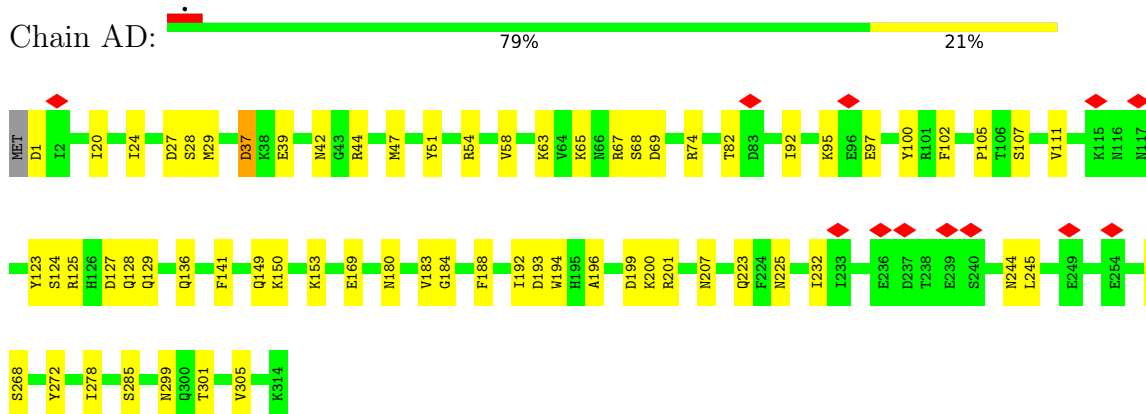
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

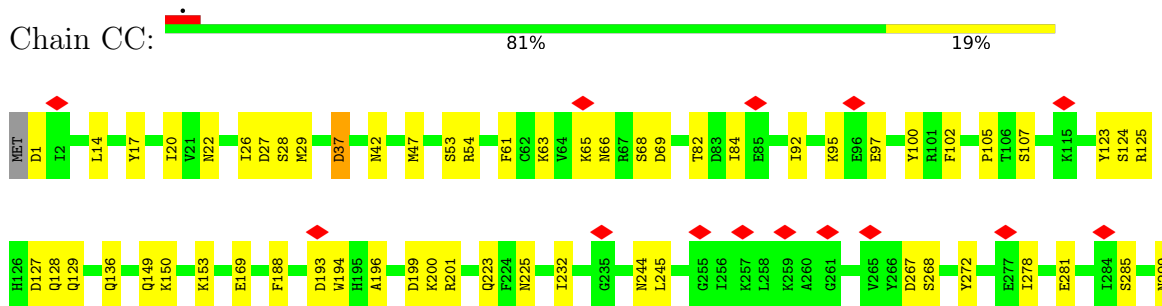
- Molecule 1: Distal Tail Protein, gp58



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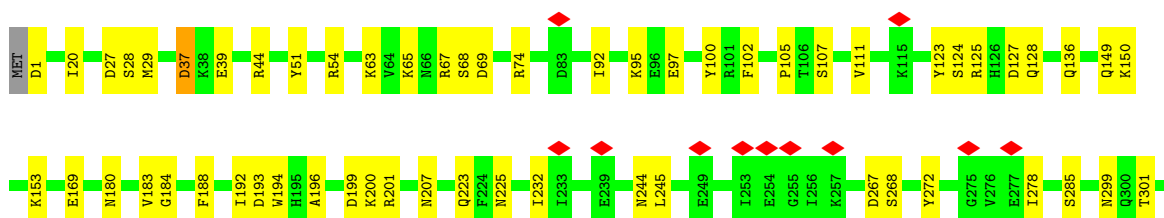
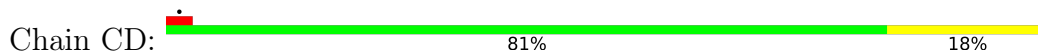


- Molecule 1: Distal Tail Protein, gp58

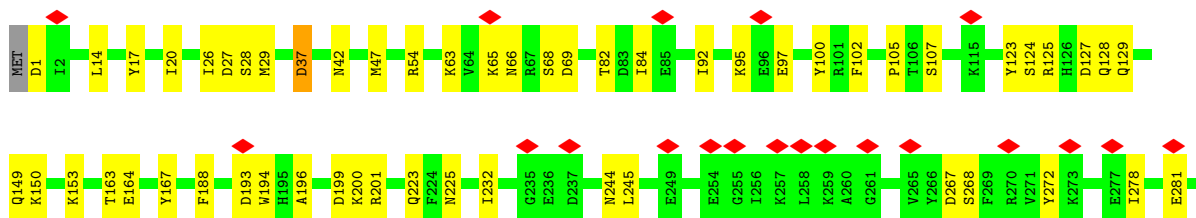
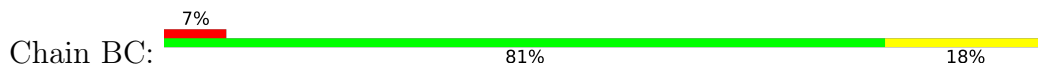




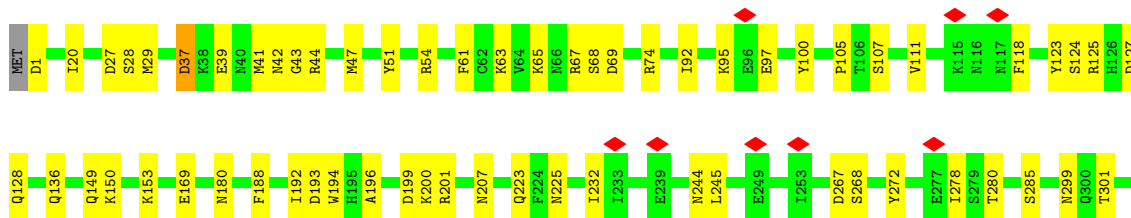
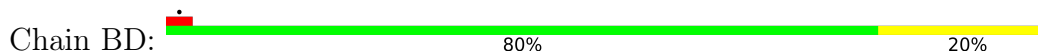
• Molecule 1: Distal Tail Protein, gp58



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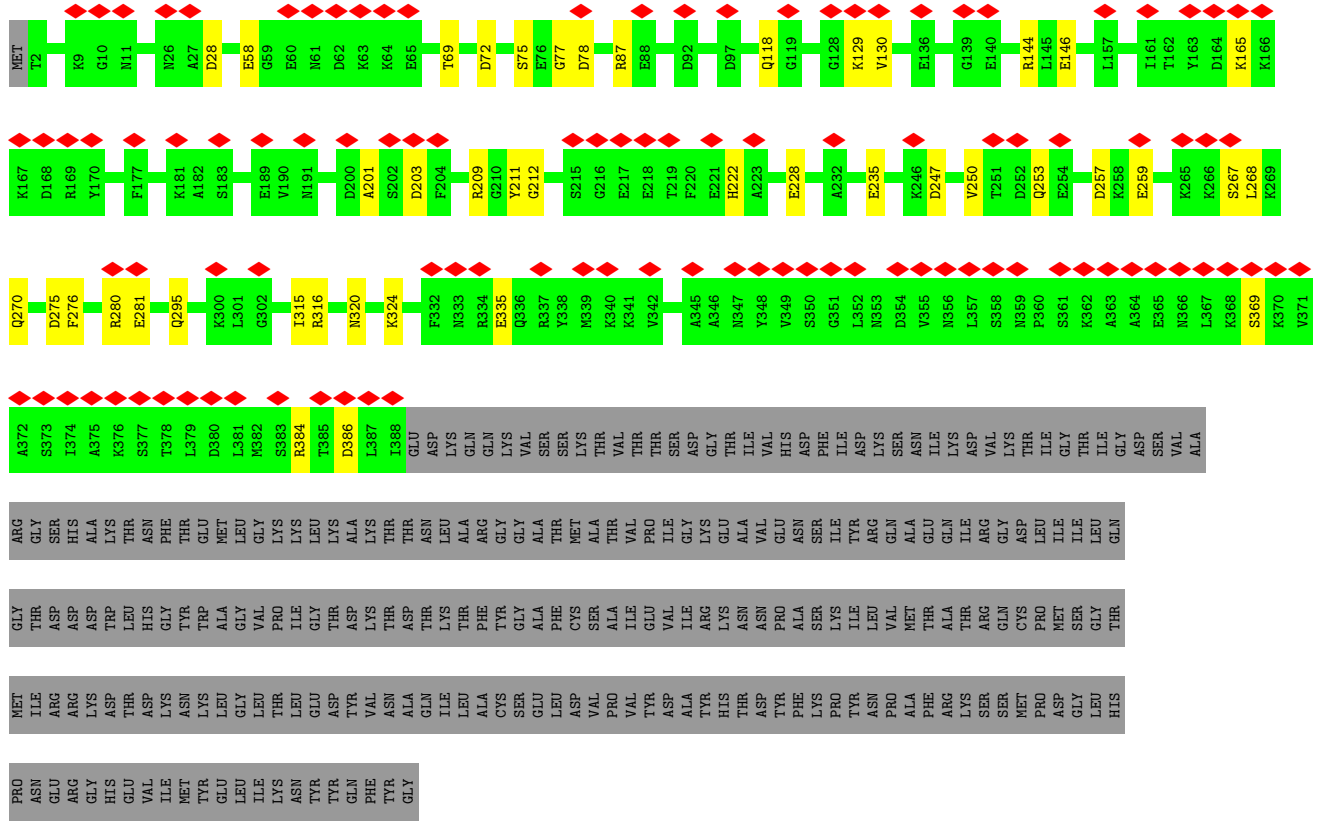


• Molecule 1: Distal Tail Protein, gp58

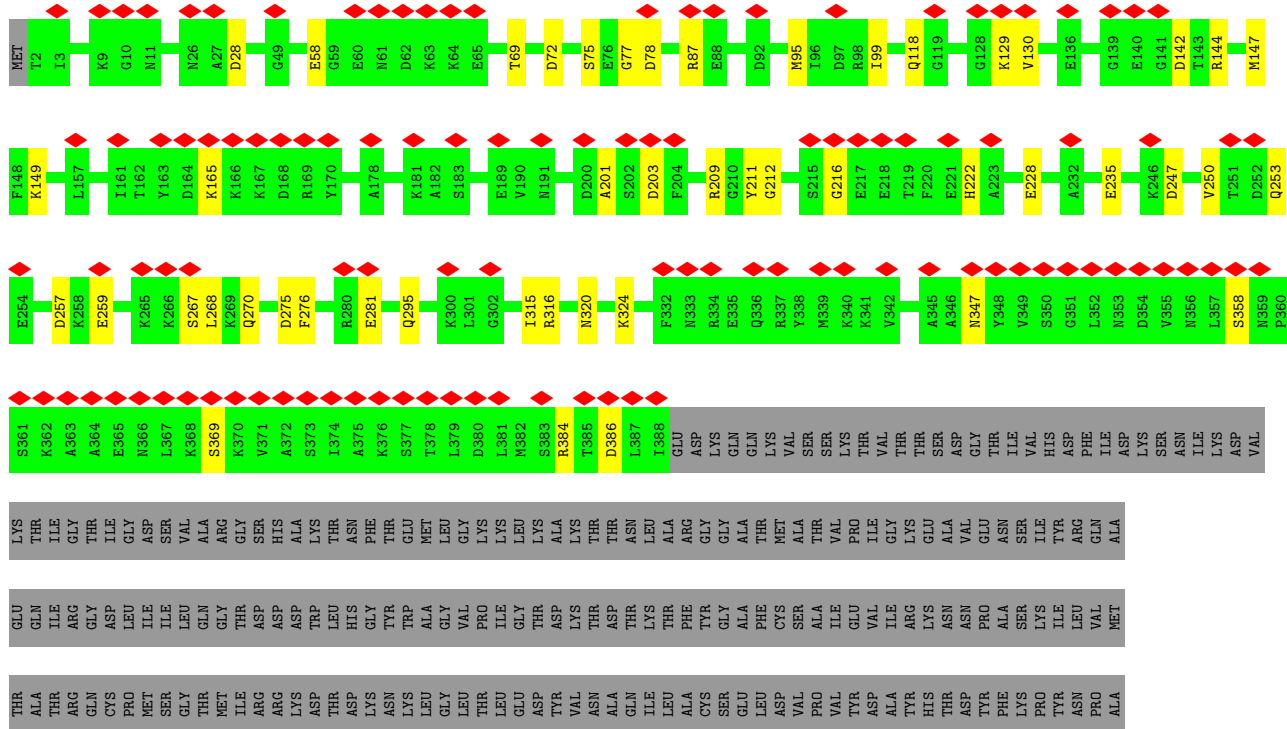


• Molecule 2: Tail-Associated Lysin, gp59





● Molecule 2: Tail-Associated Lysin, gp59

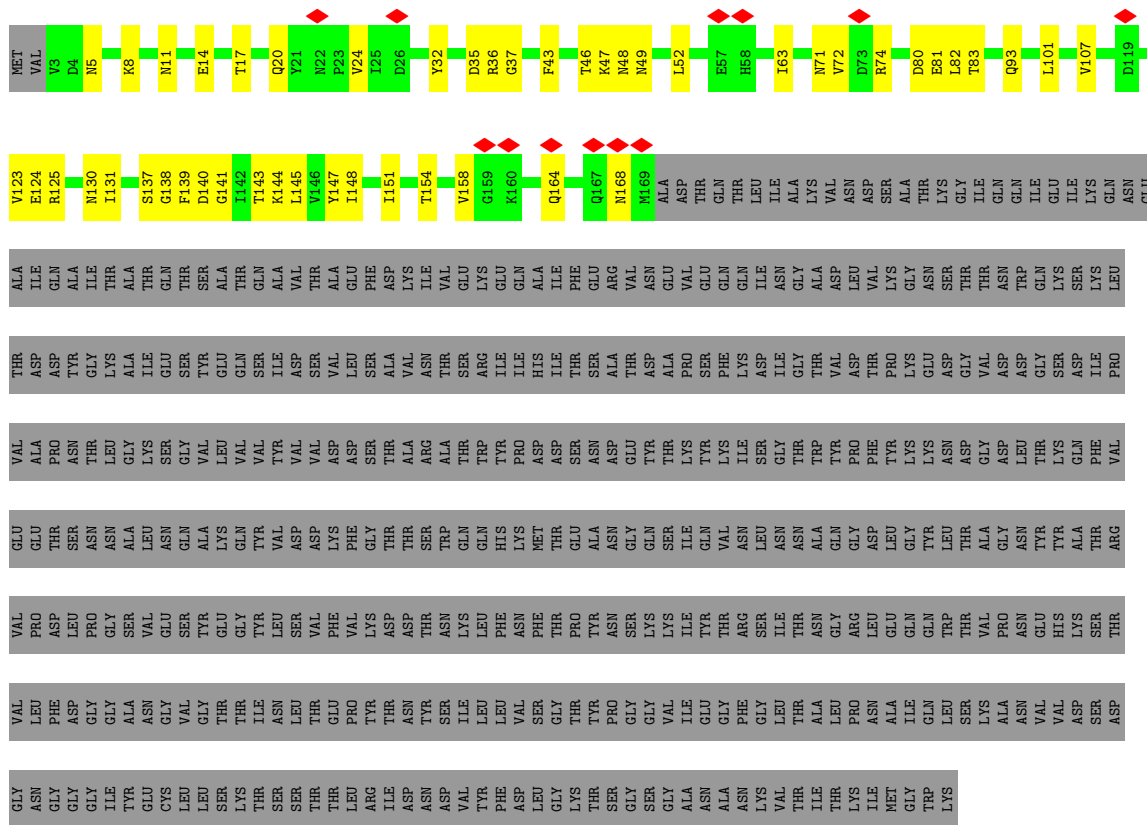


A 35x16 grid of amino acid codes. Each cell contains a three-letter amino acid code (e.g., LEU, SER, GLY, ASP). The grid is composed of 35 columns and 16 rows, with each row and column containing a mix of different amino acids.

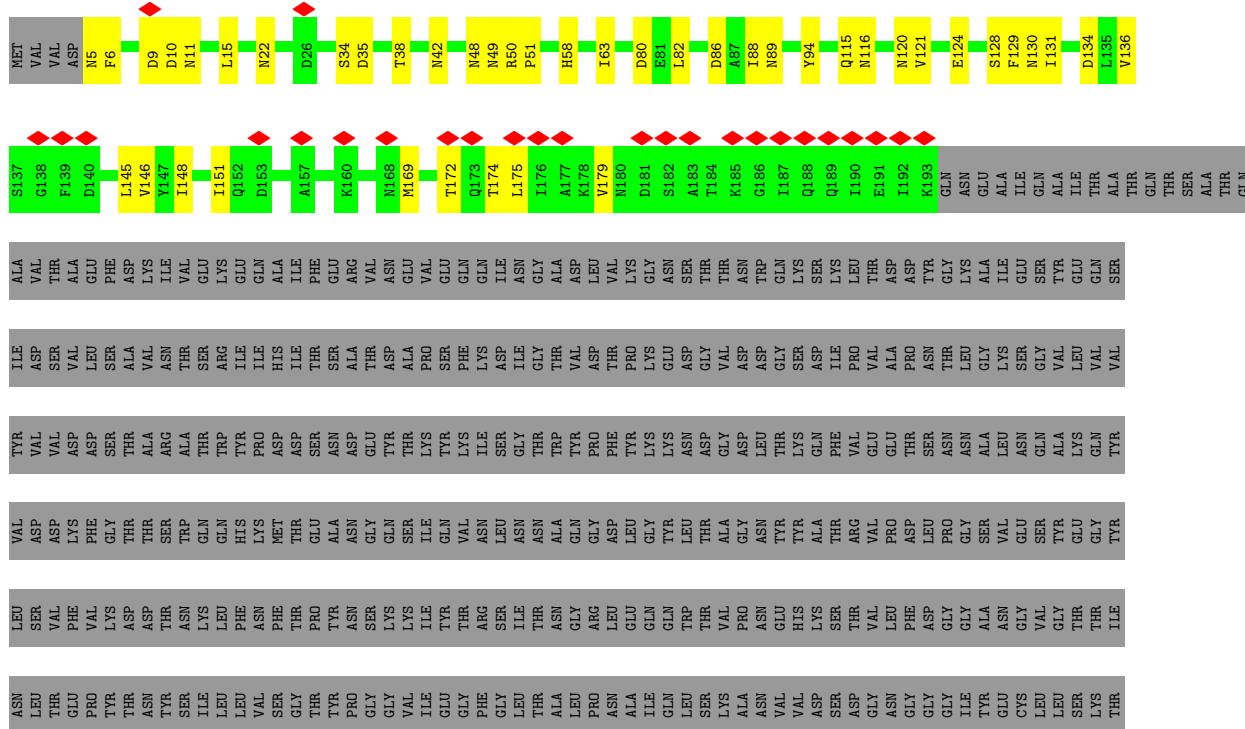
A 35x16 grid of amino acid codes with colored highlights. The grid is identical in structure to the previous table but with specific cells highlighted in yellow, green, red, or blue. The highlighted cells are: V1141 (yellow), N1142 (green), G1143 (green), R1144 (green), N1145 (green), A1146 (green), K1147 (red), S1150 (red), E1151 (red), Y1152 (red), Y1153 (red), L1154 (red), D1136 (yellow), A1136 (green), L1137 (green), T1138 (green), S1139 (green), and I1140 (blue).

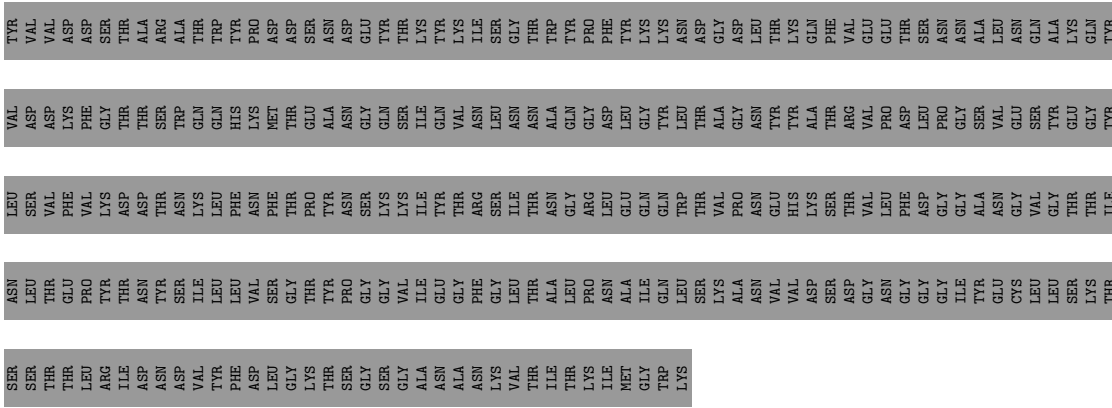
● Molecule 4: Fiber Lower, gp62



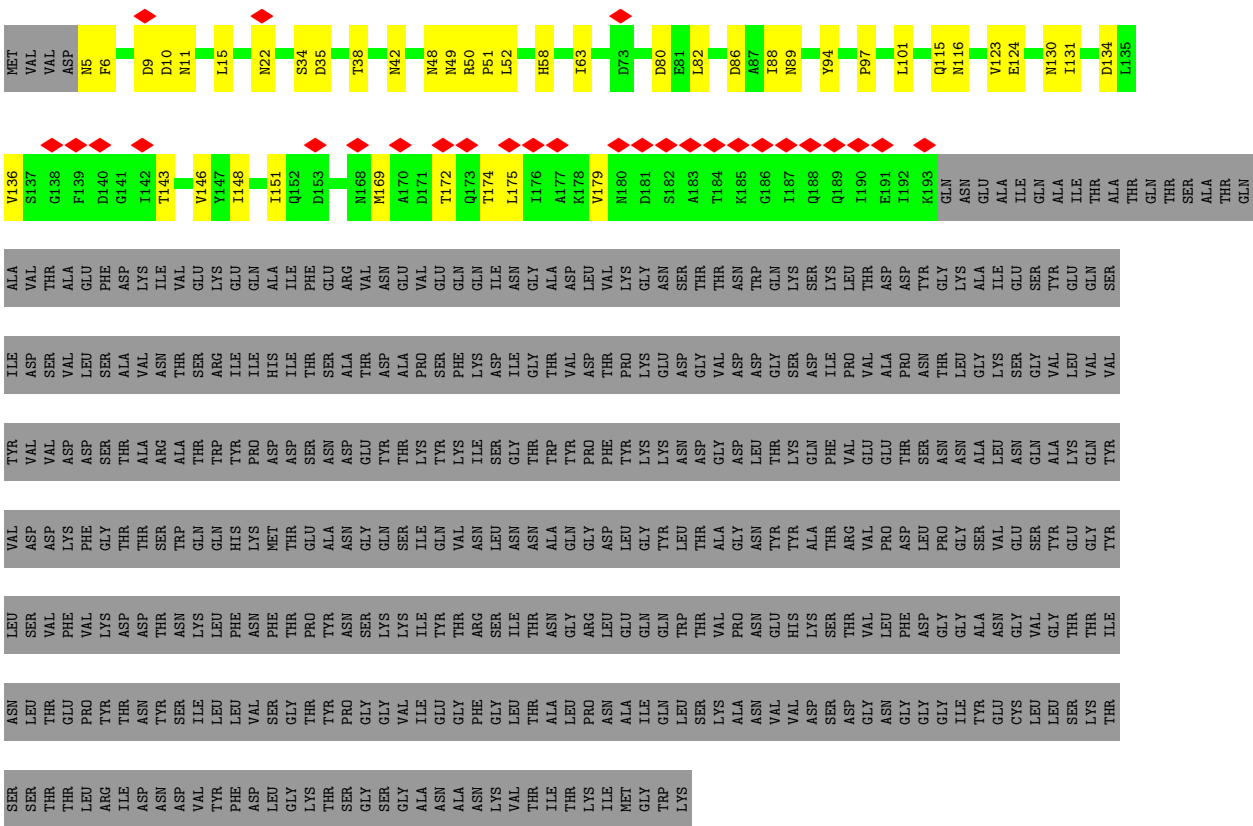


• Molecule 4: Fiber Lower, gp62

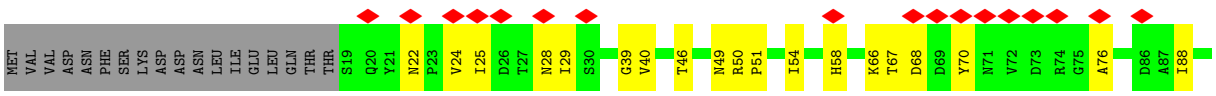


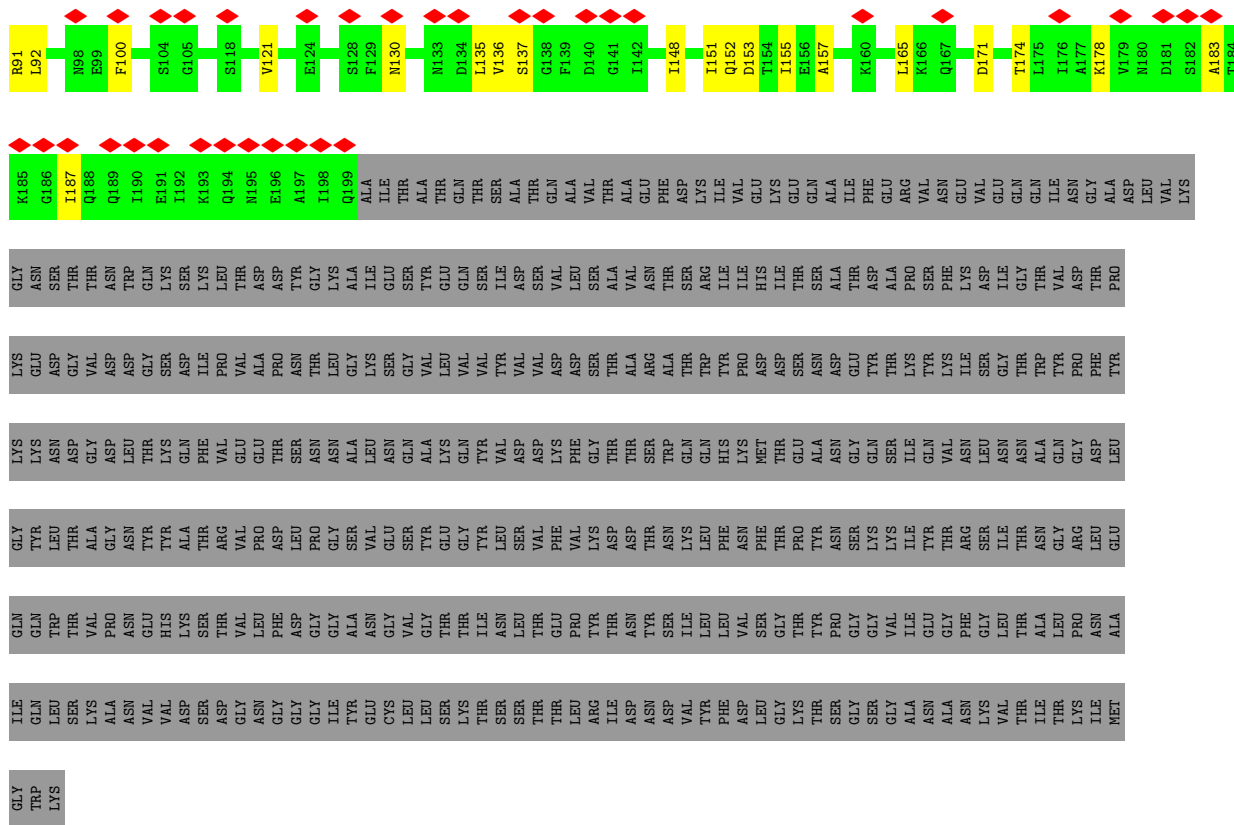


• Molecule 4: Fiber Lower, gp62

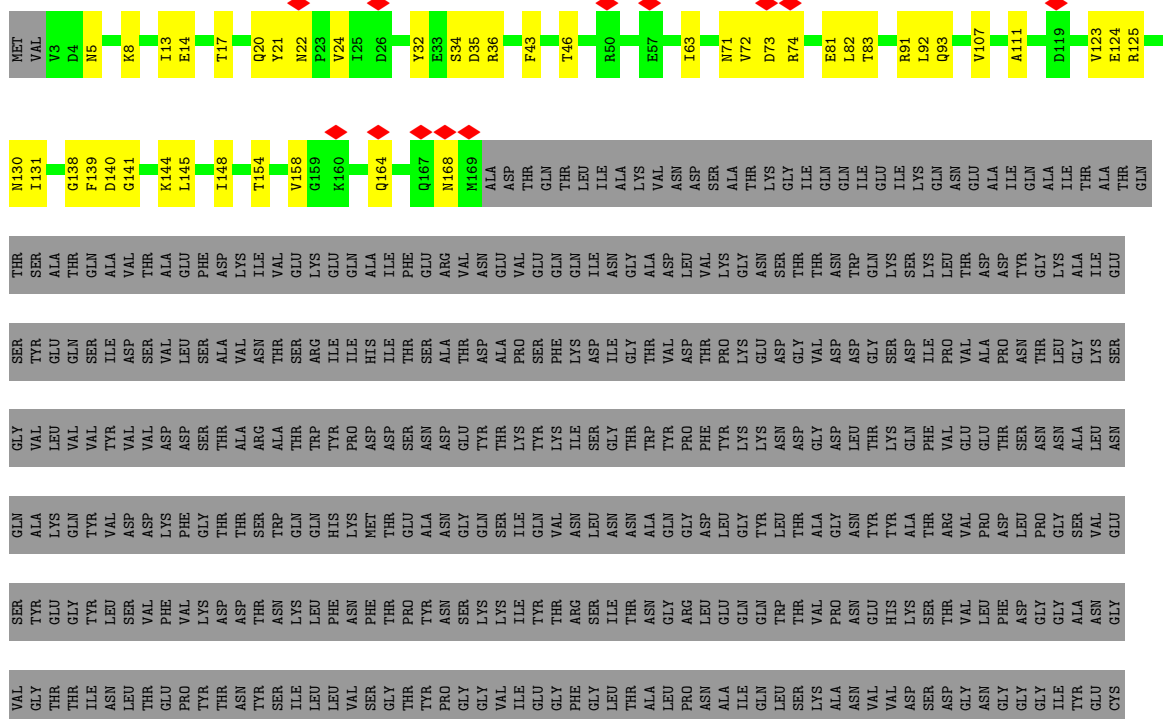


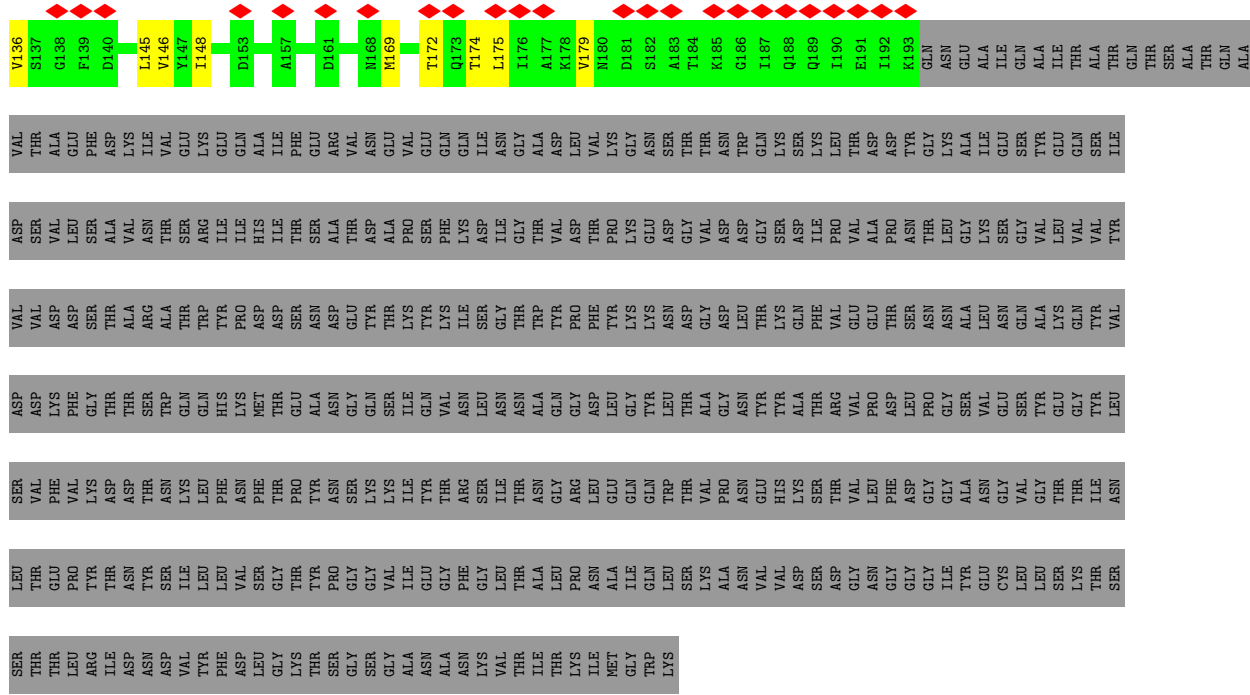
• Molecule 4: Fiber Lower, gp62



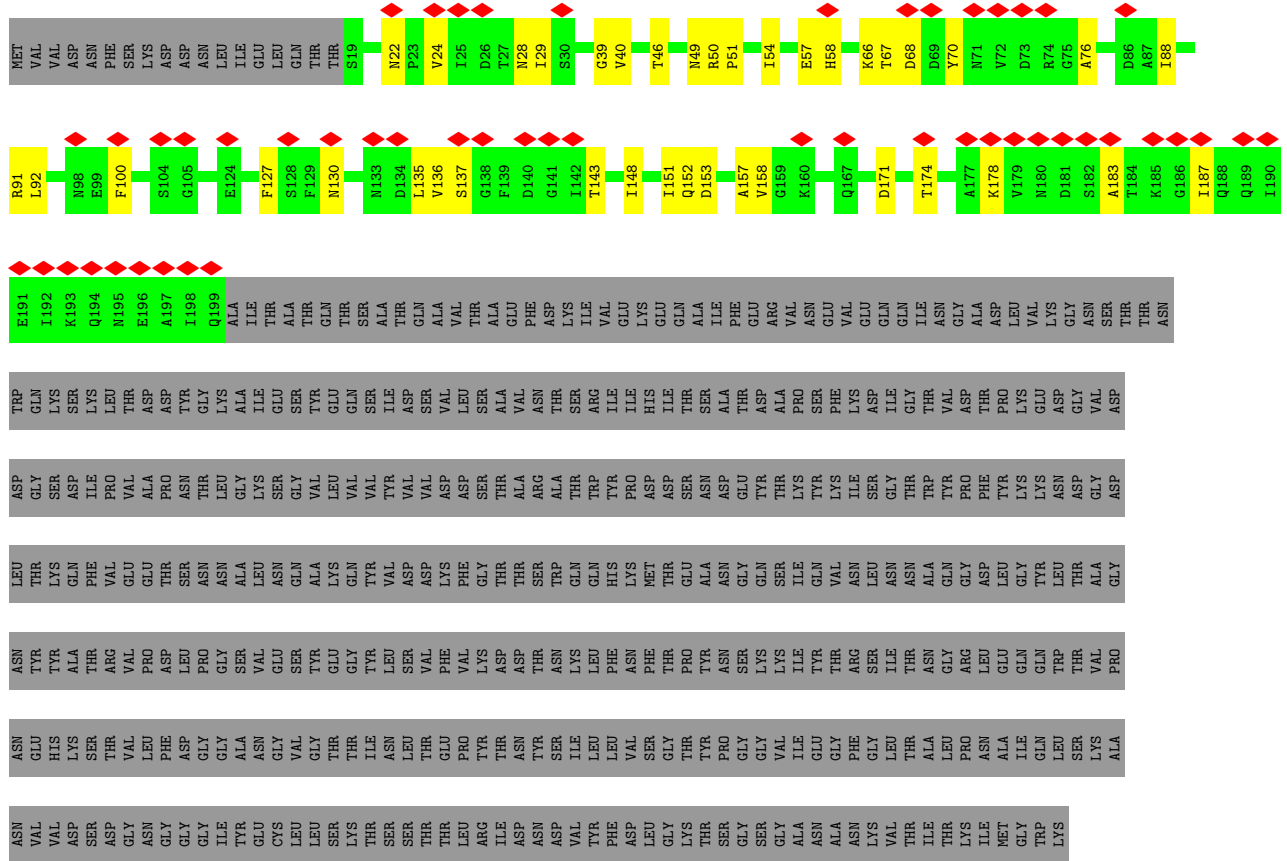


• Molecule 4: Fiber Lower, gp62





• Molecule 4: Fiber Lower, gp62



Molecule 4: Fiber Lower, gp62

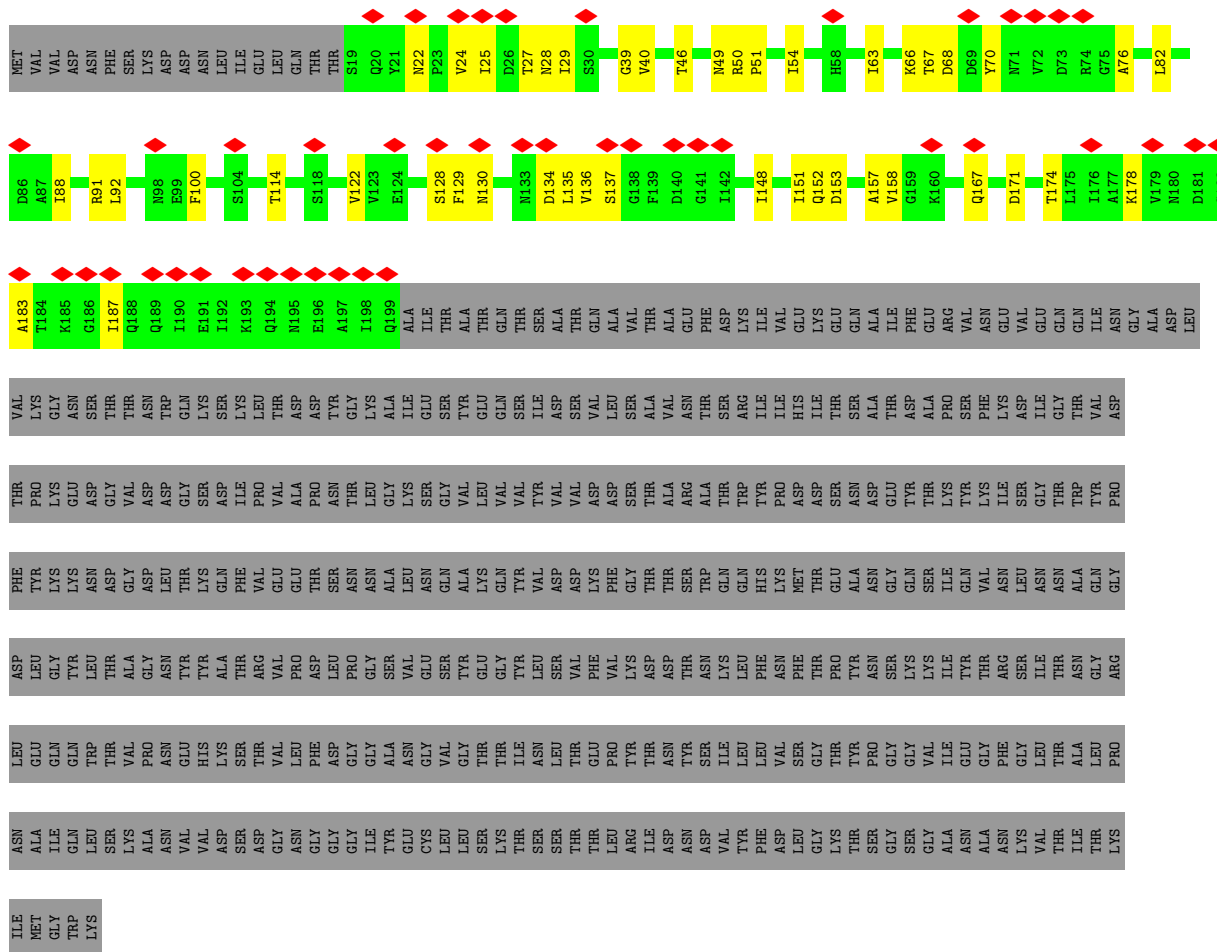


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LEU	D140	I141	I142	K143	K144	L145	V146	V147	I148	T164	I165	V168	K160	Q164	G167	N168	M169	ALA	ASP	THR	GLN	THR	GLN	THR	LEU	ILE	ALA	LYS	THR	GLY	THR	ILE	THR	THR	GLN	L82	T83	LYS	ILE	GLN	ASP	ALA	V123	E124	R125	M130	I131	G138		
SER	ALA	THR	GLN	THR	VAL	ASP	THR	THR	PHE	LYS	ILE	GLU	GLU	ALA	PHE	GLU	ARG	VAL	GLU	ASP	VAL	PRO	THR	ILE	ASN	GLY	ALA	LYS	THR	GLY	ASN	THR	THR	ASN	TRP	GLN	GLY	LYS	ILE	GLN	TYR	GLY	ALA	ILE	ALA	THR	GLN	THR		
TYR	GLU	GLN	THR	ILE	ASP	VAL	ASP	VAL	THR	VAL	ASP	THR	THR	ILE	THR	THR	THR	ALA	ALA	PRO	VAL	PHE	LYS	ILE	ASN	GLY	THR	PRO	LYS	GLU	THR	THR	VAL	ASP	ASP	VAL	ASP	GLY	THR	ALA	THR	PRO	GLY	GLY	ILE	GLY	VAL			
VAL	LEU	VAL	VAL	TYR	VAL	VAL	ASP	ASP	THR	ALA	THR	THR	ARG	ALA	ALA	ASP	THR	THR	THR	LYS	TYR	THR	THR	ASN	GLY	THR	THR	LYS	GLY	ASN	ASP	GLY	GLY	ASP	LEU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	GLN		
ALA	LYS	GLN	TYR	VAL	ASP	VAL	PHE	GLY	THR	THR	THR	THR	HIS	MET	THR	GLU	ALA	ASN	ALA	THR	GLN	THR	LYS	THR	ILE	THR	GLY	THR	TRP	ALA	THR	THR	ALA	ASN	PRO	PRO	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR		
THR	GLY	THR	TYR	LEU	THR	VAL	THR	THR	ASP	THR	THR	THR	PHE	PHE	THR	THR	THR	ASN	THR	TYR	THR	THR	LYS	LYS	ILE	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
GLY	THR	THR	ILE	LEU	THR	THR	PRO	THR	THR	ASN	THR	THR	THR	GLY	THR	THR	THR	THR	VAL	THR	THR	THR	GLY	VAL	THR	THR	THR	THR	ALA	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
LEU	SER	VAL	THR	THR	SER	THR	THR	THR	ARG	ASP	ASP	THR	THR	GLY	THR	THR	THR	THR	GLY	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	

Molecule 4: Fiber Lower, gp62

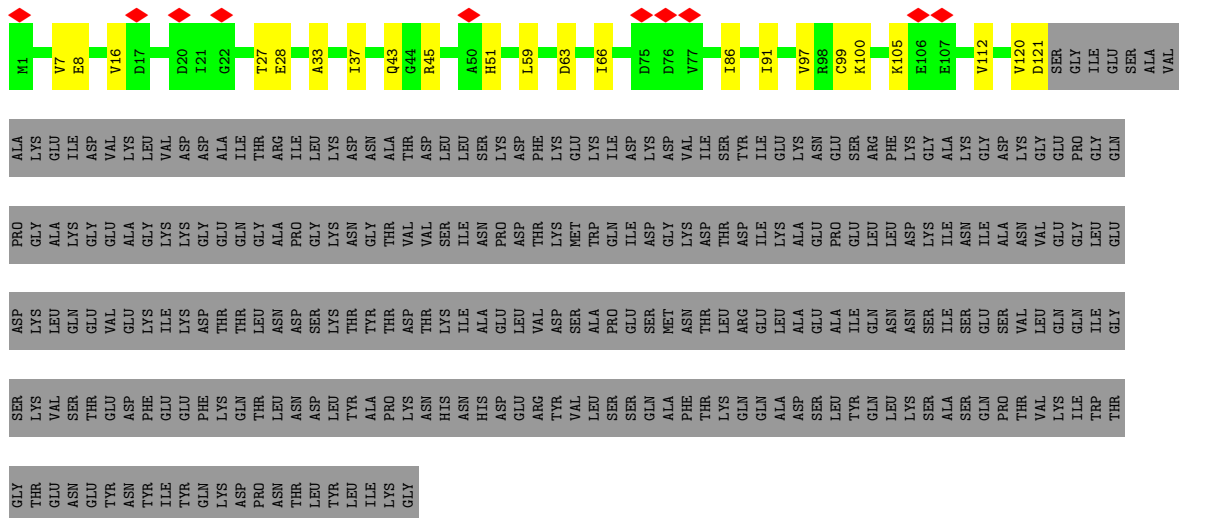


MET	VAL	VAL	VAL	N5	F6	D9	D10	M11	L15	M22	S34	D35	R36	G37	T38	M42	M48	N49	R50	P51	L52	H58	I63	D73	D80	E81	L82	D86	I88	N89	Y94	P97	L101	Q115	M116	V123	E124	S128	F129	M130	I131													
D134	L135	V136	S137	G138	F139	D140	T143	K144	L145	V146	V147	I148	D153	M168	M169	A170	D171	T172	Q173	T174	L175	I176	A177	V179	N180	D181	S182	A183	T184	G186	K188	I187	Q188	Q189	E191	I192	K193	GLN	ASN	GLU	ALA	ILE	ALA	THR	THR	THR	THR	THR	THR	THR				
GLN	ALA	ASP	THR	GLU	PHE	ASP	ILE	THR	GLY	GLY	ALA	ALA	PHE	GLY	ARG	VAL	ASN	ASN	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR			
SER	ILE	ASP	VAL	LEU	SER	ALA	VAL	VAL	ASN	THR	THR	THR	THR	THR	ALA	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR		
VAL	THR	VAL	ASP	VAL	PHE	THR	THR	ALA	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
TYR	VAL	ASP	VAL	THR	PHE	GLY	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR

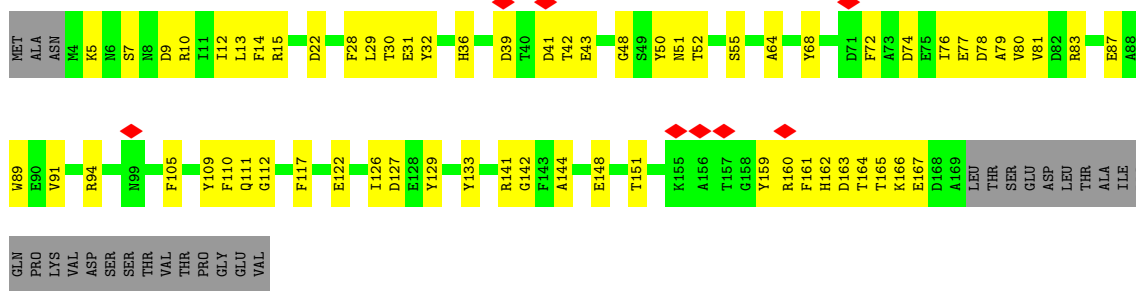


• Molecule 5: Fiber Upper, gp68

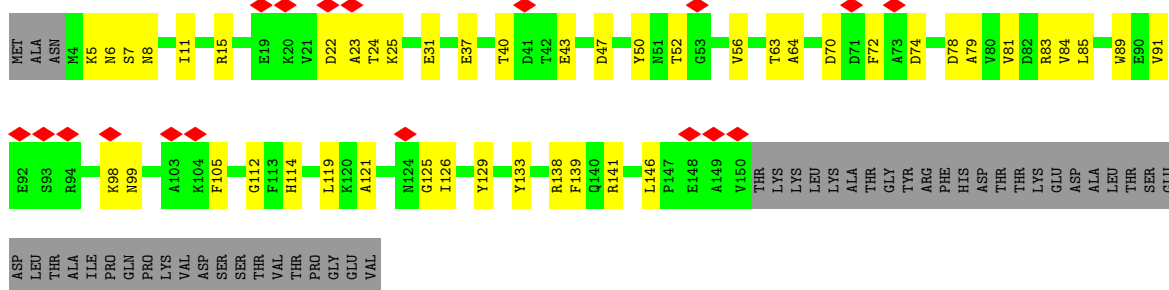
Chain BN: 25% 6% 69%



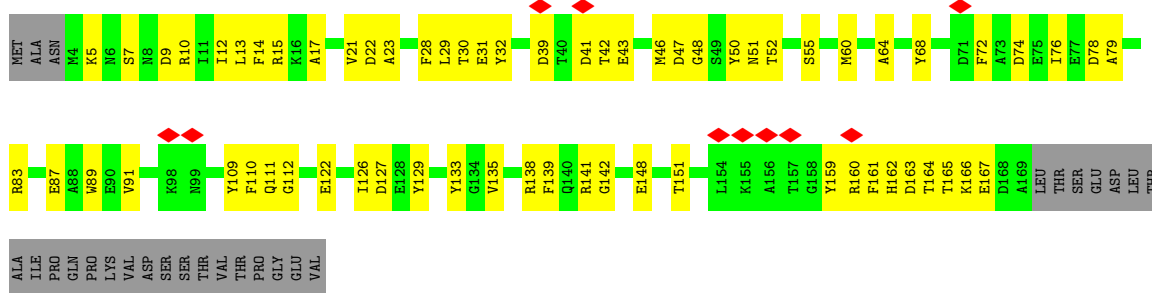
• Molecule 5: Fiber Upper, gp68



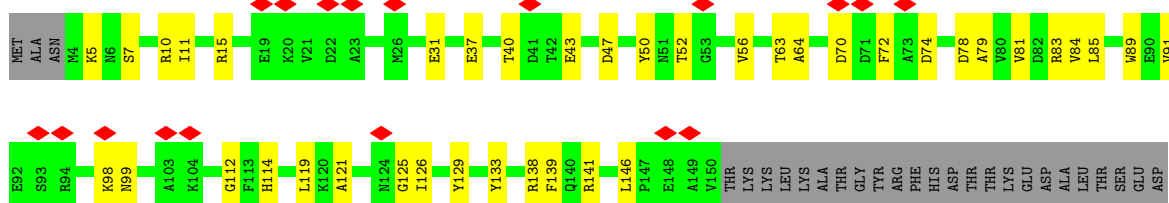
• Molecule 6: Major Tail Protein, gp53



• Molecule 6: Major Tail Protein, gp53

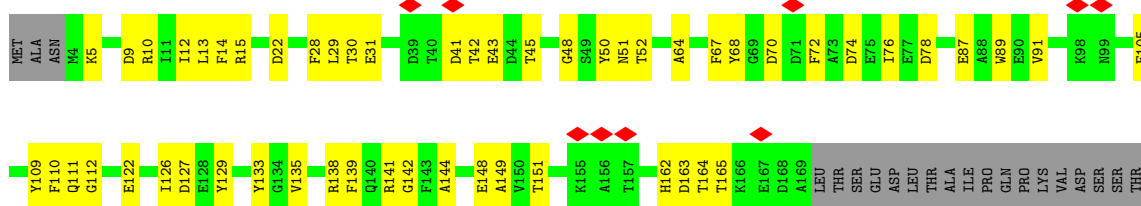


• Molecule 6: Major Tail Protein, gp53



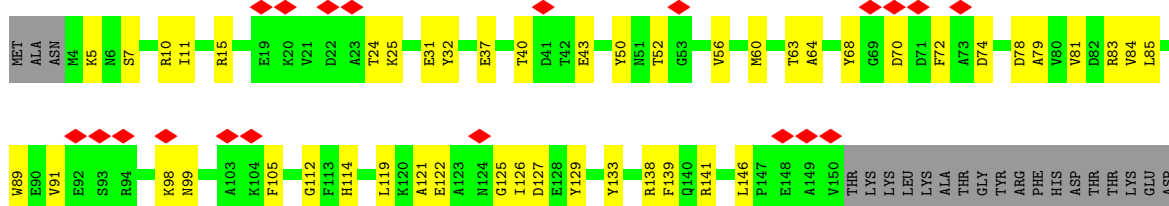
LEU
THR
ALA
ILE
PRO
GLN
PRO
LYS
VAL
ASP
SER
SER
THR
VAL
THR
PRO
GLY
GLU
VAL

• Molecule 6: Major Tail Protein, gp53



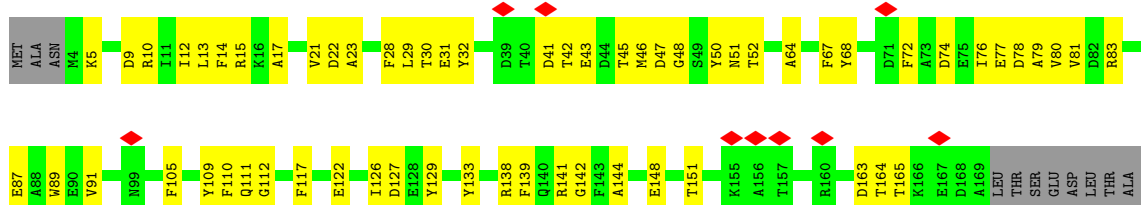
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THR
PRO
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GLU
VAL

• Molecule 6: Major Tail Protein, gp53



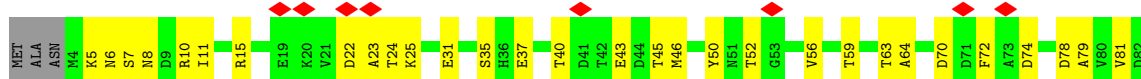
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ASP
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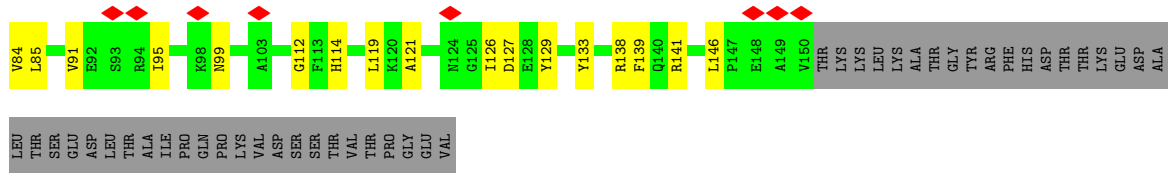
• Molecule 6: Major Tail Protein, gp53



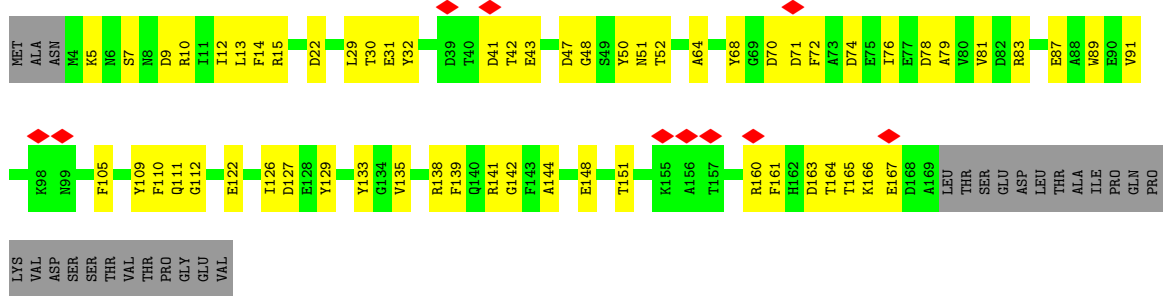
PRO
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• Molecule 6: Major Tail Protein, gp53

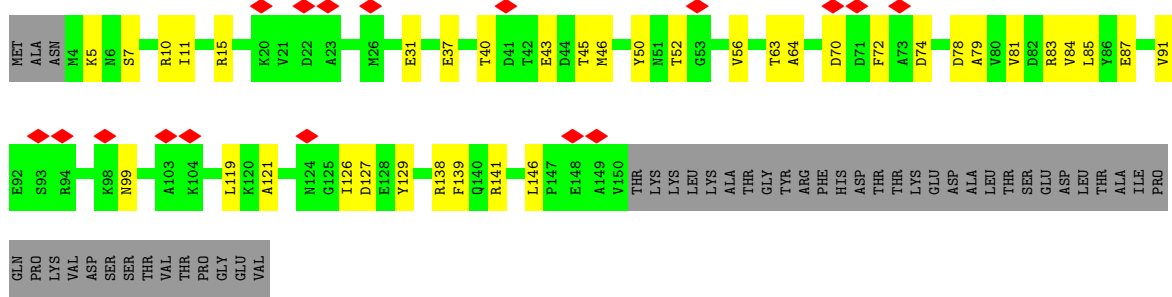




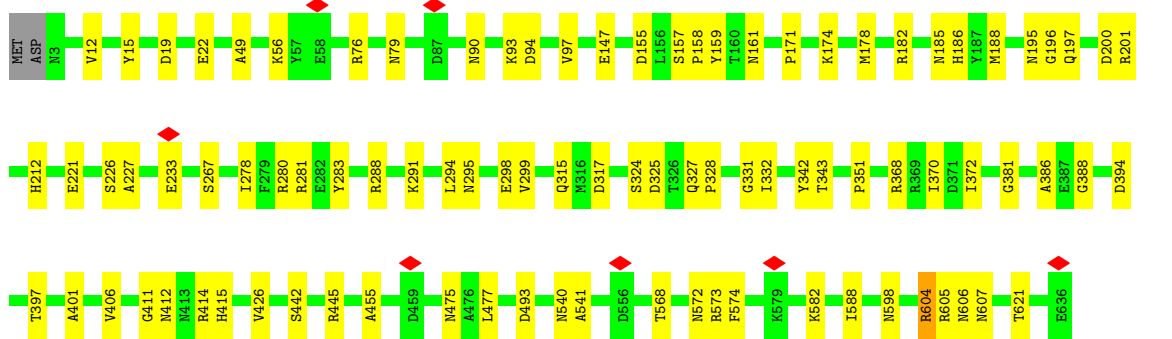
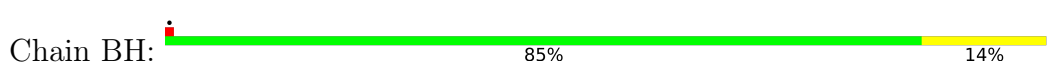
• Molecule 6: Major Tail Protein, gp53



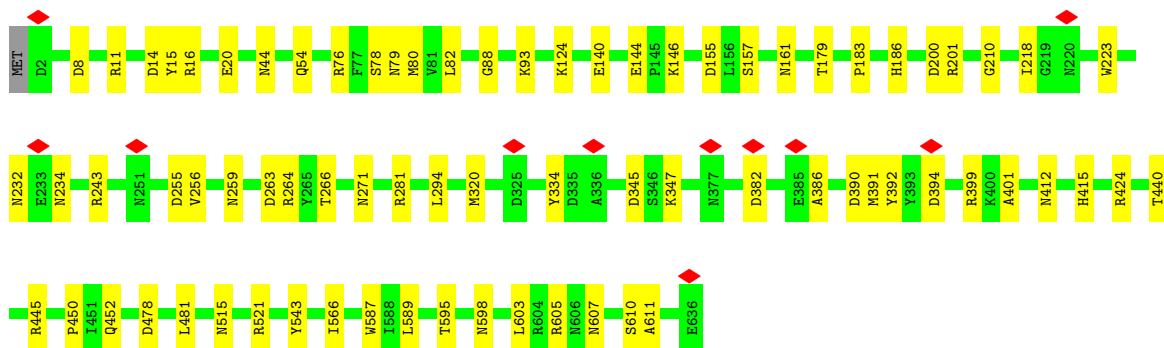
• Molecule 6: Major Tail Protein, gp53



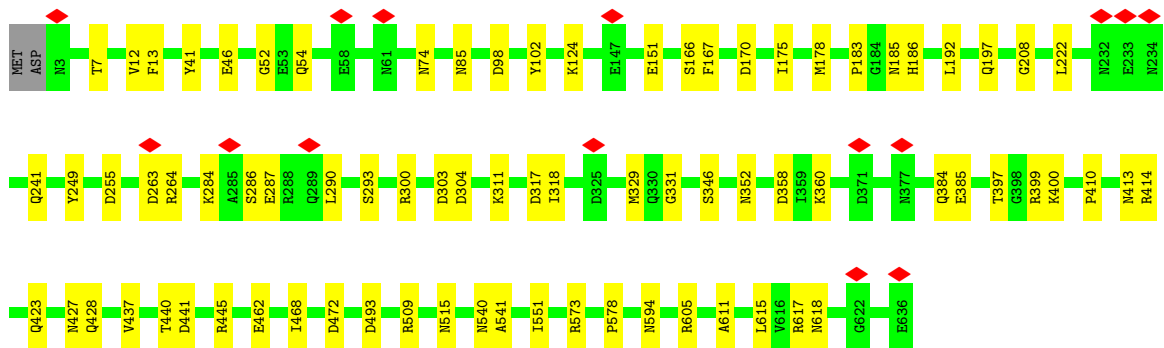
• Molecule 7: Receptor Binding Protein, gp61



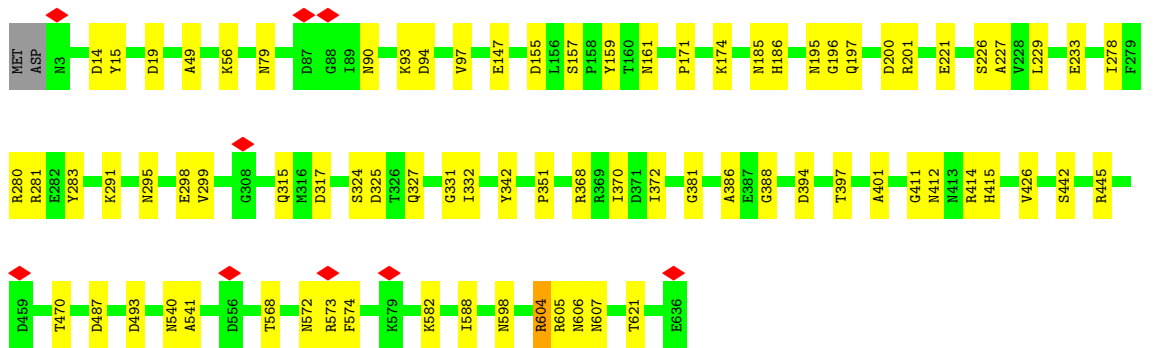
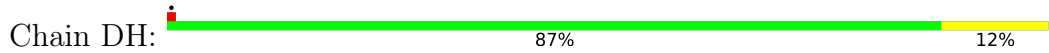
• Molecule 7: Receptor Binding Protein, gp61



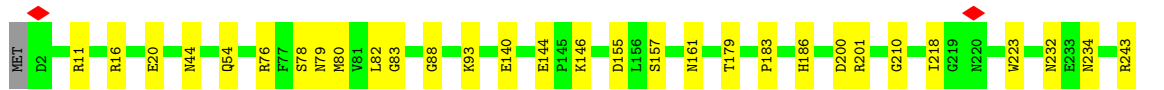
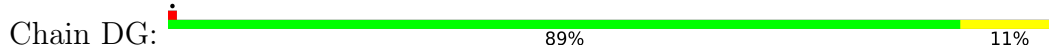
• Molecule 7: Receptor Binding Protein, gp61

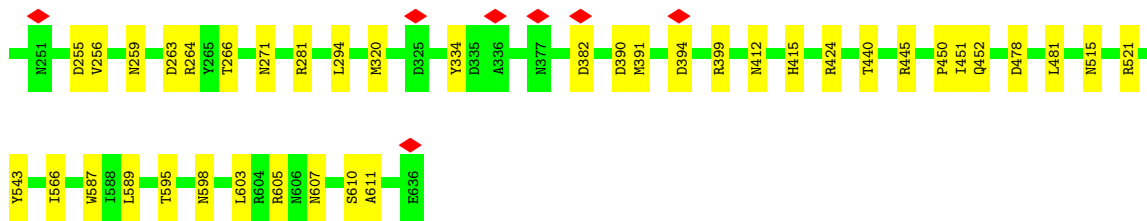


• Molecule 7: Receptor Binding Protein, gp61

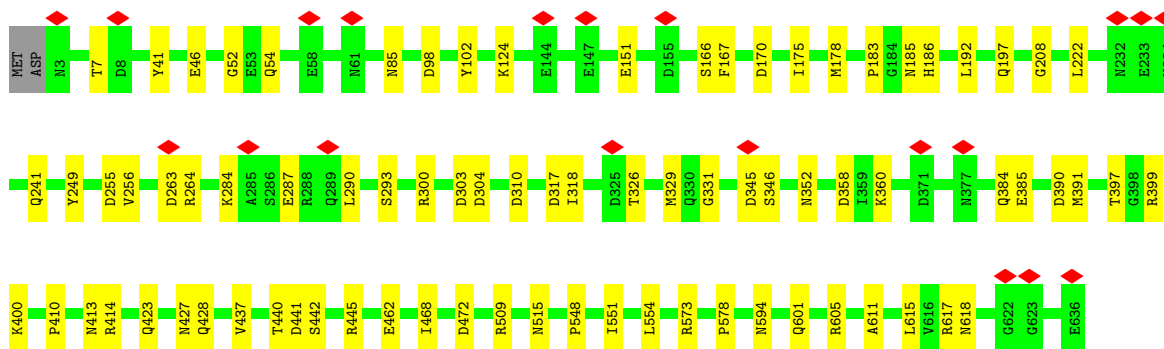
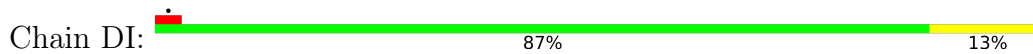


• Molecule 7: Receptor Binding Protein, gp61

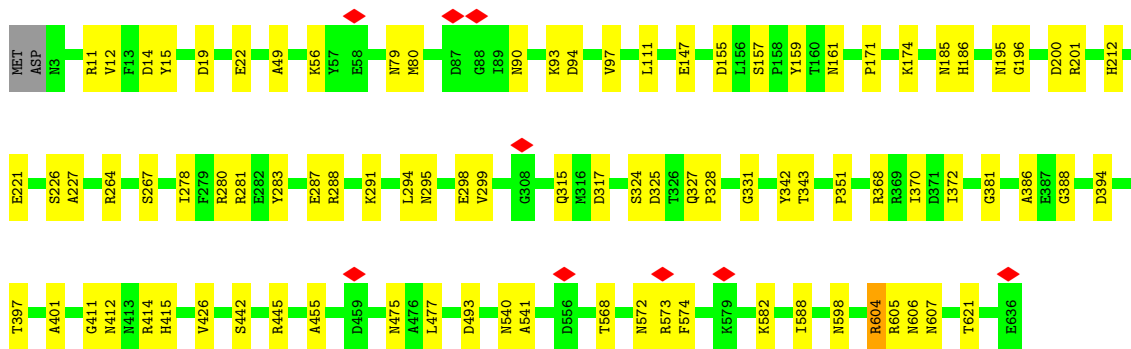
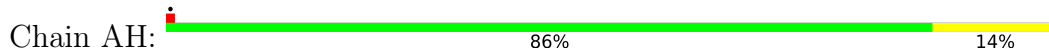




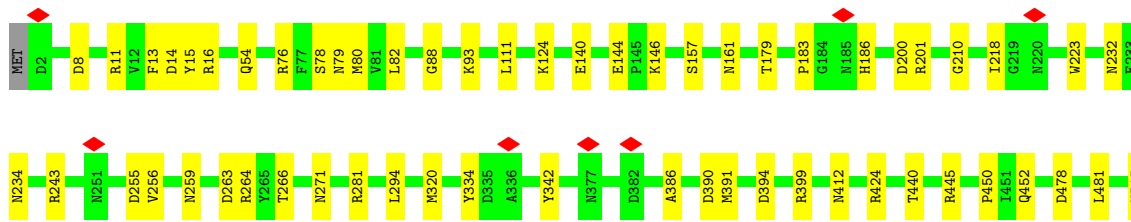
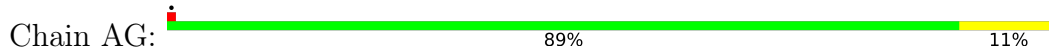
• Molecule 7: Receptor Binding Protein, gp61

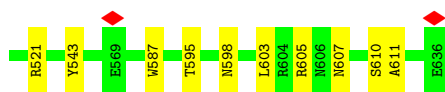


• Molecule 7: Receptor Binding Protein, gp61

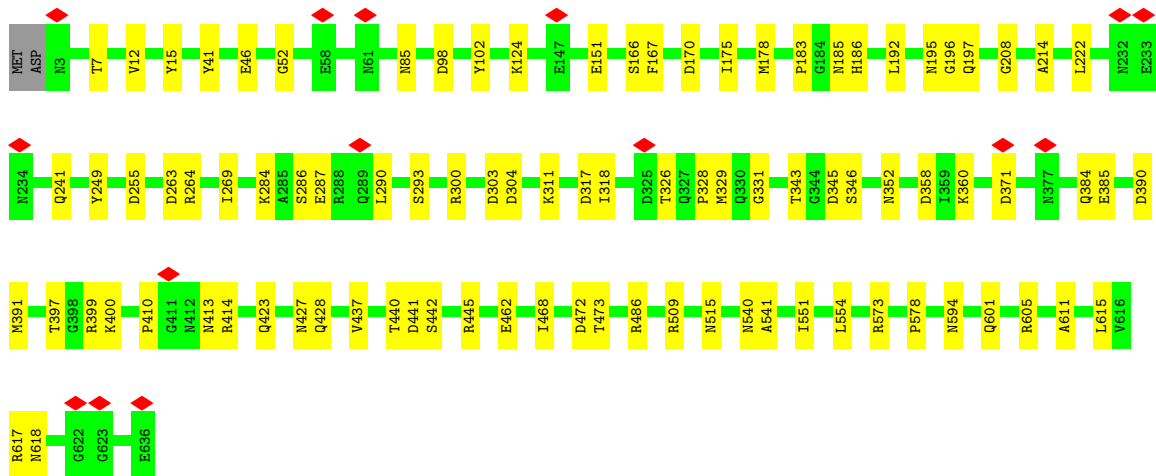
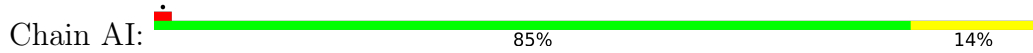


• Molecule 7: Receptor Binding Protein, gp61

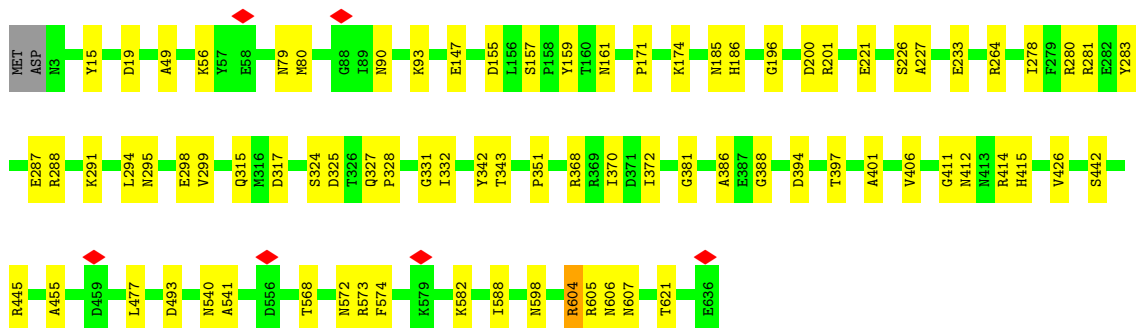




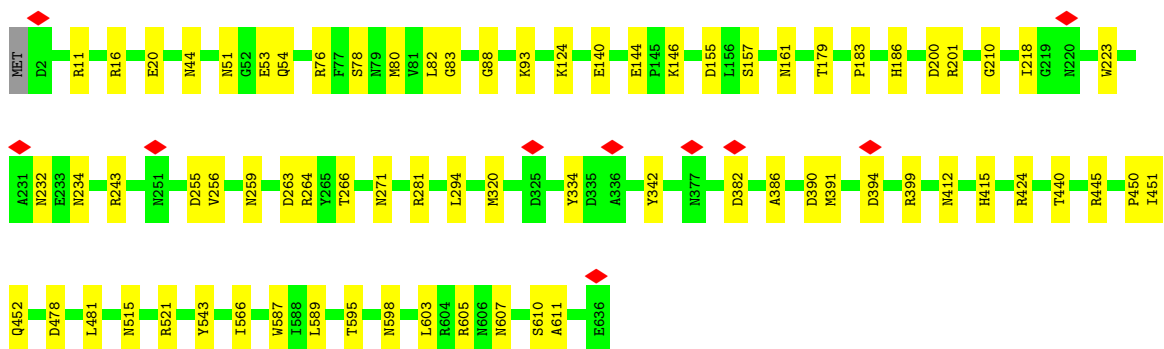
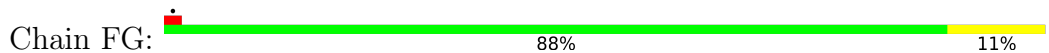
• Molecule 7: Receptor Binding Protein, gp61



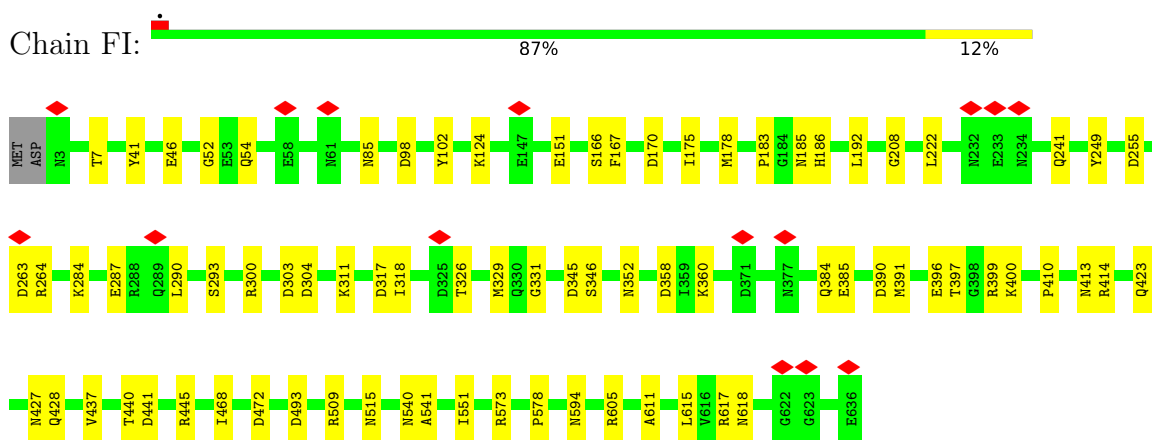
• Molecule 7: Receptor Binding Protein, gp61



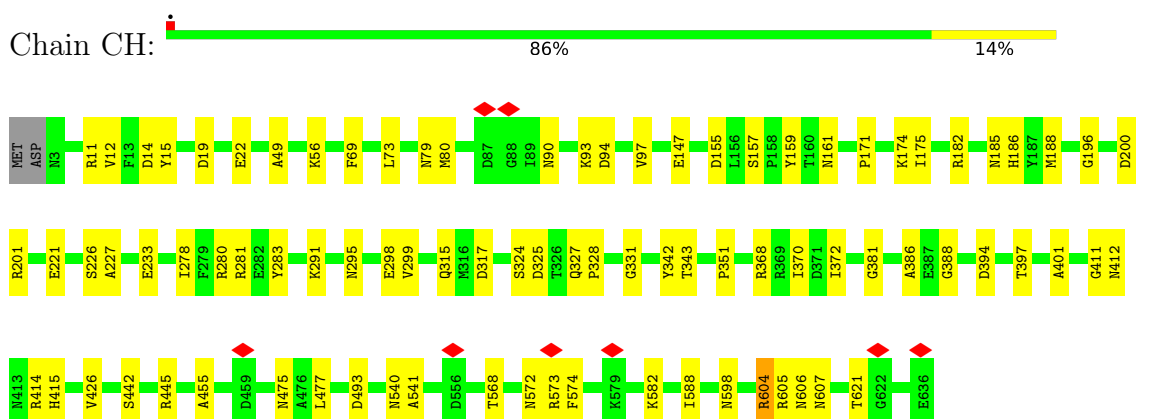
• Molecule 7: Receptor Binding Protein, gp61



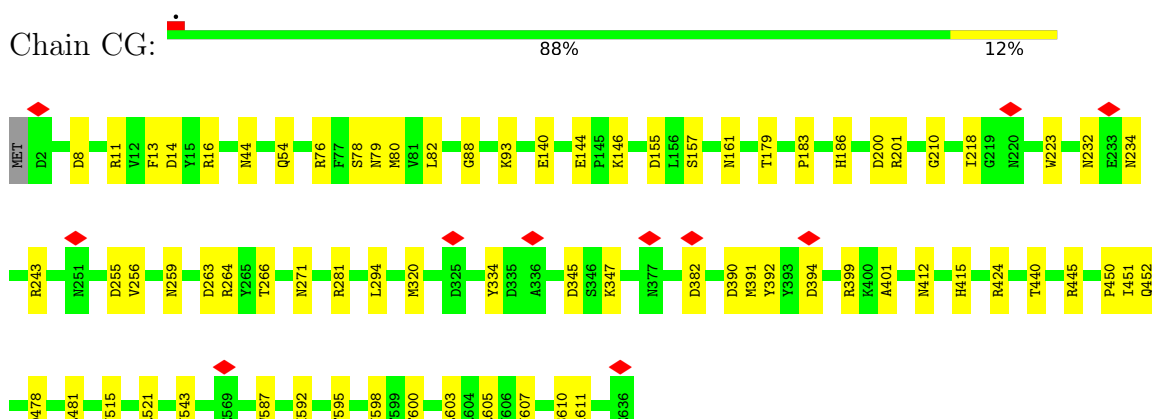
• Molecule 7: Receptor Binding Protein, gp61



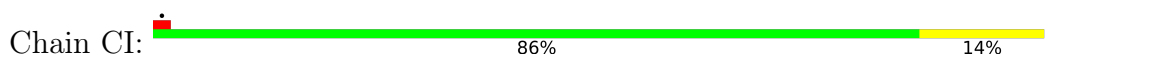
• Molecule 7: Receptor Binding Protein, gp61

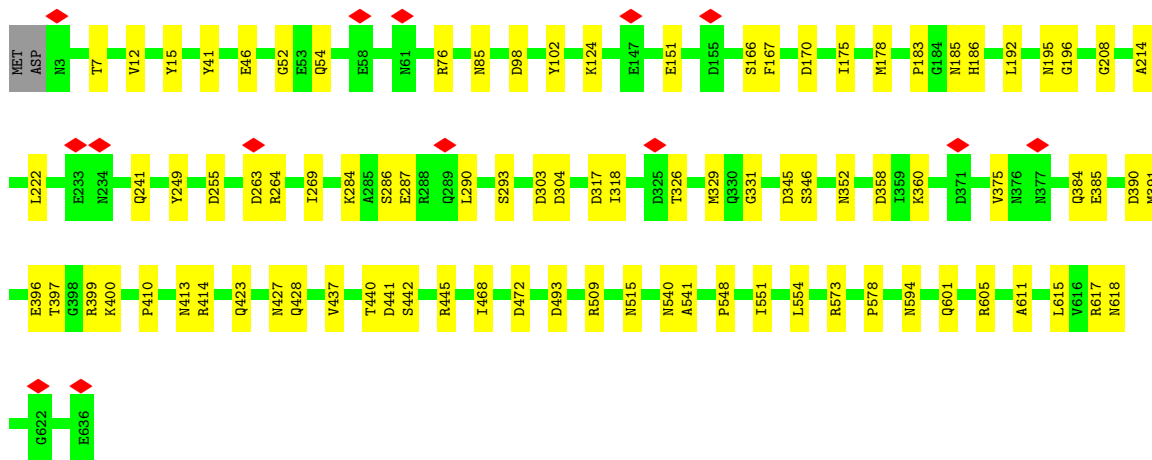


• Molecule 7: Receptor Binding Protein, gp61

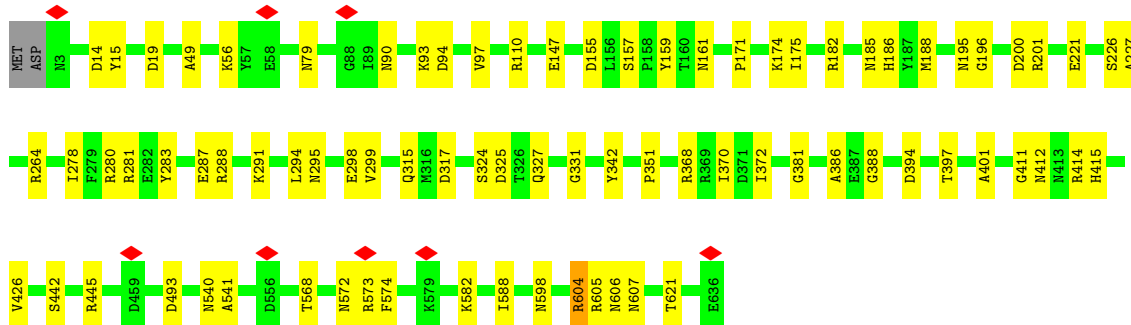


• Molecule 7: Receptor Binding Protein, gp61

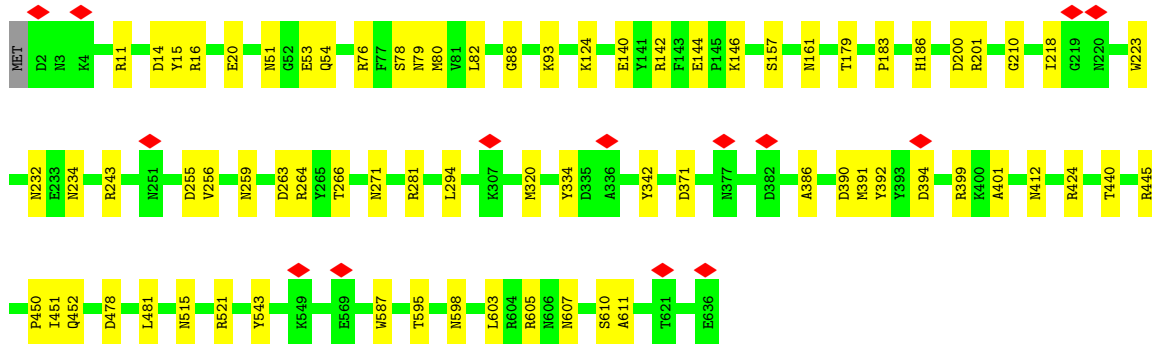




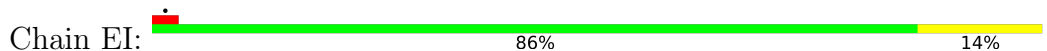
• Molecule 7: Receptor Binding Protein, gp61

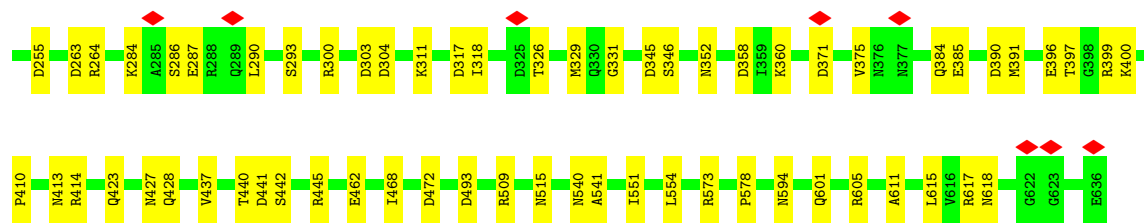


• Molecule 7: Receptor Binding Protein, gp61



• Molecule 7: Receptor Binding Protein, gp61





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C6	Depositor
Number of particles used	43601	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	104.33	Depositor
Minimum defocus (nm)	1700	Depositor
Maximum defocus (nm)	3700	Depositor
Magnification	29000	Depositor
Image detector	DIRECT ELECTRON DE-20 (5k x 3k)	Depositor
Maximum map value	30.060	Depositor
Minimum map value	-18.991	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.967	Depositor
Recommended contour level	4.5	Depositor
Map size (\AA)	619.52, 619.52, 619.52	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.21, 1.21, 1.21	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	AC	0.54	0/2658	0.64	0/3579
1	AD	0.54	0/2658	0.64	0/3579
1	BC	0.54	0/2658	0.64	0/3579
1	BD	0.54	0/2658	0.64	0/3579
1	CC	0.54	0/2658	0.64	0/3579
1	CD	0.54	0/2658	0.64	0/3579
2	AE	0.49	0/3116	0.63	0/4198
2	BE	0.49	0/3116	0.64	0/4198
2	CE	0.49	0/3116	0.63	0/4198
3	AF	0.45	0/161	0.68	0/216
3	BF	0.45	0/161	0.67	0/216
3	CF	0.45	0/161	0.68	0/216
4	AJ	0.28	0/1353	0.46	0/1833
4	AK	0.28	0/1518	0.45	0/2055
4	AL	0.26	0/1451	0.44	0/1964
4	BJ	0.29	0/1353	0.45	0/1833
4	BK	0.28	0/1518	0.45	0/2055
4	BL	0.26	0/1451	0.43	0/1964
4	CJ	0.28	0/1353	0.46	0/1833
4	CK	0.28	0/1518	0.45	0/2055
4	CL	0.26	0/1451	0.43	0/1964
4	DJ	0.28	0/1353	0.45	0/1833
4	DK	0.28	0/1518	0.45	0/2055
4	DL	0.26	0/1451	0.43	0/1964
4	EJ	0.28	0/1353	0.45	0/1833
4	EK	0.28	0/1518	0.45	0/2055
4	EL	0.26	0/1451	0.43	0/1964
4	FJ	0.29	0/1353	0.45	0/1833
4	FK	0.28	0/1518	0.45	0/2055
4	FL	0.26	0/1451	0.43	0/1964
5	AM	0.26	0/1008	0.46	0/1351
5	AN	0.25	0/998	0.46	0/1338

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
5	BM	0.26	0/1008	0.45	0/1351
5	BN	0.26	0/998	0.46	0/1338
5	CM	0.25	0/1008	0.46	0/1351
5	CN	0.25	0/998	0.45	0/1338
5	DM	0.26	0/1008	0.47	0/1351
5	DN	0.25	0/998	0.45	0/1338
5	EM	0.26	0/1008	0.45	0/1351
5	EN	0.25	0/998	0.46	0/1338
5	FM	0.26	0/1008	0.45	0/1351
5	FN	0.26	0/998	0.46	0/1338
6	AA	0.43	0/1188	0.49	0/1596
6	AB	0.63	0/1346	0.54	0/1807
6	BA	0.43	0/1188	0.49	0/1596
6	BB	0.62	1/1346 (0.1%)	0.54	0/1807
6	CA	0.43	0/1188	0.49	0/1596
6	CB	0.62	0/1346	0.54	0/1807
6	DA	0.43	0/1188	0.49	0/1596
6	DB	0.62	0/1346	0.54	0/1807
6	EA	0.43	0/1188	0.49	0/1596
6	EB	0.63	0/1346	0.54	0/1807
6	FA	0.44	0/1188	0.49	0/1596
6	FB	0.62	0/1346	0.54	0/1807
7	AG	0.42	0/5332	0.56	0/7216
7	AH	0.44	0/5324	0.58	1/7205 (0.0%)
7	AI	0.44	0/5324	0.58	1/7205 (0.0%)
7	BG	0.44	0/5332	0.58	1/7216 (0.0%)
7	BH	0.45	0/5324	0.58	1/7205 (0.0%)
7	BI	0.45	0/5324	0.59	1/7205 (0.0%)
7	CG	0.43	0/5332	0.57	0/7216
7	CH	0.45	0/5324	0.58	1/7205 (0.0%)
7	CI	0.45	0/5324	0.59	2/7205 (0.0%)
7	DG	0.43	0/5332	0.57	0/7216
7	DH	0.45	0/5324	0.58	1/7205 (0.0%)
7	DI	0.45	0/5324	0.59	1/7205 (0.0%)
7	EG	0.43	0/5332	0.57	0/7216
7	EH	0.44	0/5324	0.58	2/7205 (0.0%)
7	EI	0.44	0/5324	0.59	1/7205 (0.0%)
7	FG	0.43	0/5332	0.57	0/7216
7	FH	0.45	0/5324	0.58	1/7205 (0.0%)
7	FI	0.44	0/5324	0.58	1/7205 (0.0%)
All	All	0.43	1/174831 (0.0%)	0.56	15/236136 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	BB	36	HIS	CA-CB	-5.21	1.42	1.53

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	CI	76	ARG	NE-CZ-NH2	-6.13	117.23	120.30
7	EH	110	ARG	NE-CZ-NH2	-5.77	117.41	120.30
7	BG	386	ALA	CB-CA-C	5.25	117.98	110.10
7	BI	617	ARG	NE-CZ-NH2	5.20	122.90	120.30
7	FH	604	ARG	NE-CZ-NH2	5.16	122.88	120.30
7	BH	604	ARG	NE-CZ-NH2	5.16	122.88	120.30
7	EH	604	ARG	NE-CZ-NH2	5.15	122.87	120.30
7	DH	604	ARG	NE-CZ-NH2	5.14	122.87	120.30
7	AI	617	ARG	NE-CZ-NH2	5.11	122.86	120.30
7	CI	617	ARG	NE-CZ-NH2	5.11	122.86	120.30
7	FI	617	ARG	NE-CZ-NH2	5.10	122.85	120.30
7	CH	604	ARG	NE-CZ-NH2	5.09	122.85	120.30
7	DI	617	ARG	NE-CZ-NH2	5.09	122.84	120.30
7	AH	604	ARG	NE-CZ-NH2	5.06	122.83	120.30
7	EI	617	ARG	NE-CZ-NH2	5.03	122.81	120.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AC	2601	0	2549	88	0
1	AD	2601	0	2550	121	0
1	BC	2601	0	2549	92	0
1	BD	2601	0	2550	118	0
1	CC	2601	0	2549	91	0
1	CD	2601	0	2550	120	0
2	AE	3068	0	3098	30	0
2	BE	3068	0	3098	32	0
2	CE	3068	0	3098	33	0
3	AF	160	0	156	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	BF	160	0	156	6	0
3	CF	160	0	156	8	0
4	AJ	1331	0	1292	32	0
4	AK	1496	0	1470	35	0
4	AL	1430	0	1406	58	0
4	BJ	1331	0	1292	39	0
4	BK	1496	0	1470	34	0
4	BL	1430	0	1406	69	0
4	CJ	1331	0	1292	33	0
4	CK	1496	0	1470	33	0
4	CL	1430	0	1406	63	0
4	DJ	1331	0	1292	36	0
4	DK	1496	0	1470	31	0
4	DL	1430	0	1406	63	0
4	EJ	1331	0	1292	35	0
4	EK	1496	0	1470	37	0
4	EL	1430	0	1406	63	0
4	FJ	1331	0	1292	34	0
4	FK	1496	0	1470	33	0
4	FL	1430	0	1406	62	0
5	AM	991	0	1010	40	0
5	AN	981	0	1002	14	0
5	BM	991	0	1010	41	0
5	BN	981	0	1002	24	0
5	CM	991	0	1010	47	0
5	CN	981	0	1002	14	0
5	DM	991	0	1010	44	0
5	DN	981	0	1002	17	0
5	EM	991	0	1010	44	0
5	EN	981	0	1002	15	0
5	FM	991	0	1010	43	0
5	FN	981	0	1002	15	0
6	AA	1165	0	1085	39	0
6	AB	1320	0	1241	86	0
6	BA	1165	0	1085	40	0
6	BB	1320	0	1241	90	0
6	CA	1165	0	1085	29	0
6	CB	1320	0	1241	85	0
6	DA	1165	0	1085	38	0
6	DB	1320	0	1241	102	0
6	EA	1165	0	1085	38	0
6	EB	1320	0	1241	104	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	FA	1165	0	1085	37	0
6	FB	1320	0	1241	107	0
7	AG	5201	0	5001	51	0
7	AH	5193	0	4997	84	0
7	AI	5193	0	4997	60	0
7	BG	5201	0	5001	51	0
7	BH	5193	0	4997	80	0
7	BI	5193	0	4997	50	0
7	CG	5201	0	5001	52	0
7	CH	5193	0	4997	81	0
7	CI	5193	0	4997	57	0
7	DG	5201	0	5001	50	0
7	DH	5193	0	4997	59	0
7	DI	5193	0	4997	52	0
7	EG	5201	0	5001	50	0
7	EH	5193	0	4997	58	0
7	EI	5193	0	4997	58	0
7	FG	5201	0	5001	49	0
7	FH	5193	0	4997	62	0
7	FI	5193	0	4997	50	0
8	AH	1	0	0	0	0
8	BH	1	0	0	0	0
8	CH	1	0	0	0	0
8	DH	1	0	0	0	0
8	EH	1	0	0	0	0
8	FH	1	0	0	0	0
All	All	171102	0	166065	2715	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 8.

All (2715) 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)
4:BL:58:HIS:CE1	5:BN:43:GLN:HG2	1.29	1.66
4:BL:58:HIS:ND1	5:BN:43:GLN:HG2	1.41	1.35
4:FL:174:THR:OG1	7:FH:90:ASN:ND2	1.63	1.31
1:CD:149:GLN:NE2	6:AB:41:ASP:OD1	1.64	1.28
1:AD:149:GLN:NE2	6:BB:41:ASP:OD1	1.63	1.28
4:AL:174:THR:OG1	7:AH:90:ASN:ND2	1.67	1.27
1:CC:20:ILE:HD11	6:FB:50:TYR:CE2	1.69	1.27

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BL:174:THR:OG1	7:BH:90:ASN:ND2	1.65	1.26
1:BC:69:ASP:OD2	7:BH:15:TYR:CE1	1.87	1.26
1:BD:105:PRO:HA	6:EB:15:ARG:NH2	1.49	1.25
4:CL:174:THR:OG1	7:CH:90:ASN:ND2	1.67	1.25
1:AC:69:ASP:OD2	7:AH:15:TYR:CE1	1.89	1.24
4:DL:174:THR:OG1	7:DH:90:ASN:ND2	1.68	1.24
1:AC:20:ILE:HD11	6:DB:50:TYR:CE2	1.73	1.24
4:EL:174:THR:OG1	7:EH:90:ASN:ND2	1.68	1.23
1:CC:69:ASP:OD2	7:CH:15:TYR:CE1	1.89	1.23
1:BD:149:GLN:NE2	6:CB:41:ASP:OD1	1.72	1.20
4:BL:58:HIS:CE1	5:BN:43:GLN:CG	2.24	1.20
4:FL:178:LYS:NZ	7:FH:93:LYS:HD3	1.54	1.18
1:BD:107:SER:HA	6:EB:21:VAL:C	1.64	1.18
4:BL:58:HIS:ND1	5:BN:43:GLN:CG	2.05	1.18
4:BL:178:LYS:NZ	7:BH:93:LYS:HD3	1.56	1.18
4:EL:178:LYS:NZ	7:EH:93:LYS:HD3	1.57	1.17
4:AL:178:LYS:NZ	7:AH:93:LYS:HD3	1.56	1.17
1:AD:100:TYR:OH	6:DB:110:PHE:HA	1.47	1.15
1:CD:100:TYR:OH	6:FB:110:PHE:HA	1.46	1.13
1:BC:20:ILE:HD11	6:EB:50:TYR:CE2	1.82	1.13
1:BD:67:ARG:NH1	6:FB:47:ASP:HA	1.64	1.13
1:AD:207:ASN:HB3	7:AH:455:ALA:CB	1.77	1.12
4:CL:178:LYS:NZ	7:CH:93:LYS:HD3	1.63	1.13
1:CD:65:LYS:NZ	7:FH:19:ASP:OD1	1.82	1.12
1:AC:188:PHE:HE2	7:FG:11:ARG:HB3	1.14	1.11
1:AD:65:LYS:NZ	7:DH:19:ASP:OD1	1.84	1.11
1:BD:100:TYR:OH	6:EB:110:PHE:HA	1.49	1.09
1:CC:188:PHE:HE2	7:EG:11:ARG:HB3	1.16	1.08
1:BC:153:LYS:NZ	6:EB:43:GLU:OE2	1.86	1.08
1:BD:65:LYS:NZ	7:EH:19:ASP:OD1	1.87	1.08
4:DL:178:LYS:NZ	7:DH:93:LYS:HD3	1.67	1.08
1:AD:207:ASN:HB3	7:AH:455:ALA:HB2	1.25	1.08
1:BC:188:PHE:HE2	7:DG:11:ARG:HB3	1.13	1.07
1:AD:301:THR:HG21	7:AH:475:ASN:HA	1.38	1.06
1:AD:20:ILE:HD11	6:BB:50:TYR:CE2	1.91	1.04
1:CC:20:ILE:CD1	6:FB:50:TYR:CE2	2.40	1.03
1:AD:69:ASP:OD2	7:DH:15:TYR:CE1	2.12	1.02
1:CD:207:ASN:HB3	7:CH:455:ALA:HB2	1.39	1.02
1:BD:188:PHE:HE2	7:BG:11:ARG:HB3	1.17	1.02
1:CD:207:ASN:HB3	7:CH:455:ALA:CB	1.89	1.01
1:CC:128:GLN:O	7:EG:16:ARG:NH2	1.94	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AC:20:ILE:CD1	6:DB:50:TYR:CE2	2.44	1.00
1:CD:153:LYS:HB2	6:AB:52:THR:CG2	1.91	1.00
1:CC:69:ASP:OD2	7:CH:15:TYR:HE1	1.42	0.99
1:BC:128:GLN:O	7:DG:16:ARG:NH2	1.92	0.99
1:AD:153:LYS:NZ	6:BB:43:GLU:OE2	1.96	0.99
1:CD:69:ASP:OD2	7:FH:15:TYR:CE1	2.15	0.99
1:BD:188:PHE:CE2	7:BG:11:ARG:HB3	1.97	0.99
1:BD:105:PRO:HB2	6:EB:23:ALA:HB2	1.44	0.99
1:BD:111:VAL:HG21	6:EB:17:ALA:HB1	1.46	0.97
1:BC:100:TYR:CE2	6:BB:109:TYR:CE2	2.51	0.97
1:CD:68:SER:OG	7:FG:11:ARG:HG3	1.64	0.97
1:BD:105:PRO:HA	6:EB:15:ARG:HH22	1.22	0.97
1:BD:97:GLU:OE1	6:CB:48:GLY:N	1.98	0.97
4:BL:58:HIS:ND1	5:BN:43:GLN:CD	2.18	0.97
1:AC:188:PHE:CE2	7:FG:11:ARG:HB3	2.00	0.96
1:CD:301:THR:HG21	7:CH:475:ASN:HA	1.46	0.96
4:BL:58:HIS:HE1	5:BN:43:GLN:HG2	1.17	0.96
1:BD:67:ARG:HB3	6:FB:47:ASP:OD2	1.66	0.96
1:AD:107:SER:HA	6:DB:21:VAL:C	1.87	0.95
1:CD:107:SER:HA	6:FB:21:VAL:C	1.85	0.95
1:BC:100:TYR:HE2	6:BB:109:TYR:CD2	1.83	0.95
1:AC:100:TYR:OH	6:AB:110:PHE:HA	1.67	0.95
1:CD:153:LYS:HG3	6:AB:52:THR:HG21	1.46	0.95
1:BC:188:PHE:CE2	7:DG:11:ARG:HB3	2.00	0.95
1:CC:188:PHE:CE2	7:EG:11:ARG:HB3	2.03	0.94
1:BC:100:TYR:CD2	6:BB:109:TYR:HE2	1.85	0.94
1:CC:100:TYR:HE2	6:CB:109:TYR:CD2	1.86	0.94
1:CD:153:LYS:HB2	6:AB:52:THR:HG21	1.49	0.93
1:CD:105:PRO:HA	6:FB:15:ARG:NH2	1.82	0.93
1:CD:153:LYS:NZ	6:AB:43:GLU:OE2	1.98	0.93
1:CD:20:ILE:HD11	6:AB:50:TYR:CE2	2.03	0.93
1:AC:69:ASP:OD2	7:AH:15:TYR:HE1	1.47	0.93
1:CC:100:TYR:CE2	6:CB:109:TYR:CE2	2.56	0.93
1:BC:20:ILE:CD1	6:EB:50:TYR:CE2	2.52	0.92
1:BC:69:ASP:OD2	7:BH:15:TYR:HE1	1.46	0.92
1:CC:100:TYR:OH	6:CB:110:PHE:HA	1.69	0.92
1:BC:100:TYR:OH	6:BB:110:PHE:HA	1.68	0.92
1:AC:100:TYR:HE2	6:AB:109:TYR:CD2	1.88	0.92
1:AC:100:TYR:CE2	6:AB:109:TYR:CE2	2.58	0.92
1:CD:105:PRO:HB2	6:FB:23:ALA:HB2	1.51	0.91
1:CC:100:TYR:CD2	6:CB:109:TYR:HE2	1.87	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:EL:178:LYS:HZ1	7:EH:93:LYS:HD3	1.26	0.91
1:AD:301:THR:HB	7:AH:475:ASN:OD1	1.69	0.91
1:BD:20:ILE:HD11	6:CB:50:TYR:CE2	2.06	0.91
1:BD:153:LYS:NZ	6:CB:43:GLU:OE2	2.03	0.91
4:FL:178:LYS:HZ1	7:FH:93:LYS:HD3	1.31	0.91
1:AC:153:LYS:NZ	6:DB:43:GLU:OE2	2.03	0.91
4:AL:178:LYS:HZ1	7:AH:93:LYS:HD3	1.27	0.91
1:AD:68:SER:OG	7:DG:11:ARG:HG3	1.69	0.91
1:AD:207:ASN:CB	7:AH:455:ALA:HB2	2.02	0.89
1:AD:105:PRO:HA	6:DB:15:ARG:NH2	1.88	0.89
1:AC:128:GLN:O	7:FG:16:ARG:NH2	2.05	0.88
1:AD:67:ARG:NH1	6:EB:47:ASP:HA	1.86	0.88
1:CD:100:TYR:CD2	6:FB:109:TYR:HE2	1.90	0.88
4:EL:50:ARG:HA	5:EM:81:PHE:CE2	2.08	0.88
1:CD:153:LYS:CB	6:AB:52:THR:HG21	2.03	0.88
1:AC:100:TYR:CD2	6:AB:109:TYR:HE2	1.90	0.88
1:AD:20:ILE:CD1	6:BB:50:TYR:CE2	2.57	0.88
1:CD:67:ARG:NH1	6:DB:47:ASP:HA	1.89	0.88
1:AC:153:LYS:HG3	6:DB:52:THR:HG21	1.56	0.87
1:AD:69:ASP:OD2	7:DH:15:TYR:CD1	2.27	0.87
4:BL:178:LYS:HZ1	7:BH:93:LYS:HD3	1.34	0.87
1:AD:100:TYR:CD2	6:DB:109:TYR:HE2	1.93	0.86
1:CD:153:LYS:CG	6:AB:52:THR:HG21	2.04	0.86
3:BF:1151:GLU:OE1	2:BE:87:ARG:NE	2.07	0.86
1:CC:153:LYS:NZ	6:FB:43:GLU:OE2	2.09	0.86
1:CD:69:ASP:OD2	7:FH:15:TYR:CD1	2.28	0.86
1:CC:20:ILE:CD1	6:FB:50:TYR:CZ	2.59	0.86
1:BD:107:SER:H	6:EB:22:ASP:HA	1.38	0.86
4:EK:63:ILE:HG23	4:EK:82:LEU:HD21	1.57	0.86
1:BC:153:LYS:HG3	6:EB:52:THR:HG21	1.55	0.86
1:BD:207:ASN:HB3	7:BH:455:ALA:CB	2.05	0.86
4:BK:63:ILE:HG23	4:BK:82:LEU:HD21	1.58	0.86
4:FK:63:ILE:HG23	4:FK:82:LEU:HD21	1.57	0.86
1:AD:105:PRO:HB2	6:DB:23:ALA:HB2	1.58	0.86
1:BC:100:TYR:CE2	6:BB:109:TYR:CD2	2.64	0.86
1:CD:107:SER:H	6:FB:22:ASP:HA	1.40	0.86
4:FL:50:ARG:HA	5:FM:81:PHE:CE2	2.10	0.86
6:FB:112:GLY:N	6:FB:133:TYR:OH	2.10	0.85
1:CC:153:LYS:HG3	6:FB:52:THR:HG21	1.58	0.85
4:AK:63:ILE:HG23	4:AK:82:LEU:HD21	1.58	0.85
1:AD:188:PHE:HE2	7:AG:11:ARG:HB3	1.38	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CD:188:PHE:HE2	7:CG:11:ARG:HB3	1.42	0.84
1:BD:107:SER:CA	6:EB:21:VAL:C	2.45	0.84
1:BD:100:TYR:CE2	6:EB:109:TYR:CE2	2.66	0.84
4:CL:50:ARG:HG3	5:CM:81:PHE:CE2	2.13	0.84
1:AD:301:THR:HG21	7:AH:475:ASN:CA	2.07	0.84
1:AD:301:THR:CB	7:AH:475:ASN:OD1	2.25	0.83
1:BC:68:SER:OG	7:BG:11:ARG:HG3	1.77	0.83
1:AC:69:ASP:OD2	7:AH:15:TYR:CD1	2.31	0.83
1:AC:68:SER:OG	7:AG:11:ARG:HG3	1.78	0.83
1:CD:301:THR:HB	7:CH:475:ASN:OD1	1.78	0.83
1:BD:67:ARG:NH1	6:FB:46:MET:O	2.10	0.83
6:BB:112:GLY:N	6:BB:133:TYR:OH	2.10	0.83
1:CC:68:SER:OG	7:CG:11:ARG:HG3	1.78	0.83
1:BD:97:GLU:OE2	6:CB:48:GLY:HA2	1.79	0.83
1:AD:301:THR:CG2	7:AH:475:ASN:HA	2.09	0.83
1:CD:100:TYR:HH	6:FB:110:PHE:HA	1.38	0.83
1:BC:69:ASP:OD2	7:BH:15:TYR:CD1	2.32	0.83
1:BC:69:ASP:OD1	7:BG:11:ARG:NH2	2.12	0.82
1:BD:67:ARG:HH12	6:FB:47:ASP:HA	1.42	0.82
1:BD:100:TYR:CD2	6:EB:109:TYR:HE2	1.98	0.82
4:BL:178:LYS:NZ	7:BH:93:LYS:CD	2.43	0.82
1:CC:26:ILE:HD11	1:BD:74:ARG:CZ	2.09	0.82
1:BD:188:PHE:HE2	7:BG:11:ARG:CB	1.92	0.82
6:CA:138:ARG:NH2	6:CA:139:PHE:O	2.12	0.82
1:AD:128:GLN:O	7:AG:16:ARG:NH2	2.12	0.81
1:CD:100:TYR:CE2	6:FB:109:TYR:CE2	2.68	0.81
1:AD:97:GLU:OE1	6:BB:48:GLY:N	2.14	0.81
2:AE:69:THR:OG1	2:BE:201:ALA:O	1.97	0.81
1:CD:97:GLU:OE1	6:AB:48:GLY:N	2.13	0.81
1:BD:63:LYS:NZ	6:CB:52:THR:O	2.13	0.81
1:CC:100:TYR:CE2	6:CB:109:TYR:CD2	2.67	0.81
4:CK:63:ILE:HG23	4:CK:82:LEU:HD21	1.62	0.81
6:DA:138:ARG:NH2	6:DA:139:PHE:O	2.13	0.81
6:AA:138:ARG:NH2	6:AA:139:PHE:O	2.14	0.81
4:AL:178:LYS:HZ1	7:AH:93:LYS:CD	1.94	0.81
1:BD:97:GLU:CD	6:CB:48:GLY:HA2	2.00	0.81
1:AC:20:ILE:CD1	6:DB:50:TYR:CZ	2.64	0.81
1:BC:153:LYS:HB2	6:EB:52:THR:HB	1.62	0.81
6:FA:138:ARG:NH2	6:FA:139:PHE:O	2.14	0.81
1:AC:100:TYR:CE2	6:AB:109:TYR:CD2	2.69	0.81
1:CC:153:LYS:HB2	6:FB:52:THR:HB	1.61	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BL:50:ARG:HA	5:BM:81:PHE:CE2	2.15	0.80
4:DL:50:ARG:HG3	5:DM:81:PHE:CE2	2.16	0.80
1:CC:69:ASP:OD2	7:CH:15:TYR:CD1	2.33	0.80
1:BD:67:ARG:CB	6:FB:47:ASP:OD2	2.28	0.80
4:FL:178:LYS:NZ	7:FH:93:LYS:CD	2.41	0.80
1:AC:69:ASP:OD1	7:AG:11:ARG:NH2	2.15	0.80
1:CC:20:ILE:HD12	6:FB:50:TYR:CZ	2.17	0.80
1:AD:100:TYR:CE2	6:DB:109:TYR:CE2	2.69	0.80
1:BD:67:ARG:HH11	6:FB:47:ASP:HA	1.46	0.80
6:EA:138:ARG:NH2	6:EA:139:PHE:O	2.14	0.80
6:BA:138:ARG:NH2	6:BA:139:PHE:O	2.15	0.80
7:AI:551:ILE:O	7:AI:573:ARG:NH1	2.15	0.80
7:EI:410:PRO:O	7:EI:414:ARG:NH2	2.15	0.80
2:AE:201:ALA:O	2:CE:69:THR:OG1	1.98	0.80
4:CL:50:ARG:HA	5:CM:81:PHE:CE2	2.16	0.80
1:AC:153:LYS:HB2	6:DB:52:THR:HB	1.62	0.80
1:CC:69:ASP:OD1	7:CG:11:ARG:NH2	2.15	0.79
7:DI:551:ILE:O	7:DI:573:ARG:NH1	2.15	0.79
7:FI:551:ILE:O	7:FI:573:ARG:NH1	2.15	0.79
2:CE:201:ALA:O	2:BE:69:THR:OG1	2.00	0.79
7:BI:551:ILE:O	7:BI:573:ARG:NH1	2.15	0.79
7:CI:410:PRO:O	7:CI:414:ARG:NH2	2.16	0.79
7:CI:551:ILE:O	7:CI:573:ARG:NH1	2.15	0.79
1:CD:100:TYR:CG	6:FB:111:GLN:NE2	2.51	0.79
4:DK:63:ILE:HG23	4:DK:82:LEU:HD21	1.63	0.79
4:EK:35:ASP:OD1	4:EK:38:THR:OG1	2.01	0.79
4:EK:169:MET:O	4:EK:172:THR:OG1	2.01	0.79
1:CD:105:PRO:HA	6:FB:15:ARG:HH22	1.43	0.79
5:FN:8:GLU:OE1	5:FN:45:ARG:NH1	2.16	0.79
7:AI:410:PRO:O	7:AI:414:ARG:NH2	2.15	0.79
4:AK:35:ASP:OD1	4:AK:38:THR:OG1	2.01	0.79
4:AL:178:LYS:NZ	7:AH:93:LYS:CD	2.44	0.79
4:CK:80:ASP:OD2	4:CK:94:TYR:OH	1.99	0.79
4:CL:178:LYS:HZ1	7:CH:93:LYS:HD3	1.45	0.79
5:EN:8:GLU:OE1	5:EN:45:ARG:NH1	2.16	0.79
1:BD:111:VAL:CG2	6:EB:17:ALA:HB1	2.13	0.79
7:BI:410:PRO:O	7:BI:414:ARG:NH2	2.16	0.79
7:FI:410:PRO:O	7:FI:414:ARG:NH2	2.16	0.79
7:EI:551:ILE:O	7:EI:573:ARG:NH1	2.15	0.78
1:BC:20:ILE:CD1	6:EB:50:TYR:CZ	2.66	0.78
1:BD:97:GLU:OE1	6:CB:48:GLY:CA	2.31	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AC:188:PHE:HE2	7:FG:11:ARG:CB	1.96	0.78
4:DJ:83:THR:OG1	4:DJ:93:GLN:O	2.00	0.78
6:FA:141:ARG:NH2	6:CA:78:ASP:OD1	2.16	0.78
5:BN:8:GLU:OE1	5:BN:45:ARG:NH1	2.16	0.78
5:DM:72:LEU:HD11	5:DM:82:ILE:HD12	1.66	0.78
7:BH:157:SER:OG	7:BH:196:GLY:O	2.02	0.78
4:BL:178:LYS:HZ1	7:BH:93:LYS:CD	1.96	0.78
4:EJ:83:THR:OG1	4:EJ:93:GLN:O	2.02	0.78
5:AM:72:LEU:HD11	5:AM:82:ILE:HD12	1.66	0.78
6:DA:141:ARG:NH2	6:AA:78:ASP:OD1	2.17	0.78
7:CH:157:SER:OG	7:CH:196:GLY:O	2.02	0.78
4:AK:169:MET:O	4:AK:172:THR:OG1	2.01	0.78
1:BC:188:PHE:HE2	7:DG:11:ARG:CB	1.97	0.77
4:CL:50:ARG:CG	5:CM:81:PHE:CE2	2.67	0.77
5:AN:8:GLU:OE1	5:AN:45:ARG:NH1	2.16	0.77
5:CN:8:GLU:OE1	5:CN:45:ARG:NH1	2.18	0.77
6:BA:141:ARG:NH2	6:DA:78:ASP:OD1	2.18	0.77
7:DI:410:PRO:O	7:DI:414:ARG:NH2	2.16	0.77
6:EA:78:ASP:OD1	6:CA:141:ARG:NH2	2.17	0.77
7:EH:79:ASN:ND2	7:EG:93:LYS:O	2.17	0.77
1:AD:107:SER:H	6:DB:22:ASP:HA	1.47	0.77
4:AL:50:ARG:HA	5:AM:81:PHE:CE2	2.19	0.77
5:EM:72:LEU:HD11	5:EM:82:ILE:HD12	1.66	0.77
7:FH:157:SER:OG	7:FH:196:GLY:O	2.02	0.77
4:FJ:36:ARG:NH2	4:FL:152:GLN:OE1	2.18	0.77
4:FK:35:ASP:OD1	4:FK:38:THR:OG1	2.01	0.77
5:CM:72:LEU:HD11	5:CM:82:ILE:HD12	1.66	0.77
4:AJ:83:THR:OG1	4:AJ:93:GLN:O	2.02	0.77
1:AD:188:PHE:CE2	7:AG:11:ARG:HB3	2.19	0.77
1:AD:188:PHE:HB2	7:AH:14:ASP:HA	1.64	0.77
7:EH:157:SER:OG	7:EH:196:GLY:O	2.03	0.77
4:BK:35:ASP:OD1	4:BK:38:THR:OG1	2.01	0.77
4:FJ:83:THR:OG1	4:FJ:93:GLN:O	2.03	0.77
2:AE:386:ASP:OD1	2:BE:384:ARG:NH1	2.18	0.77
4:EJ:36:ARG:NH2	4:EL:152:GLN:OE1	2.18	0.77
4:BJ:36:ARG:NH2	4:BL:152:GLN:OE1	2.17	0.76
4:EL:50:ARG:CA	5:EM:81:PHE:HE2	1.99	0.76
5:FM:72:LEU:HD11	5:FM:82:ILE:HD12	1.68	0.76
7:FH:159:TYR:O	7:FH:201:ARG:NH2	2.18	0.76
1:AC:97:GLU:OE1	6:DB:48:GLY:N	2.19	0.76
1:AD:100:TYR:CD2	6:DB:109:TYR:CE2	2.73	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:DK:80:ASP:OD2	4:DK:94:TYR:OH	2.00	0.76
7:AH:157:SER:OG	7:AH:196:GLY:O	2.02	0.76
1:AC:20:ILE:HD12	6:DB:50:TYR:CZ	2.21	0.76
1:BD:153:LYS:CE	6:CB:43:GLU:OE2	2.34	0.76
1:BD:207:ASN:HB3	7:BH:455:ALA:HB2	1.66	0.76
7:FH:79:ASN:ND2	7:FG:93:LYS:O	2.18	0.76
1:BD:125:ARG:N	7:EI:290:LEU:HD11	1.99	0.76
7:AH:79:ASN:ND2	7:AG:93:LYS:O	2.18	0.76
7:CH:79:ASN:ND2	7:CG:93:LYS:O	2.18	0.76
7:CH:159:TYR:O	7:CH:201:ARG:NH2	2.19	0.76
7:EH:159:TYR:O	7:EH:201:ARG:NH2	2.19	0.76
1:CD:301:THR:CB	7:CH:475:ASN:OD1	2.34	0.76
7:BH:79:ASN:ND2	7:BG:93:LYS:O	2.19	0.76
7:DH:157:SER:OG	7:DH:196:GLY:O	2.03	0.76
1:BC:102:PHE:CE1	6:BB:142:GLY:HA3	2.20	0.76
1:AD:105:PRO:HA	6:DB:15:ARG:HH22	1.47	0.76
1:CD:20:ILE:CD1	6:AB:50:TYR:CE2	2.69	0.76
5:DN:8:GLU:OE1	5:DN:45:ARG:NH1	2.17	0.76
6:FB:5:LYS:O	6:CB:126:ILE:HD12	1.86	0.76
4:FL:178:LYS:HZ2	7:FH:93:LYS:HD3	1.51	0.75
5:BM:72:LEU:HD11	5:BM:82:ILE:HD12	1.67	0.75
2:AE:77:GLY:N	1:BD:39:GLU:OE2	2.19	0.75
7:BH:159:TYR:O	7:BH:201:ARG:NH2	2.18	0.75
1:AC:153:LYS:HG3	6:DB:52:THR:CG2	2.17	0.75
4:DJ:36:ARG:NH2	4:DL:152:GLN:OE1	2.19	0.75
7:AH:159:TYR:O	7:AH:201:ARG:NH2	2.19	0.75
4:DL:50:ARG:CG	5:DM:81:PHE:CE2	2.70	0.75
1:AD:207:ASN:CB	7:AH:455:ALA:CB	2.60	0.75
1:CC:100:TYR:CD2	6:CB:109:TYR:CE2	2.72	0.75
4:BJ:83:THR:OG1	4:BJ:93:GLN:O	2.03	0.75
6:DB:112:GLY:N	6:DB:133:TYR:OH	2.20	0.75
1:CD:100:TYR:HE2	6:FB:109:TYR:CD2	2.05	0.75
4:EL:178:LYS:HZ1	7:EH:93:LYS:CD	1.98	0.75
1:AC:66:ASN:ND2	7:AH:22:GLU:OE2	2.19	0.75
4:AJ:36:ARG:NH2	4:AL:152:GLN:OE1	2.20	0.75
7:DH:159:TYR:O	7:DH:201:ARG:NH2	2.19	0.75
1:AC:95:LYS:NZ	7:FG:20:GLU:OE2	2.20	0.75
1:AD:67:ARG:HH12	6:EB:47:ASP:HA	1.50	0.75
4:FL:50:ARG:CB	5:FM:81:PHE:HE2	1.99	0.75
6:BB:5:LYS:O	6:DB:126:ILE:HD12	1.86	0.75
1:CC:66:ASN:ND2	7:CH:22:GLU:OE2	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CC:97:GLU:OE1	6:FB:48:GLY:N	2.19	0.74
1:AD:100:TYR:HE2	6:DB:109:TYR:CD2	2.05	0.74
4:CJ:83:THR:OG1	4:CJ:93:GLN:O	2.03	0.74
7:DH:79:ASN:ND2	7:DG:93:LYS:O	2.19	0.74
1:AC:100:TYR:CD2	6:AB:109:TYR:CE2	2.76	0.74
4:DK:35:ASP:OD1	4:DK:38:THR:OG1	2.04	0.74
1:AD:68:SER:HG	7:DG:11:ARG:HG3	1.51	0.74
1:BC:153:LYS:HG3	6:EB:52:THR:CG2	2.17	0.74
1:CD:100:TYR:CD2	6:FB:109:TYR:CE2	2.75	0.74
1:BC:66:ASN:ND2	7:BH:22:GLU:OE2	2.19	0.74
4:FL:50:ARG:CA	5:FM:81:PHE:HE2	2.00	0.74
1:AC:97:GLU:OE2	6:DB:48:GLY:HA2	1.88	0.74
1:BC:100:TYR:HE2	6:BB:109:TYR:HD2	1.33	0.74
4:EL:50:ARG:CB	5:EM:81:PHE:HE2	2.00	0.74
4:DL:178:LYS:HZ1	7:DH:93:LYS:HD3	1.49	0.74
1:CD:188:PHE:CE2	7:CG:11:ARG:HB3	2.23	0.74
4:BJ:8:LYS:NZ	4:BJ:35:ASP:OD2	2.21	0.74
1:CC:153:LYS:HG3	6:FB:52:THR:CG2	2.17	0.73
4:FJ:144:LYS:NZ	4:FL:148:ILE:O	2.20	0.73
6:AB:112:GLY:N	6:AB:133:TYR:OH	2.21	0.73
4:CK:35:ASP:OD1	4:CK:38:THR:OG1	2.05	0.73
1:AC:100:TYR:HE2	6:AB:109:TYR:HD2	1.37	0.73
4:EJ:5:ASN:ND2	7:EG:80:MET:O	2.17	0.73
1:BD:107:SER:HA	6:EB:21:VAL:CA	2.17	0.73
1:BD:107:SER:N	6:EB:22:ASP:HA	2.03	0.73
4:CJ:36:ARG:NH2	4:CL:152:GLN:OE1	2.20	0.73
1:BC:20:ILE:HD12	6:EB:50:TYR:CZ	2.23	0.73
6:EB:141:ARG:NH2	6:BB:74:ASP:OD1	2.22	0.73
6:BB:122:GLU:N	6:BB:122:GLU:OE2	2.21	0.73
6:AB:141:ARG:NH2	6:FB:74:ASP:OD1	2.22	0.73
6:CB:112:GLY:N	6:CB:133:TYR:OH	2.21	0.73
4:FJ:8:LYS:NZ	4:FJ:35:ASP:OD2	2.22	0.73
6:AB:5:LYS:O	6:FB:126:ILE:HD12	1.89	0.73
6:CB:122:GLU:OE2	6:CB:122:GLU:N	2.22	0.73
7:CI:151:GLU:OE1	7:CI:427:ASN:ND2	2.22	0.73
4:FL:50:ARG:HG3	5:FM:81:PHE:CE2	2.24	0.73
4:BL:50:ARG:CB	5:BM:81:PHE:HE2	2.02	0.72
4:FK:80:ASP:OD2	4:FK:94:TYR:OH	2.07	0.72
7:FG:271:ASN:ND2	7:FG:334:TYR:O	2.22	0.72
4:BJ:144:LYS:NZ	4:BL:148:ILE:O	2.22	0.72
4:AL:51:PRO:O	5:AM:36:ARG:NH1	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:EL:51:PRO:O	5:EM:36:ARG:NH1	2.22	0.72
6:DB:167:GLU:OE1	6:DB:167:GLU:N	2.22	0.72
6:DB:141:ARG:NH2	6:AB:74:ASP:OD1	2.22	0.72
2:CE:384:ARG:NH1	2:BE:386:ASP:OD1	2.21	0.72
4:CL:178:LYS:NZ	7:CH:93:LYS:CD	2.49	0.72
1:CD:67:ARG:HH12	6:DB:47:ASP:HA	1.55	0.72
4:CL:50:ARG:CB	5:CM:81:PHE:HE2	2.02	0.72
7:BI:300:ARG:NH1	7:BI:311:LYS:O	2.23	0.72
4:FL:50:ARG:HA	5:FM:81:PHE:CD2	2.23	0.72
6:FB:122:GLU:N	6:FB:122:GLU:OE2	2.23	0.72
6:CB:167:GLU:OE1	6:CB:167:GLU:N	2.21	0.72
7:DI:151:GLU:OE1	7:DI:427:ASN:ND2	2.22	0.72
6:EB:5:LYS:O	6:BB:126:ILE:HD12	1.89	0.72
1:BD:223:GLN:OE1	1:BD:225:ASN:ND2	2.23	0.72
7:FI:151:GLU:OE1	7:FI:427:ASN:ND2	2.22	0.72
1:BC:97:GLU:OE1	6:EB:48:GLY:N	2.22	0.71
1:BD:301:THR:HG21	7:BH:475:ASN:HA	1.71	0.71
5:DM:30:GLU:HA	5:DM:91:ILE:HD11	1.72	0.71
1:CC:97:GLU:OE2	6:FB:48:GLY:HA2	1.89	0.71
1:CD:100:TYR:CD2	6:FB:111:GLN:NE2	2.58	0.71
1:CD:128:GLN:O	7:CG:16:ARG:NH2	2.22	0.71
1:BC:97:GLU:OE2	6:EB:48:GLY:HA2	1.90	0.71
4:FL:88:ILE:HD12	5:FM:85:LYS:NZ	2.06	0.71
6:EB:112:GLY:N	6:EB:133:TYR:OH	2.23	0.71
7:AI:249:TYR:OH	7:AI:255:ASP:OD2	2.08	0.71
4:BK:80:ASP:OD2	4:BK:94:TYR:OH	2.07	0.71
4:EL:50:ARG:HA	5:EM:81:PHE:CD2	2.25	0.71
5:CM:30:GLU:HA	5:CM:91:ILE:HD11	1.72	0.71
7:BG:271:ASN:ND2	7:BG:334:TYR:O	2.23	0.71
2:AE:87:ARG:NE	3:AF:1151:GLU:OE1	2.22	0.71
1:BD:100:TYR:HE2	6:EB:109:TYR:CE2	2.08	0.71
7:CG:271:ASN:ND2	7:CG:334:TYR:O	2.24	0.71
1:BC:100:TYR:CD2	6:BB:109:TYR:CE2	2.71	0.71
7:AG:271:ASN:ND2	7:AG:334:TYR:O	2.24	0.71
4:BL:58:HIS:ND1	5:BN:43:GLN:NE2	2.37	0.71
7:FI:249:TYR:OH	7:FI:255:ASP:OD2	2.08	0.71
1:BC:223:GLN:OE1	1:BC:225:ASN:ND2	2.23	0.71
4:CL:88:ILE:CD1	5:CM:85:LYS:CE	2.68	0.71
6:EB:74:ASP:OD1	6:CB:141:ARG:NH2	2.23	0.71
7:DG:271:ASN:ND2	7:DG:334:TYR:O	2.23	0.71
7:EI:300:ARG:NH1	7:EI:311:LYS:O	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AC:223:GLN:OE1	1:AC:225:ASN:ND2	2.23	0.71
1:CD:107:SER:N	6:FB:22:ASP:HA	2.06	0.71
6:BB:167:GLU:N	6:BB:167:GLU:OE1	2.24	0.71
6:AB:122:GLU:N	6:AB:122:GLU:OE2	2.24	0.71
4:EL:88:ILE:CD1	5:EM:85:LYS:CE	2.68	0.71
5:FM:57:LEU:HD23	5:FM:72:LEU:HD13	1.73	0.71
2:AE:209:ARG:NH2	2:AE:211:TYR:OH	2.24	0.70
1:CC:223:GLN:OE1	1:CC:225:ASN:ND2	2.23	0.70
5:FM:30:GLU:HA	5:FM:91:ILE:HD11	1.73	0.70
3:CF:1153:TYR:OH	2:CE:95:MET:SD	2.45	0.70
7:FI:300:ARG:NH1	7:FI:311:LYS:O	2.23	0.70
1:BD:20:ILE:CD1	6:CB:50:TYR:CE2	2.73	0.70
6:EA:141:ARG:NH2	6:BA:78:ASP:OD1	2.25	0.70
6:AA:141:ARG:NH2	6:FA:78:ASP:OD1	2.25	0.70
5:BM:30:GLU:HA	5:BM:91:ILE:HD11	1.73	0.70
5:BM:57:LEU:HD23	5:BM:72:LEU:HD13	1.73	0.70
7:BI:249:TYR:OH	7:BI:255:ASP:OD2	2.08	0.70
7:AI:300:ARG:NH1	7:AI:311:LYS:O	2.23	0.70
2:CE:209:ARG:NH2	2:CE:211:TYR:OH	2.24	0.70
5:DM:57:LEU:HD23	5:DM:72:LEU:HD13	1.74	0.70
6:EB:122:GLU:N	6:EB:122:GLU:OE2	2.25	0.70
4:BL:50:ARG:HG3	5:BM:81:PHE:CE2	2.26	0.70
4:AL:50:ARG:CB	5:AM:81:PHE:HE2	2.04	0.70
4:AL:50:ARG:HG3	5:AM:81:PHE:CE2	2.26	0.70
1:AC:102:PHE:CZ	6:AB:142:GLY:O	2.45	0.70
4:BL:50:ARG:HA	5:BM:81:PHE:CD2	2.27	0.70
4:EL:50:ARG:HG3	5:EM:81:PHE:CE2	2.27	0.70
5:EM:30:GLU:HA	5:EM:91:ILE:HD11	1.74	0.70
1:AD:223:GLN:OE1	1:AD:225:ASN:ND2	2.23	0.70
1:AD:301:THR:CG2	7:AH:475:ASN:OD1	2.40	0.70
2:AE:384:ARG:NH1	2:CE:386:ASP:OD1	2.24	0.70
1:CD:223:GLN:OE1	1:CD:225:ASN:ND2	2.23	0.70
1:BC:102:PHE:CE1	6:BB:142:GLY:CA	2.75	0.70
4:DL:50:ARG:HA	5:DM:81:PHE:CE2	2.26	0.70
4:EK:134:ASP:OD1	4:EK:136:VAL:N	2.25	0.70
5:CM:57:LEU:HD23	5:CM:72:LEU:HD13	1.74	0.70
7:CI:249:TYR:OH	7:CI:255:ASP:OD2	2.09	0.70
5:BN:86:ILE:HD12	5:BN:91:ILE:HB	1.74	0.69
5:DN:86:ILE:HD12	5:DN:91:ILE:HB	1.74	0.69
1:BC:65:LYS:NZ	7:BH:19:ASP:OD1	2.25	0.69
1:BC:153:LYS:CE	6:EB:43:GLU:CD	2.60	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BD:100:TYR:HH	6:EB:110:PHE:HA	1.55	0.69
6:EB:126:ILE:HD12	6:CB:5:LYS:O	1.90	0.69
1:AD:207:ASN:HB3	7:AH:455:ALA:HB1	1.74	0.69
1:CC:65:LYS:NZ	7:CH:19:ASP:OD1	2.24	0.69
5:AM:30:GLU:HA	5:AM:91:ILE:HD11	1.74	0.69
6:DB:122:GLU:N	6:DB:122:GLU:OE2	2.25	0.69
4:AK:134:ASP:OD1	4:AK:136:VAL:N	2.25	0.69
6:AB:15:ARG:NE	6:AB:87:GLU:OE2	2.25	0.69
6:CB:15:ARG:NE	6:CB:87:GLU:OE2	2.24	0.69
1:CC:100:TYR:HE2	6:CB:109:TYR:HD2	1.37	0.69
1:CD:301:THR:HG21	7:CH:475:ASN:CA	2.20	0.69
2:BE:209:ARG:NH2	2:BE:211:TYR:OH	2.24	0.69
4:BL:50:ARG:NH1	5:BM:6:ASP:OD2	2.25	0.69
4:BL:51:PRO:O	5:BM:36:ARG:NH1	2.25	0.69
7:AH:574:PHE:O	7:AH:582:LYS:NZ	2.25	0.69
4:FK:134:ASP:OD1	4:FK:136:VAL:N	2.26	0.69
7:EH:574:PHE:O	7:EH:582:LYS:NZ	2.26	0.69
5:CN:86:ILE:HD12	5:CN:91:ILE:HB	1.74	0.69
7:FH:574:PHE:O	7:FH:582:LYS:NZ	2.25	0.69
7:EG:271:ASN:ND2	7:EG:334:TYR:O	2.24	0.69
7:EI:249:TYR:OH	7:EI:255:ASP:OD2	2.09	0.69
5:AN:86:ILE:HD12	5:AN:91:ILE:HB	1.75	0.69
5:EN:86:ILE:HD12	5:EN:91:ILE:HB	1.75	0.69
4:CL:50:ARG:HA	5:CM:81:PHE:CD2	2.27	0.69
1:AD:97:GLU:OE2	6:BB:48:GLY:HA2	1.93	0.69
1:CD:97:GLU:OE2	6:AB:48:GLY:HA2	1.93	0.69
1:BD:100:TYR:CD2	6:EB:109:TYR:CE2	2.81	0.69
1:BD:107:SER:HA	6:EB:21:VAL:O	1.92	0.69
5:DN:51:HIS:O	5:DN:105:LYS:NZ	2.26	0.69
7:BH:574:PHE:O	7:BH:582:LYS:NZ	2.25	0.69
7:FH:605:ARG:NE	7:FH:607:ASN:OD1	2.26	0.69
1:AD:100:TYR:HD2	6:DB:109:TYR:HE2	1.37	0.68
1:CC:63:LYS:NZ	6:FB:52:THR:O	2.22	0.68
4:BL:50:ARG:CA	5:BM:81:PHE:HE2	2.05	0.68
4:CL:46:THR:HG22	5:CM:78:VAL:HG22	1.75	0.68
5:FN:86:ILE:HD12	5:FN:91:ILE:HB	1.74	0.68
1:CD:301:THR:CG2	7:CH:475:ASN:HA	2.21	0.68
4:EJ:5:ASN:OD1	7:EG:78:SER:O	2.12	0.68
7:AH:605:ARG:NE	7:AH:607:ASN:OD1	2.26	0.68
1:CC:153:LYS:HG3	6:FB:52:THR:CB	2.23	0.68
4:EL:178:LYS:NZ	7:EH:93:LYS:CD	2.45	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BB:141:ARG:NH2	6:DB:74:ASP:OD1	2.26	0.68
6:DB:15:ARG:NE	6:DB:87:GLU:OE2	2.26	0.68
4:CL:51:PRO:HG3	5:CM:75:ASP:OD2	1.93	0.68
1:CC:188:PHE:HE2	7:EG:11:ARG:CB	1.99	0.68
4:BL:88:ILE:HD12	5:BM:85:LYS:CE	2.23	0.68
6:DB:5:LYS:O	6:AB:126:ILE:HD12	1.93	0.68
7:EH:401:ALA:HB2	7:EH:426:VAL:HG21	1.76	0.68
2:AE:212:GLY:O	2:AE:250:VAL:N	2.26	0.68
4:CL:50:ARG:CA	5:CM:81:PHE:HE2	2.06	0.68
7:CH:605:ARG:NE	7:CH:607:ASN:OD1	2.27	0.68
1:BD:100:TYR:HE2	6:EB:109:TYR:CD2	2.11	0.68
4:BL:50:ARG:CG	5:BM:81:PHE:CE2	2.77	0.68
6:FB:10:ARG:NH2	6:CB:127:ASP:OD2	2.27	0.68
6:CA:64:ALA:HB3	6:CA:129:TYR:CE1	2.29	0.68
1:CC:95:LYS:NZ	7:EG:20:GLU:OE2	2.27	0.68
1:BC:167:TYR:OH	1:BD:42:ASN:ND2	2.27	0.68
5:CN:51:HIS:O	5:CN:105:LYS:NZ	2.26	0.68
1:BC:105:PRO:HA	6:BB:15:ARG:HH22	1.59	0.68
4:BK:134:ASP:OD1	4:BK:136:VAL:N	2.27	0.68
4:CK:134:ASP:OD1	4:CK:136:VAL:N	2.27	0.68
5:EN:51:HIS:O	5:EN:105:LYS:NZ	2.27	0.68
4:FL:50:ARG:CG	5:FM:81:PHE:CE2	2.76	0.67
4:CL:50:ARG:CB	5:CM:81:PHE:CE2	2.78	0.67
4:CL:178:LYS:HZ1	7:CH:93:LYS:CD	2.07	0.67
6:AB:10:ARG:NH2	6:FB:127:ASP:OD2	2.27	0.67
7:CH:574:PHE:O	7:CH:582:LYS:NZ	2.26	0.67
1:CD:100:TYR:OH	6:FB:110:PHE:CA	2.35	0.67
4:EL:134:ASP:OD1	4:EL:135:LEU:N	2.28	0.67
5:BN:51:HIS:O	5:BN:105:LYS:NZ	2.28	0.67
2:CE:212:GLY:O	2:CE:250:VAL:N	2.26	0.67
4:DL:50:ARG:CB	5:DM:81:PHE:HE2	2.07	0.67
4:AL:134:ASP:OD1	4:AL:135:LEU:N	2.27	0.67
7:FH:280:ARG:NH1	7:FH:295:ASN:OD1	2.28	0.67
1:CD:188:PHE:HB2	7:CH:14:ASP:HA	1.75	0.67
2:BE:212:GLY:O	2:BE:250:VAL:N	2.26	0.67
5:FN:51:HIS:O	5:FN:105:LYS:NZ	2.28	0.67
5:EM:57:LEU:HD23	5:EM:72:LEU:HD13	1.76	0.67
6:DA:64:ALA:HB3	6:DA:129:TYR:CE1	2.30	0.67
7:DH:605:ARG:NE	7:DH:607:ASN:OD1	2.27	0.67
4:CJ:144:LYS:NZ	4:CL:148:ILE:O	2.27	0.67
1:CD:301:THR:CG2	7:CH:475:ASN:OD1	2.43	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BC:95:LYS:NZ	7:DG:20:GLU:OE2	2.27	0.67
5:CM:8:GLU:OE2	5:CM:45:ARG:NH2	2.28	0.67
6:DB:10:ARG:NH2	6:AB:127:ASP:OD2	2.27	0.67
7:DH:574:PHE:O	7:DH:582:LYS:NZ	2.27	0.67
6:EB:15:ARG:NE	6:EB:87:GLU:OE2	2.24	0.67
7:DI:249:TYR:OH	7:DI:255:ASP:OD2	2.09	0.67
1:AC:65:LYS:NZ	7:AH:19:ASP:OD1	2.26	0.67
5:DM:8:GLU:OE2	5:DM:45:ARG:NH2	2.28	0.67
5:FM:20:ASP:OD2	5:FM:118:ASN:ND2	2.28	0.67
6:EB:10:ARG:NH2	6:BB:127:ASP:OD2	2.28	0.67
1:AD:107:SER:N	6:DB:22:ASP:HA	2.10	0.67
1:CD:100:TYR:HD2	6:FB:109:TYR:HE2	1.42	0.67
5:AN:51:HIS:O	5:AN:105:LYS:NZ	2.27	0.67
6:BB:10:ARG:NH2	6:DB:127:ASP:OD2	2.27	0.67
7:EI:151:GLU:OE1	7:EI:427:ASN:ND2	2.28	0.67
6:AA:64:ALA:HB3	6:AA:129:TYR:CE1	2.29	0.66
7:BH:212:HIS:O	7:BH:267:SER:OG	2.13	0.66
5:AM:57:LEU:HD23	5:AM:72:LEU:HD13	1.76	0.66
1:AD:111:VAL:HG21	6:DB:17:ALA:HB1	1.76	0.66
7:BH:605:ARG:NE	7:BH:607:ASN:OD1	2.27	0.66
1:CD:125:ARG:HA	7:FI:290:LEU:HD11	1.78	0.66
6:BB:163:ASP:OD1	6:BB:164:THR:N	2.29	0.66
1:CD:207:ASN:CB	7:CH:455:ALA:HB2	2.21	0.66
4:FL:46:THR:HG22	5:FM:78:VAL:HG22	1.78	0.66
4:EK:80:ASP:OD2	4:EK:94:TYR:OH	2.09	0.66
5:BM:20:ASP:OD2	5:BM:118:ASN:ND2	2.28	0.66
6:BA:64:ALA:HB3	6:BA:129:TYR:CE1	2.30	0.66
7:CG:140:GLU:OE2	7:CG:399:ARG:NH2	2.29	0.66
1:AD:153:LYS:CE	6:BB:43:GLU:OE2	2.43	0.66
7:AG:144:GLU:OE1	7:AG:146:LYS:NZ	2.29	0.66
4:AL:50:ARG:HA	5:AM:81:PHE:CD2	2.30	0.66
1:CD:111:VAL:HG21	6:FB:17:ALA:HB1	1.77	0.66
4:AL:28:ASN:OD1	4:AL:29:ILE:N	2.29	0.66
7:DG:140:GLU:OE2	7:DG:399:ARG:NH2	2.29	0.66
7:DI:400:LYS:N	7:DI:423:GLN:OE1	2.29	0.66
7:AI:151:GLU:OE1	7:AI:427:ASN:ND2	2.28	0.66
4:DL:178:LYS:NZ	7:DH:93:LYS:CD	2.53	0.66
6:EA:64:ALA:HB3	6:EA:129:TYR:CE1	2.30	0.66
4:DL:88:ILE:CD1	5:DM:85:LYS:CE	2.75	0.65
4:CL:178:LYS:HZ2	7:CH:93:LYS:HD3	1.60	0.65
4:EL:50:ARG:CB	5:EM:81:PHE:CE2	2.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:FA:64:ALA:HB3	6:FA:129:TYR:CE1	2.30	0.65
1:BD:97:GLU:OE1	6:CB:48:GLY:HA2	1.93	0.65
4:FL:51:PRO:HG3	5:FM:75:ASP:OD2	1.97	0.65
4:CL:51:PRO:O	5:CM:36:ARG:NH1	2.29	0.65
6:FB:15:ARG:NE	6:FB:87:GLU:OE2	2.29	0.65
7:DH:401:ALA:HB2	7:DH:426:VAL:HG21	1.79	0.65
7:AI:293:SER:OG	7:AI:317:ASP:OD1	2.13	0.65
4:DL:51:PRO:O	5:DM:36:ARG:NH1	2.29	0.65
4:EJ:144:LYS:NZ	4:EL:148:ILE:O	2.28	0.65
4:EL:28:ASN:OD1	4:EL:29:ILE:N	2.29	0.65
6:EB:127:ASP:OD2	6:CB:10:ARG:NH2	2.28	0.65
7:BH:280:ARG:NH1	7:BH:295:ASN:OD1	2.30	0.65
7:DG:144:GLU:OE1	7:DG:146:LYS:NZ	2.29	0.65
7:AH:401:ALA:HB2	7:AH:426:VAL:HG21	1.78	0.65
7:EG:144:GLU:OE1	7:EG:146:LYS:NZ	2.29	0.65
4:DJ:144:LYS:NZ	4:DL:148:ILE:O	2.28	0.65
4:DK:134:ASP:OD1	4:DK:136:VAL:N	2.28	0.65
7:CI:400:LYS:N	7:CI:423:GLN:OE1	2.28	0.65
7:EH:605:ARG:NE	7:EH:607:ASN:OD1	2.26	0.65
4:FL:50:ARG:CB	5:FM:81:PHE:CE2	2.79	0.65
4:EL:50:ARG:CG	5:EM:81:PHE:CE2	2.80	0.65
5:FM:8:GLU:OE2	5:FM:45:ARG:NH2	2.30	0.65
7:EG:399:ARG:NH1	7:EG:424:ARG:O	2.29	0.65
4:AJ:144:LYS:NZ	4:AL:148:ILE:O	2.29	0.65
7:AH:221:GLU:OE1	7:AH:221:GLU:N	2.29	0.65
4:EJ:81:GLU:N	4:EJ:81:GLU:OE1	2.30	0.65
7:EI:400:LYS:N	7:EI:423:GLN:OE1	2.30	0.65
5:EM:8:GLU:OE2	5:EM:45:ARG:NH2	2.30	0.65
7:BH:221:GLU:N	7:BH:221:GLU:OE1	2.30	0.65
7:CH:401:ALA:HB2	7:CH:426:VAL:HG21	1.78	0.65
1:AC:153:LYS:HG3	6:DB:52:THR:CB	2.26	0.65
1:CC:102:PHE:CE1	6:CB:142:GLY:HA3	2.32	0.65
4:BL:28:ASN:OD1	4:BL:29:ILE:N	2.30	0.65
4:DL:28:ASN:OD1	4:DL:29:ILE:N	2.30	0.65
4:AL:50:ARG:CA	5:AM:81:PHE:HE2	2.10	0.65
7:AI:400:LYS:N	7:AI:423:GLN:OE1	2.30	0.65
1:BC:63:LYS:NZ	6:EB:52:THR:O	2.27	0.65
1:BC:153:LYS:HG3	6:EB:52:THR:CB	2.27	0.65
1:BC:163:THR:O	1:BD:44:ARG:NH1	2.29	0.65
4:AJ:5:ASN:OD1	7:AG:78:SER:O	2.14	0.65
4:AL:50:ARG:CG	5:AM:81:PHE:CE2	2.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:FL:178:LYS:HZ1	7:FH:93:LYS:CD	2.03	0.65
7:CI:293:SER:OG	7:CI:317:ASP:OD1	2.15	0.65
4:DL:50:ARG:HA	5:DM:81:PHE:CD2	2.32	0.64
4:DL:178:LYS:HZ2	7:DH:93:LYS:HD3	1.61	0.64
5:BM:8:GLU:OE2	5:BM:45:ARG:NH2	2.30	0.64
7:FH:221:GLU:OE1	7:FH:221:GLU:N	2.30	0.64
1:AC:63:LYS:NZ	6:DB:52:THR:O	2.26	0.64
1:AD:107:SER:HA	6:DB:21:VAL:O	1.96	0.64
1:CC:102:PHE:CZ	6:CB:142:GLY:O	2.50	0.64
4:FK:130:ASN:OD1	4:FK:131:ILE:N	2.30	0.64
4:CJ:71:ASN:N	4:CJ:74:ARG:O	2.31	0.64
4:CL:28:ASN:OD1	4:CL:29:ILE:N	2.30	0.64
1:AD:193:ASP:HA	7:AH:11:ARG:O	1.97	0.64
1:CD:97:GLU:CD	6:AB:48:GLY:HA2	2.18	0.64
6:DB:9:ASP:OD1	6:AB:68:TYR:OH	2.14	0.64
7:DH:221:GLU:OE1	7:DH:221:GLU:N	2.31	0.64
7:CG:155:ASP:OD2	7:CG:415:HIS:NE2	2.30	0.64
4:AJ:81:GLU:OE1	4:AJ:81:GLU:N	2.29	0.64
7:BI:400:LYS:N	7:BI:423:GLN:OE1	2.31	0.64
7:EH:221:GLU:OE1	7:EH:221:GLU:N	2.31	0.64
1:BD:100:TYR:HD2	6:EB:109:TYR:HE2	1.46	0.64
4:BL:88:ILE:CD1	5:BM:85:LYS:CE	2.76	0.64
4:DL:153:ASP:O	4:DL:157:ALA:N	2.30	0.64
4:EL:50:ARG:CA	5:EM:81:PHE:CE2	2.77	0.64
6:AB:51:ASN:OD1	6:AB:52:THR:N	2.31	0.64
6:FB:141:ARG:NH2	6:CB:74:ASP:OD1	2.31	0.64
7:FI:400:LYS:N	7:FI:423:GLN:OE1	2.31	0.64
7:DG:155:ASP:OD2	7:DG:415:HIS:NE2	2.31	0.64
7:CG:144:GLU:OE1	7:CG:146:LYS:NZ	2.30	0.64
4:BK:130:ASN:OD1	4:BK:131:ILE:N	2.30	0.64
7:FG:144:GLU:OE1	7:FG:146:LYS:NZ	2.30	0.64
1:AD:107:SER:HB3	6:DB:22:ASP:HB3	1.80	0.64
1:BD:128:GLN:O	7:BG:16:ARG:NH2	2.25	0.64
4:FJ:81:GLU:OE1	4:FJ:81:GLU:N	2.31	0.64
4:FL:28:ASN:OD1	4:FL:29:ILE:N	2.31	0.64
5:AM:8:GLU:OE2	5:AM:45:ARG:NH2	2.31	0.64
6:EA:141:ARG:NH2	6:BA:74:ASP:OD1	2.31	0.64
6:DB:163:ASP:OD1	6:DB:164:THR:N	2.28	0.64
7:FG:399:ARG:NH1	7:FG:424:ARG:O	2.30	0.64
1:BC:105:PRO:HG3	6:BB:89:TRP:NE1	1.78	0.64
2:BE:228:GLU:OE1	2:BE:228:GLU:N	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AA:141:ARG:NH2	6:FA:74:ASP:OD1	2.31	0.64
7:DH:280:ARG:NH1	7:DH:295:ASN:OD1	2.31	0.64
1:AD:153:LYS:CE	6:BB:43:GLU:CD	2.66	0.64
4:BL:88:ILE:CD1	5:BM:85:LYS:NZ	2.61	0.64
1:AC:107:SER:HB3	6:AB:22:ASP:HB3	1.81	0.63
7:FG:342:TYR:OH	7:FG:386:ALA:HB1	1.98	0.63
2:CE:228:GLU:OE1	2:CE:228:GLU:N	2.31	0.63
4:FL:50:ARG:NH1	5:FM:6:ASP:OD2	2.31	0.63
1:AD:102:PHE:CZ	6:DB:142:GLY:O	2.51	0.63
2:AE:228:GLU:N	2:AE:228:GLU:OE1	2.31	0.63
2:AE:315:ILE:HD11	2:AE:324:LYS:HG2	1.80	0.63
4:BL:153:ASP:O	4:BL:157:ALA:N	2.31	0.63
7:AG:399:ARG:NH1	7:AG:424:ARG:O	2.31	0.63
7:CH:221:GLU:OE1	7:CH:221:GLU:N	2.30	0.63
1:CD:193:ASP:HA	7:CH:11:ARG:O	1.99	0.63
4:BL:50:ARG:CB	5:BM:81:PHE:CE2	2.80	0.63
4:EK:58:HIS:O	4:EK:116:ASN:ND2	2.31	0.63
4:EL:88:ILE:HD13	5:EM:85:LYS:NZ	2.14	0.63
6:CB:163:ASP:OD1	6:CB:164:THR:N	2.29	0.63
7:FI:352:ASN:ND2	7:FI:384:GLN:OE1	2.32	0.63
1:AC:29:MET:SD	1:AC:29:MET:N	2.72	0.63
4:BK:48:ASN:OD1	4:BK:49:ASN:N	2.32	0.63
4:AL:153:ASP:O	4:AL:157:ALA:N	2.30	0.63
6:EB:141:ARG:NH1	6:BB:78:ASP:OD1	2.32	0.63
7:BG:515:ASN:ND2	7:BG:543:TYR:O	2.31	0.63
7:DG:399:ARG:NH1	7:DG:424:ARG:O	2.31	0.63
7:FI:293:SER:OG	7:FI:317:ASP:OD1	2.16	0.63
1:AD:301:THR:HG21	7:AH:475:ASN:OD1	1.99	0.63
7:BI:293:SER:OG	7:BI:317:ASP:OD1	2.15	0.63
7:DG:515:ASN:ND2	7:DG:543:TYR:O	2.31	0.63
7:EH:568:THR:O	7:EH:572:ASN:ND2	2.32	0.63
7:EG:140:GLU:OE2	7:EG:399:ARG:NH2	2.32	0.63
1:AC:68:SER:OG	7:AG:11:ARG:CG	2.47	0.63
2:CE:315:ILE:HD11	2:CE:324:LYS:HG2	1.80	0.63
1:BC:68:SER:OG	7:BG:11:ARG:CG	2.46	0.63
4:DL:46:THR:HG22	5:DM:78:VAL:HG22	1.79	0.63
7:AH:568:THR:O	7:AH:572:ASN:ND2	2.32	0.63
1:AD:29:MET:N	1:AD:29:MET:SD	2.72	0.63
1:CD:29:MET:SD	1:CD:29:MET:N	2.72	0.63
1:CD:301:THR:HG21	7:CH:475:ASN:OD1	1.99	0.63
1:BD:29:MET:N	1:BD:29:MET:SD	2.72	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:EB:42:THR:OG1	6:EB:50:TYR:O	2.13	0.63
7:DI:293:SER:OG	7:DI:317:ASP:OD1	2.15	0.63
1:AC:97:GLU:CD	6:DB:48:GLY:HA2	2.19	0.63
1:BC:29:MET:N	1:BC:29:MET:SD	2.72	0.63
4:AL:50:ARG:CB	5:AM:81:PHE:CE2	2.82	0.63
4:FL:153:ASP:O	4:FL:157:ALA:N	2.30	0.63
7:AI:352:ASN:ND2	7:AI:384:GLN:OE1	2.32	0.63
7:EI:293:SER:OG	7:EI:317:ASP:OD1	2.15	0.63
4:DK:130:ASN:OD1	4:DK:131:ILE:N	2.31	0.62
7:BI:440:THR:OG1	7:BI:445:ARG:O	2.17	0.62
1:CD:153:LYS:CE	6:AB:43:GLU:CD	2.67	0.62
4:BJ:81:GLU:OE1	4:BJ:81:GLU:N	2.32	0.62
4:EL:153:ASP:O	4:EL:157:ALA:N	2.31	0.62
7:BH:401:ALA:HB2	7:BH:426:VAL:HG21	1.81	0.62
7:AG:140:GLU:OE2	7:AG:399:ARG:NH2	2.32	0.62
7:EG:515:ASN:ND2	7:EG:543:TYR:O	2.31	0.62
1:AD:192:ILE:N	7:AH:12:VAL:O	2.32	0.62
1:CD:153:LYS:CE	6:AB:43:GLU:OE2	2.47	0.62
4:DJ:81:GLU:OE1	4:DJ:81:GLU:N	2.33	0.62
6:AB:9:ASP:OD2	6:FB:68:TYR:OH	2.18	0.62
7:BG:144:GLU:OE1	7:BG:146:LYS:NZ	2.33	0.62
7:CG:515:ASN:ND2	7:CG:543:TYR:O	2.32	0.62
1:AD:97:GLU:CD	6:BB:48:GLY:HA2	2.20	0.62
7:BG:399:ARG:NH1	7:BG:424:ARG:O	2.32	0.62
1:AD:63:LYS:NZ	6:BB:52:THR:O	2.28	0.62
1:BD:125:ARG:CA	7:EI:290:LEU:HD11	2.28	0.62
7:AG:183:PRO:O	7:AG:186:HIS:NE2	2.33	0.62
7:CG:399:ARG:NH1	7:CG:424:ARG:O	2.32	0.62
4:FL:88:ILE:HD12	5:FM:85:LYS:CE	2.29	0.62
4:CK:115:GLN:NE2	7:CG:82:LEU:O	2.31	0.62
6:EB:9:ASP:OD2	6:BB:68:TYR:OH	2.17	0.62
7:BI:352:ASN:ND2	7:BI:384:GLN:OE1	2.33	0.62
1:CC:29:MET:N	1:CC:29:MET:SD	2.72	0.62
6:BA:6:ASN:ND2	6:BA:8:ASN:OD1	2.32	0.62
7:FG:515:ASN:ND2	7:FG:543:TYR:O	2.31	0.62
7:EI:352:ASN:ND2	7:EI:384:GLN:OE1	2.33	0.62
1:CD:97:GLU:OE1	6:AB:48:GLY:CA	2.47	0.62
2:BE:315:ILE:HD11	2:BE:324:LYS:HG2	1.80	0.62
4:BL:50:ARG:CA	5:BM:81:PHE:CE2	2.82	0.62
4:AL:178:LYS:HZ2	7:AH:93:LYS:HD3	1.63	0.62
5:DN:99:CYS:SG	5:DN:100:LYS:N	2.73	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EN:99:CYS:SG	5:EN:100:LYS:N	2.73	0.62
7:EI:98:ASP:OD1	7:EI:102:TYR:N	2.33	0.62
2:CE:235:GLU:OE1	2:CE:235:GLU:N	2.33	0.61
1:BC:153:LYS:HZ1	6:EB:43:GLU:CD	1.97	0.61
4:BJ:72:VAL:O	4:BL:22:ASN:ND2	2.33	0.61
4:FJ:71:ASN:N	4:FJ:74:ARG:O	2.33	0.61
4:CK:130:ASN:OD1	4:CK:131:ILE:N	2.32	0.61
6:BB:15:ARG:NE	6:BB:87:GLU:OE2	2.27	0.61
6:FA:6:ASN:ND2	6:FA:8:ASN:OD1	2.32	0.61
6:CB:109:TYR:OH	6:CB:111:GLN:NE2	2.30	0.61
7:AH:212:HIS:O	7:AH:267:SER:OG	2.17	0.61
1:AC:125:ARG:HD3	7:AI:286:SER:HB3	1.81	0.61
4:DJ:140:ASP:OD1	4:DJ:141:GLY:N	2.34	0.61
4:CL:153:ASP:O	4:CL:157:ALA:N	2.33	0.61
4:EJ:140:ASP:OD1	4:EJ:141:GLY:N	2.32	0.61
4:EL:46:THR:HG22	5:EM:78:VAL:HG22	1.82	0.61
1:AD:1:ASP:N	1:AD:92:ILE:O	2.34	0.61
1:BC:27:ASP:OD1	1:BC:28:SER:N	2.33	0.61
4:DK:115:GLN:NE2	7:DG:82:LEU:O	2.32	0.61
4:EK:130:ASN:OD1	4:EK:131:ILE:N	2.34	0.61
5:AN:99:CYS:SG	5:AN:100:LYS:N	2.73	0.61
1:AC:102:PHE:CZ	6:AB:142:GLY:C	2.74	0.61
6:FB:89:TRP:HB3	6:FB:109:TYR:HA	1.82	0.61
1:CC:42:ASN:OD1	1:BD:223:GLN:NE2	2.34	0.61
1:CC:68:SER:OG	7:CG:11:ARG:CG	2.48	0.61
6:EB:68:TYR:OH	6:CB:9:ASP:OD2	2.17	0.61
7:FH:401:ALA:HB2	7:FH:426:VAL:HG21	1.81	0.61
1:BD:1:ASP:N	1:BD:92:ILE:O	2.34	0.61
4:AK:115:GLN:NE2	7:AG:82:LEU:O	2.32	0.61
7:DI:440:THR:OG1	7:DI:445:ARG:O	2.18	0.61
7:CI:440:THR:OG1	7:CI:445:ARG:O	2.18	0.61
1:AC:27:ASP:OD1	1:AC:28:SER:N	2.34	0.61
1:AC:100:TYR:HH	6:AB:110:PHE:HA	1.63	0.61
1:AD:27:ASP:OD1	1:AD:28:SER:N	2.34	0.61
1:CC:102:PHE:CE1	6:CB:142:GLY:CA	2.83	0.61
4:DK:86:ASP:OD2	4:DK:89:ASN:ND2	2.34	0.61
4:FL:174:THR:CB	7:FH:90:ASN:HD21	2.12	0.61
5:BN:99:CYS:SG	5:BN:100:LYS:N	2.74	0.61
6:DB:109:TYR:OH	6:DB:111:GLN:NE2	2.32	0.61
7:BH:155:ASP:OD2	7:BH:415:HIS:NE2	2.34	0.61
2:AE:235:GLU:OE1	2:AE:235:GLU:N	2.33	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:BJ:5:ASN:OD1	7:BG:78:SER:O	2.18	0.61
4:BL:178:LYS:HZ3	7:BH:93:LYS:HD3	1.62	0.61
7:BG:183:PRO:O	7:BG:186:HIS:NE2	2.33	0.61
1:CC:97:GLU:CD	6:FB:48:GLY:HA2	2.21	0.61
1:CD:1:ASP:N	1:CD:92:ILE:O	2.34	0.61
1:CD:27:ASP:OD1	1:CD:28:SER:N	2.34	0.61
1:BD:27:ASP:OD1	1:BD:28:SER:N	2.33	0.61
4:BJ:71:ASN:N	4:BJ:74:ARG:O	2.33	0.61
4:BL:51:PRO:HG3	5:BM:75:ASP:OD2	2.01	0.61
4:AK:58:HIS:O	4:AK:116:ASN:ND2	2.34	0.61
4:FL:51:PRO:O	5:FM:36:ARG:NH1	2.33	0.61
4:DK:48:ASN:OD1	4:DK:49:ASN:N	2.33	0.61
6:BB:89:TRP:HB3	6:BB:109:TYR:HA	1.81	0.61
2:BE:235:GLU:OE1	2:BE:235:GLU:N	2.33	0.60
4:BL:174:THR:CB	7:BH:90:ASN:HD21	2.13	0.60
4:AJ:140:ASP:OD1	4:AJ:141:GLY:N	2.33	0.60
5:CN:99:CYS:SG	5:CN:100:LYS:N	2.73	0.60
7:FG:183:PRO:O	7:FG:186:HIS:NE2	2.34	0.60
7:CG:183:PRO:O	7:CG:186:HIS:NE2	2.34	0.60
1:CC:1:ASP:N	1:CC:92:ILE:O	2.34	0.60
4:FJ:72:VAL:O	4:FL:22:ASN:ND2	2.33	0.60
4:FK:48:ASN:OD1	4:FK:49:ASN:N	2.33	0.60
1:BC:1:ASP:N	1:BC:92:ILE:O	2.34	0.60
4:AJ:24:VAL:O	4:AJ:125:ARG:NH1	2.34	0.60
7:EG:183:PRO:O	7:EG:186:HIS:NE2	2.33	0.60
4:DL:50:ARG:CB	5:DM:81:PHE:CE2	2.83	0.60
4:AL:88:ILE:CD1	5:AM:85:LYS:CE	2.79	0.60
4:CL:50:ARG:CA	5:CM:81:PHE:CE2	2.82	0.60
6:AB:141:ARG:NH1	6:FB:78:ASP:OD1	2.33	0.60
7:EH:155:ASP:OD2	7:EH:415:HIS:NE2	2.35	0.60
1:CC:27:ASP:OD1	1:CC:28:SER:N	2.33	0.60
1:BC:82:THR:O	1:BD:51:TYR:OH	2.18	0.60
1:BD:125:ARG:HA	7:EI:290:LEU:HD11	1.82	0.60
4:DJ:71:ASN:N	4:DJ:74:ARG:O	2.34	0.60
4:FL:50:ARG:CA	5:FM:81:PHE:CE2	2.78	0.60
6:EB:160:ARG:NH2	6:EB:161:PHE:O	2.34	0.60
6:CB:42:THR:OG1	6:CB:50:TYR:O	2.18	0.60
7:DG:183:PRO:O	7:DG:186:HIS:NE2	2.34	0.60
7:CI:352:ASN:ND2	7:CI:384:GLN:OE1	2.34	0.60
1:AD:20:ILE:HD12	6:BB:50:TYR:CZ	2.36	0.60
1:CC:153:LYS:CB	6:FB:52:THR:HB	2.30	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BD:97:GLU:OE2	6:CB:48:GLY:CA	2.50	0.60
4:CJ:81:GLU:OE1	4:CJ:81:GLU:N	2.35	0.60
4:CK:86:ASP:OD2	4:CK:89:ASN:ND2	2.34	0.60
4:CL:88:ILE:HD13	5:CM:85:LYS:NZ	2.17	0.60
7:DI:352:ASN:ND2	7:DI:384:GLN:OE1	2.35	0.60
1:CD:107:SER:HB3	6:FB:22:ASP:HB3	1.83	0.60
4:AK:130:ASN:OD1	4:AK:131:ILE:N	2.34	0.60
4:FK:175:LEU:HD13	4:FL:183:ALA:CB	2.32	0.60
6:DB:42:THR:OG1	6:DB:50:TYR:O	2.15	0.60
1:CC:102:PHE:CZ	6:CB:142:GLY:C	2.75	0.60
1:BC:97:GLU:CD	6:EB:48:GLY:HA2	2.22	0.60
1:BD:124:SER:C	7:EI:290:LEU:HD11	2.22	0.60
4:BL:88:ILE:HD12	5:BM:85:LYS:NZ	2.17	0.60
4:AJ:71:ASN:N	4:AJ:74:ARG:O	2.34	0.60
6:FB:9:ASP:OD2	6:CB:68:TYR:OH	2.20	0.60
7:AG:515:ASN:ND2	7:AG:543:TYR:O	2.34	0.60
1:AC:82:THR:O	1:AD:51:TYR:OH	2.20	0.60
1:AC:102:PHE:CE1	6:AB:142:GLY:HA3	2.37	0.60
1:BD:125:ARG:HD3	7:EI:286:SER:HB3	1.84	0.60
4:FK:58:HIS:NE2	7:FH:80:MET:O	2.28	0.60
4:CJ:140:ASP:OD1	4:CJ:141:GLY:N	2.34	0.60
4:EJ:24:VAL:O	4:EJ:125:ARG:NH1	2.35	0.60
4:EK:175:LEU:HD13	4:EL:183:ALA:CB	2.32	0.60
7:DH:155:ASP:OD2	7:DH:415:HIS:NE2	2.34	0.60
7:CH:280:ARG:NH1	7:CH:295:ASN:OD1	2.34	0.60
7:EI:397:THR:O	7:EI:399:ARG:N	2.35	0.60
4:BK:175:LEU:HD13	4:BL:183:ALA:CB	2.32	0.60
4:CJ:72:VAL:O	4:CL:22:ASN:ND2	2.34	0.60
7:BG:140:GLU:OE2	7:BG:399:ARG:NH2	2.34	0.60
7:FH:155:ASP:OD2	7:FH:415:HIS:NE2	2.33	0.60
1:AD:39:GLU:OE2	2:CE:77:GLY:N	2.31	0.59
1:AD:97:GLU:OE1	6:BB:48:GLY:CA	2.49	0.59
4:BJ:140:ASP:OD1	4:BJ:141:GLY:N	2.35	0.59
4:BL:46:THR:HG22	5:BM:78:VAL:HG22	1.83	0.59
4:CK:175:LEU:HD13	4:CL:183:ALA:CB	2.32	0.59
6:AB:163:ASP:OD1	6:AB:164:THR:N	2.34	0.59
7:BG:605:ARG:NE	7:BG:607:ASN:OD1	2.35	0.59
7:FI:440:THR:OG1	7:FI:445:ARG:O	2.20	0.59
7:CI:397:THR:O	7:CI:399:ARG:N	2.35	0.59
4:AK:175:LEU:HD13	4:AL:183:ALA:CB	2.32	0.59
5:EM:20:ASP:OD1	5:EM:118:ASN:ND2	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CB:72:PHE:HE2	6:CB:76:ILE:HD11	1.67	0.59
6:CB:89:TRP:HB3	6:CB:109:TYR:HA	1.83	0.59
4:AL:46:THR:HG22	5:AM:78:VAL:HG22	1.83	0.59
4:EJ:71:ASN:N	4:EJ:74:ARG:O	2.34	0.59
1:AC:1:ASP:N	1:AC:92:ILE:O	2.34	0.59
1:AD:192:ILE:O	7:AH:12:VAL:C	2.40	0.59
4:FJ:140:ASP:OD1	4:FJ:141:GLY:N	2.34	0.59
4:CJ:5:ASN:OD1	7:CG:78:SER:O	2.21	0.59
6:BB:9:ASP:OD2	6:DB:68:TYR:OH	2.20	0.59
7:FH:568:THR:O	7:FH:572:ASN:ND2	2.35	0.59
7:CG:605:ARG:NE	7:CG:607:ASN:OD1	2.36	0.59
1:BC:105:PRO:HG3	6:BB:89:TRP:HE1	1.66	0.59
5:AM:20:ASP:OD1	5:AM:118:ASN:ND2	2.35	0.59
6:EB:163:ASP:OD1	6:EB:164:THR:N	2.34	0.59
7:AH:280:ARG:NH1	7:AH:295:ASN:OD1	2.36	0.59
1:AD:125:ARG:HA	7:DI:290:LEU:HD11	1.83	0.59
1:BD:61:PHE:CD1	6:CB:43:GLU:OE1	2.56	0.59
4:DK:175:LEU:HD13	4:DL:183:ALA:CB	2.32	0.59
5:FN:99:CYS:SG	5:FN:100:LYS:N	2.74	0.59
7:BI:151:GLU:OE1	7:BI:427:ASN:ND2	2.35	0.59
7:DI:98:ASP:OD1	7:DI:102:TYR:N	2.36	0.59
7:AI:98:ASP:OD1	7:AI:102:TYR:N	2.35	0.59
7:FI:397:THR:O	7:FI:399:ARG:N	2.35	0.59
1:AD:188:PHE:HB2	7:AH:14:ASP:CA	2.31	0.59
1:BD:207:ASN:HB3	7:BH:455:ALA:HB1	1.82	0.59
1:BD:301:THR:CG2	7:BH:475:ASN:HA	2.33	0.59
4:FK:58:HIS:O	4:FK:116:ASN:ND2	2.36	0.59
4:FL:49:ASN:O	5:FM:81:PHE:CE2	2.56	0.59
4:CJ:43:PHE:HE2	4:CJ:63:ILE:HD12	1.68	0.59
4:CL:174:THR:CB	7:CH:90:ASN:HD21	2.15	0.59
4:EK:86:ASP:OD2	4:EK:89:ASN:ND2	2.36	0.59
6:AB:30:THR:OG1	6:AB:31:GLU:N	2.36	0.59
7:BI:397:THR:O	7:BI:399:ARG:N	2.35	0.59
7:DH:568:THR:O	7:DH:572:ASN:ND2	2.35	0.59
4:DL:178:LYS:HZ1	7:DH:93:LYS:CD	2.15	0.59
7:FG:140:GLU:OE2	7:FG:399:ARG:NH2	2.35	0.59
1:AC:102:PHE:CE1	6:AB:142:GLY:CA	2.86	0.59
1:BD:301:THR:HB	7:BH:475:ASN:OD1	2.03	0.59
6:BB:141:ARG:NH1	6:DB:78:ASP:OD1	2.36	0.59
7:CH:568:THR:O	7:CH:572:ASN:ND2	2.36	0.59
1:CD:207:ASN:CB	7:CH:455:ALA:CB	2.75	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:FK:169:MET:O	4:FK:172:THR:OG1	2.19	0.59
4:FL:88:ILE:HD12	5:FM:85:LYS:HZ3	1.65	0.59
4:FL:88:ILE:CD1	5:FM:85:LYS:NZ	2.65	0.59
4:CK:48:ASN:OD1	4:CK:49:ASN:N	2.33	0.59
4:EL:51:PRO:HG3	5:EM:75:ASP:OD2	2.03	0.59
6:DB:72:PHE:HE2	6:DB:76:ILE:HD11	1.67	0.59
7:DG:605:ARG:NE	7:DG:607:ASN:OD1	2.35	0.59
6:BB:30:THR:OG1	6:BB:31:GLU:N	2.36	0.58
1:AD:20:ILE:CD1	6:BB:50:TYR:CZ	2.86	0.58
6:FB:72:PHE:HE2	6:FB:76:ILE:HD11	1.67	0.58
6:FB:163:ASP:OD1	6:FB:164:THR:N	2.34	0.58
1:CD:107:SER:HA	6:FB:21:VAL:O	2.02	0.58
4:FJ:5:ASN:OD1	7:FG:78:SER:O	2.21	0.58
4:FL:51:PRO:HD2	5:FM:81:PHE:CD2	2.38	0.58
1:BC:102:PHE:CZ	6:BB:142:GLY:C	2.77	0.58
4:DJ:24:VAL:O	4:DJ:125:ARG:NH1	2.35	0.58
4:EL:178:LYS:HZ2	7:EH:93:LYS:HD3	1.62	0.58
7:AI:397:THR:O	7:AI:399:ARG:N	2.35	0.58
7:FI:185:ASN:O	7:FI:208:GLY:N	2.37	0.58
7:CI:98:ASP:OD1	7:CI:102:TYR:N	2.36	0.58
7:EG:14:ASP:OD1	7:EG:15:TYR:N	2.36	0.58
4:DL:130:ASN:O	4:DL:137:SER:OG	2.22	0.58
7:BI:98:ASP:OD1	7:BI:102:TYR:N	2.36	0.58
7:DI:397:THR:O	7:DI:399:ARG:N	2.35	0.58
7:FI:98:ASP:OD1	7:FI:102:TYR:N	2.36	0.58
4:DL:174:THR:CB	7:DH:90:ASN:HD21	2.16	0.58
4:AK:86:ASP:OD2	4:AK:89:ASN:ND2	2.36	0.58
4:EL:49:ASN:O	5:EM:81:PHE:CE2	2.57	0.58
5:FM:41:ASP:OD2	5:FM:43:GLN:NE2	2.37	0.58
6:BB:72:PHE:HE2	6:BB:76:ILE:HD11	1.68	0.58
7:BH:568:THR:O	7:BH:572:ASN:ND2	2.37	0.58
7:EI:185:ASN:O	7:EI:208:GLY:N	2.36	0.58
1:CC:107:SER:HB3	6:CB:22:ASP:HB3	1.85	0.58
7:EI:440:THR:OG1	7:EI:445:ARG:O	2.21	0.58
1:AD:67:ARG:HB3	6:EB:47:ASP:OD2	2.03	0.58
4:BK:58:HIS:O	4:BK:116:ASN:ND2	2.37	0.58
4:DJ:5:ASN:OD1	7:DG:78:SER:O	2.22	0.58
7:EH:280:ARG:NH1	7:EH:295:ASN:OD1	2.36	0.58
4:FL:50:ARG:HA	5:FM:81:PHE:HE2	1.56	0.58
5:BN:59:LEU:HD23	5:BN:59:LEU:H	1.69	0.58
7:AH:171:PRO:O	7:AH:174:LYS:NZ	2.29	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CC:100:TYR:HH	6:CB:110:PHE:HA	1.66	0.58
1:CD:102:PHE:CZ	6:FB:142:GLY:O	2.57	0.58
1:AC:97:GLU:OE1	6:DB:48:GLY:CA	2.52	0.57
6:AB:72:PHE:HE2	6:AB:76:ILE:HD11	1.69	0.57
6:FB:30:THR:OG1	6:FB:31:GLU:N	2.37	0.57
4:FJ:24:VAL:O	4:FJ:125:ARG:NH1	2.37	0.57
7:EH:540:ASN:OD1	7:EH:541:ALA:N	2.37	0.57
1:AD:180:ASN:HB2	7:AI:12:VAL:CG2	2.35	0.57
1:AD:193:ASP:HA	7:AH:12:VAL:HA	1.85	0.57
4:DJ:20:GLN:OE1	6:BA:98:LYS:O	2.23	0.57
6:EB:30:THR:OG1	6:EB:31:GLU:N	2.37	0.57
6:AB:89:TRP:HB3	6:AB:109:TYR:HA	1.87	0.57
1:BC:100:TYR:HH	6:BB:110:PHE:HA	1.68	0.57
5:DN:59:LEU:HD23	5:DN:59:LEU:H	1.70	0.57
7:AH:493:ASP:N	7:AH:493:ASP:OD1	2.36	0.57
4:CJ:8:LYS:NZ	4:CJ:35:ASP:OD2	2.37	0.57
7:EI:326:THR:OG1	7:EI:345:ASP:OD2	2.19	0.57
4:DK:58:HIS:O	4:DK:116:ASN:ND2	2.37	0.57
4:CJ:24:VAL:O	4:CJ:125:ARG:NH1	2.37	0.57
7:DH:540:ASN:OD1	7:DH:541:ALA:N	2.37	0.57
7:AI:440:THR:OG1	7:AI:445:ARG:O	2.21	0.57
7:EG:605:ARG:NE	7:EG:607:ASN:OD1	2.37	0.57
1:CC:47:MET:O	2:BE:78:ASP:N	2.37	0.57
4:BJ:17:THR:HG22	4:BJ:124:GLU:OE1	2.05	0.57
4:BL:29:ILE:O	4:BL:29:ILE:HG23	2.05	0.57
4:DL:50:ARG:CA	5:DM:81:PHE:HE2	2.17	0.57
4:CL:49:ASN:O	5:CM:81:PHE:CE2	2.58	0.57
7:AG:605:ARG:NE	7:AG:607:ASN:OD1	2.38	0.57
7:FH:540:ASN:OD1	7:FH:541:ALA:N	2.37	0.57
7:FI:183:PRO:O	7:FI:186:HIS:NE2	2.38	0.57
1:CD:68:SER:OG	7:FG:11:ARG:CG	2.49	0.57
1:CD:100:TYR:CE2	6:FB:109:TYR:CD2	2.88	0.57
6:CB:30:THR:OG1	6:CB:31:GLU:N	2.38	0.57
7:CH:540:ASN:OD1	7:CH:541:ALA:N	2.37	0.57
4:BK:86:ASP:OD2	4:BK:89:ASN:ND2	2.35	0.57
4:FL:29:ILE:HG23	4:FL:29:ILE:O	2.05	0.57
4:EL:50:ARG:HA	5:EM:81:PHE:HE2	1.52	0.57
5:BM:41:ASP:OD2	5:BM:43:GLN:NE2	2.37	0.57
6:EB:72:PHE:HE2	6:EB:76:ILE:HD11	1.69	0.57
6:DB:72:PHE:CE2	6:DB:76:ILE:HD11	2.40	0.57
1:CC:125:ARG:HD3	7:CI:286:SER:HB3	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AJ:130:ASN:OD1	4:AJ:131:ILE:N	2.38	0.57
6:DB:91:VAL:O	6:DB:91:VAL:HG13	2.05	0.57
4:DL:29:ILE:HG23	4:DL:29:ILE:O	2.05	0.56
4:AL:174:THR:CB	7:AH:90:ASN:HD21	2.18	0.56
4:FK:86:ASP:OD2	4:FK:89:ASN:ND2	2.38	0.56
7:CG:345:ASP:O	7:CG:347:LYS:N	2.38	0.56
1:AD:111:VAL:CG2	6:DB:17:ALA:HB1	2.35	0.56
1:BD:107:SER:N	6:EB:22:ASP:CA	2.68	0.56
4:CJ:5:ASN:ND2	7:CG:80:MET:O	2.31	0.56
6:AB:109:TYR:OH	6:AB:111:GLN:NE2	2.36	0.56
7:BH:185:ASN:OD1	7:BH:186:HIS:N	2.38	0.56
1:CC:124:SER:OG	1:CC:127:ASP:OD1	2.24	0.56
1:BD:193:ASP:O	1:BD:201:ARG:NH1	2.39	0.56
4:AL:50:ARG:CA	5:AM:81:PHE:CE2	2.86	0.56
4:CJ:74:ARG:HB3	4:CL:24:VAL:HG22	1.87	0.56
5:AN:59:LEU:HD23	5:AN:59:LEU:H	1.70	0.56
5:EN:59:LEU:HD23	5:EN:59:LEU:H	1.70	0.56
6:CB:72:PHE:CE2	6:CB:76:ILE:HD11	2.41	0.56
7:BH:394:ASP:OD2	7:BH:397:THR:OG1	2.13	0.56
7:BH:540:ASN:OD1	7:BH:541:ALA:N	2.38	0.56
7:AG:587:TRP:NE1	7:AG:603:LEU:HD21	2.21	0.56
7:AI:185:ASN:O	7:AI:208:GLY:N	2.39	0.56
7:FG:605:ARG:NE	7:FG:607:ASN:OD1	2.38	0.56
7:CH:445:ARG:NH2	7:CI:414:ARG:O	2.39	0.56
4:CL:130:ASN:O	4:CL:137:SER:OG	2.22	0.56
6:EB:89:TRP:HB3	6:EB:109:TYR:HA	1.86	0.56
7:EI:183:PRO:O	7:EI:186:HIS:NE2	2.38	0.56
1:BC:124:SER:OG	1:BC:127:ASP:OD1	2.24	0.56
4:BK:115:GLN:NE2	7:BG:82:LEU:O	2.38	0.56
4:CK:58:HIS:O	4:CK:116:ASN:ND2	2.39	0.56
4:EJ:43:PHE:HE2	4:EJ:63:ILE:HD12	1.71	0.56
5:DM:20:ASP:OD1	5:DM:118:ASN:ND2	2.38	0.56
5:CM:20:ASP:OD1	5:CM:118:ASN:ND2	2.38	0.56
6:EB:91:VAL:HG13	6:EB:91:VAL:O	2.04	0.56
6:BB:42:THR:OG1	6:BB:50:TYR:O	2.18	0.56
7:DG:587:TRP:NE1	7:DG:603:LEU:HD21	2.21	0.56
1:BD:124:SER:OG	1:BD:127:ASP:OD1	2.24	0.56
4:AK:63:ILE:HD11	4:AK:94:TYR:CE2	2.40	0.56
4:AL:29:ILE:HG23	4:AL:29:ILE:O	2.06	0.56
4:CL:29:ILE:HG23	4:CL:29:ILE:O	2.06	0.56
6:DB:30:THR:OG1	6:DB:31:GLU:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:DH:445:ARG:NH2	7:DI:414:ARG:O	2.38	0.56
7:AH:540:ASN:OD1	7:AH:541:ALA:N	2.37	0.56
1:AC:153:LYS:CB	6:DB:52:THR:HB	2.33	0.56
1:CC:97:GLU:OE1	6:FB:48:GLY:CA	2.54	0.56
4:BL:178:LYS:HZ2	7:BH:93:LYS:HD3	1.60	0.56
4:AJ:72:VAL:O	4:AL:22:ASN:ND2	2.39	0.56
4:EJ:130:ASN:OD1	4:EJ:131:ILE:N	2.39	0.56
4:EL:88:ILE:CD1	5:EM:85:LYS:NZ	2.69	0.56
5:CM:48:LEU:HD12	5:CM:74:ILE:HD11	1.88	0.56
6:DB:89:TRP:HB3	6:DB:109:TYR:HA	1.87	0.56
6:FB:141:ARG:NH1	6:CB:78:ASP:OD1	2.37	0.56
1:AC:124:SER:OG	1:AC:127:ASP:OD1	2.24	0.56
1:CC:20:ILE:HD11	6:FB:50:TYR:CD2	2.37	0.56
1:BC:153:LYS:CB	6:EB:52:THR:HB	2.33	0.56
7:BI:185:ASN:O	7:BI:208:GLY:N	2.38	0.56
7:FH:185:ASN:OD1	7:FH:186:HIS:N	2.39	0.56
7:FH:493:ASP:OD1	7:FH:493:ASP:N	2.36	0.56
1:BC:193:ASP:O	1:BC:201:ARG:NH1	2.39	0.56
4:CK:52:LEU:HD12	7:CG:79:ASN:O	2.06	0.56
4:CL:88:ILE:CD1	5:CM:85:LYS:NZ	2.69	0.56
4:EL:174:THR:CB	7:EH:90:ASN:HD21	2.17	0.56
6:FB:72:PHE:CE2	6:FB:76:ILE:HD11	2.40	0.56
1:AC:193:ASP:O	1:AC:201:ARG:NH1	2.39	0.56
1:CD:63:LYS:NZ	6:AB:52:THR:O	2.34	0.56
4:AL:50:ARG:HA	5:AM:81:PHE:HE2	1.64	0.56
4:AL:178:LYS:HZ3	7:AH:93:LYS:HD3	1.65	0.56
4:FJ:74:ARG:HB3	4:FL:24:VAL:HG22	1.87	0.56
4:CJ:48:ASN:OD1	4:CJ:49:ASN:N	2.36	0.56
6:BB:148:GLU:O	6:BB:151:THR:OG1	2.18	0.56
6:CB:91:VAL:O	6:CB:91:VAL:HG13	2.06	0.56
7:EG:587:TRP:NE1	7:EG:603:LEU:HD21	2.21	0.56
1:CC:82:THR:O	1:CD:51:TYR:OH	2.22	0.55
4:BK:34:SER:N	4:BK:134:ASP:OD2	2.37	0.55
4:BK:148:ILE:HG23	4:BL:151:ILE:HD11	1.87	0.55
5:FN:59:LEU:HD23	5:FN:59:LEU:H	1.69	0.55
6:DB:141:ARG:NH1	6:AB:78:ASP:OD1	2.37	0.55
7:FH:49:ALA:N	7:FG:54:GLN:O	2.39	0.55
4:EK:34:SER:N	4:EK:134:ASP:OD2	2.37	0.55
4:EL:29:ILE:HG23	4:EL:29:ILE:O	2.06	0.55
6:BB:72:PHE:CE2	6:BB:76:ILE:HD11	2.41	0.55
6:BB:160:ARG:NH2	6:BB:161:PHE:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:FB:42:THR:OG1	6:FB:50:TYR:O	2.20	0.55
6:FB:91:VAL:O	6:FB:91:VAL:HG13	2.07	0.55
6:CB:148:GLU:O	6:CB:151:THR:OG1	2.21	0.55
1:CD:180:ASN:HB2	7:CI:12:VAL:CG2	2.36	0.55
1:CD:199:ASP:OD1	1:CD:200:LYS:N	2.40	0.55
4:FJ:20:GLN:NE2	6:AA:99:ASN:OD1	2.40	0.55
5:CM:41:ASP:OD2	5:CM:43:GLN:NE2	2.40	0.55
1:AC:149:GLN:OE1	6:DB:41:ASP:HB3	2.07	0.55
1:AD:184:GLY:HA2	7:AG:13:PHE:O	2.07	0.55
4:BL:174:THR:CG2	7:BH:90:ASN:HD21	2.19	0.55
4:AK:88:ILE:O	7:AG:76:ARG:NH1	2.39	0.55
4:FK:146:VAL:O	4:FK:146:VAL:HG23	2.06	0.55
4:CJ:43:PHE:CE2	4:CJ:63:ILE:HD12	2.41	0.55
5:DM:48:LEU:HD12	5:DM:74:ILE:HD11	1.88	0.55
6:EB:78:ASP:OD1	6:CB:141:ARG:NH1	2.38	0.55
7:BH:493:ASP:N	7:BH:493:ASP:OD1	2.37	0.55
7:FI:264:ARG:NH1	7:FI:287:GLU:OE1	2.40	0.55
4:BL:54:ILE:HD13	4:BL:92:LEU:HD11	1.88	0.55
4:AJ:5:ASN:ND2	7:AG:80:MET:O	2.25	0.55
6:FB:12:ILE:O	6:FB:13:LEU:HD12	2.06	0.55
7:AI:183:PRO:O	7:AI:186:HIS:NE2	2.39	0.55
7:CI:264:ARG:NH1	7:CI:287:GLU:OE1	2.40	0.55
1:AC:153:LYS:CE	6:DB:43:GLU:CD	2.75	0.55
1:AD:199:ASP:OD1	1:AD:200:LYS:N	2.40	0.55
4:BL:91:ARG:C	4:BL:92:LEU:HD12	2.27	0.55
7:BG:587:TRP:NE1	7:BG:603:LEU:HD21	2.22	0.55
7:CH:185:ASN:OD1	7:CH:186:HIS:N	2.40	0.55
1:AD:100:TYR:CE2	6:DB:109:TYR:CD2	2.88	0.55
1:CC:149:GLN:OE1	6:FB:41:ASP:HB3	2.06	0.55
1:CD:124:SER:OG	1:CD:127:ASP:OD1	2.24	0.55
1:BC:107:SER:HB3	6:BB:22:ASP:HB3	1.89	0.55
4:BK:88:ILE:O	7:BG:76:ARG:NH1	2.39	0.55
4:DL:88:ILE:HD13	5:DM:85:LYS:NZ	2.22	0.55
4:EK:63:ILE:HD11	4:EK:94:TYR:CE2	2.42	0.55
5:CN:59:LEU:HD23	5:CN:59:LEU:H	1.70	0.55
6:DB:148:GLU:O	6:DB:151:THR:OG1	2.21	0.55
7:AH:155:ASP:OD2	7:AH:415:HIS:NE2	2.39	0.55
7:CH:342:TYR:CE2	7:CH:386:ALA:HB1	2.42	0.55
1:AD:37:ASP:OD2	1:AD:37:ASP:N	2.40	0.55
1:AD:188:PHE:HE2	7:AG:11:ARG:CB	2.15	0.55
4:CL:88:ILE:HD12	5:CM:85:LYS:HE2	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:BB:91:VAL:HG13	6:BB:91:VAL:O	2.06	0.55
1:CC:199:ASP:OD1	1:CC:200:LYS:N	2.40	0.55
1:BD:207:ASN:CB	7:BH:455:ALA:HB2	2.36	0.55
4:BL:51:PRO:HD2	5:BM:81:PHE:CD2	2.41	0.55
4:DK:146:VAL:HG23	4:DK:146:VAL:O	2.07	0.55
4:FL:130:ASN:O	4:FL:137:SER:OG	2.23	0.55
4:CK:146:VAL:O	4:CK:146:VAL:HG23	2.07	0.55
6:BB:163:ASP:O	6:BA:15:ARG:NH1	2.40	0.55
7:BI:346:SER:OG	7:BI:346:SER:O	2.24	0.55
7:EG:595:THR:OG1	7:EG:598:ASN:OD1	2.23	0.55
1:CD:39:GLU:OE2	2:BE:77:GLY:N	2.38	0.55
1:CD:100:TYR:CE1	6:FB:111:GLN:HG2	2.41	0.55
1:BD:68:SER:OG	7:EG:11:ARG:HG3	2.06	0.55
4:DJ:72:VAL:O	4:DL:22:ASN:ND2	2.40	0.55
4:AJ:20:GLN:CD	6:DA:99:ASN:OD1	2.45	0.55
4:CL:51:PRO:HD2	5:CM:81:PHE:CD2	2.42	0.55
6:AB:91:VAL:O	6:AB:91:VAL:HG13	2.07	0.55
1:AC:97:GLU:OE1	6:DB:48:GLY:HA2	2.06	0.54
1:AD:124:SER:OG	1:AD:127:ASP:OD1	2.24	0.54
1:CD:244:ASN:OD1	1:CD:245:LEU:N	2.39	0.54
1:BD:199:ASP:OD1	1:BD:200:LYS:N	2.40	0.54
4:BJ:20:GLN:NE2	6:EA:99:ASN:OD1	2.39	0.54
4:BK:169:MET:O	4:BK:172:THR:OG1	2.20	0.54
4:AL:51:PRO:HG3	5:AM:75:ASP:OD2	2.07	0.54
7:AH:185:ASN:OD1	7:AH:186:HIS:N	2.40	0.54
7:EI:346:SER:O	7:EI:346:SER:OG	2.25	0.54
1:AD:193:ASP:O	1:AD:201:ARG:NH1	2.39	0.54
1:CC:188:PHE:HB2	7:EH:14:ASP:HA	1.88	0.54
1:BC:37:ASP:OD2	1:BC:37:ASP:N	2.40	0.54
1:BC:97:GLU:OE1	6:EB:48:GLY:CA	2.55	0.54
1:BC:244:ASN:OD1	1:BC:245:LEU:N	2.39	0.54
1:BD:153:LYS:CE	6:CB:43:GLU:CD	2.75	0.54
5:AM:76:ASP:OD1	5:AM:78:VAL:HG23	2.07	0.54
6:DB:41:ASP:O	6:DB:52:THR:OG1	2.21	0.54
7:AG:595:THR:OG1	7:AG:598:ASN:OD1	2.23	0.54
1:CD:97:GLU:OE1	6:AB:48:GLY:HA2	2.08	0.54
4:BJ:74:ARG:HB3	4:BL:24:VAL:HG22	1.89	0.54
4:EJ:20:GLN:CD	6:CA:99:ASN:OD1	2.46	0.54
7:AI:326:THR:OG1	7:AI:345:ASP:OD2	2.18	0.54
7:FG:587:TRP:NE1	7:FG:603:LEU:HD21	2.22	0.54
7:CH:56:LYS:O	7:CI:52:GLY:N	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CJ:130:ASN:OD1	4:CJ:131:ILE:N	2.40	0.54
7:DH:493:ASP:N	7:DH:493:ASP:OD1	2.40	0.54
7:FI:346:SER:O	7:FI:346:SER:OG	2.25	0.54
1:BD:244:ASN:OD1	1:BD:245:LEU:N	2.39	0.54
6:BB:12:ILE:O	6:BB:13:LEU:HD12	2.07	0.54
6:DB:160:ARG:NH2	6:DB:161:PHE:O	2.40	0.54
1:AC:199:ASP:OD1	1:AC:200:LYS:N	2.40	0.54
2:AE:268:LEU:O	2:AE:270:GLN:NE2	2.41	0.54
1:CC:37:ASP:N	1:CC:37:ASP:OD2	2.40	0.54
1:CD:188:PHE:HB2	7:CH:14:ASP:CA	2.38	0.54
4:BJ:24:VAL:O	4:BJ:125:ARG:NH1	2.41	0.54
4:FL:91:ARG:C	4:FL:92:LEU:HD12	2.28	0.54
5:BM:40:ASN:OD1	5:BM:41:ASP:N	2.41	0.54
5:FM:40:ASN:OD1	5:FM:41:ASP:N	2.41	0.54
7:DI:346:SER:O	7:DI:346:SER:OG	2.26	0.54
7:EG:610:SER:OG	7:EG:611:ALA:N	2.41	0.54
1:BD:37:ASP:N	1:BD:37:ASP:OD2	2.40	0.54
4:DJ:5:ASN:ND2	7:DG:80:MET:O	2.26	0.54
4:AJ:43:PHE:HE2	4:AJ:63:ILE:HD12	1.72	0.54
4:CK:88:ILE:O	7:CG:76:ARG:NH1	2.41	0.54
5:DM:41:ASP:OD2	5:DM:43:GLN:NE2	2.40	0.54
7:BH:49:ALA:N	7:BG:54:GLN:O	2.40	0.54
1:AD:244:ASN:OD1	1:AD:245:LEU:N	2.39	0.54
2:CE:259:GLU:N	2:CE:259:GLU:OE1	2.41	0.54
4:DJ:155:ILE:CD1	4:DL:165:LEU:HD13	2.38	0.54
1:AD:153:LYS:HG3	6:BB:52:THR:HG21	1.89	0.54
1:CC:244:ASN:OD1	1:CC:245:LEU:N	2.39	0.54
1:BC:199:ASP:OD1	1:BC:200:LYS:N	2.40	0.54
4:DL:50:ARG:CA	5:DM:81:PHE:CE2	2.91	0.54
4:EJ:72:VAL:O	4:EL:22:ASN:ND2	2.40	0.54
7:DH:185:ASN:OD1	7:DH:186:HIS:N	2.41	0.54
7:DH:411:GLY:O	7:DH:414:ARG:NH1	2.41	0.54
1:CC:193:ASP:O	1:CC:201:ARG:NH1	2.39	0.54
1:CD:193:ASP:O	1:CD:201:ARG:NH1	2.39	0.54
2:BE:268:LEU:O	2:BE:270:GLN:NE2	2.41	0.54
4:DJ:74:ARG:HB3	4:DL:24:VAL:HG22	1.90	0.54
5:EM:41:ASP:OD2	5:EM:43:GLN:NE2	2.41	0.54
7:AG:610:SER:OG	7:AG:611:ALA:N	2.41	0.54
7:CI:183:PRO:O	7:CI:186:HIS:NE2	2.41	0.54
7:EH:185:ASN:OD1	7:EH:186:HIS:N	2.41	0.54
1:AD:67:ARG:NH1	6:EB:46:MET:O	2.40	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CD:67:ARG:HB3	6:DB:47:ASP:OD2	2.08	0.53
1:CD:111:VAL:CG2	6:FB:17:ALA:HB1	2.37	0.53
1:BC:149:GLN:OE1	6:EB:41:ASP:HB3	2.08	0.53
4:AJ:154:THR:O	4:AJ:158:VAL:HG22	2.08	0.53
7:BG:595:THR:OG1	7:BG:598:ASN:OD1	2.23	0.53
7:BI:264:ARG:NH1	7:BI:287:GLU:OE1	2.41	0.53
7:AI:264:ARG:NH1	7:AI:287:GLU:OE1	2.41	0.53
7:CH:155:ASP:OD2	7:CH:415:HIS:NE2	2.38	0.53
1:CD:37:ASP:OD2	1:CD:37:ASP:N	2.40	0.53
2:CE:268:LEU:O	2:CE:270:GLN:NE2	2.41	0.53
4:EL:174:THR:CG2	7:EH:90:ASN:HD21	2.21	0.53
5:AM:41:ASP:OD2	5:AM:43:GLN:NE2	2.41	0.53
6:AB:148:GLU:O	6:AB:151:THR:OG1	2.21	0.53
7:DI:185:ASN:O	7:DI:208:GLY:N	2.42	0.53
7:CH:233:GLU:N	7:CH:233:GLU:OE2	2.41	0.53
7:CI:329:MET:SD	7:CI:331:GLY:N	2.82	0.53
7:CI:540:ASN:OD1	7:CI:541:ALA:N	2.41	0.53
1:CC:97:GLU:OE1	6:FB:48:GLY:HA2	2.09	0.53
4:CL:174:THR:CG2	7:CH:90:ASN:HD21	2.21	0.53
7:BI:293:SER:OG	7:BI:318:ILE:O	2.27	0.53
1:AC:125:ARG:HA	7:AI:290:LEU:HD11	1.90	0.53
2:AE:259:GLU:OE1	2:AE:259:GLU:N	2.41	0.53
1:CD:184:GLY:HA2	7:CG:13:PHE:O	2.08	0.53
1:BC:102:PHE:CZ	6:BB:142:GLY:O	2.62	0.53
1:BD:192:ILE:N	7:BH:12:VAL:O	2.42	0.53
2:BE:259:GLU:OE1	2:BE:259:GLU:N	2.41	0.53
4:BK:146:VAL:HG23	4:BK:146:VAL:O	2.07	0.53
4:DK:88:ILE:O	7:DG:76:ARG:NH1	2.41	0.53
4:AJ:74:ARG:HB3	4:AL:24:VAL:HG22	1.90	0.53
7:DG:394:ASP:N	7:DG:399:ARG:O	2.41	0.53
7:AI:329:MET:SD	7:AI:331:GLY:N	2.82	0.53
7:FH:233:GLU:N	7:FH:233:GLU:OE2	2.41	0.53
7:FI:329:MET:SD	7:FI:331:GLY:N	2.82	0.53
7:CG:587:TRP:NE1	7:CG:603:LEU:HD21	2.23	0.53
7:CG:595:THR:OG1	7:CG:598:ASN:OD1	2.24	0.53
7:EH:56:LYS:O	7:EI:52:GLY:N	2.42	0.53
4:DJ:8:LYS:NZ	4:DJ:35:ASP:OD2	2.41	0.53
4:DL:174:THR:CG2	7:DH:90:ASN:HD21	2.21	0.53
5:FM:76:ASP:OD1	5:FM:78:VAL:HG23	2.07	0.53
5:EM:76:ASP:OD1	5:EM:78:VAL:HG23	2.09	0.53
1:BD:97:GLU:CD	6:CB:48:GLY:CA	2.71	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:EL:130:ASN:O	4:EL:137:SER:OG	2.24	0.53
6:BB:41:ASP:O	6:BB:52:THR:OG1	2.22	0.53
6:AB:42:THR:OG1	6:AB:50:TYR:O	2.19	0.53
7:DI:329:MET:SD	7:DI:331:GLY:N	2.82	0.53
7:CI:185:ASN:O	7:CI:208:GLY:N	2.41	0.53
1:AC:37:ASP:OD2	1:AC:37:ASP:N	2.40	0.53
1:CC:20:ILE:CD1	6:FB:50:TYR:CD2	2.91	0.53
1:CD:67:ARG:NH1	6:DB:46:MET:O	2.42	0.53
6:CB:160:ARG:NH2	6:CB:161:PHE:O	2.41	0.53
7:BH:598:ASN:OD1	7:BH:621:THR:N	2.41	0.53
7:BI:183:PRO:O	7:BI:186:HIS:NE2	2.41	0.53
1:BC:125:ARG:HD3	7:BI:286:SER:HB3	1.90	0.53
4:EJ:154:THR:O	4:EJ:158:VAL:HG22	2.08	0.53
7:DG:610:SER:OG	7:DG:611:ALA:N	2.42	0.53
7:EH:598:ASN:OD1	7:EH:621:THR:N	2.42	0.53
1:AC:244:ASN:OD1	1:AC:245:LEU:N	2.39	0.53
1:BD:100:TYR:OH	6:EB:110:PHE:CA	2.39	0.53
4:AK:15:LEU:HD13	4:AK:124:GLU:OE1	2.09	0.53
7:BI:329:MET:SD	7:BI:331:GLY:N	2.82	0.53
1:BD:107:SER:CA	6:EB:22:ASP:N	2.73	0.52
4:DK:169:MET:O	4:DK:172:THR:OG1	2.24	0.52
4:DL:54:ILE:HD13	4:DL:92:LEU:HD11	1.90	0.52
4:CL:50:ARG:HA	5:CM:81:PHE:HE2	1.63	0.52
4:EJ:164:GLN:O	4:EJ:168:ASN:ND2	2.43	0.52
4:EK:52:LEU:HD12	7:EG:79:ASN:O	2.09	0.52
4:EK:115:GLN:NE2	7:EG:82:LEU:O	2.41	0.52
6:CB:12:ILE:O	6:CB:13:LEU:HD12	2.09	0.52
7:DH:394:ASP:OD2	7:DH:397:THR:OG1	2.14	0.52
7:DI:264:ARG:NH1	7:DI:287:GLU:OE1	2.40	0.52
7:FI:293:SER:OG	7:FI:318:ILE:O	2.27	0.52
7:CH:49:ALA:N	7:CG:54:GLN:O	2.41	0.52
4:BK:63:ILE:HD11	4:BK:94:TYR:CE2	2.45	0.52
4:BL:130:ASN:O	4:BL:137:SER:OG	2.23	0.52
4:FK:63:ILE:HD11	4:FK:94:TYR:CE2	2.44	0.52
5:BM:48:LEU:HD12	5:BM:74:ILE:HD11	1.92	0.52
6:BA:141:ARG:NH2	6:DA:74:ASP:OD1	2.42	0.52
6:DA:79:ALA:O	6:DA:83:ARG:N	2.41	0.52
7:BH:233:GLU:N	7:BH:233:GLU:OE2	2.41	0.52
1:AD:192:ILE:O	7:AH:12:VAL:O	2.26	0.52
1:AD:223:GLN:NE2	1:BC:42:ASN:OD1	2.41	0.52
1:CC:153:LYS:HG3	6:FB:52:THR:HB	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BD:63:LYS:CE	6:CB:52:THR:O	2.57	0.52
1:BD:207:ASN:CB	7:BH:455:ALA:CB	2.85	0.52
4:BL:49:ASN:O	5:BM:81:PHE:CE2	2.62	0.52
4:FK:179:VAL:HG22	4:FL:187:ILE:HG13	1.91	0.52
5:AM:40:ASN:OD1	5:AM:41:ASP:N	2.43	0.52
5:AM:48:LEU:HD12	5:AM:74:ILE:HD11	1.91	0.52
7:DH:56:LYS:O	7:DI:52:GLY:N	2.42	0.52
7:CG:394:ASP:N	7:CG:399:ARG:O	2.41	0.52
1:AC:100:TYR:CE2	6:AB:109:TYR:HE2	2.07	0.52
6:EA:79:ALA:O	6:EA:83:ARG:N	2.40	0.52
1:CC:105:PRO:HA	6:CB:15:ARG:HH22	1.74	0.52
4:EK:88:ILE:O	7:EG:76:ARG:NH1	2.42	0.52
5:EM:48:LEU:HD12	5:EM:74:ILE:HD11	1.92	0.52
6:DA:141:ARG:NH2	6:AA:74:ASP:OD1	2.42	0.52
7:AG:394:ASP:N	7:AG:399:ARG:O	2.43	0.52
7:FH:56:LYS:O	7:FI:52:GLY:N	2.42	0.52
7:CH:598:ASN:OD1	7:CH:621:THR:N	2.43	0.52
7:EI:540:ASN:OD1	7:EI:541:ALA:N	2.43	0.52
1:BD:107:SER:HB2	6:EB:21:VAL:HA	1.92	0.52
4:CL:54:ILE:HD13	4:CL:92:LEU:HD11	1.90	0.52
4:EJ:74:ARG:HB3	4:EL:24:VAL:HG22	1.92	0.52
4:EL:51:PRO:HD2	5:EM:81:PHE:CD2	2.44	0.52
5:FM:48:LEU:HD12	5:FM:74:ILE:HD11	1.92	0.52
6:EA:74:ASP:OD1	6:CA:141:ARG:NH2	2.43	0.52
7:FH:411:GLY:O	7:FH:414:ARG:NH1	2.43	0.52
7:FI:540:ASN:OD1	7:FI:541:ALA:N	2.43	0.52
7:CH:411:GLY:O	7:CH:414:ARG:NH1	2.43	0.52
1:CD:180:ASN:O	7:CI:12:VAL:HG23	2.09	0.52
4:AJ:20:GLN:NE2	6:DA:98:LYS:O	2.43	0.52
4:AL:130:ASN:O	4:AL:137:SER:OG	2.23	0.52
4:CL:91:ARG:C	4:CL:92:LEU:HD12	2.30	0.52
4:EK:15:LEU:HD13	4:EK:124:GLU:OE1	2.10	0.52
4:EK:179:VAL:HG22	4:EL:187:ILE:HG13	1.92	0.52
5:CM:40:ASN:OD1	5:CM:41:ASP:N	2.43	0.52
5:EM:40:ASN:OD1	5:EM:41:ASP:N	2.43	0.52
7:BI:540:ASN:OD1	7:BI:541:ALA:N	2.43	0.52
7:DH:233:GLU:N	7:DH:233:GLU:OE2	2.43	0.52
7:AH:56:LYS:O	7:AI:52:GLY:N	2.42	0.52
7:EI:329:MET:SD	7:EI:331:GLY:N	2.82	0.52
1:CD:100:TYR:CZ	6:FB:111:GLN:HG2	2.45	0.52
1:BC:97:GLU:OE1	6:EB:48:GLY:HA2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BD:301:THR:CG2	7:BH:475:ASN:OD1	2.58	0.52
4:DJ:130:ASN:OD1	4:DJ:131:ILE:N	2.42	0.52
4:EK:148:ILE:HG23	4:EL:151:ILE:HD11	1.92	0.52
4:EL:88:ILE:HD12	5:EM:85:LYS:HE2	1.91	0.52
6:BB:105:PHE:N	6:BB:144:ALA:O	2.38	0.52
6:AB:72:PHE:CE2	6:AB:76:ILE:HD11	2.44	0.52
6:FA:138:ARG:HD2	6:CA:81:VAL:HG11	1.92	0.52
7:BH:342:TYR:CE2	7:BH:386:ALA:HB1	2.45	0.52
4:EL:91:ARG:C	4:EL:92:LEU:HD12	2.31	0.52
6:AA:79:ALA:O	6:AA:83:ARG:N	2.40	0.52
7:BH:56:LYS:O	7:BI:52:GLY:N	2.42	0.52
4:DJ:20:GLN:NE2	6:BA:99:ASN:OD1	2.43	0.52
4:FL:174:THR:CG2	7:FH:90:ASN:HD21	2.23	0.52
4:CK:169:MET:O	4:CK:172:THR:OG1	2.24	0.52
5:DM:40:ASN:OD1	5:DM:41:ASP:N	2.43	0.52
6:FB:148:GLU:O	6:FB:151:THR:OG1	2.20	0.52
7:DI:183:PRO:O	7:DI:186:HIS:NE2	2.42	0.52
4:DJ:91:ARG:C	4:DJ:92:LEU:HD12	2.30	0.51
4:DL:91:ARG:C	4:DL:92:LEU:HD12	2.30	0.51
4:EL:54:ILE:HD13	4:EL:92:LEU:HD11	1.92	0.51
7:DH:161:ASN:ND2	7:DH:412:ASN:O	2.44	0.51
7:AI:540:ASN:OD1	7:AI:541:ALA:N	2.43	0.51
7:FH:598:ASN:OD1	7:FH:621:THR:N	2.42	0.51
7:EI:264:ARG:NH1	7:EI:287:GLU:OE1	2.43	0.51
4:BJ:154:THR:O	4:BJ:158:VAL:HG22	2.09	0.51
4:AK:146:VAL:HG23	4:AK:146:VAL:O	2.10	0.51
4:FJ:154:THR:O	4:FJ:158:VAL:HG22	2.09	0.51
4:CJ:82:LEU:O	4:CJ:83:THR:OG1	2.29	0.51
4:EJ:43:PHE:CE2	4:EJ:63:ILE:HD12	2.45	0.51
7:BH:372:ILE:HG22	7:BH:406:VAL:HG11	1.92	0.51
7:AI:166:SER:OG	7:AI:167:PHE:N	2.43	0.51
7:CH:493:ASP:OD1	7:CH:493:ASP:N	2.40	0.51
1:BD:301:THR:HG21	7:BH:475:ASN:CA	2.39	0.51
4:BK:5:ASN:OD1	4:BK:6:PHE:N	2.43	0.51
6:BA:79:ALA:O	6:BA:83:ARG:N	2.41	0.51
7:BH:200:ASP:OD1	7:BH:200:ASP:N	2.43	0.51
7:DH:598:ASN:OD1	7:DH:621:THR:N	2.43	0.51
7:AI:303:ASP:OD1	7:AI:304:ASP:N	2.43	0.51
7:EI:441:ASP:OD1	7:EI:442:SER:N	2.43	0.51
4:BK:179:VAL:HG22	4:BL:187:ILE:HG13	1.91	0.51
4:DK:179:VAL:HG22	4:DL:187:ILE:HG13	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:DL:88:ILE:CD1	5:DM:85:LYS:NZ	2.74	0.51
4:AJ:8:LYS:NZ	4:AJ:35:ASP:OD2	2.44	0.51
4:AJ:164:GLN:O	4:AJ:168:ASN:ND2	2.42	0.51
4:EK:146:VAL:HG23	4:EK:146:VAL:O	2.10	0.51
7:FG:394:ASP:N	7:FG:399:ARG:O	2.44	0.51
7:FI:170:ASP:OD1	7:FI:175:ILE:N	2.42	0.51
7:EI:170:ASP:OD1	7:EI:175:ILE:N	2.40	0.51
1:AC:42:ASN:OD1	1:CD:223:GLN:NE2	2.43	0.51
4:BJ:20:GLN:CD	6:EA:99:ASN:OD1	2.48	0.51
4:DK:5:ASN:OD1	4:DK:6:PHE:N	2.44	0.51
4:AL:91:ARG:C	4:AL:92:LEU:HD12	2.31	0.51
6:FA:141:ARG:NH2	6:CA:74:ASP:OD1	2.44	0.51
7:AH:200:ASP:N	7:AH:200:ASP:OD1	2.43	0.51
7:AI:346:SER:O	7:AI:346:SER:OG	2.27	0.51
7:EI:166:SER:OG	7:EI:167:PHE:N	2.43	0.51
4:DL:49:ASN:O	5:DM:81:PHE:CE2	2.64	0.51
4:FK:88:ILE:O	7:FG:76:ARG:NH1	2.44	0.51
7:BH:411:GLY:O	7:BH:414:ARG:NH1	2.44	0.51
7:FH:342:TYR:CE2	7:FH:386:ALA:HB1	2.45	0.51
7:EH:493:ASP:OD1	7:EH:493:ASP:N	2.41	0.51
7:EG:394:ASP:N	7:EG:399:ARG:O	2.42	0.51
1:AC:20:ILE:HD11	6:DB:50:TYR:CD2	2.39	0.51
1:AD:97:GLU:OE1	6:BB:48:GLY:HA2	2.10	0.51
1:BD:97:GLU:OE1	6:CB:47:ASP:C	2.48	0.51
4:DJ:154:THR:O	4:DJ:158:VAL:HG22	2.11	0.51
4:AK:5:ASN:OD1	4:AK:6:PHE:N	2.44	0.51
4:FJ:20:GLN:CD	6:AA:99:ASN:OD1	2.49	0.51
6:EA:81:VAL:HG11	6:CA:138:ARG:HD2	1.93	0.51
7:AI:441:ASP:OD1	7:AI:442:SER:N	2.43	0.51
7:CI:41:TYR:O	7:CI:46:GLU:N	2.43	0.51
1:AD:153:LYS:HE3	6:BB:43:GLU:CD	2.31	0.51
4:FK:148:ILE:HG23	4:FL:151:ILE:HD11	1.92	0.51
5:CM:76:ASP:OD1	5:CM:78:VAL:HG23	2.11	0.51
6:EB:72:PHE:CE2	6:EB:76:ILE:HD11	2.45	0.51
6:DB:163:ASP:O	6:DA:15:ARG:NH1	2.44	0.51
7:BG:610:SER:OG	7:BG:611:ALA:N	2.44	0.51
7:DI:346:SER:N	7:DI:385:GLU:OE1	2.44	0.51
4:DL:50:ARG:HA	5:DM:81:PHE:HE2	1.74	0.51
7:DG:595:THR:OG1	7:DG:598:ASN:OD1	2.23	0.51
7:AH:370:ILE:HB	7:AH:372:ILE:HD11	1.93	0.51
7:FH:381:GLY:N	7:FG:450:PRO:O	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AC:267:ASP:OD1	1:AC:268:SER:N	2.43	0.51
1:AD:100:TYR:OH	6:DB:110:PHE:CA	2.39	0.51
1:CD:20:ILE:HD12	6:AB:50:TYR:CZ	2.46	0.51
4:AL:50:ARG:NH1	5:AM:6:ASP:OD2	2.44	0.51
6:EA:138:ARG:HD2	6:BA:81:VAL:HG11	1.93	0.51
6:BA:138:ARG:HD2	6:DA:81:VAL:HG11	1.93	0.51
7:DG:179:THR:HG21	7:DG:210:GLY:O	2.11	0.51
7:FH:372:ILE:HG22	7:FH:406:VAL:HG11	1.92	0.51
7:FG:610:SER:OG	7:FG:611:ALA:N	2.43	0.51
7:EG:51:ASN:ND2	7:EG:53:GLU:OE1	2.44	0.51
1:AD:180:ASN:O	7:AI:12:VAL:HG23	2.11	0.50
4:FJ:130:ASN:OD1	4:FJ:131:ILE:N	2.44	0.50
4:CJ:20:GLN:NE2	6:FA:99:ASN:OD1	2.43	0.50
6:EB:148:GLU:O	6:EB:151:THR:OG1	2.20	0.50
7:CI:263:ASP:O	7:CI:284:LYS:NZ	2.44	0.50
7:EH:411:GLY:O	7:EH:414:ARG:NH1	2.44	0.50
2:AE:335:GLU:OE1	3:CF:1142:ASN:HB3	2.12	0.50
1:BD:105:PRO:CA	6:EB:15:ARG:NH2	2.45	0.50
4:DK:52:LEU:HD12	7:DG:79:ASN:O	2.11	0.50
4:AK:179:VAL:HG22	4:AL:187:ILE:HG13	1.94	0.50
4:FK:5:ASN:OD1	4:FK:6:PHE:N	2.44	0.50
4:CK:179:VAL:HG22	4:CL:187:ILE:HG13	1.92	0.50
6:DA:138:ARG:HD2	6:AA:81:VAL:HG11	1.93	0.50
7:AH:381:GLY:N	7:AG:450:PRO:O	2.44	0.50
7:CI:166:SER:OG	7:CI:167:PHE:N	2.44	0.50
7:CI:170:ASP:OD1	7:CI:175:ILE:N	2.41	0.50
1:AC:102:PHE:HZ	6:AB:142:GLY:O	1.91	0.50
4:BK:50:ARG:HB2	4:BK:51:PRO:HD2	1.93	0.50
4:BL:40:VAL:HG23	4:BL:40:VAL:O	2.11	0.50
4:CK:58:HIS:NE2	7:CH:80:MET:O	2.27	0.50
4:CL:40:VAL:HG23	4:CL:40:VAL:O	2.12	0.50
5:AN:120:VAL:HG12	5:AN:121:ASP:H	1.77	0.50
6:AA:138:ARG:HD2	6:FA:81:VAL:HG11	1.93	0.50
6:FB:138:ARG:HG3	6:CB:81:VAL:HG11	1.93	0.50
7:BG:14:ASP:OD2	7:BG:15:TYR:N	2.43	0.50
7:BI:346:SER:N	7:BI:385:GLU:OE1	2.45	0.50
7:DI:41:TYR:O	7:DI:46:GLU:N	2.44	0.50
1:CD:125:ARG:CA	7:FI:290:LEU:HD11	2.41	0.50
1:CD:188:PHE:HE2	7:CG:11:ARG:CB	2.19	0.50
1:BC:100:TYR:CE2	6:BB:109:TYR:HE2	2.00	0.50
4:AL:68:ASP:O	4:AL:70:TYR:N	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:FL:40:VAL:HG23	4:FL:40:VAL:O	2.11	0.50
6:EB:109:TYR:OH	6:EB:111:GLN:NE2	2.35	0.50
7:EH:445:ARG:NH2	7:EI:414:ARG:O	2.44	0.50
1:CC:153:LYS:CE	6:FB:43:GLU:CD	2.80	0.50
4:BL:58:HIS:HE1	5:BN:43:GLN:CG	1.98	0.50
4:BL:58:HIS:HA	5:BN:43:GLN:NE2	2.26	0.50
4:CK:145:LEU:HD23	4:CK:145:LEU:H	1.76	0.50
6:CB:12:ILE:C	6:CB:13:LEU:HD12	2.32	0.50
7:DH:49:ALA:N	7:DG:54:GLN:O	2.44	0.50
7:DH:200:ASP:N	7:DH:200:ASP:OD1	2.43	0.50
7:AH:161:ASN:ND2	7:AH:412:ASN:O	2.45	0.50
7:AI:346:SER:N	7:AI:385:GLU:OE1	2.45	0.50
1:BD:68:SER:HG	7:EG:11:ARG:HG3	1.76	0.50
1:BD:272:TYR:CD1	1:BD:278:ILE:HG22	2.47	0.50
4:DK:148:ILE:HG23	4:DL:151:ILE:HD11	1.94	0.50
4:FJ:43:PHE:CE2	4:FJ:63:ILE:HD12	2.46	0.50
4:CJ:154:THR:O	4:CJ:158:VAL:HG22	2.11	0.50
4:EL:50:ARG:HB2	5:EM:81:PHE:HE2	1.77	0.50
6:BB:79:ALA:O	6:BB:83:ARG:N	2.43	0.50
6:DB:12:ILE:O	6:DB:13:LEU:HD12	2.11	0.50
6:CB:79:ALA:O	6:CB:83:ARG:N	2.45	0.50
6:CA:79:ALA:O	6:CA:83:ARG:N	2.44	0.50
7:DI:166:SER:OG	7:DI:167:PHE:N	2.44	0.50
2:AE:281:GLU:OE1	2:AE:281:GLU:N	2.45	0.50
1:CC:272:TYR:CD1	1:CC:278:ILE:HG22	2.47	0.50
1:CD:20:ILE:CD1	6:AB:50:TYR:CZ	2.95	0.50
1:CD:193:ASP:HA	7:CH:12:VAL:HA	1.94	0.50
2:CE:281:GLU:OE1	2:CE:281:GLU:N	2.44	0.50
4:BJ:43:PHE:CE2	4:BJ:63:ILE:HD12	2.47	0.50
4:DL:50:ARG:HG3	5:DM:81:PHE:CD2	2.46	0.50
7:BG:394:ASP:N	7:BG:399:ARG:O	2.43	0.50
7:DI:303:ASP:OD1	7:DI:304:ASP:N	2.44	0.50
7:AH:394:ASP:OD2	7:AH:397:THR:OG1	2.14	0.50
7:CG:179:THR:HG21	7:CG:210:GLY:O	2.11	0.50
7:EI:346:SER:N	7:EI:385:GLU:OE1	2.44	0.50
1:AC:66:ASN:ND2	7:AG:8:ASP:OD1	2.45	0.50
3:CF:1152:TYR:OH	2:CE:347:ASN:ND2	2.42	0.50
1:CD:301:THR:OG1	7:CH:477:LEU:HD11	2.12	0.50
4:AJ:82:LEU:O	4:AJ:83:THR:OG1	2.28	0.50
4:AK:50:ARG:HB2	4:AK:51:PRO:HD2	1.93	0.50
5:AN:33:ALA:HB3	5:AN:86:ILE:HD11	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:DB:12:ILE:HD11	6:DB:32:TYR:CE2	2.46	0.50
7:BI:303:ASP:OD1	7:BI:304:ASP:N	2.45	0.50
7:AH:411:GLY:O	7:AH:414:ARG:NH1	2.45	0.50
7:FG:255:ASP:OD1	7:FG:256:VAL:N	2.45	0.50
7:CI:346:SER:N	7:CI:385:GLU:OE1	2.44	0.50
1:AC:105:PRO:HA	6:AB:15:ARG:HH22	1.77	0.50
1:CD:267:ASP:OD1	1:CD:268:SER:N	2.43	0.50
2:CE:203:ASP:O	2:CE:267:SER:OG	2.29	0.50
3:AF:1135:ASP:OD1	3:AF:1135:ASP:N	2.45	0.50
4:DJ:32:TYR:OH	4:DK:22:ASN:O	2.29	0.50
4:AL:54:ILE:HD13	4:AL:92:LEU:HD11	1.93	0.50
7:BI:166:SER:OG	7:BI:167:PHE:N	2.45	0.50
7:DH:283:TYR:OH	7:DH:291:LYS:NZ	2.45	0.50
7:EH:161:ASN:ND2	7:EH:412:ASN:O	2.44	0.50
1:BC:272:TYR:CD1	1:BC:278:ILE:HG22	2.47	0.49
4:AK:148:ILE:HG23	4:AL:151:ILE:HD11	1.93	0.49
6:DB:12:ILE:C	6:DB:13:LEU:HD12	2.33	0.49
7:BH:381:GLY:N	7:BG:450:PRO:O	2.45	0.49
7:DI:170:ASP:OD1	7:DI:175:ILE:N	2.40	0.49
7:FH:200:ASP:N	7:FH:200:ASP:OD1	2.44	0.49
7:FH:445:ARG:NH2	7:FI:414:ARG:O	2.44	0.49
7:FI:303:ASP:OD1	7:FI:304:ASP:N	2.45	0.49
7:CI:303:ASP:OD1	7:CI:304:ASP:N	2.45	0.49
7:EI:303:ASP:OD1	7:EI:304:ASP:N	2.45	0.49
1:AC:47:MET:O	2:CE:78:ASP:N	2.45	0.49
1:BC:123:TYR:N	1:BC:127:ASP:OD2	2.45	0.49
2:BE:203:ASP:O	2:BE:267:SER:OG	2.29	0.49
4:AK:34:SER:N	4:AK:134:ASP:OD2	2.38	0.49
4:AL:174:THR:CG2	7:AH:90:ASN:HD21	2.25	0.49
4:FL:54:ILE:HD13	4:FL:92:LEU:HD11	1.94	0.49
4:CL:50:ARG:HD3	5:CM:81:PHE:CZ	2.47	0.49
4:EK:114:THR:HG22	4:EK:121:VAL:HG12	1.95	0.49
7:DH:381:GLY:N	7:DG:450:PRO:O	2.45	0.49
7:AH:342:TYR:CE2	7:AH:386:ALA:HB1	2.47	0.49
7:CH:200:ASP:OD1	7:CH:200:ASP:N	2.43	0.49
7:EH:381:GLY:N	7:EG:450:PRO:O	2.44	0.49
1:AD:299:ASN:N	1:AD:299:ASN:OD1	2.45	0.49
1:CD:123:TYR:N	1:CD:127:ASP:OD2	2.45	0.49
1:CD:192:ILE:N	7:CH:12:VAL:O	2.45	0.49
1:CD:272:TYR:CD1	1:CD:278:ILE:HG22	2.47	0.49
1:BD:107:SER:HB3	6:EB:22:ASP:N	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:DL:88:ILE:HD12	5:DM:85:LYS:HE2	1.94	0.49
4:AJ:91:ARG:C	4:AJ:92:LEU:HD12	2.33	0.49
4:CL:88:ILE:HD12	5:CM:85:LYS:CE	2.41	0.49
4:EL:50:ARG:NH1	5:EM:6:ASP:OD2	2.44	0.49
4:EL:68:ASP:O	4:EL:70:TYR:N	2.43	0.49
6:EB:51:ASN:OD1	6:EB:52:THR:N	2.46	0.49
7:DI:326:THR:OG1	7:DI:345:ASP:OD2	2.20	0.49
1:AC:20:ILE:CD1	6:DB:50:TYR:CD2	2.94	0.49
1:AC:123:TYR:N	1:AC:127:ASP:OD2	2.45	0.49
1:AC:272:TYR:CD1	1:AC:278:ILE:HG22	2.47	0.49
1:CD:153:LYS:HE3	6:AB:43:GLU:CD	2.32	0.49
1:BD:123:TYR:N	1:BD:127:ASP:OD2	2.45	0.49
1:BD:301:THR:HG21	7:BH:475:ASN:OD1	2.12	0.49
5:EN:120:VAL:HG12	5:EN:121:ASP:H	1.77	0.49
7:BG:179:THR:HG21	7:BG:210:GLY:O	2.12	0.49
7:DH:470:THR:OG1	7:DH:487:ASP:O	2.22	0.49
7:AI:41:TYR:O	7:AI:46:GLU:N	2.45	0.49
7:CG:610:SER:OG	7:CG:611:ALA:N	2.45	0.49
1:AD:123:TYR:N	1:AD:127:ASP:OD2	2.45	0.49
4:BJ:82:LEU:O	4:BJ:83:THR:OG1	2.29	0.49
4:AL:88:ILE:HD13	5:AM:85:LYS:NZ	2.27	0.49
7:BI:170:ASP:OD1	7:BI:175:ILE:N	2.42	0.49
7:DG:157:SER:OG	7:DG:157:SER:O	2.30	0.49
7:FG:51:ASN:ND2	7:FG:53:GLU:OE1	2.45	0.49
7:FI:346:SER:N	7:FI:385:GLU:OE1	2.45	0.49
7:EH:200:ASP:OD1	7:EH:200:ASP:N	2.44	0.49
7:EI:293:SER:OG	7:EI:318:ILE:O	2.30	0.49
7:EI:468:ILE:HD11	7:EI:472:ASP:HB3	1.94	0.49
1:BC:125:ARG:HA	7:BI:290:LEU:HD11	1.93	0.49
4:DJ:82:LEU:O	4:DJ:83:THR:OG1	2.30	0.49
4:DL:40:VAL:HG23	4:DL:40:VAL:O	2.12	0.49
6:BA:31:GLU:HG2	6:BA:63:THR:HG22	1.95	0.49
7:BH:161:ASN:ND2	7:BH:412:ASN:O	2.44	0.49
7:AH:111:LEU:HD21	7:AG:111:LEU:HD21	1.94	0.49
7:FI:166:SER:OG	7:FI:167:PHE:N	2.45	0.49
7:CH:394:ASP:OD2	7:CH:397:THR:OG1	2.15	0.49
7:CG:157:SER:O	7:CG:157:SER:OG	2.30	0.49
7:EH:342:TYR:CE2	7:EH:386:ALA:HB1	2.48	0.49
1:AC:153:LYS:HG3	6:DB:52:THR:HB	1.94	0.49
1:BD:201:ARG:NH2	7:BI:13:PHE:HD2	2.10	0.49
4:AK:145:LEU:HD23	4:AK:145:LEU:H	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:FK:34:SER:N	4:FK:134:ASP:OD2	2.38	0.49
4:CK:50:ARG:HB2	4:CK:51:PRO:HD2	1.95	0.49
6:FA:40:THR:HG22	6:FA:52:THR:O	2.13	0.49
7:DH:331:GLY:HA3	7:DH:388:GLY:HA2	1.95	0.49
4:FL:88:ILE:CD1	5:FM:85:LYS:CE	2.91	0.49
5:BM:76:ASP:OD1	5:BM:78:VAL:HG23	2.13	0.49
5:DN:120:VAL:HG12	5:DN:121:ASP:H	1.78	0.49
6:EA:31:GLU:HG2	6:EA:63:THR:HG22	1.94	0.49
6:DB:79:ALA:O	6:DB:83:ARG:N	2.44	0.49
7:BG:255:ASP:OD1	7:BG:256:VAL:N	2.45	0.49
7:EI:41:TYR:O	7:EI:46:GLU:N	2.45	0.49
6:EB:64:ALA:HB3	6:EB:129:TYR:CZ	2.48	0.49
7:FG:595:THR:OG1	7:FG:598:ASN:OD1	2.24	0.49
1:AD:272:TYR:CD1	1:AD:278:ILE:HG22	2.47	0.49
5:DM:38:GLY:HA3	5:DM:81:PHE:CE1	2.48	0.49
7:BH:331:GLY:HA3	7:BH:388:GLY:HA2	1.95	0.49
7:DH:171:PRO:O	7:DH:174:LYS:NZ	2.32	0.49
7:FH:394:ASP:OD2	7:FH:397:THR:OG1	2.13	0.49
7:CI:178:MET:SD	7:CI:192:LEU:HD11	2.53	0.49
1:CC:123:TYR:N	1:CC:127:ASP:OD2	2.45	0.48
1:BC:299:ASN:N	1:BC:299:ASN:OD1	2.45	0.48
4:CK:5:ASN:OD1	4:CK:6:PHE:N	2.46	0.48
5:CN:120:VAL:HG12	5:CN:121:ASP:N	2.28	0.48
6:EB:110:PHE:HB2	6:EB:135:VAL:HG13	1.95	0.48
6:BA:43:GLU:HB2	6:BA:50:TYR:OH	2.13	0.48
6:CB:12:ILE:HD11	6:CB:32:TYR:CE2	2.48	0.48
7:DG:88:GLY:N	7:DI:85:ASN:OD1	2.46	0.48
1:AD:267:ASP:OD1	1:AD:268:SER:N	2.43	0.48
2:AE:146:GLU:OE2	2:CE:358:SER:OG	2.27	0.48
1:BC:223:GLN:HA	1:BD:41:MET:CE	2.44	0.48
1:BD:299:ASN:OD1	1:BD:299:ASN:N	2.45	0.48
4:AJ:107:VAL:O	4:AJ:107:VAL:HG13	2.13	0.48
4:CL:178:LYS:HZ3	7:CH:93:LYS:HD3	1.68	0.48
4:EK:145:LEU:HD23	4:EK:145:LEU:H	1.77	0.48
4:EL:25:ILE:HG23	4:EL:27:THR:H	1.78	0.48
4:EL:158:VAL:O	4:EL:158:VAL:HG12	2.13	0.48
5:EN:16:VAL:HG13	5:EN:16:VAL:O	2.13	0.48
6:FB:41:ASP:O	6:FB:52:THR:OG1	2.22	0.48
7:BH:445:ARG:NH2	7:BI:414:ARG:O	2.46	0.48
7:CH:381:GLY:N	7:CG:450:PRO:O	2.46	0.48
4:BL:158:VAL:O	4:BL:158:VAL:HG12	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AJ:43:PHE:CE2	4:AJ:63:ILE:HD12	2.47	0.48
4:FL:158:VAL:O	4:FL:158:VAL:HG12	2.14	0.48
4:EJ:34:SER:HB3	4:EK:123:VAL:HG21	1.95	0.48
4:EK:5:ASN:OD1	4:EK:6:PHE:N	2.46	0.48
5:DN:33:ALA:HB3	5:DN:86:ILE:HD11	1.94	0.48
5:EN:120:VAL:HG12	5:EN:121:ASP:N	2.29	0.48
6:FA:79:ALA:O	6:FA:83:ARG:N	2.41	0.48
7:AH:445:ARG:NH2	7:AI:414:ARG:O	2.45	0.48
7:FG:440:THR:OG1	7:FG:445:ARG:O	2.31	0.48
7:CH:161:ASN:ND2	7:CH:412:ASN:O	2.45	0.48
5:CN:120:VAL:HG12	5:CN:121:ASP:H	1.78	0.48
6:DA:84:VAL:HG22	6:DA:85:LEU:N	2.28	0.48
7:DI:222:LEU:O	7:DI:241:GLN:NE2	2.46	0.48
7:AG:161:ASN:ND2	7:AG:412:ASN:O	2.43	0.48
1:CC:102:PHE:HZ	6:CB:142:GLY:O	1.96	0.48
1:CC:267:ASP:OD1	1:CC:268:SER:N	2.43	0.48
2:BE:281:GLU:OE1	2:BE:281:GLU:N	2.45	0.48
4:BK:128:SER:OG	4:BK:129:PHE:N	2.46	0.48
4:AL:49:ASN:O	5:AM:81:PHE:CE2	2.67	0.48
5:BN:120:VAL:HG12	5:BN:121:ASP:N	2.28	0.48
5:FN:120:VAL:HG12	5:FN:121:ASP:N	2.28	0.48
6:EB:164:THR:HG23	6:EB:165:THR:HG22	1.96	0.48
7:FH:161:ASN:ND2	7:FH:412:ASN:O	2.44	0.48
7:FH:171:PRO:O	7:FH:174:LYS:NZ	2.32	0.48
7:EH:331:GLY:HA3	7:EH:388:GLY:HA2	1.96	0.48
7:EG:179:THR:HG21	7:EG:210:GLY:O	2.13	0.48
7:EI:222:LEU:O	7:EI:241:GLN:NE2	2.47	0.48
3:BF:1135:ASP:N	3:BF:1135:ASP:OD1	2.45	0.48
4:BL:25:ILE:HG23	4:BL:27:THR:H	1.78	0.48
4:AJ:21:TYR:O	4:AJ:22:ASN:ND2	2.47	0.48
4:AK:128:SER:OG	4:AK:129:PHE:N	2.46	0.48
4:CK:15:LEU:HD13	4:CK:124:GLU:OE1	2.14	0.48
4:EJ:21:TYR:O	4:EJ:22:ASN:ND2	2.46	0.48
6:EA:112:GLY:N	6:EA:133:TYR:OH	2.44	0.48
6:AA:84:VAL:HG22	6:AA:85:LEU:N	2.29	0.48
6:FA:84:VAL:HG22	6:FA:85:LEU:N	2.29	0.48
7:CG:263:ASP:OD1	7:CG:264:ARG:N	2.46	0.48
1:BD:192:ILE:O	7:BH:12:VAL:O	2.32	0.48
4:AL:25:ILE:HG23	4:AL:27:THR:H	1.78	0.48
4:FJ:17:THR:HG22	4:FJ:124:GLU:OE1	2.13	0.48
6:EB:138:ARG:HG3	6:BB:81:VAL:HG11	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AB:64:ALA:HB3	6:AB:129:TYR:CZ	2.49	0.48
7:DH:342:TYR:CE2	7:DH:386:ALA:HB1	2.49	0.48
7:AG:179:THR:HG21	7:AG:210:GLY:O	2.12	0.48
7:CG:440:THR:OG1	7:CG:445:ARG:O	2.32	0.48
4:BJ:130:ASN:OD1	4:BJ:131:ILE:N	2.46	0.48
4:FJ:82:LEU:O	4:FJ:83:THR:OG1	2.29	0.48
4:EL:128:SER:OG	4:EL:129:PHE:N	2.47	0.48
5:DN:16:VAL:HG13	5:DN:16:VAL:O	2.13	0.48
5:AN:16:VAL:O	5:AN:16:VAL:HG13	2.13	0.48
5:EN:33:ALA:HB3	5:EN:86:ILE:HD11	1.94	0.48
6:EA:84:VAL:HG22	6:EA:85:LEU:N	2.29	0.48
7:AH:598:ASN:OD1	7:AH:621:THR:N	2.44	0.48
7:FI:41:TYR:O	7:FI:46:GLU:N	2.45	0.48
1:CC:105:PRO:HG3	6:CB:89:TRP:NE1	1.89	0.48
6:BB:51:ASN:OD1	6:BB:52:THR:N	2.47	0.48
6:BB:164:THR:O	6:BB:165:THR:HG22	2.13	0.48
7:DH:281:ARG:NH2	7:DH:298:GLU:OE2	2.46	0.48
7:FH:331:GLY:HA3	7:FH:388:GLY:HA2	1.95	0.48
7:FG:161:ASN:ND2	7:FG:412:ASN:O	2.45	0.48
7:CI:326:THR:OG1	7:CI:345:ASP:OD2	2.23	0.48
7:EH:370:ILE:HB	7:EH:372:ILE:HD11	1.96	0.48
1:CD:192:ILE:O	7:CH:12:VAL:C	2.52	0.48
1:BD:267:ASP:OD1	1:BD:268:SER:N	2.43	0.48
5:FM:46:ILE:HD11	5:FM:51:HIS:HE1	1.79	0.48
5:CN:96:TYR:OH	5:CN:98:ARG:NH2	2.46	0.48
6:DA:31:GLU:HG2	6:DA:63:THR:HG22	1.95	0.48
6:AB:12:ILE:O	6:AB:13:LEU:HD12	2.13	0.48
6:FB:51:ASN:OD1	6:FB:52:THR:N	2.47	0.48
6:FB:64:ALA:HB3	6:FB:129:TYR:CZ	2.49	0.48
6:CA:84:VAL:HG22	6:CA:85:LEU:N	2.28	0.48
7:FG:179:THR:HG21	7:FG:210:GLY:O	2.12	0.48
4:FK:128:SER:OG	4:FK:129:PHE:N	2.47	0.47
5:AN:120:VAL:HG12	5:AN:121:ASP:N	2.29	0.47
5:CN:33:ALA:HB3	5:CN:86:ILE:HD11	1.94	0.47
6:BB:12:ILE:C	6:BB:13:LEU:HD12	2.35	0.47
6:AA:31:GLU:HG2	6:AA:63:THR:HG22	1.94	0.47
7:BG:157:SER:O	7:BG:157:SER:OG	2.33	0.47
7:AI:170:ASP:OD1	7:AI:175:ILE:N	2.39	0.47
7:FH:288:ARG:HD2	7:FH:294:LEU:HD23	1.95	0.47
7:EI:263:ASP:O	7:EI:284:LYS:NZ	2.46	0.47
1:BD:107:SER:CB	6:EB:22:ASP:N	2.77	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CJ:145:LEU:HA	4:CJ:148:ILE:HG22	1.96	0.47
4:EJ:145:LEU:HA	4:EJ:148:ILE:HG22	1.97	0.47
5:CN:16:VAL:O	5:CN:16:VAL:HG13	2.13	0.47
6:AA:32:TYR:OH	6:AA:60:MET:SD	2.69	0.47
6:FA:31:GLU:HG2	6:FA:63:THR:HG22	1.95	0.47
7:CH:283:TYR:OH	7:CH:291:LYS:NZ	2.46	0.47
3:CF:1135:ASP:N	3:CF:1135:ASP:OD1	2.45	0.47
3:CF:1151:GLU:OE1	2:CE:87:ARG:NE	2.48	0.47
4:BJ:43:PHE:HE2	4:BJ:63:ILE:HD12	1.80	0.47
4:DJ:155:ILE:HD11	4:DL:165:LEU:HD13	1.95	0.47
4:EK:9:ASP:OD1	4:EK:42:ASN:ND2	2.38	0.47
5:DM:76:ASP:OD1	5:DM:78:VAL:HG23	2.13	0.47
6:CA:31:GLU:HG2	6:CA:63:THR:HG22	1.95	0.47
7:BI:41:TYR:O	7:BI:46:GLU:N	2.45	0.47
7:CI:441:ASP:OD1	7:CI:442:SER:N	2.47	0.47
4:FJ:43:PHE:HE2	4:FJ:63:ILE:HD12	1.80	0.47
4:CL:50:ARG:HG3	5:CM:81:PHE:CD2	2.47	0.47
5:DN:120:VAL:HG12	5:DN:121:ASP:N	2.28	0.47
6:BB:64:ALA:HB3	6:BB:129:TYR:CZ	2.49	0.47
6:AB:164:THR:HG23	6:AB:165:THR:HG22	1.96	0.47
6:CB:70:ASP:OD1	6:CB:72:PHE:N	2.48	0.47
7:DG:263:ASP:OD1	7:DG:264:ARG:N	2.46	0.47
7:DI:441:ASP:OD1	7:DI:442:SER:N	2.47	0.47
1:AD:67:ARG:HH11	6:EB:47:ASP:HA	1.74	0.47
1:CD:299:ASN:N	1:CD:299:ASN:OD1	2.45	0.47
1:BC:97:GLU:OE1	6:EB:47:ASP:C	2.53	0.47
1:BC:153:LYS:HG3	6:EB:52:THR:HB	1.96	0.47
1:BC:267:ASP:OD1	1:BC:268:SER:N	2.43	0.47
4:BL:68:ASP:O	4:BL:70:TYR:N	2.43	0.47
4:DK:175:LEU:HD13	4:DL:183:ALA:HB3	1.96	0.47
4:AL:128:SER:OG	4:AL:129:PHE:N	2.47	0.47
4:EJ:107:VAL:HG13	4:EJ:107:VAL:O	2.14	0.47
5:AM:38:GLY:HA3	5:AM:81:PHE:CE1	2.48	0.47
6:BA:112:GLY:O	6:BA:133:TYR:OH	2.29	0.47
7:DI:293:SER:OG	7:DI:318:ILE:O	2.31	0.47
7:CH:328:PRO:O	7:CH:343:THR:OG1	2.19	0.47
1:CD:183:VAL:HG12	7:CG:14:ASP:HA	1.95	0.47
4:FL:50:ARG:HB2	5:FM:81:PHE:HE2	1.78	0.47
5:BN:16:VAL:HG13	5:BN:16:VAL:O	2.15	0.47
6:BA:84:VAL:HG22	6:BA:85:LEU:N	2.29	0.47
6:CA:40:THR:HG22	6:CA:52:THR:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:358:ASP:OD1	7:BI:360:LYS:N	2.47	0.47
7:AG:88:GLY:N	7:AI:85:ASN:OD1	2.47	0.47
7:AI:554:LEU:O	7:AI:601:GLN:NE2	2.43	0.47
7:FH:442:SER:O	7:FI:437:VAL:HG22	2.14	0.47
1:AC:299:ASN:N	1:AC:299:ASN:OD1	2.45	0.47
1:AD:125:ARG:CA	7:DI:290:LEU:HD11	2.45	0.47
1:BC:105:PRO:HA	6:BB:15:ARG:NH2	2.27	0.47
4:DK:50:ARG:HB2	4:DK:51:PRO:HD2	1.95	0.47
4:CK:175:LEU:HD13	4:CL:183:ALA:HB3	1.96	0.47
4:EJ:82:LEU:O	4:EJ:83:THR:OG1	2.28	0.47
4:EK:71:ASN:N	4:EK:74:ARG:O	2.47	0.47
6:EB:105:PHE:N	6:EB:144:ALA:O	2.42	0.47
6:BB:14:PHE:HD2	6:BB:72:PHE:CZ	2.33	0.47
6:BB:164:THR:O	6:BB:167:GLU:OE1	2.32	0.47
6:AB:12:ILE:C	6:AB:13:LEU:HD12	2.35	0.47
6:AB:138:ARG:HG3	6:FB:81:VAL:HG11	1.96	0.47
6:FB:164:THR:HG23	6:FB:165:THR:HG22	1.96	0.47
6:CB:41:ASP:O	6:CB:52:THR:OG1	2.25	0.47
7:BG:294:LEU:HD21	7:BG:320:MET:SD	2.54	0.47
7:BI:440:THR:OG1	7:BI:441:ASP:N	2.47	0.47
7:AI:263:ASP:O	7:AI:284:LYS:NZ	2.46	0.47
7:FI:358:ASP:OD1	7:FI:360:LYS:N	2.48	0.47
7:CI:358:ASP:OD1	7:CI:360:LYS:N	2.47	0.47
7:EH:171:PRO:O	7:EH:174:LYS:NZ	2.30	0.47
7:EH:606:ASN:ND2	7:EI:594:ASN:OD1	2.48	0.47
7:EG:88:GLY:N	7:EI:85:ASN:OD1	2.47	0.47
7:EI:554:LEU:O	7:EI:601:GLN:NE2	2.43	0.47
1:CD:207:ASN:HB3	7:CH:455:ALA:HB1	1.89	0.47
4:BJ:48:ASN:OD1	4:BJ:49:ASN:N	2.45	0.47
4:FJ:138:GLY:O	4:FJ:139:PHE:CD1	2.68	0.47
7:BG:440:THR:OG1	7:BG:445:ARG:O	2.31	0.47
7:DH:370:ILE:HB	7:DH:372:ILE:HD11	1.97	0.47
7:DI:358:ASP:OD1	7:DI:360:LYS:N	2.48	0.47
7:FH:324:SER:OG	7:FH:325:ASP:N	2.48	0.47
7:EI:358:ASP:OD1	7:EI:360:LYS:N	2.47	0.47
1:AD:124:SER:N	1:AD:127:ASP:OD2	2.47	0.47
4:BJ:138:GLY:O	4:BJ:139:PHE:CD1	2.68	0.47
4:DK:34:SER:N	4:DK:134:ASP:OD2	2.40	0.47
4:AK:52:LEU:HD12	7:AG:79:ASN:O	2.15	0.47
4:EL:88:ILE:HD12	5:EM:85:LYS:CE	2.45	0.47
5:CN:63:ASP:OD1	5:CN:63:ASP:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CM:47:ASP:N	5:CM:47:ASP:OD1	2.48	0.47
6:FB:12:ILE:C	6:FB:13:LEU:HD12	2.35	0.47
7:BH:281:ARG:NH2	7:BH:298:GLU:OE2	2.46	0.47
7:DG:294:LEU:HD21	7:DG:320:MET:SD	2.55	0.47
7:DI:178:MET:SD	7:DI:192:LEU:HD11	2.54	0.47
7:AG:14:ASP:OD1	7:AG:15:TYR:N	2.48	0.47
7:FI:326:THR:OG1	7:FI:345:ASP:OD2	2.20	0.47
2:CE:58:GLU:N	2:CE:320:ASN:OD1	2.48	0.47
4:BJ:145:LEU:HA	4:BJ:148:ILE:HG22	1.97	0.47
4:DL:51:PRO:HD2	5:DM:81:PHE:CD2	2.48	0.47
4:DL:178:LYS:HZ3	7:DH:93:LYS:HD3	1.72	0.47
4:AL:51:PRO:HD2	5:AM:81:PHE:CD2	2.50	0.47
7:BI:178:MET:SD	7:BI:192:LEU:HD11	2.54	0.47
7:EH:442:SER:O	7:EI:437:VAL:HG22	2.15	0.47
4:BL:88:ILE:HD12	5:BM:85:LYS:HZ3	1.79	0.46
4:DL:50:ARG:HD3	5:DM:81:PHE:CZ	2.50	0.46
4:FK:71:ASN:N	4:FK:74:ARG:O	2.46	0.46
6:EB:163:ASP:O	6:EA:15:ARG:NH1	2.48	0.46
6:BA:40:THR:HG22	6:BA:52:THR:O	2.14	0.46
7:BH:442:SER:O	7:BI:437:VAL:HG22	2.15	0.46
7:BI:413:ASN:N	7:BI:413:ASN:OD1	2.47	0.46
7:AG:263:ASP:OD1	7:AG:264:ARG:N	2.47	0.46
7:FH:327:GLN:NE2	7:FH:351:PRO:O	2.48	0.46
7:FI:468:ILE:HD11	7:FI:472:ASP:HB3	1.98	0.46
7:CG:294:LEU:HD21	7:CG:320:MET:SD	2.55	0.46
1:AD:107:SER:CA	6:DB:21:VAL:C	2.73	0.46
1:BD:69:ASP:OD2	7:EH:15:TYR:CE1	2.68	0.46
2:BE:58:GLU:N	2:BE:320:ASN:OD1	2.48	0.46
4:DL:68:ASP:O	4:DL:70:TYR:N	2.43	0.46
4:AJ:145:LEU:HA	4:AJ:148:ILE:HG22	1.97	0.46
4:CL:114:THR:HG23	4:CL:122:VAL:HG22	1.96	0.46
5:EM:47:ASP:OD1	5:EM:47:ASP:N	2.48	0.46
6:DB:51:ASN:OD1	6:DB:52:THR:N	2.48	0.46
7:AH:327:GLN:NE2	7:AH:351:PRO:O	2.47	0.46
7:AG:294:LEU:HD21	7:AG:320:MET:SD	2.55	0.46
7:FG:263:ASP:OD1	7:FG:264:ARG:N	2.47	0.46
7:FI:263:ASP:O	7:FI:284:LYS:NZ	2.47	0.46
3:CF:1154:LEU:HD23	2:CE:149:LYS:CG	2.46	0.46
1:CC:125:ARG:HA	7:CI:290:LEU:HD11	1.97	0.46
1:BC:66:ASN:ND2	7:BG:8:ASP:OD1	2.49	0.46
1:BC:129:GLN:O	7:DG:16:ARG:NH1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BD:301:THR:CB	7:BH:475:ASN:OD1	2.62	0.46
4:DJ:43:PHE:HE2	4:DJ:63:ILE:HD12	1.80	0.46
4:DJ:145:LEU:HA	4:DJ:148:ILE:HG22	1.96	0.46
4:DL:58:HIS:CE1	5:DN:43:GLN:HG2	2.51	0.46
4:AJ:138:GLY:O	4:AJ:139:PHE:CD1	2.69	0.46
4:FJ:145:LEU:HA	4:FJ:148:ILE:HG22	1.96	0.46
5:BN:120:VAL:HG12	5:BN:121:ASP:H	1.79	0.46
5:BM:47:ASP:OD1	5:BM:47:ASP:N	2.48	0.46
5:FN:16:VAL:O	5:FN:16:VAL:HG13	2.15	0.46
7:DI:263:ASP:O	7:DI:284:LYS:NZ	2.46	0.46
7:FG:294:LEU:HD21	7:FG:320:MET:SD	2.55	0.46
7:CG:161:ASN:ND2	7:CG:412:ASN:O	2.45	0.46
7:EG:390:ASP:OD1	7:EG:391:MET:N	2.49	0.46
1:AC:97:GLU:OE1	6:DB:47:ASP:C	2.54	0.46
1:CD:63:LYS:HE2	6:AB:52:THR:HG23	1.98	0.46
4:BJ:20:GLN:OE1	6:EA:98:LYS:O	2.34	0.46
4:BJ:107:VAL:HG13	4:BJ:107:VAL:O	2.15	0.46
4:FJ:107:VAL:O	4:FJ:107:VAL:HG13	2.15	0.46
4:FK:115:GLN:NE2	7:FG:82:LEU:O	2.42	0.46
4:FL:51:PRO:CD	5:FM:81:PHE:HD2	2.29	0.46
4:CJ:47:LYS:HB2	4:CJ:52:LEU:HD21	1.97	0.46
4:EK:175:LEU:HD13	4:EL:183:ALA:HB3	1.97	0.46
5:DN:63:ASP:N	5:DN:63:ASP:OD1	2.48	0.46
6:EB:126:ILE:CD1	6:CB:5:LYS:H	2.29	0.46
6:DA:40:THR:HG22	6:DA:52:THR:O	2.15	0.46
6:AB:105:PHE:N	6:AB:144:ALA:O	2.40	0.46
6:FB:79:ALA:O	6:FB:83:ARG:N	2.44	0.46
7:AH:331:GLY:HA3	7:AH:388:GLY:HA2	1.97	0.46
7:AH:606:ASN:ND2	7:AI:594:ASN:OD1	2.49	0.46
7:EH:327:GLN:NE2	7:EH:351:PRO:O	2.47	0.46
2:AE:58:GLU:N	2:AE:320:ASN:OD1	2.48	0.46
2:AE:203:ASP:O	2:AE:267:SER:OG	2.29	0.46
1:CD:124:SER:N	1:CD:127:ASP:OD2	2.47	0.46
4:BJ:151:ILE:HG21	4:BK:151:ILE:HD11	1.98	0.46
4:DK:15:LEU:HD13	4:DK:124:GLU:OE1	2.15	0.46
4:AJ:34:SER:HB3	4:AK:123:VAL:HG21	1.97	0.46
4:EJ:13:ILE:HD12	4:EJ:43:PHE:CE1	2.51	0.46
4:EL:40:VAL:O	4:EL:40:VAL:HG23	2.16	0.46
5:AN:63:ASP:N	5:AN:63:ASP:OD1	2.49	0.46
5:EM:38:GLY:HA3	5:EM:81:PHE:CE1	2.51	0.46
6:DA:31:GLU:HB3	6:AA:122:GLU:OE2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:468:ILE:HD11	7:BI:472:ASP:HB3	1.97	0.46
7:AH:315:GLN:NE2	7:AH:317:ASP:OD1	2.46	0.46
7:FI:222:LEU:O	7:FI:241:GLN:NE2	2.48	0.46
7:FI:413:ASN:OD1	7:FI:413:ASN:N	2.48	0.46
7:CH:278:ILE:HG22	7:CH:299:VAL:HG22	1.97	0.46
7:EG:294:LEU:HD21	7:EG:320:MET:SD	2.55	0.46
1:CC:53:SER:OG	1:CD:44:ARG:NH2	2.46	0.46
4:DJ:43:PHE:CE2	4:DJ:63:ILE:HD12	2.50	0.46
5:DN:96:TYR:OH	5:DN:98:ARG:NH2	2.46	0.46
5:CM:46:ILE:HD11	5:CM:51:HIS:HE1	1.80	0.46
6:FB:14:PHE:HD2	6:FB:72:PHE:CZ	2.33	0.46
7:DH:315:GLN:NE2	7:DH:317:ASP:OD1	2.46	0.46
7:DG:161:ASN:ND2	7:DG:412:ASN:O	2.44	0.46
7:AH:442:SER:O	7:AI:437:VAL:HG22	2.15	0.46
7:AH:588:ILE:HG21	7:AH:604:ARG:NH1	2.31	0.46
7:FI:605:ARG:NH1	7:FI:611:ALA:O	2.47	0.46
7:CI:293:SER:OG	7:CI:318:ILE:O	2.32	0.46
1:CC:97:GLU:OE1	6:FB:47:ASP:C	2.53	0.46
1:CC:299:ASN:OD1	1:CC:299:ASN:N	2.45	0.46
1:CD:107:SER:CA	6:FB:21:VAL:C	2.73	0.46
4:BL:88:ILE:CD1	5:BM:85:LYS:HE3	2.46	0.46
4:AL:50:ARG:HB2	5:AM:81:PHE:HE2	1.77	0.46
5:BN:66:ILE:HG23	5:BN:66:ILE:O	2.16	0.46
5:FN:63:ASP:N	5:FN:63:ASP:OD1	2.49	0.46
5:FN:120:VAL:HG12	5:FN:121:ASP:H	1.79	0.46
6:EB:12:ILE:HD11	6:EB:32:TYR:CE2	2.51	0.46
6:FB:163:ASP:O	6:FA:15:ARG:NH1	2.49	0.46
7:DH:442:SER:O	7:DI:437:VAL:HG22	2.16	0.46
7:AG:255:ASP:OD1	7:AG:256:VAL:N	2.49	0.46
7:CH:171:PRO:O	7:CH:174:LYS:NZ	2.34	0.46
7:EH:588:ILE:HG21	7:EH:604:ARG:NH1	2.31	0.46
4:BK:15:LEU:HD13	4:BK:124:GLU:OE1	2.16	0.46
4:FJ:73:ASP:OD1	4:FJ:74:ARG:N	2.49	0.46
4:FK:9:ASP:OD1	4:FK:42:ASN:ND2	2.36	0.46
6:AB:110:PHE:HB2	6:AB:135:VAL:HG13	1.98	0.46
7:DH:278:ILE:HG22	7:DH:299:VAL:HG22	1.97	0.46
7:EG:255:ASP:OD1	7:EG:256:VAL:N	2.49	0.46
4:BJ:47:LYS:HB2	4:BJ:52:LEU:HD21	1.98	0.46
4:CJ:164:GLN:O	4:CJ:168:ASN:ND2	2.49	0.46
4:CK:143:THR:O	4:CK:143:THR:HG23	2.16	0.46
4:EL:76:ALA:HB1	4:EL:100:PHE:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:FA:112:GLY:O	6:FA:133:TYR:OH	2.29	0.46
7:DH:226:SER:OG	7:DH:227:ALA:N	2.49	0.46
1:AD:107:SER:HB3	6:DB:22:ASP:CB	2.46	0.46
4:AK:48:ASN:OD1	4:AK:49:ASN:N	2.44	0.46
5:AM:46:ILE:HD11	5:AM:51:HIS:HE1	1.81	0.46
6:AB:14:PHE:HD2	6:AB:72:PHE:CZ	2.34	0.46
6:AB:163:ASP:O	6:AA:15:ARG:NH1	2.48	0.46
6:FA:24:THR:OG1	6:FA:25:LYS:N	2.49	0.46
7:DH:324:SER:OG	7:DH:325:ASP:N	2.49	0.46
7:DG:440:THR:OG1	7:DG:445:ARG:O	2.32	0.46
7:AG:390:ASP:OD1	7:AG:391:MET:N	2.49	0.46
7:AI:413:ASN:OD1	7:AI:413:ASN:N	2.49	0.46
7:EI:413:ASN:N	7:EI:413:ASN:OD1	2.49	0.46
3:CF:1144:ARG:HG2	3:BF:1138:THR:HG21	1.98	0.45
1:CC:124:SER:N	1:CC:127:ASP:OD2	2.47	0.45
5:FN:66:ILE:O	5:FN:66:ILE:HG23	2.16	0.45
5:CM:38:GLY:HA3	5:CM:81:PHE:CE1	2.51	0.45
6:AA:37:GLU:O	6:AA:56:VAL:HG13	2.16	0.45
7:BG:263:ASP:OD1	7:BG:264:ARG:N	2.47	0.45
7:AG:440:THR:OG1	7:AG:445:ARG:O	2.31	0.45
7:AI:605:ARG:NH1	7:AI:611:ALA:O	2.46	0.45
7:EH:324:SER:OG	7:EH:325:ASP:N	2.49	0.45
1:BD:124:SER:N	1:BD:127:ASP:OD2	2.47	0.45
2:BE:275:ASP:OD1	2:BE:276:PHE:N	2.50	0.45
4:DJ:138:GLY:O	4:DJ:139:PHE:CD1	2.70	0.45
4:DL:135:LEU:HD12	4:DL:136:VAL:O	2.17	0.45
4:AJ:14:GLU:OE2	4:AJ:46:THR:HG21	2.15	0.45
5:FN:7:VAL:HB	5:FN:37:ILE:HG22	1.98	0.45
6:EB:41:ASP:O	6:EB:52:THR:OG1	2.24	0.45
7:CG:88:GLY:N	7:CI:85:ASN:OD1	2.49	0.45
7:CI:413:ASN:OD1	7:CI:413:ASN:N	2.48	0.45
7:EI:178:MET:SD	7:EI:192:LEU:HD11	2.57	0.45
1:CD:97:GLU:OE2	6:AB:48:GLY:CA	2.64	0.45
1:CD:107:SER:N	6:FB:22:ASP:CA	2.77	0.45
1:BD:67:ARG:NH1	6:FB:47:ASP:CA	2.57	0.45
1:BD:105:PRO:CA	6:EB:15:ARG:HH22	2.11	0.45
4:DK:9:ASP:OD1	4:DK:42:ASN:ND2	2.38	0.45
4:FJ:5:ASN:ND2	7:FG:80:MET:O	2.33	0.45
4:FJ:32:TYR:OH	4:FK:22:ASN:O	2.34	0.45
4:FL:51:PRO:HD2	5:FM:81:PHE:HD2	1.81	0.45
4:EJ:138:GLY:O	4:EJ:139:PHE:CD1	2.69	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:DM:46:ILE:HD11	5:DM:51:HIS:HE1	1.80	0.45
5:FN:33:ALA:HB3	5:FN:86:ILE:HD11	1.98	0.45
5:FM:38:GLY:HA3	5:FM:81:PHE:CE1	2.51	0.45
7:BH:327:GLN:NE2	7:BH:351:PRO:O	2.48	0.45
7:DG:390:ASP:OD1	7:DG:391:MET:N	2.50	0.45
7:FI:178:MET:SD	7:FI:192:LEU:HD11	2.55	0.45
7:CG:390:ASP:OD1	7:CG:391:MET:N	2.49	0.45
1:CC:66:ASN:ND2	7:CG:8:ASP:OD1	2.49	0.45
4:FL:178:LYS:HZ2	7:FH:93:LYS:CG	2.30	0.45
5:BM:46:ILE:HD11	5:BM:51:HIS:HE1	1.79	0.45
5:EN:63:ASP:OD1	5:EN:63:ASP:N	2.49	0.45
7:AH:324:SER:OG	7:AH:325:ASP:N	2.49	0.45
7:EI:605:ARG:NH1	7:EI:611:ALA:O	2.46	0.45
1:AC:53:SER:OG	1:AD:44:ARG:NH2	2.47	0.45
2:AE:78:ASP:N	1:BC:47:MET:O	2.45	0.45
2:AE:275:ASP:OD1	2:AE:276:PHE:N	2.50	0.45
1:BD:47:MET:O	2:BE:280:ARG:NH2	2.49	0.45
4:BL:135:LEU:HD12	4:BL:136:VAL:O	2.17	0.45
4:DK:174:THR:O	4:DK:174:THR:HG22	2.17	0.45
4:FL:57:GLU:C	5:FN:43:GLN:HE22	2.20	0.45
4:CL:49:ASN:O	5:CM:78:VAL:CG1	2.65	0.45
5:BM:38:GLY:HA3	5:BM:81:PHE:CE1	2.50	0.45
6:EB:14:PHE:HD2	6:EB:72:PHE:CZ	2.34	0.45
6:EA:37:GLU:O	6:EA:56:VAL:HG13	2.16	0.45
6:AA:40:THR:HG22	6:AA:52:THR:O	2.17	0.45
7:DH:606:ASN:OD1	7:DI:618:ASN:ND2	2.49	0.45
1:AD:183:VAL:HG12	7:AG:14:ASP:HA	1.98	0.45
4:DJ:73:ASP:OD1	4:DJ:74:ARG:N	2.50	0.45
4:AL:40:VAL:HG23	4:AL:40:VAL:O	2.16	0.45
4:CJ:32:TYR:OH	4:CK:22:ASN:O	2.34	0.45
4:CL:135:LEU:HD12	4:CL:136:VAL:O	2.17	0.45
4:EJ:8:LYS:NZ	4:EJ:35:ASP:OD2	2.50	0.45
5:FM:57:LEU:CD2	5:FM:72:LEU:HD13	2.45	0.45
7:FH:606:ASN:OD1	7:FI:618:ASN:ND2	2.50	0.45
1:CD:107:SER:HB3	6:FB:22:ASP:CB	2.47	0.45
2:CE:275:ASP:OD1	2:CE:276:PHE:N	2.50	0.45
1:BD:180:ASN:HB2	7:BI:12:VAL:CG2	2.47	0.45
4:BL:76:ALA:HB1	4:BL:100:PHE:CE2	2.52	0.45
4:CJ:138:GLY:O	4:CJ:139:PHE:CD1	2.69	0.45
4:CL:76:ALA:HB1	4:CL:100:PHE:CE2	2.52	0.45
4:EK:63:ILE:HD11	4:EK:94:TYR:CD2	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EM:46:ILE:HD11	5:EM:51:HIS:HE1	1.81	0.45
6:CA:15:ARG:NE	6:CA:87:GLU:OE2	2.50	0.45
7:AH:278:ILE:HG22	7:AH:299:VAL:HG22	1.99	0.45
7:FG:88:GLY:N	7:FI:85:ASN:OD1	2.49	0.45
7:FI:578:PRO:HG3	7:FI:615:LEU:HD22	1.99	0.45
7:EH:394:ASP:OD2	7:EH:397:THR:OG1	2.15	0.45
7:EG:200:ASP:OD1	7:EG:201:ARG:N	2.49	0.45
1:AC:149:GLN:OE1	6:DB:41:ASP:CB	2.64	0.45
2:BE:129:LYS:NZ	2:BE:130:VAL:O	2.46	0.45
4:AJ:13:ILE:HD12	4:AJ:43:PHE:CE1	2.52	0.45
4:AL:135:LEU:HD12	4:AL:136:VAL:O	2.17	0.45
5:BN:63:ASP:OD1	5:BN:63:ASP:N	2.49	0.45
6:DB:5:LYS:H	6:AB:126:ILE:CD1	2.29	0.45
1:CC:153:LYS:CG	6:FB:52:THR:HB	2.47	0.45
4:BJ:14:GLU:OE2	4:BJ:46:THR:HG21	2.17	0.45
4:AK:58:HIS:NE2	7:AH:80:MET:O	2.33	0.45
4:CJ:57:GLU:OE1	4:CJ:58:HIS:ND1	2.49	0.45
4:CL:50:ARG:CD	5:CM:81:PHE:CZ	2.99	0.45
4:EL:135:LEU:HD12	4:EL:136:VAL:O	2.17	0.45
6:BA:112:GLY:N	6:BA:133:TYR:OH	2.47	0.45
7:BH:588:ILE:HG21	7:BH:604:ARG:NH1	2.31	0.45
7:CH:442:SER:O	7:CI:437:VAL:HG22	2.17	0.45
7:CH:606:ASN:OD1	7:CI:618:ASN:ND2	2.50	0.45
7:CI:509:ARG:NH2	7:CI:515:ASN:O	2.47	0.45
7:EG:440:THR:OG1	7:EG:445:ARG:O	2.31	0.45
1:CC:281:GLU:O	2:CE:295:GLN:NE2	2.50	0.45
1:BC:281:GLU:O	2:BE:295:GLN:NE2	2.49	0.45
4:BK:174:THR:O	4:BK:174:THR:HG22	2.17	0.45
4:AK:6:PHE:O	4:AK:6:PHE:CG	2.70	0.45
4:FJ:20:GLN:OE1	6:AA:98:LYS:O	2.35	0.45
4:EJ:14:GLU:OE2	4:EJ:46:THR:HG21	2.17	0.45
5:BN:7:VAL:HB	5:BN:37:ILE:HG22	1.98	0.45
7:BI:578:PRO:HG3	7:BI:615:LEU:HD22	1.98	0.45
7:FH:588:ILE:HG21	7:FH:604:ARG:NH1	2.31	0.45
7:EH:49:ALA:N	7:EG:54:GLN:O	2.50	0.45
7:EG:478:ASP:OD1	7:EG:521:ARG:NH2	2.49	0.45
4:AL:76:ALA:HB1	4:AL:100:PHE:CE2	2.51	0.44
4:CL:88:ILE:HD13	5:CM:85:LYS:HZ1	1.81	0.44
5:DN:7:VAL:HB	5:DN:37:ILE:HG22	1.98	0.44
6:BB:5:LYS:H	6:DB:126:ILE:CD1	2.29	0.44
6:CB:51:ASN:OD1	6:CB:52:THR:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CB:70:ASP:OD1	6:CB:71:ASP:N	2.50	0.44
6:CB:105:PHE:N	6:CB:144:ALA:O	2.41	0.44
7:BH:226:SER:OG	7:BH:227:ALA:N	2.50	0.44
7:BG:88:GLY:N	7:BI:85:ASN:OD1	2.51	0.44
7:BG:390:ASP:OD1	7:BG:391:MET:N	2.50	0.44
7:FH:147:GLU:O	7:FH:368:ARG:NH2	2.50	0.44
7:FH:226:SER:OG	7:FH:227:ALA:N	2.51	0.44
7:CH:315:GLN:NE2	7:CH:317:ASP:OD1	2.46	0.44
1:CC:149:GLN:OE1	6:FB:41:ASP:CB	2.65	0.44
4:DK:143:THR:HG23	4:DK:143:THR:O	2.17	0.44
4:EK:6:PHE:O	4:EK:6:PHE:CG	2.71	0.44
6:EA:11:ILE:HB	6:EA:91:VAL:HG13	1.99	0.44
6:EA:40:THR:HG22	6:EA:52:THR:O	2.17	0.44
6:BA:24:THR:OG1	6:BA:25:LYS:N	2.49	0.44
7:BH:147:GLU:O	7:BH:368:ARG:NH2	2.50	0.44
7:DI:578:PRO:HG3	7:DI:615:LEU:HD22	1.99	0.44
7:AI:509:ARG:NH2	7:AI:515:ASN:O	2.50	0.44
7:FH:606:ASN:ND2	7:FI:594:ASN:OD1	2.51	0.44
7:FI:440:THR:OG1	7:FI:441:ASP:N	2.49	0.44
7:CH:588:ILE:HG21	7:CH:604:ARG:NH1	2.32	0.44
1:CD:67:ARG:HH11	6:DB:47:ASP:HA	1.74	0.44
4:BL:50:ARG:HB2	5:BM:81:PHE:HE2	1.77	0.44
4:DJ:164:GLN:O	4:DJ:168:ASN:ND2	2.50	0.44
4:CK:148:ILE:HG23	4:CL:151:ILE:HD11	1.98	0.44
5:BN:33:ALA:HB3	5:BN:86:ILE:HD11	1.98	0.44
6:DB:14:PHE:HD2	6:DB:72:PHE:CZ	2.35	0.44
6:DB:138:ARG:HG2	6:DB:139:PHE:O	2.16	0.44
6:AA:112:GLY:N	6:AA:133:TYR:OH	2.44	0.44
7:DH:588:ILE:HG21	7:DH:604:ARG:NH1	2.32	0.44
7:DG:255:ASP:OD1	7:DG:256:VAL:N	2.51	0.44
7:AH:281:ARG:NH2	7:AH:298:GLU:OE2	2.49	0.44
7:FG:44:ASN:O	7:FI:54:GLN:NE2	2.50	0.44
7:CH:281:ARG:NH2	7:CH:298:GLU:OE2	2.46	0.44
7:EH:606:ASN:OD1	7:EI:618:ASN:ND2	2.51	0.44
2:CE:129:LYS:NZ	2:CE:130:VAL:O	2.46	0.44
2:CE:142:ASP:OD2	2:BE:362:LYS:NZ	2.40	0.44
1:BC:124:SER:N	1:BC:127:ASP:OD2	2.47	0.44
5:FM:47:ASP:OD1	5:FM:47:ASP:N	2.48	0.44
6:EB:12:ILE:C	6:EB:13:LEU:HD12	2.37	0.44
6:DB:159:TYR:OH	6:DA:138:ARG:O	2.28	0.44
6:DA:7:SER:N	6:AA:125:GLY:O	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:BI:222:LEU:O	7:BI:241:GLN:NE2	2.51	0.44
7:AI:178:MET:SD	7:AI:192:LEU:HD11	2.57	0.44
7:FI:317:ASP:OD1	7:FI:318:ILE:N	2.49	0.44
7:CH:606:ASN:ND2	7:CI:594:ASN:OD1	2.51	0.44
1:CD:100:TYR:CZ	6:FB:110:PHE:HA	2.44	0.44
1:BC:102:PHE:CD1	6:BB:142:GLY:HA3	2.52	0.44
1:BC:188:PHE:HB2	7:DH:14:ASP:HA	1.98	0.44
4:CK:174:THR:HG22	4:CK:174:THR:O	2.17	0.44
6:FB:5:LYS:H	6:CB:126:ILE:CD1	2.29	0.44
6:CB:14:PHE:HD2	6:CB:72:PHE:CZ	2.35	0.44
7:AG:157:SER:O	7:AG:157:SER:OG	2.35	0.44
7:FH:281:ARG:NH2	7:FH:298:GLU:OE2	2.47	0.44
7:CH:147:GLU:O	7:CH:368:ARG:NH2	2.50	0.44
7:CH:324:SER:OG	7:CH:325:ASP:N	2.50	0.44
1:AD:301:THR:OG1	7:AH:477:LEU:HD11	2.18	0.44
3:BF:1141:VAL:HG21	3:AF:1141:VAL:HG11	1.98	0.44
4:DK:6:PHE:CG	4:DK:6:PHE:O	2.70	0.44
4:FK:6:PHE:CG	4:FK:6:PHE:O	2.70	0.44
4:EL:174:THR:HG21	7:EH:90:ASN:HD21	1.83	0.44
6:AB:139:PHE:HE2	6:FB:77:GLU:OE2	2.01	0.44
7:BH:324:SER:OG	7:BH:325:ASP:N	2.48	0.44
7:BG:155:ASP:OD2	7:BG:415:HIS:NE2	2.49	0.44
7:DI:509:ARG:NH2	7:DI:515:ASN:O	2.49	0.44
7:CH:370:ILE:HB	7:CH:372:ILE:HD11	2.00	0.44
7:CI:578:PRO:HG3	7:CI:615:LEU:HD22	2.00	0.44
4:BL:67:THR:HB	4:BL:76:ALA:HB3	2.00	0.44
4:DJ:11:ASN:OD1	4:DJ:11:ASN:N	2.51	0.44
4:DJ:107:VAL:O	4:DJ:107:VAL:HG13	2.18	0.44
4:DK:10:ASP:OD1	4:DK:11:ASN:N	2.51	0.44
4:FL:135:LEU:HD12	4:FL:136:VAL:O	2.17	0.44
4:CK:6:PHE:O	4:CK:6:PHE:CG	2.70	0.44
4:CK:97:PRO:O	4:CK:101:LEU:HD23	2.18	0.44
4:EJ:73:ASP:OD1	4:EJ:74:ARG:N	2.51	0.44
4:EL:67:THR:HB	4:EL:76:ALA:HB3	2.00	0.44
4:EL:88:ILE:HD13	5:EM:85:LYS:HZ1	1.81	0.44
5:BM:87:PRO:HG2	5:BM:90:VAL:HG23	2.00	0.44
5:DN:111:HIS:NE2	5:DN:114:ASN:OD1	2.44	0.44
5:AN:7:VAL:HB	5:AN:37:ILE:HG22	2.00	0.44
5:FM:46:ILE:HD11	5:FM:51:HIS:CE1	2.53	0.44
5:CN:7:VAL:HB	5:CN:37:ILE:HG22	1.98	0.44
6:EB:5:LYS:H	6:BB:126:ILE:CD1	2.30	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CB:110:PHE:HB2	6:CB:135:VAL:HG13	2.00	0.44
7:EG:218:ILE:HD12	7:EG:223:TRP:CD1	2.53	0.44
1:AD:97:GLU:OE2	6:BB:48:GLY:CA	2.64	0.44
1:CC:129:GLN:O	7:EG:16:ARG:NH1	2.51	0.44
1:BC:149:GLN:OE1	6:EB:41:ASP:CB	2.66	0.44
4:AK:63:ILE:HD11	4:AK:94:TYR:CD2	2.53	0.44
4:AL:88:ILE:HD12	5:AM:85:LYS:HE2	2.00	0.44
4:AL:158:VAL:HG12	4:AL:158:VAL:O	2.18	0.44
4:CK:34:SER:N	4:CK:134:ASP:OD2	2.41	0.44
5:BM:46:ILE:HD11	5:BM:51:HIS:CE1	2.53	0.44
5:DM:46:ILE:HD11	5:DM:51:HIS:CE1	2.53	0.44
6:DA:112:GLY:O	6:DA:133:TYR:OH	2.32	0.44
6:AA:7:SER:HB2	6:FA:121:ALA:HB1	2.00	0.44
6:FB:29:LEU:HD23	6:FB:29:LEU:H	1.82	0.44
6:CA:11:ILE:HB	6:CA:91:VAL:HG13	2.00	0.44
7:BI:263:ASP:O	7:BI:284:LYS:NZ	2.47	0.44
7:FG:478:ASP:OD1	7:FG:521:ARG:NH2	2.48	0.44
7:FI:427:ASN:OD1	7:FI:428:GLN:N	2.51	0.44
7:CG:255:ASP:OD1	7:CG:256:VAL:N	2.51	0.44
7:CI:468:ILE:HD11	7:CI:472:ASP:HB3	2.00	0.44
7:EI:509:ARG:NH2	7:EI:515:ASN:O	2.51	0.44
1:AD:74:ARG:CZ	1:BC:26:ILE:HD11	2.47	0.44
1:BD:95:LYS:NZ	7:BG:20:GLU:OE2	2.51	0.44
4:DL:171:ASP:O	4:DL:174:THR:HG22	2.18	0.44
4:FK:15:LEU:HD13	4:FK:124:GLU:OE1	2.17	0.44
4:EK:174:THR:O	4:EK:174:THR:HG22	2.18	0.44
5:FM:106:GLU:O	5:FM:107:GLU:HB3	2.18	0.44
5:EN:7:VAL:HB	5:EN:37:ILE:HG22	2.00	0.44
5:EN:16:VAL:HG21	5:EN:112:VAL:O	2.18	0.44
6:BA:47:ASP:OD2	6:DB:28:PHE:N	2.44	0.44
6:AB:29:LEU:HD23	6:AB:29:LEU:H	1.83	0.44
6:FA:22:ASP:OD1	6:FA:23:ALA:N	2.51	0.44
6:FA:43:GLU:HB3	6:FA:50:TYR:OH	2.17	0.44
6:CB:138:ARG:HG2	6:CB:139:PHE:O	2.18	0.44
7:BH:606:ASN:ND2	7:BI:594:ASN:OD1	2.51	0.44
7:BH:606:ASN:OD1	7:BI:618:ASN:ND2	2.51	0.44
7:DH:147:GLU:O	7:DH:368:ARG:NH2	2.51	0.44
7:AH:606:ASN:OD1	7:AI:618:ASN:ND2	2.50	0.44
7:AG:200:ASP:OD1	7:AG:201:ARG:N	2.49	0.44
7:AI:468:ILE:HD11	7:AI:472:ASP:HB3	2.00	0.44
1:CC:26:ILE:HD11	1:BD:74:ARG:NE	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BC:164:GLU:O	1:BD:44:ARG:N	2.46	0.43
4:AJ:111:ALA:O	4:AJ:123:VAL:HG23	2.18	0.43
4:FL:76:ALA:HB1	4:FL:100:PHE:CE2	2.53	0.43
4:EL:88:ILE:CD1	5:EM:85:LYS:HE2	2.44	0.43
5:DM:7:VAL:HG22	5:DM:8:GLU:N	2.33	0.43
5:CN:16:VAL:HG21	5:CN:112:VAL:O	2.17	0.43
5:CM:7:VAL:HG22	5:CM:8:GLU:N	2.33	0.43
6:AB:5:LYS:H	6:FB:126:ILE:CD1	2.30	0.43
7:BH:76:ARG:NH1	7:BI:74:ASN:OD1	2.46	0.43
7:BI:427:ASN:OD1	7:BI:428:GLN:N	2.50	0.43
7:AH:49:ALA:N	7:AG:54:GLN:O	2.49	0.43
7:AG:478:ASP:OD1	7:AG:521:ARG:NH2	2.50	0.43
7:FH:278:ILE:HG22	7:FH:299:VAL:HG22	2.00	0.43
7:EH:283:TYR:OH	7:EH:291:LYS:NZ	2.51	0.43
1:AD:180:ASN:HB2	7:AI:12:VAL:HG22	2.00	0.43
1:CC:232:ILE:HG22	1:CC:305:VAL:HG23	2.01	0.43
2:CE:369:SER:OG	2:BE:216:GLY:O	2.36	0.43
4:BK:6:PHE:O	4:BK:6:PHE:CG	2.71	0.43
4:AK:174:THR:O	4:AK:174:THR:HG22	2.17	0.43
4:AK:175:LEU:HD13	4:AL:183:ALA:HB3	2.00	0.43
4:FK:174:THR:HG22	4:FK:174:THR:O	2.17	0.43
6:EA:43:GLU:HB3	6:EA:50:TYR:OH	2.18	0.43
6:DB:60:MET:SD	6:DB:133:TYR:HB3	2.58	0.43
6:DA:47:ASP:OD2	6:AB:28:PHE:N	2.43	0.43
6:FA:7:SER:HB2	6:CA:121:ALA:HB1	2.00	0.43
6:FA:37:GLU:O	6:FA:56:VAL:HG13	2.18	0.43
7:BG:478:ASP:OD1	7:BG:521:ARG:NH2	2.49	0.43
7:BI:605:ARG:NH1	7:BI:611:ALA:O	2.47	0.43
7:AI:293:SER:OG	7:AI:318:ILE:O	2.34	0.43
7:CH:331:GLY:HA3	7:CH:388:GLY:HA2	1.99	0.43
7:EG:157:SER:O	7:EG:157:SER:OG	2.35	0.43
1:BD:20:ILE:HD11	6:CB:50:TYR:CD2	2.51	0.43
4:DJ:34:SER:HB3	4:DK:123:VAL:HG21	2.01	0.43
4:DL:174:THR:HG21	7:DH:90:ASN:HD21	1.83	0.43
5:AM:46:ILE:HD11	5:AM:51:HIS:CE1	2.53	0.43
6:CA:37:GLU:O	6:CA:56:VAL:HG13	2.18	0.43
7:BG:218:ILE:HD12	7:BG:223:TRP:CD1	2.53	0.43
7:BG:266:THR:HG23	7:BG:281:ARG:CG	2.49	0.43
7:DH:327:GLN:NE2	7:DH:351:PRO:O	2.49	0.43
7:DI:317:ASP:OD1	7:DI:318:ILE:N	2.49	0.43
7:AI:317:ASP:OD1	7:AI:318:ILE:N	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:FG:155:ASP:OD1	7:FG:415:HIS:NE2	2.52	0.43
7:CH:226:SER:OG	7:CH:227:ALA:N	2.50	0.43
7:CG:218:ILE:HD12	7:CG:223:TRP:CD1	2.54	0.43
7:EH:278:ILE:HG22	7:EH:299:VAL:HG22	2.00	0.43
1:AC:232:ILE:HG22	1:AC:305:VAL:HG23	2.01	0.43
1:CD:232:ILE:HG22	1:CD:305:VAL:HG23	2.01	0.43
1:BC:20:ILE:CD1	6:EB:50:TYR:CD2	3.01	0.43
4:BJ:5:ASN:ND2	7:BG:80:MET:O	2.34	0.43
4:EK:16:GLN:OE1	4:EK:46:THR:OG1	2.19	0.43
5:BM:106:GLU:O	5:BM:107:GLU:HB3	2.18	0.43
5:EM:87:PRO:HG2	5:EM:90:VAL:HG23	2.01	0.43
6:BB:9:ASP:OD1	6:BB:94:ARG:NH2	2.51	0.43
6:DB:29:LEU:HD23	6:DB:29:LEU:H	1.84	0.43
6:DA:7:SER:OG	6:AA:122:GLU:O	2.28	0.43
6:AA:43:GLU:HB3	6:AA:50:TYR:OH	2.18	0.43
7:BG:44:ASN:O	7:BI:54:GLN:NE2	2.51	0.43
7:BG:161:ASN:ND2	7:BG:412:ASN:O	2.44	0.43
7:DG:200:ASP:OD1	7:DG:201:ARG:N	2.50	0.43
7:AH:264:ARG:NH1	7:AH:287:GLU:OE2	2.51	0.43
7:AG:218:ILE:HD12	7:AG:223:TRP:CD1	2.53	0.43
7:EG:142:ARG:NH1	7:EI:396:GLU:OE2	2.51	0.43
1:AD:136:GLN:NE2	1:AD:169:GLU:OE1	2.50	0.43
1:AD:232:ILE:HG22	1:AD:305:VAL:HG23	2.01	0.43
1:CC:136:GLN:NE2	1:CC:169:GLU:OE1	2.50	0.43
1:BD:280:THR:HG23	2:BE:14:PRO:HD3	2.00	0.43
4:BJ:137:SER:O	4:BL:120:ASN:ND2	2.51	0.43
4:FJ:36:ARG:H	4:FJ:101:LEU:HD12	1.83	0.43
5:BN:16:VAL:HG21	5:BN:112:VAL:O	2.18	0.43
5:FN:16:VAL:HG21	5:FN:112:VAL:O	2.18	0.43
6:EB:15:ARG:NH1	6:EB:87:GLU:OE2	2.52	0.43
6:EA:7:SER:HB2	6:BA:121:ALA:HB1	2.00	0.43
6:DA:43:GLU:HB3	6:DA:50:TYR:OH	2.19	0.43
7:BH:315:GLN:NE2	7:BH:317:ASP:OD1	2.50	0.43
7:DI:468:ILE:HD11	7:DI:472:ASP:HB3	2.00	0.43
7:DI:548:PRO:O	7:DI:573:ARG:NH1	2.52	0.43
7:AH:328:PRO:O	7:AH:343:THR:OG1	2.27	0.43
7:EI:578:PRO:HG3	7:EI:615:LEU:HD22	2.00	0.43
1:AD:193:ASP:CG	7:AH:11:ARG:O	2.56	0.43
1:BC:232:ILE:HG22	1:BC:305:VAL:HG23	2.01	0.43
4:BL:88:ILE:HD12	5:BM:85:LYS:HE2	1.97	0.43
4:DK:97:PRO:O	4:DK:101:LEU:HD23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AK:32:TYR:HB2	4:FJ:123:VAL:CG1	2.49	0.43
4:FK:175:LEU:HD13	4:FL:183:ALA:HB3	2.00	0.43
4:EJ:91:ARG:C	4:EJ:92:LEU:HD12	2.39	0.43
5:AN:16:VAL:HG21	5:AN:112:VAL:O	2.18	0.43
5:CM:46:ILE:HD11	5:CM:51:HIS:CE1	2.53	0.43
5:CM:87:PRO:HG2	5:CM:90:VAL:HG23	2.00	0.43
6:EB:12:ILE:O	6:EB:13:LEU:HD12	2.19	0.43
6:BB:162:HIS:O	6:BA:89:TRP:HH2	2.02	0.43
6:AA:11:ILE:HB	6:AA:91:VAL:HG13	2.00	0.43
7:BH:171:PRO:O	7:BH:174:LYS:NZ	2.31	0.43
7:BH:288:ARG:HD2	7:BH:294:LEU:HD22	2.00	0.43
7:DH:606:ASN:ND2	7:DI:594:ASN:OD1	2.51	0.43
7:AI:222:LEU:O	7:AI:241:GLN:NE2	2.51	0.43
7:CH:327:GLN:NE2	7:CH:351:PRO:O	2.47	0.43
7:CI:554:LEU:O	7:CI:601:GLN:NE2	2.43	0.43
1:BD:125:ARG:N	7:EI:290:LEU:CD1	2.76	0.43
4:BK:175:LEU:HD13	4:BL:183:ALA:HB3	2.00	0.43
4:AJ:73:ASP:OD1	4:AJ:74:ARG:N	2.52	0.43
4:EJ:35:ASP:O	4:EK:121:VAL:HG22	2.18	0.43
5:DN:16:VAL:HG21	5:DN:112:VAL:O	2.17	0.43
6:DB:110:PHE:HB2	6:DB:135:VAL:HG13	1.99	0.43
6:DA:70:ASP:OD1	6:DA:72:PHE:N	2.52	0.43
6:AA:24:THR:OG1	6:AA:25:LYS:N	2.52	0.43
7:BG:200:ASP:OD1	7:BG:201:ARG:N	2.51	0.43
7:DG:218:ILE:HD12	7:DG:223:TRP:CD1	2.53	0.43
7:FH:411:GLY:N	7:FG:452:GLN:OE1	2.52	0.43
7:FG:382:ASP:N	7:FG:382:ASP:OD2	2.52	0.43
7:CI:493:ASP:OD1	7:CI:493:ASP:N	2.50	0.43
7:EH:411:GLY:N	7:EG:452:GLN:OE1	2.52	0.43
7:EG:161:ASN:ND2	7:EG:412:ASN:O	2.45	0.43
1:AD:68:SER:OG	7:DG:11:ARG:CG	2.54	0.43
1:AD:194:TRP:HB3	7:AI:15:TYR:HA	1.99	0.43
1:CC:61:PHE:CD1	6:FB:43:GLU:OE1	2.72	0.43
1:BC:153:LYS:CE	6:EB:43:GLU:OE2	2.56	0.43
4:BL:174:THR:HG21	7:BH:90:ASN:HD21	1.83	0.43
4:DL:76:ALA:HB1	4:DL:100:PHE:CE2	2.54	0.43
4:CJ:34:SER:HB3	4:CK:123:VAL:HG21	2.00	0.43
5:DM:57:LEU:CD2	5:DM:72:LEU:HD13	2.46	0.43
5:AM:87:PRO:HG2	5:AM:90:VAL:HG23	2.01	0.43
6:EA:24:THR:OG1	6:EA:25:LYS:N	2.52	0.43
6:EA:146:LEU:N	6:EA:146:LEU:HD12	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AA:70:ASP:OD1	6:AA:72:PHE:N	2.52	0.43
6:FA:11:ILE:HB	6:FA:91:VAL:HG13	2.00	0.43
7:DI:440:THR:OG1	7:DI:441:ASP:N	2.51	0.43
7:DI:605:ARG:NH1	7:DI:611:ALA:O	2.47	0.43
7:AH:411:GLY:N	7:AG:452:GLN:OE1	2.51	0.43
7:CG:392:TYR:N	7:CG:401:ALA:O	2.50	0.43
7:CI:7:THR:HG22	7:CI:7:THR:O	2.18	0.43
1:AD:95:LYS:HD3	7:AG:8:ASP:O	2.19	0.43
4:BK:10:ASP:OD1	4:BK:11:ASN:N	2.52	0.43
4:AL:67:THR:HB	4:AL:76:ALA:HB3	2.01	0.43
4:FL:68:ASP:O	4:FL:70:TYR:N	2.43	0.43
4:CK:128:SER:OG	4:CK:129:PHE:N	2.52	0.43
4:CL:174:THR:HG21	7:CH:90:ASN:HD21	1.84	0.43
4:EL:114:THR:HG23	4:EL:122:VAL:HG22	2.01	0.43
5:AM:7:VAL:HG22	5:AM:8:GLU:N	2.33	0.43
6:BA:22:ASP:OD1	6:BA:23:ALA:N	2.51	0.43
6:BA:37:GLU:O	6:BA:56:VAL:HG13	2.18	0.43
6:DA:119:LEU:HA	6:DA:129:TYR:HA	2.01	0.43
7:BH:278:ILE:HG22	7:BH:299:VAL:HG22	2.00	0.43
7:BG:382:ASP:N	7:BG:382:ASP:OD1	2.52	0.43
7:DH:94:ASP:O	7:DH:97:VAL:HG12	2.19	0.43
7:DG:382:ASP:OD1	7:DG:382:ASP:N	2.52	0.43
7:DI:7:THR:O	7:DI:7:THR:HG22	2.19	0.43
7:AH:283:TYR:OH	7:AH:291:LYS:NZ	2.51	0.43
7:AI:358:ASP:OD1	7:AI:360:LYS:N	2.51	0.43
7:EI:195:ASN:OD1	7:EI:196:GLY:N	2.52	0.43
3:BF:1151:GLU:HG3	2:BE:87:ARG:HB3	2.01	0.43
1:BC:29:MET:SD	1:BC:54:ARG:NE	2.92	0.43
4:FL:178:LYS:HZ3	7:FH:93:LYS:HD3	1.69	0.43
4:CL:68:ASP:O	4:CL:70:TYR:N	2.44	0.43
5:FM:87:PRO:HG2	5:FM:90:VAL:HG23	2.00	0.43
6:EB:139:PHE:HE2	6:BB:77:GLU:OE2	2.02	0.43
6:DA:83:ARG:NH1	6:DA:114:HIS:O	2.52	0.43
7:AI:7:THR:O	7:AI:7:THR:HG22	2.19	0.43
7:EG:259:ASN:OD1	7:EG:259:ASN:N	2.52	0.43
2:AE:129:LYS:NZ	2:AE:130:VAL:O	2.46	0.42
1:CD:136:GLN:NE2	1:CD:169:GLU:OE1	2.50	0.42
1:CD:194:TRP:HB3	7:CI:15:TYR:HA	2.01	0.42
4:DK:151:ILE:HD13	4:DL:155:ILE:HG12	2.01	0.42
4:FJ:164:GLN:O	4:FJ:168:ASN:ND2	2.52	0.42
4:FK:32:TYR:HB2	4:CJ:123:VAL:CG1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:FK:63:ILE:HD11	4:FK:94:TYR:CD2	2.54	0.42
4:EL:51:PRO:CD	5:EM:81:PHE:HD2	2.32	0.42
5:AM:106:GLU:O	5:AM:107:GLU:HB3	2.19	0.42
5:EM:46:ILE:HD11	5:EM:51:HIS:CE1	2.53	0.42
6:BB:29:LEU:HD23	6:BB:29:LEU:H	1.84	0.42
6:BB:165:THR:HG23	6:BB:165:THR:O	2.19	0.42
6:BA:7:SER:HB2	6:DA:121:ALA:HB1	2.00	0.42
6:DA:5:LYS:O	6:AA:126:ILE:HA	2.19	0.42
7:FG:259:ASN:OD1	7:FG:259:ASN:N	2.52	0.42
7:CG:44:ASN:O	7:CI:54:GLN:NE2	2.52	0.42
1:AD:111:VAL:HG11	6:DB:111:GLN:HE22	1.84	0.42
1:BD:193:ASP:OD1	1:BD:194:TRP:N	2.52	0.42
1:BD:232:ILE:HG22	1:BD:305:VAL:HG23	2.01	0.42
2:BE:222:HIS:O	2:BE:222:HIS:ND1	2.50	0.42
4:BK:63:ILE:HD11	4:BK:94:TYR:CD2	2.54	0.42
4:BL:171:ASP:O	4:BL:174:THR:HG22	2.19	0.42
4:DJ:111:ALA:O	4:DJ:123:VAL:HG23	2.19	0.42
4:AL:88:ILE:CD1	5:AM:85:LYS:NZ	2.83	0.42
4:CJ:107:VAL:O	4:CJ:107:VAL:HG13	2.18	0.42
5:DM:106:GLU:O	5:DM:107:GLU:HB3	2.19	0.42
5:EM:7:VAL:HG22	5:EM:8:GLU:N	2.33	0.42
6:EA:105:PHE:CD1	6:EA:105:PHE:N	2.86	0.42
6:BA:11:ILE:HB	6:BA:91:VAL:HG13	2.00	0.42
6:AB:15:ARG:NH1	6:AB:87:GLU:OE2	2.50	0.42
6:AA:119:LEU:HA	6:AA:129:TYR:HA	2.01	0.42
6:CA:43:GLU:HB3	6:CA:50:TYR:OH	2.19	0.42
7:AG:259:ASN:OD1	7:AG:259:ASN:N	2.52	0.42
7:FH:283:TYR:OH	7:FH:291:LYS:NZ	2.52	0.42
1:BC:100:TYR:CG	6:BB:111:GLN:NE2	2.87	0.42
1:BD:194:TRP:O	1:BD:196:ALA:N	2.52	0.42
4:BJ:80:ASP:OD1	4:BJ:80:ASP:N	2.52	0.42
4:FL:67:THR:HB	4:FL:76:ALA:HB3	2.00	0.42
4:CL:88:ILE:CD1	5:CM:85:LYS:HE3	2.49	0.42
5:DM:47:ASP:N	5:DM:47:ASP:OD1	2.48	0.42
6:BA:83:ARG:NH1	6:BA:114:HIS:O	2.52	0.42
6:DB:112:GLY:C	6:DB:133:TYR:HE1	2.22	0.42
6:DA:11:ILE:HB	6:DA:91:VAL:HG13	2.00	0.42
7:FG:390:ASP:OD1	7:FG:391:MET:N	2.52	0.42
7:CI:440:THR:OG1	7:CI:441:ASP:N	2.51	0.42
7:EH:147:GLU:O	7:EH:368:ARG:NH2	2.51	0.42
7:EH:226:SER:OG	7:EH:227:ALA:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:EH:264:ARG:NH1	7:EH:287:GLU:OE2	2.52	0.42
7:EG:263:ASP:OD1	7:EG:264:ARG:N	2.47	0.42
1:AC:26:ILE:HD11	1:CD:74:ARG:CZ	2.49	0.42
1:AC:281:GLU:O	2:AE:295:GLN:NE2	2.50	0.42
1:AD:20:ILE:HD11	6:BB:50:TYR:CD2	2.47	0.42
1:AD:129:GLN:O	7:AG:16:ARG:NH1	2.52	0.42
4:DL:88:ILE:HD12	5:DM:85:LYS:CE	2.47	0.42
4:AK:80:ASP:OD2	4:AK:94:TYR:OH	2.31	0.42
4:CL:67:THR:HB	4:CL:76:ALA:HB3	2.00	0.42
4:EJ:111:ALA:O	4:EJ:123:VAL:HG23	2.19	0.42
4:EK:80:ASP:N	4:EK:80:ASP:OD1	2.51	0.42
5:CM:106:GLU:O	5:CM:107:GLU:HB3	2.19	0.42
6:EA:7:SER:N	6:BA:125:GLY:O	2.37	0.42
6:BB:166:LYS:HG2	6:BB:166:LYS:O	2.19	0.42
6:BA:40:THR:HG21	6:DA:83:ARG:NH2	2.34	0.42
6:FA:40:THR:HG21	6:CA:83:ARG:NH2	2.34	0.42
7:BG:259:ASN:N	7:BG:259:ASN:OD1	2.52	0.42
7:AH:226:SER:OG	7:AH:227:ALA:N	2.52	0.42
7:FH:370:ILE:HB	7:FH:372:ILE:HD11	2.01	0.42
7:FG:266:THR:HG23	7:FG:281:ARG:CG	2.49	0.42
7:CH:94:ASP:O	7:CH:97:VAL:HG12	2.19	0.42
7:CG:259:ASN:OD1	7:CG:259:ASN:N	2.53	0.42
1:AC:102:PHE:CE1	6:AB:142:GLY:O	2.72	0.42
1:AC:136:GLN:NE2	1:AC:169:GLU:OE1	2.50	0.42
1:AC:163:THR:O	1:AD:44:ARG:NH1	2.52	0.42
1:AD:193:ASP:OD1	1:AD:194:TRP:N	2.53	0.42
1:BD:29:MET:SD	1:BD:54:ARG:NE	2.92	0.42
4:BJ:164:GLN:O	4:BJ:168:ASN:ND2	2.53	0.42
4:BL:49:ASN:O	5:BM:78:VAL:CG1	2.68	0.42
4:FL:91:ARG:HH22	5:FM:76:ASP:N	2.17	0.42
4:CL:114:THR:CG2	4:CL:122:VAL:HG22	2.50	0.42
5:BM:7:VAL:HG22	5:BM:8:GLU:N	2.34	0.42
5:FM:7:VAL:HG22	5:FM:8:GLU:N	2.34	0.42
5:CN:111:HIS:NE2	5:CN:114:ASN:OD1	2.44	0.42
6:EA:119:LEU:HA	6:EA:129:TYR:HA	2.01	0.42
6:DB:162:HIS:O	6:DA:89:TRP:HH2	2.03	0.42
6:DA:37:GLU:O	6:DA:56:VAL:HG13	2.18	0.42
6:CA:119:LEU:HA	6:CA:129:TYR:HA	2.01	0.42
7:DH:411:GLY:N	7:DG:452:GLN:OE1	2.52	0.42
7:DI:554:LEU:O	7:DI:601:GLN:NE2	2.44	0.42
7:CG:200:ASP:OD1	7:CG:201:ARG:N	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CG:592:LYS:HB2	7:CG:600:THR:HG23	2.01	0.42
7:CI:427:ASN:OD1	7:CI:428:GLN:N	2.53	0.42
7:EH:94:ASP:O	7:EH:97:VAL:HG12	2.20	0.42
7:EH:315:GLN:NE2	7:EH:317:ASP:OD1	2.46	0.42
7:EI:7:THR:O	7:EI:7:THR:HG22	2.19	0.42
7:EI:427:ASN:OD1	7:EI:428:GLN:N	2.53	0.42
1:AC:124:SER:C	7:AI:290:LEU:HD11	2.40	0.42
1:CD:29:MET:SD	1:CD:54:ARG:NE	2.92	0.42
4:BL:39:GLY:H	4:BL:136:VAL:HG12	1.85	0.42
4:DL:25:ILE:HG12	4:DL:121:VAL:HG21	2.01	0.42
4:DL:151:ILE:O	4:DL:151:ILE:HG12	2.20	0.42
4:FJ:48:ASN:OD1	4:FJ:49:ASN:N	2.46	0.42
4:CJ:17:THR:O	4:CJ:17:THR:OG1	2.37	0.42
6:EB:72:PHE:O	6:EB:75:GLU:N	2.52	0.42
6:EB:112:GLY:C	6:EB:133:TYR:HE1	2.23	0.42
6:AB:112:GLY:C	6:AB:133:TYR:HE1	2.23	0.42
6:FB:12:ILE:HD11	6:FB:32:TYR:CE2	2.55	0.42
7:BI:7:THR:O	7:BI:7:THR:HG22	2.18	0.42
7:AH:147:GLU:O	7:AH:368:ARG:NH2	2.53	0.42
7:CH:455:ALA:O	7:CH:477:LEU:N	2.52	0.42
7:CI:222:LEU:O	7:CI:241:GLN:NE2	2.52	0.42
7:CI:317:ASP:OD1	7:CI:318:ILE:N	2.50	0.42
2:AE:118:GLN:O	2:AE:144:ARG:NH2	2.53	0.42
2:AE:253:GLN:NE2	2:AE:257:ASP:OD2	2.53	0.42
1:CD:95:LYS:HD3	7:CG:8:ASP:O	2.19	0.42
1:CD:107:SER:CA	6:FB:22:ASP:N	2.83	0.42
4:BJ:32:TYR:OH	4:BK:22:ASN:O	2.37	0.42
4:BJ:35:ASP:O	4:BK:121:VAL:HG22	2.19	0.42
4:BL:151:ILE:HG12	4:BL:151:ILE:O	2.20	0.42
4:DL:88:ILE:CD1	5:DM:85:LYS:HE2	2.50	0.42
4:AJ:32:TYR:OH	4:AK:22:ASN:O	2.37	0.42
4:FK:148:ILE:CG2	4:FL:151:ILE:HD11	2.49	0.42
4:EJ:11:ASN:OD1	4:EJ:11:ASN:N	2.53	0.42
4:EL:171:ASP:O	4:EL:174:THR:HG22	2.20	0.42
6:BB:7:SER:OG	6:DB:122:GLU:O	2.24	0.42
6:AA:146:LEU:HD12	6:AA:146:LEU:N	2.35	0.42
6:FA:112:GLY:N	6:FA:133:TYR:OH	2.47	0.42
7:AH:94:ASP:O	7:AH:97:VAL:HG12	2.20	0.42
7:FG:232:ASN:O	7:FG:234:ASN:N	2.53	0.42
7:EI:197:GLN:NE2	7:EI:462:GLU:OE1	2.53	0.42
7:EI:390:ASP:OD1	7:EI:391:MET:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AE:222:HIS:O	2:AE:222:HIS:ND1	2.50	0.42
4:DL:49:ASN:O	5:DM:78:VAL:CG1	2.68	0.42
5:AM:47:ASP:OD1	5:AM:47:ASP:N	2.48	0.42
6:EA:5:LYS:O	6:BA:126:ILE:HA	2.20	0.42
6:AB:148:GLU:HG2	6:AB:149:ALA:N	2.35	0.42
6:CB:112:GLY:C	6:CB:133:TYR:HE1	2.22	0.42
6:CA:146:LEU:HD12	6:CA:146:LEU:N	2.34	0.42
7:DH:195:ASN:ND2	7:DH:197:GLN:OE1	2.50	0.42
7:CI:548:PRO:O	7:CI:573:ARG:NH1	2.53	0.42
1:AC:193:ASP:OD1	1:AC:194:TRP:N	2.53	0.42
3:CF:1140:ILE:HD11	3:BF:1135:ASP:N	2.34	0.42
1:CC:22:ASN:HA	6:FB:45:THR:HG22	2.01	0.42
4:DL:51:PRO:HG3	5:DM:75:ASP:OD2	2.20	0.42
4:FL:171:ASP:O	4:FL:174:THR:HG22	2.19	0.42
6:DB:64:ALA:HB3	6:DB:129:TYR:CZ	2.54	0.42
6:FB:28:PHE:CD2	6:FB:67:PHE:CD1	3.08	0.42
7:BG:345:ASP:O	7:BG:347:LYS:N	2.52	0.42
7:BI:317:ASP:OD1	7:BI:318:ILE:N	2.50	0.42
7:DI:197:GLN:NE2	7:DI:462:GLU:OE1	2.53	0.42
7:AI:427:ASN:OD1	7:AI:428:GLN:N	2.52	0.42
7:AI:473:THR:O	7:AI:486:ARG:NH2	2.53	0.42
7:CH:401:ALA:CB	7:CH:426:VAL:HG21	2.49	0.42
2:CE:222:HIS:O	2:CE:222:HIS:ND1	2.50	0.42
1:BD:153:LYS:HE3	6:CB:43:GLU:CD	2.40	0.42
4:FJ:11:ASN:OD1	4:FJ:11:ASN:N	2.53	0.42
4:CL:39:GLY:H	4:CL:136:VAL:HG12	1.85	0.42
4:CL:171:ASP:O	4:CL:174:THR:HG22	2.19	0.42
6:BB:12:ILE:HD11	6:BB:32:TYR:CE2	2.55	0.42
6:FA:5:LYS:O	6:CA:126:ILE:HA	2.19	0.42
7:BH:411:GLY:N	7:BG:452:GLN:OE1	2.53	0.42
7:DI:427:ASN:OD1	7:DI:428:GLN:N	2.52	0.42
7:AI:195:ASN:OD1	7:AI:196:GLY:N	2.52	0.42
7:FI:509:ARG:NH2	7:FI:515:ASN:O	2.52	0.42
7:CG:232:ASN:O	7:CG:234:ASN:N	2.53	0.42
7:CG:382:ASP:N	7:CG:382:ASP:OD1	2.51	0.42
1:BC:14:LEU:O	1:BC:17:TYR:N	2.48	0.41
1:BC:194:TRP:O	1:BC:196:ALA:N	2.52	0.41
4:FL:39:GLY:H	4:FL:136:VAL:HG12	1.85	0.41
4:CK:10:ASP:OD1	4:CK:11:ASN:N	2.53	0.41
4:EK:50:ARG:HB2	4:EK:51:PRO:HD2	2.02	0.41
5:BM:57:LEU:CD2	5:BM:72:LEU:HD13	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:DM:87:PRO:HG2	5:DM:90:VAL:HG23	2.01	0.41
5:AM:57:LEU:CD2	5:AM:72:LEU:HD13	2.47	0.41
5:AM:59:LEU:HA	5:AM:99:CYS:HA	2.02	0.41
5:EM:106:GLU:O	5:EM:107:GLU:HB3	2.19	0.41
6:EA:47:ASP:OD2	6:BB:28:PHE:N	2.47	0.41
6:BA:5:LYS:O	6:DA:126:ILE:HA	2.19	0.41
6:BA:119:LEU:HA	6:BA:129:TYR:HA	2.01	0.41
7:FH:264:ARG:NH1	7:FH:287:GLU:OE2	2.53	0.41
7:FG:218:ILE:HD12	7:FG:223:TRP:CD1	2.55	0.41
7:CI:605:ARG:NH1	7:CI:611:ALA:O	2.47	0.41
1:CC:153:LYS:CE	6:FB:43:GLU:OE2	2.68	0.41
1:CD:180:ASN:HB2	7:CI:12:VAL:HG22	2.01	0.41
1:BC:193:ASP:OD1	1:BC:194:TRP:N	2.53	0.41
2:BE:118:GLN:O	2:BE:144:ARG:NH2	2.53	0.41
4:BJ:36:ARG:H	4:BJ:101:LEU:HD12	1.85	0.41
4:BJ:123:VAL:CG1	4:EK:32:TYR:HB2	2.50	0.41
5:DM:103:LEU:N	5:DM:103:LEU:HD12	2.35	0.41
6:BA:70:ASP:OD1	6:BA:72:PHE:N	2.53	0.41
6:AB:139:PHE:CE2	6:FB:77:GLU:OE2	2.74	0.41
6:FB:80:VAL:HG21	6:FB:117:PHE:HB2	2.02	0.41
6:FA:146:LEU:HD12	6:FA:146:LEU:N	2.35	0.41
7:BG:392:TYR:N	7:BG:401:ALA:O	2.50	0.41
7:DG:478:ASP:OD1	7:DG:521:ARG:NH2	2.53	0.41
7:DI:413:ASN:N	7:DI:413:ASN:OD1	2.50	0.41
7:FG:157:SER:O	7:FG:157:SER:OG	2.33	0.41
7:FG:200:ASP:OD1	7:FG:201:ARG:N	2.49	0.41
7:FI:396:GLU:O	7:FI:397:THR:OG1	2.38	0.41
7:CG:266:THR:HG23	7:CG:281:ARG:CG	2.50	0.41
7:EH:182:ARG:NE	7:EH:188:MET:SD	2.93	0.41
7:EG:392:TYR:N	7:EG:401:ALA:O	2.50	0.41
1:AC:124:SER:N	1:AC:127:ASP:OD2	2.47	0.41
1:AD:153:LYS:HB2	6:BB:52:THR:HB	2.01	0.41
1:CD:193:ASP:OD1	1:CD:194:TRP:N	2.53	0.41
4:AL:114:THR:HG23	4:AL:122:VAL:HG22	2.01	0.41
4:AL:190:ILE:O	4:AL:194:GLN:HG2	2.20	0.41
4:FL:178:LYS:HZ2	7:FH:93:LYS:CD	2.19	0.41
4:CL:50:ARG:HB2	5:CM:81:PHE:HE2	1.80	0.41
4:CL:88:ILE:CD1	5:CM:85:LYS:HE2	2.44	0.41
6:EA:121:ALA:HB1	6:CA:7:SER:HB2	2.01	0.41
6:EA:127:ASP:OD2	6:CA:10:ARG:NH2	2.53	0.41
6:DB:139:PHE:CD1	6:DB:139:PHE:C	2.94	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:DA:146:LEU:HD12	6:DA:146:LEU:N	2.34	0.41
6:AA:10:ARG:NH2	6:FA:127:ASP:OD2	2.52	0.41
6:FA:10:ARG:NH2	6:CA:127:ASP:OD2	2.54	0.41
6:FA:119:LEU:HA	6:FA:129:TYR:HA	2.01	0.41
6:CB:166:LYS:O	6:CB:166:LYS:HG2	2.20	0.41
7:AI:390:ASP:OD1	7:AI:391:MET:N	2.53	0.41
7:FH:278:ILE:HD12	7:FH:332:ILE:HD11	2.03	0.41
7:EH:281:ARG:NH2	7:EH:298:GLU:OE2	2.48	0.41
2:CE:118:GLN:O	2:CE:144:ARG:NH2	2.53	0.41
4:AL:39:GLY:H	4:AL:136:VAL:HG12	1.86	0.41
4:FK:58:HIS:HB3	7:FG:83:GLY:N	2.36	0.41
4:FK:145:LEU:H	4:FK:145:LEU:HD23	1.86	0.41
4:EK:128:SER:OG	4:EK:129:PHE:N	2.53	0.41
5:BN:97:VAL:HG23	5:BN:97:VAL:O	2.20	0.41
5:CM:103:LEU:HD12	5:CM:103:LEU:N	2.35	0.41
6:EA:70:ASP:OD1	6:EA:72:PHE:N	2.53	0.41
6:DA:112:GLY:N	6:DA:133:TYR:OH	2.48	0.41
6:AA:105:PHE:CD1	6:AA:105:PHE:N	2.86	0.41
7:BH:278:ILE:HD12	7:BH:332:ILE:HD11	2.03	0.41
7:BH:283:TYR:OH	7:BH:291:LYS:NZ	2.54	0.41
7:AI:214:ALA:HB2	7:AI:269:ILE:HA	2.02	0.41
7:CH:69:PHE:O	7:CH:73:LEU:HD23	2.20	0.41
1:CC:193:ASP:OD1	1:CC:194:TRP:N	2.53	0.41
1:BC:223:GLN:HE22	1:BD:43:GLY:HA3	1.85	0.41
2:BE:253:GLN:NE2	2:BE:257:ASP:OD2	2.53	0.41
4:BK:80:ASP:OD1	4:BK:80:ASP:N	2.54	0.41
4:BK:145:LEU:HD23	4:BK:145:LEU:H	1.84	0.41
4:AK:65:LEU:HD11	4:AK:107:VAL:HG11	2.03	0.41
5:AN:110:ILE:CG1	5:AM:32:THR:HG21	2.51	0.41
6:EB:162:HIS:O	6:EA:89:TRP:HH2	2.03	0.41
6:EA:126:ILE:HA	6:CA:5:LYS:O	2.19	0.41
6:BB:159:TYR:OH	6:BA:138:ARG:O	2.29	0.41
6:FB:105:PHE:N	6:FB:144:ALA:O	2.44	0.41
6:FA:83:ARG:NH1	6:FA:114:HIS:O	2.53	0.41
7:BH:182:ARG:NE	7:BH:188:MET:SD	2.93	0.41
7:DG:232:ASN:O	7:DG:234:ASN:N	2.53	0.41
7:DG:451:ILE:HG22	7:DG:452:GLN:N	2.36	0.41
7:AH:288:ARG:HD2	7:AH:294:LEU:HD22	2.01	0.41
7:AI:197:GLN:NE2	7:AI:462:GLU:OE1	2.53	0.41
7:AI:440:THR:OG1	7:AI:441:ASP:N	2.53	0.41
7:EI:371:ASP:OD2	7:EI:371:ASP:N	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CC:14:LEU:O	1:CC:17:TYR:N	2.48	0.41
2:CE:99:ILE:HD11	2:CE:147:MET:HG3	2.03	0.41
2:CE:253:GLN:NE2	2:CE:257:ASP:OD2	2.53	0.41
4:BK:50:ARG:NE	7:BG:79:ASN:OD1	2.53	0.41
4:DL:50:ARG:CD	5:DM:81:PHE:CZ	3.03	0.41
4:AJ:17:THR:HG22	4:AJ:124:GLU:OE2	2.20	0.41
4:AK:143:THR:HG23	4:AK:143:THR:O	2.21	0.41
4:AL:91:ARG:O	4:AL:92:LEU:HD12	2.21	0.41
4:CJ:17:THR:HG22	4:CJ:124:GLU:OE2	2.20	0.41
4:CJ:91:ARG:C	4:CJ:92:LEU:HD12	2.40	0.41
4:CJ:143:THR:HG22	4:CJ:147:TYR:HD2	1.85	0.41
6:DB:7:SER:OG	6:AB:122:GLU:O	2.27	0.41
6:DA:7:SER:HB2	6:AA:121:ALA:HB1	2.01	0.41
6:DA:10:ARG:NH2	6:AA:127:ASP:OD2	2.53	0.41
7:BG:232:ASN:O	7:BG:234:ASN:N	2.53	0.41
7:DI:390:ASP:OD1	7:DI:391:MET:N	2.53	0.41
1:AC:167:TYR:OH	1:AD:42:ASN:ND2	2.53	0.41
2:CE:58:GLU:OE1	2:CE:316:ARG:NH2	2.54	0.41
4:DJ:119:ASP:OD1	4:DJ:119:ASP:N	2.54	0.41
4:DJ:143:THR:HG22	4:DJ:147:TYR:HD2	1.85	0.41
4:EK:148:ILE:CG2	4:EL:151:ILE:HD11	2.50	0.41
4:EL:39:GLY:H	4:EL:136:VAL:HG12	1.85	0.41
6:BB:39:ASP:HB3	6:BB:55:SER:OG	2.20	0.41
6:DB:164:THR:OG1	6:DB:165:THR:N	2.54	0.41
6:DB:166:LYS:O	6:DB:166:LYS:HG2	2.19	0.41
6:AA:5:LYS:O	6:FA:126:ILE:HA	2.20	0.41
7:FI:263:ASP:OD2	7:FI:263:ASP:N	2.52	0.41
7:CG:451:ILE:HG22	7:CG:452:GLN:N	2.36	0.41
7:EH:288:ARG:HD2	7:EH:294:LEU:HD22	2.02	0.41
7:EG:371:ASP:N	7:EG:371:ASP:OD1	2.54	0.41
7:EI:493:ASP:OD1	7:EI:493:ASP:N	2.50	0.41
1:CC:194:TRP:O	1:CC:196:ALA:N	2.52	0.41
2:BE:234:ALA:O	2:BE:238:GLY:N	2.49	0.41
4:BJ:141:GLY:O	4:BL:114:THR:CG2	2.69	0.41
4:FL:58:HIS:CE1	5:FN:43:GLN:HG2	2.56	0.41
4:CK:9:ASP:OD1	4:CK:42:ASN:ND2	2.39	0.41
4:CL:127:PHE:HB3	4:CL:143:THR:HG23	2.03	0.41
4:EK:65:LEU:HD11	4:EK:107:VAL:HG11	2.03	0.41
5:BM:103:LEU:HD12	5:BM:103:LEU:N	2.36	0.41
5:EM:103:LEU:N	5:EM:103:LEU:HD12	2.36	0.41
6:BA:146:LEU:N	6:BA:146:LEU:HD12	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AA:83:ARG:NH1	6:AA:114:HIS:O	2.53	0.41
6:CB:164:THR:OG1	6:CB:165:THR:N	2.53	0.41
7:BH:94:ASP:O	7:BH:97:VAL:HG12	2.21	0.41
7:BH:158:PRO:HG3	7:BH:178:MET:HE1	2.03	0.41
7:BH:195:ASN:ND2	7:BH:197:GLN:OE1	2.47	0.41
7:BH:328:PRO:O	7:BH:343:THR:OG1	2.17	0.41
7:FH:315:GLN:NE2	7:FH:317:ASP:OD1	2.51	0.41
7:CH:175:ILE:HD11	7:CI:375:VAL:CG1	2.51	0.41
1:AD:47:MET:O	2:AE:280:ARG:NH2	2.54	0.41
2:AE:28:ASP:N	2:AE:28:ASP:OD1	2.54	0.41
2:AE:58:GLU:OE1	2:AE:316:ARG:NH2	2.54	0.41
2:AE:87:ARG:NH2	2:BE:202:SER:OG	2.54	0.41
4:BJ:35:ASP:O	4:BJ:37:GLY:N	2.54	0.41
4:BK:9:ASP:OD1	4:BK:42:ASN:ND2	2.38	0.41
4:BL:127:PHE:HB3	4:BL:143:THR:HG23	2.03	0.41
4:DJ:20:GLN:CD	6:BA:98:LYS:O	2.59	0.41
4:DK:58:HIS:HB3	7:DG:83:GLY:N	2.35	0.41
4:DL:121:VAL:O	4:DL:121:VAL:HG13	2.20	0.41
4:AL:63:ILE:HG13	4:AL:82:LEU:HD21	2.03	0.41
4:FJ:47:LYS:HB2	4:FJ:52:LEU:HD21	2.02	0.41
4:CL:121:VAL:HG13	4:CL:121:VAL:O	2.21	0.41
4:EJ:32:TYR:OH	4:EK:22:ASN:O	2.39	0.41
4:EL:63:ILE:HG13	4:EL:82:LEU:HD21	2.03	0.41
4:EL:91:ARG:O	4:EL:92:LEU:HD12	2.21	0.41
4:EL:167:GLN:NE2	4:EL:171:ASP:OD1	2.54	0.41
5:DM:59:LEU:HA	5:DM:99:CYS:HA	2.03	0.41
5:EM:75:ASP:HB2	5:EM:81:PHE:O	2.21	0.41
6:EB:39:ASP:HB3	6:EB:55:SER:OG	2.20	0.41
6:EB:122:GLU:O	6:CB:7:SER:OG	2.26	0.41
6:EA:83:ARG:NH1	6:EA:114:HIS:O	2.53	0.41
6:BB:80:VAL:HG21	6:BB:117:PHE:HB2	2.03	0.41
6:DB:15:ARG:NH1	6:DB:87:GLU:OE2	2.53	0.41
6:FA:70:ASP:OD1	6:FA:72:PHE:N	2.53	0.41
6:CB:15:ARG:NH1	6:CB:87:GLU:OE2	2.54	0.41
7:BG:566:ILE:HD11	7:BG:589:LEU:HD23	2.03	0.41
7:BI:493:ASP:OD1	7:BI:493:ASP:N	2.53	0.41
7:BI:509:ARG:NH2	7:BI:515:ASN:O	2.53	0.41
7:DH:229:LEU:HD23	7:DH:229:LEU:H	1.86	0.41
7:DG:259:ASN:OD1	7:DG:259:ASN:N	2.53	0.41
7:AI:371:ASP:OD2	7:AI:371:ASP:N	2.50	0.41
7:FH:328:PRO:O	7:FH:343:THR:OG1	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:FH:455:ALA:O	7:FH:477:LEU:N	2.54	0.41
7:FG:566:ILE:HD11	7:FG:589:LEU:HD23	2.02	0.41
7:FI:7:THR:HG22	7:FI:7:THR:O	2.19	0.41
7:CG:478:ASP:OD1	7:CG:521:ARG:NH2	2.54	0.41
7:CI:390:ASP:OD1	7:CI:391:MET:N	2.54	0.41
7:EH:401:ALA:CB	7:EH:426:VAL:HG21	2.48	0.41
7:EG:232:ASN:O	7:EG:234:ASN:N	2.53	0.41
7:EG:266:THR:HG23	7:EG:281:ARG:CG	2.51	0.41
7:EI:440:THR:OG1	7:EI:441:ASP:N	2.53	0.41
1:AC:125:ARG:N	7:AI:290:LEU:HD11	2.36	0.41
1:AD:125:ARG:N	7:DI:290:LEU:HD11	2.36	0.41
2:AE:369:SER:OG	2:CE:216:GLY:O	2.38	0.41
1:CC:29:MET:SD	1:CC:54:ARG:NE	2.92	0.41
2:BE:99:ILE:HD11	2:BE:147:MET:HG3	2.03	0.41
4:BJ:11:ASN:N	4:BJ:11:ASN:OD1	2.54	0.41
4:DL:50:ARG:HB2	5:DM:81:PHE:HE2	1.81	0.41
4:FL:127:PHE:HB3	4:FL:143:THR:HG23	2.03	0.41
4:EJ:47:LYS:HB2	4:EJ:52:LEU:HD21	2.02	0.41
5:FM:75:ASP:HB2	5:FM:81:PHE:O	2.21	0.41
5:CM:17:ASP:OD1	5:CM:17:ASP:N	2.54	0.41
5:EN:60:PHE:N	5:EN:60:PHE:CD1	2.89	0.41
6:EB:159:TYR:OH	6:EA:138:ARG:O	2.28	0.41
6:DA:5:LYS:HE3	6:AA:68:TYR:HA	2.03	0.41
6:AB:162:HIS:O	6:AA:89:TRP:HH2	2.04	0.41
6:CB:64:ALA:HB3	6:CB:129:TYR:CZ	2.56	0.41
6:CB:165:THR:O	6:CB:167:GLU:OE1	2.39	0.41
7:AH:195:ASN:OD1	7:AH:196:GLY:N	2.54	0.41
7:FI:390:ASP:OD1	7:FI:391:MET:N	2.54	0.41
7:CI:195:ASN:OD1	7:CI:196:GLY:N	2.54	0.41
7:EI:317:ASP:OD1	7:EI:318:ILE:N	2.50	0.41
1:AC:84:ILE:HG23	1:AD:51:TYR:CE1	2.56	0.40
1:AD:20:ILE:CD1	6:BB:50:TYR:CD2	3.01	0.40
1:AD:29:MET:SD	1:AD:54:ARG:NE	2.92	0.40
1:CC:149:GLN:CD	6:FB:41:ASP:HB3	2.42	0.40
1:BC:84:ILE:HG23	1:BD:51:TYR:CE1	2.56	0.40
4:BJ:143:THR:HG22	4:BJ:147:TYR:HD2	1.86	0.40
4:BK:120:ASN:OD1	4:BK:120:ASN:N	2.54	0.40
4:DL:67:THR:HB	4:DL:76:ALA:HB3	2.03	0.40
4:AK:103:HIS:CE1	4:AK:145:LEU:HD22	2.56	0.40
4:CJ:155:ILE:HD11	4:CL:165:LEU:HD13	2.03	0.40
5:CM:75:ASP:HB2	5:CM:81:PHE:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:EM:59:LEU:HA	5:EM:99:CYS:HA	2.02	0.40
6:EB:28:PHE:O	6:EB:64:ALA:HA	2.21	0.40
6:EA:141:ARG:CZ	6:BA:74:ASP:OD1	2.69	0.40
6:BA:7:SER:N	6:DA:125:GLY:O	2.36	0.40
6:BA:105:PHE:N	6:BA:105:PHE:CD1	2.88	0.40
7:DG:44:ASN:O	7:DI:54:GLN:NE2	2.54	0.40
7:EG:342:TYR:CE2	7:EG:386:ALA:HB1	2.57	0.40
7:EG:451:ILE:HG22	7:EG:452:GLN:N	2.37	0.40
1:CC:84:ILE:HG23	1:CD:51:TYR:CE1	2.56	0.40
1:BD:118:PHE:HE1	6:CB:51:ASN:O	2.05	0.40
1:BD:136:GLN:NE2	1:BD:169:GLU:OE1	2.50	0.40
2:BE:58:GLU:OE1	2:BE:316:ARG:NH2	2.54	0.40
4:DJ:35:ASP:O	4:DJ:37:GLY:N	2.54	0.40
4:FJ:14:GLU:OE2	4:FJ:46:THR:HG21	2.21	0.40
4:FK:120:ASN:OD1	4:FK:120:ASN:N	2.54	0.40
5:DN:4:ILE:HA	5:DN:34:SER:O	2.21	0.40
6:EB:139:PHE:CE2	6:BB:77:GLU:OE2	2.73	0.40
6:EA:45:THR:HG22	6:EA:46:MET:N	2.36	0.40
6:AA:141:ARG:CZ	6:FA:74:ASP:OD1	2.69	0.40
6:FB:138:ARG:HG2	6:FB:139:PHE:O	2.21	0.40
6:FA:95:ILE:O	6:FA:95:ILE:HG22	2.21	0.40
7:DH:278:ILE:HD12	7:DH:332:ILE:HD11	2.03	0.40
7:DG:266:THR:HG23	7:DG:281:ARG:CG	2.51	0.40
7:DG:566:ILE:HD11	7:DG:589:LEU:HD23	2.03	0.40
7:DI:256:VAL:O	7:DI:256:VAL:HG23	2.22	0.40
7:FI:493:ASP:OD1	7:FI:493:ASP:N	2.53	0.40
7:CH:182:ARG:NE	7:CH:188:MET:SD	2.93	0.40
7:CI:396:GLU:O	7:CI:397:THR:OG1	2.37	0.40
1:AC:29:MET:SD	1:AC:54:ARG:NE	2.92	0.40
1:BD:301:THR:OG1	7:BH:477:LEU:HD11	2.22	0.40
4:DL:39:GLY:H	4:DL:136:VAL:HG12	1.85	0.40
4:FL:174:THR:HG21	7:FH:90:ASN:HD21	1.87	0.40
4:CK:38:THR:OG1	4:EJ:121:VAL:O	2.40	0.40
4:EJ:63:ILE:HB	4:EJ:82:LEU:HD21	2.04	0.40
5:BN:27:THR:OG1	5:BN:28:GLU:OE1	2.39	0.40
5:DN:27:THR:OG1	5:DN:28:GLU:OE1	2.40	0.40
5:CM:112:VAL:HG13	5:CM:113:ALA:N	2.37	0.40
6:EA:68:TYR:HA	6:CA:5:LYS:HE3	2.03	0.40
6:DB:39:ASP:HB3	6:DB:55:SER:OG	2.21	0.40
6:AB:138:ARG:HG2	6:AB:139:PHE:O	2.21	0.40
6:CB:29:LEU:HD23	6:CB:29:LEU:H	1.84	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CB:139:PHE:CD1	6:CB:139:PHE:C	2.94	0.40
7:BI:197:GLN:NE2	7:BI:462:GLU:OE1	2.54	0.40
7:AG:266:THR:HG23	7:AG:281:ARG:CG	2.51	0.40
7:CI:214:ALA:HB2	7:CI:269:ILE:HA	2.03	0.40
1:AC:149:GLN:CD	6:DB:41:ASP:HB3	2.41	0.40
1:AC:153:LYS:CG	6:DB:52:THR:HB	2.51	0.40
1:AD:24:ILE:HG22	1:AD:58:VAL:HG22	2.03	0.40
1:AD:82:THR:HG22	1:AD:141:PHE:CE2	2.57	0.40
1:AD:194:TRP:O	1:AD:196:ALA:N	2.52	0.40
1:CD:107:SER:CB	6:FB:22:ASP:N	2.84	0.40
1:CD:194:TRP:O	1:CD:196:ALA:N	2.52	0.40
4:AK:13:ILE:HD13	4:AK:27:THR:HG22	2.03	0.40
4:AL:125:ARG:HE	4:AL:143:THR:HG21	1.86	0.40
4:FJ:80:ASP:OD1	4:FJ:80:ASP:N	2.52	0.40
5:AN:39:ILE:O	5:AN:45:ARG:HA	2.21	0.40
5:AM:75:ASP:HB2	5:AM:81:PHE:O	2.21	0.40
5:EN:66:ILE:HG23	5:EN:66:ILE:O	2.22	0.40
5:EN:110:ILE:CG1	5:EM:32:THR:HG21	2.51	0.40
6:EB:138:ARG:HG2	6:EB:139:PHE:O	2.22	0.40
6:AB:45:THR:OG1	6:AB:48:GLY:N	2.55	0.40
6:CA:45:THR:HG22	6:CA:46:MET:N	2.37	0.40
7:BH:370:ILE:HB	7:BH:372:ILE:HD11	2.03	0.40
7:DI:300:ARG:NH1	7:DI:310:ASP:OD1	2.54	0.40
7:AG:232:ASN:O	7:AG:234:ASN:N	2.53	0.40
7:AG:342:TYR:CE2	7:AG:386:ALA:HB1	2.57	0.40
7:AI:328:PRO:O	7:AI:343:THR:OG1	2.28	0.40
7:AI:578:PRO:HG3	7:AI:615:LEU:HD22	2.02	0.40
7:EH:195:ASN:OD1	7:EH:196:GLY:N	2.54	0.40
1:AC:82:THR:HG22	1:AC:141:PHE:CE2	2.57	0.40
1:AD:128:GLN:C	7:AG:16:ARG:HH22	2.17	0.40
1:AD:188:PHE:CD1	7:AH:15:TYR:N	2.90	0.40
1:CC:105:PRO:HG3	6:CB:89:TRP:HE1	1.82	0.40
1:CD:97:GLU:CD	6:AB:48:GLY:CA	2.88	0.40
2:CE:28:ASP:N	2:CE:28:ASP:OD1	2.54	0.40
4:DJ:63:ILE:HB	4:DJ:82:LEU:HD21	2.04	0.40
5:FM:59:LEU:HA	5:FM:99:CYS:HA	2.03	0.40
6:AB:67:PHE:CZ	6:AB:70:ASP:HB2	2.57	0.40
6:FA:35:SER:OG	6:FA:59:THR:O	2.36	0.40
6:FA:45:THR:HG22	6:FA:46:MET:N	2.36	0.40
6:CA:70:ASP:OD1	6:CA:72:PHE:N	2.54	0.40
7:AH:401:ALA:CB	7:AH:426:VAL:HG21	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:FG:451:ILE:HG22	7:FG:452:GLN:N	2.36	0.40
7:EH:175:ILE:HD11	7:EI:375:VAL:CG1	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	AC	312/315 (99%)	278 (89%)	34 (11%)	0	100	100
1	AD	312/315 (99%)	278 (89%)	34 (11%)	0	100	100
1	BC	312/315 (99%)	278 (89%)	34 (11%)	0	100	100
1	BD	312/315 (99%)	278 (89%)	34 (11%)	0	100	100
1	CC	312/315 (99%)	278 (89%)	34 (11%)	0	100	100
1	CD	312/315 (99%)	278 (89%)	34 (11%)	0	100	100
2	AE	385/633 (61%)	339 (88%)	46 (12%)	0	100	100
2	BE	385/633 (61%)	339 (88%)	46 (12%)	0	100	100
2	CE	385/633 (61%)	339 (88%)	46 (12%)	0	100	100
3	AF	18/1154 (2%)	17 (94%)	1 (6%)	0	100	100
3	BF	18/1154 (2%)	17 (94%)	1 (6%)	0	100	100
3	CF	18/1154 (2%)	17 (94%)	1 (6%)	0	100	100
4	AJ	165/607 (27%)	137 (83%)	28 (17%)	0	100	100
4	AK	187/607 (31%)	169 (90%)	18 (10%)	0	100	100
4	AL	179/607 (30%)	158 (88%)	21 (12%)	0	100	100
4	BJ	165/607 (27%)	133 (81%)	32 (19%)	0	100	100
4	BK	187/607 (31%)	166 (89%)	21 (11%)	0	100	100
4	BL	179/607 (30%)	157 (88%)	22 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	CJ	165/607 (27%)	136 (82%)	28 (17%)	1 (1%)	25	62
4	CK	187/607 (31%)	169 (90%)	18 (10%)	0	100	100
4	CL	179/607 (30%)	159 (89%)	20 (11%)	0	100	100
4	DJ	165/607 (27%)	136 (82%)	29 (18%)	0	100	100
4	DK	187/607 (31%)	168 (90%)	19 (10%)	0	100	100
4	DL	179/607 (30%)	160 (89%)	19 (11%)	0	100	100
4	EJ	165/607 (27%)	137 (83%)	28 (17%)	0	100	100
4	EK	187/607 (31%)	166 (89%)	21 (11%)	0	100	100
4	EL	179/607 (30%)	158 (88%)	21 (12%)	0	100	100
4	FJ	165/607 (27%)	133 (81%)	32 (19%)	0	100	100
4	FK	187/607 (31%)	166 (89%)	21 (11%)	0	100	100
4	FL	179/607 (30%)	158 (88%)	21 (12%)	0	100	100
5	AM	121/390 (31%)	102 (84%)	19 (16%)	0	100	100
5	AN	119/390 (30%)	103 (87%)	16 (13%)	0	100	100
5	BM	121/390 (31%)	101 (84%)	20 (16%)	0	100	100
5	BN	119/390 (30%)	106 (89%)	13 (11%)	0	100	100
5	CM	121/390 (31%)	101 (84%)	20 (16%)	0	100	100
5	CN	119/390 (30%)	104 (87%)	15 (13%)	0	100	100
5	DM	121/390 (31%)	100 (83%)	21 (17%)	0	100	100
5	DN	119/390 (30%)	104 (87%)	15 (13%)	0	100	100
5	EM	121/390 (31%)	102 (84%)	19 (16%)	0	100	100
5	EN	119/390 (30%)	103 (87%)	16 (13%)	0	100	100
5	FM	121/390 (31%)	102 (84%)	19 (16%)	0	100	100
5	FN	119/390 (30%)	106 (89%)	13 (11%)	0	100	100
6	AA	145/193 (75%)	139 (96%)	6 (4%)	0	100	100
6	AB	164/193 (85%)	152 (93%)	12 (7%)	0	100	100
6	BA	145/193 (75%)	140 (97%)	5 (3%)	0	100	100
6	BB	164/193 (85%)	147 (90%)	17 (10%)	0	100	100
6	CA	145/193 (75%)	142 (98%)	3 (2%)	0	100	100
6	CB	164/193 (85%)	146 (89%)	18 (11%)	0	100	100
6	DA	145/193 (75%)	142 (98%)	3 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	DB	164/193 (85%)	149 (91%)	15 (9%)	0	100	100
6	EA	145/193 (75%)	139 (96%)	6 (4%)	0	100	100
6	EB	164/193 (85%)	150 (92%)	14 (8%)	0	100	100
6	FA	145/193 (75%)	141 (97%)	4 (3%)	0	100	100
6	FB	164/193 (85%)	148 (90%)	16 (10%)	0	100	100
7	AG	633/636 (100%)	567 (90%)	65 (10%)	1 (0%)	47	78
7	AH	632/636 (99%)	576 (91%)	56 (9%)	0	100	100
7	AI	632/636 (99%)	579 (92%)	53 (8%)	0	100	100
7	BG	633/636 (100%)	570 (90%)	62 (10%)	1 (0%)	47	78
7	BH	632/636 (99%)	576 (91%)	56 (9%)	0	100	100
7	BI	632/636 (99%)	581 (92%)	51 (8%)	0	100	100
7	CG	633/636 (100%)	567 (90%)	65 (10%)	1 (0%)	47	78
7	CH	632/636 (99%)	577 (91%)	55 (9%)	0	100	100
7	CI	632/636 (99%)	582 (92%)	50 (8%)	0	100	100
7	DG	633/636 (100%)	567 (90%)	65 (10%)	1 (0%)	47	78
7	DH	632/636 (99%)	576 (91%)	56 (9%)	0	100	100
7	DI	632/636 (99%)	582 (92%)	50 (8%)	0	100	100
7	EG	633/636 (100%)	570 (90%)	62 (10%)	1 (0%)	47	78
7	EH	632/636 (99%)	576 (91%)	56 (9%)	0	100	100
7	EI	632/636 (99%)	580 (92%)	52 (8%)	0	100	100
7	FG	633/636 (100%)	569 (90%)	63 (10%)	1 (0%)	47	78
7	FH	632/636 (99%)	571 (90%)	61 (10%)	0	100	100
7	FI	632/636 (99%)	578 (92%)	54 (8%)	0	100	100
All	All	20943/36621 (57%)	18815 (90%)	2121 (10%)	7 (0%)	100	100

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	DG	481	LEU
7	CG	481	LEU
7	BG	481	LEU
7	AG	481	LEU
7	FG	481	LEU
7	EG	481	LEU

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Mol	Chain	Res	Type
4	CJ	23	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	AC	288/290 (99%)	285 (99%)	3 (1%)	76	86
1	AD	288/290 (99%)	285 (99%)	3 (1%)	76	86
1	BC	288/290 (99%)	285 (99%)	3 (1%)	76	86
1	BD	288/290 (99%)	285 (99%)	3 (1%)	76	86
1	CC	288/290 (99%)	285 (99%)	3 (1%)	76	86
1	CD	288/290 (99%)	285 (99%)	3 (1%)	76	86
2	AE	339/549 (62%)	335 (99%)	4 (1%)	71	84
2	BE	339/549 (62%)	335 (99%)	4 (1%)	71	84
2	CE	339/549 (62%)	335 (99%)	4 (1%)	71	84
3	AF	17/965 (2%)	17 (100%)	0	100	100
3	BF	17/965 (2%)	17 (100%)	0	100	100
3	CF	17/965 (2%)	17 (100%)	0	100	100
4	AJ	152/526 (29%)	152 (100%)	0	100	100
4	AK	170/526 (32%)	170 (100%)	0	100	100
4	AL	161/526 (31%)	160 (99%)	1 (1%)	86	93
4	BJ	152/526 (29%)	152 (100%)	0	100	100
4	BK	170/526 (32%)	170 (100%)	0	100	100
4	BL	161/526 (31%)	160 (99%)	1 (1%)	86	93
4	CJ	152/526 (29%)	152 (100%)	0	100	100
4	CK	170/526 (32%)	170 (100%)	0	100	100
4	CL	161/526 (31%)	160 (99%)	1 (1%)	86	93
4	DJ	152/526 (29%)	152 (100%)	0	100	100
4	DK	170/526 (32%)	170 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	DL	161/526 (31%)	160 (99%)	1 (1%)	86	93
4	EJ	152/526 (29%)	152 (100%)	0	100	100
4	EK	170/526 (32%)	170 (100%)	0	100	100
4	EL	161/526 (31%)	160 (99%)	1 (1%)	86	93
4	FJ	152/526 (29%)	152 (100%)	0	100	100
4	FK	170/526 (32%)	170 (100%)	0	100	100
4	FL	161/526 (31%)	160 (99%)	1 (1%)	86	93
5	AM	109/342 (32%)	109 (100%)	0	100	100
5	AN	108/342 (32%)	108 (100%)	0	100	100
5	BM	109/342 (32%)	109 (100%)	0	100	100
5	BN	108/342 (32%)	108 (100%)	0	100	100
5	CM	109/342 (32%)	109 (100%)	0	100	100
5	CN	108/342 (32%)	108 (100%)	0	100	100
5	DM	109/342 (32%)	109 (100%)	0	100	100
5	DN	108/342 (32%)	108 (100%)	0	100	100
5	EM	109/342 (32%)	109 (100%)	0	100	100
5	EN	108/342 (32%)	108 (100%)	0	100	100
5	FM	109/342 (32%)	109 (100%)	0	100	100
5	FN	108/342 (32%)	108 (100%)	0	100	100
6	AA	120/160 (75%)	120 (100%)	0	100	100
6	AB	136/160 (85%)	136 (100%)	0	100	100
6	BA	120/160 (75%)	120 (100%)	0	100	100
6	BB	136/160 (85%)	136 (100%)	0	100	100
6	CA	120/160 (75%)	120 (100%)	0	100	100
6	CB	136/160 (85%)	136 (100%)	0	100	100
6	DA	120/160 (75%)	120 (100%)	0	100	100
6	DB	136/160 (85%)	136 (100%)	0	100	100
6	EA	120/160 (75%)	120 (100%)	0	100	100
6	EB	136/160 (85%)	136 (100%)	0	100	100
6	FA	120/160 (75%)	120 (100%)	0	100	100
6	FB	136/160 (85%)	136 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	AG	561/562 (100%)	559 (100%)	2 (0%)	91	95
7	AH	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	AI	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	BG	561/562 (100%)	559 (100%)	2 (0%)	91	95
7	BH	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	BI	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	CG	561/562 (100%)	560 (100%)	1 (0%)	93	97
7	CH	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	CI	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	DG	561/562 (100%)	560 (100%)	1 (0%)	93	97
7	DH	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	DI	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	EG	561/562 (100%)	559 (100%)	2 (0%)	91	95
7	EH	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	EI	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	FG	561/562 (100%)	559 (100%)	2 (0%)	91	95
7	FH	560/562 (100%)	559 (100%)	1 (0%)	93	97
7	FI	560/562 (100%)	559 (100%)	1 (0%)	93	97
All	All	18618/31890 (58%)	18560 (100%)	58 (0%)	92	96

All (58) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AC	37	ASP
1	AC	150	LYS
1	AC	285	SER
1	AD	37	ASP
1	AD	150	LYS
1	AD	285	SER
2	AE	72	ASP
2	AE	75	SER
2	AE	165	LYS
2	AE	247	ASP
1	CC	37	ASP
1	CC	150	LYS
1	CC	285	SER

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Mol	Chain	Res	Type
1	CD	37	ASP
1	CD	150	LYS
1	CD	285	SER
2	CE	72	ASP
2	CE	75	SER
2	CE	165	LYS
2	CE	247	ASP
1	BC	37	ASP
1	BC	150	LYS
1	BC	285	SER
1	BD	37	ASP
1	BD	150	LYS
1	BD	285	SER
2	BE	72	ASP
2	BE	75	SER
2	BE	165	LYS
2	BE	247	ASP
4	BL	66	LYS
4	DL	66	LYS
4	AL	66	LYS
4	FL	66	LYS
4	CL	66	LYS
4	EL	66	LYS
7	BH	573	ARG
7	BG	124	LYS
7	BG	243	ARG
7	BI	124	LYS
7	DH	573	ARG
7	DG	243	ARG
7	DI	124	LYS
7	AH	573	ARG
7	AG	124	LYS
7	AG	243	ARG
7	AI	124	LYS
7	FH	573	ARG
7	FG	124	LYS
7	FG	243	ARG
7	FI	124	LYS
7	CH	573	ARG
7	CG	243	ARG
7	CI	124	LYS
7	EH	573	ARG

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Mol	Chain	Res	Type
7	EG	124	LYS
7	EG	243	ARG
7	EI	124	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77) such sidechains are listed below:

Mol	Chain	Res	Type
3	CF	1145	ASN
3	CF	1149	ASN
2	CE	347	ASN
1	BC	223	GLN
1	BC	225	ASN
1	BD	42	ASN
1	BD	66	ASN
4	BJ	5	ASN
4	BJ	20	GLN
4	BJ	22	ASN
4	BJ	168	ASN
4	DJ	5	ASN
4	DJ	20	GLN
4	DJ	22	ASN
4	DJ	168	ASN
4	DL	48	ASN
4	AJ	5	ASN
4	AJ	22	ASN
4	AJ	168	ASN
4	FJ	5	ASN
4	FJ	168	ASN
4	CJ	5	ASN
4	CJ	20	GLN
4	CJ	22	ASN
4	CJ	49	ASN
4	CJ	168	ASN
4	CL	48	ASN
4	EJ	5	ASN
4	EJ	22	ASN
4	EJ	168	ASN
5	BN	43	GLN
5	BN	118	ASN
5	DN	43	GLN
5	DN	118	ASN
5	DM	118	ASN

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Mol	Chain	Res	Type
5	AN	43	GLN
5	AN	118	ASN
5	FN	43	GLN
5	FN	118	ASN
5	CN	43	GLN
5	CN	118	ASN
5	CM	118	ASN
5	EN	43	GLN
5	EN	118	ASN
6	BB	111	GLN
6	DB	111	GLN
7	BH	3	ASN
7	BH	90	ASN
7	BH	350	ASN
7	BI	241	GLN
7	BI	377	ASN
7	BI	613	GLN
7	DH	90	ASN
7	DH	350	ASN
7	DG	61	ASN
7	DI	241	GLN
7	DI	613	GLN
7	AH	90	ASN
7	AH	350	ASN
7	AG	61	ASN
7	AI	241	GLN
7	AI	613	GLN
7	FH	90	ASN
7	FH	350	ASN
7	FG	61	ASN
7	FI	241	GLN
7	FI	613	GLN
7	CH	90	ASN
7	CH	350	ASN
7	CG	61	ASN
7	CI	241	GLN
7	CI	613	GLN
7	EH	90	ASN
7	EH	350	ASN
7	EG	61	ASN
7	EI	241	GLN
7	EI	613	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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.

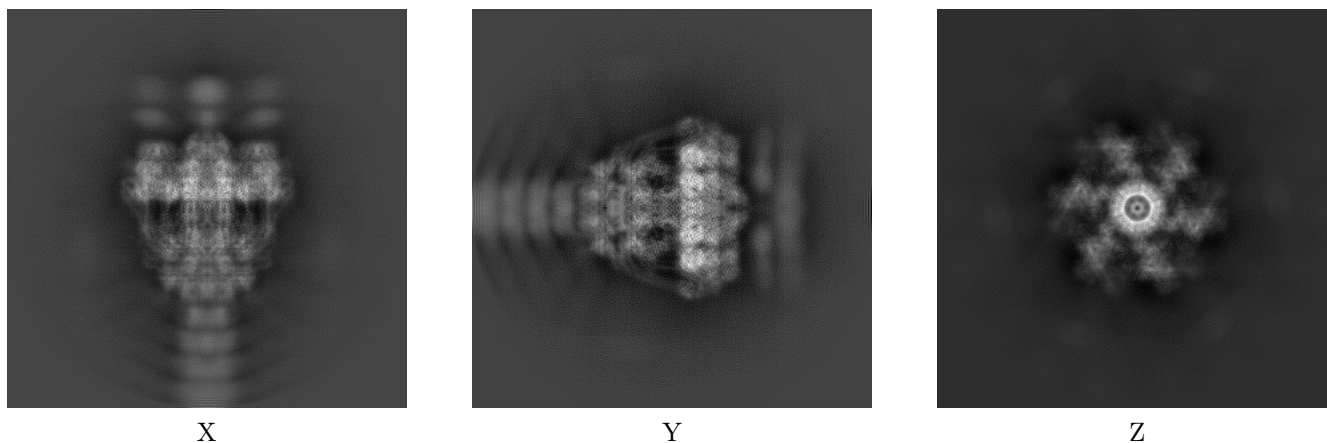
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-20872. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

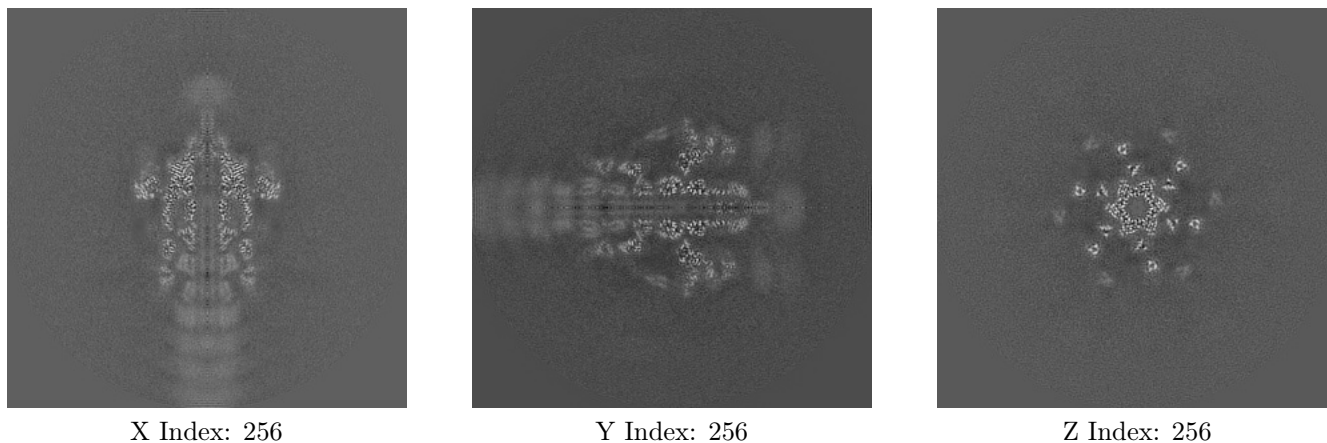
6.1.1 Primary map



The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

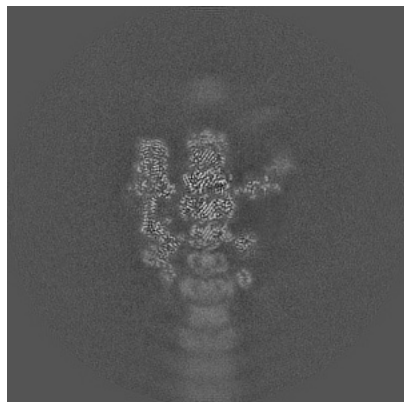
6.2.1 Primary map



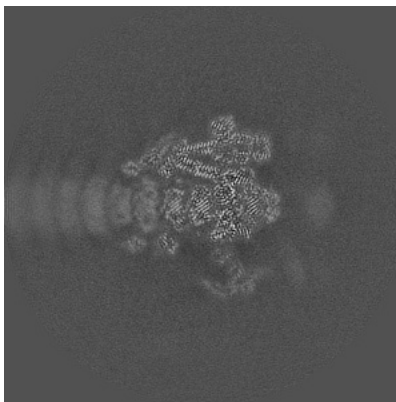
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

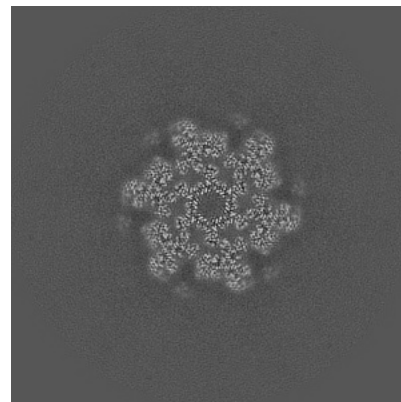
6.3.1 Primary map



X Index: 274



Y Index: 238

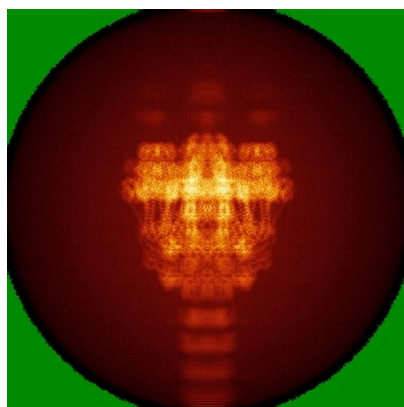


Z Index: 281

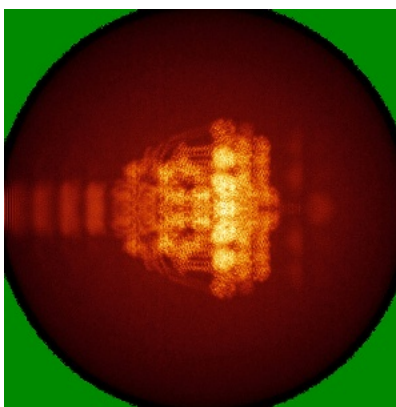
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

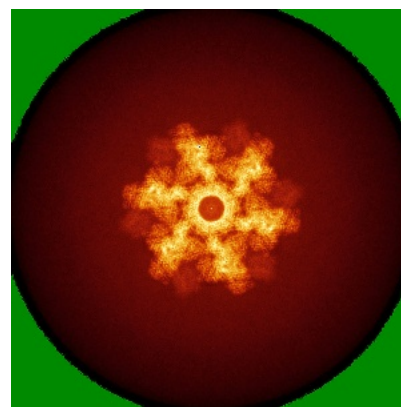
6.4.1 Primary map



X



Y

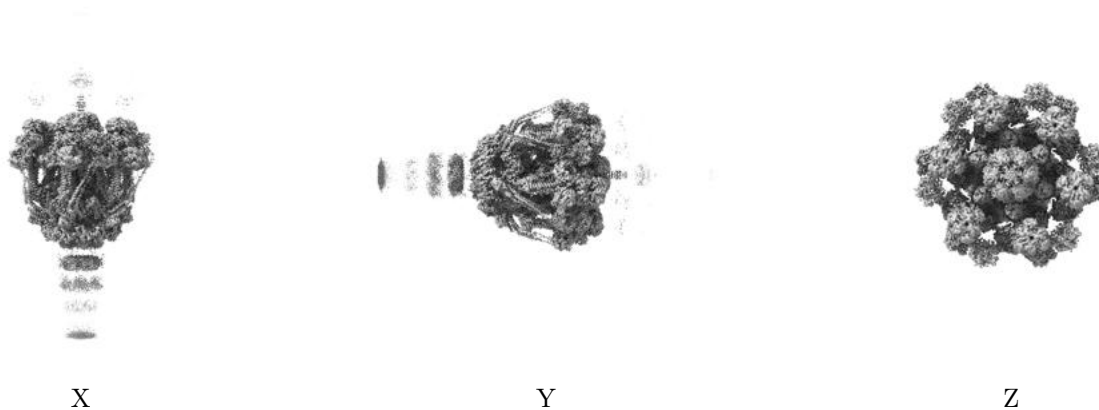


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 4.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

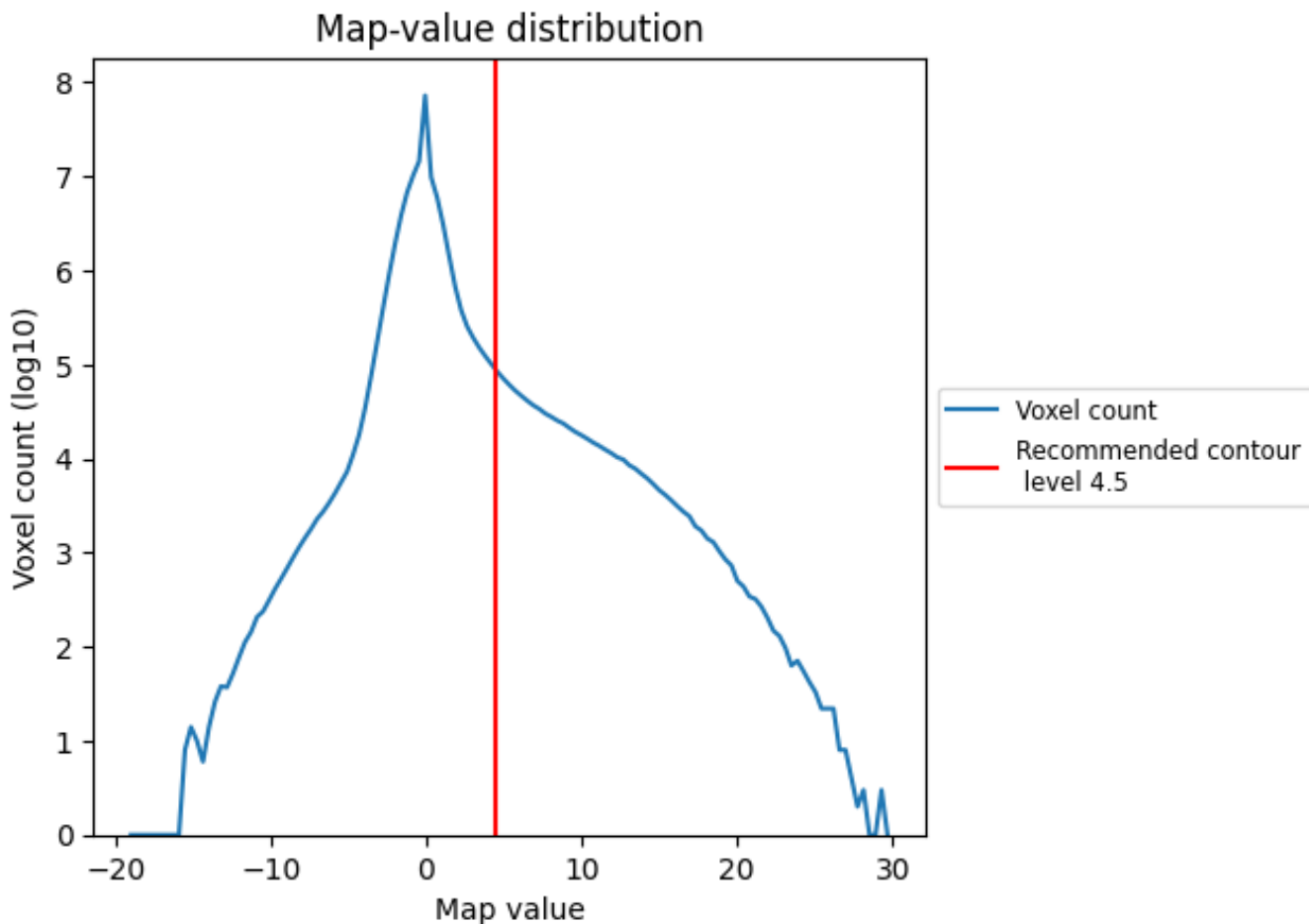
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

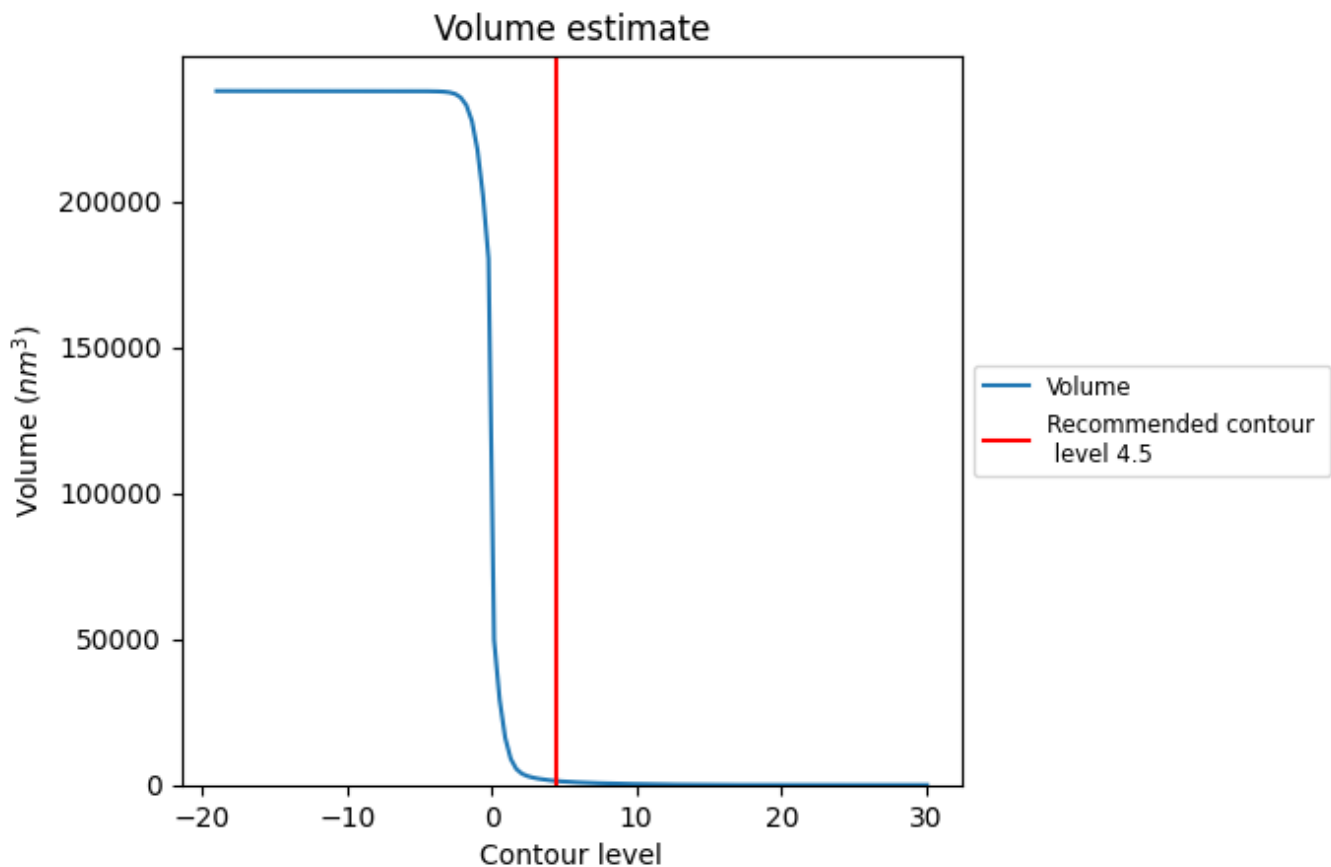
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

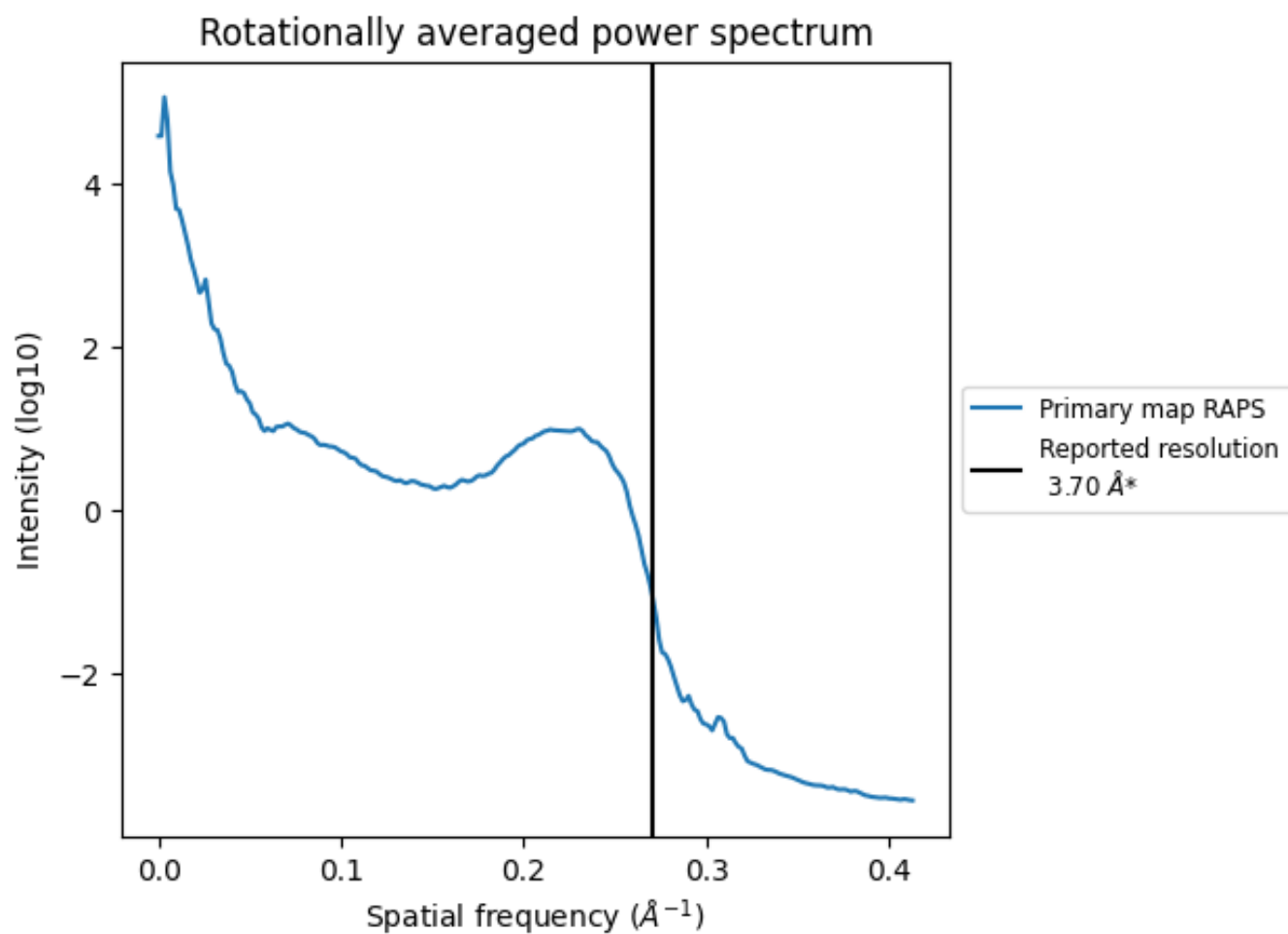
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1359 nm^3 ; this corresponds to an approximate mass of 1228 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)

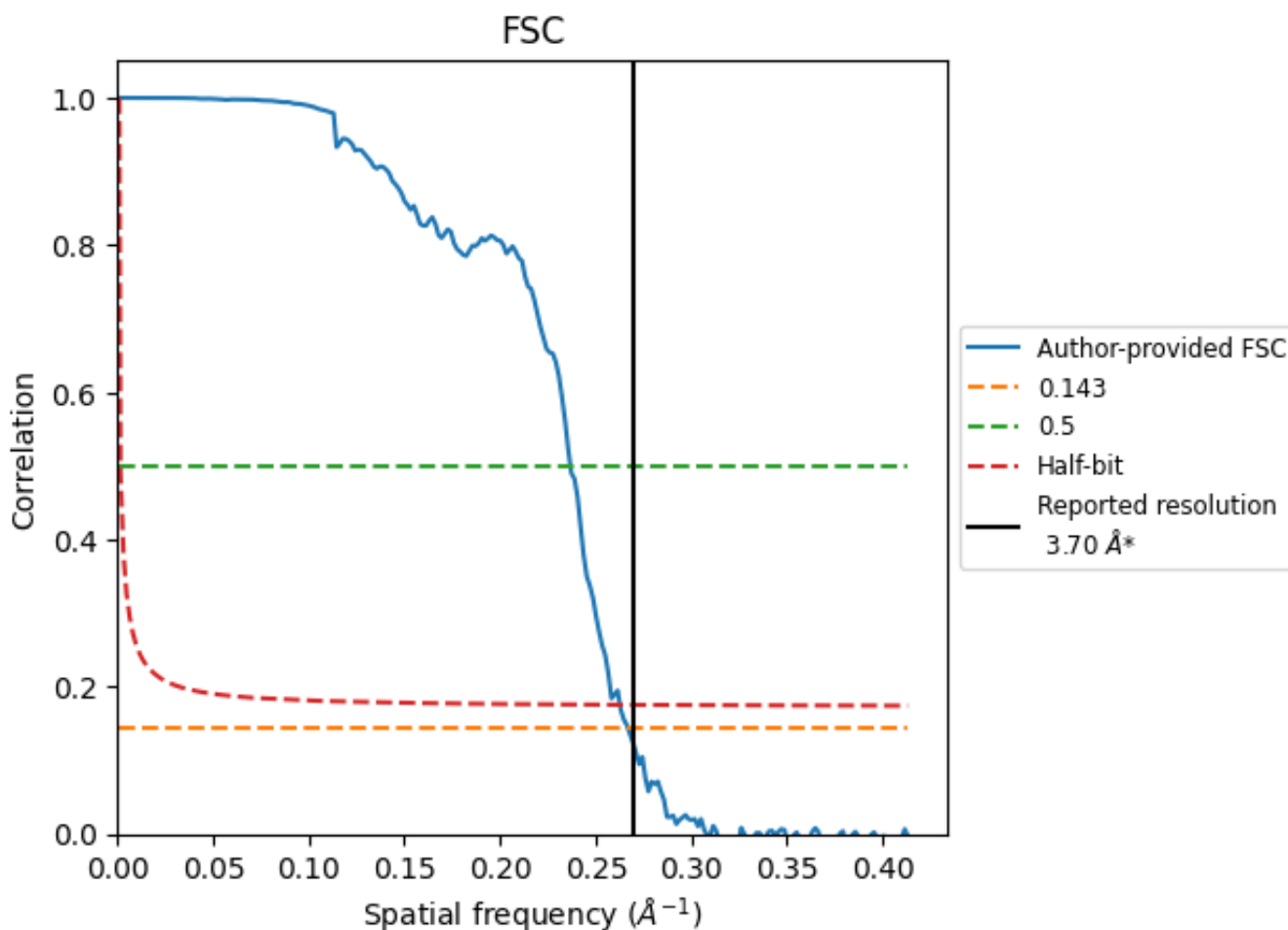


*Reported resolution corresponds to spatial frequency of 0.270\AA^{-1}

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8.2 Resolution estimates [i](#)

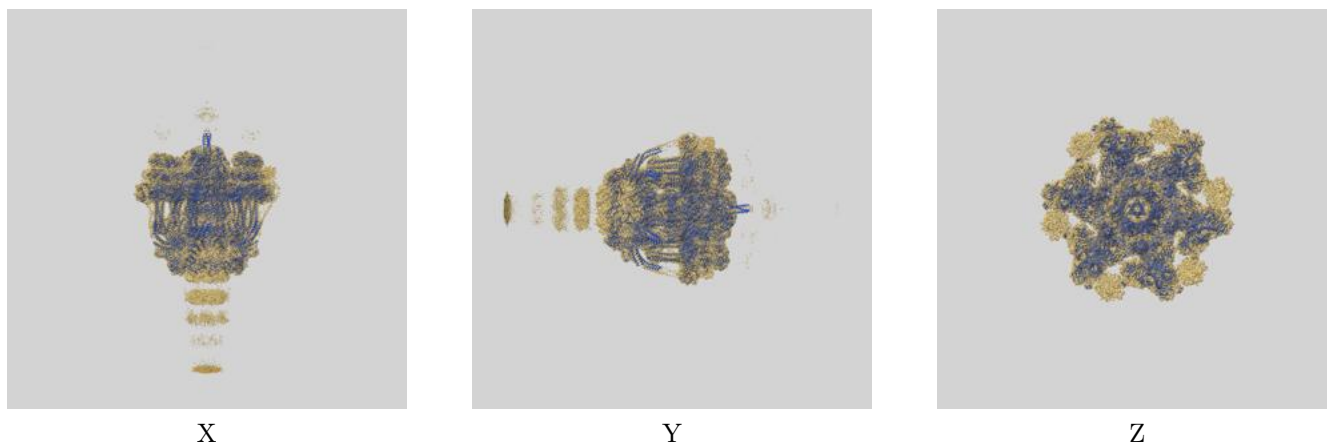
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	3.75	4.22	3.81
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

9 Map-model fit [i](#)

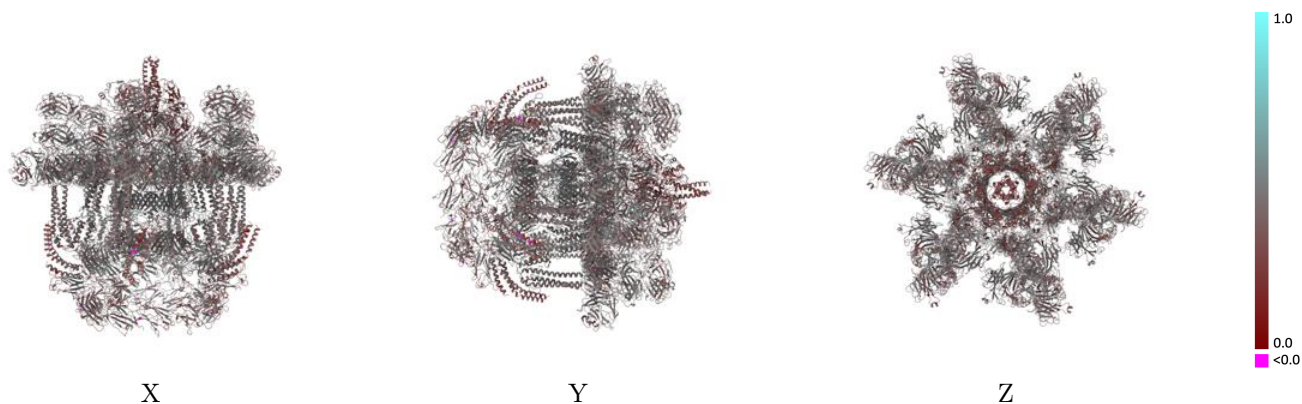
This section contains information regarding the fit between EMDB map EMD-20872 and PDB model 6V8I. Per-residue inclusion information can be found in section 3 on page 11.

9.1 Map-model overlay [i](#)



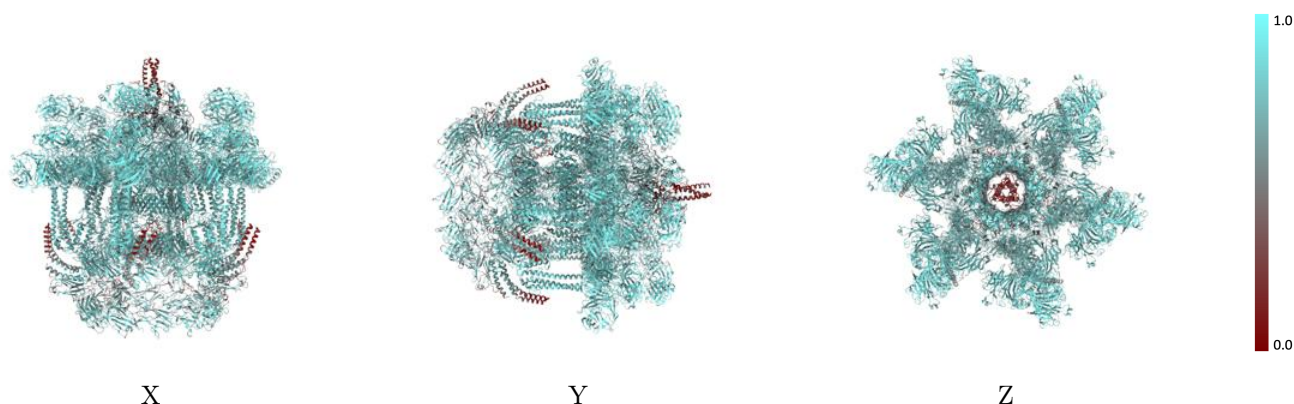
The images above show the 3D surface view of the map at the recommended contour level 4.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



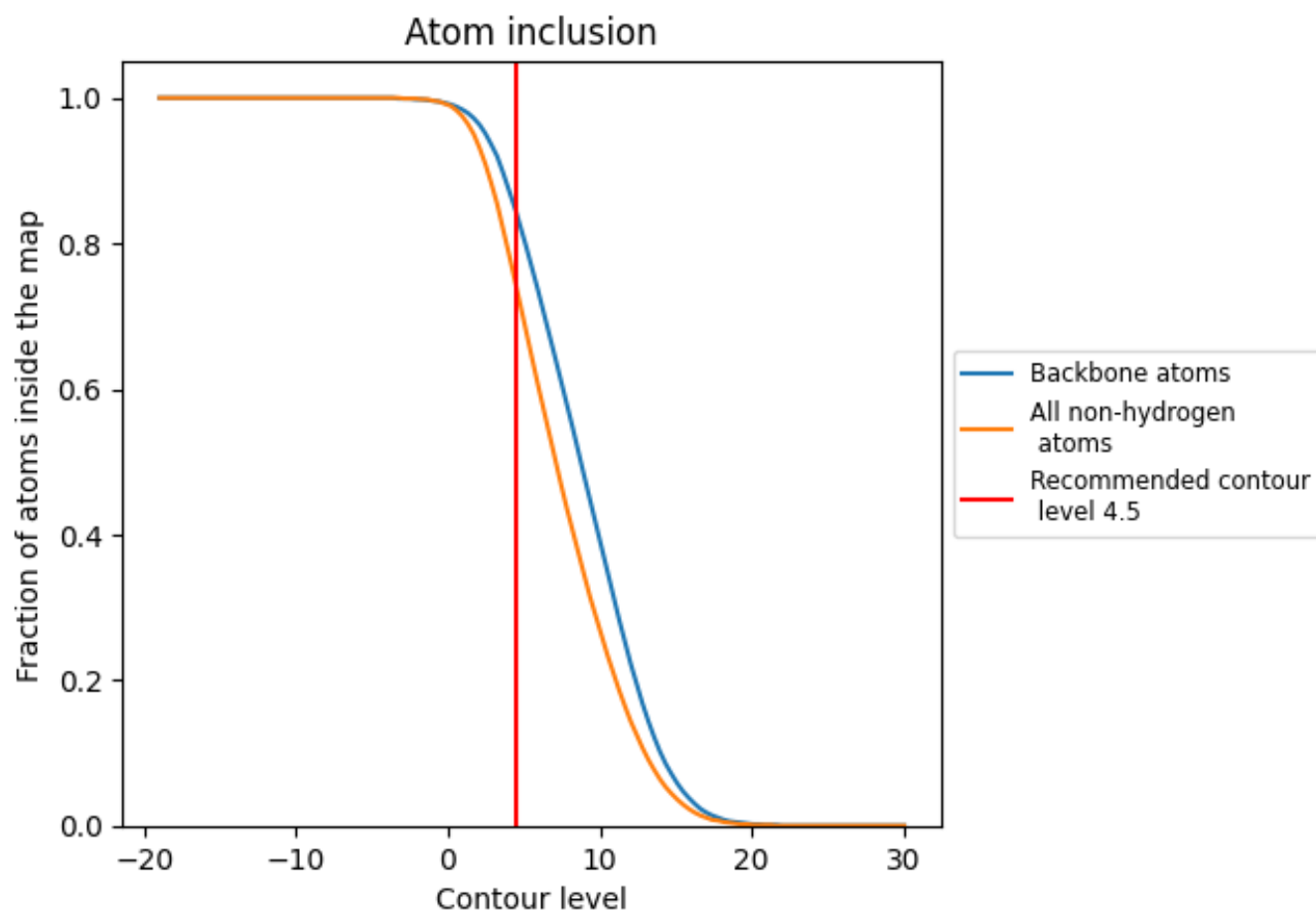
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (4.5).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 84% of all backbone atoms, 74% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary













































































The table lists the average atom inclusion at the recommended contour level (4.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7410	 0.4140
AA	 0.6860	 0.4320
AB	 0.7650	 0.4670
AC	 0.7580	 0.3920
AD	 0.7680	 0.4140
AE	 0.5600	 0.3230
AF	 0.2270	 0.2350
AG	 0.8050	 0.4240
AH	 0.7940	 0.4270
AI	 0.7800	 0.4280
AJ	 0.7350	 0.4220
AK	 0.6880	 0.4210
AL	 0.5530	 0.3610
AM	 0.6690	 0.3710
AN	 0.6720	 0.3850
BA	 0.6910	 0.4320
BB	 0.7850	 0.4650
BC	 0.7530	 0.3890
BD	 0.7700	 0.4150
BE	 0.5630	 0.3250
BF	 0.1950	 0.2340
BG	 0.8110	 0.4240
BH	 0.7920	 0.4300
BI	 0.7840	 0.4300
BJ	 0.7260	 0.4260
BK	 0.6890	 0.4220
BL	 0.5230	 0.3600
BM	 0.6540	 0.3700
BN	 0.6690	 0.3840
CA	 0.6760	 0.4330
CB	 0.7650	 0.4680
CC	 0.7500	 0.3920
CD	 0.7720	 0.4130
CE	 0.5570	 0.3200
CF	 0.1820	 0.1940



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Chain	Atom inclusion	Q-score
CG	 0.8020	 0.4240
CH	 0.7890	 0.4280
CI	 0.7860	 0.4300
CJ	 0.7510	 0.4220
CK	 0.6900	 0.4170
CL	 0.5300	 0.3620
CM	 0.6670	 0.3720
CN	 0.6770	 0.3840
DA	 0.6900	 0.4320
DB	 0.7700	 0.4660
DG	 0.8020	 0.4240
DH	 0.7850	 0.4280
DI	 0.7760	 0.4290
DJ	 0.7440	 0.4230
DK	 0.6840	 0.4190
DL	 0.5260	 0.3610
DM	 0.6630	 0.3700
DN	 0.6750	 0.3840
EA	 0.6880	 0.4330
EB	 0.7500	 0.4690
EG	 0.8090	 0.4240
EH	 0.7950	 0.4290
EI	 0.7770	 0.4280
EJ	 0.7350	 0.4260
EK	 0.6680	 0.4220
EL	 0.5510	 0.3640
EM	 0.6690	 0.3720
EN	 0.6740	 0.3840
FA	 0.7000	 0.4360
FB	 0.7830	 0.4680
FG	 0.8130	 0.4240
FH	 0.7880	 0.4270
FI	 0.7840	 0.4280
FJ	 0.7480	 0.4250
FK	 0.7050	 0.4200
FL	 0.5400	 0.3630
FM	 0.6540	 0.3720
FN	 0.6700	 0.3850