



Full wwPDB EM Validation Report ⓘ

Aug 16, 2025 – 03:23 PM EDT

PDB ID : 9BLY / pdb_00009bly
EMDB ID : EMD-44681
Title : Composite structure of full-length human dynein-1 in phi-particle conformation
Authors : Chai, P.; Zhang, K.
Deposited on : 2024-05-02
Resolution : 3.50 Å(reported)

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.dev126
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0rc1
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.45.1

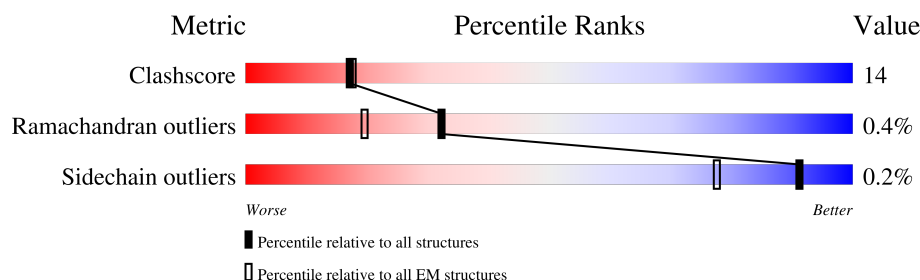
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	A	4646	
1	B	4646	
2	C	638	
2	D	638	
3	E	492	
3	F	492	
4	G	96	
4	H	96	

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Mol	Chain	Length	Quality of chain
5	I	89	44% 67% 33%
5	J	89	37% 49% 47% ..
6	K	113	90% 82% 18%
6	L	113	78% 83% 17%

2 Entry composition [i](#)

There are 9 unique types of molecules in this entry. The entry contains 89391 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 Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	4542	Total	C	N	O	S	0	0
			36692	23323	6381	6822	166		
1	B	4521	Total	C	N	O	S	0	0
			36527	23221	6349	6791	166		

- Molecule 2 is a protein called Cytoplasmic dynein 1 intermediate chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	394	Total	C	N	O	S	0	0
			3112	1962	541	594	15		
2	D	394	Total	C	N	O	S	0	0
			3112	1962	541	594	15		

- Molecule 3 is a protein called Cytoplasmic dynein 1 light intermediate chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	311	Total	C	N	O	S	0	0
			2518	1614	425	468	11		
3	F	311	Total	C	N	O	S	0	0
			2518	1614	425	468	11		

- Molecule 4 is a protein called Dynein light chain roadblock-type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	G	93	Total	C	N	O	S	0	0
			742	468	128	143	3		
4	H	93	Total	C	N	O	S	0	0
			742	468	128	143	3		

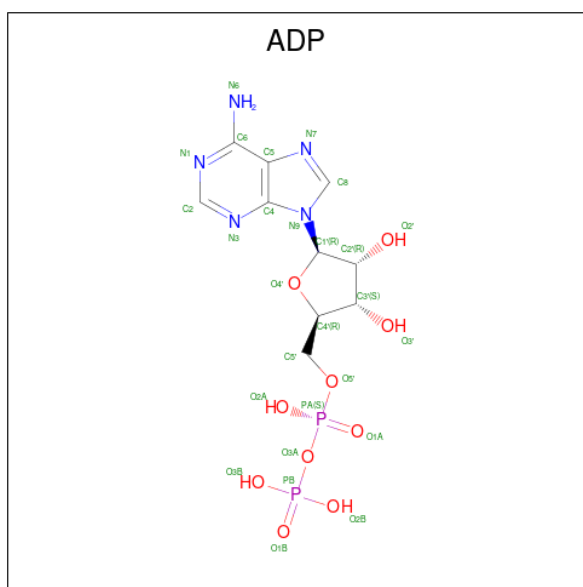
- Molecule 5 is a protein called Dynein light chain 1, cytoplasmic.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	89	Total	C	N	O	S	0	0
			728	465	122	135	6		
5	J	89	Total	C	N	O	S	0	0
			728	465	122	135	6		

- Molecule 6 is a protein called Dynein light chain Tctex-type 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	K	113	Total	C	N	O	S	0	0
			872	548	142	175	7		
6	L	113	Total	C	N	O	S	0	0
			872	548	142	175	7		

- Molecule 7 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



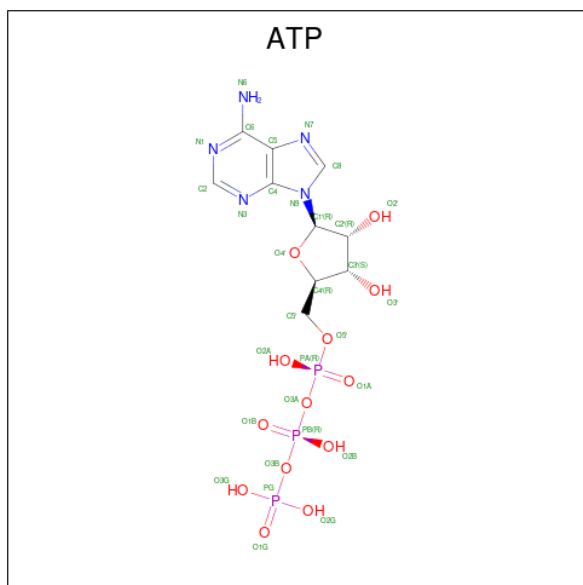
Mol	Chain	Residues	Atoms					AltConf
7	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
7	B	1	Total	C	N	O	P	0
			27	10	5	10	2	

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Mol	Chain	Residues	Atoms					AltConf
7	B	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 8 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
8	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
8	B	1	Total	C	N	O	P	0
			31	10	5	13	3	

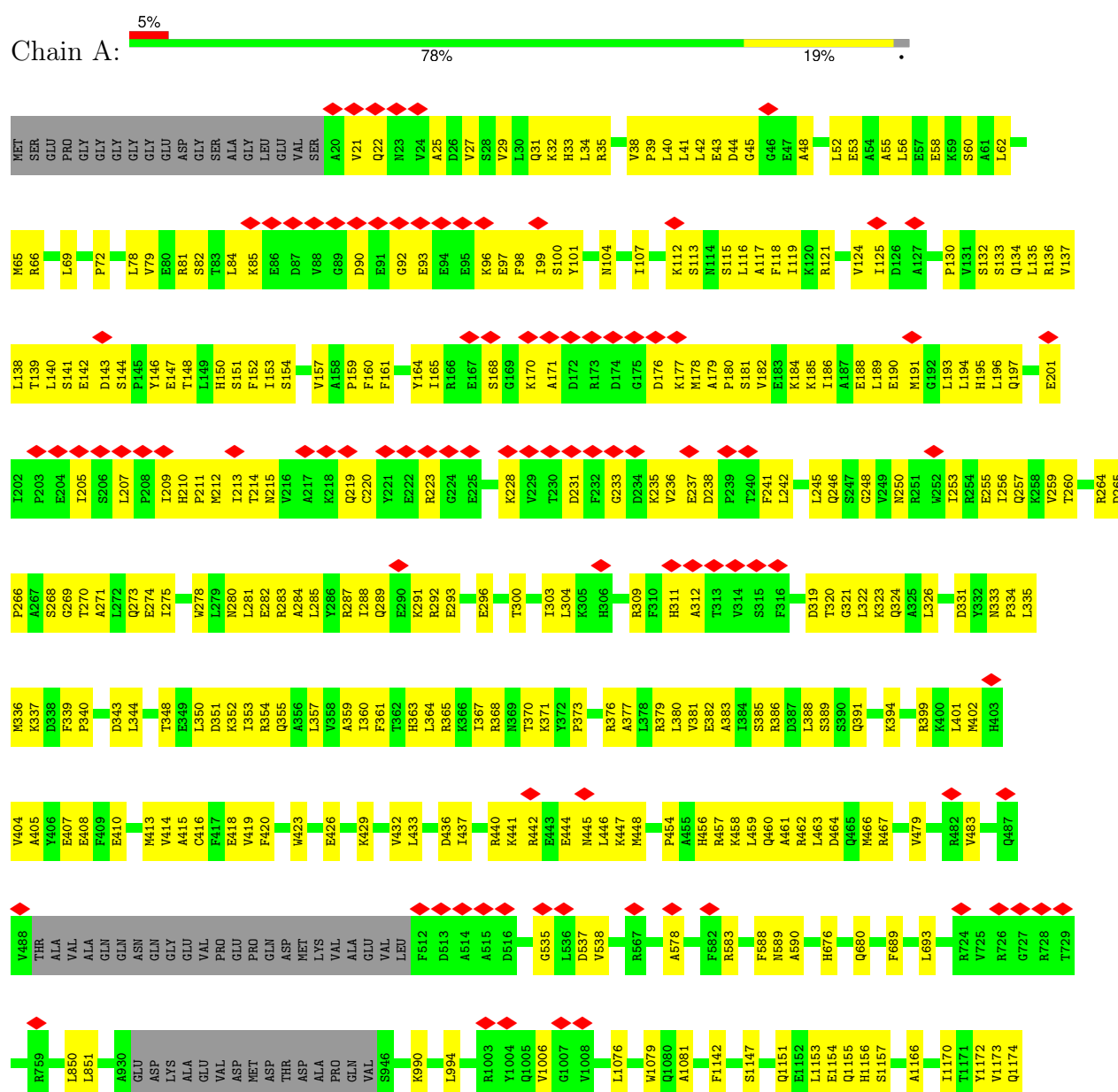
- Molecule 9 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
9	A	2	Total	Mg	0
			2	2	
9	B	2	Total	Mg	0
			2	2	

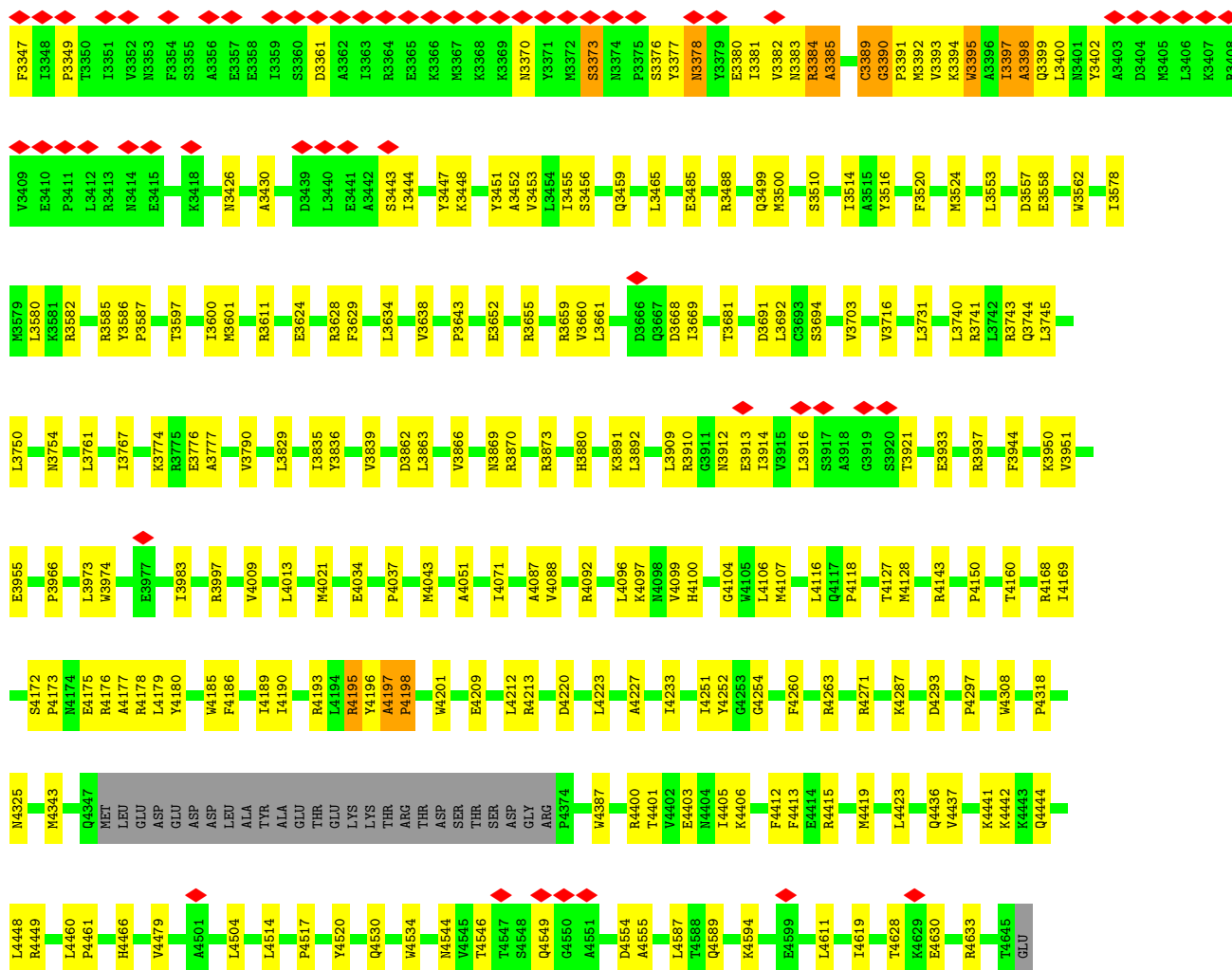
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and 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: Cytoplasmic dynein 1 heavy chain 1

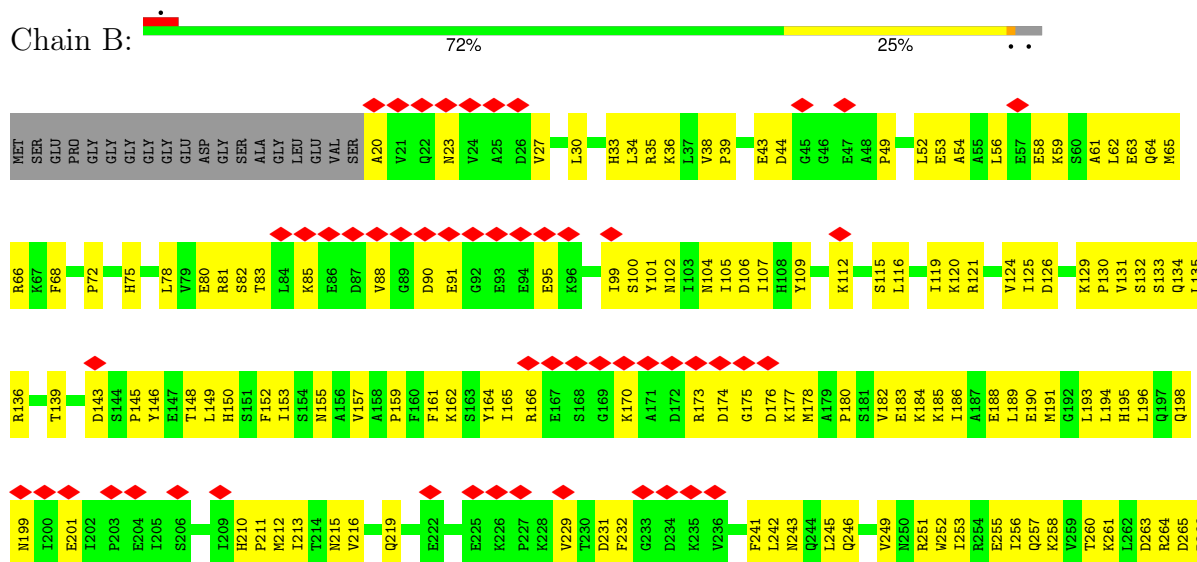






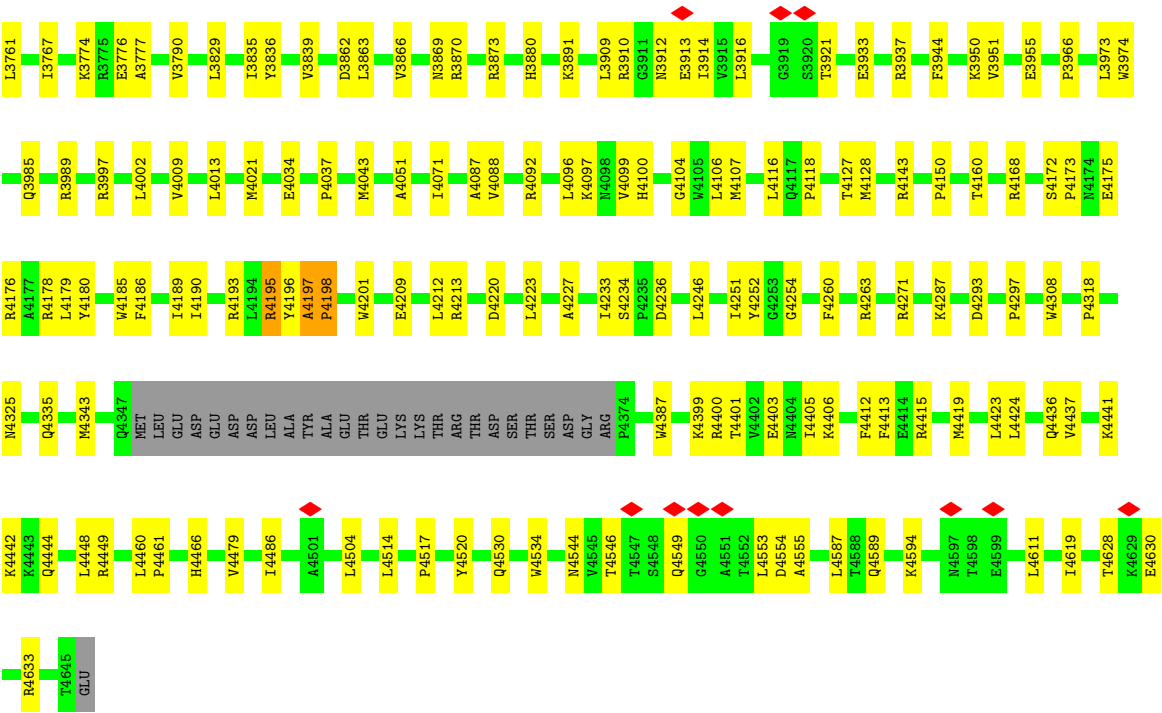
• Molecule 1: Cytoplasmic dynein 1 heavy chain 1

Chain B:

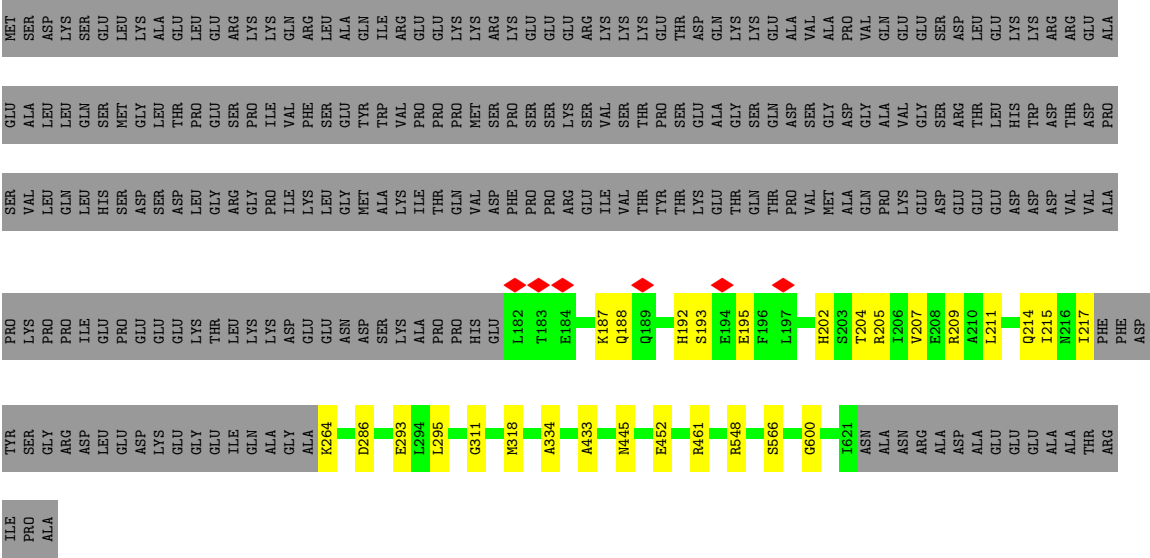




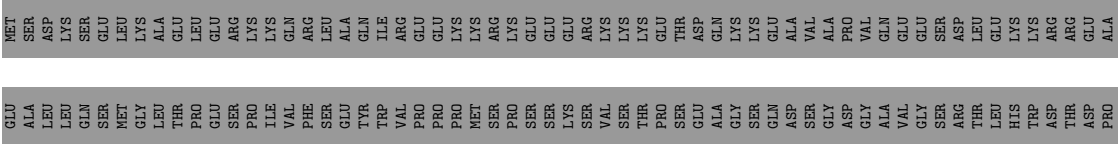
R3585	E3415	N3353	Q3275	V3148	F2767	F2776	P2596	L2422	S2226	K3060	K1865	E1635	L1458
L3588	K3418	F3354	M3276	Q3152	F2784	F2784	T2604	V2433	R2230	T2061	K1878	L1638	L1459
T3597	N3426	S3355	S3277	T3153	T2788	T2788	L2612	L2437	L2279	I2069	L1879	V1647	I1466
I3600	A3430	A3356	V3278	L3154	D2974	D2975	L2612	L2437	S2290	P2071	R1887	L1666	I1487
M3601	A3430	E3357	K3279	A3157	V2979	V2979	L2620	L2443	E2294	Q2079	L1887	L1666	V1490
R3611	D3439	E3358	D3281	R3160	M2994	M2994	N2621	H2446	L2295	L2080	N1670	N1666	H1500
E3624	D3440	I3359	L3282	K3163	N2998	N2998	L2630	L2449	N2316	Q2079	A1895	L1666	I1500
R3628	E3441	A3362	K3284	T3172	V2802	V2802	L2630	L2450	S2317	L2080	R1899	N1671	H1500
F3629	A3442	I3363	V3285	H3175	V2803	V2803	L2631	L2450	S2317	K2104	A1908	V1672	K1508
L3634	I3444	R3364	E3286	H3175	S3002	S3002	L2632	R2451	V2318	R2107	E1914	V1673	K1508
V3638	E3365	E3365	V3289	H3182	R3007	R3007	L2638	R2453	R2332	E2120	K1687	K1687	Y1512
P3643	K3366	I3290	I3290	H3183	M3008	M3008	T2644	S2457	R2343	P2132	V1929	T1693	Y1513
R3651	M3367	E3291	E3291	A3184	N3014	N3014	T2644	M2461	F2343	E2133	F1930	K1697	F1516
E3652	K3368	A3292	A3292	L3194	V3017	V3017	T2647	E2487	Q2346	E2134	F1930	K1697	F1516
R3655	K3369	Q3293	Q3293	T3211	L3020	L3020	L2659	R2488	L2353	E2135	E1700	N1699	K1526
R3659	Y3371	V3296	V3296	E3217	M3030	M3030	D2664	Q2491	L2353	L2137	D1958	T1712	I1530
V3660	N3372	K3297	K3297	R3220	R3043	R3043	E2665	Q2492	T2355	I2138	R1962	V1721	F1534
L3661	S3376	I3299	I3299	L3229	M3043	M3043	L2668	I2498	C2359	T2144	E1965	V1724	W1537
E3685	Y3377	K3300	K3300	K3232	I3059	I3059	L2668	D2505	M2361	M2145	R1966	K1729	R1543
R3688	M3378	R3301	R3301	A3236	F3066	F3066	V2687	M2510	F2364	L2149	E1980	Y1738	D1566
R3693	S3379	S3308	S3308	N3237	K3076	K3076	H2689	E2513	P2386	L2156	R1983	K1744	E1564
S3694	I3380	M3310	M3310	D3238	N3092	N3092	R2694	E2537	P2386	L2157	E1984	Y1745	E1564
V3703	V3381	S3311	S3311	K3239	M3096	M3096	D2697	Y2537	E2389	L2160	H1985	R1567	R1567
V3716	V3382	A3311	A3311	L3240	W3097	W3097	Q2698	E2538	GLY	L2161	K1992	V1751	I1571
L3731	N3383	P3312	P3312	K3241	M3097	M3097	A2711	W2548	GLU	S2162	T1993	L1752	I1571
L3740	A3385	P3313	P3313	M3243	T3110	T3110	C2712	V2567	ALA	V2164	K1997	S1753	F1575
R3741	C3389	Q3247	Q3247	Q3248	M3113	M3113	R2720	V2567	ARG	F2165	T1997	M1761	M1579
L3742	G3390	Q3248	Q3248	E3249	N3114	N3114	R2720	V2567	ARG	E2174	T1998	G1771	L1601
Q3744	M3391	E3249	E3249	S3257	L3115	L3115	R2720	V2567	ARG	M2175	Q2005	G1772	L1601
L3745	V3393	S3257	S3257	S3257	E3116	E3116	H2730	A2564	ARG	T2176	G1773	G1773	L1607
L3750	K3394	S3330	S3330	I3260	K3117	K3117	V2731	V2567	LYS	R2179	T2017	D1774	K1610
N3754	W3395	S3331	S3331	I3260	L3133	L3133	P2732	V2567	LYS	D2195	S2026	V1781	I1611
R3757	A3396	T3332	T3332	L3263	Q3134	Q3134	Y2738	D2573	ASP	L2208	N2027	V1781	Q1612
R3759	I3397	L3264	L3264	H3265	Q3135	Q3135	F2751	R2576	GLY	Y2211	L2032	L1792	R1621
L3759	Q3398	H3265	H3265	Q3268	P3136	P3136	F2751	R2576	GLY	Y2211	L2032	L1792	R1621
L3759	L3400	Q3268	Q3268	E3269	P3137	P3137	M2755	L2581	GLY	Y2211	L2032	L1792	R1621
N3759	R3401	E3269	E3269	I3271	S3138	S3138	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	A3402	I3271	I3271	I3271	H3139	H3139	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	Q3403	I3271	I3271	I3271	R3140	R3140	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	D3404	I3271	I3271	I3271	E3141	E3141	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	L3405	I3271	I3271	I3271	A3142	A3142	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	L3406	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	K3407	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	R3408	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	V3409	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	E3410	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	P3411	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	L3412	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	R3413	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	P3349	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	T3350	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
R3759	I3351	I3271	I3271	I3271	I3143	I3143	R2757	Y2582	ALA	T2214	R2037	A1832	R1623
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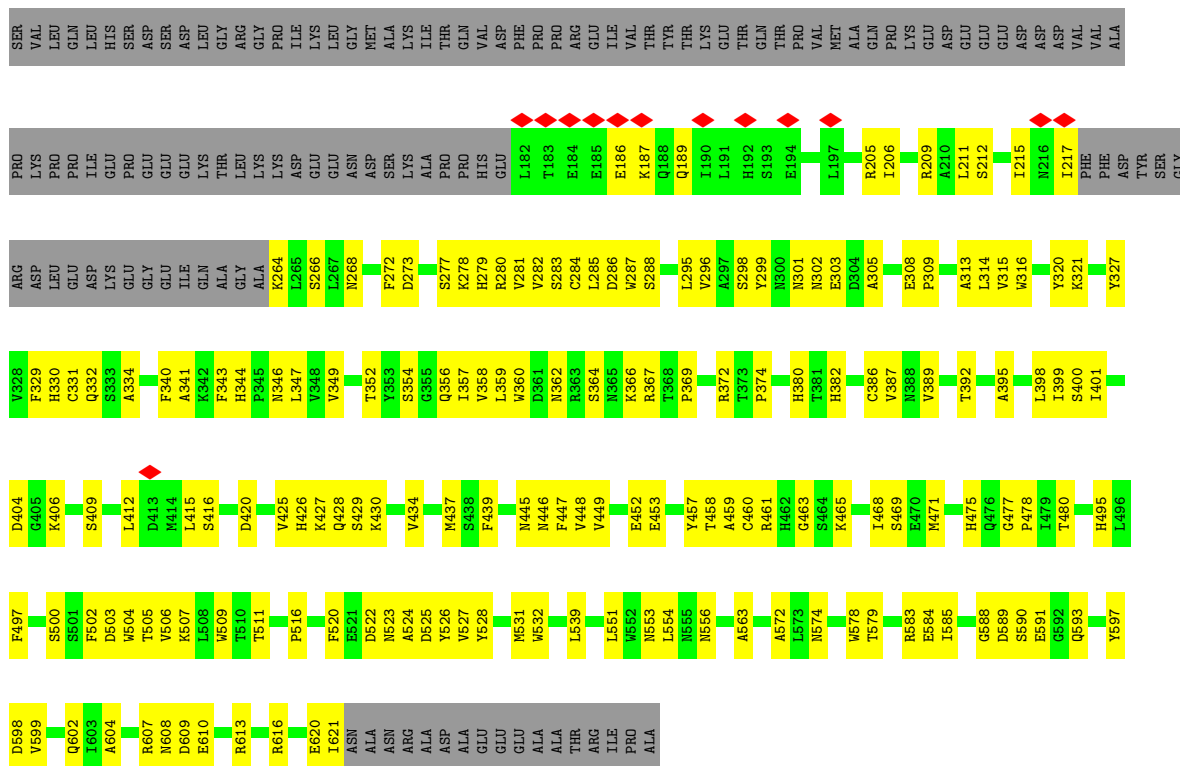


• Molecule 2: Cytoplasmic dynein 1 intermediate chain 2

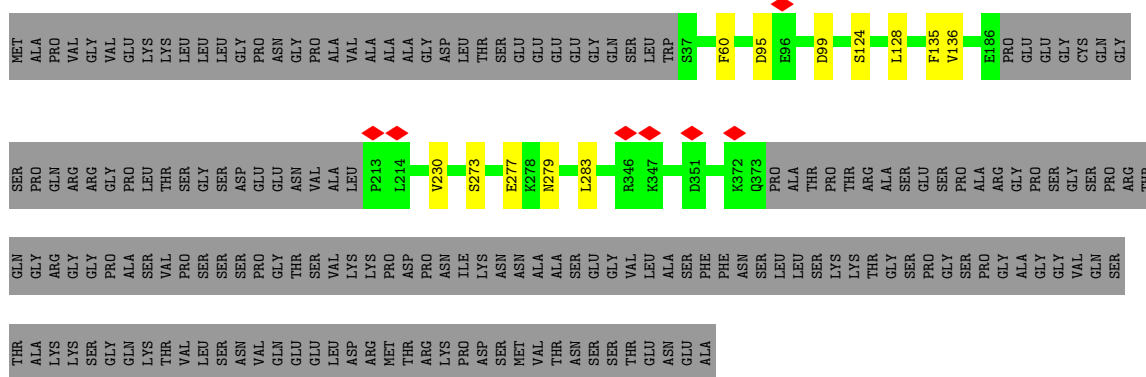


• Molecule 2: Cytoplasmic dynein 1 intermediate chain 2

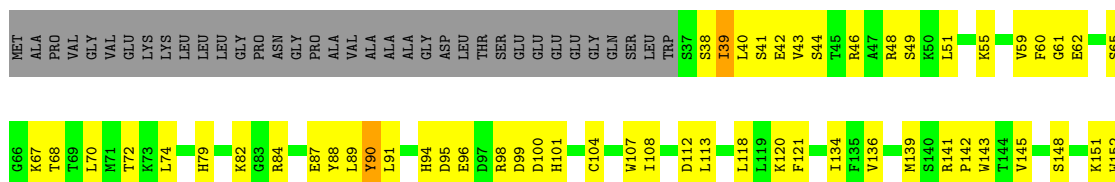


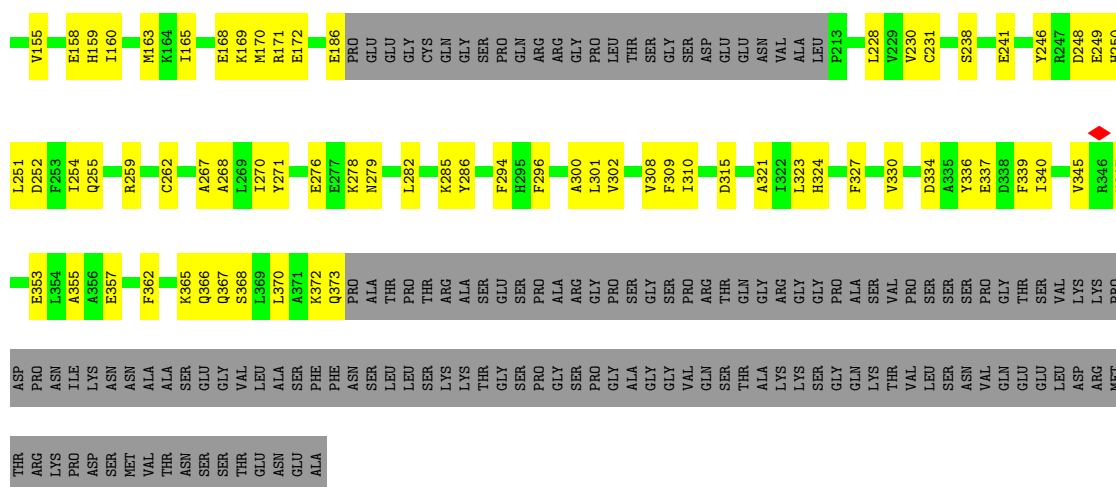


- Molecule 3: Cytoplasmic dynein 1 light intermediate chain 2

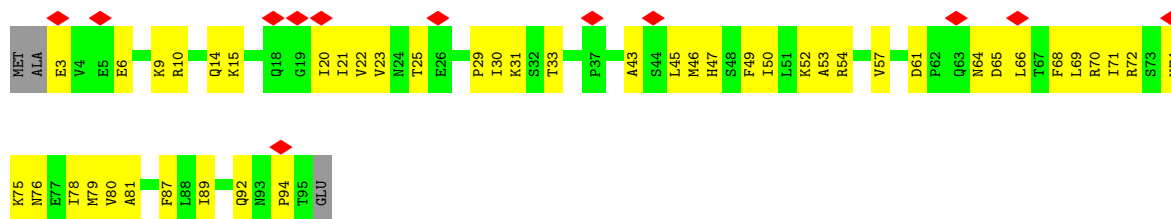


- Molecule 3: Cytoplasmic dynein 1 light intermediate chain 2

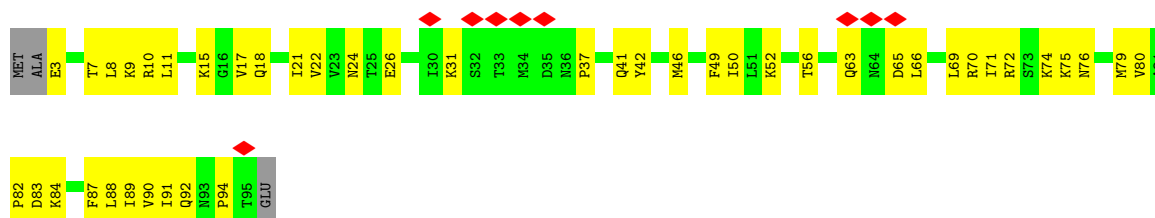




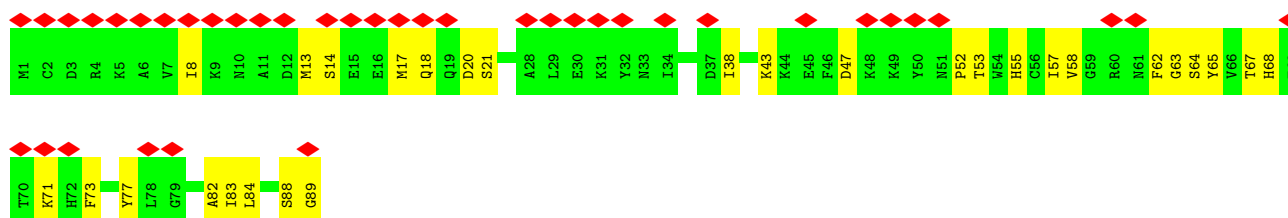
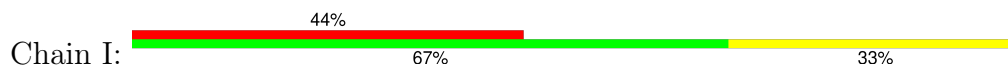
• Molecule 4: Dynein light chain roadblock-type 1



• Molecule 4: Dynein light chain roadblock-type 1

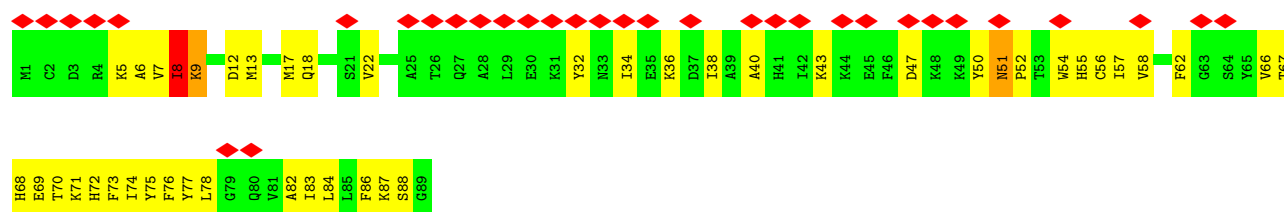


• Molecule 5: Dynein light chain 1, cytoplasmic

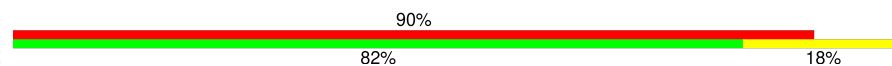


• Molecule 5: Dynein light chain 1, cytoplasmic

Chain J: 



• Molecule 6: Dynein light chain Tctex-type 1

Chain K: 



• Molecule 6: Dynein light chain Tctex-type 1

Chain L: 



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	57816	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	3000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.250	Depositor
Minimum map value	0.000	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.015	Depositor
Recommended contour level	0.2	Depositor
Map size ($\text{\AA}$)	851.968, 851.968, 851.968	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.664, 1.664, 1.664	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: MG, ATP, ADP

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A	0.31	1/37420 (0.0%)	0.53	15/50628 (0.0%)
1	B	0.31	1/37249 (0.0%)	0.52	12/50395 (0.0%)
2	C	0.32	0/3195	0.45	0/4351
2	D	0.29	0/3195	0.45	0/4351
3	E	0.28	0/2573	0.40	0/3473
3	F	0.27	0/2573	0.41	0/3473
4	G	0.17	0/752	0.36	0/1017
4	H	0.18	0/752	0.41	0/1017
5	I	0.16	0/744	0.43	0/997
5	J	0.34	0/744	0.56	0/997
6	K	0.12	0/888	0.33	0/1203
6	L	0.13	0/888	0.35	0/1203
All	All	0.30	2/90973 (0.0%)	0.51	27/123105 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	7
1	B	0	6
3	F	0	1
All	All	0	14

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	3242	LYS	C-O	-6.03	1.16	1.24
1	B	3242	LYS	C-O	-6.03	1.16	1.24

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	1352	VAL	N-CA-C	-10.62	103.01	113.20
1	B	3242	LYS	O-C-N	-9.93	110.61	122.22
1	A	3242	LYS	O-C-N	-9.92	110.62	122.22
1	A	3361	ASP	CA-CB-CG	-9.67	102.93	112.60
1	B	3361	ASP	CA-CB-CG	-9.66	102.94	112.60
1	A	1350	PRO	N-CA-C	-8.29	103.83	114.03
1	B	3346	ASN	CA-CB-CG	-6.62	105.98	112.60
1	A	3346	ASN	CA-CB-CG	-6.54	106.06	112.60
1	B	3430	ALA	N-CA-C	6.37	117.89	111.07
1	A	3430	ALA	N-CA-C	6.36	117.87	111.07
1	B	1206	PRO	N-CA-C	-6.31	103.56	113.78
1	A	1401	ILE	CA-C-N	6.07	133.13	121.54
1	A	1401	ILE	C-N-CA	6.07	133.13	121.54
1	B	1391	LYS	N-CA-C	-5.99	104.88	111.82
1	B	1389	LEU	N-CA-C	-5.97	105.95	113.18
1	B	530	VAL	CB-CA-C	-5.96	102.13	110.95
1	A	1391	LYS	N-CA-C	-5.54	105.24	111.28
1	A	3347	PHE	CA-CB-CG	-5.44	108.36	113.80
1	B	3347	PHE	CA-CB-CG	-5.44	108.36	113.80
1	B	1390	LEU	N-CA-C	-5.37	105.08	111.69
1	A	1434	ILE	N-CA-C	-5.34	104.53	110.62
1	A	1006	VAL	N-CA-C	-5.29	106.72	112.80
1	A	3342	ILE	N-CA-C	5.10	115.82	110.62
1	B	3342	ILE	N-CA-C	5.08	115.81	110.62
1	A	1389	LEU	N-CA-C	-5.02	105.81	111.28
1	A	3349	PRO	N-CA-C	-5.02	108.26	114.68
1	A	1388	ARG	N-CA-C	-5.01	105.90	111.36

There are no chirality outliers.

All (14) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1076	LEU	Peptide
1	A	1388	ARG	Sidechain
1	A	2453	ARG	Sidechain
1	A	2729	ARG	Sidechain
1	A	3242	LYS	Mainchain
1	A	3402	TYR	Sidechain
1	A	4195	ARG	Sidechain
1	B	2453	ARG	Sidechain
1	B	2729	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	B	3242	LYS	Mainchain
1	B	3402	TYR	Sidechain
1	B	4195	ARG	Sidechain
1	B	639	ARG	Sidechain
3	F	90	TYR	Peptide

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	36692	0	36960	767	0
1	B	36527	0	36807	1072	0
2	C	3112	0	2964	20	0
2	D	3112	0	2964	152	0
3	E	2518	0	2525	6	0
3	F	2518	0	2525	116	0
4	G	742	0	768	48	0
4	H	742	0	768	41	0
5	I	728	0	714	28	0
5	J	728	0	714	56	0
6	K	872	0	846	17	0
6	L	872	0	846	18	0
7	A	81	0	36	3	0
7	B	81	0	36	3	0
8	A	31	0	12	3	0
8	B	31	0	12	3	0
9	A	2	0	0	0	0
9	B	2	0	0	0	0
All	All	89391	0	89497	2178	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 14.

All (2178) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3381:ILE:CG2	1:B:3390:GLY:HA2	1.30	1.58
1:A:3381:ILE:CG2	1:A:3390:GLY:HA2	1.30	1.57
1:B:3381:ILE:CG2	1:B:3390:GLY:CA	1.94	1.46
1:A:3381:ILE:HG21	1:A:3390:GLY:CA	1.49	1.42
1:A:3381:ILE:CG2	1:A:3390:GLY:CA	1.94	1.41
1:B:3381:ILE:HG21	1:B:3390:GLY:CA	1.49	1.38
1:A:3381:ILE:CD1	1:A:3393:VAL:HG21	1.59	1.32
1:B:3381:ILE:CD1	1:B:3393:VAL:HG21	1.59	1.32
1:A:3455:ILE:CD1	1:B:3455:ILE:HD11	1.65	1.26
1:A:3455:ILE:HD11	1:B:3455:ILE:CD1	1.65	1.26
1:A:3381:ILE:HG23	1:A:3390:GLY:CA	1.72	1.17
1:B:3381:ILE:HG23	1:B:3390:GLY:CA	1.72	1.09
1:A:3381:ILE:HD11	1:A:3393:VAL:CG2	1.85	1.05
1:B:3381:ILE:HD11	1:B:3393:VAL:CG2	1.85	1.05
1:B:1209:LEU:HG	1:B:1214:ILE:HG23	1.40	1.04
1:B:1212:ASP:HA	1:B:1215:GLU:HB2	1.34	1.03
1:B:1214:ILE:O	1:B:1217:GLU:HG2	1.64	0.97
1:A:3380:GLU:HA	1:A:3383:ASN:HD22	1.27	0.96
1:A:3381:ILE:CG2	1:A:3390:GLY:HA3	1.95	0.96
1:B:3380:GLU:HA	1:B:3383:ASN:HD22	1.27	0.96
1:B:1348:GLU:O	1:B:1430:THR:HA	1.67	0.95
1:B:3381:ILE:CG2	1:B:3390:GLY:HA3	1.95	0.94
5:J:8:ILE:HG22	5:J:74:ILE:HD11	1.47	0.94
1:A:3459:GLN:NE2	1:B:3456:SER:OG	2.01	0.92
1:A:402:MET:HA	1:A:535:GLY:HA3	1.50	0.91
1:A:3381:ILE:HD11	1:A:3393:VAL:HG21	0.92	0.91
1:A:193:LEU:HB2	1:B:178:MET:HE2	1.52	0.91
1:A:3456:SER:OG	1:B:3459:GLN:NE2	2.03	0.91
1:A:3459:GLN:CD	1:B:3456:SER:OG	2.14	0.90
1:B:3381:ILE:HD11	1:B:3393:VAL:HG21	0.92	0.89
1:B:3381:ILE:CG1	1:B:3393:VAL:HG11	2.01	0.89
1:A:3381:ILE:CG1	1:A:3393:VAL:HG11	2.01	0.89
1:A:3456:SER:OG	1:B:3459:GLN:CD	2.15	0.89
1:B:3381:ILE:HG23	1:B:3390:GLY:N	1.88	0.88
1:A:3381:ILE:HG23	1:A:3390:GLY:N	1.88	0.87
1:A:2221:MET:HG2	1:A:2343:PHE:HB2	1.55	0.87
1:B:2221:MET:HG2	1:B:2343:PHE:HB2	1.55	0.87
1:A:182:VAL:HA	1:A:185:LYS:HG2	1.56	0.86
1:A:115:SER:H	1:A:140:LEU:HB3	1.41	0.86
1:A:3455:ILE:HD11	1:B:3455:ILE:HD11	0.90	0.85
1:A:193:LEU:HD13	1:B:182:VAL:HG11	1.57	0.84
5:J:6:ALA:HB2	5:J:78:LEU:HD21	1.57	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4271:ARG:HD3	1:B:4633:ARG:HH12	1.43	0.84
1:B:530:VAL:HG12	1:B:549:ALA:HB1	1.60	0.84
1:B:162:LYS:HG2	1:B:166:ARG:HE	1.41	0.83
1:B:3381:ILE:CD1	1:B:3393:VAL:CG2	2.52	0.83
1:A:2629:GLU:OE2	1:A:2633:LYS:NZ	2.12	0.83
1:A:1400:VAL:O	1:A:1402:GLU:N	2.11	0.83
3:F:72:THR:HG21	3:F:79:HIS:HA	1.60	0.82
1:A:4271:ARG:HD3	1:A:4633:ARG:HH12	1.43	0.82
1:B:1203:GLN:HA	5:J:5:LYS:HZ1	1.42	0.82
1:B:2629:GLU:OE2	1:B:2633:LYS:NZ	2.12	0.82
1:B:1212:ASP:HA	1:B:1215:GLU:CB	2.09	0.82
1:B:516:ASP:HA	1:B:563:ARG:HH12	1.45	0.82
1:B:466:MET:HE2	1:B:470:ARG:HG3	1.61	0.81
1:B:3381:ILE:HG13	1:B:3393:VAL:HG11	1.63	0.80
1:B:483:VAL:O	1:B:567:ARG:NH1	2.14	0.80
1:B:3238:ASP:HA	1:B:3241:LYS:HD2	1.63	0.80
1:A:3238:ASP:HA	1:A:3241:LYS:HD2	1.64	0.80
1:A:81:ARG:HD3	1:A:99:ILE:HG13	1.64	0.80
1:B:1214:ILE:C	1:B:1217:GLU:HG2	2.06	0.80
1:B:264:ARG:HD3	1:B:274:GLU:HG2	1.64	0.79
1:B:1399:LEU:O	1:B:1401:ILE:N	2.14	0.79
1:B:3239:LYS:HB3	1:B:3451:TYR:CZ	2.18	0.79
1:B:3398:ALA:O	1:B:3400:LEU:N	2.14	0.79
4:G:54:ARG:HH12	4:G:65:ASP:HA	1.46	0.79
1:A:3239:LYS:HB3	1:A:3451:TYR:CZ	2.18	0.79
1:B:3243:MET:HE1	1:B:3444:ILE:HA	1.64	0.79
1:A:3381:ILE:HG13	1:A:3393:VAL:HG11	1.63	0.79
1:A:3398:ALA:O	1:A:3400:LEU:N	2.14	0.79
1:B:1349:GLN:C	1:B:1431:LEU:H	1.90	0.79
1:B:78:LEU:HD11	1:B:115:SER:HB2	1.65	0.78
1:B:2729:ARG:HD2	1:B:2730:HIS:CE1	2.17	0.78
1:B:1202:PHE:HD2	1:B:1204:PHE:CD2	2.01	0.78
5:J:69:GLU:N	5:J:87:LYS:O	2.14	0.78
1:A:246:GLN:HB2	1:A:309:ARG:HD3	1.64	0.78
1:B:150:HIS:HB2	1:B:193:LEU:HB3	1.66	0.78
1:B:130:PRO:HB2	1:B:133:SER:HB2	1.66	0.78
1:B:399:ARG:NH2	1:B:408:GLU:OE1	2.17	0.78
1:A:2729:ARG:HD2	1:A:2730:HIS:CE1	2.17	0.78
1:B:1212:ASP:CB	1:B:1216:GLY:H	1.97	0.77
1:A:1490:TRP:HH2	1:A:1537:TRP:HD1	1.30	0.77
1:A:3243:MET:HE1	1:A:3444:ILE:HA	1.64	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3243:MET:HE3	1:A:3444:ILE:HG23	1.66	0.77
1:B:1490:TRP:HH2	1:B:1537:TRP:HD1	1.29	0.77
1:B:853:ILE:HG21	1:B:888:LEU:HD21	1.67	0.77
1:A:1571:ILE:HD12	1:A:1611:ILE:HD11	1.67	0.77
1:B:195:HIS:O	1:B:198:GLN:NE2	2.18	0.77
4:G:69:LEU:H	4:G:79:MET:HE1	1.49	0.77
1:A:189:LEU:HG	1:B:189:LEU:HD11	1.67	0.76
1:A:350:LEU:HB3	1:A:419:VAL:HG21	1.67	0.76
1:A:147:GLU:HA	1:A:196:LEU:HD13	1.67	0.76
1:B:1087:ARG:HH21	1:B:1200:GLN:HE22	1.31	0.76
1:B:1210:TYR:HB2	5:J:8:ILE:O	1.84	0.76
1:B:4088:VAL:HG11	1:B:4116:LEU:HD21	1.67	0.76
1:B:365:ARG:NH2	1:B:429:LYS:O	2.18	0.76
1:A:1195:ARG:NH2	3:F:96:GLU:O	2.19	0.76
1:B:1215:GLU:O	1:B:1218:TRP:N	2.19	0.76
2:D:272:PHE:HB2	2:D:593:GLN:HG3	1.68	0.76
1:B:413:MET:HE1	1:B:463:LEU:HB3	1.68	0.76
1:B:987:PHE:HE2	3:F:87:GLU:HG2	1.49	0.76
1:B:1211:ILE:C	1:B:1213:ASN:N	2.42	0.76
1:B:960:HIS:ND1	1:B:978:CYS:SG	2.59	0.76
1:A:2590:PRO:O	1:A:2732:PRO:HD2	1.86	0.75
4:H:79:MET:HB2	4:H:90:VAL:HB	1.66	0.75
1:B:266:PRO:HB3	1:B:376:ARG:HG3	1.69	0.75
2:D:531:MET:HG3	2:D:578:TRP:HD1	1.50	0.75
1:A:113:SER:H	1:A:142:GLU:HG3	1.51	0.75
1:B:1196:LEU:HD23	1:B:1199:LYS:HE2	1.69	0.74
1:B:2590:PRO:O	1:B:2732:PRO:HD2	1.86	0.74
1:A:3381:ILE:CD1	1:A:3393:VAL:CG2	2.52	0.74
1:B:1214:ILE:HG13	1:B:1215:GLU:H	1.53	0.74
1:B:3243:MET:HE3	1:B:3444:ILE:HG23	1.66	0.74
1:B:399:ARG:HH22	1:B:404:VAL:HG11	1.51	0.74
1:A:2149:LEU:HD11	1:A:2157:LEU:HD13	1.68	0.74
1:A:4088:VAL:HG11	1:A:4116:LEU:HD21	1.67	0.74
1:B:2149:LEU:HD11	1:B:2157:LEU:HD13	1.68	0.74
2:D:273:ASP:O	2:D:277:SER:OG	2.06	0.74
1:A:44:ASP:HB2	1:B:130:PRO:HB3	1.68	0.74
1:A:365:ARG:NH2	1:A:429:LYS:O	2.21	0.74
1:B:3381:ILE:HG13	1:B:3393:VAL:CG1	2.18	0.74
1:B:1571:ILE:HD13	1:B:1607:LEU:HB3	1.69	0.73
1:A:2562:VAL:O	1:A:2804:ARG:NH1	2.21	0.73
1:B:386:ARG:NH2	1:B:453:ASN:O	2.21	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3381:ILE:HG13	1:A:3393:VAL:CG1	2.18	0.73
1:B:2562:VAL:O	1:B:2804:ARG:NH1	2.21	0.73
5:J:68:HIS:HA	5:J:88:SER:HB2	1.71	0.73
1:B:336:MET:HA	1:B:339:PHE:HE2	1.54	0.73
1:B:669:LEU:HD22	1:B:673:TRP:HB3	1.69	0.73
1:B:1209:LEU:HG	1:B:1214:ILE:CG2	2.16	0.73
1:B:441:LYS:O	1:B:445:ASN:N	2.22	0.73
5:I:57:ILE:HD13	5:J:57:ILE:HD12	1.71	0.73
1:B:530:VAL:N	1:B:553:TYR:OH	2.18	0.72
2:C:445:ASN:O	2:C:461:ARG:N	2.20	0.72
3:F:113:LEU:HD21	3:F:151:LYS:HD2	1.70	0.72
2:D:553:ASN:ND2	2:D:556:ASN:OD1	2.22	0.72
3:F:62:GLU:HG3	3:F:65:SER:HB2	1.71	0.72
1:A:1490:TRP:CH2	1:A:1537:TRP:HD1	2.08	0.72
1:B:4037:PRO:HB2	1:B:4118:PRO:HG2	1.71	0.72
1:A:181:SER:HA	1:A:184:LYS:HD2	1.72	0.72
1:B:869:TYR:HB2	1:B:914:ARG:HH21	1.54	0.72
1:B:1490:TRP:CH2	1:B:1537:TRP:HD1	2.08	0.72
1:B:1348:GLU:O	1:B:1430:THR:CA	2.37	0.71
1:B:170:LYS:NZ	1:B:176:ASP:O	2.23	0.71
1:B:874:PHE:HB3	1:B:996:LEU:HD21	1.72	0.71
1:A:2788:THR:HG22	1:A:2789:GLN:HG2	1.72	0.71
1:B:1399:LEU:O	1:B:1402:GLU:N	2.23	0.71
2:D:358:VAL:HG13	2:D:369:PRO:HB3	1.72	0.71
1:A:2930:GLN:HG3	1:A:3059:ILE:HG23	1.73	0.71
1:A:4190:ILE:HD12	1:A:4201:TRP:HZ2	1.56	0.71
5:J:68:HIS:ND1	5:J:69:GLU:O	2.22	0.71
1:B:242:LEU:HB3	1:B:309:ARG:HE	1.54	0.71
1:B:1170:ILE:O	1:B:1174:GLN:NE2	2.24	0.71
1:B:1173:VAL:HG22	1:B:1177:LYS:HE3	1.71	0.71
1:B:1202:PHE:CE2	1:B:1204:PHE:HA	2.26	0.71
1:B:1212:ASP:HB2	1:B:1216:GLY:H	1.54	0.71
3:F:259:ARG:HH11	3:F:323:LEU:HD22	1.54	0.70
1:A:253:ILE:HD12	1:A:256:ILE:HD11	1.74	0.70
1:A:4037:PRO:HB2	1:A:4118:PRO:HG2	1.71	0.70
1:B:4190:ILE:HD12	1:B:4201:TRP:HZ2	1.56	0.70
1:A:343:ASP:O	1:A:352:LYS:NZ	2.24	0.70
1:A:4549:GLN:HG3	1:A:4587:LEU:HB2	1.73	0.70
1:B:2581:LEU:HD11	1:B:2593:LEU:HD21	1.73	0.70
1:A:93:GLU:HB2	1:A:211:PRO:HB2	1.73	0.70
1:A:266:PRO:HB3	1:A:376:ARG:HG3	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:201:GLU:HA	1:A:280:ASN:HD21	1.56	0.70
1:B:2930:GLN:HG3	1:B:3059:ILE:HG23	1.72	0.70
1:A:3455:ILE:CG1	1:B:3455:ILE:HD11	2.20	0.70
2:D:332:GLN:OE1	2:D:372:ARG:NH1	2.24	0.70
1:A:207:LEU:HG	1:A:209:ILE:HG12	1.74	0.70
1:A:3455:ILE:HD11	1:B:3455:ILE:CG1	2.22	0.70
1:B:751:ARG:NH2	2:D:452:GLU:OE2	2.24	0.70
1:B:3392:MET:HA	1:B:3395:TRP:HB2	1.74	0.70
1:B:1211:ILE:C	1:B:1213:ASN:H	1.98	0.70
1:B:3381:ILE:HG21	1:B:3390:GLY:HA2	0.71	0.70
4:G:20:ILE:HD13	4:G:31:LYS:HZ2	1.57	0.69
1:A:3239:LYS:HA	1:A:3242:LYS:HD2	1.74	0.69
1:A:3381:ILE:HG21	1:A:3390:GLY:HA2	0.71	0.69
1:B:251:ARG:NH1	1:B:251:ARG:O	2.25	0.69
1:B:264:ARG:NH1	1:B:265:ASP:O	2.25	0.69
1:B:2788:THR:HG22	1:B:2789:GLN:HG2	1.72	0.69
1:B:354:ARG:NH1	1:B:422:THR:OG1	2.25	0.69
1:B:977:GLU:HA	3:F:90:TYR:OH	1.92	0.69
2:C:188:GLN:O	2:C:192:HIS:ND1	2.24	0.69
1:A:2775:GLU:OE1	1:A:2857:HIS:NE2	2.24	0.69
1:A:3392:MET:HA	1:A:3395:TRP:HB2	1.74	0.69
1:B:2775:GLU:OE1	1:B:2857:HIS:NE2	2.24	0.69
5:I:43:LYS:NZ	5:I:47:ASP:OD2	2.24	0.69
5:J:43:LYS:NZ	5:J:47:ASP:OD2	2.26	0.69
1:B:1214:ILE:HG22	1:B:1217:GLU:OE2	1.92	0.69
1:B:3243:MET:SD	1:B:3451:TYR:HE2	2.16	0.69
1:B:1209:LEU:CG	1:B:1214:ILE:HG23	2.18	0.69
4:H:22:VAL:H	4:H:31:LYS:HZ3	1.38	0.69
1:A:359:ALA:O	1:A:363:HIS:ND1	2.23	0.69
1:B:3239:LYS:HA	1:B:3242:LYS:HD2	1.74	0.69
4:G:74:LYS:NZ	4:H:65:ASP:OD1	2.25	0.69
5:J:57:ILE:HG22	5:J:84:LEU:HB3	1.73	0.69
1:A:1181:LYS:HG2	1:A:1185:LYS:HZ1	1.58	0.69
1:B:3239:LYS:HB3	1:B:3451:TYR:CE2	2.28	0.69
1:B:4549:GLN:HG3	1:B:4587:LEU:HB2	1.73	0.69
1:B:722:SER:HB3	1:B:731:ASN:HD21	1.58	0.69
1:B:1466:ILE:HG12	1:B:1500:HIS:HD1	1.57	0.69
1:A:119:ILE:HD12	1:B:155:ASN:HB2	1.74	0.68
1:A:1400:VAL:C	1:A:1402:GLU:N	2.50	0.68
1:A:2581:LEU:HD11	1:A:2593:LEU:HD21	1.73	0.68
1:A:3381:ILE:HD12	1:A:3393:VAL:HG21	1.72	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4197:ALA:HB3	1:A:4198:PRO:HD3	1.75	0.68
1:B:266:PRO:HB2	1:B:379:ARG:HB2	1.74	0.68
5:J:18:GLN:HG2	5:J:74:ILE:HD12	1.75	0.68
1:B:582:PHE:CE1	1:B:668:VAL:HG11	2.27	0.68
1:B:1215:GLU:O	1:B:1217:GLU:N	2.26	0.68
1:A:3239:LYS:HB3	1:A:3451:TYR:CE2	2.28	0.68
1:A:3243:MET:SD	1:A:3451:TYR:HE2	2.16	0.68
1:B:4197:ALA:HB3	1:B:4198:PRO:HD3	1.75	0.68
1:A:458:LYS:O	1:A:461:ALA:HB3	1.93	0.68
1:B:121:ARG:NH1	1:B:133:SER:O	2.25	0.68
1:B:1198:GLU:HA	1:B:1204:PHE:HZ	1.57	0.68
1:B:332:TYR:CE2	1:B:336:MET:HB3	2.29	0.68
2:D:357:ILE:HD11	2:D:380:HIS:HD2	1.58	0.68
1:A:180:PRO:HB2	1:A:184:LYS:HZ1	1.59	0.68
1:A:1466:ILE:HG12	1:A:1500:HIS:HD1	1.57	0.68
1:A:3373:SER:HB2	1:A:3377:TYR:CE2	2.29	0.68
1:A:4176:ARG:NH1	1:A:4220:ASP:OD2	2.27	0.68
1:B:813:GLN:NE2	3:F:357:GLU:OE1	2.27	0.68
1:A:3661:LEU:HD12	1:A:3668:ASP:HB2	1.76	0.68
1:B:442:ARG:O	1:B:445:ASN:ND2	2.27	0.68
1:B:639:ARG:HH22	2:D:574:ASN:HD21	1.43	0.68
1:B:1181:LYS:HG2	1:B:1185:LYS:HZ1	1.58	0.67
1:B:1211:ILE:O	1:B:1213:ASN:N	2.27	0.67
2:D:607:ARG:NH1	2:D:610:GLU:OE2	2.28	0.67
4:G:49:PHE:HA	4:G:52:LYS:HG2	1.76	0.67
6:K:79:THR:HG22	6:L:68:VAL:HG22	1.75	0.67
1:B:3373:SER:HB2	1:B:3377:TYR:CE2	2.29	0.67
1:B:264:ARG:O	1:B:376:ARG:NH1	2.27	0.67
1:B:3661:LEU:HD12	1:B:3668:ASP:HB2	1.76	0.67
1:B:1215:GLU:O	1:B:1216:GLY:C	2.37	0.67
4:H:80:VAL:HA	4:H:88:LEU:HB2	1.77	0.67
1:B:1126:GLU:OE1	1:B:1130:LYS:NZ	2.26	0.67
1:B:4176:ARG:NH1	1:B:4220:ASP:OD2	2.26	0.67
1:B:717:ILE:HA	1:B:824:TRP:HE3	1.60	0.67
2:C:215:ILE:O	2:D:209:ARG:NH1	2.27	0.67
2:D:315:VAL:HB	2:D:327:TYR:HB2	1.77	0.67
1:B:83:THR:O	1:B:112:LYS:NZ	2.26	0.67
1:B:255:GLU:HA	1:B:258:LYS:HE3	1.76	0.67
1:B:649:ILE:O	1:B:653:GLN:HG2	1.95	0.67
2:D:211:LEU:HG	4:H:15:LYS:HE3	1.77	0.67
1:A:385:SER:HB2	1:A:454:PRO:HB3	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1170:ILE:HD11	1:A:1232:ILE:HG12	1.76	0.66
1:A:3239:LYS:O	1:A:3243:MET:HG2	1.95	0.66
1:A:357:LEU:HD21	1:A:388:LEU:HD21	1.77	0.66
4:G:65:ASP:HB3	4:H:74:LYS:HD3	1.76	0.66
5:I:55:HIS:NE2	5:I:88:SER:O	2.24	0.66
1:B:1218:TRP:O	1:B:1222:ASN:ND2	2.28	0.66
1:A:1399:LEU:C	1:A:1401:ILE:N	2.53	0.66
1:B:1085:GLN:HE22	3:F:39:ILE:HD12	1.61	0.66
1:B:1214:ILE:O	1:B:1215:GLU:C	2.39	0.66
1:B:3292:ALA:HA	1:B:3395:TRP:CZ2	2.30	0.66
1:A:2444:GLU:H	1:A:2510:MET:HE3	1.61	0.66
1:A:3239:LYS:HB3	1:A:3451:TYR:CE1	2.30	0.66
1:B:2906:ASP:OD2	1:B:3655:ARG:NH1	2.29	0.66
3:F:120:LYS:HA	3:F:159:HIS:HE1	1.59	0.66
1:A:132:SER:O	1:A:136:ARG:NH2	2.28	0.66
1:B:2444:GLU:H	1:B:2510:MET:HE3	1.61	0.66
4:G:14:GLN:NE2	4:G:92:GLN:OE1	2.29	0.66
4:G:49:PHE:HB3	4:H:52:LYS:HZ2	1.61	0.66
4:H:21:ILE:HG12	4:H:89:ILE:HD11	1.76	0.66
1:B:456:HIS:HA	1:B:459:LEU:HB2	1.77	0.66
1:B:3239:LYS:HB3	1:B:3451:TYR:CE1	2.31	0.66
1:B:3239:LYS:O	1:B:3243:MET:HG2	1.95	0.66
1:B:1191:ARG:O	1:B:1194:GLN:NE2	2.29	0.66
1:A:460:GLN:HA	1:A:463:LEU:HD12	1.78	0.65
1:A:413:MET:HE1	1:A:464:ASP:HA	1.77	0.65
1:B:1214:ILE:O	1:B:1217:GLU:N	2.23	0.65
1:A:2906:ASP:OD2	1:A:3655:ARG:NH1	2.29	0.65
1:B:260:THR:HG23	1:B:261:LYS:HD3	1.77	0.65
1:B:1206:PRO:O	1:B:1208:TRP:N	2.29	0.65
1:B:1212:ASP:O	1:B:1213:ASN:C	2.38	0.65
1:A:3292:ALA:HA	1:A:3395:TRP:CZ2	2.30	0.65
1:B:3383:ASN:O	1:B:3384:ARG:HB3	1.97	0.65
1:B:3638:VAL:HG12	1:B:3681:THR:HB	1.79	0.65
1:A:348:THR:O	1:A:399:ARG:NH2	2.28	0.65
1:B:270:THR:HG23	1:B:273:GLN:H	1.60	0.65
1:B:379:ARG:NH2	1:B:451:ARG:O	2.29	0.65
1:B:581:MET:HG2	1:B:611:ARG:HH21	1.61	0.65
1:B:801:ILE:HD11	1:B:850:LEU:HB3	1.79	0.65
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.79	0.65
1:B:961:GLU:OE2	1:B:963:ARG:NH2	2.30	0.65
1:A:270:THR:HG23	1:A:273:GLN:H	1.62	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1139:MET:HE3	1:B:1209:LEU:H	1.62	0.65
1:B:4097:LYS:HA	1:B:4127:THR:HB	1.79	0.65
1:A:3383:ASN:O	1:A:3384:ARG:HB3	1.97	0.64
1:B:180:PRO:O	1:B:184:LYS:NZ	2.29	0.64
1:B:3373:SER:HB2	1:B:3377:TYR:HE2	1.61	0.64
5:I:8:ILE:HD13	5:I:18:GLN:HE21	1.61	0.64
1:A:3373:SER:HB2	1:A:3377:TYR:HE2	1.61	0.64
1:A:3381:ILE:HG12	1:A:3393:VAL:HG11	1.80	0.64
1:B:1202:PHE:HB3	1:B:1204:PHE:CE2	2.32	0.64
2:D:287:TRP:CD1	2:D:579:THR:HA	2.32	0.64
1:B:648:ILE:HD11	1:B:698:ILE:HB	1.80	0.64
1:B:2138:ILE:HD12	1:B:2161:LEU:HD22	1.79	0.64
1:A:4097:LYS:HA	1:A:4127:THR:HB	1.79	0.64
4:G:49:PHE:HB3	4:H:52:LYS:NZ	2.12	0.64
1:B:3319:LEU:HD21	1:B:3377:TYR:HA	1.79	0.64
1:A:365:ARG:HH22	1:A:432:VAL:HB	1.62	0.64
1:A:2138:ILE:HD12	1:A:2161:LEU:HD22	1.79	0.64
1:A:2536:ASP:OD1	1:A:2576:ARG:NH1	2.31	0.64
1:B:58:GLU:HG3	1:B:61:ALA:H	1.62	0.64
1:B:2536:ASP:OD1	1:B:2576:ARG:NH1	2.31	0.64
1:A:336:MET:HB3	1:A:363:HIS:HD2	1.63	0.63
1:B:755:TRP:CG	2:D:453:GLU:HG3	2.33	0.63
2:D:296:VAL:HG12	2:D:315:VAL:HG22	1.79	0.63
1:A:3659:ARG:HD2	1:B:3628:ARG:CD	2.28	0.63
1:B:1210:TYR:H	1:B:1213:ASN:CG	2.06	0.63
1:B:1487:ILE:HD12	1:B:1537:TRP:NE1	2.14	0.63
5:I:57:ILE:HD12	5:I:84:LEU:HD23	1.79	0.63
1:A:337:LYS:HZ2	1:A:367:ILE:HB	1.63	0.63
1:B:292:ARG:NH2	1:B:316:PHE:O	2.30	0.63
1:B:987:PHE:CE2	3:F:87:GLU:HG2	2.32	0.63
5:J:8:ILE:HA	5:J:76:PHE:HB3	1.80	0.63
1:B:322:LEU:O	1:B:326:LEU:N	2.24	0.63
1:A:441:LYS:NZ	1:A:447:LYS:O	2.32	0.63
1:A:1435:TRP:C	1:A:1437:VAL:H	2.06	0.63
1:A:3557:ASP:OD1	1:A:3743:ARG:NH1	2.32	0.63
1:B:798:ARG:HH12	1:B:855:GLU:HB3	1.64	0.63
1:B:1212:ASP:CA	1:B:1215:GLU:HB2	2.19	0.63
1:A:336:MET:HB3	1:A:363:HIS:CD2	2.33	0.63
1:B:1188:GLU:O	1:B:1191:ARG:HG2	1.99	0.63
3:F:38:SER:O	3:F:40:LEU:N	2.31	0.63
3:F:336:TYR:CZ	3:F:340:ILE:HD11	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:242:LEU:HB3	1:A:309:ARG:HE	1.63	0.63
1:A:1174:GLN:HA	1:A:1177:LYS:HG2	1.80	0.63
1:A:1201:ARG:NH2	1:B:967:GLN:O	2.31	0.63
1:A:3319:LEU:HD21	1:A:3377:TYR:HA	1.79	0.63
1:B:613:LYS:HE2	1:B:682:LEU:HB2	1.81	0.63
3:F:51:LEU:HB3	3:F:98:ARG:HE	1.62	0.63
1:B:552:ARG:O	1:B:555:GLU:HG2	1.99	0.62
1:A:84:LEU:HB3	1:A:98:PHE:HB3	1.80	0.62
1:A:1487:ILE:HD12	1:A:1537:TRP:NE1	2.14	0.62
1:B:1174:GLN:OE1	1:B:1233:GLN:NE2	2.32	0.62
1:A:264:ARG:HG3	1:A:376:ARG:HH22	1.64	0.62
1:B:485:ARG:NH1	1:B:486:PRO:O	2.32	0.62
1:B:1908:ALA:HB3	1:B:2353:LEU:HD22	1.81	0.62
1:A:40:LEU:O	1:B:132:SER:OG	2.13	0.62
1:B:3557:ASP:OD1	1:B:3743:ARG:NH1	2.32	0.62
2:D:551:LEU:HB3	2:D:563:ALA:HB3	1.82	0.62
1:A:1229:ASP:O	1:A:1233:GLN:NE2	2.31	0.62
1:A:3628:ARG:CD	1:B:3659:ARG:HD2	2.29	0.62
1:B:482:ARG:O	1:B:487:GLN:NE2	2.31	0.62
2:D:475:HIS:HE2	2:D:503:ASP:HB2	1.64	0.62
6:L:85:TRP:CD1	6:L:90:ASP:HB2	2.34	0.62
1:A:1222:ASN:HA	1:A:1225:MET:HG2	1.80	0.62
1:B:1203:GLN:HA	5:J:5:LYS:NZ	2.14	0.62
1:B:2226:SER:HA	8:B:4702:ATP:O1G	2.00	0.62
1:B:3381:ILE:HG12	1:B:3393:VAL:HG11	1.80	0.62
2:D:268:ASN:OD1	2:D:598:ASP:N	2.27	0.62
6:K:78:HIS:NE2	6:L:40:ASN:OD1	2.32	0.62
2:D:277:SER:HA	2:D:280:ARG:HD2	1.82	0.62
1:A:1908:ALA:HB3	1:A:2353:LEU:HD22	1.81	0.62
1:B:718:PHE:HA	1:B:738:ASN:H	1.65	0.62
1:A:96:LYS:NZ	1:A:97:GLU:O	2.33	0.61
1:B:2080:LEU:O	1:B:4415:ARG:NH1	2.33	0.61
2:D:509:TRP:HB3	2:D:516:PRO:HA	1.80	0.61
1:B:150:HIS:CE1	1:B:194:LEU:HB3	2.35	0.61
1:B:770:GLN:HG2	1:B:773:GLN:HE21	1.64	0.61
1:B:895:ASN:OD1	3:F:353:GLU:HB2	2.01	0.61
1:A:382:GLU:OE2	1:A:385:SER:OG	2.17	0.61
1:A:1153:LEU:HD11	1:A:1228:LYS:HG3	1.80	0.61
2:D:500:SER:OG	2:D:527:VAL:O	2.18	0.61
1:A:2488:ARG:HG3	1:A:2492:ARG:HH12	1.65	0.61
1:B:264:ARG:NH1	1:B:274:GLU:OE2	2.32	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:264:ARG:NH2	1:B:268:SER:O	2.33	0.61
1:B:1206:PRO:O	1:B:1207:SER:C	2.42	0.61
1:A:2226:SER:HA	8:A:4702:ATP:O1G	2.00	0.61
1:B:721:GLU:OE2	1:B:736:LYS:NZ	2.31	0.61
1:A:2080:LEU:O	1:A:4415:ARG:NH1	2.33	0.61
1:B:88:VAL:HG22	1:B:90:ASP:H	1.65	0.61
5:J:69:GLU:HG3	5:J:88:SER:HA	1.82	0.61
1:B:1043:ILE:HA	1:B:1102:PHE:HE2	1.64	0.61
3:F:142:PRO:O	3:F:336:TYR:OH	2.18	0.61
1:A:3628:ARG:HD2	1:B:3659:ARG:HD2	1.83	0.61
1:B:3319:LEU:CD2	1:B:3377:TYR:HA	2.31	0.61
2:C:214:GLN:HB2	2:D:209:ARG:NH1	2.16	0.61
3:F:59:VAL:HG12	3:F:108:ILE:HA	1.83	0.61
1:A:3659:ARG:HD2	1:B:3628:ARG:HD2	1.82	0.60
1:B:464:ASP:HA	1:B:467:ARG:HG2	1.82	0.60
1:B:572:LEU:HD11	1:B:581:MET:HE2	1.82	0.60
1:B:666:GLU:OE1	1:B:673:TRP:NE1	2.35	0.60
1:B:870:ASP:HB3	1:B:873:THR:HG22	1.83	0.60
2:D:504:TRP:CD1	2:D:522:ASP:H	2.19	0.60
6:L:25:ILE:HG23	6:L:29:ILE:HD12	1.82	0.60
1:B:1210:TYR:H	1:B:1213:ASN:CB	2.15	0.60
3:F:139:MET:SD	3:F:139:MET:N	2.74	0.60
1:B:466:MET:CE	1:B:470:ARG:HG3	2.32	0.60
1:B:1177:LYS:O	1:B:1180:ILE:HB	2.00	0.60
1:B:1193:GLY:HA2	1:B:1196:LEU:HD12	1.82	0.60
1:A:3381:ILE:HG23	1:A:3390:GLY:H	1.65	0.60
1:A:3761:LEU:HA	1:A:3767:ILE:HD11	1.82	0.60
1:B:761:PRO:HD2	1:B:764:ILE:HD12	1.82	0.60
1:B:1751:VAL:HG21	1:B:1878:LYS:HE3	1.83	0.60
1:B:4436:GLN:HG3	1:B:4441:LYS:HB2	1.84	0.60
2:D:374:PRO:HD3	2:D:416:SER:HA	1.82	0.60
4:G:64:ASN:ND2	4:H:76:ASN:OD1	2.34	0.60
1:B:1204:PHE:HB3	1:B:1208:TRP:HE1	1.66	0.60
1:B:1205:PRO:O	1:B:1208:TRP:HD1	1.82	0.60
8:B:4702:ATP:H8	8:B:4702:ATP:H5'1	1.66	0.60
2:D:283:SER:HB2	2:D:298:SER:HB2	1.83	0.60
1:A:242:LEU:HG	1:A:304:LEU:HA	1.83	0.60
1:A:3319:LEU:CD2	1:A:3377:TYR:HA	2.31	0.60
1:B:242:LEU:HD21	1:B:307:GLY:HA3	1.83	0.60
1:B:413:MET:HE2	1:B:467:ARG:HD2	1.83	0.60
2:C:187:LYS:HB3	4:G:30:ILE:HG13	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:480:THR:OG1	2:D:500:SER:O	2.19	0.60
5:I:64:SER:H	5:J:36:LYS:HD3	1.67	0.60
1:A:1219:GLY:HA2	1:A:1222:ASN:HD21	1.64	0.60
1:A:2905:LEU:HD11	1:A:3652:GLU:HB3	1.82	0.60
1:A:178:MET:HE2	1:B:195:HIS:CD2	2.37	0.60
1:B:292:ARG:HH12	1:B:320:THR:HG22	1.67	0.60
1:B:526:ALA:O	1:B:553:TYR:OH	2.12	0.60
2:D:457:TYR:CE1	2:D:471:MET:HG2	2.37	0.60
1:B:391:GLN:O	1:B:394:LYS:HG2	2.02	0.60
1:B:633:CYS:SG	1:B:634:LYS:N	2.75	0.60
1:B:3761:LEU:HA	1:B:3767:ILE:HD11	1.82	0.60
1:A:1435:TRP:C	1:A:1437:VAL:N	2.59	0.59
1:A:1490:TRP:HH2	1:A:1537:TRP:CD1	2.17	0.59
1:A:2039:LEU:HD12	1:A:4254:GLY:HA2	1.84	0.59
1:B:869:TYR:OH	1:B:989:TRP:O	2.20	0.59
1:B:1490:TRP:HH2	1:B:1537:TRP:CD1	2.17	0.59
1:B:2356:VAL:HG13	1:B:2361:MET:HE3	1.84	0.59
1:B:2488:ARG:HG3	1:B:2492:ARG:HH12	1.65	0.59
3:F:241:GLU:HA	3:F:246:TYR:H	1.67	0.59
1:A:1466:ILE:HG12	1:A:1500:HIS:ND1	2.17	0.59
1:A:2356:VAL:HG13	1:A:2361:MET:HE3	1.84	0.59
1:B:734:LYS:HD3	1:B:736:LYS:HZ2	1.67	0.59
3:E:95:ASP:O	3:E:99:ASP:N	2.34	0.59
4:G:54:ARG:NH2	4:G:64:ASN:O	2.35	0.59
1:A:296:GLU:OE2	1:A:300:THR:OG1	2.20	0.59
1:A:320:THR:OG1	1:A:323:LYS:NZ	2.23	0.59
1:A:456:HIS:HA	1:A:459:LEU:HD13	1.83	0.59
1:A:3377:TYR:O	1:A:3381:ILE:HG12	2.03	0.59
1:B:174:ASP:HA	1:B:177:LYS:HE3	1.85	0.59
2:D:475:HIS:NE2	2:D:503:ASP:HB2	2.16	0.59
6:L:72:LYS:HE2	6:L:103:TYR:CZ	2.36	0.59
1:B:1134:MET:N	1:B:1134:MET:SD	2.75	0.59
1:B:3909:LEU:HD21	1:B:4343:MET:HE2	1.84	0.59
1:A:236:VAL:HG23	1:A:303:ILE:HB	1.83	0.59
8:A:4702:ATP:C8	8:A:4702:ATP:H5'1	2.38	0.59
1:B:210:HIS:HB3	1:B:213:ILE:HG22	1.83	0.59
1:B:530:VAL:HG13	1:B:553:TYR:CZ	2.37	0.59
5:J:6:ALA:HB2	5:J:78:LEU:CD2	2.32	0.59
1:A:3447:TYR:HB3	1:A:3451:TYR:CZ	2.38	0.59
1:A:4436:GLN:HG3	1:A:4441:LYS:HB2	1.84	0.59
1:B:582:PHE:HE1	1:B:668:VAL:HG11	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2039:LEU:HD12	1:B:4254:GLY:HA2	1.84	0.59
2:D:359:LEU:HB2	2:D:415:LEU:HD22	1.84	0.59
1:A:3455:ILE:HD12	1:B:3452:ALA:CB	2.32	0.59
1:B:689:PHE:HA	1:B:692:LYS:HE3	1.84	0.59
1:B:3377:TYR:O	1:B:3381:ILE:HG12	2.02	0.59
1:B:3951:VAL:CG2	1:B:3973:LEU:HD21	2.33	0.59
1:A:2422:ILE:HD13	1:A:2487:GLU:HA	1.85	0.59
1:B:85:LYS:HE3	1:B:95:GLU:HB2	1.84	0.59
1:B:2905:LEU:HD11	1:B:3652:GLU:HB3	1.82	0.59
2:D:427:LYS:O	2:D:430:LYS:HG3	2.02	0.59
1:A:3909:LEU:HD21	1:A:4343:MET:HE2	1.84	0.59
1:B:343:ASP:O	1:B:352:LYS:NZ	2.36	0.59
1:B:1146:ILE:O	1:B:1150:ARG:HG2	2.03	0.59
1:B:1168:THR:O	1:B:1171:THR:OG1	2.17	0.59
1:B:1212:ASP:HB2	1:B:1216:GLY:N	2.18	0.59
1:B:3381:ILE:HD12	1:B:3393:VAL:HG21	1.72	0.59
1:B:3447:TYR:HB3	1:B:3451:TYR:CZ	2.38	0.59
1:B:4287:LYS:H	1:B:4293:ASP:HB3	1.68	0.59
8:B:4702:ATP:H5'1	8:B:4702:ATP:C8	2.38	0.59
1:A:1623:ARG:HD3	1:A:1630:TYR:HA	1.84	0.59
1:A:1751:VAL:HG21	1:A:1878:LYS:HE3	1.83	0.59
1:A:2841:GLU:OE1	1:A:2844:ARG:NH1	2.36	0.59
1:B:1174:GLN:O	1:B:1178:ARG:NH1	2.35	0.59
1:B:1623:ARG:HD3	1:B:1630:TYR:HA	1.84	0.59
1:B:121:ARG:HB3	1:B:136:ARG:HB2	1.85	0.58
1:B:335:LEU:HD13	1:B:367:ILE:HD12	1.85	0.58
1:B:1466:ILE:HG12	1:B:1500:HIS:ND1	2.17	0.58
2:D:215:ILE:HG13	2:D:217:ILE:H	1.68	0.58
2:D:613:ARG:HA	2:D:616:ARG:HG2	1.85	0.58
4:H:72:ARG:NE	4:H:94:PRO:O	2.33	0.58
5:I:13:MET:HE3	5:I:17:MET:HG2	1.85	0.58
8:A:4702:ATP:H5'1	8:A:4702:ATP:H8	1.66	0.58
1:B:994:LEU:HD11	1:B:1020:ARG:HA	1.84	0.58
1:B:2841:GLU:OE1	1:B:2844:ARG:NH1	2.36	0.58
2:D:553:ASN:OD1	2:D:554:LEU:N	2.36	0.58
4:G:74:LYS:HG3	4:G:75:LYS:HD2	1.85	0.58
1:A:209:ILE:HA	1:A:248:GLY:HA3	1.84	0.58
1:A:3043:MET:HE1	1:B:1564:GLU:HG3	1.85	0.58
1:B:1931:ASN:HD22	1:B:2317:SER:H	1.51	0.58
1:B:2422:ILE:HD13	1:B:2487:GLU:HA	1.85	0.58
3:F:48:ARG:HH11	3:F:49:SER:HB2	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:139:MET:SD	3:F:231:CYS:HB3	2.42	0.58
5:J:7:VAL:O	5:J:9:LYS:N	2.36	0.58
1:B:120:LYS:HA	1:B:135:LEU:HD13	1.85	0.58
1:B:129:LYS:HD2	1:B:130:PRO:HD2	1.85	0.58
1:B:229:VAL:HG12	1:B:303:ILE:HG22	1.85	0.58
3:F:48:ARG:HD2	3:F:49:SER:N	2.18	0.58
1:A:3243:MET:SD	1:A:3451:TYR:CE2	2.96	0.58
1:A:3510:SER:HB3	1:A:3553:LEU:HD21	1.85	0.58
1:B:1161:ALA:HA	1:B:1163:THR:HG23	1.85	0.58
1:B:1205:PRO:HG2	1:B:1207:SER:OG	2.03	0.58
1:B:3243:MET:SD	1:B:3451:TYR:CE2	2.96	0.58
1:A:170:LYS:HG2	1:A:179:ALA:HB3	1.84	0.58
1:A:405:ALA:HB3	1:A:408:GLU:HG2	1.85	0.58
1:A:1191:ARG:NH2	1:A:1215:GLU:OE2	2.36	0.58
1:B:724:ARG:HH11	1:B:726:ARG:HE	1.52	0.58
1:B:3381:ILE:HG23	1:B:3390:GLY:H	1.65	0.58
2:D:607:ARG:HG2	2:D:610:GLU:HG2	1.84	0.58
1:A:321:GLY:O	1:A:324:GLN:NE2	2.36	0.58
1:A:2279:LEU:HA	1:A:2698:GLN:HG3	1.86	0.58
1:A:3452:ALA:HB1	1:B:3455:ILE:HD12	1.86	0.58
1:A:3452:ALA:CB	1:B:3455:ILE:HD12	2.33	0.58
1:A:3951:VAL:CG2	1:A:3973:LEU:HD21	2.33	0.58
1:B:130:PRO:O	1:B:134:GLN:N	2.36	0.58
1:B:1212:ASP:C	1:B:1214:ILE:N	2.59	0.58
1:B:2279:LEU:HA	1:B:2698:GLN:HG3	1.86	0.58
1:A:1196:LEU:O	1:A:1200:GLN:N	2.35	0.58
1:A:3455:ILE:HD12	1:B:3452:ALA:HB1	1.86	0.58
1:A:4287:LYS:H	1:A:4293:ASP:HB3	1.68	0.58
3:F:142:PRO:HA	3:F:145:VAL:HG23	1.85	0.58
1:A:4318:PRO:HG2	1:A:4325:ASN:HA	1.85	0.58
1:B:908:GLU:HG3	1:B:1025:ARG:HG2	1.85	0.58
1:B:1169:PHE:O	1:B:1172:TYR:HB3	2.04	0.58
2:D:495:HIS:HB2	2:D:511:THR:HG22	1.85	0.58
5:J:72:HIS:HB3	5:J:87:LYS:HB3	1.85	0.58
1:A:22:GLN:HE21	1:A:125:ILE:HA	1.68	0.58
1:A:118:PHE:HB3	1:A:135:LEU:HD21	1.86	0.58
1:A:3655:ARG:HG2	1:A:3660:VAL:HG22	1.86	0.58
1:B:4554:ASP:OD1	1:B:4555:ALA:N	2.37	0.58
1:B:4318:PRO:HG2	1:B:4325:ASN:HA	1.85	0.57
1:A:43:GLU:HG3	1:A:81:ARG:HH22	1.69	0.57
1:A:151:SER:O	1:A:154:SER:OG	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3597:THR:HG23	1:A:3634:LEU:HD21	1.86	0.57
1:A:4554:ASP:OD1	1:A:4555:ALA:N	2.37	0.57
1:B:231:ASP:OD1	1:B:232:PHE:N	2.37	0.57
1:B:438:VAL:HA	1:B:441:LYS:HB2	1.86	0.57
1:B:864:LEU:HB2	1:B:877:ILE:HG21	1.85	0.57
1:B:1161:ALA:C	1:B:1163:THR:H	2.12	0.57
1:B:1398:MET:O	1:B:1399:LEU:C	2.47	0.57
1:B:4071:ILE:HD11	1:B:4096:LEU:HB3	1.86	0.57
1:A:189:LEU:O	1:A:193:LEU:HD23	2.04	0.57
1:A:1399:LEU:O	1:A:1401:ILE:N	2.38	0.57
1:A:4071:ILE:HD11	1:A:4096:LEU:HB3	1.86	0.57
1:B:1455:GLY:HA3	1:B:1512:TYR:CE2	2.39	0.57
1:B:3381:ILE:HD12	1:B:3389:CYS:HB3	1.86	0.57
1:B:3510:SER:HB3	1:B:3553:LEU:HD21	1.84	0.57
4:G:66:LEU:HG	4:H:71:ILE:HD11	1.85	0.57
1:A:1222:ASN:HA	1:A:1225:MET:HE3	1.86	0.57
2:D:352:THR:HG23	2:D:354:SER:H	1.69	0.57
1:A:442:ARG:NH2	1:A:445:ASN:OD1	2.37	0.57
1:A:1455:GLY:HA3	1:A:1512:TYR:CE2	2.39	0.57
1:B:315:SER:O	1:B:319:ASP:N	2.25	0.57
1:A:160:PHE:HB2	1:B:107:ILE:HD12	1.86	0.57
1:A:228:LYS:N	1:A:231:ASP:OD2	2.31	0.57
1:A:1386:VAL:O	1:A:1390:LEU:N	2.36	0.57
1:B:808:LEU:O	1:B:811:GLU:HG2	2.05	0.57
1:B:3597:THR:HG23	1:B:3634:LEU:HD21	1.86	0.57
2:D:579:THR:HG21	2:D:584:GLU:CD	2.29	0.57
1:A:2592:VAL:HG23	1:A:2731:VAL:HG11	1.86	0.57
1:A:3382:VAL:O	1:A:3383:ASN:C	2.48	0.57
1:A:3839:VAL:HG21	1:A:3863:LEU:HA	1.85	0.57
1:B:88:VAL:HB	1:B:95:GLU:HA	1.86	0.57
1:B:1085:GLN:HA	1:B:1088:LYS:HE3	1.86	0.57
1:B:2107:ARG:NH2	1:B:2139:GLN:OE1	2.38	0.57
2:D:583:ARG:NH1	2:D:599:VAL:O	2.31	0.57
1:A:116:LEU:HD22	1:A:139:THR:HG22	1.87	0.57
1:A:2562:VAL:HG11	1:A:2755:MET:HB2	1.85	0.57
1:B:2562:VAL:HG11	1:B:2755:MET:HB2	1.85	0.57
1:B:3839:VAL:HG21	1:B:3863:LEU:HA	1.85	0.57
1:B:4071:ILE:HG13	1:B:4099:VAL:HG12	1.87	0.57
2:D:349:VAL:HG21	2:D:398:LEU:HD11	1.87	0.57
1:A:1931:ASN:HD22	1:A:2317:SER:H	1.51	0.57
1:A:4168:ARG:NE	1:A:4220:ASP:OD1	2.30	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4544:ASN:HD22	1:A:4589:GLN:HG3	1.70	0.57
3:F:251:LEU:HA	3:F:254:ILE:HG12	1.87	0.57
5:J:58:VAL:HG22	5:J:83:ILE:HG12	1.86	0.57
1:A:3381:ILE:HG13	1:A:3393:VAL:CB	2.35	0.57
1:A:3381:ILE:HD12	1:A:3389:CYS:HB3	1.86	0.57
1:B:3655:ARG:HG2	1:B:3660:VAL:HG22	1.86	0.57
1:B:4168:ARG:NE	1:B:4220:ASP:OD1	2.30	0.57
2:D:187:LYS:HE3	4:H:24:ASN:H	1.69	0.57
3:F:67:LYS:HB3	3:F:136:VAL:HG21	1.86	0.57
3:F:87:GLU:HB2	3:F:108:ILE:HG23	1.86	0.57
5:J:50:TYR:C	5:J:54:TRP:HH2	2.13	0.57
1:B:3382:VAL:O	1:B:3383:ASN:C	2.48	0.56
1:B:3951:VAL:HG22	1:B:3973:LEU:HD21	1.87	0.56
2:D:505:THR:HG22	2:D:507:LYS:HG3	1.87	0.56
4:G:25:THR:HA	4:G:87:PHE:HE2	1.70	0.56
1:A:2107:ARG:NH2	1:A:2139:GLN:OE1	2.38	0.56
1:A:3951:VAL:HG22	1:A:3973:LEU:HD21	1.87	0.56
2:D:448:VAL:HG21	2:D:497:PHE:CZ	2.39	0.56
1:A:2319:LEU:HD13	1:A:2359:CYS:SG	2.45	0.56
1:A:3172:THR:HG21	1:A:3694:SER:HB3	1.87	0.56
1:B:1170:ILE:O	1:B:1173:VAL:HG12	2.06	0.56
1:B:1174:GLN:HA	1:B:1177:LYS:HG2	1.87	0.56
1:B:1220:ALA:O	1:B:1224:ILE:HG12	2.05	0.56
1:B:3172:THR:HG21	1:B:3694:SER:HB3	1.87	0.56
1:B:3891:LYS:HD2	1:B:4013:LEU:HD23	1.87	0.56
1:B:4444:GLN:O	1:B:4449:ARG:NH1	2.38	0.56
2:C:202:HIS:NE2	4:G:81:ALA:HB1	2.21	0.56
2:D:268:ASN:HB2	2:D:597:TYR:HA	1.86	0.56
3:E:124:SER:O	3:E:128:LEU:N	2.36	0.56
3:F:365:LYS:O	3:F:368:SER:OG	2.21	0.56
5:J:9:LYS:HB2	5:J:75:TYR:O	2.06	0.56
1:A:196:LEU:H	1:B:178:MET:HE1	1.70	0.56
1:A:3443:SER:HB2	1:A:3447:TYR:CE2	2.40	0.56
1:A:4209:GLU:OE2	1:A:4213:ARG:NE	2.36	0.56
1:B:91:GLU:HA	1:B:243:ASN:HB3	1.88	0.56
1:B:1045:SER:O	1:B:1048:GLU:HG3	2.06	0.56
2:D:266:SER:O	2:D:597:TYR:HB2	2.05	0.56
1:A:189:LEU:HD22	1:B:185:LYS:HE2	1.88	0.56
1:A:1174:GLN:O	1:A:1178:ARG:NH1	2.33	0.56
1:A:2433:VAL:HG22	1:A:2498:ILE:HD11	1.87	0.56
1:B:960:HIS:O	1:B:1107:ILE:HA	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2319:LEU:HD13	1:B:2359:CYS:SG	2.46	0.56
1:B:2592:VAL:HG23	1:B:2731:VAL:HG11	1.86	0.56
1:B:4544:ASN:HD22	1:B:4589:GLN:HG3	1.70	0.56
1:B:1139:MET:O	1:B:1143:HIS:ND1	2.38	0.56
1:A:236:VAL:HG13	1:A:237:GLU:HG2	1.87	0.56
1:A:3891:LYS:HD2	1:A:4013:LEU:HD23	1.87	0.56
1:B:153:ILE:O	1:B:157:VAL:HG12	2.06	0.56
1:B:365:ARG:HH22	1:B:432:VAL:HB	1.71	0.56
1:B:1138:ASN:OD1	1:B:1139:MET:N	2.38	0.56
3:F:255:GLN:HE22	3:F:323:LEU:HD11	1.69	0.56
1:A:1985:HIS:CD2	1:A:1997:ILE:HD13	2.41	0.56
1:B:1998:THR:HG21	1:B:2005:GLN:HB3	1.88	0.56
1:B:3381:ILE:HG13	1:B:3393:VAL:CB	2.35	0.56
5:J:12:ASP:OD2	5:J:68:HIS:HE1	1.89	0.56
1:A:4071:ILE:HG13	1:A:4099:VAL:HG12	1.87	0.56
1:B:3443:SER:HB2	1:B:3447:TYR:CE2	2.40	0.56
1:B:817:ALA:HA	3:F:366:GLN:HE21	1.71	0.56
1:B:819:GLY:HA3	1:B:832:TYR:CZ	2.40	0.56
1:B:1079:TRP:HB3	1:B:1131:PHE:CZ	2.41	0.56
1:B:1215:GLU:C	1:B:1217:GLU:N	2.63	0.55
1:B:1537:TRP:CE3	1:B:1601:LEU:HD11	2.41	0.55
1:B:1985:HIS:CD2	1:B:1997:ILE:HD13	2.41	0.55
6:K:73:ASN:HD21	6:L:75:ALA:HB2	1.72	0.55
1:A:3601:MET:HG3	1:A:3611:ARG:NH2	2.21	0.55
1:A:4444:GLN:O	1:A:4449:ARG:NH1	2.38	0.55
1:B:349:GLU:OE1	1:B:349:GLU:N	2.40	0.55
1:B:724:ARG:HD2	1:B:726:ARG:HH21	1.69	0.55
1:B:2433:VAL:HG22	1:B:2498:ILE:HD11	1.87	0.55
2:D:589:ASP:OD1	2:D:590:SER:N	2.38	0.55
1:B:387:ASP:OD1	1:B:388:LEU:N	2.38	0.55
2:D:531:MET:HG3	2:D:578:TRP:CD1	2.36	0.55
1:A:21:VAL:HA	1:A:124:VAL:HB	1.88	0.55
1:A:179:ALA:HA	1:A:182:VAL:HG22	1.87	0.55
1:B:2573:ASP:OD1	1:B:2576:ARG:NH2	2.39	0.55
1:A:55:ALA:HB3	1:A:101:TYR:HD2	1.70	0.55
1:A:441:LYS:HB3	1:A:448:MET:HE2	1.88	0.55
1:B:1150:ARG:O	1:B:1153:LEU:HG	2.06	0.55
1:B:1218:TRP:CD1	1:B:1222:ASN:HD21	2.24	0.55
1:B:3601:MET:HG3	1:B:3611:ARG:NH2	2.21	0.55
5:I:58:VAL:HG22	5:I:83:ILE:HG12	1.89	0.55
5:J:13:MET:HE2	5:J:17:MET:SD	2.47	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1154:GLU:HA	1:A:1156:HIS:CE1	2.42	0.55
1:A:1998:THR:HG21	1:A:2005:GLN:HB3	1.88	0.55
1:B:72:PRO:O	1:B:75:HIS:NE2	2.38	0.55
1:B:246:GLN:HA	1:B:249:VAL:HG12	1.88	0.55
1:B:1131:PHE:O	1:B:1135:LEU:HG	2.06	0.55
1:A:29:VAL:O	1:A:33:HIS:ND1	2.39	0.55
1:A:371:LYS:HE3	1:A:440:ARG:HH21	1.71	0.55
1:A:1537:TRP:CE3	1:A:1601:LEU:HD11	2.41	0.55
1:A:1155:GLN:HE22	1:A:1157:SER:HB2	1.71	0.55
1:B:335:LEU:HG	1:B:366:LYS:NZ	2.22	0.55
1:A:2144:THR:HG22	1:A:2145:MET:HE2	1.89	0.55
1:B:4104:GLY:HA2	1:B:4107:MET:HE3	1.88	0.55
2:D:448:VAL:HG22	2:D:458:THR:HG23	1.89	0.55
4:H:83:ASP:OD1	4:H:84:LYS:N	2.37	0.55
1:A:3455:ILE:HD12	1:B:3452:ALA:HA	1.87	0.55
1:B:148:THR:HG23	1:B:152:PHE:CE2	2.41	0.55
1:B:613:LYS:HG3	1:B:682:LEU:HD12	1.88	0.55
1:B:1212:ASP:CA	1:B:1216:GLY:H	2.20	0.55
1:A:136:ARG:NE	1:B:139:THR:HG23	2.21	0.54
1:A:354:ARG:NH1	1:A:355:GLN:HG2	2.21	0.54
1:A:2694:ARG:NH1	1:A:2697:ASP:OD2	2.40	0.54
4:H:21:ILE:HD12	4:H:31:LYS:HB2	1.90	0.54
5:J:70:THR:O	5:J:72:HIS:ND1	2.29	0.54
2:D:503:ASP:O	2:D:505:THR:OG1	2.22	0.54
5:J:50:TYR:HB2	5:J:54:TRP:CH2	2.42	0.54
1:A:265:ASP:OD2	1:A:268:SER:OG	2.23	0.54
1:A:479:VAL:O	1:A:483:VAL:N	2.31	0.54
1:A:3580:LEU:HD13	1:A:3600:ILE:HD11	1.89	0.54
1:A:4104:GLY:HA2	1:A:4107:MET:HE3	1.88	0.54
1:B:241:PHE:O	1:B:245:LEU:HG	2.08	0.54
1:B:1205:PRO:O	1:B:1206:PRO:C	2.49	0.54
1:B:3580:LEU:HD13	1:B:3600:ILE:HD11	1.89	0.54
3:F:88:TYR:HD1	3:F:107:TRP:CD1	2.26	0.54
1:A:264:ARG:O	1:A:376:ARG:NH1	2.18	0.54
1:A:269:GLY:O	1:A:386:ARG:NH2	2.40	0.54
1:A:2573:ASP:OD1	1:A:2576:ARG:NH2	2.39	0.54
1:B:479:VAL:HG11	1:B:590:ALA:HB3	1.90	0.54
1:B:1126:GLU:O	1:B:1129:SER:OG	2.18	0.54
1:B:1198:GLU:O	1:B:1201:ARG:NH1	2.40	0.54
1:B:1832:ASN:HD21	1:B:1834:LYS:HB2	1.72	0.54
2:D:504:TRP:CE3	2:D:523:ASN:HB3	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:50:TYR:HB2	5:J:54:TRP:CZ2	2.42	0.54
1:A:1196:LEU:HA	1:A:1199:LYS:HG2	1.90	0.54
1:B:3384:ARG:O	1:B:3385:ALA:C	2.51	0.54
2:D:523:ASN:CG	2:D:524:ALA:H	2.15	0.54
5:I:55:HIS:ND1	5:J:66:VAL:HB	2.22	0.54
1:A:274:GLU:OE1	1:A:376:ARG:NH2	2.40	0.54
1:A:3384:ARG:O	1:A:3385:ALA:C	2.51	0.54
1:B:639:ARG:NH2	2:D:574:ASN:HD21	2.05	0.54
1:B:4209:GLU:OE2	1:B:4213:ARG:NE	2.36	0.54
1:B:2596:PRO:HB2	1:B:2738:TYR:CZ	2.43	0.54
1:A:456:HIS:CE1	1:A:460:GLN:HB2	2.43	0.54
1:B:126:ASP:H	1:B:134:GLN:NE2	2.06	0.54
1:A:1832:ASN:HD21	1:A:1834:LYS:HB2	1.72	0.54
1:A:2047:GLN:HA	1:A:2070:VAL:HG21	1.89	0.54
1:A:3243:MET:HE2	1:A:3448:LYS:HB2	1.90	0.54
1:B:27:VAL:HG23	1:B:66:ARG:HH11	1.73	0.54
1:B:78:LEU:HB3	1:B:104:ASN:HB2	1.90	0.54
1:B:1141:GLU:O	1:B:1145:GLN:HG2	2.07	0.54
1:B:1212:ASP:HA	1:B:1216:GLY:H	1.72	0.54
2:D:475:HIS:CE1	2:D:477:GLY:H	2.26	0.54
1:A:3182:HIS:NE2	1:A:3582:ARG:O	2.40	0.54
1:B:480:ILE:HG23	1:B:484:LEU:HB2	1.89	0.54
1:B:664:ARG:HG2	1:B:664:ARG:HH11	1.73	0.54
1:B:1100:LYS:NZ	1:B:1102:PHE:HB2	2.23	0.54
1:B:1176:LEU:HD13	1:B:1179:LYS:HD3	1.89	0.54
1:B:1571:ILE:HD12	1:B:1611:ILE:HD11	1.90	0.54
1:A:3452:ALA:HA	1:B:3455:ILE:HD12	1.88	0.53
1:B:862:ARG:HA	1:B:865:GLU:HG3	1.90	0.53
1:B:1203:GLN:O	1:B:1204:PHE:C	2.50	0.53
1:B:2665:GLU:HB3	1:B:2668:LEU:HD12	1.90	0.53
1:B:3383:ASN:O	1:B:3384:ARG:CB	2.56	0.53
2:D:578:TRP:HA	2:D:585:ILE:HD12	1.91	0.53
3:F:39:ILE:HA	3:F:42:GLU:HG2	1.90	0.53
4:G:57:VAL:HG11	4:G:66:LEU:HD11	1.88	0.53
5:I:13:MET:HA	5:I:71:LYS:HD2	1.89	0.53
1:A:53:GLU:HA	1:A:56:LEU:HB3	1.90	0.53
1:A:401:LEU:HA	1:A:404:VAL:HB	1.89	0.53
1:A:1467:ARG:HE	1:A:1523:TRP:HZ2	1.56	0.53
1:A:2294:GLU:OE1	1:A:2294:GLU:N	2.39	0.53
1:B:257:GLN:HA	1:B:260:THR:HG22	1.89	0.53
1:B:3914:ILE:O	1:B:3937:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:445:ASN:OD1	2:D:446:ASN:N	2.36	0.53
1:A:3914:ILE:O	1:A:3937:ARG:NH1	2.42	0.53
1:B:361:PHE:CD1	1:B:426:GLU:HG3	2.43	0.53
1:B:1156:HIS:NE2	1:B:1166:ALA:HA	2.24	0.53
1:B:1467:ARG:HE	1:B:1523:TRP:HZ2	1.57	0.53
1:B:3691:ASP:OD1	1:B:3692:LEU:N	2.42	0.53
2:D:504:TRP:NE1	2:D:522:ASP:H	2.06	0.53
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.91	0.53
1:B:631:GLN:HG3	2:D:572:ALA:HB2	1.90	0.53
1:B:2144:THR:HG22	1:B:2145:MET:HE2	1.89	0.53
1:B:2694:ARG:NH1	1:B:2697:ASP:OD2	2.41	0.53
2:D:439:PHE:HB3	2:D:447:PHE:CE1	2.44	0.53
4:H:46:MET:O	4:H:50:ILE:HG12	2.08	0.53
1:A:148:THR:O	1:A:152:PHE:HD2	1.92	0.53
1:A:189:LEU:HD21	1:B:185:LYS:HB3	1.91	0.53
1:A:368:ARG:NH1	1:A:436:ASP:O	2.42	0.53
1:A:3459:GLN:OE1	1:B:3453:VAL:HA	2.09	0.53
1:B:848:ASP:OD1	1:B:849:ASP:N	2.41	0.53
1:B:2047:GLN:HA	1:B:2070:VAL:HG21	1.89	0.53
2:D:457:TYR:HE1	2:D:471:MET:HG2	1.73	0.53
3:F:59:VAL:HG11	3:F:108:ILE:HG13	1.89	0.53
5:I:77:TYR:CZ	5:I:82:ALA:HB2	2.44	0.53
1:A:241:PHE:O	1:A:245:LEU:HG	2.09	0.53
1:A:1487:ILE:HD12	1:A:1537:TRP:HE1	1.74	0.53
1:B:676:HIS:CD2	1:B:678:GLU:HB2	2.44	0.53
1:B:2835:ASP:HB3	1:B:3092:ASN:HD22	1.74	0.53
1:A:40:LEU:HD23	1:A:45:GLY:HA2	1.90	0.53
1:A:3292:ALA:HA	1:A:3395:TRP:HZ2	1.74	0.53
1:B:1013:THR:OG1	1:B:1014:GLU:N	2.39	0.53
1:B:3237:ASN:O	1:B:3241:LYS:HG3	2.09	0.53
1:B:3520:PHE:HB3	1:B:3524:MET:HB3	1.91	0.53
6:K:69:ILE:HG23	6:K:102:MET:SD	2.49	0.53
1:A:182:VAL:HB	1:A:185:LYS:HE2	1.90	0.53
1:A:361:PHE:HA	1:A:364:LEU:HD12	1.91	0.53
1:B:3380:GLU:O	1:B:3383:ASN:HB2	2.08	0.53
1:B:4196:TYR:O	1:B:4197:ALA:C	2.52	0.53
1:A:2596:PRO:HB2	1:A:2738:TYR:CZ	2.43	0.53
1:B:530:VAL:H	1:B:553:TYR:HH	1.52	0.53
1:A:1887:ARG:HE	1:A:2039:LEU:HD11	1.74	0.53
1:A:3750:LEU:O	1:A:3754:ASN:ND2	2.42	0.53
1:B:116:LEU:HD23	1:B:139:THR:HB	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3292:ALA:HA	1:B:3395:TRP:HZ2	1.74	0.53
1:B:3750:LEU:O	1:B:3754:ASN:ND2	2.42	0.53
2:D:475:HIS:CE1	2:D:503:ASP:HB2	2.44	0.53
3:F:48:ARG:HD2	3:F:49:SER:HB2	1.90	0.53
1:A:253:ILE:HA	1:A:256:ILE:HG12	1.91	0.52
1:A:1147:SER:O	1:A:1151:GLN:HG2	2.09	0.52
1:A:2665:GLU:HB3	1:A:2668:LEU:HD12	1.90	0.52
1:A:4196:TYR:O	1:A:4197:ALA:C	2.52	0.52
1:B:330:ASN:HA	1:B:333:ASN:HB2	1.90	0.52
1:B:1130:LYS:O	1:B:1133:GLN:HG2	2.09	0.52
1:B:3243:MET:HE2	1:B:3448:LYS:HB2	1.90	0.52
1:B:3916:LEU:HD11	1:B:3937:ARG:HG3	1.91	0.52
2:D:344:HIS:CD2	2:D:347:LEU:HD13	2.44	0.52
4:G:68:PHE:HD2	4:H:72:ARG:HB3	1.73	0.52
1:A:3380:GLU:O	1:A:3383:ASN:HB2	2.08	0.52
1:B:264:ARG:NH1	1:B:267:ALA:O	2.39	0.52
1:B:431:GLN:O	1:B:435:ARG:HG2	2.09	0.52
1:B:530:VAL:HG13	1:B:553:TYR:CE1	2.45	0.52
1:B:1487:ILE:HD12	1:B:1537:TRP:HE1	1.73	0.52
1:B:1887:ARG:HE	1:B:2039:LEU:HD11	1.74	0.52
2:D:445:ASN:HD21	2:D:463:GLY:H	1.58	0.52
3:F:250:HIS:HD2	3:F:340:ILE:HG22	1.73	0.52
1:A:205:ILE:HD13	1:A:255:GLU:HG2	1.91	0.52
1:A:3691:ASP:OD1	1:A:3692:LEU:N	2.42	0.52
1:B:350:LEU:HA	1:B:353:ILE:HD12	1.91	0.52
1:B:636:SER:HB2	1:B:641:LEU:HB2	1.92	0.52
1:B:642:PRO:HB2	1:B:749:GLU:OE2	2.08	0.52
1:B:867:CYS:SG	1:B:873:THR:OG1	2.60	0.52
1:B:1543:ARG:NH1	1:B:1612:GLN:OE1	2.41	0.52
1:B:1687:LYS:HD3	1:B:1712:THR:HG23	1.91	0.52
2:D:607:ARG:HG3	2:D:609:ASP:HB3	1.92	0.52
3:F:228:LEU:HD21	3:F:286:TYR:CE1	2.44	0.52
3:F:321:ALA:HA	3:F:324:HIS:NE2	2.25	0.52
1:A:78:LEU:HD22	1:A:107:ILE:HA	1.91	0.52
1:B:487:GLN:H	1:B:567:ARG:HH22	1.58	0.52
1:A:210:HIS:CE1	1:A:212:MET:HE2	2.44	0.52
1:A:242:LEU:HB3	1:A:309:ARG:NE	2.24	0.52
1:B:466:MET:HE3	1:B:466:MET:O	2.09	0.52
1:B:581:MET:HA	1:B:584:ILE:HD12	1.91	0.52
1:B:1061:TRP:HB2	1:B:1119:LYS:HZ1	1.75	0.52
1:B:1194:GLN:NE2	1:B:1195:ARG:HG3	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:506:VAL:H	2:D:520:PHE:HB3	1.74	0.52
3:F:68:THR:HG21	3:F:82:LYS:HE2	1.92	0.52
1:A:27:VAL:O	1:A:31:GLN:HB2	2.10	0.52
1:A:2835:ASP:HB3	1:A:3092:ASN:HD22	1.74	0.52
1:A:3237:ASN:O	1:A:3241:LYS:HG3	2.09	0.52
1:A:3916:LEU:HD11	1:A:3937:ARG:HG3	1.91	0.52
1:B:439:LYS:O	1:B:442:ARG:NH1	2.43	0.52
1:B:2620:LEU:HD22	1:B:2631:LEU:HD23	1.91	0.52
6:L:90:ASP:OD1	6:L:112:SER:N	2.26	0.52
1:A:38:VAL:HG21	1:A:52:LEU:HD22	1.91	0.52
1:B:569:ARG:NH1	1:B:603:GLU:OE1	2.43	0.52
1:B:580:GLU:HA	1:B:583:ARG:NH2	2.25	0.52
1:B:804:LEU:HD11	1:B:899:TRP:CD1	2.45	0.52
1:B:1172:TYR:O	1:B:1175:SER:OG	2.21	0.52
1:B:1210:TYR:N	1:B:1213:ASN:OD1	2.36	0.52
1:B:1399:LEU:C	1:B:1401:ILE:N	2.68	0.52
1:B:3182:HIS:NE2	1:B:3582:ARG:O	2.40	0.52
1:A:1205:PRO:O	1:A:1208:TRP:HB3	2.09	0.52
1:B:988:ALA:O	1:B:992:VAL:HG23	2.10	0.52
1:B:2621:ASN:OD1	1:B:3014:ASN:ND2	2.42	0.52
3:F:168:GLU:O	3:F:171:ARG:NH2	2.43	0.52
3:F:241:GLU:HA	3:F:246:TYR:HB2	1.91	0.52
1:A:373:PRO:HB2	1:A:376:ARG:HB3	1.91	0.52
1:A:2620:LEU:HD22	1:A:2631:LEU:HD23	1.91	0.52
1:B:464:ASP:OD1	1:B:465:GLN:N	2.43	0.52
1:B:1965:GLU:HG2	1:B:2026:SER:HB3	1.91	0.52
1:B:2294:GLU:OE1	1:B:2294:GLU:N	2.39	0.52
1:B:3381:ILE:CD1	1:B:3389:CYS:HB3	2.40	0.52
2:D:526:TYR:CE1	2:D:528:TYR:HB2	2.45	0.52
3:F:120:LYS:HA	3:F:159:HIS:CE1	2.43	0.52
1:A:195:HIS:CE1	1:A:264:ARG:HE	2.28	0.52
1:A:1543:ARG:NH1	1:A:1612:GLN:OE1	2.41	0.52
1:A:4179:LEU:HD12	1:A:4223:LEU:HD22	1.92	0.52
1:B:476:LEU:HD22	1:B:591:LEU:HD11	1.91	0.52
1:B:755:TRP:CD2	2:D:453:GLU:HG3	2.44	0.52
1:B:1227:ARG:HH21	1:B:1228:LYS:HZ1	1.56	0.52
1:A:146:TYR:OH	1:B:164:TYR:HB3	2.10	0.51
1:A:195:HIS:CE1	1:A:264:ARG:HB2	2.45	0.51
1:A:340:PRO:HB2	1:A:360:ILE:HB	1.91	0.51
1:A:1929:VAL:H	1:A:2332:ARG:HH21	1.59	0.51
1:A:2807:PHE:CE2	1:A:2811:ARG:HD3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2973:ASP:OD2	1:A:3007:ARG:NH2	2.44	0.51
1:B:331:ASP:OD1	1:B:332:TYR:N	2.43	0.51
2:D:480:THR:HB	2:D:528:TYR:CD2	2.45	0.51
1:A:42:LEU:HB3	1:A:81:ARG:HH21	1.75	0.51
1:A:280:ASN:HA	1:A:283:ARG:NE	2.25	0.51
1:A:368:ARG:HH11	1:A:437:ILE:HD13	1.74	0.51
1:A:1687:LYS:HD3	1:A:1712:THR:HG23	1.91	0.51
1:A:1965:GLU:HG2	1:A:2026:SER:HB3	1.91	0.51
2:D:278:LYS:O	2:D:280:ARG:HG3	2.11	0.51
5:I:8:ILE:HD13	5:I:18:GLN:NE2	2.25	0.51
1:A:136:ARG:HG3	1:B:152:PHE:CE2	2.44	0.51
1:A:1392:GLY:O	1:A:1396:ILE:N	2.44	0.51
1:A:3453:VAL:HA	1:B:3459:GLN:OE1	2.11	0.51
1:A:3624:GLU:HG3	1:A:3669:ILE:HD13	1.93	0.51
1:B:694:ASN:ND2	1:B:697:GLU:OE1	2.43	0.51
1:B:2973:ASP:OD2	1:B:3007:ARG:NH2	2.44	0.51
1:B:4413:PHE:HD2	1:B:4504:LEU:HD13	1.75	0.51
1:A:1671:SER:HB2	1:A:1693:THR:HG23	1.92	0.51
1:A:2729:ARG:HD2	1:A:2730:HIS:NE2	2.25	0.51
1:A:4009:VAL:HG13	1:A:4013:LEU:HD12	1.93	0.51
1:B:81:ARG:HE	1:B:99:ILE:HG21	1.74	0.51
1:B:286:TYR:O	1:B:290:GLU:HG2	2.11	0.51
1:B:1037:TYR:HB3	3:F:121:PHE:CZ	2.45	0.51
1:B:1093:PHE:CZ	1:B:1113:GLN:HG3	2.46	0.51
1:B:4178:ARG:NH2	1:B:4297:PRO:O	2.43	0.51
1:B:4179:LEU:HD12	1:B:4223:LEU:HD22	1.92	0.51
4:H:26:GLU:HA	4:H:87:PHE:HE2	1.75	0.51
1:A:4517:PRO:HG3	1:A:4611:LEU:HD13	1.93	0.51
1:B:365:ARG:NH2	1:B:432:VAL:HB	2.26	0.51
1:B:717:ILE:HG13	1:B:822:LEU:HB2	1.93	0.51
1:B:755:TRP:CE2	2:D:453:GLU:HA	2.45	0.51
1:B:2807:PHE:CE2	1:B:2811:ARG:HD3	2.45	0.51
1:B:3624:GLU:HG3	1:B:3669:ILE:HD13	1.93	0.51
2:D:429:SER:O	2:D:429:SER:OG	2.28	0.51
1:A:195:HIS:HE1	1:A:264:ARG:HE	1.57	0.51
1:A:210:HIS:NE2	1:A:212:MET:HE2	2.25	0.51
1:A:442:ARG:HH22	1:A:448:MET:HE1	1.75	0.51
1:A:1172:TYR:O	1:A:1175:SER:OG	2.23	0.51
1:A:3378:ASN:HD22	1:A:3378:ASN:H	1.59	0.51
1:B:106:ASP:OD1	1:B:107:ILE:N	2.38	0.51
1:B:363:HIS:O	1:B:366:LYS:HG2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:264:LYS:HG2	2:D:602:GLN:HE22	1.74	0.51
2:D:426:HIS:HD2	2:D:468:ILE:HG21	1.75	0.51
1:A:29:VAL:HA	1:A:32:LYS:HE2	1.92	0.51
1:A:1929:VAL:H	1:A:2332:ARG:NH2	2.09	0.51
1:A:3381:ILE:CD1	1:A:3389:CYS:HB3	2.40	0.51
1:A:4178:ARG:NH2	1:A:4297:PRO:O	2.43	0.51
1:B:296:GLU:O	1:B:300:THR:HG23	2.10	0.51
1:B:1033:LEU:O	1:B:1036:SER:OG	2.11	0.51
1:B:1213:ASN:N	5:J:9:LYS:O	2.44	0.51
1:B:1671:SER:HB2	1:B:1693:THR:HG23	1.92	0.51
1:B:1929:VAL:H	1:B:2332:ARG:HH21	1.59	0.51
1:B:2729:ARG:HD2	1:B:2730:HIS:NE2	2.24	0.51
2:D:584:GLU:HA	2:D:598:ASP:HA	1.91	0.51
1:A:2621:ASN:OD1	1:A:3014:ASN:ND2	2.42	0.51
1:B:467:ARG:O	1:B:471:ARG:HG2	2.11	0.51
1:B:2638:TYR:HB3	1:B:2659:LEU:HD11	1.93	0.51
5:I:68:HIS:CD2	5:I:73:PHE:HB2	2.46	0.51
1:A:2061:THR:OG1	1:A:2133:GLU:OE1	2.28	0.51
1:B:1210:TYR:CG	5:J:8:ILE:HG13	2.46	0.51
1:B:4460:LEU:HD12	1:B:4461:PRO:HD2	1.93	0.51
1:B:4517:PRO:HG3	1:B:4611:LEU:HD13	1.93	0.51
2:D:526:TYR:CZ	2:D:528:TYR:HB2	2.45	0.51
3:F:276:GLU:HG3	3:F:278:LYS:HG3	1.93	0.51
1:A:3211:THR:HG23	1:A:3761:LEU:HD11	1.93	0.51
1:B:59:LYS:HZ1	1:B:63:GLU:HB2	1.74	0.51
1:B:68:PHE:O	1:B:120:LYS:NZ	2.37	0.51
1:B:1860:GLN:HG2	1:B:1865:LYS:HG2	1.93	0.51
1:A:21:VAL:HG13	1:A:124:VAL:HG21	1.93	0.50
1:A:117:ALA:HB3	1:A:138:LEU:HB2	1.93	0.50
1:A:385:SER:O	1:A:388:LEU:HB2	2.11	0.50
1:A:3043:MET:HE3	1:B:1567:ARG:HD3	1.93	0.50
1:A:3238:ASP:O	1:A:3242:LYS:HG3	2.11	0.50
1:A:4413:PHE:HD2	1:A:4504:LEU:HD13	1.75	0.50
1:B:361:PHE:CG	1:B:426:GLU:HG3	2.46	0.50
1:B:717:ILE:HG22	1:B:718:PHE:CD2	2.46	0.50
3:F:118:LEU:O	3:F:121:PHE:HB3	2.11	0.50
1:A:253:ILE:HG12	1:A:319:ASP:HB3	1.92	0.50
1:A:3194:LEU:HD23	1:A:3500:MET:SD	2.51	0.50
1:A:3383:ASN:O	1:A:3384:ARG:CB	2.56	0.50
1:B:253:ILE:HA	1:B:256:ILE:HG12	1.93	0.50
1:B:368:ARG:NH1	1:B:437:ILE:HD13	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:526:ALA:O	1:B:553:TYR:CZ	2.64	0.50
1:B:1061:TRP:HB2	1:B:1119:LYS:NZ	2.26	0.50
1:B:1199:LYS:HA	1:B:1201:ARG:CZ	2.41	0.50
1:B:2224:GLY:O	1:B:2346:GLN:HA	2.12	0.50
1:B:3750:LEU:HG	1:B:3754:ASN:HD21	1.76	0.50
1:A:85:LYS:HB2	1:A:112:LYS:HE3	1.94	0.50
1:A:150:HIS:CE1	1:A:190:GLU:HA	2.46	0.50
1:A:152:PHE:HZ	1:B:121:ARG:HA	1.77	0.50
1:B:351:ASP:OD2	1:B:352:LYS:N	2.43	0.50
1:B:581:MET:HE1	1:B:608:LEU:HD12	1.93	0.50
1:B:1929:VAL:H	1:B:2332:ARG:NH2	2.09	0.50
1:B:2487:GLU:O	1:B:2491:GLN:HG3	2.12	0.50
1:B:4009:VAL:HG13	1:B:4013:LEU:HD12	1.92	0.50
3:F:228:LEU:HD23	3:F:268:ALA:HB3	1.93	0.50
1:A:3750:LEU:HG	1:A:3754:ASN:HD21	1.76	0.50
1:B:68:PHE:HZ	1:B:135:LEU:HD11	1.76	0.50
1:B:1075:ASP:HB3	1:B:1078:LYS:HB3	1.93	0.50
1:B:3378:ASN:H	1:B:3378:ASN:HD22	1.59	0.50
4:G:70:ARG:NH2	4:G:72:ARG:HH21	2.08	0.50
1:A:337:LYS:HD2	1:A:363:HIS:C	2.36	0.50
1:A:1435:TRP:O	1:A:1437:VAL:N	2.45	0.50
1:B:378:LEU:HG	1:B:379:ARG:HH21	1.76	0.50
1:B:622:LYS:NZ	2:D:525:ASP:OD2	2.35	0.50
1:B:3194:LEU:HD23	1:B:3500:MET:SD	2.51	0.50
1:B:3211:THR:HG23	1:B:3761:LEU:HD11	1.93	0.50
2:D:409:SER:HB2	2:D:420:ASP:HB3	1.93	0.50
1:A:333:ASN:HB3	1:A:337:LYS:HZ3	1.76	0.50
1:A:2211:TYR:O	1:A:2214:THR:OG1	2.29	0.50
1:A:2917:ASP:OD2	1:A:2921:ARG:NH2	2.45	0.50
1:B:333:ASN:HA	1:B:336:MET:HG2	1.94	0.50
1:B:401:LEU:HB2	1:B:409:PHE:CE1	2.47	0.50
1:B:3319:LEU:HD21	1:B:3377:TYR:CA	2.42	0.50
1:A:1201:ARG:CZ	1:B:968:VAL:HG22	2.42	0.50
1:A:3319:LEU:HD21	1:A:3377:TYR:CA	2.42	0.50
1:B:126:ASP:H	1:B:134:GLN:HE22	1.58	0.50
1:B:213:ILE:HD13	1:B:300:THR:HG22	1.93	0.50
1:B:335:LEU:HD23	1:B:339:PHE:HZ	1.77	0.50
1:B:3238:ASP:O	1:B:3242:LYS:HG3	2.11	0.50
2:C:548:ARG:HA	2:C:566:SER:HA	1.92	0.50
4:G:6:GLU:O	4:G:9:LYS:HG3	2.11	0.50
1:A:146:TYR:OH	1:B:165:ILE:HG23	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:256:ILE:HA	1:A:259:VAL:HG12	1.94	0.50
1:A:2224:GLY:O	1:A:2346:GLN:HA	2.12	0.50
1:B:526:ALA:O	1:B:529:ASN:N	2.42	0.50
1:B:716:ARG:HG2	3:F:370:LEU:HD11	1.94	0.50
2:D:299:TYR:OH	2:D:302:ASN:HA	2.12	0.50
2:D:343:PHE:HD2	2:D:412:LEU:HD23	1.76	0.50
1:A:235:LYS:HA	1:A:238:ASP:HB2	1.93	0.50
1:A:423:TRP:NE1	1:A:457:ARG:HH12	2.10	0.50
1:A:1860:GLN:HG2	1:A:1865:LYS:HG2	1.93	0.50
1:A:2487:GLU:O	1:A:2491:GLN:HG3	2.12	0.50
1:A:141:SER:OG	1:A:143:ASP:OD1	2.28	0.49
1:A:159:PRO:HD2	1:B:107:ILE:HD11	1.93	0.49
1:A:2174:GLU:OE1	1:A:2176:THR:OG1	2.30	0.49
1:A:4460:LEU:HD12	1:A:4461:PRO:HD2	1.93	0.49
2:D:478:PRO:HD2	2:D:502:PHE:HB2	1.93	0.49
3:F:262:CYS:HB2	3:F:267:ALA:HB3	1.93	0.49
4:G:46:MET:HA	4:G:49:PHE:CE2	2.47	0.49
5:J:34:ILE:O	5:J:38:ILE:HG12	2.12	0.49
4:H:17:VAL:HA	4:H:92:GLN:HE22	1.77	0.49
1:A:65:MET:O	1:A:69:LEU:HG	2.12	0.49
1:A:121:ARG:HD2	1:A:136:ARG:HG2	1.93	0.49
1:A:2638:TYR:HB3	1:A:2659:LEU:HD11	1.93	0.49
1:B:161:PHE:O	1:B:165:ILE:HG12	2.12	0.49
1:B:340:PRO:HG2	1:B:360:ILE:HB	1.94	0.49
2:D:296:VAL:HG13	2:D:340:PHE:CZ	2.47	0.49
2:D:459:ALA:HB2	2:D:468:ILE:HD13	1.94	0.49
1:A:78:LEU:HB3	1:A:104:ASN:HB2	1.95	0.49
1:A:233:GLY:O	1:A:236:VAL:HG12	2.12	0.49
1:A:1929:VAL:HG13	1:A:1958:ASP:OD2	2.12	0.49
1:B:43:GLU:OE2	1:B:81:ARG:NH2	2.38	0.49
1:B:659:THR:C	1:B:663:LYS:HZ2	2.20	0.49
1:B:1013:THR:O	1:B:1017:LYS:N	2.41	0.49
1:B:2773:MET:HB3	1:B:2799:MET:HE1	1.94	0.49
1:B:4387:TRP:CD1	1:B:4479:VAL:HG11	2.48	0.49
2:D:288:SER:HB2	2:D:340:PHE:CE1	2.47	0.49
2:D:313:ALA:HB3	2:D:329:PHE:HB3	1.95	0.49
1:A:2994:MET:HE1	1:A:3008:MET:HG3	1.95	0.49
1:B:441:LYS:HZ2	1:B:450:TRP:HH2	1.60	0.49
1:B:701:ASP:OD1	1:B:704:ARG:NH2	2.46	0.49
1:B:2174:GLU:OE1	1:B:2176:THR:OG1	2.30	0.49
2:D:277:SER:CA	2:D:280:ARG:HD2	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:331:ASP:N	1:A:331:ASP:OD1	2.43	0.49
1:A:4387:TRP:CD1	1:A:4479:VAL:HG11	2.48	0.49
1:B:33:HIS:HA	1:B:36:LYS:HZ2	1.78	0.49
1:B:980:TYR:HB2	3:F:88:TYR:CE2	2.48	0.49
1:B:1175:SER:HA	1:B:1178:ARG:NH2	2.28	0.49
1:B:2538:GLU:HB3	1:B:2548:TRP:CE2	2.48	0.49
2:D:425:VAL:HG11	2:D:429:SER:HA	1.94	0.49
2:D:504:TRP:CD2	2:D:523:ASN:HB3	2.47	0.49
4:G:70:ARG:HH21	4:G:72:ARG:HH21	1.59	0.49
1:A:1176:LEU:O	1:A:1180:ILE:HG13	2.12	0.49
1:A:3377:TYR:HD1	1:A:3397:ILE:HG12	1.78	0.49
1:A:4180:TYR:OH	1:A:4220:ASP:OD1	2.30	0.49
1:B:23:ASN:O	1:B:126:ASP:HA	2.13	0.49
1:B:35:ARG:NH2	1:B:53:GLU:OE2	2.46	0.49
1:B:354:ARG:O	1:B:357:LEU:HB3	2.12	0.49
1:B:409:PHE:CD2	1:B:470:ARG:HD2	2.48	0.49
1:B:903:LEU:O	1:B:907:ILE:HG12	2.13	0.49
1:B:1211:ILE:HG13	1:B:1212:ASP:OD1	2.12	0.49
1:B:1556:ASP:OD2	1:B:1621:ARG:NH2	2.43	0.49
2:D:320:TYR:CE2	2:D:321:LYS:HG2	2.48	0.49
4:G:69:LEU:HD11	4:H:69:LEU:HD11	1.93	0.49
1:A:1197:LEU:HA	1:A:1200:GLN:HB2	1.95	0.49
1:A:4043:MET:HB3	1:A:4051:ALA:HB3	1.95	0.49
1:B:195:HIS:CE1	1:B:198:GLN:HE21	2.30	0.49
1:B:592:PHE:HA	1:B:597:ILE:HD11	1.94	0.49
1:B:1929:VAL:HG13	1:B:1958:ASP:OD2	2.12	0.49
1:B:2211:TYR:O	1:B:2214:THR:OG1	2.29	0.49
2:D:301:ASN:OD1	2:D:302:ASN:N	2.46	0.49
2:D:504:TRP:CD1	2:D:523:ASN:H	2.31	0.49
1:A:4403:GLU:HA	1:A:4406:LYS:HE2	1.95	0.49
1:A:4436:GLN:HG2	1:A:4442:LYS:HG2	1.95	0.49
1:B:185:LYS:O	1:B:189:LEU:HG	2.13	0.49
1:B:2564:ALA:HB3	1:B:2567:VAL:HG23	1.95	0.49
1:B:2773:MET:HE2	1:B:2802:TRP:CG	2.48	0.49
1:B:2869:ARG:NE	1:B:2869:ARG:HA	2.28	0.49
4:G:23:VAL:HA	4:G:29:PRO:HA	1.94	0.49
1:A:165:ILE:HG23	1:A:170:LYS:HB3	1.94	0.49
1:A:1374:PRO:O	1:A:1378:ARG:N	2.41	0.49
1:A:2869:ARG:NE	1:A:2869:ARG:HA	2.28	0.49
1:B:242:LEU:HB3	1:B:309:ARG:NE	2.27	0.49
1:B:525:LEU:HA	1:B:528:GLU:CD	2.38	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4180:TYR:OH	1:B:4220:ASP:OD1	2.30	0.49
1:B:4436:GLN:HG2	1:B:4442:LYS:HG2	1.95	0.49
1:A:423:TRP:HE1	1:A:457:ARG:HH12	1.61	0.48
1:A:578:ALA:O	1:A:583:ARG:N	2.37	0.48
1:A:588:PHE:O	1:A:590:ALA:N	2.46	0.48
1:A:1166:ALA:O	1:A:1170:ILE:HG12	2.13	0.48
1:A:1219:GLY:HA2	1:A:1222:ASN:ND2	2.28	0.48
1:A:2564:ALA:HB3	1:A:2567:VAL:HG23	1.94	0.48
1:B:399:ARG:O	1:B:399:ARG:NH1	2.41	0.48
1:B:1959:GLU:HB3	1:B:1962:ARG:HG3	1.95	0.48
4:H:18:GLN:HB2	4:H:91:ILE:HG23	1.94	0.48
5:I:55:HIS:HE1	5:J:67:THR:O	1.95	0.48
5:J:77:TYR:CE2	5:J:82:ALA:HB2	2.47	0.48
1:A:79:VAL:C	1:A:115:SER:HG	2.20	0.48
1:A:146:TYR:CZ	1:B:164:TYR:HD2	2.31	0.48
1:A:2538:GLU:HB3	1:A:2548:TRP:CE2	2.48	0.48
1:A:2773:MET:HE2	1:A:2802:TRP:CG	2.48	0.48
1:A:3950:LYS:HB3	1:A:3973:LEU:CD1	2.43	0.48
1:A:4400:ARG:HE	1:A:4405:ILE:HD11	1.77	0.48
1:B:121:ARG:HE	1:B:136:ARG:NH2	2.10	0.48
1:B:406:TYR:CD2	1:B:474:GLU:HG2	2.48	0.48
1:B:810:LYS:HE2	3:F:357:GLU:HB3	1.95	0.48
1:B:842:ASN:O	1:B:845:GLU:HG3	2.12	0.48
1:B:1182:GLN:HA	1:B:1185:LYS:HZ2	1.78	0.48
1:B:4400:ARG:HE	1:B:4405:ILE:HD11	1.78	0.48
2:D:352:THR:HG22	2:D:356:GLN:H	1.77	0.48
2:D:620:GLU:HG3	2:D:621:ILE:HG12	1.95	0.48
5:I:17:MET:HA	5:I:20:ASP:HB2	1.95	0.48
1:A:446:LEU:HD23	1:A:446:LEU:H	1.79	0.48
1:A:462:ARG:NH1	1:A:537:ASP:O	2.46	0.48
1:A:1142:PHE:HA	1:A:1183:PHE:HE1	1.78	0.48
1:A:1647:VAL:HG21	1:A:1670:ASN:HB3	1.95	0.48
1:B:82:SER:O	1:B:100:SER:N	2.41	0.48
1:B:557:ILE:HA	1:B:560:VAL:HG22	1.96	0.48
1:B:1575:PHE:O	1:B:1579:MET:HG2	2.12	0.48
1:B:2994:MET:HE1	1:B:3008:MET:HG3	1.95	0.48
3:F:252:ASP:HB3	3:F:327:PHE:HE1	1.79	0.48
4:G:68:PHE:O	4:H:71:ILE:HG13	2.13	0.48
1:A:143:ASP:OD1	1:A:144:SER:N	2.39	0.48
1:A:364:LEU:O	1:A:367:ILE:HG22	2.13	0.48
1:B:2061:THR:OG1	1:B:2133:GLU:OE1	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1575:PHE:O	1:A:1579:MET:HG2	2.12	0.48
1:B:35:ARG:HD2	1:B:56:LEU:HD11	1.95	0.48
1:B:1128:LEU:HD21	1:B:1200:GLN:HG3	1.94	0.48
1:B:3377:TYR:HD1	1:B:3397:ILE:HG12	1.78	0.48
1:B:4043:MET:HB3	1:B:4051:ALA:HB3	1.95	0.48
1:A:3243:MET:SD	1:A:3447:TYR:HB2	2.54	0.48
1:B:80:GLU:HB3	1:B:102:ASN:HB2	1.94	0.48
1:B:388:LEU:O	1:B:391:GLN:HG3	2.14	0.48
1:B:2917:ASP:OD2	1:B:2921:ARG:NH2	2.45	0.48
1:B:4251:ILE:HG22	1:B:4252:TYR:CD2	2.49	0.48
3:F:230:VAL:HA	3:F:270:ILE:O	2.14	0.48
4:G:53:ALA:HB2	4:H:49:PHE:CE1	2.49	0.48
5:J:54:TRP:NE1	5:J:87:LYS:HB2	2.28	0.48
1:A:130:PRO:HB3	1:B:44:ASP:HB2	1.96	0.48
1:A:1346:MET:O	1:A:1348:GLU:N	2.46	0.48
1:A:1914:GLU:HG2	7:A:4701:ADP:O1A	2.14	0.48
1:A:2773:MET:HB3	1:A:2799:MET:HE1	1.94	0.48
1:B:639:ARG:NH1	2:D:528:TYR:CE2	2.80	0.48
1:A:31:GLN:HE21	1:A:56:LEU:HG	1.78	0.48
1:A:266:PRO:HB2	1:A:379:ARG:HB2	1.94	0.48
1:A:1353:SER:O	1:A:1354:VAL:C	2.56	0.48
1:A:2069:ILE:HB	1:A:2137:LEU:HD21	1.96	0.48
1:A:3944:PHE:CE1	1:A:3974:TRP:HB3	2.48	0.48
1:B:27:VAL:HA	1:B:65:MET:HE1	1.95	0.48
1:B:185:LYS:O	1:B:188:GLU:HG3	2.14	0.48
1:B:4403:GLU:HA	1:B:4406:LYS:HE2	1.95	0.48
2:C:214:GLN:C	2:D:209:ARG:HH12	2.22	0.48
2:D:382:HIS:CG	2:D:404:ASP:HB2	2.49	0.48
1:A:82:SER:HA	1:A:113:SER:HB2	1.95	0.48
1:A:1347:LYS:HA	1:A:1432:GLY:N	2.29	0.48
1:B:462:ARG:HH22	1:B:535:GLY:C	2.22	0.48
1:B:810:LYS:HA	1:B:810:LYS:HD3	1.66	0.48
1:B:1085:GLN:NE2	3:F:39:ILE:HD12	2.29	0.48
1:B:1090:ARG:HH21	1:B:1121:ASP:HA	1.78	0.48
1:B:3243:MET:SD	1:B:3447:TYR:HB2	2.54	0.48
2:D:599:VAL:HG23	2:D:604:ALA:HB2	1.95	0.48
3:F:43:VAL:O	3:F:46:ARG:HG2	2.13	0.48
1:A:171:ALA:HA	1:A:177:LYS:NZ	2.29	0.48
1:A:365:ARG:HD3	1:A:433:LEU:HD13	1.96	0.48
1:A:3452:ALA:CA	1:B:3455:ILE:HD12	2.44	0.48
1:B:365:ARG:HD3	1:B:433:LEU:HD22	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1192:ASN:O	1:B:1195:ARG:HB2	2.13	0.48
1:B:1202:PHE:CD2	1:B:1204:PHE:N	2.82	0.48
1:B:3835:ILE:HG12	1:B:3870:ARG:HD2	1.95	0.48
2:D:445:ASN:OD1	2:D:461:ARG:N	2.45	0.48
3:F:59:VAL:HA	3:F:134:ILE:O	2.14	0.48
5:J:6:ALA:HB2	5:J:22:VAL:HG13	1.96	0.48
1:A:3455:ILE:HD12	1:B:3452:ALA:CA	2.43	0.47
1:B:180:PRO:O	1:B:184:LYS:HG2	2.14	0.47
1:B:1647:VAL:HG21	1:B:1670:ASN:HB3	1.95	0.47
1:B:3944:PHE:CE1	1:B:3974:TRP:HB3	2.48	0.47
2:C:433:ALA:O	2:C:452:GLU:N	2.32	0.47
3:F:186:GLU:OE2	3:F:300:ALA:N	2.47	0.47
1:A:309:ARG:HG3	1:A:311:HIS:CE1	2.49	0.47
1:A:4251:ILE:HG22	1:A:4252:TYR:CD2	2.49	0.47
1:B:146:TYR:CE1	1:B:196:LEU:HD22	2.50	0.47
1:B:546:TRP:CD1	1:B:550:MET:HE2	2.49	0.47
1:A:78:LEU:HD13	1:A:107:ILE:HG22	1.97	0.47
1:A:1931:ASN:HD21	1:A:2316:ASN:HB2	1.79	0.47
1:A:3381:ILE:HG13	1:A:3393:VAL:HB	1.95	0.47
1:A:3731:LEU:HD11	1:A:3790:VAL:HG12	1.97	0.47
1:B:75:HIS:O	1:B:119:ILE:HA	2.14	0.47
1:B:1042:GLY:O	1:B:1045:SER:OG	2.22	0.47
1:B:1209:LEU:C	1:B:1210:TYR:HD2	2.22	0.47
2:D:279:HIS:NE2	2:D:303:GLU:OE2	2.35	0.47
2:D:401:ILE:HD12	2:D:406:LYS:O	2.14	0.47
6:K:73:ASN:ND2	6:L:75:ALA:HB2	2.30	0.47
1:B:131:VAL:HA	1:B:134:GLN:HB3	1.96	0.47
1:B:717:ILE:HG22	1:B:718:PHE:HD2	1.80	0.47
1:B:1931:ASN:HD21	1:B:2316:ASN:HB2	1.79	0.47
1:B:3389:CYS:O	1:B:3390:GLY:C	2.57	0.47
4:H:17:VAL:HA	4:H:92:GLN:NE2	2.28	0.47
1:A:195:HIS:HE1	1:A:264:ARG:HB2	1.80	0.47
1:A:351:ASP:OD1	1:A:352:LYS:N	2.45	0.47
1:A:2138:ILE:HD11	1:A:2165:PHE:CG	2.50	0.47
1:A:2850:ILE:HG22	1:A:2867:MET:HE1	1.95	0.47
1:A:3389:CYS:O	1:A:3390:GLY:C	2.57	0.47
1:B:487:GLN:H	1:B:567:ARG:NH2	2.12	0.47
1:B:817:ALA:HA	3:F:366:GLN:NE2	2.29	0.47
1:B:969:ILE:CG1	1:B:1058:GLN:HB3	2.44	0.47
1:B:1166:ALA:O	1:B:1170:ILE:HG12	2.15	0.47
1:B:1914:GLU:HG2	7:B:4701:ADP:O1A	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3175:HIS:HB3	1:B:3516:TYR:CE1	2.50	0.47
1:B:4415:ARG:HE	1:B:4415:ARG:HB3	1.54	0.47
2:C:214:GLN:O	2:D:209:ARG:NH2	2.34	0.47
1:B:484:LEU:HD11	1:B:563:ARG:NH1	2.30	0.47
1:B:2751:PHE:HB3	1:B:2803:VAL:HG11	1.96	0.47
1:B:2850:ILE:HG22	1:B:2867:MET:HE1	1.95	0.47
2:D:314:LEU:CD2	2:D:316:TRP:HB2	2.45	0.47
5:J:54:TRP:CD1	5:J:87:LYS:HB2	2.50	0.47
1:A:42:LEU:HB3	1:A:81:ARG:NH2	2.29	0.47
1:A:456:HIS:CE1	1:A:460:GLN:HE21	2.32	0.47
1:A:1959:GLU:HB3	1:A:1962:ARG:HG3	1.96	0.47
1:A:3175:HIS:HB3	1:A:3516:TYR:CE1	2.50	0.47
1:A:3835:ILE:HG12	1:A:3870:ARG:HD2	1.95	0.47
1:B:54:ALA:O	1:B:58:GLU:N	2.47	0.47
1:B:720:ILE:HG23	3:F:367:GLN:HG2	1.97	0.47
1:B:986:MET:HE1	1:B:1037:TYR:CE2	2.50	0.47
1:B:1399:LEU:O	1:B:1400:VAL:C	2.57	0.47
1:B:2069:ILE:HB	1:B:2137:LEU:HD21	1.96	0.47
1:B:2134:GLN:O	1:B:2138:ILE:HG12	2.15	0.47
1:B:2138:ILE:HD11	1:B:2165:PHE:CG	2.50	0.47
1:B:2179:ARG:NH2	1:B:2195:ASP:OD1	2.43	0.47
1:B:3030:MET:HE2	1:B:3030:MET:HA	1.97	0.47
1:B:3243:MET:CE	1:B:3444:ILE:HG23	2.41	0.47
1:B:3381:ILE:HG13	1:B:3393:VAL:HB	1.96	0.47
3:F:231:CYS:HB2	3:F:271:TYR:CD1	2.50	0.47
3:F:285:LYS:HB3	3:F:296:PHE:HE1	1.80	0.47
4:G:79:MET:HE3	4:G:80:VAL:N	2.30	0.47
6:L:47:VAL:HG13	6:L:65:VAL:HB	1.96	0.47
1:A:153:ILE:O	1:A:157:VAL:HG22	2.15	0.47
1:A:365:ARG:HD3	1:A:433:LEU:HD22	1.97	0.47
1:A:676:HIS:O	1:A:680:GLN:N	2.45	0.47
1:A:3030:MET:HA	1:A:3030:MET:HE2	1.97	0.47
1:B:212:MET:HA	1:B:215:ASN:HD21	1.80	0.47
1:B:382:GLU:O	1:B:386:ARG:HG2	2.15	0.47
1:B:627:TYR:O	1:B:633:CYS:HB3	2.15	0.47
1:B:1205:PRO:O	1:B:1208:TRP:CD1	2.66	0.47
1:B:1227:ARG:HE	1:B:1228:LYS:NZ	2.13	0.47
1:B:3247:GLN:HG3	1:B:3444:ILE:HD13	1.96	0.47
1:B:3950:LYS:HB3	1:B:3973:LEU:CD1	2.44	0.47
1:B:4628:THR:OG1	1:B:4630:GLU:HG2	2.15	0.47
2:D:305:ALA:HB3	2:D:308:GLU:HG2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:357:GLU:OE1	3:F:362:PHE:HB2	2.15	0.47
1:A:136:ARG:HE	1:B:139:THR:HG23	1.77	0.47
1:A:152:PHE:CZ	1:B:121:ARG:HA	2.50	0.47
1:A:1181:LYS:HG2	1:A:1185:LYS:NZ	2.28	0.47
1:A:2175:MET:HE3	1:A:2208:LEU:HD22	1.97	0.47
1:A:3966:PRO:HG3	1:A:3997:ARG:HG3	1.97	0.47
1:B:476:LEU:HD13	1:B:591:LEU:HG	1.96	0.47
1:B:779:ILE:HA	1:B:782:ILE:HG22	1.95	0.47
1:B:3175:HIS:CD2	1:B:3585:ARG:HH22	2.32	0.47
3:E:273:SER:O	3:E:277:GLU:N	2.48	0.47
1:A:85:LYS:HE2	1:A:112:LYS:HE3	1.97	0.47
1:A:1761:ASN:HB3	1:A:1781:VAL:HG22	1.96	0.47
1:A:2443:LEU:HD21	1:A:2513:GLU:OE1	2.14	0.47
1:A:3239:LYS:HB3	1:A:3451:TYR:CD2	2.50	0.47
1:B:368:ARG:HH11	1:B:437:ILE:HD13	1.80	0.47
1:B:2386:PRO:HG3	1:B:2413:LEU:HD13	1.97	0.47
1:B:3731:LEU:HD11	1:B:3790:VAL:HG12	1.97	0.47
1:B:3966:PRO:HG3	1:B:3997:ARG:HG3	1.97	0.47
1:A:55:ALA:HB3	1:A:101:TYR:CD2	2.48	0.46
1:A:139:THR:OG1	1:B:136:ARG:HD3	2.15	0.46
1:A:256:ILE:O	1:A:260:THR:OG1	2.11	0.46
1:A:377:ALA:O	1:A:381:VAL:HG23	2.14	0.46
1:A:456:HIS:O	1:A:459:LEU:HB2	2.14	0.46
1:A:1079:TRP:C	1:A:1081:ALA:H	2.22	0.46
1:A:2386:PRO:HG3	1:A:2413:LEU:HD13	1.97	0.46
1:A:3553:LEU:HB2	1:A:3578:ILE:HD13	1.97	0.46
1:A:3703:VAL:HG21	1:A:3829:LEU:HD22	1.97	0.46
1:B:180:PRO:HA	1:B:183:GLU:CD	2.40	0.46
1:B:361:PHE:HB2	1:B:426:GLU:CD	2.40	0.46
1:B:424:ASP:O	1:B:428:GLU:HG2	2.15	0.46
1:B:444:GLU:HB3	1:B:446:LEU:HD22	1.96	0.46
1:B:1196:LEU:O	1:B:1200:GLN:N	2.43	0.46
2:C:193:SER:OG	2:C:195:GLU:OE1	2.31	0.46
3:F:60:PHE:HE2	3:F:148:SER:HB2	1.80	0.46
1:A:1399:LEU:O	1:A:1400:VAL:C	2.58	0.46
1:A:3247:GLN:HG3	1:A:3444:ILE:HD13	1.96	0.46
1:A:3485:GLU:OE2	1:A:3774:LYS:NZ	2.43	0.46
1:B:828:LYS:C	1:B:831:PRO:HD2	2.40	0.46
1:B:915:LEU:HD12	1:B:993:VAL:HB	1.96	0.46
1:B:2443:LEU:HD21	1:B:2513:GLU:OE1	2.14	0.46
3:F:345:VAL:HG22	3:F:347:LYS:H	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:21:ILE:HG23	4:G:89:ILE:HG13	1.96	0.46
1:A:415:ALA:O	1:A:418:GLU:HG3	2.15	0.46
1:A:4175:GLU:OE1	1:A:4175:GLU:N	2.48	0.46
1:B:49:PRO:HD2	1:B:52:LEU:HD13	1.96	0.46
1:B:581:MET:HG2	1:B:611:ARG:NH2	2.30	0.46
1:B:4423:LEU:HD13	1:B:4466:HIS:ND1	2.31	0.46
2:D:590:SER:OG	2:D:591:GLU:OE1	2.34	0.46
1:A:3236:ALA:O	1:A:3240:LEU:HG	2.16	0.46
1:A:3452:ALA:HA	1:B:3455:ILE:CD1	2.46	0.46
1:B:373:PRO:HB2	1:B:376:ARG:HB3	1.96	0.46
1:B:632:ALA:HA	1:B:635:MET:HE2	1.97	0.46
1:B:977:GLU:HG2	3:F:90:TYR:OH	2.15	0.46
1:B:1163:THR:O	1:B:1166:ALA:HB3	2.15	0.46
1:B:1202:PHE:HE2	1:B:1204:PHE:HA	1.79	0.46
1:B:1623:ARG:NH1	1:B:1632:VAL:O	2.48	0.46
1:B:1761:ASN:HB3	1:B:1781:VAL:HG22	1.96	0.46
1:B:3239:LYS:HB3	1:B:3451:TYR:CD2	2.50	0.46
2:D:427:LYS:HG3	2:D:428:GLN:OE1	2.15	0.46
1:A:121:ARG:HH22	1:B:143:ASP:CG	2.24	0.46
1:A:1203:GLN:CD	3:F:48:ARG:HB3	2.40	0.46
1:A:2091:ARG:NH1	7:A:4701:ADP:H5'2	2.31	0.46
1:A:3455:ILE:CD1	1:B:3452:ALA:HA	2.46	0.46
1:A:4423:LEU:HD13	1:A:4466:HIS:ND1	2.31	0.46
1:B:35:ARG:NH1	1:B:52:LEU:HB3	2.30	0.46
1:B:52:LEU:O	1:B:56:LEU:HG	2.15	0.46
1:B:2091:ARG:NH1	7:B:4701:ADP:H5'2	2.31	0.46
2:D:359:LEU:HD22	2:D:415:LEU:HD13	1.96	0.46
2:D:531:MET:SD	2:D:532:TRP:N	2.89	0.46
5:I:53:THR:HB	5:I:89:GLY:HA3	1.98	0.46
1:A:1879:LEU:HD22	7:A:4701:ADP:C4	2.51	0.46
1:A:2751:PHE:HB3	1:A:2803:VAL:HG11	1.96	0.46
1:A:4628:THR:OG1	1:A:4630:GLU:HG2	2.15	0.46
1:B:434:LEU:HD23	1:B:435:ARG:HH12	1.81	0.46
1:B:543:THR:O	1:B:546:TRP:HB3	2.16	0.46
4:H:9:LYS:HE2	4:H:9:LYS:HA	1.97	0.46
5:J:77:TYR:CZ	5:J:82:ALA:HB2	2.51	0.46
1:A:323:LYS:HG3	1:A:324:GLN:H	1.79	0.46
1:A:1931:ASN:ND2	1:A:2316:ASN:HB2	2.31	0.46
1:A:2994:MET:HE3	1:A:3066:PHE:HE1	1.81	0.46
1:A:3601:MET:HG3	1:A:3611:ARG:HH21	1.80	0.46
1:B:264:ARG:HH11	1:B:274:GLU:CD	2.24	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:591:LEU:HB3	1:B:594:ARG:HB3	1.98	0.46
1:B:786:ARG:NH1	1:B:790:ARG:HH12	2.14	0.46
1:B:1071:ARG:CZ	3:F:43:VAL:HG12	2.46	0.46
1:B:1937:ASP:HA	1:B:1967:MET:HG3	1.98	0.46
1:B:3236:ALA:O	1:B:3240:LEU:HG	2.16	0.46
1:B:3703:VAL:HG21	1:B:3829:LEU:HD22	1.97	0.46
2:D:437:MET:HB3	2:D:449:VAL:HG12	1.97	0.46
6:K:111:LEU:HD11	6:L:64:ILE:HD11	1.97	0.46
1:A:293:GLU:N	1:A:293:GLU:OE1	2.48	0.46
1:A:331:ASP:HB3	1:A:370:THR:HB	1.96	0.46
1:A:354:ARG:HB3	1:A:419:VAL:HG13	1.98	0.46
1:A:1172:TYR:CE2	1:A:1176:LEU:HD11	2.51	0.46
1:A:1556:ASP:OD2	1:A:1621:ARG:NH2	2.43	0.46
1:A:3243:MET:CE	1:A:3444:ILE:HG23	2.41	0.46
1:B:186:ILE:O	1:B:190:GLU:HG2	2.16	0.46
1:B:399:ARG:HE	1:B:412:VAL:HG11	1.81	0.46
1:B:439:LYS:O	1:B:442:ARG:HD3	2.15	0.46
1:B:1931:ASN:ND2	1:B:2316:ASN:HB2	2.31	0.46
1:B:2445:HIS:HB3	1:B:2505:ASP:OD2	2.15	0.46
1:B:2994:MET:HE3	1:B:3066:PHE:HE1	1.81	0.46
1:B:3921:THR:HG21	1:B:3933:GLU:HG2	1.98	0.46
2:D:392:THR:HG22	2:D:395:ALA:HB3	1.96	0.46
2:D:465:LYS:HB3	2:D:465:LYS:HE3	1.79	0.46
2:D:528:TYR:CD2	2:D:528:TYR:C	2.92	0.46
1:A:170:LYS:HZ2	1:A:179:ALA:HB3	1.80	0.46
1:A:1229:ASP:OD2	1:A:1233:GLN:NE2	2.47	0.46
1:A:2790:PRO:HB3	1:A:3076:LYS:HG2	1.98	0.46
1:A:3175:HIS:CD2	1:A:3585:ARG:HH22	2.32	0.46
1:A:3239:LYS:HB3	1:A:3451:TYR:CD1	2.51	0.46
1:A:3921:THR:HG21	1:A:3933:GLU:HG2	1.98	0.46
1:B:146:TYR:CZ	1:B:196:LEU:HD22	2.51	0.46
1:B:1209:LEU:CB	1:B:1214:ILE:HG23	2.45	0.46
2:D:329:PHE:CE2	2:D:360:TRP:HB2	2.51	0.46
2:D:401:ILE:HG12	2:D:434:VAL:HG11	1.98	0.46
2:D:504:TRP:CZ3	2:D:523:ASN:HB3	2.51	0.46
4:H:66:LEU:HD21	4:H:69:LEU:HB2	1.97	0.46
5:I:65:TYR:CD2	5:J:40:ALA:HA	2.51	0.46
1:A:191:MET:HA	1:A:194:LEU:HD21	1.97	0.46
1:A:257:GLN:NE2	1:A:320:THR:O	2.37	0.46
1:B:30:LEU:O	1:B:34:LEU:HG	2.16	0.46
1:B:277:PHE:O	1:B:281:LEU:HG	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1176:LEU:HA	1:B:1179:LYS:HD3	1.97	0.46
1:B:3553:LEU:HB2	1:B:3578:ILE:HD13	1.97	0.46
2:D:286:ASP:OD1	2:D:287:TRP:N	2.48	0.46
2:D:458:THR:O	2:D:469:SER:OG	2.21	0.46
5:I:63:GLY:HA2	5:J:36:LYS:HE2	1.98	0.46
1:A:282:GLU:O	1:A:285:LEU:HG	2.16	0.45
1:A:288:ILE:HD11	1:A:322:LEU:HD22	1.97	0.45
1:A:2290:SER:HB2	1:A:2295:LEU:HG	1.99	0.45
1:A:2445:HIS:HB3	1:A:2505:ASP:OD2	2.15	0.45
1:B:1071:ARG:HH11	3:F:46:ARG:HD2	1.80	0.45
1:B:1211:ILE:O	1:B:1212:ASP:C	2.57	0.45
1:B:2290:SER:HB2	1:B:2295:LEU:HG	1.99	0.45
1:B:3110:THR:O	1:B:3140:ARG:NH1	2.49	0.45
3:F:88:TYR:O	3:F:89:LEU:HD12	2.16	0.45
1:A:223:ARG:HH12	1:A:228:LYS:NZ	2.14	0.45
1:A:3117:LYS:HE2	1:A:3139:HIS:CD2	2.51	0.45
1:B:186:ILE:HA	1:B:189:LEU:HD12	1.98	0.45
1:B:338:ASP:OD1	1:B:339:PHE:N	2.49	0.45
1:B:516:ASP:HA	1:B:563:ARG:NH1	2.22	0.45
1:B:1069:TYR:CE1	1:B:1130:LYS:HG2	2.52	0.45
1:B:4034:GLU:OE1	1:B:4143:ARG:NH1	2.41	0.45
1:B:4160:THR:HG23	1:B:4212:LEU:HD21	1.99	0.45
3:F:55:LYS:HB2	3:F:104:CYS:SG	2.56	0.45
1:A:22:GLN:NE2	1:A:134:GLN:OE1	2.49	0.45
1:A:2134:GLN:O	1:A:2138:ILE:HG12	2.15	0.45
1:A:3110:THR:O	1:A:3140:ARG:NH1	2.49	0.45
1:A:3243:MET:HE1	1:A:3444:ILE:CA	2.43	0.45
1:B:277:PHE:CE2	1:B:281:LEU:HD11	2.51	0.45
1:B:279:LEU:HA	1:B:336:MET:HE1	1.98	0.45
1:B:1212:ASP:O	1:B:1214:ILE:N	2.49	0.45
1:B:1721:VAL:HA	1:B:1724:VAL:HG12	1.98	0.45
1:B:4517:PRO:HG2	1:B:4619:ILE:HD12	1.98	0.45
2:D:357:ILE:H	2:D:357:ILE:HD12	1.82	0.45
4:G:76:ASN:HA	4:G:94:PRO:HD3	1.97	0.45
4:G:78:ILE:HD11	4:G:89:ILE:HB	1.97	0.45
6:L:1:MET:HE2	6:L:1:MET:HA	1.98	0.45
1:A:335:LEU:HB3	1:A:339:PHE:CZ	2.50	0.45
1:B:641:LEU:HD23	1:B:641:LEU:HA	1.79	0.45
1:B:770:GLN:HG2	1:B:773:GLN:NE2	2.29	0.45
1:B:1879:LEU:HD22	7:B:4701:ADP:C4	2.51	0.45
2:C:264:LYS:O	2:C:600:GLY:N	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:45:LEU:HD21	4:H:56:THR:HA	1.99	0.45
6:K:43:THR:HG23	6:K:69:ILE:HD12	1.98	0.45
1:A:350:LEU:HA	1:A:353:ILE:HD12	1.98	0.45
1:B:1071:ARG:NH1	3:F:43:VAL:HA	2.32	0.45
1:B:1198:GLU:HA	1:B:1204:PHE:CZ	2.45	0.45
1:B:1204:PHE:HD2	1:B:1208:TRP:HZ2	1.63	0.45
1:A:322:LEU:O	1:A:326:LEU:N	2.47	0.45
1:B:518:ASN:O	1:B:521:GLU:HG2	2.16	0.45
1:B:1135:LEU:O	1:B:1139:MET:HG3	2.17	0.45
1:B:1210:TYR:N	1:B:1213:ASN:CB	2.78	0.45
1:B:2175:MET:HE3	1:B:2208:LEU:HD22	1.97	0.45
1:B:2961:ILE:HD11	1:B:2998:ASN:HB3	1.98	0.45
1:B:3117:LYS:HE2	1:B:3139:HIS:CD2	2.51	0.45
1:B:3601:MET:HG3	1:B:3611:ARG:HH21	1.80	0.45
1:B:4175:GLU:N	1:B:4175:GLU:OE1	2.48	0.45
2:D:284:CYS:SG	2:D:285:LEU:N	2.90	0.45
3:F:62:GLU:OE2	3:F:141:ARG:NH2	2.45	0.45
1:A:177:LYS:HD3	1:A:177:LYS:HA	1.69	0.45
1:A:1635:GLU:HA	1:A:1638:LEU:HD12	1.98	0.45
1:A:4100:HIS:HB3	1:A:4128:MET:HB2	1.99	0.45
1:B:213:ILE:HG13	1:B:232:PHE:CE1	2.52	0.45
1:B:440:ARG:NH1	1:B:444:GLU:HB2	2.31	0.45
1:B:1078:LYS:O	1:B:1082:LEU:HD23	2.16	0.45
1:B:3239:LYS:HB3	1:B:3451:TYR:CD1	2.51	0.45
2:D:446:ASN:HA	2:D:460:CYS:HA	1.98	0.45
1:A:339:PHE:HB2	1:A:340:PRO:HD3	1.98	0.45
1:B:283:ARG:HG3	1:B:287:ARG:HH12	1.81	0.45
1:B:363:HIS:HA	1:B:366:LYS:HD3	1.99	0.45
1:B:780:SER:O	1:B:783:GLU:HG3	2.17	0.45
1:B:1139:MET:HE1	1:B:1208:TRP:HA	1.98	0.45
1:B:3263:GLN:CD	1:B:3426:ASN:HB3	2.42	0.45
3:F:165:ILE:HD13	3:F:170:MET:HB2	1.99	0.45
1:A:27:VAL:HG22	1:A:65:MET:SD	2.57	0.45
1:A:152:PHE:HE1	1:B:119:ILE:O	2.00	0.45
1:A:196:LEU:N	1:B:178:MET:HE1	2.32	0.45
1:A:361:PHE:HB2	1:A:426:GLU:CD	2.42	0.45
1:A:689:PHE:O	1:A:693:LEU:N	2.47	0.45
1:A:1969:SER:O	1:A:1972:SER:OG	2.31	0.45
1:A:2668:LEU:HD21	1:A:2720:ARG:CZ	2.47	0.45
1:A:2851:ASP:HA	1:A:2867:MET:HE3	1.99	0.45
1:B:301:LEU:HD12	1:B:304:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:391:GLN:HB2	1:B:394:LYS:HE3	1.99	0.45
1:B:1224:ILE:HG23	1:B:1228:LYS:NZ	2.32	0.45
1:B:1997:ILE:H	1:B:1997:ILE:HD12	1.82	0.45
1:B:3217:GLU:HB2	1:B:3220:ARG:HH21	1.82	0.45
2:D:282:VAL:HG11	2:D:588:GLY:HA3	1.98	0.45
1:A:1346:MET:C	1:A:1348:GLU:N	2.72	0.45
1:A:1456:GLU:O	1:A:1516:PHE:HE2	2.00	0.45
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.98	0.45
1:A:2028:LEU:HG	1:A:2032:LEU:HD23	1.99	0.45
1:A:2963:VAL:HG23	1:A:3643:PRO:HB2	1.99	0.45
1:A:3239:LYS:HD3	1:A:3451:TYR:CE1	2.52	0.45
1:B:161:PHE:HE2	1:B:183:GLU:HG3	1.81	0.45
1:B:744:ILE:O	1:B:747:SER:OG	2.27	0.45
1:B:760:VAL:HG23	1:B:765:VAL:HG22	1.99	0.45
1:B:1037:TYR:O	1:B:1040:VAL:HB	2.16	0.45
1:B:2028:LEU:HG	1:B:2032:LEU:HD23	1.99	0.45
1:B:2668:LEU:HD21	1:B:2720:ARG:CZ	2.47	0.45
1:B:3239:LYS:HD3	1:B:3451:TYR:CE1	2.52	0.45
1:B:4401:THR:O	1:B:4405:ILE:HG12	2.17	0.45
2:D:308:GLU:HB2	2:D:309:PRO:HD2	1.99	0.45
2:D:331:CYS:SG	2:D:358:VAL:HG11	2.57	0.45
4:G:71:ILE:HB	4:G:78:ILE:HG23	1.99	0.45
6:K:25:ILE:HG23	6:K:29:ILE:HD12	2.00	0.45
1:A:157:VAL:O	1:A:161:PHE:N	2.30	0.44
1:A:164:TYR:HD2	1:B:109:TYR:CZ	2.36	0.44
1:A:990:LYS:O	1:A:994:LEU:N	2.50	0.44
1:A:3257:SER:HA	1:A:3260:ILE:HD12	1.99	0.44
1:B:251:ARG:NH2	1:B:255:GLU:HB2	2.31	0.44
1:B:1026:MET:HG2	1:B:1029:GLY:O	2.18	0.44
1:B:1079:TRP:CZ3	1:B:1134:MET:HE3	2.52	0.44
1:B:2851:ASP:HA	1:B:2867:MET:HE3	1.99	0.44
1:B:4189:ILE:O	1:B:4193:ARG:HG3	2.17	0.44
1:B:4412:PHE:HZ	1:B:4514:LEU:HD13	1.82	0.44
2:D:334:ALA:O	2:D:352:THR:OG1	2.28	0.44
2:D:364:SER:HB2	2:D:366:LYS:HE3	2.00	0.44
3:E:279:ASN:O	3:E:283:LEU:N	2.42	0.44
4:G:71:ILE:HD13	4:H:69:LEU:HD13	1.98	0.44
5:J:9:LYS:HG2	5:J:76:PHE:HA	1.97	0.44
6:L:29:ILE:HD13	6:L:102:MET:HE1	1.97	0.44
1:A:1623:ARG:NH1	1:A:1632:VAL:O	2.48	0.44
1:A:2912:PHE:CE2	1:A:2914:GLU:HB2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3659:ARG:HG3	1:B:3629:PHE:HZ	1.82	0.44
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.99	0.44
1:A:4517:PRO:HG2	1:A:4619:ILE:HD12	1.98	0.44
1:B:182:VAL:HA	1:B:185:LYS:HD3	1.98	0.44
1:B:459:LEU:O	1:B:463:LEU:HG	2.17	0.44
1:B:485:ARG:O	1:B:487:GLN:NE2	2.50	0.44
1:B:635:MET:HE2	1:B:635:MET:HB3	1.74	0.44
1:B:3096:ASP:OD1	1:B:3097:TRP:N	2.50	0.44
1:B:3160:ARG:O	1:B:3163:LYS:HG2	2.17	0.44
2:D:212:SER:HA	2:D:320:TYR:OH	2.17	0.44
3:F:152:TRP:O	3:F:155:VAL:HB	2.16	0.44
4:H:37:PRO:O	4:H:41:GLN:HG3	2.17	0.44
1:A:1937:ASP:HA	1:A:1967:MET:HG3	1.98	0.44
1:A:3263:GLN:CD	1:A:3426:ASN:HB3	2.42	0.44
1:A:4189:ILE:O	1:A:4193:ARG:HG3	2.17	0.44
1:B:64:GLN:HB3	1:B:105:ILE:HD11	1.99	0.44
1:B:193:LEU:O	1:B:196:LEU:HB2	2.17	0.44
1:B:414:VAL:HG22	1:B:467:ARG:HH22	1.82	0.44
1:B:439:LYS:HG2	1:B:442:ARG:CZ	2.47	0.44
1:B:462:ARG:HE	1:B:537:ASP:HB2	1.81	0.44
1:B:674:GLU:HB2	1:B:683:LYS:HD3	1.98	0.44
1:B:852:ILE:HA	1:B:855:GLU:CD	2.41	0.44
1:B:1179:LYS:O	1:B:1182:GLN:HB2	2.17	0.44
1:B:1304:LEU:C	1:B:1306:LEU:H	2.26	0.44
1:B:2548:TRP:CD1	1:B:2576:ARG:HG2	2.53	0.44
1:B:2790:PRO:HB3	1:B:3076:LYS:HG2	1.98	0.44
1:B:4172:SER:HB2	1:B:4173:PRO:HD3	1.98	0.44
4:G:23:VAL:HG11	4:G:43:ALA:HB1	2.00	0.44
4:H:7:THR:O	4:H:11:LEU:HD23	2.17	0.44
1:A:1697:LYS:HB3	1:A:1700:GLU:OE1	2.18	0.44
1:A:1997:ILE:H	1:A:1997:ILE:HD12	1.82	0.44
1:A:2206:LYS:HD3	1:A:2206:LYS:HA	1.86	0.44
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	1.98	0.44
1:A:2961:ILE:HD11	1:A:2998:ASN:HB3	1.98	0.44
1:A:4087:ALA:HA	1:A:4092:ARG:HB3	1.98	0.44
1:B:967:GLN:HG2	1:B:1061:TRP:CD2	2.53	0.44
1:B:1060:LEU:HD22	1:B:1119:LYS:HE2	2.00	0.44
1:B:1090:ARG:HH22	1:B:1124:HIS:HB3	1.81	0.44
1:B:1697:LYS:HB3	1:B:1700:GLU:OE1	2.18	0.44
1:B:2437:LEU:HD21	1:B:2451:ARG:HG3	1.98	0.44
1:B:2912:PHE:CE2	1:B:2914:GLU:HB2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:205:ARG:NH2	2:C:209:ARG:HH21	2.15	0.44
2:C:207:VAL:O	2:C:211:LEU:HG	2.18	0.44
1:A:52:LEU:HD12	1:A:101:TYR:CD1	2.52	0.44
1:A:365:ARG:NH1	1:A:436:ASP:OD2	2.51	0.44
1:A:578:ALA:C	1:A:583:ARG:H	2.22	0.44
1:A:1567:ARG:HD3	1:B:3043:MET:HE3	2.00	0.44
1:A:2975:ASP:O	1:A:2979:VAL:HG23	2.18	0.44
1:A:4412:PHE:HZ	1:A:4514:LEU:HD13	1.82	0.44
1:B:435:ARG:HH21	1:B:438:VAL:HG21	1.82	0.44
1:B:1068:ILE:O	1:B:1072:LEU:HG	2.17	0.44
1:B:1159:ASP:O	1:B:1160:THR:OG1	2.30	0.44
4:G:3:GLU:HG3	4:G:6:GLU:H	1.82	0.44
6:K:68:VAL:HG22	6:L:79:THR:HG22	2.00	0.44
1:A:195:HIS:HE1	1:A:264:ARG:NE	2.14	0.44
1:A:1571:ILE:HD13	1:A:1607:LEU:HB3	1.99	0.44
1:A:2548:TRP:CD1	1:A:2576:ARG:HG2	2.53	0.44
1:A:2776:PHE:HZ	1:A:2846:THR:HG23	1.83	0.44
1:A:4185:TRP:O	1:A:4189:ILE:HG12	2.17	0.44
1:B:1124:HIS:NE2	1:B:1128:LEU:HD11	2.33	0.44
1:B:1197:LEU:HD23	1:B:1208:TRP:CH2	2.52	0.44
1:B:4100:HIS:HB3	1:B:4128:MET:HB2	1.99	0.44
2:D:386:CYS:SG	2:D:437:MET:HG3	2.58	0.44
3:F:94:HIS:HD1	3:F:100:ASP:C	2.26	0.44
5:J:75:TYR:CE1	5:J:82:ALA:HB1	2.53	0.44
1:A:41:LEU:HA	1:B:132:SER:HB2	1.98	0.44
1:A:213:ILE:HB	1:A:241:PHE:CZ	2.53	0.44
1:A:213:ILE:HD12	1:A:303:ILE:HD11	1.99	0.44
1:A:423:TRP:NE1	1:A:457:ARG:HH22	2.15	0.44
1:A:1724:VAL:HG11	1:A:1753:SER:HB3	2.00	0.44
1:B:333:ASN:O	1:B:336:MET:HG2	2.18	0.44
1:B:389:SER:O	1:B:393:LEU:HG	2.18	0.44
1:B:1060:LEU:HD22	1:B:1119:LYS:HG2	2.00	0.44
1:B:1095:ASN:OD1	1:B:1096:ALA:N	2.48	0.44
1:B:1153:LEU:HB3	1:B:1225:MET:HE1	2.00	0.44
1:B:1231:ALA:HA	1:B:1234:GLN:OE1	2.17	0.44
1:B:1456:GLU:O	1:B:1516:PHE:HE2	2.00	0.44
1:B:3485:GLU:HG3	1:B:3488:ARG:HH22	1.83	0.44
1:B:3880:HIS:ND1	1:B:4021:MET:HG3	2.33	0.44
3:F:38:SER:OG	3:F:39:ILE:N	2.50	0.44
4:G:61:ASP:CG	4:G:64:ASN:HB2	2.43	0.44
1:A:1170:ILE:O	1:A:1174:GLN:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1625:SER:HB2	1:A:1699:ASN:ND2	2.33	0.44
1:B:479:VAL:HG22	1:B:483:VAL:HG21	1.99	0.44
1:B:969:ILE:HG12	1:B:1058:GLN:HB3	1.99	0.44
1:B:1190:TYR:O	1:B:1194:GLN:HG3	2.18	0.44
1:B:1635:GLU:HA	1:B:1638:LEU:HD12	1.98	0.44
1:B:4087:ALA:HA	1:B:4092:ARG:HB3	1.98	0.44
2:D:539:LEU:HD21	2:D:551:LEU:HD11	2.00	0.44
5:I:13:MET:HE1	5:I:21:SER:OG	2.17	0.44
5:I:52:PRO:HA	5:I:53:THR:HA	1.80	0.44
5:J:9:LYS:HE3	5:J:77:TYR:CD1	2.53	0.44
1:A:3217:GLU:HB2	1:A:3220:ARG:HH21	1.82	0.44
1:A:3456:SER:OG	1:B:3459:GLN:OE1	2.14	0.44
1:A:3485:GLU:HG3	1:A:3488:ARG:HH22	1.83	0.44
1:A:4186:PHE:O	1:A:4190:ILE:HG12	2.18	0.44
1:A:4190:ILE:HD12	1:A:4201:TRP:CZ2	2.45	0.44
1:B:1170:ILE:HG22	1:B:1174:GLN:HE22	1.83	0.44
1:B:1625:SER:HB2	1:B:1699:ASN:ND2	2.33	0.44
1:B:2776:PHE:HZ	1:B:2846:THR:HG23	1.83	0.44
1:B:4234:SER:OG	1:B:4236:ASP:OD1	2.31	0.44
1:A:1346:MET:O	1:A:1349:GLN:N	2.50	0.43
1:A:1980:GLU:OE2	1:A:1983:ARG:NH1	2.51	0.43
1:A:4401:THR:O	1:A:4405:ILE:HG12	2.17	0.43
1:B:956:LYS:N	1:B:985:GLU:OE2	2.39	0.43
1:B:2961:ILE:HG13	1:B:2963:VAL:HG13	2.00	0.43
1:B:2963:VAL:HG23	1:B:3643:PRO:HB2	1.99	0.43
2:D:480:THR:HB	2:D:528:TYR:CE2	2.52	0.43
1:A:344:LEU:HD21	1:A:388:LEU:HD23	2.00	0.43
1:A:3160:ARG:O	1:A:3163:LYS:HG2	2.17	0.43
1:A:3370:ASN:OD1	1:A:3377:TYR:CZ	2.72	0.43
1:B:522:GLU:O	1:B:525:LEU:HG	2.18	0.43
1:B:717:ILE:HA	1:B:824:TRP:CE3	2.46	0.43
1:B:921:ALA:O	1:B:924:GLN:HG3	2.18	0.43
1:B:926:LEU:HD13	1:B:1104:PRO:HG3	2.00	0.43
1:B:2557:VAL:O	1:B:2757:ARG:NH2	2.52	0.43
1:B:3232:LYS:HA	1:B:3232:LYS:HD3	1.76	0.43
3:F:366:GLN:OE1	3:F:366:GLN:HA	2.18	0.43
5:J:32:TYR:HB2	5:J:38:ILE:HD13	2.01	0.43
1:A:82:SER:HG	1:A:100:SER:HB2	1.84	0.43
1:A:182:VAL:O	1:A:186:ILE:HG13	2.18	0.43
1:A:3194:LEU:HD21	1:A:3499:GLN:HB2	2.01	0.43
1:A:3629:PHE:HZ	1:B:3659:ARG:HG3	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:252:TRP:O	1:B:256:ILE:HG23	2.18	0.43
1:B:255:GLU:O	1:B:258:LYS:HG2	2.19	0.43
1:B:287:ARG:HA	1:B:290:GLU:HG2	1.99	0.43
1:B:368:ARG:NH2	1:B:436:ASP:O	2.51	0.43
1:B:572:LEU:HD23	1:B:604:TYR:HD2	1.83	0.43
1:B:860:GLU:OE2	1:B:880:ARG:HB2	2.18	0.43
1:B:882:GLN:HE22	1:B:999:ILE:HA	1.83	0.43
1:B:1063:MET:HE1	3:F:46:ARG:C	2.44	0.43
1:B:1490:TRP:HZ3	1:B:1534:PHE:HB3	1.83	0.43
1:B:2457:SER:O	1:B:2461:MET:HG3	2.18	0.43
1:B:4437:VAL:HG21	1:B:4448:LEU:HD13	2.00	0.43
2:C:204:THR:HA	4:G:10:ARG:NH1	2.33	0.43
2:D:387:VAL:HG12	2:D:400:SER:HB2	2.01	0.43
4:H:70:ARG:HB3	4:H:79:MET:SD	2.59	0.43
1:A:170:LYS:HE2	1:A:176:ASP:HB3	2.00	0.43
1:A:235:LYS:HB3	1:A:241:PHE:CG	2.54	0.43
1:A:270:THR:H	1:A:273:GLN:HB2	1.83	0.43
1:A:285:LEU:HB2	1:A:322:LEU:HD21	2.00	0.43
1:A:388:LEU:O	1:A:391:GLN:HG3	2.18	0.43
1:A:1189:LEU:O	1:A:1192:ASN:HB3	2.18	0.43
1:A:3148:VAL:O	1:A:3152:GLN:HG3	2.19	0.43
1:A:3514:ILE:HD11	1:A:3553:LEU:HD13	2.00	0.43
1:B:157:VAL:O	1:B:161:PHE:HB3	2.18	0.43
1:B:330:ASN:O	1:B:334:PRO:HD3	2.18	0.43
1:B:347:ALA:HA	1:B:352:LYS:HD3	1.99	0.43
1:B:468:LYS:HE3	1:B:468:LYS:HB3	1.88	0.43
1:B:718:PHE:CE1	1:B:820:ILE:HD13	2.53	0.43
1:B:860:GLU:HG2	1:B:877:ILE:HG23	2.00	0.43
1:B:1071:ARG:NH1	3:F:46:ARG:HD2	2.33	0.43
1:B:4297:PRO:HB3	1:B:4308:TRP:CD1	2.54	0.43
3:F:41:SER:O	3:F:44:SER:OG	2.24	0.43
3:F:95:ASP:HB2	3:F:294:PHE:CZ	2.53	0.43
1:A:31:GLN:HB3	1:A:35:ARG:HH21	1.83	0.43
1:A:118:PHE:CE1	1:A:137:VAL:HG23	2.53	0.43
1:A:146:TYR:OH	1:B:161:PHE:O	2.36	0.43
1:A:185:LYS:CE	1:B:189:LEU:HA	2.48	0.43
1:A:1666:LEU:HD23	1:A:1673:VAL:HA	2.00	0.43
1:A:4172:SER:HB2	1:A:4173:PRO:HD3	1.98	0.43
1:B:410:GLU:HB3	1:B:471:ARG:NH2	2.33	0.43
1:B:433:LEU:O	1:B:437:ILE:HG12	2.17	0.43
1:B:1050:TYR:CD1	1:B:1100:LYS:HD2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1177:LYS:HA	1:B:1180:ILE:HD12	2.01	0.43
1:B:1182:GLN:O	1:B:1185:LYS:HG2	2.19	0.43
1:B:1724:VAL:HG11	1:B:1753:SER:HB3	2.00	0.43
4:H:3:GLU:OE2	4:H:10:ARG:NH2	2.35	0.43
5:J:56:CYS:HA	5:J:84:LEU:O	2.19	0.43
1:A:2079:GLN:HB2	1:A:2160:LEU:HD11	2.00	0.43
1:A:2538:GLU:HB3	1:A:2548:TRP:CZ2	2.54	0.43
1:A:2557:VAL:O	1:A:2757:ARG:NH2	2.52	0.43
1:B:146:TYR:CG	1:B:196:LEU:HB3	2.54	0.43
1:B:377:ALA:O	1:B:381:VAL:HG23	2.19	0.43
1:B:456:HIS:CE1	1:B:460:GLN:HB2	2.53	0.43
1:B:1156:HIS:CE1	1:B:1166:ALA:HA	2.53	0.43
1:B:3154:LEU:HG	1:B:3516:TYR:CD1	2.54	0.43
1:B:4415:ARG:O	1:B:4419:MET:HG2	2.18	0.43
3:F:70:LEU:O	3:F:74:LEU:HD23	2.18	0.43
4:G:64:ASN:HA	4:H:75:LYS:HD3	2.00	0.43
6:K:35:GLN:H	6:K:42:TRP:HZ3	1.67	0.43
6:K:77:LEU:HD13	6:L:70:MET:CE	2.48	0.43
1:A:164:TYR:HA	1:B:109:TYR:CD2	2.53	0.43
1:A:284:ALA:O	1:A:287:ARG:HG2	2.18	0.43
1:A:1195:ARG:NH2	3:F:99:ASP:HB2	2.34	0.43
1:A:3291:GLU:O	1:A:3395:TRP:NE1	2.52	0.43
1:B:35:ARG:HH22	1:B:53:GLU:HG2	1.84	0.43
1:B:336:MET:HA	1:B:339:PHE:CE2	2.43	0.43
1:B:525:LEU:HA	1:B:528:GLU:OE2	2.19	0.43
1:B:598:ARG:O	1:B:601:ILE:HG22	2.19	0.43
1:B:997:PRO:HA	1:B:1018:PHE:HA	2.00	0.43
1:B:1090:ARG:HH22	1:B:1124:HIS:CB	2.32	0.43
1:B:2230:LYS:HG2	1:B:2364:PHE:CG	2.54	0.43
1:B:4185:TRP:O	1:B:4189:ILE:HG12	2.18	0.43
3:F:321:ALA:HA	3:F:324:HIS:CD2	2.53	0.43
4:G:21:ILE:HB	4:G:33:THR:OG1	2.19	0.43
5:I:67:THR:O	5:J:55:HIS:HE1	2.01	0.43
1:A:288:ILE:HA	1:A:291:LYS:HB3	2.01	0.43
1:A:391:GLN:HA	1:A:394:LYS:HE2	2.00	0.43
1:A:1349:GLN:C	1:A:1351:TRP:N	2.75	0.43
1:A:1834:LYS:HA	1:A:1834:LYS:HD3	1.88	0.43
1:A:2457:SER:O	1:A:2461:MET:HG3	2.18	0.43
1:A:3880:HIS:ND1	1:A:4021:MET:HG3	2.33	0.43
1:A:4227:ALA:HB2	1:A:4233:ILE:HD12	2.01	0.43
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:101:TYR:CG	1:B:102:ASN:N	2.86	0.43
1:B:211:PRO:O	1:B:215:ASN:ND2	2.51	0.43
1:B:580:GLU:O	1:B:584:ILE:HG13	2.19	0.43
1:B:697:GLU:H	1:B:697:GLU:CD	2.25	0.43
1:B:959:VAL:HA	1:B:1106:VAL:O	2.18	0.43
1:B:2975:ASP:O	1:B:2979:VAL:HG23	2.18	0.43
1:B:4227:ALA:HB2	1:B:4233:ILE:HD12	2.00	0.43
1:B:4246:LEU:HD23	1:B:4246:LEU:HA	1.90	0.43
3:F:337:GLU:OE1	3:F:337:GLU:N	2.49	0.43
5:I:53:THR:HG21	5:J:67:THR:HB	2.00	0.43
5:J:9:LYS:H	5:J:76:PHE:HA	1.83	0.43
6:L:72:LYS:HE2	6:L:103:TYR:CE1	2.53	0.43
6:L:85:TRP:HD1	6:L:86:ASP:C	2.27	0.43
1:A:118:PHE:HB3	1:A:135:LEU:HD11	2.01	0.43
1:A:1229:ASP:CG	1:A:1233:GLN:HE22	2.27	0.43
1:A:1459:LEU:H	1:A:1459:LEU:HD12	1.83	0.43
1:A:2230:LYS:HG2	1:A:2364:PHE:CG	2.54	0.43
1:A:2457:SER:HB2	1:A:2732:PRO:HB3	2.01	0.43
1:B:462:ARG:HH21	1:B:537:ASP:HB2	1.84	0.43
1:B:908:GLU:HB2	1:B:1019:TYR:CZ	2.53	0.43
1:B:1899:ARG:N	1:B:1899:ARG:HD2	2.34	0.43
1:B:3291:GLU:O	1:B:3395:TRP:NE1	2.52	0.43
1:B:3514:ILE:HD11	1:B:3553:LEU:HD13	2.00	0.43
1:B:4186:PHE:O	1:B:4190:ILE:HG12	2.18	0.43
3:F:238:SER:O	3:F:241:GLU:HB3	2.19	0.43
1:A:39:PRO:HG3	1:A:48:ALA:H	1.84	0.43
1:A:107:ILE:HD11	1:B:159:PRO:HD2	2.01	0.43
1:A:1899:ARG:N	1:A:1899:ARG:HD2	2.34	0.43
1:B:304:LEU:HD13	1:B:309:ARG:HB3	2.00	0.43
1:B:368:ARG:HD2	1:B:368:ARG:HA	1.82	0.43
1:B:530:VAL:HG22	1:B:553:TYR:CE2	2.53	0.43
1:B:579:ASN:O	1:B:583:ARG:HG3	2.19	0.43
1:B:774:LEU:HD12	1:B:774:LEU:HA	1.84	0.43
1:B:1023:LEU:HD12	1:B:1033:LEU:HD22	2.01	0.43
1:B:1163:THR:HA	1:B:1166:ALA:HB3	2.01	0.43
1:B:1213:ASN:CA	5:J:9:LYS:O	2.67	0.43
1:B:1980:GLU:OE2	1:B:1983:ARG:NH1	2.51	0.43
1:B:2079:GLN:HB2	1:B:2160:LEU:HD11	2.00	0.43
1:B:2784:PHE:HB3	1:B:2792:TYR:CD2	2.54	0.43
1:B:2882:ILE:HB	1:B:2883:PRO:HD2	2.01	0.43
1:B:3381:ILE:CG1	1:B:3393:VAL:CG1	2.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4173:PRO:HD2	1:B:4176:ARG:HH21	1.84	0.43
1:B:4611:LEU:HB2	1:B:4619:ILE:HD11	2.00	0.43
2:D:287:TRP:CZ2	2:D:295:LEU:HD12	2.54	0.43
4:H:22:VAL:H	4:H:31:LYS:NZ	2.13	0.43
1:A:22:GLN:HE22	1:A:134:GLN:CD	2.27	0.42
1:A:55:ALA:HA	1:A:58:GLU:HB2	2.01	0.42
1:A:189:LEU:CD2	1:B:185:LYS:HB3	2.48	0.42
1:A:278:TRP:O	1:A:281:LEU:HG	2.19	0.42
1:A:1433:GLN:O	1:A:1434:ILE:C	2.62	0.42
1:A:2882:ILE:HB	1:A:2883:PRO:HD2	2.01	0.42
1:A:3745:LEU:HD13	1:A:3777:ALA:HA	2.01	0.42
1:A:4297:PRO:HB3	1:A:4308:TRP:CD1	2.54	0.42
1:A:4423:LEU:HD22	1:A:4466:HIS:HB2	2.01	0.42
1:B:191:MET:O	1:B:194:LEU:HG	2.19	0.42
1:B:309:ARG:HG2	1:B:312:ALA:HB3	2.00	0.42
1:B:902:LYS:HB2	1:B:902:LYS:HE3	1.71	0.42
1:B:1135:LEU:HD22	1:B:1190:TYR:CD1	2.53	0.42
1:B:2967:TYR:OH	1:B:2975:ASP:OD2	2.34	0.42
1:B:3194:LEU:HD21	1:B:3499:GLN:HB2	2.01	0.42
1:B:3910:ARG:HE	1:B:3913:GLU:CD	2.27	0.42
3:F:259:ARG:NE	3:F:315:ASP:OD2	2.52	0.42
5:I:62:PHE:HB2	5:J:57:ILE:HD11	2.01	0.42
1:A:90:ASP:N	1:A:90:ASP:OD1	2.50	0.42
1:A:283:ARG:HG3	1:A:287:ARG:HH21	1.84	0.42
1:A:324:GLN:OE1	1:A:324:GLN:N	2.51	0.42
1:A:1347:LYS:HA	1:A:1432:GLY:H	1.85	0.42
1:A:1853:VAL:HA	1:A:1856:GLN:HG3	2.01	0.42
1:A:4415:ARG:O	1:A:4419:MET:HG2	2.18	0.42
1:B:410:GLU:O	1:B:414:VAL:HG23	2.19	0.42
1:B:537:ASP:O	1:B:543:THR:OG1	2.24	0.42
1:B:722:SER:HA	1:B:733:LEU:HD23	2.02	0.42
1:B:1125:LYS:HA	1:B:1128:LEU:HD12	2.01	0.42
1:B:1457:MET:HE3	1:B:1457:MET:HB3	1.82	0.42
1:B:3110:THR:O	1:B:3113:MET:HB2	2.19	0.42
1:B:3257:SER:HA	1:B:3260:ILE:HD12	1.99	0.42
4:H:42:TYR:O	4:H:46:MET:HG2	2.19	0.42
1:A:25:ALA:O	1:A:66:ARG:NH1	2.40	0.42
1:A:170:LYS:NZ	1:A:176:ASP:O	2.45	0.42
1:A:186:ILE:O	1:A:190:GLU:HG2	2.19	0.42
1:A:289:GLN:HA	1:A:292:ARG:CZ	2.48	0.42
1:A:354:ARG:HA	1:A:357:LEU:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1457:MET:HE3	1:A:1457:MET:HB3	1.82	0.42
1:A:2994:MET:HG3	1:A:2998:ASN:HD22	1.84	0.42
1:B:38:VAL:N	1:B:39:PRO:HD2	2.34	0.42
1:B:121:ARG:HD3	1:B:133:SER:O	2.19	0.42
1:B:149:LEU:O	1:B:153:ILE:HG12	2.19	0.42
1:B:1218:TRP:NE1	1:B:1222:ASN:HD21	2.17	0.42
1:B:1226:ARG:HA	1:B:1226:ARG:NE	2.34	0.42
1:B:1853:VAL:HA	1:B:1856:GLN:HG3	2.01	0.42
1:B:3370:ASN:OD1	1:B:3377:TYR:CZ	2.72	0.42
1:B:3381:ILE:HD12	1:B:3390:GLY:N	2.35	0.42
1:B:3745:LEU:HD13	1:B:3777:ALA:HA	2.01	0.42
2:C:311:GLY:HA3	2:C:334:ALA:HA	2.01	0.42
3:F:169:LYS:O	3:F:172:GLU:HG3	2.19	0.42
3:F:370:LEU:HA	3:F:373:GLN:HG2	2.01	0.42
5:J:7:VAL:HB	5:J:9:LYS:HE2	2.01	0.42
6:L:72:LYS:HG2	6:L:103:TYR:CE2	2.55	0.42
1:A:215:ASN:C	1:A:215:ASN:HD22	2.25	0.42
1:A:850:LEU:O	1:A:851:LEU:C	2.62	0.42
1:A:1190:TYR:HE1	1:A:1208:TRP:HH2	1.66	0.42
1:A:1562:PRO:O	1:A:1566:GLN:HG2	2.20	0.42
1:A:2825:TRP:CZ3	1:A:2854:ALA:HB2	2.55	0.42
1:A:3096:ASP:OD1	1:A:3097:TRP:N	2.50	0.42
1:A:3110:THR:O	1:A:3113:MET:HB2	2.20	0.42
1:A:3115:LEU:HD13	1:A:3143:ILE:HG21	2.01	0.42
1:A:3154:LEU:HG	1:A:3516:TYR:CD1	2.54	0.42
1:A:4196:TYR:CZ	1:A:4318:PRO:HB3	2.54	0.42
1:B:178:MET:O	1:B:182:VAL:HG13	2.20	0.42
1:B:578:ALA:HB1	1:B:582:PHE:HE2	1.84	0.42
1:B:627:TYR:CD2	1:B:647:SER:HB3	2.55	0.42
1:B:835:ARG:O	1:B:838:GLU:HG3	2.19	0.42
1:B:1165:ASP:O	1:B:1168:THR:HB	2.19	0.42
1:B:1209:LEU:CD1	5:J:18:GLN:HE22	2.32	0.42
1:B:2538:GLU:HB3	1:B:2548:TRP:CZ2	2.54	0.42
1:B:4423:LEU:HD22	1:B:4466:HIS:HB2	2.01	0.42
3:F:94:HIS:ND1	3:F:100:ASP:O	2.50	0.42
5:J:68:HIS:CG	5:J:73:PHE:HB2	2.55	0.42
1:A:164:TYR:O	1:A:168:SER:OG	2.32	0.42
1:A:201:GLU:HA	1:A:280:ASN:ND2	2.30	0.42
1:A:257:GLN:NE2	1:A:319:ASP:O	2.52	0.42
1:A:1209:LEU:HD23	1:A:1209:LEU:H	1.84	0.42
1:A:2221:MET:HE1	1:A:2355:THR:HG22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2784:PHE:HB3	1:A:2792:TYR:CD2	2.54	0.42
1:A:3239:LYS:HD3	1:A:3451:TYR:CD1	2.54	0.42
1:A:3910:ARG:HE	1:A:3913:GLU:CD	2.27	0.42
1:A:4437:VAL:HG21	1:A:4448:LEU:HD13	2.00	0.42
1:B:639:ARG:NH1	2:D:528:TYR:CZ	2.88	0.42
1:B:1203:GLN:O	1:B:1205:PRO:N	2.53	0.42
1:B:1459:LEU:H	1:B:1459:LEU:HD12	1.83	0.42
1:B:2825:TRP:CZ3	1:B:2854:ALA:HB2	2.55	0.42
1:B:3115:LEU:HD13	1:B:3143:ILE:HG21	2.01	0.42
1:B:3243:MET:CE	1:B:3447:TYR:HB2	2.50	0.42
2:D:287:TRP:CE2	2:D:295:LEU:HD12	2.54	0.42
3:F:48:ARG:NH1	3:F:49:SER:HB2	2.34	0.42
1:A:58:GLU:HG2	1:A:60:SER:H	1.83	0.42
1:A:150:HIS:CG	1:A:196:LEU:HD21	2.54	0.42
1:A:1209:LEU:HD12	1:A:1214:ILE:HG13	2.02	0.42
1:A:3558:GLU:HG2	1:A:3562:TRP:CE2	2.54	0.42
1:B:33:HIS:HA	1:B:36:LYS:NZ	2.34	0.42
1:B:145:PRO:O	1:B:149:LEU:HG	2.19	0.42
1:B:213:ILE:HD12	1:B:303:ILE:HD11	2.02	0.42
1:B:282:GLU:O	1:B:285:LEU:HG	2.20	0.42
1:B:399:ARG:NH2	1:B:404:VAL:HG11	2.28	0.42
1:B:440:ARG:O	1:B:443:GLU:HB3	2.19	0.42
1:B:539:SER:O	1:B:542:GLY:N	2.49	0.42
1:B:699:PHE:CE2	1:B:758:PHE:HB3	2.55	0.42
1:B:703:ALA:O	1:B:707:GLN:HG3	2.19	0.42
1:B:810:LYS:HE2	3:F:357:GLU:CB	2.49	0.42
1:B:3148:VAL:O	1:B:3152:GLN:HG3	2.19	0.42
2:D:500:SER:OG	2:D:527:VAL:HG13	2.19	0.42
3:F:59:VAL:HG23	3:F:134:ILE:HG23	2.00	0.42
4:G:47:HIS:HA	4:G:50:ILE:HG12	2.02	0.42
1:A:285:LEU:HA	1:A:288:ILE:HG12	2.01	0.42
1:A:1526:LYS:O	1:A:1530:ILE:HG13	2.20	0.42
1:A:3659:ARG:HG3	1:B:3629:PHE:CZ	2.54	0.42
1:B:295:PRO:HA	1:B:298:LEU:HD12	2.01	0.42
1:B:470:ARG:HH22	1:B:531:LYS:HZ3	1.67	0.42
1:B:602:ARG:HA	1:B:605:GLN:HB2	2.02	0.42
1:B:610:GLN:NE2	1:B:614:ASP:OD1	2.52	0.42
1:B:1139:MET:CE	1:B:1209:LEU:H	2.30	0.42
1:B:1160:THR:O	1:B:1162:SER:N	2.53	0.42
1:B:1212:ASP:N	1:B:1215:GLU:OE1	2.53	0.42
1:B:1348:GLU:O	1:B:1430:THR:C	2.63	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1526:LYS:O	1:B:1530:ILE:HG13	2.20	0.42
4:G:70:ARG:HB2	4:H:70:ARG:HG2	2.01	0.42
1:A:420:PHE:CE2	1:A:460:GLN:HG2	2.55	0.42
1:A:462:ARG:NH1	1:A:538:VAL:HA	2.34	0.42
1:A:1744:LYS:HD3	1:A:1745:TYR:CE2	2.55	0.42
1:A:3373:SER:O	1:A:3377:TYR:HD2	2.03	0.42
1:B:332:TYR:CE1	1:B:335:LEU:HD22	2.54	0.42
1:B:808:LEU:HA	1:B:811:GLU:CD	2.45	0.42
1:B:998:ARG:CZ	1:B:1019:TYR:HD1	2.33	0.42
1:B:1666:LEU:HD23	1:B:1673:VAL:HA	2.01	0.42
1:B:2445:HIS:NE2	1:B:2449:LEU:HD22	2.34	0.42
2:C:293:GLU:O	2:C:318:MET:N	2.53	0.42
2:D:206:ILE:O	2:D:209:ARG:HB3	2.20	0.42
3:F:168:GLU:HG2	3:F:169:LYS:N	2.34	0.42
4:G:3:GLU:HB3	4:G:6:GLU:HB2	2.02	0.42
4:H:8:LEU:HD12	4:H:9:LYS:N	2.34	0.42
1:A:130:PRO:O	1:A:133:SER:OG	2.24	0.42
1:A:185:LYS:HE3	1:B:189:LEU:HD23	2.01	0.42
1:A:1490:TRP:HZ3	1:A:1534:PHE:HB3	1.83	0.42
1:A:2059:PHE:CZ	1:A:2104:LYS:HD3	2.55	0.42
1:A:4034:GLU:OE1	1:A:4143:ARG:NH1	2.41	0.42
1:B:619:LEU:HD21	1:B:654:ILE:HG23	2.01	0.42
1:B:1067:ASN:C	1:B:1067:ASN:HD22	2.27	0.42
1:B:2221:MET:HE1	1:B:2355:THR:HG22	2.02	0.42
1:B:2488:ARG:CG	1:B:2492:ARG:HH12	2.32	0.42
1:B:2667:ASN:OD1	1:B:2712:CYS:HB2	2.20	0.42
1:B:3558:GLU:HG2	1:B:3562:TRP:CE2	2.54	0.42
1:B:4196:TYR:CZ	1:B:4318:PRO:HB3	2.54	0.42
2:D:346:ASN:CG	2:D:362:ASN:HB3	2.45	0.42
5:I:38:ILE:HG22	5:I:58:VAL:HG21	2.01	0.42
1:A:119:ILE:O	1:A:135:LEU:HG	2.20	0.42
1:A:333:ASN:N	1:A:334:PRO:HD2	2.35	0.42
1:A:2445:HIS:NE2	1:A:2449:LEU:HD22	2.34	0.42
1:A:3716:VAL:HB	1:A:3836:TYR:OH	2.20	0.42
1:A:3740:LEU:O	1:A:3744:GLN:HG3	2.20	0.42
1:A:4099:VAL:HG23	1:A:4106:LEU:HD11	2.02	0.42
1:A:4173:PRO:HD2	1:A:4176:ARG:HH21	1.84	0.42
1:B:1210:TYR:N	1:B:1210:TYR:CD2	2.88	0.42
1:B:1744:LYS:HD3	1:B:1745:TYR:CE2	2.55	0.42
1:B:2994:MET:HG3	1:B:2998:ASN:HD22	1.84	0.42
1:B:3951:VAL:HG23	1:B:3973:LEU:HD21	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:121:ARG:CD	1:A:136:ARG:HG2	2.50	0.41
1:A:271:ALA:O	1:A:275:ILE:HG23	2.19	0.41
1:A:410:GLU:O	1:A:414:VAL:HG23	2.19	0.41
1:A:2132:PRO:HB2	1:A:2135:GLU:HB3	2.02	0.41
1:A:2667:ASN:OD1	1:A:2712:CYS:HB2	2.20	0.41
1:A:2688:GLU:OE1	1:A:2689:HIS:CE1	2.72	0.41
1:B:263:ASP:HA	1:B:277:PHE:HE2	1.85	0.41
1:B:476:LEU:O	1:B:479:VAL:HG12	2.20	0.41
1:B:887:ASP:O	1:B:890:LEU:HG	2.20	0.41
1:B:1181:LYS:HG2	1:B:1185:LYS:NZ	2.30	0.41
1:B:1895:ALA:HB2	1:B:2037:ARG:HB2	2.02	0.41
1:B:4099:VAL:HG23	1:B:4106:LEU:HD11	2.02	0.41
1:B:4412:PHE:CZ	1:B:4520:TYR:HB2	2.55	0.41
3:F:155:VAL:O	3:F:158:GLU:HG3	2.20	0.41
6:K:61:PHE:HB2	6:K:63:TYR:CZ	2.54	0.41
1:A:115:SER:N	1:A:140:LEU:HB3	2.22	0.41
1:A:220:CYS:O	1:A:223:ARG:NE	2.51	0.41
1:A:246:GLN:HG2	1:A:312:ALA:HB2	2.02	0.41
1:A:1623:ARG:NH1	1:A:1629:PHE:O	2.47	0.41
1:A:3232:LYS:HD3	1:A:3232:LYS:HA	1.76	0.41
1:A:3381:ILE:HD12	1:A:3390:GLY:N	2.35	0.41
1:A:3629:PHE:CZ	1:B:3659:ARG:HG3	2.55	0.41
1:A:4071:ILE:HD13	1:A:4071:ILE:HA	1.87	0.41
1:A:4412:PHE:CZ	1:A:4520:TYR:HB2	2.55	0.41
1:A:4415:ARG:HE	1:A:4415:ARG:HB3	1.54	0.41
1:B:320:THR:OG1	1:B:323:LYS:NZ	2.53	0.41
1:B:806:ALA:HB1	3:F:355:ALA:O	2.20	0.41
1:B:1124:HIS:CE1	1:B:1128:LEU:HD11	2.54	0.41
1:B:1212:ASP:O	1:B:1214:ILE:C	2.63	0.41
1:B:2446:ILE:HD12	1:B:2446:ILE:HA	1.92	0.41
1:B:2688:GLU:OE1	1:B:2689:HIS:CE1	2.73	0.41
1:B:3113:MET:HE3	1:B:3184:ALA:HA	2.02	0.41
1:B:3239:LYS:HD3	1:B:3451:TYR:CD1	2.54	0.41
1:B:3392:MET:CA	1:B:3395:TRP:HB2	2.48	0.41
1:B:4534:TRP:CD2	1:B:4594:LYS:HD3	2.56	0.41
1:B:4553:LEU:HD23	1:B:4553:LEU:HA	1.87	0.41
3:F:330:VAL:HG11	3:F:339:PHE:CD1	2.55	0.41
4:G:22:VAL:O	4:G:30:ILE:N	2.53	0.41
4:H:69:LEU:HB3	4:H:80:VAL:HG13	2.00	0.41
5:J:68:HIS:HB3	5:J:86:PHE:HB2	2.01	0.41
1:A:31:GLN:O	1:A:34:LEU:HG	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:GLN:HG2	1:B:170:LYS:HE3	2.03	0.41
1:A:407:GLU:HA	1:A:410:GLU:OE1	2.21	0.41
1:A:429:LYS:HB3	1:A:429:LYS:HE3	1.87	0.41
1:A:1229:ASP:O	1:A:1232:ILE:HG22	2.20	0.41
1:A:2581:LEU:HD12	1:A:2604:THR:HG22	2.02	0.41
1:A:2961:ILE:HG13	1:A:2963:VAL:HG13	2.00	0.41
1:A:3377:TYR:CD1	1:A:3397:ILE:HG12	2.55	0.41
1:A:3392:MET:CA	1:A:3395:TRP:HB2	2.48	0.41
1:B:441:LYS:HD3	1:B:446:LEU:HD21	2.03	0.41
1:B:456:HIS:ND1	1:B:456:HIS:O	2.53	0.41
1:B:1020:ARG:HH22	3:F:84:ARG:N	2.19	0.41
1:B:2457:SER:HB2	1:B:2732:PRO:HB3	2.01	0.41
1:B:3373:SER:O	1:B:3377:TYR:HD2	2.03	0.41
1:B:3588:LEU:HD21	1:B:3638:VAL:HG11	2.02	0.41
1:B:3740:LEU:O	1:B:3744:GLN:HG3	2.20	0.41
1:B:4546:THR:HG21	1:B:4589:GLN:HE21	1.84	0.41
2:C:217:ILE:HG13	2:D:205:ARG:HH11	1.85	0.41
2:D:591:GLU:OE1	2:D:591:GLU:N	2.53	0.41
3:F:228:LEU:CD2	3:F:268:ALA:HB3	2.50	0.41
1:A:35:ARG:O	1:A:39:PRO:HD3	2.21	0.41
1:A:1738:TYR:HE2	1:A:1792:LEU:HD21	1.85	0.41
1:A:2612:LEU:HD12	1:A:2612:LEU:HA	1.96	0.41
1:A:3157:ALA:HB1	1:A:3524:MET:HE2	2.03	0.41
1:A:3586:TYR:HA	1:A:3587:PRO:HD3	1.92	0.41
1:A:3659:ARG:CD	1:B:3628:ARG:HD3	2.50	0.41
1:B:120:LYS:HE2	1:B:125:ILE:HG12	2.01	0.41
1:B:282:GLU:OE2	1:B:333:ASN:ND2	2.53	0.41
1:B:375:GLN:O	1:B:379:ARG:HG2	2.20	0.41
1:B:469:PHE:HZ	1:B:553:TYR:HB2	1.85	0.41
1:B:484:LEU:HD21	1:B:519:ALA:HB3	2.03	0.41
1:B:3017:VAL:HB	1:B:3020:LEU:HB2	2.03	0.41
2:D:288:SER:HB2	2:D:340:PHE:CZ	2.55	0.41
2:D:608:ASN:OD1	2:D:608:ASN:N	2.52	0.41
3:E:136:VAL:HA	3:E:230:VAL:O	2.21	0.41
3:F:168:GLU:HB2	3:F:171:ARG:HH21	1.85	0.41
3:F:334:ASP:OD2	3:F:339:PHE:HB2	2.20	0.41
4:G:15:LYS:O	4:G:92:GLN:HG3	2.20	0.41
6:K:102:MET:HE3	6:K:102:MET:HB3	1.90	0.41
1:A:40:LEU:HD11	1:B:36:LYS:HD2	2.02	0.41
1:A:72:PRO:HB3	1:A:124:VAL:HG23	2.03	0.41
1:A:241:PHE:CE2	1:A:245:LEU:HD21	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:288:ILE:HG13	1:A:292:ARG:NH2	2.35	0.41
1:A:1173:VAL:HA	1:A:1176:LEU:HD12	2.01	0.41
1:A:1508:LYS:HG2	1:A:1513:TYR:CZ	2.56	0.41
1:A:2163:ASP:OD1	1:A:4530:GLN:NE2	2.53	0.41
1:A:4546:THR:HG21	1:A:4589:GLN:HE21	1.85	0.41
1:B:740:LEU:O	1:B:743:ILE:HG22	2.20	0.41
1:B:1038:SER:O	1:B:1041:MET:HG2	2.21	0.41
1:B:2912:PHE:HE2	1:B:2914:GLU:HB2	1.86	0.41
1:B:3157:ALA:HB1	1:B:3524:MET:HE2	2.03	0.41
1:B:3447:TYR:HB3	1:B:3451:TYR:OH	2.21	0.41
1:B:4399:LYS:HE2	1:B:4399:LYS:HB3	1.95	0.41
2:D:341:ALA:HA	2:D:389:VAL:HG21	2.02	0.41
3:E:60:PHE:O	3:E:135:PHE:HA	2.21	0.41
4:H:80:VAL:HG22	4:H:82:PRO:HD3	2.02	0.41
5:I:14:SER:HB3	5:I:71:LYS:HZ1	1.86	0.41
5:J:12:ASP:CG	5:J:71:LYS:H	2.29	0.41
1:A:160:PHE:CE1	1:B:109:TYR:HA	2.56	0.41
1:A:250:ASN:O	1:A:253:ILE:HG22	2.20	0.41
1:A:350:LEU:HD13	1:A:416:CYS:HA	2.01	0.41
1:A:365:ARG:NH2	1:A:432:VAL:HB	2.31	0.41
1:A:2179:ARG:NH2	1:A:2195:ASP:OD1	2.43	0.41
1:A:2912:PHE:HE2	1:A:2914:GLU:HB2	1.86	0.41
1:A:3741:ARG:NH2	1:A:3776:GLU:OE1	2.53	0.41
1:A:4534:TRP:CD2	1:A:4594:LYS:HD3	2.56	0.41
1:B:567:ARG:O	1:B:571:GLN:HG3	2.20	0.41
1:B:1188:GLU:HA	1:B:1191:ARG:NE	2.36	0.41
1:B:1304:LEU:O	1:B:1306:LEU:N	2.54	0.41
1:B:2163:ASP:OD1	1:B:4530:GLN:NE2	2.53	0.41
1:B:3001:ASP:OD1	1:B:3002:SER:N	2.54	0.41
1:B:4424:LEU:HD13	1:B:4486:ILE:HG13	2.03	0.41
2:D:215:ILE:HD11	2:D:217:ILE:HG22	2.02	0.41
3:F:38:SER:HG	3:F:39:ILE:N	2.19	0.41
3:F:91:LEU:HB2	3:F:104:CYS:HB3	2.01	0.41
3:F:141:ARG:HB3	3:F:143:TRP:NE1	2.34	0.41
1:A:65:MET:SD	1:A:66:ARG:HD2	2.61	0.41
1:A:136:ARG:HG3	1:B:152:PHE:CZ	2.56	0.41
1:A:289:GLN:HG3	1:A:292:ARG:HH22	1.86	0.41
1:A:4260:PHE:HD1	1:A:4263:ARG:NH2	2.19	0.41
1:B:59:LYS:HZ3	1:B:62:LEU:HB3	1.86	0.41
1:B:323:LYS:HA	1:B:326:LEU:HB3	2.03	0.41
1:B:417:PHE:O	1:B:421:GLN:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:441:LYS:HD3	1:B:446:LEU:CD2	2.50	0.41
1:B:603:GLU:HG2	1:B:604:TYR:CD1	2.55	0.41
1:B:673:TRP:O	1:B:679:GLY:HA3	2.21	0.41
1:B:718:PHE:HB2	1:B:737:VAL:HA	2.03	0.41
1:B:755:TRP:CZ2	2:D:453:GLU:HA	2.55	0.41
1:B:851:LEU:O	1:B:855:GLU:OE1	2.38	0.41
1:B:1018:PHE:CZ	1:B:1020:ARG:HD2	2.55	0.41
1:B:2290:SER:HA	1:B:2294:GLU:OE1	2.21	0.41
1:B:3485:GLU:OE2	1:B:3774:LYS:NZ	2.43	0.41
2:C:286:ASP:O	2:C:295:LEU:HA	2.20	0.41
1:A:152:PHE:CE1	1:B:136:ARG:HB3	2.56	0.41
1:A:189:LEU:HA	1:B:185:LYS:HE2	2.03	0.41
1:A:214:THR:HA	1:A:296:GLU:OE1	2.21	0.41
1:A:383:ALA:HA	1:A:386:ARG:NE	2.35	0.41
1:A:1153:LEU:HD12	1:A:1153:LEU:HA	1.84	0.41
1:A:2107:ARG:HD2	1:A:2136:ILE:HG12	2.02	0.41
1:A:3001:ASP:OD1	1:A:3002:SER:N	2.54	0.41
1:A:3862:ASP:OD1	1:A:3866:VAL:HG23	2.20	0.41
1:B:20:ALA:N	1:B:124:VAL:HA	2.36	0.41
1:B:311:HIS:HA	1:B:314:VAL:HG22	2.03	0.41
1:B:916:GLN:HB2	1:B:1026:MET:HE1	2.02	0.41
1:B:1610:LYS:HA	1:B:1610:LYS:HD3	1.96	0.41
1:B:1738:TYR:HE2	1:B:1792:LEU:HD21	1.85	0.41
1:B:2905:LEU:HD12	1:B:2905:LEU:HA	1.93	0.41
1:B:4260:PHE:HD1	1:B:4263:ARG:NH2	2.19	0.41
2:D:186:GLU:HA	2:D:189:GLN:HG2	2.03	0.41
2:D:305:ALA:O	2:D:308:GLU:HG3	2.20	0.41
2:D:426:HIS:CD2	2:D:468:ILE:HG21	2.56	0.41
2:D:457:TYR:HB3	2:D:468:ILE:HD12	2.03	0.41
2:D:503:ASP:C	2:D:505:THR:N	2.79	0.41
4:H:26:GLU:HA	4:H:87:PHE:CE2	2.56	0.41
1:A:161:PHE:CE2	1:A:165:ILE:HD11	2.56	0.41
1:A:283:ARG:HB2	1:A:287:ARG:NH2	2.35	0.41
1:A:376:ARG:O	1:A:380:LEU:HG	2.21	0.41
1:A:466:MET:O	1:A:467:ARG:C	2.60	0.41
1:A:1183:PHE:O	1:A:1187:VAL:HG23	2.20	0.41
1:A:1623:ARG:NH2	1:A:1634:ASP:OD1	2.54	0.41
1:A:2664:ASP:HA	1:A:2711:ALA:HB3	2.03	0.41
1:A:3017:VAL:HB	1:A:3020:LEU:HB2	2.03	0.41
1:A:3113:MET:HE3	1:A:3184:ALA:HA	2.02	0.41
1:A:3243:MET:CE	1:A:3447:TYR:HB2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3291:GLU:OE2	1:A:3394:LYS:HE2	2.21	0.41
1:A:4197:ALA:HB3	1:A:4198:PRO:CD	2.49	0.41
1:B:263:ASP:HA	1:B:277:PHE:CE2	2.56	0.41
1:B:406:TYR:O	1:B:410:GLU:HG2	2.21	0.41
1:B:537:ASP:HB3	1:B:542:GLY:C	2.46	0.41
1:B:809:LYS:HG2	1:B:813:GLN:OE1	2.21	0.41
1:B:852:ILE:HG13	1:B:853:ILE:N	2.36	0.41
1:B:962:LEU:HD23	1:B:971:LEU:HG	2.03	0.41
1:B:970:TYR:HE1	3:F:101:HIS:CE1	2.39	0.41
1:B:1167:VAL:HA	1:B:1170:ILE:HB	2.02	0.41
1:B:3985:GLN:HB3	1:B:3989:ARG:NH1	2.36	0.41
2:D:399:ILE:HG21	2:D:447:PHE:CZ	2.56	0.41
2:D:589:ASP:OD2	2:D:591:GLU:HB2	2.21	0.41
3:F:60:PHE:CG	3:F:61:GLY:N	2.89	0.41
3:F:279:ASN:O	3:F:282:LEU:HG	2.21	0.41
6:K:85:TRP:HD1	6:K:86:ASP:C	2.29	0.41
1:A:92:GLY:O	1:A:212:MET:HA	2.21	0.41
1:A:351:ASP:O	1:A:354:ARG:HD3	2.21	0.41
1:A:1212:ASP:OD1	1:A:1213:ASN:N	2.53	0.41
1:A:2905:LEU:HD12	1:A:2905:LEU:HA	1.93	0.41
1:B:756:LEU:HD23	1:B:756:LEU:HA	1.92	0.41
1:B:1212:ASP:HB2	1:B:1216:GLY:CA	2.50	0.41
1:B:1508:LYS:HG2	1:B:1513:TYR:CZ	2.56	0.41
1:B:2581:LEU:HD12	1:B:2604:THR:HG22	2.02	0.41
1:B:2644:THR:OG1	1:B:2647:GLY:O	2.33	0.41
1:B:2664:ASP:HA	1:B:2711:ALA:HB3	2.03	0.41
1:B:3135:GLN:O	1:B:3137:PRO:HD3	2.21	0.41
1:B:3716:VAL:HB	1:B:3836:TYR:OH	2.21	0.41
1:B:3912:ASN:O	1:B:3937:ARG:NH1	2.54	0.41
2:C:204:THR:HA	4:G:10:ARG:HH12	1.85	0.41
2:D:346:ASN:ND2	2:D:362:ASN:HB3	2.36	0.41
3:F:51:LEU:HB3	3:F:98:ARG:NE	2.32	0.41
3:F:254:ILE:HG22	3:F:340:ILE:HD13	2.03	0.41
3:F:301:LEU:HB3	3:F:309:PHE:HB3	2.03	0.41
3:F:302:VAL:HA	3:F:308:VAL:HG13	2.03	0.41
5:I:77:TYR:CE2	5:I:82:ALA:HB2	2.55	0.41
5:J:62:PHE:CE2	5:J:82:ALA:HB3	2.56	0.41
1:A:323:LYS:O	1:A:326:LEU:HB3	2.20	0.40
1:A:1197:LEU:O	1:A:1201:ARG:N	2.54	0.40
1:A:1222:ASN:O	1:A:1226:ARG:HG3	2.21	0.40
1:A:1478:VAL:CG2	1:A:1488:ARG:HH21	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1486:LEU:HD23	1:A:1579:MET:HE2	2.03	0.40
1:A:2446:ILE:HD12	1:A:2446:ILE:HA	1.92	0.40
1:A:3135:GLN:O	1:A:3137:PRO:HD3	2.21	0.40
1:A:3229:LEU:HD12	1:A:3465:LEU:HD13	2.04	0.40
1:A:3447:TYR:HB3	1:A:3451:TYR:OH	2.21	0.40
1:B:173:ARG:CZ	1:B:175:GLY:HA3	2.51	0.40
1:B:216:VAL:O	1:B:219:GLN:HG2	2.20	0.40
1:B:289:GLN:HE22	1:B:326:LEU:HD13	1.86	0.40
1:B:343:ASP:OD1	1:B:352:LYS:NZ	2.28	0.40
1:B:576:LYS:O	1:B:611:ARG:HD2	2.22	0.40
1:B:790:ARG:O	1:B:793:GLU:HG2	2.21	0.40
1:B:2590:PRO:HG3	1:B:2687:VAL:CG1	2.51	0.40
1:B:3319:LEU:HD21	1:B:3377:TYR:H	1.86	0.40
4:G:75:LYS:HE2	4:H:63:GLN:HE22	1.86	0.40
5:I:55:HIS:CD2	5:I:88:SER:HB3	2.56	0.40
6:K:62:LYS:HG3	6:K:113:ILE:HG12	2.02	0.40
1:A:388:LEU:O	1:A:389:SER:C	2.63	0.40
1:A:2590:PRO:HG3	1:A:2687:VAL:CG1	2.51	0.40
1:A:3955:GLU:H	1:A:3955:GLU:CD	2.28	0.40
1:B:199:ASN:CG	1:B:201:GLU:H	2.29	0.40
1:B:342:ASN:OD1	1:B:342:ASN:N	2.54	0.40
1:B:2070:VAL:HB	1:B:2071:PRO:HD3	2.02	0.40
1:B:2582:TYR:CE2	1:B:2612:LEU:HD13	2.56	0.40
1:B:3584:ASN:O	1:B:3651:ARG:NH2	2.53	0.40
1:B:3741:ARG:NH2	1:B:3776:GLU:OE1	2.53	0.40
1:B:3955:GLU:H	1:B:3955:GLU:CD	2.28	0.40
2:D:330:HIS:HB3	2:D:367:ARG:HG3	2.03	0.40
4:G:21:ILE:HG13	4:G:31:LYS:O	2.21	0.40
5:I:88:SER:HG	5:J:55:HIS:CE1	2.33	0.40
1:A:62:LEU:O	1:A:66:ARG:HG2	2.21	0.40
1:A:185:LYS:HA	1:A:188:GLU:CD	2.46	0.40
1:A:280:ASN:O	1:A:283:ARG:HG2	2.21	0.40
1:A:283:ARG:HB2	1:A:287:ARG:HH21	1.86	0.40
1:A:368:ARG:NH2	1:A:440:ARG:HB2	2.36	0.40
1:A:1170:ILE:HD13	1:A:1170:ILE:HA	1.91	0.40
1:A:2353:LEU:HD23	1:A:2353:LEU:C	2.47	0.40
1:A:3319:LEU:HD21	1:A:3377:TYR:H	1.86	0.40
1:A:3869:ASN:O	1:A:3873:ARG:HG2	2.22	0.40
1:B:285:LEU:HB2	1:B:322:LEU:HD11	2.03	0.40
1:B:1202:PHE:CD2	1:B:1204:PHE:CD2	2.93	0.40
1:B:2353:LEU:HD23	1:B:2353:LEU:C	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4002:LEU:HD11	1:B:4335:GLN:HB3	2.04	0.40
1:B:4150:PRO:O	1:B:4195:ARG:NH2	2.53	0.40
3:F:139:MET:O	3:F:142:PRO:HD3	2.21	0.40
3:F:248:ASP:OD1	3:F:249:GLU:N	2.55	0.40
5:J:51:ASN:HA	5:J:52:PRO:HD3	1.88	0.40
1:A:182:VAL:HG21	1:B:196:LEU:HD11	2.03	0.40
1:A:420:PHE:HE1	1:A:457:ARG:CZ	2.34	0.40
1:A:1203:GLN:HG2	3:F:46:ARG:HH12	1.85	0.40
1:A:1387:GLN:O	1:A:1391:LYS:N	2.54	0.40
1:A:1895:ALA:HB2	1:A:2037:ARG:HB2	2.02	0.40
1:A:2582:TYR:CE2	1:A:2612:LEU:HD13	2.56	0.40
1:B:296:GLU:OE2	1:B:297:VAL:HG23	2.21	0.40
1:B:365:ARG:CZ	1:B:433:LEU:HB2	2.52	0.40
1:B:388:LEU:O	1:B:392:LEU:HG	2.22	0.40
1:B:850:LEU:HD21	1:B:893:TYR:CE2	2.57	0.40
1:B:980:TYR:HB2	3:F:88:TYR:HE2	1.86	0.40
1:B:2059:PHE:CZ	1:B:2104:LYS:HD3	2.55	0.40
1:B:3133:LEU:HD11	1:B:3141:GLU:HB3	2.03	0.40
1:B:3862:ASP:OD1	1:B:3866:VAL:HG23	2.20	0.40
3:F:308:VAL:HG12	3:F:310:ILE:HD11	2.03	0.40
6:K:47:VAL:HG11	6:L:82:SER:H	1.85	0.40
1:A:40:LEU:HA	1:A:45:GLY:N	2.37	0.40
1:A:440:ARG:NH1	1:A:444:GLU:OE2	2.54	0.40
1:A:3892:LEU:HD13	1:A:3983:ILE:HG21	2.03	0.40
1:A:3912:ASN:O	1:A:3937:ARG:NH1	2.54	0.40
1:A:4106:LEU:HD23	1:A:4106:LEU:HA	1.93	0.40
1:A:4150:PRO:O	1:A:4195:ARG:NH2	2.53	0.40
1:A:4169:ILE:HG23	1:A:4177:ALA:HA	2.03	0.40
1:B:569:ARG:NH2	1:B:600:ALA:HB2	2.37	0.40
1:B:850:LEU:HD23	1:B:850:LEU:HA	1.89	0.40
1:B:1212:ASP:HA	1:B:1216:GLY:N	2.37	0.40
1:B:1958:ASP:HA	1:B:2017:THR:OG1	2.22	0.40
1:B:2132:PRO:HB2	1:B:2135:GLU:HB3	2.02	0.40
1:B:2156:LEU:HD23	1:B:4405:ILE:HG23	2.04	0.40
1:B:3229:LEU:HD12	1:B:3465:LEU:HD13	2.04	0.40
1:B:3291:GLU:OE2	1:B:3394:LYS:HE2	2.21	0.40
1:B:3869:ASN:O	1:B:3873:ARG:HG2	2.22	0.40
2:D:281:VAL:HG13	2:D:590:SER:HA	2.02	0.40
2:D:327:TYR:HB3	2:D:360:TRP:HH2	1.85	0.40
2:D:554:LEU:HD13	2:D:554:LEU:HA	1.93	0.40
3:F:160:ILE:HA	3:F:163:MET:HG3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:250:HIS:CD2	3:F:340:ILE:HG22	2.54	0.40
3:F:368:SER:C	3:F:372:LYS:HZ2	2.30	0.40
4:G:46:MET:O	4:G:50:ILE:HG23	2.21	0.40
6:K:35:GLN:HB2	6:K:42:TRP:CH2	2.56	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	A	4532/4646 (98%)	4352 (96%)	163 (4%)	17 (0%)	30	64
1	B	4509/4646 (97%)	4356 (97%)	132 (3%)	21 (0%)	25	59
2	C	390/638 (61%)	354 (91%)	36 (9%)	0	100	100
2	D	390/638 (61%)	359 (92%)	31 (8%)	0	100	100
3	E	307/492 (62%)	287 (94%)	20 (6%)	0	100	100
3	F	307/492 (62%)	286 (93%)	19 (6%)	2 (1%)	19	53
4	G	91/96 (95%)	84 (92%)	7 (8%)	0	100	100
4	H	91/96 (95%)	83 (91%)	8 (9%)	0	100	100
5	I	87/89 (98%)	84 (97%)	3 (3%)	0	100	100
5	J	87/89 (98%)	80 (92%)	4 (5%)	3 (3%)	3	24
6	K	111/113 (98%)	108 (97%)	3 (3%)	0	100	100
6	L	111/113 (98%)	108 (97%)	3 (3%)	0	100	100
All	All	11013/12148 (91%)	10541 (96%)	429 (4%)	43 (0%)	32	64

All (43) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	589	ASN
1	A	1400	VAL
1	A	1401	ILE
1	A	3384	ARG
1	B	540	LYS
1	B	1207	SER
1	B	1211	ILE
1	B	1215	GLU
1	B	1400	VAL
1	B	3384	ARG
5	J	8	ILE
1	A	1402	GLU
1	A	3390	GLY
1	A	3398	ALA
1	B	1161	ALA
1	B	1212	ASP
1	B	1216	GLY
1	B	1398	MET
1	B	1399	LEU
1	B	3390	GLY
1	B	3398	ALA
5	J	9	LYS
1	A	1436	ASP
1	A	3389	CYS
1	A	3399	GLN
1	B	3389	CYS
1	B	3399	GLN
3	F	39	ILE
1	A	1347	LYS
1	A	3376	SER
1	B	3376	SER
1	A	4197	ALA
1	B	1213	ASN
1	B	4197	ALA
3	F	112	ASP
1	A	1351	TRP
1	A	3385	ALA
1	B	3385	ALA
5	J	51	ASN
1	A	3391	PRO
1	B	3391	PRO
1	A	4198	PRO
1	B	4198	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	A	4044/4125 (98%)	4034 (100%)	10 (0%)	92	97
1	B	4028/4125 (98%)	4015 (100%)	13 (0%)	91	96
2	C	344/557 (62%)	344 (100%)	0	100	100
2	D	344/557 (62%)	344 (100%)	0	100	100
3	E	279/422 (66%)	279 (100%)	0	100	100
3	F	279/422 (66%)	279 (100%)	0	100	100
4	G	87/89 (98%)	87 (100%)	0	100	100
4	H	87/89 (98%)	87 (100%)	0	100	100
5	I	78/78 (100%)	78 (100%)	0	100	100
5	J	78/78 (100%)	77 (99%)	1 (1%)	65	81
6	K	97/97 (100%)	97 (100%)	0	100	100
6	L	97/97 (100%)	97 (100%)	0	100	100
All	All	9842/10736 (92%)	9818 (100%)	24 (0%)	91	97

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	219	GLN
1	A	1390	LEU
1	A	1397	ASN
1	A	1430	THR
1	A	1452	VAL
1	A	2729	ARG
1	A	3373	SER
1	A	3378	ASN
1	A	3395	TRP
1	A	3397	ILE
1	B	1203	GLN
1	B	1204	PHE
1	B	1213	ASN
1	B	1214	ILE

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Mol	Chain	Res	Type
1	B	1354	VAL
1	B	1394	MET
1	B	1395	LYS
1	B	1452	VAL
1	B	2729	ARG
1	B	3373	SER
1	B	3378	ASN
1	B	3395	TRP
1	B	3397	ILE
5	J	8	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (122) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	22	GLN
1	A	102	ASN
1	A	195	HIS
1	A	280	ASN
1	A	421	GLN
1	A	456	HIS
1	A	460	GLN
1	A	1186	GLN
1	A	1222	ASN
1	A	1233	GLN
1	A	1569	GLN
1	A	1643	ASN
1	A	1646	ASN
1	A	1670	ASN
1	A	1855	GLN
1	A	1894	GLN
1	A	1931	ASN
1	A	1976	GLN
1	A	2067	ASN
1	A	2171	HIS
1	A	2296	GLN
1	A	2463	HIS
1	A	2464	GLN
1	A	2471	GLN
1	A	2475	ASN
1	A	2554	GLN
1	A	2685	GLN
1	A	2713	ASN

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Mol	Chain	Res	Type
1	A	2725	HIS
1	A	2930	GLN
1	A	3069	ASN
1	A	3092	ASN
1	A	3200	HIS
1	A	3214	GLN
1	A	3378	ASN
1	A	3383	ASN
1	A	3523	GLN
1	A	3526	GLN
1	A	3602	ASN
1	A	3636	GLN
1	A	3735	GLN
1	A	3744	GLN
1	A	3754	ASN
1	A	3877	HIS
1	A	3878	GLN
1	A	3956	GLN
1	A	4054	HIS
1	A	4335	GLN
1	A	4425	GLN
1	A	4429	GLN
1	A	4453	ASN
1	A	4532	ASN
1	A	4566	GLN
1	B	150	HIS
1	B	195	HIS
1	B	330	ASN
1	B	421	GLN
1	B	607	GLN
1	B	680	GLN
1	B	731	ASN
1	B	773	GLN
1	B	871	HIS
1	B	882	GLN
1	B	1056	GLN
1	B	1151	GLN
1	B	1200	GLN
1	B	1222	ASN
1	B	1569	GLN
1	B	1643	ASN
1	B	1646	ASN

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Mol	Chain	Res	Type
1	B	1670	ASN
1	B	1855	GLN
1	B	1856	GLN
1	B	1894	GLN
1	B	1931	ASN
1	B	1974	GLN
1	B	1976	GLN
1	B	2067	ASN
1	B	2171	HIS
1	B	2296	GLN
1	B	2463	HIS
1	B	2464	GLN
1	B	2471	GLN
1	B	2475	ASN
1	B	2554	GLN
1	B	2685	GLN
1	B	2713	ASN
1	B	2725	HIS
1	B	2930	GLN
1	B	3069	ASN
1	B	3092	ASN
1	B	3200	HIS
1	B	3214	GLN
1	B	3378	ASN
1	B	3383	ASN
1	B	3523	GLN
1	B	3526	GLN
1	B	3602	ASN
1	B	3636	GLN
1	B	3735	GLN
1	B	3744	GLN
1	B	3754	ASN
1	B	3877	HIS
1	B	3878	GLN
1	B	3956	GLN
1	B	4054	HIS
1	B	4098	ASN
1	B	4335	GLN
1	B	4425	GLN
1	B	4453	ASN
1	B	4532	ASN
1	B	4566	GLN

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Mol	Chain	Res	Type
2	D	290	GLN
2	D	330	HIS
2	D	344	HIS
2	D	356	GLN
2	D	380	HIS
2	D	462	HIS
3	F	159	HIS
3	F	295	HIS
5	I	51	ASN
5	I	80	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
7	ADP	B	4704	-	24,29,29	0.73	0	29,45,45	0.74	1 (3%)
7	ADP	A	4704	-	24,29,29	0.74	0	29,45,45	0.74	1 (3%)
8	ATP	A	4702	9	28,33,33	0.76	0	34,52,52	0.79	1 (2%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	ADP	B	4703	-	24,29,29	0.75	0	29,45,45	0.73	1 (3%)
8	ATP	B	4702	9	28,33,33	0.76	0	34,52,52	0.79	1 (2%)
7	ADP	A	4703	-	24,29,29	0.74	0	29,45,45	0.72	1 (3%)
7	ADP	A	4701	9	24,29,29	0.74	0	29,45,45	0.73	1 (3%)
7	ADP	B	4701	9	24,29,29	0.73	0	29,45,45	0.73	1 (3%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
7	ADP	B	4704	-	-	2/12/32/32	0/3/3/3
7	ADP	A	4704	-	-	2/12/32/32	0/3/3/3
8	ATP	A	4702	9	-	2/18/38/38	0/3/3/3
7	ADP	B	4703	-	-	0/12/32/32	0/3/3/3
8	ATP	B	4702	9	-	2/18/38/38	0/3/3/3
7	ADP	A	4703	-	-	0/12/32/32	0/3/3/3
7	ADP	A	4701	9	-	0/12/32/32	0/3/3/3
7	ADP	B	4701	9	-	0/12/32/32	0/3/3/3

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	B	4704	ADP	C5-C6-N6	2.34	123.87	120.31
7	A	4704	ADP	C5-C6-N6	2.32	123.85	120.31
8	B	4702	ATP	C5-C6-N6	2.27	123.77	120.31
7	B	4701	ADP	C5-C6-N6	2.26	123.76	120.31
8	A	4702	ATP	C5-C6-N6	2.26	123.75	120.31
7	A	4701	ADP	C5-C6-N6	2.26	123.75	120.31
7	B	4703	ADP	C5-C6-N6	2.24	123.73	120.31
7	A	4703	ADP	C5-C6-N6	2.24	123.72	120.31

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	A	4704	ADP	PA-O3A-PB-O2B

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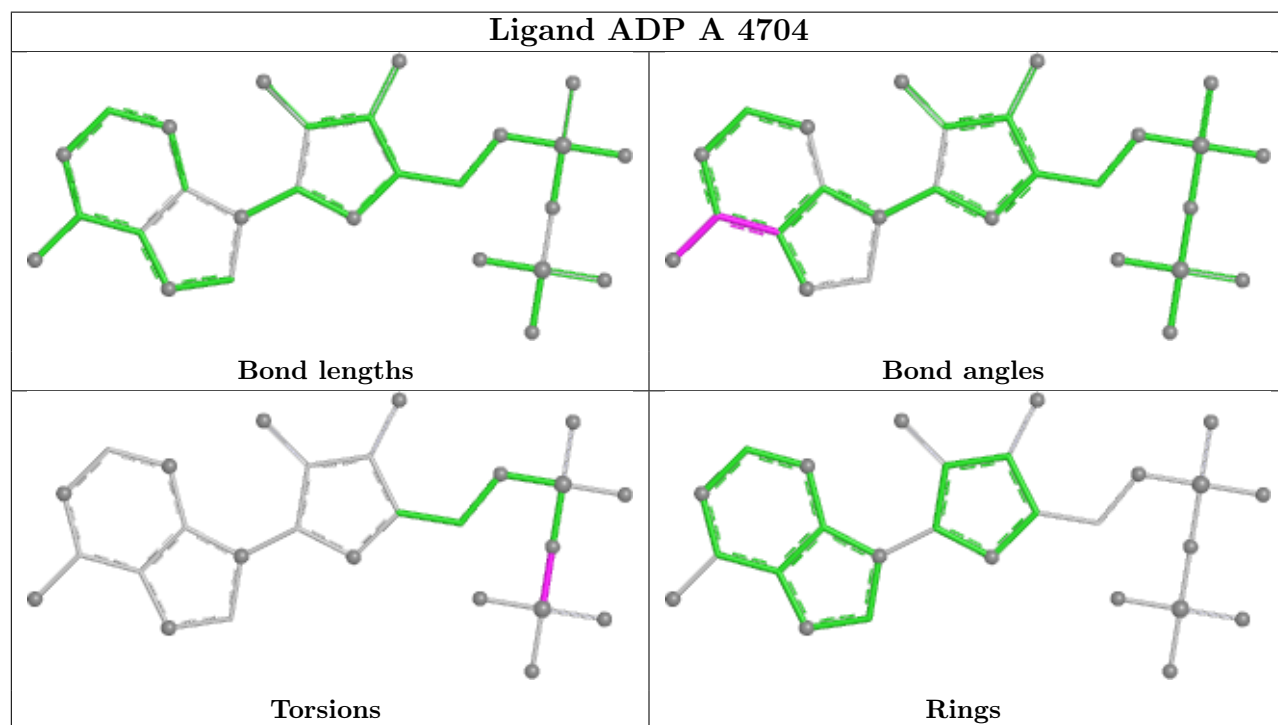
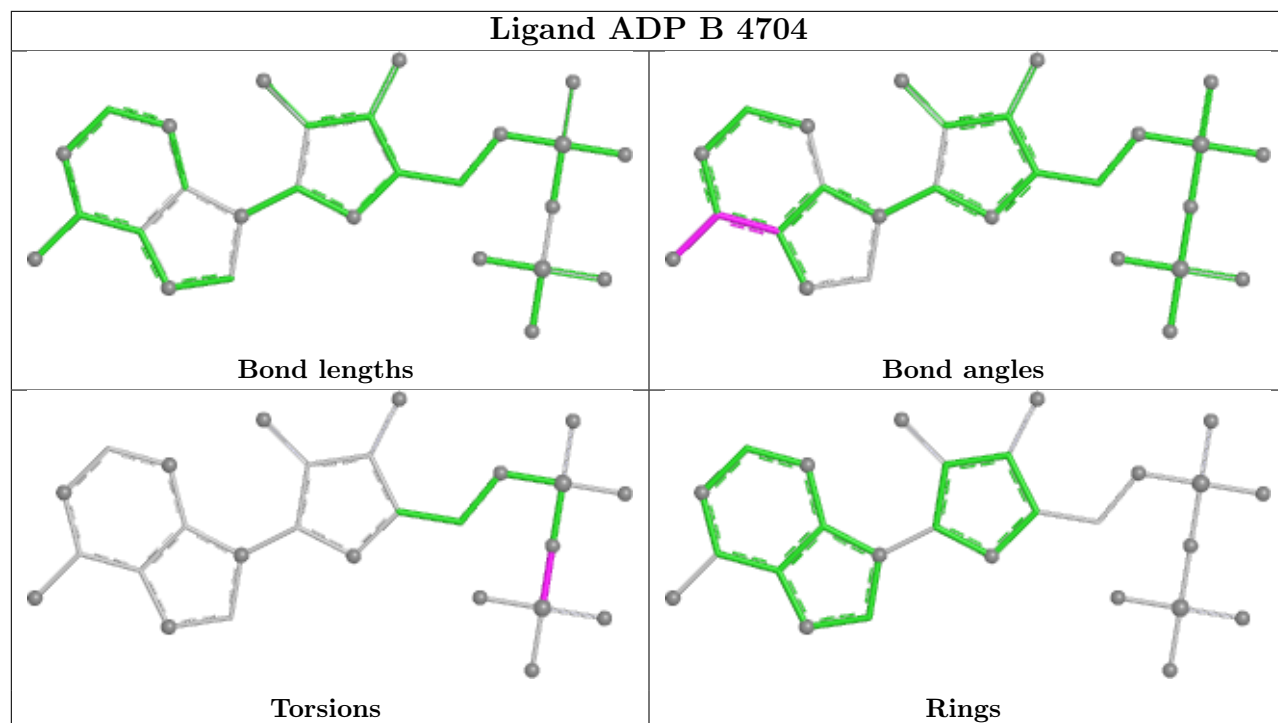
Mol	Chain	Res	Type	Atoms
7	B	4704	ADP	PA-O3A-PB-O2B
8	A	4702	ATP	O4'-C4'-C5'-O5'
8	B	4702	ATP	O4'-C4'-C5'-O5'
7	A	4704	ADP	PA-O3A-PB-O1B
7	B	4704	ADP	PA-O3A-PB-O1B
8	A	4702	ATP	C3'-C4'-C5'-O5'
8	B	4702	ATP	C3'-C4'-C5'-O5'

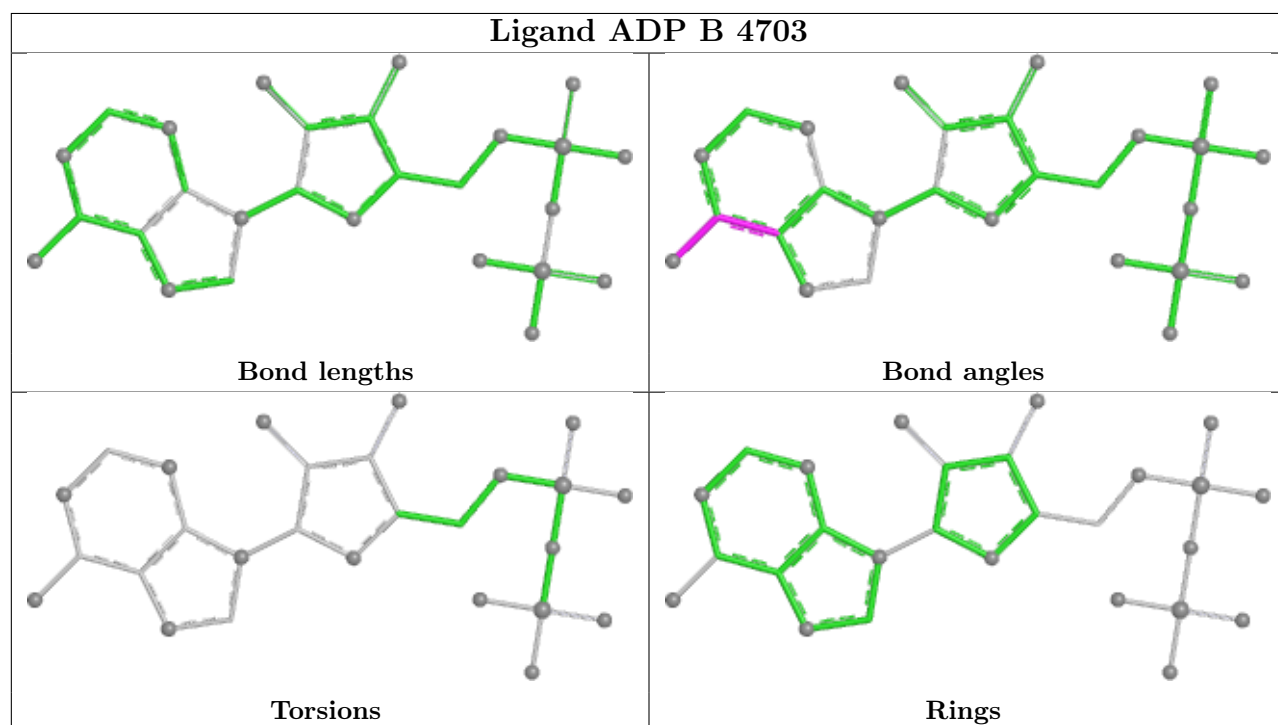
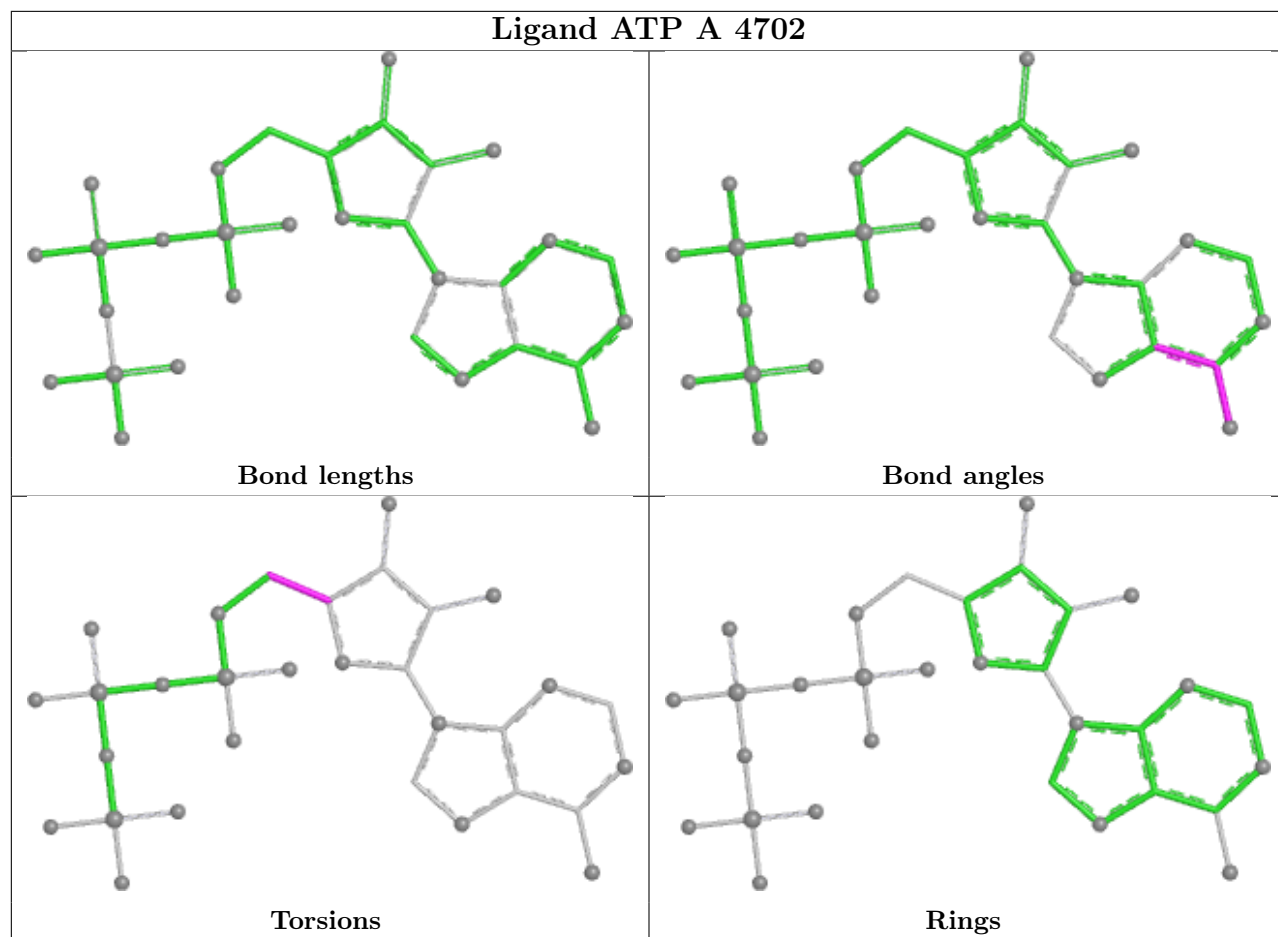
There are no ring outliers.

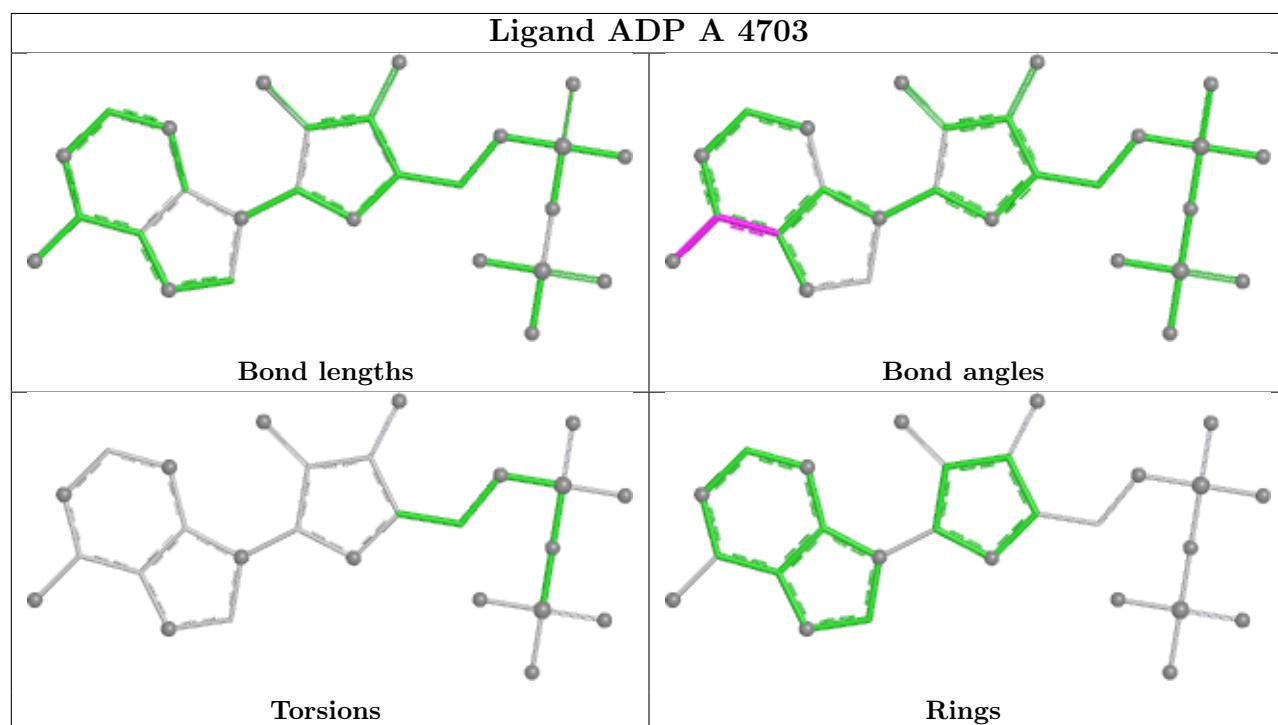
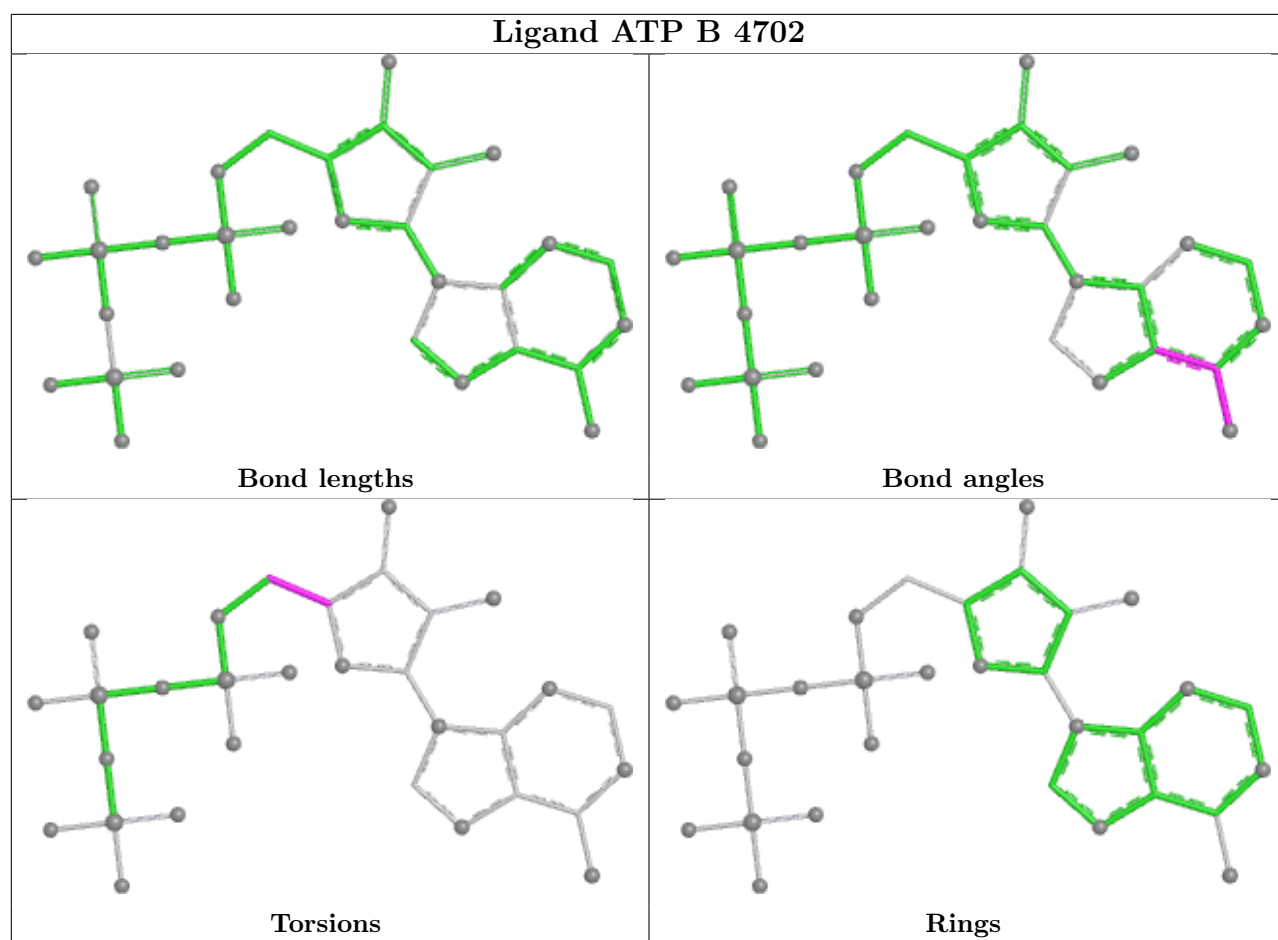
4 monomers are involved in 12 short contacts:

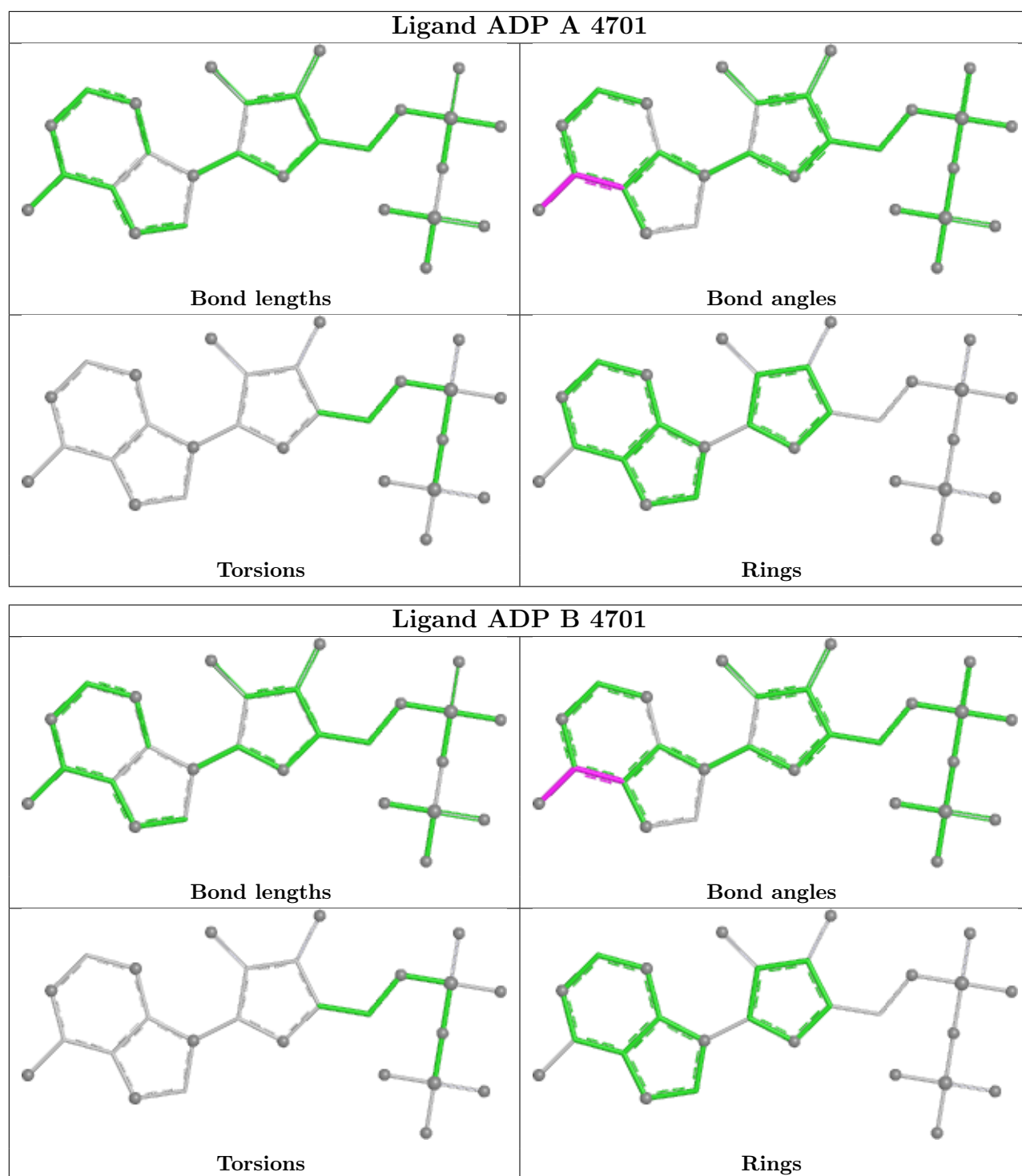
Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	A	4702	ATP	3	0
8	B	4702	ATP	3	0
7	A	4701	ADP	3	0
7	B	4701	ADP	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.









5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

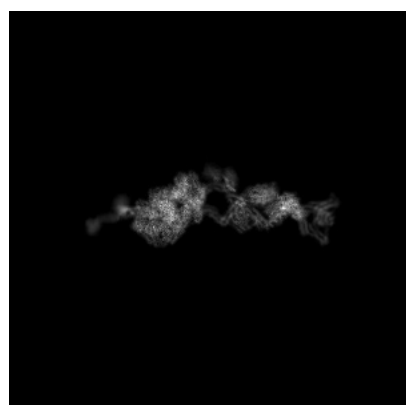
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44681. These allow visual inspection of the internal detail of the map and identification of artifacts.

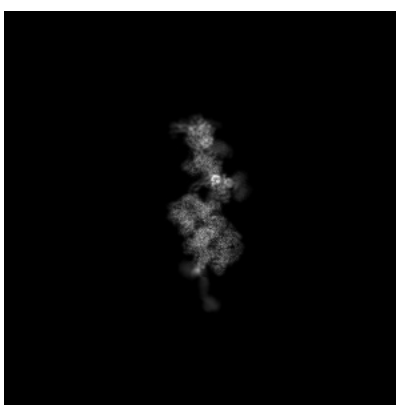
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

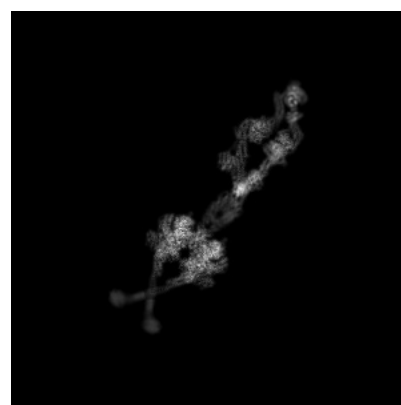
6.1.1 Primary map



X



Y



Z

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

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 256



Y Index: 256



Z Index: 256

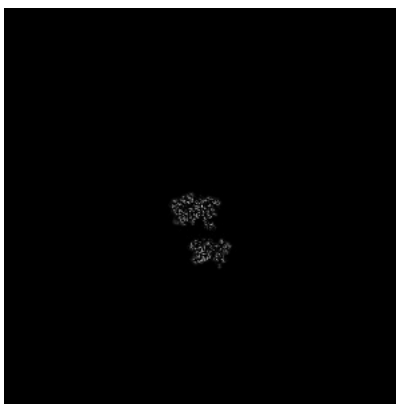
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 228



Y Index: 204

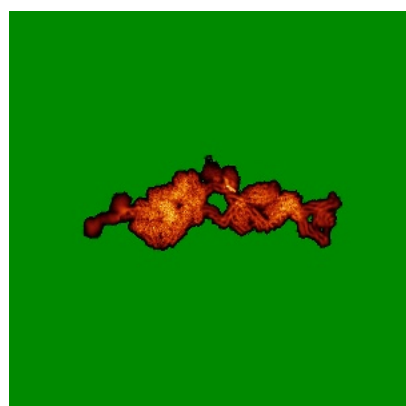


Z Index: 258

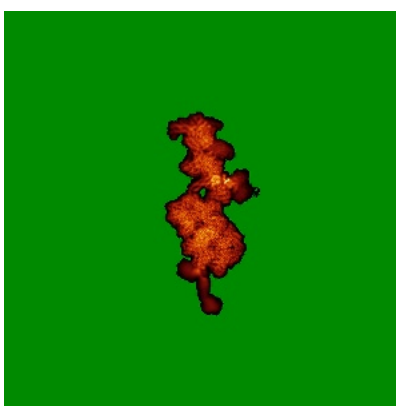
The images above show the largest variance slices of the map in three orthogonal directions.

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

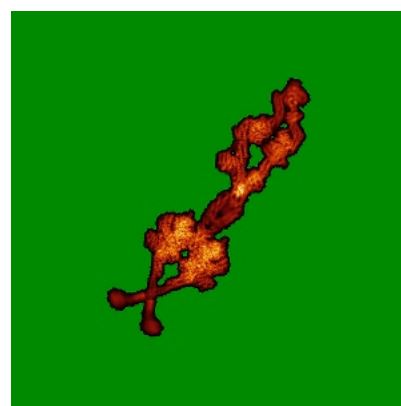
6.4.1 Primary map



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 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

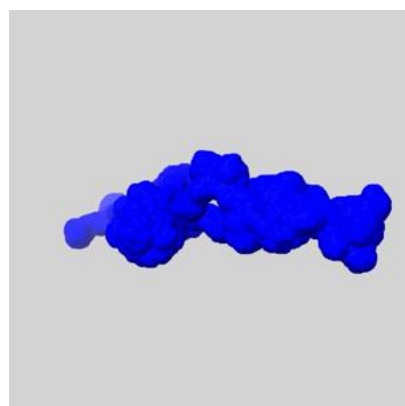
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

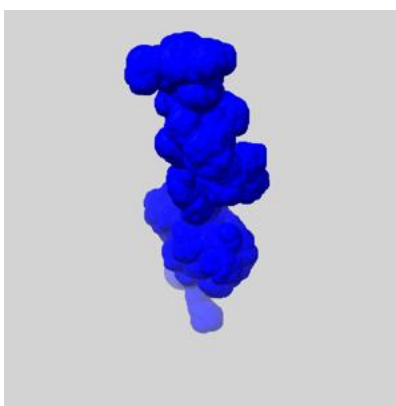
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

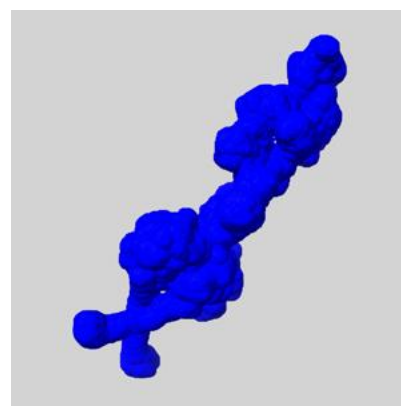
6.6.1 emd_44681_msk_1.map [i](#)



X



Y

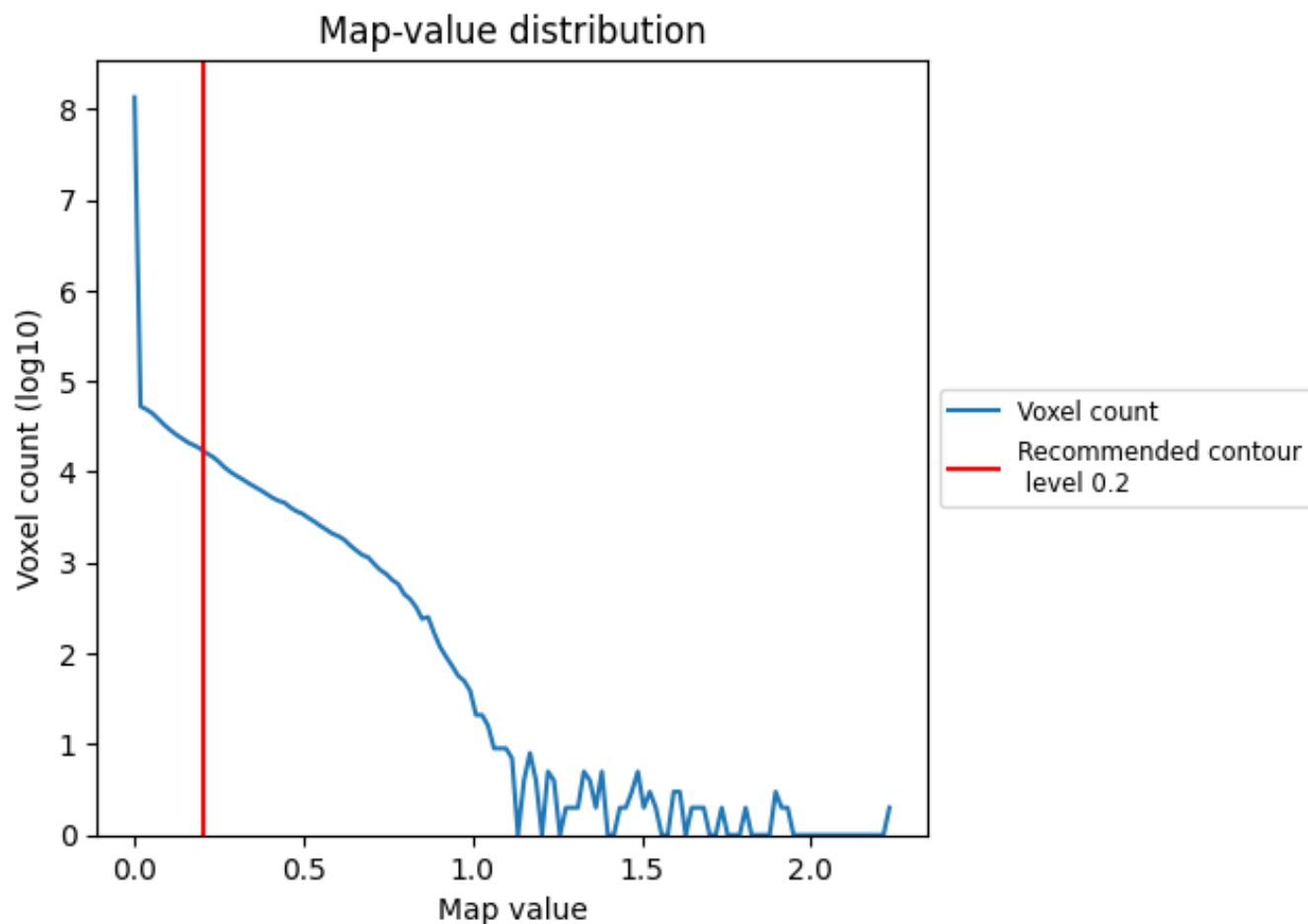


Z

7 Map analysis [i](#)

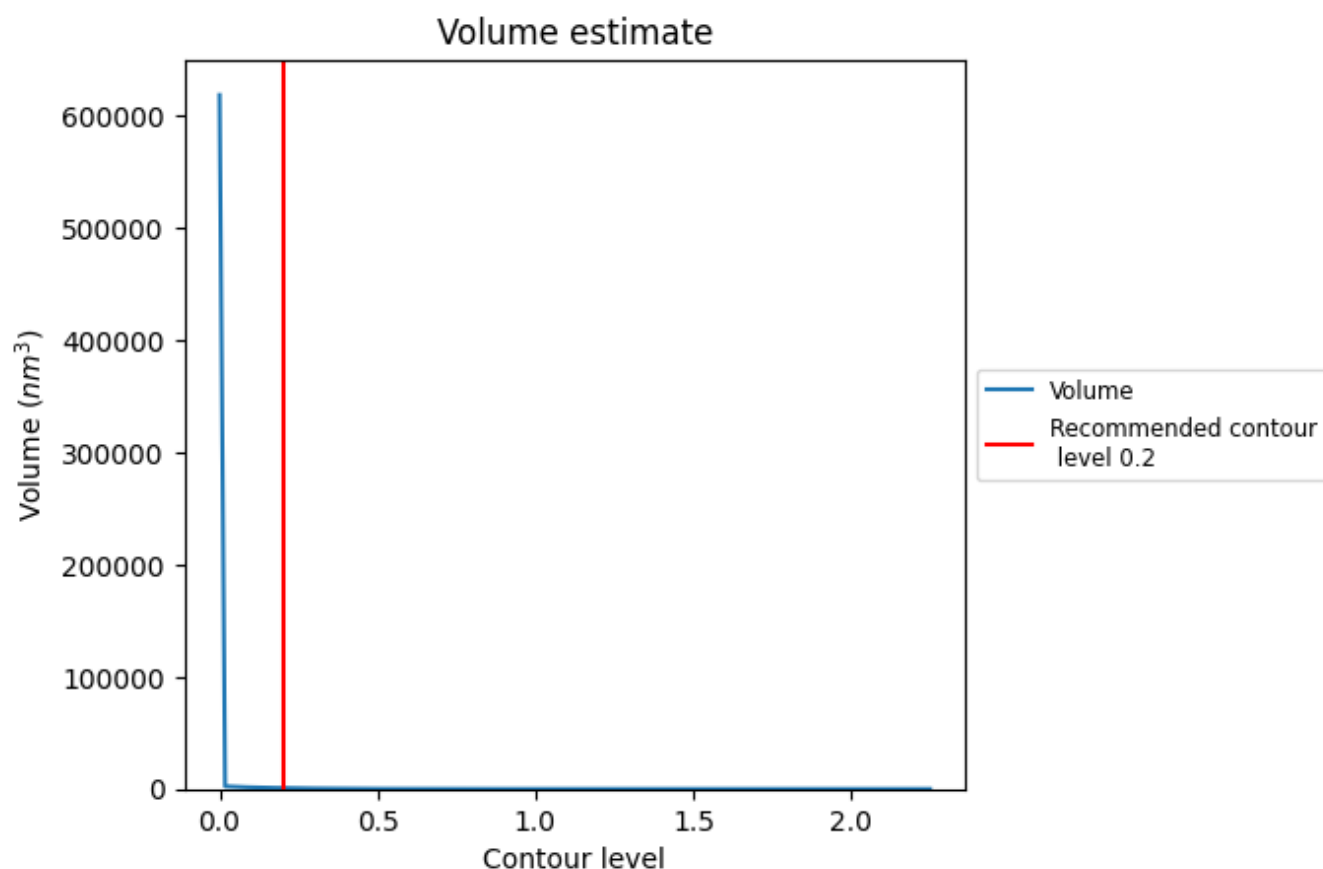
This section contains the results of statistical analysis of the map.

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.

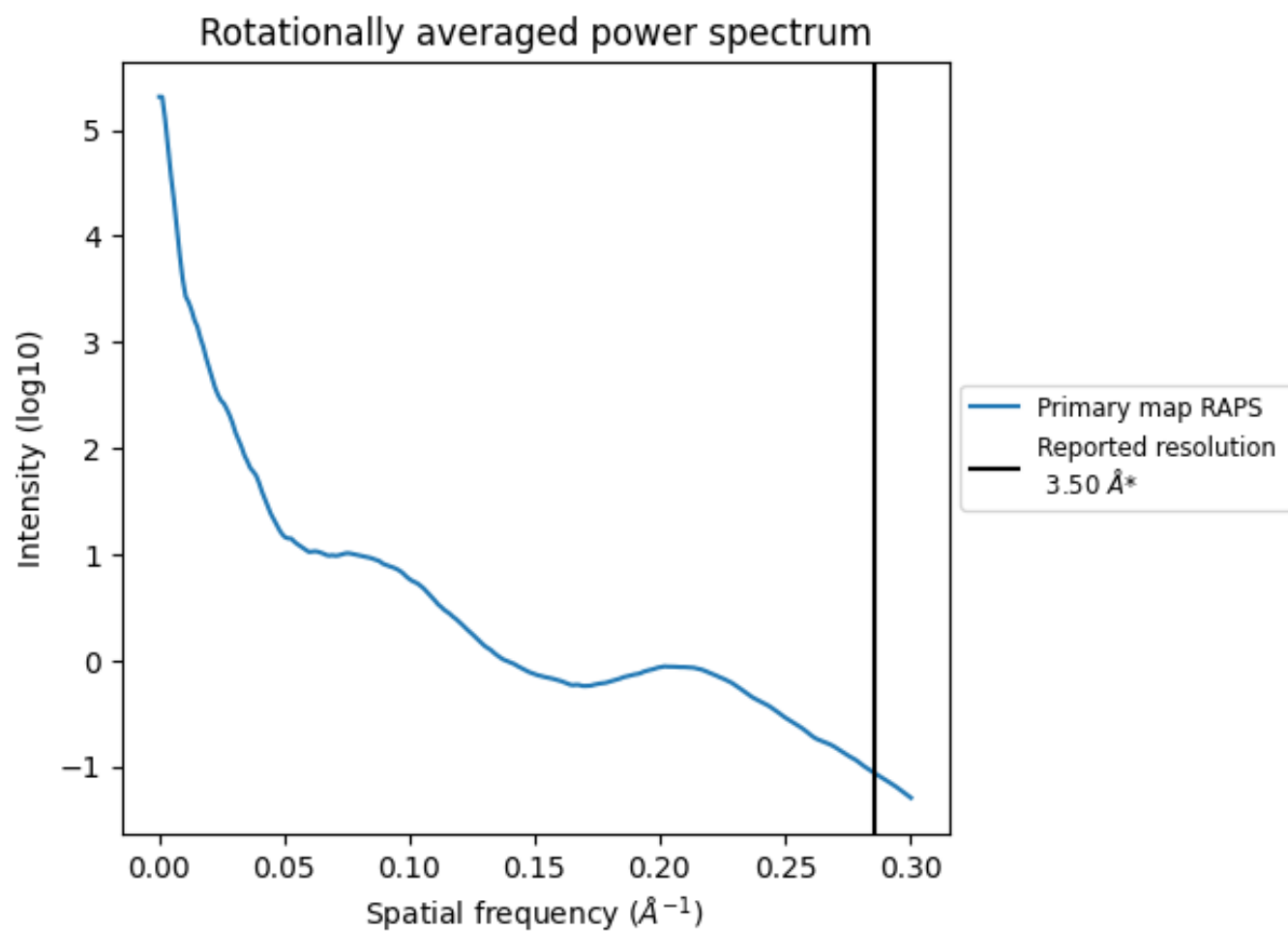
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 810 nm^3 ; this corresponds to an approximate mass of 731 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 ⓘ

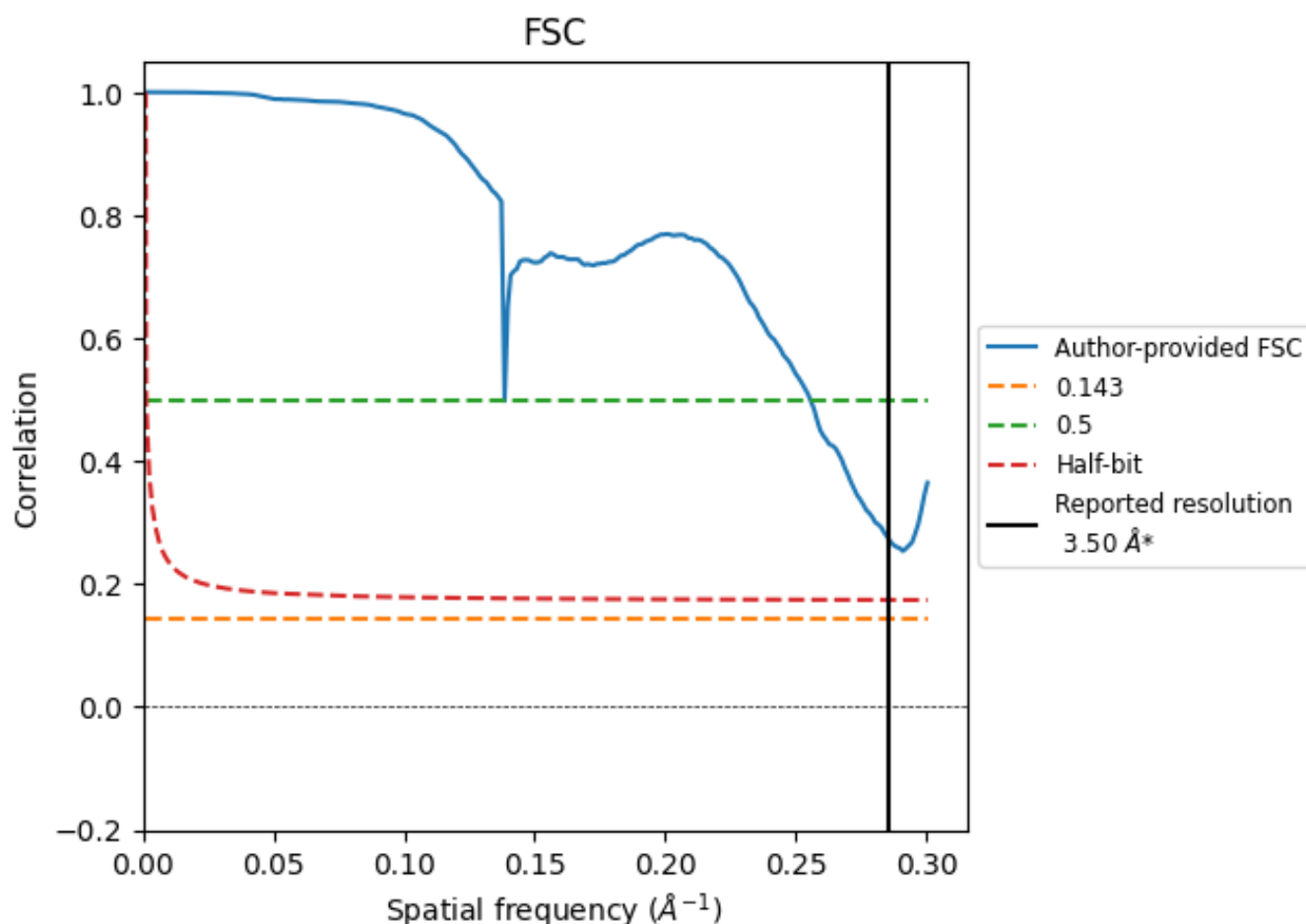


*Reported resolution corresponds to spatial frequency of 0.286 Å⁻¹

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 0.286 Å⁻¹

8.2 Resolution estimates [i](#)

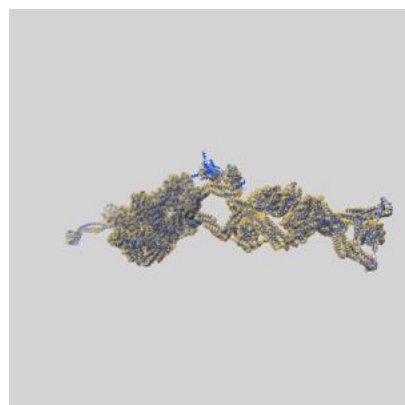
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	-	7.22	-
Unmasked-calculated*	-	-	-

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

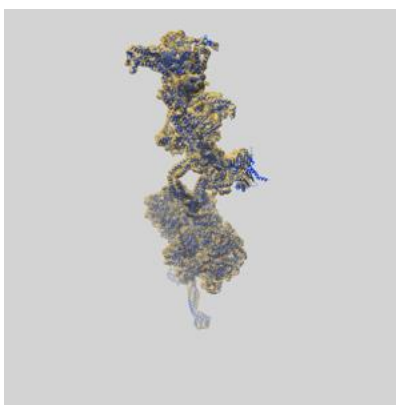
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-44681 and PDB model 9BLY. Per-residue inclusion information can be found in [section 3](#) on [page 7](#).

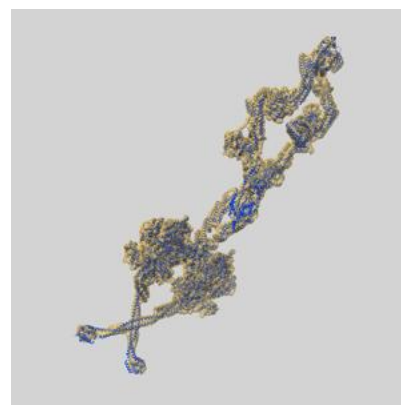
9.1 Map-model overlay [i](#)



X



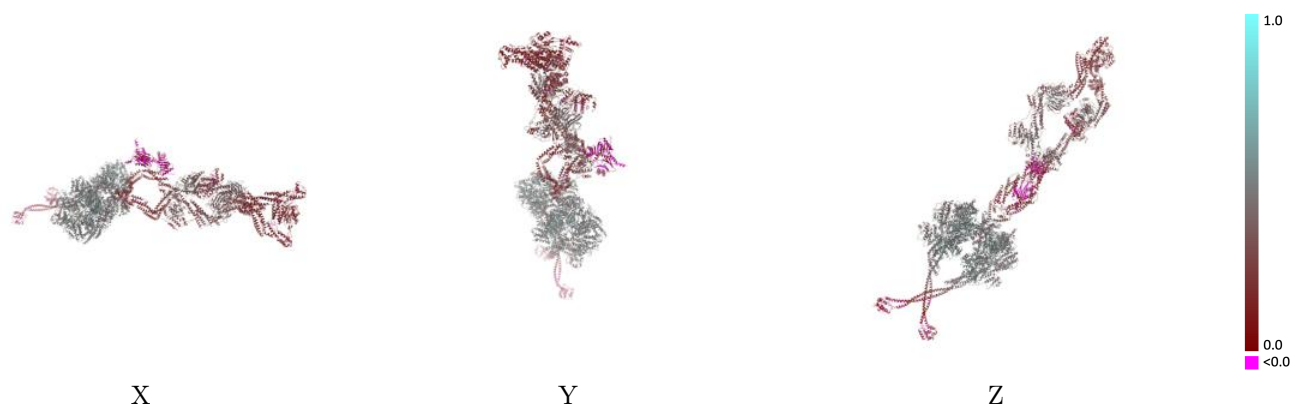
Y



Z

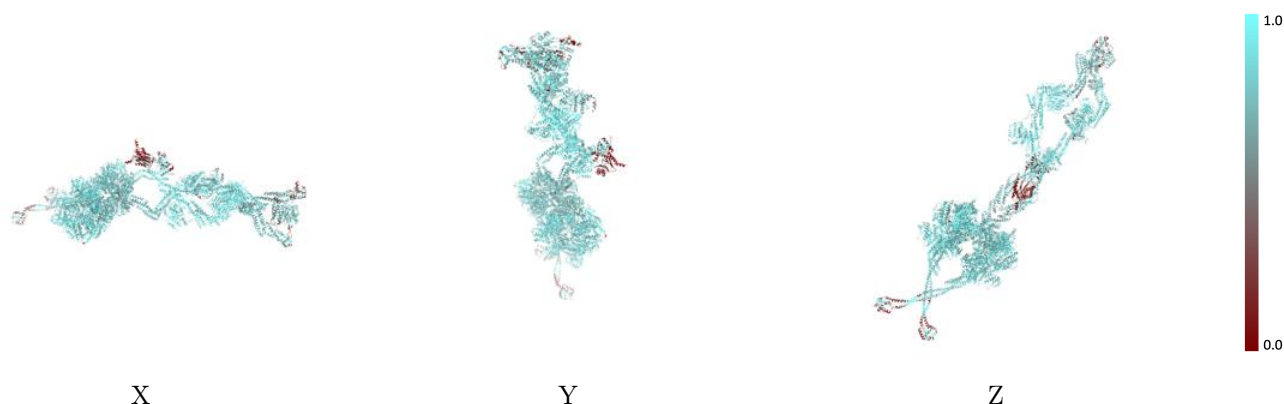
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



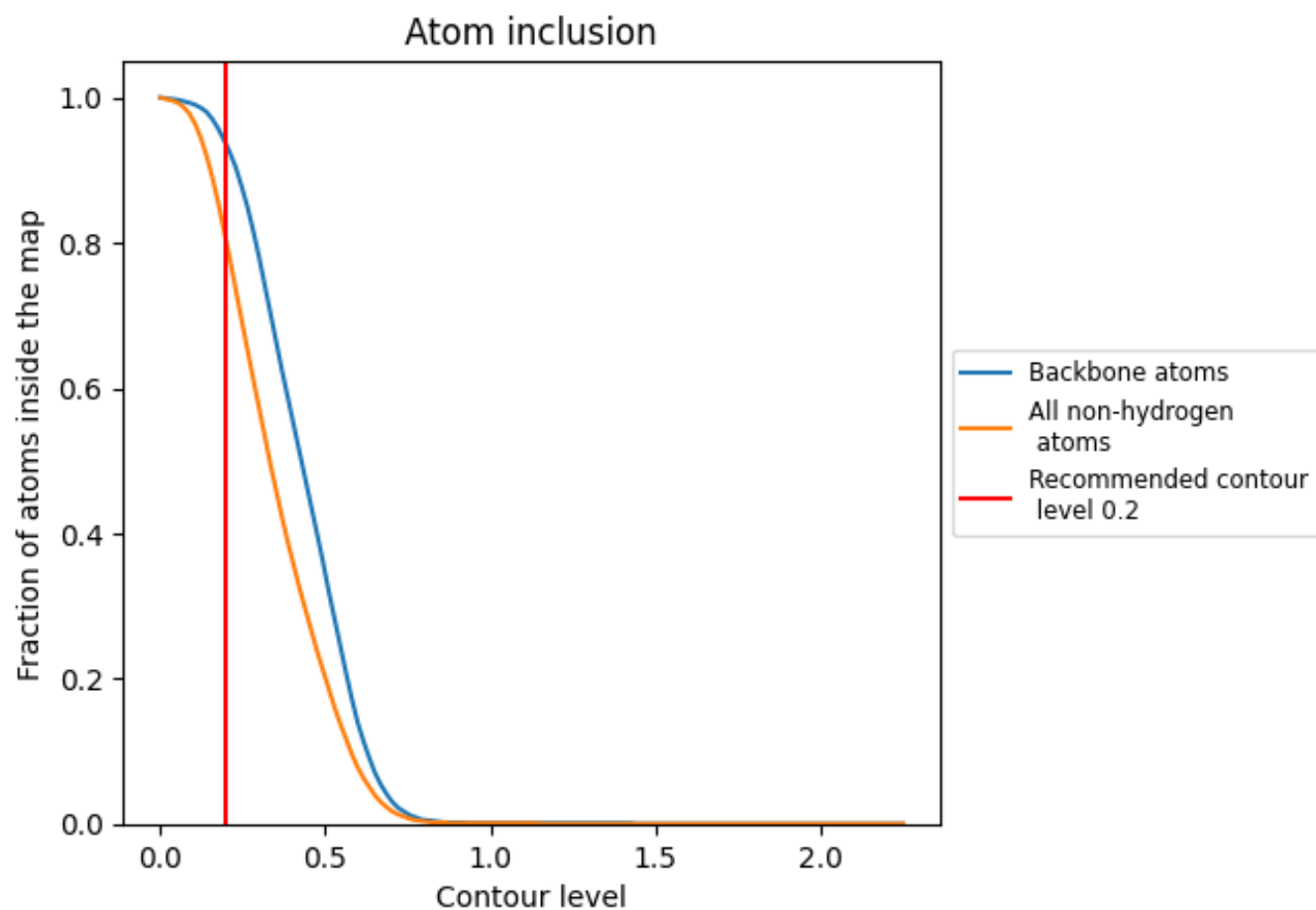
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.2).

9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 80% 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 (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8020	0.3680
A	0.8120	0.3890
B	0.8190	0.3860
C	0.8850	0.3810
D	0.8570	0.3470
E	0.8340	0.3510
F	0.8580	0.3310
G	0.6840	0.1860
H	0.7400	0.1990
I	0.5190	0.0560
J	0.5850	0.0360
K	0.1050	0.0280
L	0.1960	0.0710

1.0

0.0

<0.0