



Full wwPDB X-ray Structure Validation Report ⓘ

Apr 29, 2024 – 01:14 am BST

PDB ID : 4AKI
Title : Dynein Motor Domain - LuAc derivative
Authors : Schmidt, H.; Gleave, E.S.; Carter, A.P.
Deposited on : 2012-02-22
Resolution : 3.70 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.4, CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.36.2
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

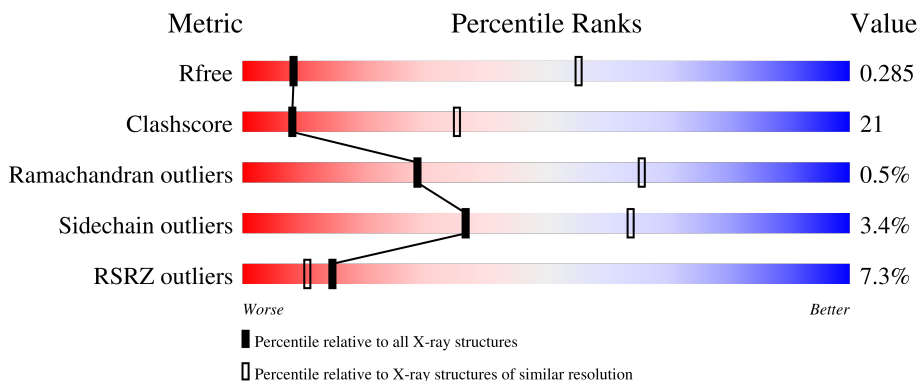
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.70 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1049 (3.88-3.52)
Clashscore	141614	1027 (3.86-3.54)
Ramachandran outliers	138981	1069 (3.88-3.52)
Sidechain outliers	138945	1065 (3.88-3.52)
RSRZ outliers	127900	1578 (3.90-3.50)

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

Mol	Chain	Length	Quality of chain
1	A	2695	
1	B	2695	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	SO4	A	5094	-	-	X	-
3	SO4	A	5095	-	-	X	-
3	SO4	A	5096	-	-	X	-
3	SO4	B	5095	-	-	X	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 41590 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called GLUTATHIONE S-TRANSFERASE CLASS-MU 26 KDA ISOZYME, DYNEIN HEAVY CHAIN CYTOPLASMIC.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	2650	20748	13268	3472	3915	93	0	0	0
1	B	2650	20748	13268	3472	3915	93	0	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	218	SER	-	linker	UNP P36022
A	219	ASP	-	linker	UNP P36022
A	1630	ILE	LEU	conflict	UNP P36022
A	3782	ASP	GLU	conflict	UNP P36022
B	218	SER	-	linker	UNP P36022
B	219	ASP	-	linker	UNP P36022
B	1630	ILE	LEU	conflict	UNP P36022
B	3782	ASP	GLU	conflict	UNP P36022

- Molecule 2 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



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

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	
			Total	O	S			
3	A	1	Total	5	4	1	0	0
3	A	1	Total	5	4	1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0
3	B	1	Total O S 5 4 1	0	0

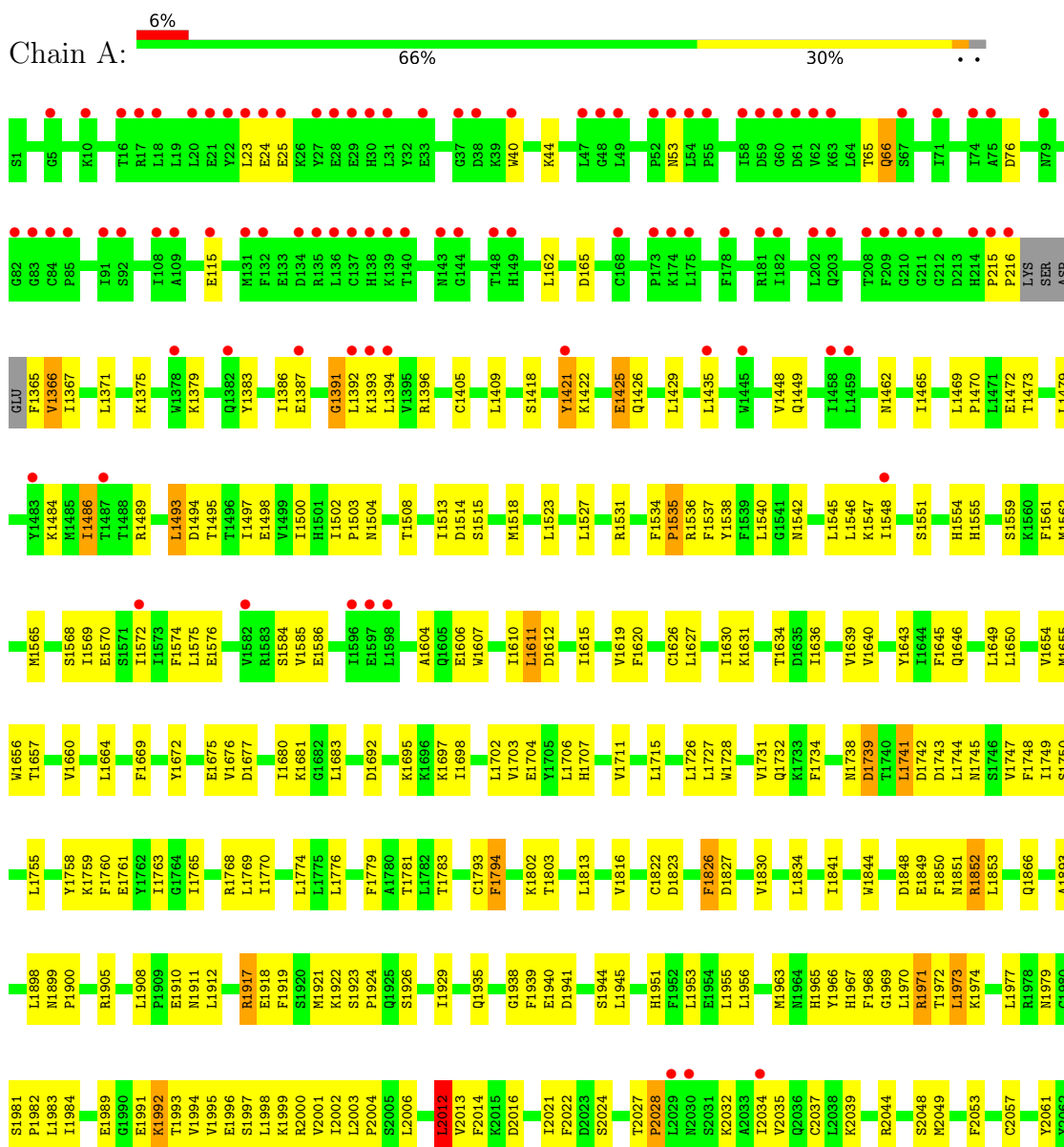
- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Mg 1 1	0	0
4	B	1	Total Mg 1 1	0	0

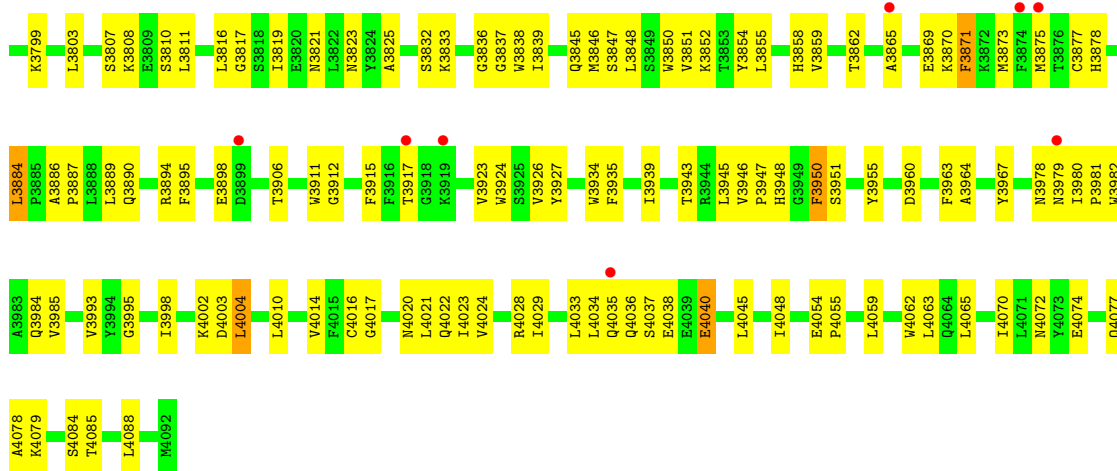
3 Residue-property plots [i](#)

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

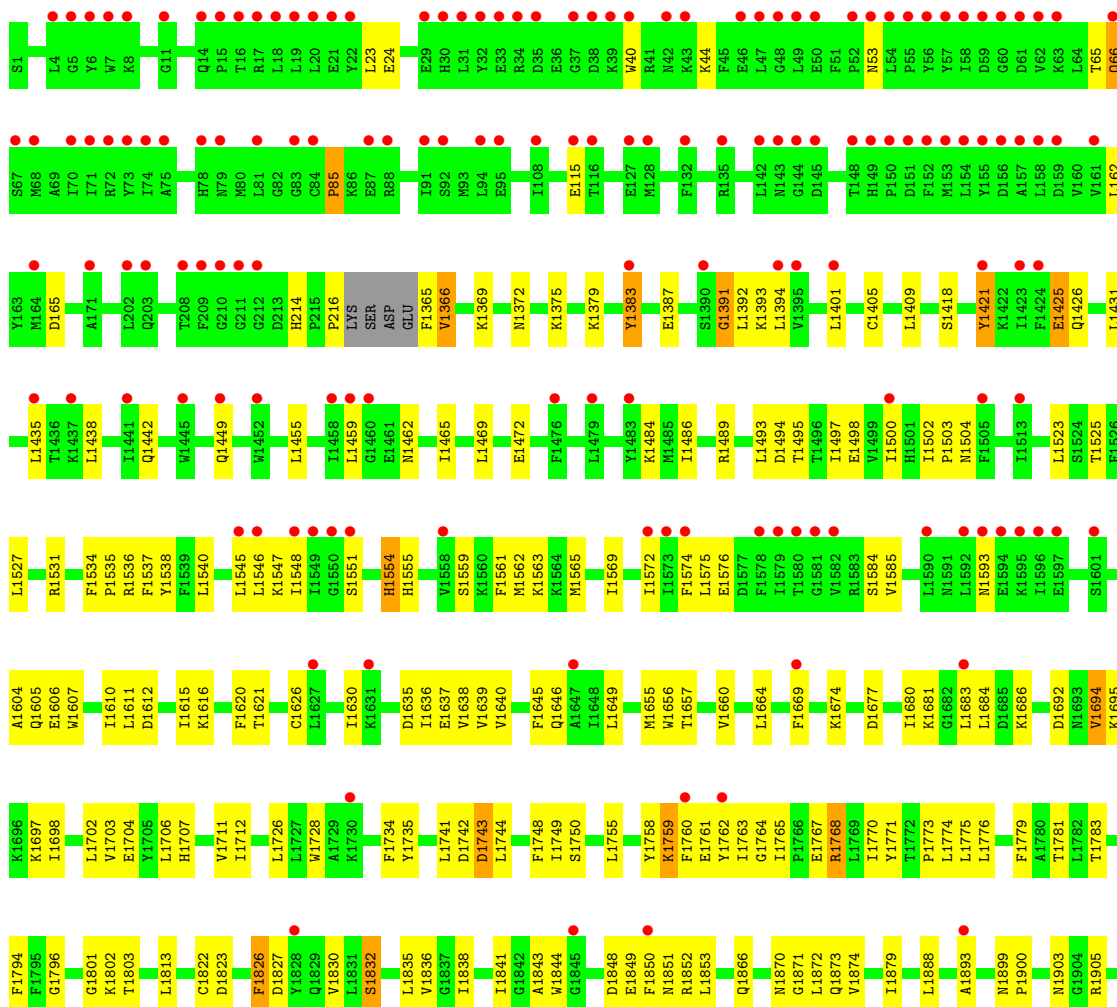
- Molecule 1: GLUTATHIONE S-TRANSFERASE CLASS-MU 26 KDA ISOZYME, DYNEIN HEAVY CHAIN CYTOPLASMIC

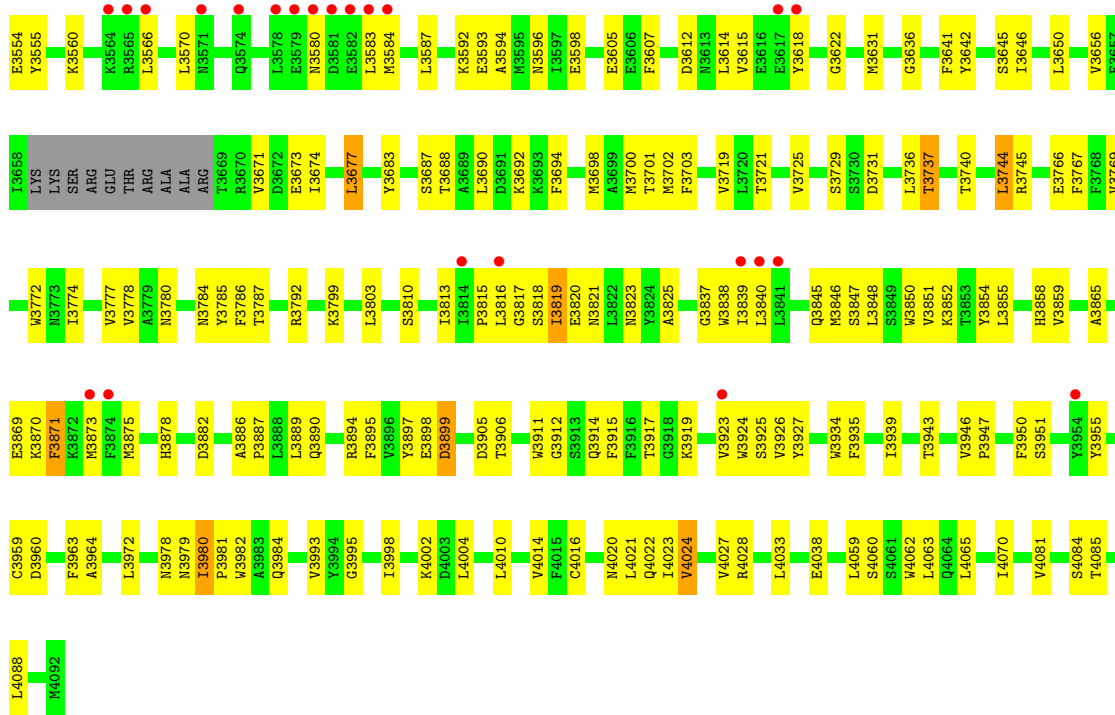


K3692	K3693	K3694	K3695	K3591	K3592	K3593	K3594	K3595	K3513	K3512	K3511	K3510	D3361	K3359	K3358	K3355	V3028	C2882	F2795	L2847	R2528	L2437	S2350	L2241	L2150	R2149	Q2064	M2063																									
K3696	K3697	K3698	K3699	M3700	M3701	M3702	F3703	C3704	L3705	F3607	D3612	M3613	L3614	V3615	M3618	G3622	S3628	M3631	F3641	K3643	K3642	G3622	M3628	M3631	F3641	K3643	K3642	G3622	M3628																								
M3722	V3725	E3728	S3729	S3730	D3731	P3734	K3736	T3737	V3738	D3739	T3740	N3741	L3744	L3760	E3766	F3767	F3768	V3769	W3772	N3773	I3774	V3777	V3778	N3780	N3784	Y3785	F3786	T3787	R3792																								
K3355	V3358	K3359	K3360	D3361	R3365	D3368	T3372	L3373	S3400	F3406	L3407	L3408	D3409	H3413	M3414	I3415	T3416	V3417	I3418	L3429	R3439	L3440	F3446	Q3453	D3459	P3460	I3461	I3462	S3463	R3464	L3465	I3466	S3467	F3470	A3473	G3474	N3475	R3476	E3477	E3478	N3481	G3482	D3483	V3488									
V3028	LEU	LYS	VAL	ASN	GLU	LEU	ASN	THR	LYS	THR	LEU	SER	ILE	SER	LEU	VAL	K3297	G3298	L3299	F3300	F3301	E3302	K3303	F3304	R3305	W3306	L3307	N3308	T3309	K3310	K3311	Q3312	F3313	S3317	G3318	E3319	L3320	I3321	N3322	K3323	I3329	Y3330	E3331	T3332	Y3333	F3334	N3338	E3341	L3346	L3481	G3482	D3483	V3488
C2882	M2902	L2903	R2911	C2912	W2916	M2917	W2920	W2938	T2941	D2942	D2943	ILE	VAL	PRO	GLU	LEU	VAL	L3307	PHE	THR	GLU	PRO	ILE	T2960	L2961	R2962	D2963	V2982	G2983	V2984	N2985	R2986	R2987	S2988	P2989	G2990	L3010	F3016	V3017	N3018	L3021	E3022	K3023	L3024	N3025	T2880	I2881	T2882	I2883				
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R2528	L2529	H2530	L2533	S2535	D2536	Y2536	S2537	L2539	H2543	L2544	R2549	R2552	Y2558	L2559	F2562	S2563	G2564	S2565	L2566	L2567	S2568	Y2571	Y2574	Y2575	L2578	F2579	K2585	R2586	V2597	T2609	G2610	L2611	Q2612	R2627	Y2630	T2631	A2632	T2635	G2636	P2637	R2638	Q2639	T2640	S2643	L2644	R2646							
L2437	F2445	S2446	K2447	D2448	T2449	T2450	H2453	L2458	H2461	T2462	T2472	K2476	S2477	D2478	L2484	E2488	L2489	L2491	P2492	K2493	L2494	D2495	K2496	Y2497	G2498	S2499	V2502	L2503	L2506	R2507	Q2508	L2509	M2510	E2511	K2512	Q2513	G2514	K2517	T2518	P2519	E2520	W2523	L2526	E2527									
L2437	F2445	S2446	K2447	D2448	T2449	T2450	H2453	L2458	H2461	T2462	T2472	K2476	S2477	D2478	L2484	E2488	L2489	L2491	P2492	K2493	L2494	D2495	K2496	Y2497	G2498	S2499	V2502	L2503	L2506	R2507	Q2508	L2509	M2510	E2511	K2512	Q2513	G2514	K2517	T2518	P2519	E2520	W2523	L2526	E2527									
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L2437	F2445	S2446	K2447	D2448	T2449	T2450	H2453	L2458	H2461	T2462	T2472	K2476	S2477	D2478	L2484	E2488	L2489	L2491	P2492	K2493	L2494	D2495	K2496	Y2497	G2498	S2499	V2502	L2503	L2506	R2507	Q2508	L2509	M2510	E2511	K2512	Q2513	G2514	K2517	T2518	P2519	E2520	W2523	L2526	E2527									
L2437	F2445	S2446	K2447	D2448	T2449	T2450	H2453	L2458	H2461	T2462	T2472	K																																									



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4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	175.77Å 118.19Å 202.68Å 90.00° 90.91° 90.00°	Depositor
Resolution (Å)	49.14 – 3.70 49.09 – 3.70	Depositor EDS
% Data completeness (in resolution range)	99.8 (49.14-3.70) 99.9 (49.09-3.70)	Depositor EDS
R_{merge}	0.15	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.19 (at 3.67Å)	Xtrriage
Refinement program	REFMAC 5.7.0019	Depositor
R, R_{free}	0.231 , 0.289 0.226 , 0.285	Depositor DCC
R_{free} test set	4446 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	142.7	Xtrriage
Anisotropy	0.305	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 138.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtrriage
Estimated twinning fraction	0.035 for h,-k,-l	Xtrriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	41590	wwPDB-VP
Average B, all atoms (Å ²)	198.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.30% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ATP, MG, SO4

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	0.58	1/21146 (0.0%)	0.80	12/28618 (0.0%)
1	B	0.47	0/21146	0.68	4/28618 (0.0%)
All	All	0.53	1/42292 (0.0%)	0.74	16/57236 (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	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	2872	GLU	CG-CD	7.57	1.63	1.51

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1741	LEU	CB-CG-CD1	8.44	125.34	111.00
1	A	1973	LEU	CB-CG-CD1	-7.38	98.45	111.00
1	A	2872	GLU	OE1-CD-OE2	-7.25	114.59	123.30
1	A	2866	LEU	CA-CB-CG	6.12	129.38	115.30
1	A	1769	LEU	CA-CB-CG	6.06	129.24	115.30
1	A	2866	LEU	CB-CG-CD1	6.04	121.28	111.00
1	B	3650	LEU	CB-CG-CD1	-5.85	101.06	111.00
1	A	2012	LEU	CA-CB-CG	5.84	128.72	115.30
1	B	2866	LEU	CA-CB-CG	5.76	128.55	115.30
1	A	3577	MET	CG-SD-CE	5.72	109.36	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1611	LEU	CB-CG-CD2	-5.41	101.80	111.00
1	A	1776	LEU	CB-CG-CD1	-5.28	102.03	111.00
1	A	1769	LEU	CB-CG-CD1	5.27	119.96	111.00
1	B	2620	ARG	NE-CZ-NH1	5.25	122.92	120.30
1	B	2759	ILE	CG1-CB-CG2	-5.23	99.90	111.40
1	A	1917	ARG	NE-CZ-NH2	-5.09	117.76	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	1739	ASP	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	20748	0	20207	891	0
1	B	20748	0	20206	851	0
2	A	31	0	12	4	0
2	B	31	0	12	7	0
3	A	15	0	0	9	0
3	B	15	0	0	3	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
All	All	41590	0	40437	1741	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 21.

All (1741) 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:A:216:PRO:C	1:A:3475:ASN:HB3	1.39	1.40
1:B:1620:PHE:HD1	1:B:1760:PHE:CZ	1.53	1.24

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1620:PHE:HD1	1:A:1760:PHE:CZ	1.58	1.21
1:B:3534:LEU:CD1	1:B:3618:TYR:HE2	1.53	1.21
1:B:1409:LEU:HD21	1:B:1435:LEU:HB3	1.24	1.18
1:A:3777:VAL:HG11	1:A:3895:PHE:HE1	1.06	1.18
1:A:4033:LEU:CD1	1:A:4035:GLN:HB2	1.76	1.16
1:A:3534:LEU:CD1	1:A:3618:TYR:HE2	1.59	1.15
1:B:1992:LYS:HG3	1:B:2024:SER:HB2	1.23	1.15
1:A:3525:ILE:HD11	1:A:3646:ILE:HG22	1.25	1.14
1:B:2111:LYS:HD3	1:B:2161:GLU:HG3	1.25	1.14
1:B:3525:ILE:HD11	1:B:3646:ILE:HG22	1.23	1.14
1:A:2111:LYS:HD3	1:A:2161:GLU:HG3	1.18	1.13
1:B:2473:LEU:HD23	1:B:2475:PRO:HD3	1.31	1.12
1:A:2707:VAL:HB	1:A:2712:LEU:HD11	1.19	1.11
1:B:2707:VAL:HB	1:B:2712:LEU:HD11	1.17	1.10
1:A:1992:LYS:HG3	1:A:2024:SER:HB2	1.17	1.09
1:A:3024:LEU:HD11	1:A:3303:LYS:HG3	1.31	1.09
1:A:2380:LEU:HD13	1:A:2390:ILE:HD11	1.34	1.08
1:B:3777:VAL:HG11	1:B:3895:PHE:HE1	0.97	1.08
1:A:2141:ILE:HD12	1:A:2146:LYS:HE2	1.20	1.07
1:A:3303:LYS:HA	1:A:3306:TRP:CD1	1.89	1.07
1:A:2494:LEU:HD13	1:A:2498:GLY:CA	1.85	1.07
1:A:2107:LYS:HE3	1:A:2495:ASP:OD2	1.51	1.06
1:B:1620:PHE:CD1	1:B:1760:PHE:CZ	2.42	1.06
1:B:2488:GLU:HB3	1:B:2491:LEU:HD12	1.12	1.06
1:A:1386:ILE:HG21	1:A:1396:ARG:HD2	1.32	1.06
1:B:1620:PHE:CD1	1:B:1760:PHE:HZ	1.73	1.06
1:B:3777:VAL:HG11	1:B:3895:PHE:CE1	1.90	1.06
1:A:3530:PHE:CD1	1:A:3618:TYR:HD2	1.71	1.06
1:B:1645:PHE:HB3	1:B:1765:ILE:HG22	1.37	1.06
1:A:1645:PHE:HB3	1:A:1765:ILE:CG2	1.86	1.05
1:B:2494:LEU:HD13	1:B:2498:GLY:CA	1.86	1.05
1:A:2380:LEU:HD22	1:A:2384:GLU:OE1	1.54	1.05
1:A:1645:PHE:HB3	1:A:1765:ILE:HG22	1.34	1.04
1:A:2494:LEU:CD1	1:A:2498:GLY:HA2	1.86	1.04
1:B:3534:LEU:CD1	1:B:3618:TYR:CE2	2.40	1.04
1:B:1645:PHE:HB3	1:B:1765:ILE:CG2	1.87	1.04
1:B:3534:LEU:HD12	1:B:3618:TYR:HE2	1.20	1.04
1:A:1983:LEU:HD22	1:A:1997:SER:OG	1.58	1.04
1:A:216:PRO:C	1:A:3475:ASN:CB	2.24	1.03
1:A:1992:LYS:CG	1:A:2024:SER:HB2	1.87	1.03
1:A:2988:SER:HB3	1:A:2989:PRO:HD2	1.04	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2473:LEU:CD2	1:B:2475:PRO:HD3	1.87	1.03
1:A:2488:GLU:HB3	1:A:2491:LEU:HD12	1.36	1.03
1:B:3303:LYS:HA	1:B:3306:TRP:CD1	1.93	1.03
1:B:1992:LYS:CG	1:B:2024:SER:HB2	1.89	1.03
1:A:1823:ASP:HB2	1:A:1852:ARG:O	1.56	1.02
1:B:2494:LEU:CD1	1:B:2498:GLY:HA2	1.89	1.02
1:A:2920:TRP:HB2	1:A:2989:PRO:HG3	1.06	1.02
1:B:1983:LEU:HD12	1:B:1997:SER:OG	1.59	1.02
1:A:2707:VAL:CB	1:A:2712:LEU:HD11	1.89	1.01
1:B:3024:LEU:HD11	1:B:3303:LYS:HG3	1.39	1.01
1:B:3530:PHE:CD1	1:B:3618:TYR:HD2	1.77	1.01
1:A:2386:MET:HB2	1:A:2627:ARG:HD3	1.42	1.01
1:B:2707:VAL:CB	1:B:2712:LEU:HD11	1.88	1.01
1:B:2107:LYS:HE3	1:B:2495:ASP:OD2	1.60	1.00
1:B:2488:GLU:CB	1:B:2491:LEU:HD12	1.91	1.00
1:A:1535:PRO:HB2	1:A:1841:ILE:HG13	1.44	1.00
1:A:2448:ASP:HB2	1:A:2829:GLU:OE2	1.59	1.00
1:A:3303:LYS:O	1:A:3306:TRP:HD1	1.43	1.00
1:B:1823:ASP:HB2	1:B:1852:ARG:O	1.61	1.00
1:A:2988:SER:HB3	1:A:2989:PRO:CD	1.90	1.00
1:A:3777:VAL:HG11	1:A:3895:PHE:CE1	1.97	0.99
1:A:1620:PHE:CD1	1:A:1760:PHE:CZ	2.50	0.99
1:B:3534:LEU:HD12	1:B:3618:TYR:CE2	1.97	0.99
1:B:2488:GLU:HB3	1:B:2491:LEU:CD1	1.92	0.99
1:A:3777:VAL:CG1	1:A:3895:PHE:HE1	1.74	0.99
1:B:2787:HIS:HA	1:B:3460:PRO:HD2	1.42	0.99
1:A:3534:LEU:CD1	1:A:3618:TYR:CE2	2.45	0.99
1:B:2064:GLN:HE22	1:B:2091:MET:CE	1.76	0.98
1:A:2380:LEU:CD1	1:A:2390:ILE:HD11	1.93	0.98
1:A:1409:LEU:HD21	1:A:1435:LEU:HB3	1.44	0.98
1:B:2745:ILE:HG23	1:B:2756:MET:HE2	1.43	0.97
1:B:2988:SER:HB3	1:B:2989:PRO:HD2	1.45	0.97
1:A:1970:LEU:HD13	1:A:1974:LYS:HE3	1.46	0.96
1:A:2064:GLN:OE1	1:A:2091:MET:HE1	1.64	0.96
1:A:3406:PHE:HB2	1:A:3513:VAL:CG1	1.94	0.96
1:A:2476:LYS:CD	1:A:2476:LYS:H	1.74	0.96
1:B:1822:CYS:HB2	1:B:1853:LEU:HD21	1.43	0.96
1:A:1822:CYS:HB2	1:A:1853:LEU:HD21	1.43	0.96
1:A:3024:LEU:CD1	1:A:3303:LYS:HG3	1.96	0.96
1:A:3534:LEU:HD12	1:A:3618:TYR:HE2	1.24	0.96
1:B:1744:LEU:HA	1:B:1760:PHE:CE2	1.99	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2112:GLU:HB3	1:B:2117:SER:HB2	1.48	0.95
1:A:1386:ILE:HG21	1:A:1396:ARG:CD	1.95	0.95
1:B:1992:LYS:HE2	1:B:2024:SER:O	1.64	0.95
1:B:1956:LEU:HB3	1:B:1968:PHE:HE2	1.31	0.95
1:A:2988:SER:CB	1:A:2989:PRO:HD2	1.97	0.95
1:A:4033:LEU:HD11	1:A:4035:GLN:HB2	1.47	0.95
1:B:1939:PHE:CD2	1:B:1940:GLU:O	2.19	0.95
1:A:3534:LEU:HD12	1:A:3618:TYR:CE2	2.01	0.95
1:B:3777:VAL:CG1	1:B:3895:PHE:HE1	1.78	0.95
1:A:1620:PHE:HD1	1:A:1760:PHE:HZ	1.07	0.94
1:A:2386:MET:CB	1:A:2627:ARG:HD3	1.95	0.94
1:B:1630:ILE:HG22	1:B:1655:MET:SD	2.06	0.94
1:A:2476:LYS:H	1:A:2476:LYS:HD3	1.26	0.94
1:A:2745:ILE:HG23	1:A:2756:MET:HE1	1.47	0.94
1:A:1645:PHE:CB	1:A:1765:ILE:HG22	1.96	0.94
1:A:1409:LEU:HD21	1:A:1435:LEU:CB	1.98	0.94
1:B:1645:PHE:CB	1:B:1765:ILE:HG22	1.97	0.94
1:B:1535:PRO:HB2	1:B:1841:ILE:HG13	1.50	0.94
1:B:2473:LEU:HD11	1:B:2527:GLU:CG	1.96	0.94
1:A:3460:PRO:O	1:A:3463:SER:HB2	1.67	0.93
1:B:1866:GLN:OE1	1:B:1911:ASN:HB2	1.68	0.93
1:B:2472:THR:CG2	1:B:2524:VAL:HG22	1.99	0.93
1:B:1774:LEU:HD21	1:B:1922:LYS:O	1.68	0.93
1:B:2494:LEU:HD13	1:B:2498:GLY:HA2	0.95	0.93
1:A:1802:LYS:HG2	1:A:1921:MET:HG3	1.47	0.93
1:A:3530:PHE:CD1	1:A:3618:TYR:CD2	2.56	0.93
1:A:2137:VAL:O	1:A:2141:ILE:HG23	1.69	0.93
1:A:3509:LEU:CD1	1:A:3513:VAL:HG21	1.98	0.93
1:B:2081:THR:HB	2:B:5093:ATP:PA	2.09	0.92
1:A:4065:LEU:HD11	1:A:4070:ILE:HD11	1.48	0.92
1:A:2111:LYS:HD3	1:A:2161:GLU:CG	2.00	0.92
1:A:2400:HIS:CD2	1:A:2559:LEU:HD13	2.06	0.91
1:B:1983:LEU:HD21	1:B:2000:ARG:NE	1.84	0.91
1:B:2787:HIS:HA	1:B:3460:PRO:CD	2.00	0.91
1:A:1992:LYS:HE2	1:A:2024:SER:O	1.71	0.91
1:B:3534:LEU:HD13	1:B:3618:TYR:HE2	1.35	0.91
1:B:2332:GLY:HA2	1:B:2335:GLN:HB2	1.50	0.91
1:B:2064:GLN:NE2	1:B:2091:MET:CE	2.33	0.91
1:A:2787:HIS:HA	1:A:3460:PRO:HD2	1.49	0.90
1:B:3534:LEU:HD11	1:B:3614:LEU:HD23	1.50	0.90
1:A:3737:THR:HB	1:A:3740:THR:OG1	1.70	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2400:HIS:NE2	1:A:2559:LEU:HD13	1.86	0.90
1:B:3737:THR:HB	1:B:3740:THR:OG1	1.69	0.90
1:B:1535:PRO:C	1:B:1841:ILE:HD11	1.90	0.90
1:A:2563:SER:HB3	1:A:2566:SER:H	1.35	0.90
1:A:2494:LEU:HD13	1:A:2498:GLY:HA2	0.94	0.90
1:B:2473:LEU:HD23	1:B:2475:PRO:CD	2.02	0.90
1:B:1726:LEU:CD1	1:B:3984:GLN:HB3	2.02	0.89
1:B:2473:LEU:HD11	1:B:2527:GLU:HG2	1.52	0.89
1:B:1802:LYS:HG2	1:B:1921:MET:HG3	1.54	0.89
1:A:1939:PHE:CD2	1:A:1940:GLU:O	2.26	0.89
1:B:2755:HIS:HB2	1:B:2911:ARG:O	1.72	0.89
1:A:4033:LEU:HD13	1:A:4035:GLN:HB2	1.54	0.88
1:A:1535:PRO:C	1:A:1841:ILE:HD11	1.92	0.88
1:A:1823:ASP:CB	1:A:1852:ARG:O	2.20	0.88
1:A:3946:VAL:HG12	1:A:3950:PHE:O	1.72	0.88
1:B:1604:ALA:HA	1:B:1607:TRP:CD1	2.09	0.88
1:A:1562:MET:HB3	1:A:1569:ILE:HD11	1.55	0.88
1:A:2787:HIS:HA	1:A:3460:PRO:CG	2.02	0.88
1:A:2920:TRP:HB2	1:A:2989:PRO:CG	1.99	0.87
1:A:2787:HIS:HA	1:A:3460:PRO:CD	2.03	0.87
1:A:2446:SER:H	1:A:2449:THR:CG2	1.86	0.87
1:A:3534:LEU:HD13	1:A:3618:TYR:HE2	1.38	0.87
1:B:1940:GLU:HB2	1:B:1989:GLU:O	1.73	0.87
1:A:1649:LEU:HD11	1:A:1704:GLU:HG3	1.56	0.87
1:A:1866:GLN:OE1	1:A:1911:ASN:HB2	1.74	0.87
1:A:2064:GLN:NE2	1:A:2091:MET:SD	2.47	0.87
1:A:2920:TRP:CB	1:A:2989:PRO:HG3	2.01	0.87
1:B:2476:LYS:H	1:B:2476:LYS:CD	1.87	0.87
1:B:2627:ARG:NH1	1:B:2631:THR:CG2	2.38	0.87
1:B:1956:LEU:HB3	1:B:1968:PHE:CE2	2.09	0.86
1:A:1924:PRO:HB2	1:A:1929:ILE:HD11	1.55	0.86
1:B:2988:SER:HB3	1:B:2989:PRO:CD	2.04	0.86
1:A:2787:HIS:HA	1:A:3460:PRO:HG2	1.56	0.86
1:B:1392:LEU:HD13	1:B:1393:LYS:N	1.90	0.86
1:B:2473:LEU:HD21	1:B:2527:GLU:HB2	1.55	0.86
1:B:2274:HIS:HE1	1:B:2326:LEU:O	1.59	0.86
1:A:2766:LYS:HE2	1:A:2890:THR:HB	1.58	0.86
1:A:1726:LEU:HD12	1:A:3984:GLN:HB3	1.55	0.85
1:B:2787:HIS:HA	1:B:3460:PRO:CG	2.06	0.85
1:B:3530:PHE:CD1	1:B:3618:TYR:CD2	2.64	0.85
1:B:3645:SER:HB3	1:B:3890:GLN:HE21	1.41	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1387:GLU:HB3	1:A:1393:LYS:HG2	1.58	0.85
1:A:1392:LEU:HD13	1:A:1393:LYS:N	1.91	0.85
1:A:2141:ILE:CD1	1:A:2146:LYS:HE2	2.06	0.85
1:B:3946:VAL:HG12	1:B:3950:PHE:O	1.76	0.85
1:A:3656:VAL:HG13	1:A:3677:LEU:HB3	1.59	0.85
1:B:2627:ARG:NH1	1:B:2630:TYR:CD2	2.45	0.85
1:A:3024:LEU:HD11	1:A:3303:LYS:CG	2.07	0.85
1:B:2131:THR:HG22	1:B:2176:LEU:HD21	1.57	0.85
1:A:1940:GLU:HB2	1:A:1989:GLU:O	1.77	0.84
1:A:2131:THR:HG22	1:A:2176:LEU:HD21	1.59	0.84
1:A:3303:LYS:O	1:A:3306:TRP:CD1	2.28	0.84
1:A:2446:SER:H	1:A:2449:THR:HG23	1.39	0.84
1:B:3406:PHE:HB2	1:B:3513:VAL:CG1	2.06	0.84
1:B:2563:SER:HB3	1:B:2566:SER:H	1.41	0.84
1:A:2112:GLU:HB3	1:A:2117:SER:HB2	1.57	0.84
1:B:1365:PHE:O	1:B:1366:VAL:HG22	1.78	0.84
1:A:2336:ARG:HD3	1:A:2355:ASP:OD2	1.77	0.84
1:B:2627:ARG:HH11	1:B:2630:TYR:HD2	1.25	0.84
1:B:2446:SER:H	1:B:2449:THR:HG23	1.43	0.83
1:B:1823:ASP:CB	1:B:1852:ARG:O	2.25	0.83
1:B:2745:ILE:HG23	1:B:2756:MET:CE	2.08	0.83
1:A:2274:HIS:HE1	1:A:2326:LEU:O	1.61	0.83
1:A:2488:GLU:CB	1:A:2491:LEU:HD12	2.09	0.83
1:B:2111:LYS:HD3	1:B:2161:GLU:CG	2.07	0.83
1:A:2106:THR:OG1	1:A:2154:PHE:HB3	1.78	0.83
1:A:1649:LEU:CD1	1:A:1704:GLU:HG3	2.07	0.83
1:B:2787:HIS:HA	1:B:3460:PRO:HG2	1.61	0.83
1:B:3024:LEU:CD1	1:B:3303:LYS:HG3	2.09	0.83
1:A:2755:HIS:HB2	1:A:2911:ARG:O	1.79	0.82
1:B:1574:PHE:HB3	1:B:1576:GLU:H	1.43	0.82
1:B:3998:ILE:HG21	1:B:4004:LEU:HG	1.59	0.82
1:A:2111:LYS:NZ	1:A:2161:GLU:HG2	1.94	0.82
1:B:1425:GLU:OE1	1:B:1426:GLN:HA	1.79	0.82
1:B:3919:LYS:HZ3	1:B:4038:GLU:CD	1.83	0.82
1:A:2488:GLU:HB3	1:A:2491:LEU:CD1	2.08	0.82
1:B:2081:THR:HB	2:B:5093:ATP:O2A	1.78	0.82
1:B:3509:LEU:CD1	1:B:3513:VAL:HG21	2.10	0.82
1:A:1425:GLU:OE1	1:A:1426:GLN:HA	1.78	0.82
1:B:2627:ARG:NH1	1:B:2631:THR:HG23	1.94	0.82
1:A:1604:ALA:HA	1:A:1607:TRP:NE1	1.95	0.81
1:A:3645:SER:HB3	1:A:3890:GLN:HE21	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:PRO:O	1:A:216:PRO:CB	2.28	0.81
1:A:2476:LYS:HZ1	1:A:2528:ARG:HD2	1.43	0.81
1:B:3566:LEU:HA	1:B:3583:LEU:HD21	1.61	0.81
1:A:2362:ALA:HB3	1:A:2365:LYS:O	1.81	0.81
1:B:2106:THR:OG1	1:B:2154:PHE:HB3	1.80	0.81
1:A:1849:GLU:HG2	1:A:1899:ASN:ND2	1.95	0.81
1:A:2064:GLN:OE1	1:A:2091:MET:CE	2.29	0.81
1:A:3923:VAL:HG23	1:A:4038:GLU:HA	1.62	0.81
1:A:1630:ILE:HG22	1:A:1655:MET:SD	2.21	0.81
1:B:2627:ARG:NH1	1:B:2630:TYR:CE2	2.48	0.81
1:A:1493:LEU:HD23	1:A:1498:GLU:HB3	1.63	0.81
1:B:3566:LEU:HA	1:B:3583:LEU:CD2	2.10	0.81
1:B:3792:ARG:HB2	1:B:3955:TYR:CD1	2.15	0.81
1:B:2111:LYS:NZ	1:B:2161:GLU:HG2	1.96	0.81
1:B:1604:ALA:HA	1:B:1607:TRP:NE1	1.95	0.80
1:B:2446:SER:H	1:B:2449:THR:CG2	1.93	0.80
1:B:1939:PHE:HD2	1:B:1940:GLU:O	1.62	0.80
1:B:3998:ILE:CG2	1:B:4004:LEU:HG	2.12	0.80
1:B:2707:VAL:CG1	1:B:2712:LEU:CD1	2.59	0.80
1:A:3303:LYS:HA	1:A:3306:TRP:NE1	1.95	0.79
1:B:2473:LEU:CD2	1:B:2475:PRO:CD	2.57	0.79
1:A:3303:LYS:C	1:A:3306:TRP:HD1	1.84	0.79
1:B:2112:GLU:HB3	1:B:2117:SER:CB	2.12	0.79
1:A:1421:TYR:O	1:A:1425:GLU:CB	2.30	0.79
1:A:2476:LYS:NZ	1:A:2528:ARG:HD2	1.97	0.79
1:A:3303:LYS:CA	1:A:3306:TRP:CD1	2.65	0.79
1:A:2181:GLY:O	1:A:2182:GLU:HG3	1.83	0.79
1:A:2332:GLY:HA2	1:A:2335:GLN:HB2	1.62	0.79
1:A:1394:LEU:HD22	1:A:1449:GLN:HE22	1.48	0.79
1:B:1744:LEU:HA	1:B:1760:PHE:CD2	2.18	0.79
1:A:2707:VAL:CG1	1:A:2712:LEU:CD1	2.61	0.78
1:A:3530:PHE:HD1	1:A:3618:TYR:HD2	1.31	0.78
1:A:3799:LYS:O	1:A:3803:LEU:HG	1.82	0.78
1:A:1956:LEU:HB3	1:A:1968:PHE:CE2	2.18	0.78
1:B:1562:MET:HB3	1:B:1569:ILE:HD11	1.64	0.78
1:B:2707:VAL:HB	1:B:2712:LEU:CD1	2.08	0.78
1:B:1924:PRO:HB2	1:B:1929:ILE:HD11	1.64	0.78
1:B:1996:GLU:O	1:B:2000:ARG:HG3	1.81	0.78
1:B:2380:LEU:HD12	1:B:2577:ALA:HB1	1.65	0.78
1:B:3303:LYS:O	1:B:3306:TRP:HD1	1.66	0.78
1:B:1409:LEU:CD2	1:B:1435:LEU:HB3	2.09	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1970:LEU:HD12	1:A:1971:ARG:N	1.98	0.78
1:B:2137:VAL:O	1:B:2141:ILE:HG23	1.84	0.78
1:B:2493:LYS:HG3	1:B:2494:LEU:H	1.48	0.78
1:A:1386:ILE:CG2	1:A:1396:ARG:CD	2.62	0.78
1:A:1620:PHE:CD1	1:A:1760:PHE:HZ	1.96	0.78
1:B:3923:VAL:HG23	1:B:4038:GLU:HA	1.66	0.78
1:A:1604:ALA:HA	1:A:1607:TRP:CD1	2.18	0.77
1:B:2472:THR:HG21	1:B:2524:VAL:HG22	1.65	0.77
1:A:1421:TYR:O	1:A:1425:GLU:HB2	1.84	0.77
1:B:1953:LEU:CD1	1:B:1973:LEU:HB3	2.14	0.77
1:B:3473:ALA:HB3	1:B:3476:ARG:O	1.85	0.77
1:A:3509:LEU:HD12	1:A:3513:VAL:CG2	2.13	0.77
1:B:1387:GLU:HB3	1:B:1393:LYS:HG2	1.66	0.77
1:A:2476:LYS:HG2	1:A:2478:ASP:O	1.85	0.77
1:B:1405:CYS:O	1:B:1409:LEU:HG	1.85	0.77
1:A:2064:GLN:OE1	1:A:2151:TRP:HH2	1.67	0.76
1:B:1421:TYR:O	1:B:1425:GLU:CB	2.32	0.76
1:B:1849:GLU:HG2	1:B:1899:ASN:ND2	2.00	0.76
1:B:2293:HIS:CE1	1:B:2409:ASN:HB3	2.20	0.76
1:B:1409:LEU:HD21	1:B:1435:LEU:CB	2.11	0.76
1:B:1421:TYR:O	1:B:1425:GLU:HB2	1.85	0.76
1:B:1645:PHE:CB	1:B:1765:ILE:CG2	2.61	0.76
1:B:2473:LEU:HD23	1:B:2474:LEU:N	2.01	0.76
1:B:2476:LYS:NZ	1:B:2528:ARG:HD2	2.00	0.76
1:B:2476:LYS:HG2	1:B:2478:ASP:O	1.86	0.76
1:B:3871:PHE:CZ	1:B:3873:MET:HB2	2.21	0.76
1:A:3460:PRO:O	1:A:3463:SER:CB	2.32	0.76
1:B:2572:GLU:CD	1:B:2590:GLU:HG3	2.05	0.76
1:B:2787:HIS:CA	1:B:3460:PRO:HD2	2.15	0.76
1:B:2920:TRP:HB2	1:B:2989:PRO:HG3	1.67	0.76
1:A:2411:LYS:HG2	1:A:2530:HIS:HE1	1.51	0.76
1:A:1540:LEU:CD1	1:A:1548:ILE:CD1	2.64	0.75
1:A:2563:SER:HB2	1:A:2566:SER:OG	1.86	0.75
1:A:3946:VAL:CG1	1:A:3950:PHE:O	2.34	0.75
1:A:3939:ILE:HG13	1:A:4010:LEU:CD2	2.16	0.75
1:B:1366:VAL:HG13	1:B:1369:LYS:HE3	1.68	0.75
1:B:2003:LEU:HA	1:B:2006:LEU:HD12	1.69	0.75
1:B:2064:GLN:HE22	1:B:2091:MET:HE3	1.49	0.75
1:B:3534:LEU:HD13	1:B:3618:TYR:CE2	2.15	0.75
1:A:1939:PHE:HD2	1:A:1940:GLU:O	1.67	0.75
1:B:1489:ARG:HH12	1:B:1503:PRO:HG2	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2064:GLN:NE2	1:B:2091:MET:HE3	2.00	0.75
1:A:3816:LEU:HD23	1:A:3847:SER:OG	1.86	0.75
1:A:4033:LEU:CD1	1:A:4035:GLN:CB	2.60	0.75
1:B:1967:HIS:C	1:B:1968:PHE:HD1	1.90	0.75
1:B:3774:ILE:O	1:B:3778:VAL:HG23	1.86	0.75
1:A:2707:VAL:HB	1:A:2712:LEU:CD1	2.09	0.75
1:A:3777:VAL:CG1	1:A:3895:PHE:CE1	2.63	0.75
1:B:1983:LEU:HD11	1:B:2000:ARG:HD2	1.66	0.75
1:B:2707:VAL:CG1	1:B:2712:LEU:HD11	2.16	0.75
1:A:2032:LYS:O	1:A:2035:VAL:HG12	1.85	0.75
1:B:3525:ILE:CD1	1:B:3646:ILE:HG22	2.11	0.75
1:B:1392:LEU:HD13	1:B:1392:LEU:C	2.06	0.75
1:A:2107:LYS:HE2	1:A:2499:SER:HB3	1.67	0.74
1:A:3406:PHE:HB2	1:A:3513:VAL:HG11	1.68	0.74
1:B:2380:LEU:HD11	1:B:2577:ALA:CB	2.17	0.74
1:B:3799:LYS:O	1:B:3803:LEU:HG	1.87	0.74
1:A:1940:GLU:HG3	1:A:1941:ASP:H	1.52	0.74
1:B:2032:LYS:O	1:B:2035:VAL:HG12	1.85	0.74
1:B:3303:LYS:CA	1:B:3306:TRP:CD1	2.70	0.74
1:A:1983:LEU:HD21	1:A:2000:ARG:HD2	1.69	0.74
1:A:3406:PHE:HB2	1:A:3513:VAL:HG12	1.69	0.74
1:A:3525:ILE:CD1	1:A:3646:ILE:HG22	2.13	0.74
1:B:2476:LYS:H	1:B:2476:LYS:HD2	1.51	0.74
1:B:3645:SER:HB3	1:B:3890:GLN:NE2	2.00	0.74
1:A:3534:LEU:HD11	1:A:3614:LEU:HD23	1.67	0.74
1:A:1744:LEU:HA	1:A:1760:PHE:CE2	2.23	0.74
1:A:1392:LEU:HD13	1:A:1392:LEU:C	2.07	0.74
1:A:3871:PHE:CZ	1:A:3873:MET:HB2	2.22	0.74
1:B:2175:ILE:HG12	1:B:2183:ARG:HB3	1.70	0.74
1:B:2380:LEU:CD1	1:B:2577:ALA:CB	2.65	0.74
1:B:2512:LYS:HB3	1:B:2523:TRP:HH2	1.52	0.74
1:A:1956:LEU:HB3	1:A:1968:PHE:HE2	1.53	0.74
1:B:2512:LYS:O	1:B:2513:GLN:HB2	1.88	0.74
1:A:1569:ILE:HA	1:A:1584:SER:HA	1.70	0.73
1:A:2745:ILE:HG23	1:A:2756:MET:CE	2.17	0.73
1:B:1726:LEU:HD12	1:B:3984:GLN:HB3	1.66	0.73
1:B:3946:VAL:CG1	1:B:3950:PHE:O	2.36	0.73
1:B:3303:LYS:C	1:B:3306:TRP:HD1	1.91	0.73
1:A:3566:LEU:HA	1:A:3583:LEU:CD2	2.18	0.73
1:A:2112:GLU:HB3	1:A:2117:SER:CB	2.19	0.73
1:A:2707:VAL:CG1	1:A:2712:LEU:HD11	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2785:LYS:HD3	1:B:3482:GLY:O	1.89	0.73
1:B:3618:TYR:N	1:B:3618:TYR:CD1	2.54	0.73
1:A:1802:LYS:NZ	3:A:5096:SO4:S	2.61	0.73
1:A:3303:LYS:CA	1:A:3306:TRP:HD1	2.02	0.73
1:B:2203:THR:HG22	1:B:2205:ALA:H	1.54	0.73
1:A:1405:CYS:O	1:A:1409:LEU:HG	1.88	0.73
1:A:2176:LEU:O	1:A:2183:ARG:HA	1.88	0.73
1:B:2380:LEU:CD1	1:B:2577:ALA:HB1	2.18	0.73
1:B:3792:ARG:HB2	1:B:3955:TYR:CE1	2.23	0.73
1:B:1630:ILE:CG2	1:B:1655:MET:SD	2.76	0.72
1:B:1569:ILE:HA	1:B:1584:SER:HA	1.70	0.72
1:A:2201:HIS:CE1	1:A:2497:TYR:HA	2.24	0.72
1:B:3656:VAL:HG13	1:B:3677:LEU:HB3	1.70	0.72
1:B:3690:LEU:HD23	1:B:3694:PHE:HB3	1.70	0.72
1:A:1822:CYS:SG	1:A:1850:PHE:HA	2.29	0.72
1:B:1849:GLU:HG2	1:B:1899:ASN:HD22	1.54	0.72
1:B:2176:LEU:O	1:B:2183:ARG:HA	1.89	0.72
1:B:2627:ARG:NH1	1:B:2631:THR:HG22	2.04	0.72
1:B:3024:LEU:HD11	1:B:3303:LYS:CG	2.18	0.72
1:A:1849:GLU:HG2	1:A:1899:ASN:HD22	1.53	0.72
1:B:1706:LEU:HD22	1:B:1935:GLN:HG2	1.70	0.72
1:B:1726:LEU:HD13	1:B:3984:GLN:HB3	1.69	0.72
1:A:3509:LEU:CD1	1:A:3513:VAL:CG2	2.68	0.71
1:B:2476:LYS:HZ1	1:B:2528:ARG:HD2	1.54	0.71
1:A:1645:PHE:CB	1:A:1765:ILE:CG2	2.61	0.71
1:B:216:PRO:CB	1:B:1365:PHE:HD2	2.03	0.71
1:B:1620:PHE:HA	1:B:1760:PHE:HE1	1.55	0.71
1:B:2563:SER:HB2	1:B:2566:SER:OG	1.91	0.71
1:B:3737:THR:OG1	1:B:3740:THR:HB	1.90	0.71
1:A:3530:PHE:HD1	1:A:3618:TYR:CD2	2.04	0.71
1:B:3330:TYR:OH	1:B:3346:LEU:HD22	1.89	0.71
1:B:1983:LEU:HD21	1:B:2000:ARG:CZ	2.19	0.71
1:B:1983:LEU:HB3	1:B:1993:THR:HG23	1.72	0.71
1:B:2448:ASP:HB2	1:B:2829:GLU:OE1	1.91	0.71
1:B:2107:LYS:HE2	1:B:2499:SER:HB3	1.72	0.71
1:B:3631:MET:CE	1:B:3698:MET:HG3	2.21	0.71
1:B:3566:LEU:O	1:B:3570:LEU:HG	1.91	0.71
1:A:1540:LEU:HD11	1:A:1548:ILE:HD11	1.73	0.71
1:A:2960:THR:HB	1:A:2963:ASP:HB2	1.73	0.70
1:A:3774:ILE:O	1:A:3778:VAL:HG23	1.91	0.70
1:A:3792:ARG:HB2	1:A:3955:TYR:CD1	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1698:ILE:O	1:B:1702:LEU:HG	1.91	0.70
1:B:1970:LEU:HD13	1:B:1974:LYS:HE2	1.72	0.70
1:A:2003:LEU:HA	1:A:2006:LEU:HD12	1.74	0.70
1:A:3871:PHE:HZ	1:A:3873:MET:HB2	1.56	0.70
1:B:2514:GLY:O	1:B:2523:TRP:CH2	2.44	0.70
1:A:1774:LEU:HD21	1:A:1922:LYS:O	1.91	0.70
1:B:1535:PRO:HB2	1:B:1841:ILE:CG1	2.19	0.70
1:B:3303:LYS:O	1:B:3306:TRP:CD1	2.44	0.70
1:B:3406:PHE:HB2	1:B:3513:VAL:HG11	1.73	0.70
1:A:1493:LEU:HD23	1:A:1498:GLU:CB	2.22	0.70
1:A:3618:TYR:CD1	1:A:3618:TYR:N	2.54	0.70
1:B:2410:SER:C	1:B:2411:LYS:HG3	2.12	0.70
1:B:2745:ILE:HG12	1:B:2756:MET:HE1	1.73	0.70
1:A:1495:THR:HG22	1:A:1497:ILE:HG22	1.73	0.70
1:A:2294:LEU:HB3	1:A:2317:LEU:HD22	1.74	0.70
1:A:3305:ARG:O	1:A:3307:LEU:N	2.24	0.70
1:B:1536:ARG:N	1:B:1841:ILE:HD11	2.07	0.70
1:B:1611:LEU:O	1:B:1615:ILE:HG23	1.91	0.70
1:A:1612:ASP:HA	1:A:1615:ILE:CD1	2.21	0.69
1:A:2203:THR:HG22	1:A:2205:ALA:H	1.56	0.69
1:A:3330:TYR:OH	1:A:3346:LEU:HD22	1.92	0.69
1:A:3645:SER:HB3	1:A:3890:GLN:NE2	2.06	0.69
1:B:1612:ASP:HA	1:B:1615:ILE:CD1	2.22	0.69
1:B:1495:THR:HG22	1:B:1497:ILE:HG22	1.73	0.69
1:B:1649:LEU:HD11	1:B:1704:GLU:HG3	1.73	0.69
1:A:3785:TYR:HE2	1:A:3859:VAL:HG22	1.57	0.69
1:B:3919:LYS:NZ	1:B:4038:GLU:CD	2.46	0.69
1:B:3871:PHE:HZ	1:B:3873:MET:HB2	1.57	0.69
1:A:1646:GLN:NE2	1:A:1758:TYR:OH	2.26	0.69
1:A:1970:LEU:HD13	1:A:1974:LYS:CE	2.20	0.69
1:A:2107:LYS:CE	1:A:2495:ASP:OD2	2.37	0.69
1:A:2175:ILE:HG12	1:A:2183:ARG:HB3	1.74	0.69
1:A:2285:GLU:HB2	1:A:2412:ARG:NH2	2.08	0.69
1:A:3979:ASN:O	1:A:3981:PRO:HD2	1.92	0.69
1:B:1540:LEU:CD1	1:B:1548:ILE:CD1	2.71	0.69
1:B:1822:CYS:SG	1:B:1849:GLU:O	2.51	0.69
1:B:1365:PHE:O	1:B:1366:VAL:CG2	2.41	0.69
1:B:2081:THR:HB	2:B:5093:ATP:O1A	1.92	0.69
1:A:2514:GLY:O	1:A:2523:TRP:CH2	2.45	0.69
1:A:2125:TRP:CZ2	1:A:2178:LEU:HD13	2.28	0.68
1:A:3534:LEU:HD13	1:A:3618:TYR:CE2	2.19	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3850:TRP:NE1	1:A:3854:TYR:HB3	2.08	0.68
1:B:1649:LEU:CD1	1:B:1704:GLU:HG3	2.23	0.68
1:B:1983:LEU:CD1	1:B:1997:SER:OG	2.39	0.68
1:B:2081:THR:CB	2:B:5093:ATP:O2A	2.41	0.68
1:B:3566:LEU:HD13	1:B:3570:LEU:CD1	2.23	0.68
1:B:3777:VAL:CG1	1:B:3895:PHE:CE1	2.65	0.68
1:A:1995:VAL:HG21	1:A:2024:SER:HB3	1.74	0.68
1:A:2419:PRO:O	1:A:2424:LYS:HE3	1.93	0.68
1:A:1967:HIS:C	1:A:1968:PHE:HD1	1.97	0.68
1:B:3303:LYS:CA	1:B:3306:TRP:HD1	2.04	0.68
1:B:3851:VAL:HG13	1:B:3855:LEU:HD23	1.76	0.68
1:A:1802:LYS:NZ	3:A:5096:SO4:O2	2.26	0.68
1:A:1983:LEU:HB3	1:A:1993:THR:HG23	1.75	0.68
1:A:3837:GLY:O	1:A:3871:PHE:HD1	1.77	0.68
1:A:4033:LEU:HD13	1:A:4035:GLN:CB	2.21	0.68
1:B:3592:LYS:O	1:B:3596:ASN:HB2	1.94	0.68
1:A:1698:ILE:O	1:A:1702:LEU:HG	1.94	0.68
1:A:3848:LEU:HD21	1:A:3852:LYS:HE3	1.75	0.68
1:B:1620:PHE:HB2	1:B:1760:PHE:CE1	2.29	0.68
1:B:3886:ALA:N	1:B:3887:PRO:HD2	2.09	0.68
1:A:2787:HIS:CA	1:A:3460:PRO:HD2	2.20	0.68
1:B:1425:GLU:OE1	1:B:1426:GLN:CA	2.42	0.68
1:B:1620:PHE:HD1	1:B:1760:PHE:HZ	0.81	0.68
1:B:2224:SER:O	2:B:5093:ATP:H2	1.76	0.68
1:A:2293:HIS:NE2	1:A:2409:ASN:HB3	2.09	0.67
1:A:3566:LEU:HA	1:A:3583:LEU:HD21	1.76	0.67
1:A:3935:PHE:HB2	1:A:4014:VAL:HG11	1.76	0.67
1:A:1462:ASN:HB2	1:A:1465:ILE:HG22	1.75	0.67
1:A:1744:LEU:HA	1:A:1760:PHE:CD2	2.29	0.67
1:B:1540:LEU:CD1	1:B:1548:ILE:HD11	2.25	0.67
1:A:2293:HIS:CE1	1:A:2409:ASN:HB3	2.29	0.67
1:B:2766:LYS:HE2	1:B:2890:THR:HB	1.75	0.67
1:A:1822:CYS:SG	1:A:1849:GLU:O	2.53	0.67
1:A:2080:LYS:HG2	1:A:2215:PHE:CE1	2.30	0.67
1:B:3458:PHE:CE1	1:B:3459:ASP:O	2.47	0.67
1:B:3530:PHE:HD1	1:B:3618:TYR:HD2	1.42	0.67
1:A:1630:ILE:HA	1:A:1634:THR:HG22	1.75	0.67
1:A:2305:LEU:HD11	1:A:2368:PHE:CG	2.29	0.67
1:B:1527:LEU:HD23	1:B:1545:LEU:HD22	1.75	0.67
1:B:3816:LEU:HD23	1:B:3847:SER:OG	1.94	0.67
1:A:2493:LYS:HG3	1:A:2494:LEU:H	1.60	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:216:PRO:O	1:A:3475:ASN:HB3	1.95	0.67
1:A:2252:LEU:HD21	1:A:2310:LEU:HD23	1.76	0.67
1:A:1489:ARG:HH12	1:A:1503:PRO:HG2	1.59	0.67
1:A:2386:MET:HB3	1:A:2627:ARG:HD3	1.75	0.67
1:B:2394:THR:H	1:B:2397:THR:HB	1.58	0.67
1:B:1527:LEU:CD2	1:B:1545:LEU:HD22	2.24	0.67
1:B:3303:LYS:HA	1:B:3306:TRP:NE1	2.10	0.67
1:B:3837:GLY:O	1:B:3871:PHE:HD1	1.77	0.67
1:A:3525:ILE:HD11	1:A:3646:ILE:CG2	2.16	0.67
1:B:1531:ARG:HG2	1:B:1537:PHE:HB3	1.76	0.67
1:B:3566:LEU:CD1	1:B:3570:LEU:HD11	2.24	0.67
1:B:2941:THR:HG22	1:B:2942:ASP:H	1.60	0.66
1:A:1536:ARG:N	1:A:1841:ILE:HD11	2.09	0.66
1:A:1540:LEU:CD1	1:A:1548:ILE:HD11	2.25	0.66
1:B:1425:GLU:OE1	1:B:1426:GLN:N	2.28	0.66
1:A:3979:ASN:C	1:A:3981:PRO:HD2	2.16	0.66
1:A:1703:VAL:HG13	1:A:1770:ILE:HD13	1.78	0.66
1:B:2181:GLY:O	1:B:2182:GLU:HG3	1.96	0.66
1:B:1645:PHE:CG	1:B:1765:ILE:HG22	2.31	0.66
1:B:2779:LEU:HD23	1:B:2812:ARG:O	1.96	0.66
1:B:3819:ILE:O	1:B:3823:ASN:HB2	1.94	0.66
1:B:3850:TRP:NE1	1:B:3854:TYR:HB3	2.10	0.66
1:A:3998:ILE:HG21	1:A:4004:LEU:HG	1.77	0.66
1:A:1425:GLU:OE1	1:A:1426:GLN:CA	2.43	0.66
1:A:1493:LEU:CD2	1:A:1498:GLU:HB3	2.25	0.66
1:A:1612:ASP:HA	1:A:1615:ILE:HD11	1.78	0.66
1:B:1620:PHE:HA	1:B:1760:PHE:CE1	2.31	0.66
1:A:2631:THR:O	1:A:2635:THR:HG22	1.96	0.66
1:A:1626:CYS:SG	1:A:1639:VAL:HG11	2.35	0.65
1:A:2382:ALA:O	1:A:2385:VAL:HG12	1.96	0.65
1:B:216:PRO:CB	1:B:1365:PHE:CD2	2.79	0.65
1:B:3935:PHE:HB2	1:B:4014:VAL:HG11	1.77	0.65
1:B:2707:VAL:CG1	1:B:2712:LEU:HD12	2.27	0.65
1:A:1527:LEU:CD2	1:A:1545:LEU:HD22	2.26	0.65
1:A:2514:GLY:HA3	1:A:2523:TRP:CZ2	2.32	0.65
1:A:3998:ILE:CG2	1:A:4004:LEU:HG	2.27	0.65
1:A:2220:CYS:SG	1:A:2224:SER:HB2	2.36	0.65
1:A:3566:LEU:O	1:A:3570:LEU:HG	1.97	0.65
1:B:3406:PHE:HB2	1:B:3513:VAL:HG12	1.76	0.65
1:B:3979:ASN:O	1:B:3981:PRO:HD2	1.97	0.65
1:A:2290:LEU:HD13	1:A:2407:LEU:HD23	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2728:LEU:HD12	1:A:2771:ARG:CZ	2.27	0.65
1:B:3839:ILE:HG23	1:B:3873:MET:HG3	1.78	0.65
1:A:3459:ASP:OD2	1:A:3461:ILE:HG12	1.97	0.65
1:B:2336:ARG:HD3	1:B:2355:ASP:OD2	1.97	0.65
1:B:2489:ILE:HG22	1:B:2535:CYS:HB3	1.78	0.65
1:A:1645:PHE:CG	1:A:1765:ILE:HG22	2.32	0.65
1:A:2512:LYS:O	1:A:2513:GLN:HB2	1.97	0.65
1:A:3566:LEU:HD13	1:A:3570:LEU:CD1	2.27	0.65
1:A:2448:ASP:HB2	1:A:2829:GLU:CD	2.17	0.65
1:A:3010:LEU:HD21	1:A:3317:SER:HB3	1.79	0.65
1:A:1706:LEU:CD2	1:A:1935:GLN:HG2	2.27	0.64
1:A:2842:ASP:O	1:A:2845:GLN:HG2	1.97	0.64
1:A:3473:ALA:HB3	1:A:3476:ARG:O	1.96	0.64
1:B:2707:VAL:CB	1:B:2712:LEU:CD1	2.72	0.64
1:A:3509:LEU:HD11	1:A:3513:VAL:HG21	1.76	0.64
1:A:3819:ILE:O	1:A:3823:ASN:HB2	1.96	0.64
1:B:2112:GLU:CB	1:B:2117:SER:HB2	2.25	0.64
1:B:2920:TRP:HB2	1:B:2989:PRO:CG	2.26	0.64
1:A:2707:VAL:CG1	1:A:2712:LEU:HD12	2.26	0.64
1:B:1534:PHE:CE2	1:B:1536:ARG:HB2	2.33	0.64
1:B:3509:LEU:HD12	1:B:3513:VAL:CG2	2.28	0.64
1:A:2779:LEU:HD23	1:A:2812:ARG:O	1.97	0.64
1:A:2315:THR:HG21	1:A:2350:SER:HB3	1.80	0.64
1:B:2536:ASN:HB2	1:B:2543:ARG:HE	1.63	0.64
1:B:3530:PHE:CE1	1:B:3618:TYR:CD2	2.85	0.64
1:A:2095:ASP:CG	1:A:2149:ARG:NH2	2.50	0.64
1:A:2222:ILE:HG23	1:A:2284:LEU:HD11	1.80	0.64
1:A:3566:LEU:CD1	1:A:3570:LEU:HD11	2.26	0.64
1:A:2495:ASP:O	1:A:2498:GLY:N	2.30	0.64
1:A:3618:TYR:N	1:A:3618:TYR:HD1	1.94	0.64
1:B:2252:LEU:HD21	1:B:2310:LEU:HD23	1.79	0.64
1:A:2141:ILE:HD12	1:A:2146:LYS:CE	2.12	0.64
1:A:3785:TYR:CE2	1:A:3859:VAL:HG22	2.33	0.64
1:B:1748:PHE:CD2	1:B:1755:LEU:HD22	2.32	0.64
1:A:2111:LYS:HZ3	1:A:2161:GLU:HG2	1.60	0.63
1:A:2285:GLU:HB2	1:A:2412:ARG:HH22	1.62	0.63
1:A:3792:ARG:HB2	1:A:3955:TYR:CE1	2.33	0.63
1:B:2111:LYS:CD	1:B:2161:GLU:HG3	2.17	0.63
1:A:1953:LEU:CD1	1:A:1973:LEU:HB3	2.27	0.63
1:A:3641:PHE:HA	1:A:3889:LEU:HD21	1.81	0.63
1:B:1706:LEU:HD11	1:B:1936:ILE:HG12	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1738:ASN:O	1:A:1739:ASP:OD1	2.16	0.63
1:A:1992:LYS:HG3	1:A:2024:SER:CB	2.11	0.63
1:A:1995:VAL:HG22	1:A:2022:PHE:CE2	2.33	0.63
1:A:3737:THR:OG1	1:A:3740:THR:HB	1.98	0.63
1:A:2632:ALA:HB3	1:A:2647:LEU:HD21	1.80	0.63
1:B:2846:GLY:O	1:B:2849:TYR:HB3	1.98	0.63
1:B:3530:PHE:HD1	1:B:3618:TYR:CD2	2.17	0.63
1:A:1562:MET:CB	1:A:1569:ILE:HD11	2.29	0.63
1:A:2536:ASN:HB2	1:A:2543:ARG:HE	1.64	0.63
1:A:3409:ASP:HB3	1:A:3518:PHE:HB2	1.81	0.63
1:B:3618:TYR:N	1:B:3618:TYR:HD1	1.94	0.63
1:A:1991:GLU:O	1:A:1995:VAL:HG23	1.99	0.62
1:A:2151:TRP:HE3	1:A:2193:LEU:HD11	1.64	0.62
1:A:3700:MET:HB3	1:A:4085:THR:HG21	1.81	0.62
1:A:1938:GLY:O	1:A:1989:GLU:HB3	1.98	0.62
1:A:1421:TYR:O	1:A:1425:GLU:N	2.33	0.62
1:B:2276:LEU:HD21	1:B:2415:ILE:HG21	1.81	0.62
1:B:3566:LEU:HD13	1:B:3570:LEU:HD11	1.80	0.62
1:B:3912:GLY:O	1:B:3915:PHE:CZ	2.53	0.62
1:A:1826:PHE:HE1	1:A:1853:LEU:HD22	1.62	0.62
1:A:1827:ASP:HB3	1:A:1830:VAL:HG12	1.81	0.62
1:B:2034:ILE:HD12	1:B:2061:TYR:CZ	2.34	0.62
1:B:3951:SER:HB2	1:B:4002:LYS:HD2	1.82	0.62
1:A:1535:PRO:HB2	1:A:1841:ILE:CG1	2.25	0.62
1:A:1826:PHE:CE1	1:A:1853:LEU:HD22	2.35	0.62
1:B:1984:ILE:HG21	1:B:1989:GLU:HG3	1.80	0.62
1:A:3912:GLY:O	1:A:3915:PHE:CE2	2.53	0.62
1:B:1706:LEU:HD22	1:B:1935:GLN:CG	2.29	0.62
1:A:2394:THR:H	1:A:2397:THR:HB	1.64	0.62
1:A:3303:LYS:HD2	1:A:3306:TRP:CD1	2.33	0.62
1:A:3307:LEU:HA	1:A:3310:THR:HB	1.81	0.62
1:B:2420:PRO:HD3	1:B:2536:ASN:HD21	1.65	0.62
1:A:1421:TYR:CD2	1:A:1425:GLU:HB2	2.33	0.62
1:A:1748:PHE:CD2	1:A:1755:LEU:HD22	2.34	0.62
1:A:1970:LEU:CD1	1:A:1974:LYS:HE3	2.24	0.62
1:A:2386:MET:CB	1:A:2627:ARG:CD	2.77	0.62
1:B:1391:GLY:HA3	1:B:1484:LYS:NZ	2.14	0.62
1:B:3839:ILE:CG2	1:B:3873:MET:HG3	2.29	0.62
1:A:1996:GLU:O	1:A:2000:ARG:HG3	2.00	0.62
1:A:2563:SER:CB	1:A:2566:SER:OG	2.47	0.62
1:B:1938:GLY:O	1:B:1989:GLU:HB3	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2111:LYS:HZ2	1:B:2161:GLU:HG2	1.62	0.62
1:B:2472:THR:HG21	1:B:2524:VAL:CG2	2.30	0.62
1:B:2473:LEU:HD11	1:B:2527:GLU:HG3	1.81	0.62
1:B:2563:SER:CB	1:B:2566:SER:OG	2.48	0.62
1:B:3925:SER:HB2	1:B:3972:LEU:HD13	1.82	0.62
1:A:1692:ASP:O	1:A:1695:LYS:HB3	2.00	0.62
1:A:3583:LEU:O	1:A:3587:LEU:HG	2.00	0.62
1:B:1540:LEU:HD12	1:B:1548:ILE:CD1	2.29	0.62
1:B:2728:LEU:HD12	1:B:2728:LEU:O	1.99	0.61
1:B:3330:TYR:CE2	1:B:3346:LEU:HD13	2.34	0.61
1:B:3541:MET:HA	1:B:3544:LYS:HG2	1.82	0.61
1:B:3979:ASN:C	1:B:3981:PRO:HD2	2.20	0.61
1:A:1574:PHE:HB3	1:A:1576:GLU:H	1.65	0.61
1:B:1801:GLY:N	3:B:5096:SO4:O2	2.29	0.61
1:B:2064:GLN:NE2	1:B:2091:MET:SD	2.73	0.61
1:A:1531:ARG:HG2	1:A:1537:PHE:HB3	1.82	0.61
1:B:1493:LEU:HD23	1:B:1498:GLU:CB	2.29	0.61
1:B:1616:LYS:HE3	1:B:1761:GLU:HG3	1.82	0.61
1:B:1744:LEU:HD22	1:B:1760:PHE:CD2	2.36	0.61
1:B:2508:GLN:HG3	1:B:2512:LYS:HD2	1.81	0.61
1:B:3736:LEU:HD11	1:B:3745:ARG:HG3	1.82	0.61
1:A:1983:LEU:HD21	1:A:2000:ARG:CD	2.31	0.61
1:A:1967:HIS:O	1:A:1968:PHE:HD1	1.82	0.61
1:B:1365:PHE:C	1:B:1366:VAL:CG2	2.68	0.61
1:B:1703:VAL:HG13	1:B:1770:ILE:HD13	1.83	0.61
1:B:1744:LEU:HA	1:B:1760:PHE:HE2	1.61	0.61
1:B:2960:THR:HB	1:B:2963:ASP:HB2	1.82	0.61
1:B:2472:THR:CG2	1:B:2524:VAL:CG2	2.77	0.61
1:A:2339:ILE:HG23	1:A:2353:LEU:HB3	1.83	0.61
1:A:2421:GLY:N	3:A:5094:SO4:O1	2.31	0.61
1:A:2785:LYS:HD3	1:A:3482:GLY:O	2.01	0.61
1:A:3429:LEU:HD21	1:A:3439:ARG:HB3	1.83	0.61
1:A:3530:PHE:CE1	1:A:3618:TYR:CD2	2.88	0.61
1:A:3541:MET:HA	1:A:3544:LYS:HG2	1.83	0.61
1:A:4065:LEU:HD11	1:A:4070:ILE:CD1	2.29	0.61
1:B:2495:ASP:O	1:B:2498:GLY:N	2.34	0.61
1:B:2786:ILE:O	1:B:3460:PRO:HB2	1.99	0.61
1:A:1469:LEU:HD13	1:A:1523:LEU:HD21	1.83	0.61
1:A:2427:ILE:HD12	1:A:2559:LEU:CD2	2.31	0.61
1:A:3330:TYR:CE2	1:A:3346:LEU:HD13	2.36	0.61
1:B:2473:LEU:HD22	1:B:2475:PRO:HD3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1612:ASP:HA	1:B:1615:ILE:HD11	1.83	0.61
1:B:2386:MET:HB2	1:B:2627:ARG:HD3	1.83	0.61
1:A:1540:LEU:HD12	1:A:1548:ILE:CD1	2.31	0.60
1:A:2293:HIS:CE1	1:A:2409:ASN:CB	2.84	0.60
1:B:1692:ASP:O	1:B:1695:LYS:HB3	2.01	0.60
1:B:1852:ARG:O	1:B:1852:ARG:HG3	2.01	0.60
1:B:3429:LEU:HD21	1:B:3439:ARG:HB3	1.82	0.60
1:B:3612:ASP:O	1:B:3615:VAL:HG22	2.00	0.60
1:A:1527:LEU:HD23	1:A:1545:LEU:HD22	1.83	0.60
1:A:1656:TRP:O	1:A:1660:VAL:HG12	2.01	0.60
1:B:2424:LYS:HA	1:B:2559:LEU:HD12	1.81	0.60
1:B:2445:PHE:HA	1:B:2449:THR:HG21	1.83	0.60
1:B:3700:MET:HB3	1:B:4085:THR:HG21	1.82	0.60
1:A:1462:ASN:CB	1:A:1465:ILE:HG22	2.31	0.60
1:B:1469:LEU:HD13	1:B:1523:LEU:CD2	2.31	0.60
1:B:2838:ALA:HB3	1:B:2878:VAL:HG13	1.83	0.60
1:B:3330:TYR:CE1	1:B:3334:PHE:CD2	2.89	0.60
1:B:3350:LYS:HA	1:B:3353:LEU:HD12	1.84	0.60
1:B:3911:TRP:HH2	1:B:3926:VAL:HG12	1.65	0.60
1:A:1969:GLY:O	1:A:1972:THR:HB	2.01	0.60
1:A:2380:LEU:HD11	1:A:2390:ILE:HD11	1.83	0.60
1:B:2332:GLY:HA2	1:B:2335:GLN:CB	2.27	0.60
1:B:3737:THR:HB	1:B:3740:THR:CB	2.31	0.60
1:A:1409:LEU:HD21	1:A:1435:LEU:HB2	1.79	0.60
1:A:1851:ASN:HD21	1:A:1899:ASN:HB2	1.66	0.60
1:A:2282:ASN:HB3	1:A:2552:ARG:HG3	1.81	0.60
1:A:3817:GLY:H	1:A:3821:ASN:HB2	1.66	0.60
1:B:3702:MET:HB3	1:B:3767:PHE:HZ	1.67	0.60
1:B:1620:PHE:CZ	1:B:1743:ASP:HB3	2.35	0.60
1:B:2125:TRP:CZ2	1:B:2178:LEU:HD13	2.36	0.60
1:B:2637:PRO:O	1:B:2639:GLN:NE2	2.35	0.60
1:B:3459:ASP:OD2	1:B:3461:ILE:HG12	2.01	0.60
1:A:1391:GLY:HA3	1:A:1484:LYS:NZ	2.17	0.60
1:A:1536:ARG:HD2	1:A:1565:MET:O	2.02	0.60
1:A:2081:THR:O	1:A:2085:LYS:HB2	2.02	0.60
1:A:3509:LEU:HD12	1:A:3513:VAL:HG21	1.75	0.60
1:B:1991:GLU:O	1:B:1995:VAL:HG23	2.02	0.60
1:B:3855:LEU:HD12	1:B:3859:VAL:HG23	1.83	0.60
1:B:4065:LEU:HD11	1:B:4070:ILE:HD11	1.84	0.60
1:A:3886:ALA:N	1:A:3887:PRO:HD2	2.17	0.59
1:B:3509:LEU:CD1	1:B:3513:VAL:CG2	2.79	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3948:HIS:NE2	1:A:4072:ASN:CG	2.55	0.59
1:B:3919:LYS:NZ	1:B:4038:GLU:CG	2.65	0.59
1:A:162:LEU:HA	1:A:165:ASP:O	2.02	0.59
1:A:1425:GLU:OE1	1:A:1426:GLN:N	2.36	0.59
1:A:2354:SER:OG	1:A:2357:SER:HB2	2.02	0.59
1:B:3692:LYS:HE3	1:B:3898:GLU:HB3	1.84	0.59
1:A:1534:PHE:HD2	1:A:1537:PHE:CE1	2.21	0.59
1:A:2755:HIS:NE2	1:A:2835:LEU:HG	2.17	0.59
1:A:2941:THR:HG22	1:A:2942:ASP:H	1.67	0.59
1:B:3845:GLN:OE1	1:B:3878:HIS:HB2	2.01	0.59
1:A:1421:TYR:CE2	1:A:1425:GLU:HG3	2.37	0.59
1:A:2677:VAL:HG11	1:A:2686:LEU:HD21	1.83	0.59
1:A:2728:LEU:HD12	1:A:2771:ARG:NH2	2.17	0.59
1:A:3537:GLU:OE1	1:A:3618:TYR:OH	2.21	0.59
1:A:3851:VAL:HG13	1:A:3855:LEU:HD23	1.85	0.59
1:A:3945:LEU:O	1:A:3948:HIS:O	2.21	0.59
1:B:2723:PHE:O	1:B:2727:GLU:HB2	2.02	0.59
1:B:2842:ASP:O	1:B:2845:GLN:HG2	2.02	0.59
1:A:1620:PHE:HA	1:A:1760:PHE:CE1	2.37	0.59
1:A:1900:PRO:HB3	1:A:1905:ARG:HA	1.83	0.59
1:B:1536:ARG:HD2	1:B:1565:MET:O	2.02	0.59
1:A:1394:LEU:CD2	1:A:1449:GLN:HE22	2.14	0.59
1:A:1630:ILE:CG2	1:A:1655:MET:SD	2.89	0.59
1:A:2784:PRO:HG2	1:A:2817:ILE:HD13	1.84	0.59
1:A:2787:HIS:CA	1:A:3460:PRO:HG2	2.32	0.59
1:A:2034:ILE:HD12	1:A:2061:TYR:CZ	2.38	0.59
1:A:2489:ILE:HG22	1:A:2535:CYS:HB3	1.84	0.59
1:A:3810:SER:O	1:A:3838:TRP:HB2	2.03	0.59
1:B:1911:ASN:OD1	1:B:1912:LEU:N	2.36	0.59
1:A:1536:ARG:HD3	1:A:1841:ILE:HD13	1.85	0.59
1:B:1998:LEU:HD11	1:B:2022:PHE:HZ	1.67	0.59
1:B:2290:LEU:HD23	1:B:2321:SER:HA	1.83	0.59
1:B:2707:VAL:HG12	1:B:2712:LEU:CD1	2.33	0.59
1:A:2549:ARG:HE	2:A:5093:ATP:PG	2.25	0.58
1:A:3737:THR:HB	1:A:3740:THR:CB	2.33	0.58
1:A:4033:LEU:HD12	1:A:4035:GLN:N	2.18	0.58
1:B:1910:GLU:HB2	1:B:3846:MET:CB	2.33	0.58
1:B:2293:HIS:CE1	1:B:2409:ASN:CB	2.86	0.58
1:B:2761:ALA:O	1:B:2892:CYS:HB3	2.02	0.58
1:B:2780:LYS:HD3	1:B:2813:THR:HG22	1.85	0.58
1:A:2332:GLY:HA2	1:A:2335:GLN:CB	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1900:PRO:HB3	1:B:1905:ARG:HA	1.85	0.58
1:B:3566:LEU:CA	1:B:3583:LEU:HD21	2.30	0.58
1:B:3583:LEU:O	1:B:3587:LEU:HG	2.04	0.58
1:B:3618:TYR:O	1:B:3622:GLY:N	2.33	0.58
1:B:3919:LYS:HZ3	1:B:4038:GLU:CG	2.16	0.58
1:A:1984:ILE:HG21	1:A:1989:GLU:HG3	1.84	0.58
1:A:2640:THR:HG23	1:A:2643:SER:H	1.67	0.58
1:B:3978:ASN:O	1:B:3981:PRO:CD	2.51	0.58
1:A:2446:SER:H	1:A:2449:THR:HG21	1.67	0.58
1:A:2745:ILE:HG12	1:A:2756:MET:HE3	1.85	0.58
1:B:1744:LEU:HD22	1:B:1760:PHE:CG	2.39	0.58
1:B:3525:ILE:HD11	1:B:3646:ILE:CG2	2.16	0.58
1:A:2155:ASP:OD1	1:A:2549:ARG:NH2	2.35	0.58
1:A:3592:LYS:O	1:A:3596:ASN:HB2	2.03	0.58
1:B:1394:LEU:HD22	1:B:1449:GLN:NE2	2.18	0.58
1:B:1849:GLU:OE2	1:B:1899:ASN:ND2	2.36	0.58
1:B:3330:TYR:CD1	1:B:3334:PHE:CD2	2.92	0.58
1:B:3631:MET:HE1	1:B:3698:MET:HG3	1.84	0.58
1:B:1620:PHE:CA	1:B:1760:PHE:CE1	2.86	0.58
1:B:3537:GLU:OE1	1:B:3618:TYR:OH	2.20	0.58
1:A:1779:PHE:O	1:A:1783:THR:HG22	2.03	0.58
1:B:2472:THR:CB	1:B:2524:VAL:HG22	2.34	0.58
1:B:3912:GLY:O	1:B:3915:PHE:CE2	2.57	0.58
1:B:4084:SER:O	1:B:4088:LEU:HG	2.03	0.58
1:B:1967:HIS:O	1:B:1968:PHE:HD1	1.86	0.58
1:B:162:LEU:HA	1:B:165:ASP:O	2.04	0.58
1:B:1726:LEU:CD1	1:B:3984:GLN:CB	2.79	0.58
1:B:3330:TYR:OH	1:B:3346:LEU:HD13	2.04	0.58
1:B:3440:LEU:CD2	1:B:3462:ILE:HD12	2.33	0.58
1:B:3612:ASP:O	1:B:3615:VAL:CG2	2.52	0.58
1:B:3683:TYR:O	1:B:3687:SER:HB2	2.04	0.58
1:A:1704:GLU:OE2	1:A:1768:ARG:NH1	2.37	0.57
1:A:2846:GLY:O	1:A:2849:TYR:HB3	2.04	0.57
1:B:1750:SER:HB2	1:B:1755:LEU:CD2	2.34	0.57
1:B:2127:ASP:O	1:B:2131:THR:OG1	2.22	0.57
1:B:2627:ARG:NH1	1:B:2630:TYR:HE2	1.98	0.57
1:A:1781:THR:HG21	1:A:1919:PHE:CD1	2.39	0.57
1:A:2201:HIS:NE2	1:A:2497:TYR:O	2.37	0.57
1:A:3839:ILE:HG23	1:A:3873:MET:HG3	1.86	0.57
1:A:3912:GLY:O	1:A:3915:PHE:CZ	2.57	0.57
1:B:1826:PHE:CE1	1:B:1853:LEU:HD22	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1981:SER:HB3	1:B:1982:PRO:HD3	1.87	0.57
1:B:2111:LYS:HZ3	1:B:2161:GLU:HG2	1.68	0.57
1:B:2891:ILE:HD11	1:B:2903:ILE:HD11	1.84	0.57
1:A:2257:PHE:HD1	1:A:2262:LEU:HD11	1.69	0.57
1:A:2437:LEU:H	1:A:2437:LEU:HD12	1.69	0.57
1:A:2808:LEU:HD21	1:A:2856:LEU:HD12	1.86	0.57
1:A:3303:LYS:C	1:A:3306:TRP:CD1	2.74	0.57
1:B:1940:GLU:HG3	1:B:1941:ASP:H	1.69	0.57
1:B:2131:THR:HG22	1:B:2176:LEU:CD2	2.30	0.57
1:B:2627:ARG:HH11	1:B:2631:THR:HG23	1.64	0.57
1:A:1493:LEU:O	1:A:1494:ASP:HB2	2.04	0.57
1:A:2137:VAL:O	1:A:2141:ILE:CG2	2.50	0.57
1:A:2476:LYS:CD	1:A:2476:LYS:N	2.52	0.57
1:A:3519:VAL:HG13	1:A:3521:ASN:ND2	2.19	0.57
1:A:3555:TYR:HE1	1:A:3593:GLU:HG2	1.68	0.57
1:B:1683:LEU:HB3	1:B:1702:LEU:HD21	1.85	0.57
1:B:2302:PHE:HA	1:B:2310:LEU:HD11	1.85	0.57
1:A:1394:LEU:HD22	1:A:1449:GLN:NE2	2.19	0.57
1:A:1965:HIS:HD2	1:A:2212:LEU:CD2	2.18	0.57
1:A:2111:LYS:CD	1:A:2161:GLU:HG3	2.13	0.57
1:B:1849:GLU:CG	1:B:1899:ASN:HD22	2.18	0.57
1:A:1559:SER:HB3	1:A:1572:ILE:HG22	1.86	0.57
1:A:2380:LEU:HD13	1:A:2390:ILE:CD1	2.23	0.57
1:A:2563:SER:CB	1:A:2566:SER:H	2.15	0.57
1:A:3303:LYS:HA	1:A:3306:TRP:HE1	1.67	0.57
1:A:3618:TYR:O	1:A:3622:GLY:N	2.34	0.57
1:A:4024:VAL:HG11	1:A:4062:TRP:CD2	2.38	0.57
1:B:1620:PHE:CB	1:B:1760:PHE:CE1	2.88	0.57
1:B:3995:GLY:HA2	1:B:3998:ILE:HD13	1.86	0.57
1:A:2048:SER:H	2:A:5093:ATP:HN62	1.52	0.57
1:A:2419:PRO:O	1:A:2424:LYS:CE	2.52	0.57
1:A:4021:LEU:HD23	1:A:4023:ILE:HG13	1.85	0.57
1:B:2382:ALA:O	1:B:2385:VAL:HG12	2.04	0.57
1:B:2472:THR:HG22	1:B:2524:VAL:HG13	1.86	0.57
1:B:2473:LEU:HG	1:B:2525:THR:O	2.05	0.57
1:B:3784:ASN:ND2	1:B:3865:ALA:O	2.37	0.57
1:B:3785:TYR:HE2	1:B:3859:VAL:HG22	1.69	0.57
1:A:1469:LEU:HB3	1:A:1472:GLU:HB2	1.87	0.57
1:A:1706:LEU:HD21	1:A:1935:GLN:HG2	1.86	0.57
1:A:1940:GLU:HG3	1:A:1941:ASP:N	2.18	0.57
1:A:2071:ILE:HB	1:A:2212:LEU:HD12	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3538:ASN:HB3	1:A:3541:MET:HG2	1.87	0.57
1:A:3566:LEU:HD13	1:A:3570:LEU:HD11	1.86	0.57
1:B:2293:HIS:NE2	1:B:2409:ASN:HB3	2.19	0.57
1:A:1911:ASN:OD1	1:A:1912:LEU:N	2.38	0.56
1:A:2127:ASP:O	1:A:2131:THR:OG1	2.23	0.56
1:A:4017:GLY:HA3	1:A:4021:LEU:HD12	1.87	0.56
1:B:2106:THR:HG1	1:B:2154:PHE:HB3	1.68	0.56
1:A:2241:LEU:HD13	1:A:2299:ARG:HH11	1.68	0.56
1:A:3833:LYS:HZ3	1:A:3862:THR:HG21	1.70	0.56
1:A:3939:ILE:HG13	1:A:4010:LEU:HD22	1.86	0.56
1:B:2063:MET:HB3	1:B:2070:LEU:HD11	1.86	0.56
1:B:2755:HIS:NE2	1:B:2835:LEU:HG	2.20	0.56
1:B:3409:ASP:HB3	1:B:3518:PHE:HB2	1.87	0.56
1:A:1620:PHE:CZ	1:A:1743:ASP:HB3	2.40	0.56
1:A:1995:VAL:HG22	1:A:2022:PHE:CD2	2.40	0.56
1:A:2938:MET:SD	1:A:3321:ILE:HG21	2.45	0.56
1:A:3631:MET:CE	1:A:3698:MET:HG3	2.36	0.56
1:A:4022:GLN:HG2	1:A:4022:GLN:O	2.05	0.56
1:B:1531:ARG:HG2	1:B:1537:PHE:CB	2.36	0.56
1:A:1939:PHE:O	1:A:1940:GLU:HB3	2.05	0.56
1:B:1748:PHE:HD2	1:B:1755:LEU:HD22	1.69	0.56
1:B:2512:LYS:O	1:B:2513:GLN:CB	2.52	0.56
1:A:1726:LEU:CD1	1:A:3984:GLN:HB3	2.30	0.56
1:B:1462:ASN:HB2	1:B:1465:ILE:HG22	1.88	0.56
1:B:1493:LEU:HD23	1:B:1498:GLU:HB3	1.86	0.56
1:B:3017:VAL:HG21	1:B:3313:PHE:CE2	2.41	0.56
1:A:2627:ARG:NH1	1:A:2630:TYR:CE2	2.74	0.56
1:B:1493:LEU:O	1:B:1494:ASP:HB2	2.06	0.56
1:B:2380:LEU:HD12	1:B:2577:ALA:CB	2.31	0.56
1:A:3509:LEU:HD12	1:A:3513:VAL:HG23	1.88	0.56
1:B:1392:LEU:HD13	1:B:1393:LYS:C	2.26	0.56
1:B:1995:VAL:HG22	1:B:2022:PHE:CE2	2.41	0.56
1:A:1619:VAL:HG12	1:A:1760:PHE:HD1	1.70	0.56
1:A:2305:LEU:HD11	1:A:2368:PHE:CD1	2.41	0.56
1:A:2868:ASP:HB2	1:A:2872:GLU:OE1	2.06	0.56
1:B:3785:TYR:CE2	1:B:3859:VAL:HG22	2.41	0.56
1:B:1998:LEU:CD1	1:B:2022:PHE:HZ	2.18	0.56
1:A:1497:ILE:O	1:A:1500:ILE:HG12	2.05	0.55
1:A:2514:GLY:C	1:A:2523:TRP:CH2	2.80	0.55
1:B:3919:LYS:NZ	1:B:4038:GLU:HG3	2.21	0.55
1:B:2489:ILE:HD11	1:B:2506:LEU:HD13	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3737:THR:CB	1:B:3740:THR:HB	2.37	0.55
1:A:1983:LEU:HB3	1:A:1993:THR:CG2	2.36	0.55
1:A:2111:LYS:HZ2	1:A:2161:GLU:HG2	1.67	0.55
1:A:2220:CYS:SG	1:A:2224:SER:CB	2.94	0.55
1:B:1646:GLN:NE2	1:B:1758:TYR:OH	2.40	0.55
1:B:3911:TRP:HH2	1:B:3926:VAL:CG1	2.19	0.55
1:A:2386:MET:HB3	1:A:2627:ARG:CD	2.36	0.55
1:A:3683:TYR:O	1:A:3687:SER:HB2	2.07	0.55
1:A:2002:ILE:HB	1:A:2014:PHE:CE2	2.42	0.55
1:B:2336:ARG:HA	1:B:2339:ILE:HD12	1.88	0.55
1:B:2362:ALA:HB3	1:B:2365:LYS:O	2.07	0.55
1:B:3645:SER:CB	1:B:3890:GLN:NE2	2.69	0.55
1:A:1425:GLU:OE1	1:A:1429:LEU:HD12	2.06	0.55
1:A:1527:LEU:HD21	1:A:1546:LEU:CD2	2.36	0.55
1:A:4037:SER:HB3	1:A:4040:GLU:HB3	1.87	0.55
1:B:1563:LYS:HE2	1:B:1585:VAL:HG12	1.87	0.55
1:B:2109:LEU:CD1	1:B:2129:LEU:HD23	2.36	0.55
1:B:2155:ASP:OD1	1:B:2549:ARG:NH2	2.40	0.55
1:B:3787:THR:HG22	1:B:3875:MET:HB2	1.88	0.55
1:B:3845:GLN:NE2	1:B:3882:ASP:O	2.39	0.55
1:A:1365:PHE:C	1:A:1366:VAL:HG23	2.27	0.55
1:A:2410:SER:O	1:A:2411:LYS:HB2	2.06	0.55
1:A:2763:ARG:N	3:A:5095:SO4:O1	2.38	0.55
1:A:2151:TRP:CE3	1:A:2193:LEU:HD11	2.41	0.55
1:A:2788:ARG:HG3	1:A:3459:ASP:HA	1.89	0.55
1:B:115:GLU:CB	1:B:1372:ASN:OD1	2.55	0.55
1:A:1531:ARG:HD3	1:A:1537:PHE:O	2.07	0.55
1:A:1535:PRO:O	1:A:1841:ILE:CD1	2.55	0.55
1:A:1502:ILE:HG23	1:A:1503:PRO:HD2	1.89	0.55
1:A:2064:GLN:CD	1:A:2091:MET:CE	2.75	0.55
1:A:2078:CYS:N	2:A:5093:ATP:O2B	2.31	0.55
1:A:3440:LEU:HD23	1:A:3462:ILE:HD12	1.88	0.55
1:A:4023:ILE:HD12	1:A:4029:ILE:HD11	1.87	0.55
1:B:1421:TYR:O	1:B:1425:GLU:N	2.40	0.55
1:B:2447:LYS:HE3	1:B:2493:LYS:HD3	1.89	0.55
1:B:4024:VAL:HG11	1:B:4062:TRP:CD2	2.42	0.55
1:A:1627:LEU:HD11	1:A:1631:LYS:HE3	1.89	0.54
1:A:2786:ILE:O	1:A:3460:PRO:HB2	2.07	0.54
1:A:2002:ILE:HG22	1:A:2006:LEU:HD11	1.88	0.54
1:A:2131:THR:HG22	1:A:2176:LEU:CD2	2.34	0.54
1:A:2336:ARG:CD	1:A:2355:ASP:OD2	2.51	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2400:HIS:NE2	1:A:2559:LEU:CD1	2.67	0.54
1:B:2476:LYS:CD	1:B:2476:LYS:N	2.63	0.54
1:A:1823:ASP:HB2	1:A:1853:LEU:HD23	1.88	0.54
1:A:1940:GLU:CB	1:A:1989:GLU:O	2.51	0.54
1:A:2707:VAL:HG12	1:A:2712:LEU:CD1	2.37	0.54
1:B:1911:ASN:OD1	1:B:1912:LEU:HG	2.08	0.54
1:B:1956:LEU:CB	1:B:1968:PHE:CE2	2.88	0.54
1:B:3737:THR:CB	1:B:3740:THR:CB	2.85	0.54
1:B:3946:VAL:HA	1:B:3947:PRO:C	2.27	0.54
1:A:1535:PRO:O	1:A:1841:ILE:HD11	2.08	0.54
1:A:1604:ALA:HA	1:A:1607:TRP:HE1	1.72	0.54
1:A:2112:GLU:CB	1:A:2117:SER:HB2	2.35	0.54
1:A:2201:HIS:CE1	1:A:2497:TYR:CA	2.91	0.54
1:A:3566:LEU:CA	1:A:3583:LEU:HD21	2.37	0.54
1:B:1462:ASN:CB	1:B:1465:ILE:HG22	2.37	0.54
1:B:3924:TRP:O	1:B:3927:TYR:HB3	2.08	0.54
1:A:1392:LEU:HD13	1:A:1393:LYS:C	2.27	0.54
1:A:2063:MET:HB3	1:A:2070:LEU:HD11	1.90	0.54
1:B:1394:LEU:CD2	1:B:1449:GLN:HE22	2.20	0.54
1:B:1421:TYR:CD2	1:B:1425:GLU:HB2	2.42	0.54
1:A:1852:ARG:O	1:A:1852:ARG:HG3	2.06	0.54
1:B:1983:LEU:HD21	1:B:2000:ARG:HE	1.66	0.54
1:B:2761:ALA:O	1:B:2892:CYS:CB	2.55	0.54
1:B:2936:ILE:HG22	1:B:2962:ARG:HD3	1.89	0.54
1:B:3737:THR:OG1	1:B:3740:THR:CB	2.55	0.54
1:A:2115:TYR:OH	1:A:2162:TYR:O	2.23	0.54
1:A:2181:GLY:C	1:A:2182:GLU:HG3	2.27	0.54
1:A:2786:ILE:HG12	1:A:2821:ASN:HA	1.90	0.54
1:A:3877:CYS:SG	1:A:3884:LEU:CD2	2.96	0.54
1:B:3645:SER:CB	1:B:3890:GLN:HE21	2.18	0.54
1:A:1386:ILE:CG2	1:A:1396:ARG:HD3	2.37	0.54
1:A:3645:SER:CB	1:A:3890:GLN:HE21	2.19	0.54
1:B:2274:HIS:CE1	1:B:2326:LEU:O	2.50	0.54
1:B:2960:THR:HG22	1:B:2961:ILE:N	2.23	0.54
1:B:3330:TYR:CE1	1:B:3334:PHE:CE2	2.96	0.54
1:A:2448:ASP:CB	1:A:2829:GLU:OE2	2.47	0.54
1:B:1527:LEU:HD21	1:B:1546:LEU:HD21	1.88	0.54
1:B:2151:TRP:HE3	1:B:2193:LEU:HD11	1.73	0.54
1:B:2728:LEU:HG	1:B:2771:ARG:HH22	1.72	0.54
1:B:3323:ASN:HD21	1:B:3361:ASP:H	1.56	0.54
1:B:3656:VAL:CG1	1:B:3677:LEU:HB3	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3810:SER:O	1:B:3838:TRP:HB2	2.07	0.54
1:A:1645:PHE:CZ	1:A:1649:LEU:HD22	2.43	0.53
1:A:2064:GLN:OE1	1:A:2151:TRP:CH2	2.55	0.53
1:A:2707:VAL:HG12	1:A:2712:LEU:HD12	1.89	0.53
1:A:4059:LEU:HA	1:A:4063:LEU:HD13	1.89	0.53
1:B:1823:ASP:HB2	1:B:1853:LEU:HD23	1.90	0.53
1:B:2220:CYS:SG	1:B:2224:SER:CB	2.96	0.53
1:A:3307:LEU:O	1:A:3311:LYS:N	2.27	0.53
1:A:3440:LEU:CD2	1:A:3462:ILE:HD12	2.38	0.53
1:B:1759:LYS:HE3	1:B:1761:GLU:OE2	2.08	0.53
1:B:2074:GLY:O	1:B:2197:ASP:HA	2.09	0.53
1:B:2835:LEU:HD23	1:B:2911:ARG:HB2	1.91	0.53
1:B:3854:TYR:O	1:B:3858:HIS:HB2	2.08	0.53
1:A:2106:THR:HG1	1:A:2154:PHE:HB3	1.72	0.53
1:A:3703:PHE:CE1	1:A:3766:GLU:HG2	2.43	0.53
1:B:1953:LEU:HD11	1:B:1973:LEU:HB3	1.91	0.53
1:B:3509:LEU:HD11	1:B:3513:VAL:HG21	1.90	0.53
1:A:2141:ILE:HG22	1:A:2145:PHE:HB2	1.90	0.53
1:A:2305:LEU:CD1	1:A:2368:PHE:CD1	2.91	0.53
1:B:2741:HIS:HA	1:B:2744:ARG:HD2	1.89	0.53
1:B:1744:LEU:CD2	1:B:1760:PHE:CD2	2.92	0.53
1:A:3612:ASP:O	1:A:3615:VAL:HG22	2.08	0.53
1:B:2002:ILE:HB	1:B:2014:PHE:CE2	2.43	0.53
1:B:2181:GLY:O	1:B:2182:GLU:CG	2.57	0.53
1:B:3767:PHE:HB3	1:B:3769:VAL:HG23	1.90	0.53
1:A:1534:PHE:CE2	1:A:1536:ARG:HB2	2.43	0.53
1:A:2336:ARG:HG2	1:A:2355:ASP:OD1	2.08	0.53
1:A:2419:PRO:O	1:A:2424:LYS:NZ	2.42	0.53
1:A:3017:VAL:HG21	1:A:3313:PHE:CE2	2.44	0.53
1:B:2201:HIS:CE1	1:B:2497:TYR:HA	2.44	0.53
1:A:1409:LEU:CD2	1:A:1435:LEU:HB2	2.39	0.53
1:A:1970:LEU:HD12	1:A:1970:LEU:C	2.28	0.53
1:A:3817:GLY:H	1:A:3821:ASN:CB	2.21	0.53
1:B:1914:LYS:HD3	1:B:3959:CYS:SG	2.48	0.53
1:B:3330:TYR:CZ	1:B:3346:LEU:HD13	2.44	0.53
1:A:2488:GLU:CD	1:A:2491:LEU:HD11	2.29	0.53
1:A:2048:SER:H	2:A:5093:ATP:N6	2.06	0.53
1:A:2177:THR:HG22	1:A:2183:ARG:HG2	1.91	0.53
1:A:2795:PHE:CE2	1:A:2799:LEU:HD11	2.44	0.53
1:A:1979:ASN:O	1:A:1983:LEU:HD13	2.09	0.52
1:A:2339:ILE:HG12	1:A:2353:LEU:HD23	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2450:THR:H	1:A:2453:HIS:CE1	2.27	0.52
1:A:2788:ARG:HB2	1:A:3459:ASP:HB3	1.90	0.52
1:B:1995:VAL:HG22	1:B:2022:PHE:CD2	2.44	0.52
1:B:3308:ASN:O	1:B:3312:GLN:HB2	2.09	0.52
1:B:2201:HIS:NE2	1:B:2497:TYR:O	2.42	0.52
1:B:2476:LYS:H	1:B:2476:LYS:HD3	1.72	0.52
1:B:3772:TRP:HZ3	1:B:3780:ASN:HD22	1.56	0.52
1:A:1822:CYS:SG	1:A:1849:GLU:C	2.88	0.52
1:A:2787:HIS:HB3	1:A:3461:ILE:HG23	1.91	0.52
1:A:1981:SER:HB3	1:A:1982:PRO:HD3	1.91	0.52
1:A:2173:ASN:HB3	1:A:2175:ILE:HG22	1.90	0.52
1:A:2230:LEU:HD23	1:A:2288:VAL:HG13	1.90	0.52
1:A:2290:LEU:HD23	1:A:2321:SER:HA	1.92	0.52
1:A:3692:LYS:HE3	1:A:3898:GLU:HB3	1.91	0.52
1:A:3877:CYS:SG	1:A:3884:LEU:HD22	2.50	0.52
1:A:4021:LEU:HD23	1:A:4023:ILE:CG1	2.39	0.52
1:B:1822:CYS:HB2	1:B:1853:LEU:CD2	2.29	0.52
1:B:1939:PHE:H	1:B:1939:PHE:HD1	1.56	0.52
1:B:2493:LYS:HG3	1:B:2494:LEU:N	2.19	0.52
1:B:2860:THR:HG22	1:B:2865:LEU:O	2.09	0.52
1:A:1486:ILE:HG12	1:A:1508:THR:HG21	1.91	0.52
1:A:2285:GLU:CB	1:A:2412:ARG:NH2	2.73	0.52
1:B:2173:ASN:HB3	1:B:2175:ILE:HG22	1.91	0.52
1:B:2571:TYR:HA	1:B:2574:TYR:HB2	1.91	0.52
1:B:3461:ILE:C	1:B:3463:SER:H	2.12	0.52
1:B:3519:VAL:HG13	1:B:3521:ASN:ND2	2.24	0.52
1:A:2095:ASP:CG	1:A:2149:ARG:HH22	2.11	0.52
1:A:2462:THR:HG22	1:A:2476:LYS:HA	1.90	0.52
1:A:1926:SER:HA	1:A:1929:ILE:HD13	1.92	0.52
1:A:2012:LEU:HD13	1:A:2016:ASP:OD2	2.10	0.52
1:A:3547:ASP:HA	1:A:3550:LYS:HB3	1.90	0.52
1:A:3911:TRP:HH2	1:A:3926:VAL:CG1	2.23	0.52
1:A:3951:SER:HB2	1:A:4002:LYS:HD2	1.91	0.52
1:A:4034:LEU:HD23	1:A:4034:LEU:O	2.10	0.52
1:B:1365:PHE:C	1:B:1366:VAL:HG23	2.30	0.52
1:B:1392:LEU:C	1:B:1392:LEU:CD1	2.77	0.52
1:B:2109:LEU:HD13	1:B:2129:LEU:HD23	1.92	0.52
1:B:2220:CYS:SG	1:B:2224:SER:HB2	2.50	0.52
1:B:3641:PHE:HA	1:B:3889:LEU:HD21	1.91	0.52
1:A:1536:ARG:HB3	1:A:1565:MET:HB2	1.90	0.52
1:A:1620:PHE:HA	1:A:1760:PHE:HE1	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2833:THR:HG21	1:A:2841:PRO:HD2	1.91	0.52
1:A:3656:VAL:CG1	1:A:3677:LEU:HB3	2.36	0.52
1:A:3995:GLY:HA2	1:A:3998:ILE:HD13	1.91	0.52
1:B:1394:LEU:HD22	1:B:1449:GLN:HE22	1.74	0.52
1:A:2494:LEU:HD12	1:A:2494:LEU:O	2.10	0.52
1:A:3854:TYR:O	1:A:3858:HIS:HB2	2.10	0.52
1:B:1604:ALA:HA	1:B:1607:TRP:HE1	1.72	0.52
1:B:2631:THR:O	1:B:2635:THR:HG22	2.10	0.52
1:A:1650:LEU:HD11	1:A:1747:VAL:HG11	1.92	0.52
1:A:2578:ILE:HG21	1:A:2630:TYR:HB2	1.91	0.52
1:B:1681:LYS:HE2	1:B:1939:PHE:CZ	2.44	0.52
1:B:2064:GLN:NE2	1:B:2091:MET:HE1	2.24	0.52
1:B:2620:ARG:NH2	3:B:5095:SO4:O3	2.43	0.52
1:B:3460:PRO:O	1:B:3463:SER:CB	2.58	0.52
1:A:1514:ASP:O	1:A:1518:MET:HG3	2.10	0.51
1:A:1677:ASP:HA	1:A:1680:ILE:HD12	1.93	0.51
1:A:1707:HIS:O	1:A:1711:VAL:HG23	2.10	0.51
1:A:1963:MET:HB3	1:A:1966:TYR:CD2	2.45	0.51
1:A:2645:ILE:CD1	1:A:2686:LEU:HG	2.40	0.51
1:B:1983:LEU:HD11	1:B:2000:ARG:CD	2.39	0.51
1:B:2786:ILE:HG12	1:B:2821:ASN:HA	1.92	0.51
1:A:1645:PHE:HZ	1:A:1768:ARG:HD2	1.75	0.51
1:B:1781:THR:HG21	1:B:1919:PHE:CE1	2.45	0.51
1:B:3978:ASN:O	1:B:3981:PRO:HD3	2.10	0.51
1:B:1469:LEU:HB3	1:B:1472:GLU:HB2	1.91	0.51
1:B:1707:HIS:O	1:B:1711:VAL:HG23	2.10	0.51
1:B:1940:GLU:CB	1:B:1989:GLU:O	2.51	0.51
1:A:2780:LYS:HD3	1:A:2813:THR:HG22	1.93	0.51
1:A:3737:THR:OG1	1:A:3740:THR:CB	2.59	0.51
1:A:3737:THR:CB	1:A:3740:THR:CB	2.89	0.51
1:B:1493:LEU:CD2	1:B:1498:GLU:HB3	2.41	0.51
1:B:2061:TYR:O	1:B:2064:GLN:HG2	2.10	0.51
1:B:2266:PHE:HD1	1:B:2326:LEU:HD21	1.76	0.51
1:B:2312:ASP:HB3	1:B:2351:GLN:HG3	1.91	0.51
1:A:65:THR:O	1:A:66:GLN:CB	2.59	0.51
1:A:1939:PHE:HD1	1:A:1939:PHE:H	1.57	0.51
1:A:2302:PHE:HA	1:A:2310:LEU:HD11	1.92	0.51
1:B:2795:PHE:CE2	1:B:2799:LEU:HD11	2.46	0.51
1:A:1749:ILE:HD13	1:A:1813:LEU:HD22	1.92	0.51
1:A:3645:SER:CB	1:A:3890:GLN:NE2	2.74	0.51
1:A:3787:THR:HG22	1:A:3875:MET:HB2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3839:ILE:CG2	1:A:3873:MET:HG3	2.41	0.51
1:A:3934:TRP:CB	1:A:4023:ILE:HD13	2.41	0.51
1:A:3946:VAL:HB	1:A:3947:PRO:HA	1.91	0.51
1:B:2034:ILE:CD1	1:B:2061:TYR:CE2	2.94	0.51
1:B:2787:HIS:CA	1:B:3460:PRO:HG2	2.37	0.51
1:A:1917:ARG:HD2	1:A:3963:PHE:CE2	2.46	0.51
1:A:2427:ILE:HD12	1:A:2559:LEU:HD22	1.92	0.51
1:B:1606:GLU:O	1:B:1610:ILE:HG12	2.11	0.51
1:B:3509:LEU:O	1:B:3513:VAL:HG23	2.11	0.51
1:A:4065:LEU:O	1:A:4065:LEU:HD12	2.10	0.51
1:B:2464:TYR:HE1	1:B:2524:VAL:HG11	1.75	0.51
1:B:2708:ASN:O	1:B:2712:LEU:HD13	2.10	0.51
1:B:4022:GLN:O	1:B:4022:GLN:HG2	2.11	0.51
1:A:2084:TRP:HE3	1:A:2088:ILE:HD12	1.76	0.51
1:A:2637:PRO:O	1:A:2639:GLN:NE2	2.44	0.51
1:B:2448:ASP:HB2	1:B:2829:GLU:CD	2.31	0.51
1:B:4024:VAL:HG23	1:B:4027:VAL:H	1.75	0.51
1:A:1645:PHE:HB2	1:A:1697:LYS:HG3	1.91	0.51
1:A:1803:THR:HG21	1:A:1848:ASP:OD1	2.10	0.51
1:A:2102:TYR:HB2	1:A:2152:VAL:HG22	1.93	0.51
1:B:2107:LYS:CE	1:B:2499:SER:HB3	2.40	0.51
1:B:2494:LEU:HD12	1:B:2494:LEU:O	2.11	0.51
1:B:2512:LYS:HB3	1:B:2523:TRP:CH2	2.40	0.51
1:A:1706:LEU:HD22	1:A:1935:GLN:HG2	1.93	0.50
1:A:3566:LEU:HD11	1:A:3570:LEU:HD11	1.92	0.50
1:B:1635:ASP:HB2	1:B:1638:VAL:HG23	1.93	0.50
1:A:1606:GLU:O	1:A:1610:ILE:HG12	2.11	0.50
1:A:3845:GLN:OE1	1:A:3878:HIS:HB2	2.11	0.50
1:B:2640:THR:HG23	1:B:2643:SER:H	1.76	0.50
1:B:3307:LEU:HA	1:B:3310:THR:HB	1.92	0.50
1:A:2422:SER:H	1:A:2424:LYS:HZ1	1.59	0.50
1:B:1612:ASP:HA	1:B:1615:ILE:HG12	1.94	0.50
1:B:1803:THR:HG21	1:B:1848:ASP:OD1	2.11	0.50
1:B:2201:HIS:CE1	1:B:2497:TYR:HB3	2.47	0.50
1:B:3547:ASP:HA	1:B:3550:LYS:HB3	1.92	0.50
1:A:3725:VAL:HG22	1:A:3731:ASP:HA	1.93	0.50
1:B:1502:ILE:HG23	1:B:1503:PRO:HD2	1.93	0.50
1:B:1575:LEU:O	1:B:1576:GLU:HB3	2.11	0.50
1:B:2627:ARG:HH12	1:B:2631:THR:HG22	1.73	0.50
1:A:2034:ILE:CD1	1:A:2061:TYR:CZ	2.95	0.50
1:A:2982:VAL:HG12	1:A:2983:GLY:N	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1822:CYS:SG	1:B:1849:GLU:C	2.90	0.50
1:B:2034:ILE:HD12	1:B:2061:TYR:CE2	2.46	0.50
1:B:2488:GLU:CD	1:B:2491:LEU:HD11	2.32	0.50
1:B:2784:PRO:HG2	1:B:2817:ILE:HD13	1.93	0.50
1:B:2785:LYS:HE2	1:B:3480:GLU:OE1	2.11	0.50
1:A:3911:TRP:HH2	1:A:3926:VAL:HG12	1.77	0.50
1:B:1826:PHE:HE1	1:B:1853:LEU:HD22	1.76	0.50
1:B:2336:ARG:CD	1:B:2355:ASP:OD2	2.59	0.50
1:B:2354:SER:H	1:B:2357:SER:HB2	1.76	0.50
1:B:2749:LEU:HD12	1:B:2773:VAL:HG12	1.94	0.50
1:B:3671:VAL:O	1:B:3674:ILE:HG22	2.11	0.50
1:A:1531:ARG:CD	1:A:1538:TYR:HA	2.42	0.50
1:A:1849:GLU:CG	1:A:1899:ASN:ND2	2.70	0.50
1:A:2034:ILE:CD1	1:A:2061:TYR:CE2	2.95	0.50
1:A:2111:LYS:CD	1:A:2161:GLU:CG	2.84	0.50
1:A:2645:ILE:HD11	1:A:2686:LEU:HG	1.94	0.50
1:B:2707:VAL:HG12	1:B:2712:LEU:HD12	1.91	0.50
1:B:2788:ARG:HG3	1:B:3459:ASP:HA	1.93	0.50
1:A:2476:LYS:HD3	1:A:2476:LYS:N	2.09	0.50
1:A:3323:ASN:HD21	1:A:3361:ASP:H	1.58	0.50
1:B:3440:LEU:HD23	1:B:3462:ILE:HD12	1.93	0.50
1:A:1535:PRO:C	1:A:1841:ILE:CD1	2.75	0.50
1:A:1570:GLU:HB2	1:A:1585:VAL:HA	1.93	0.50
1:A:2762:SER:O	1:A:2763:ARG:HB2	2.12	0.50
1:B:2262:LEU:HA	1:B:2265:ILE:HD12	1.94	0.50
1:B:2290:LEU:HD13	1:B:2407:LEU:HD23	1.93	0.50
1:A:3692:LYS:HE3	1:A:3898:GLU:O	2.12	0.49
1:B:1387:GLU:HA	1:B:1393:LYS:HA	1.94	0.49
1:B:4020:ASN:HB3	1:B:4028:ARG:HH11	1.77	0.49
1:A:1983:LEU:HD21	1:A:2000:ARG:NE	2.27	0.49
1:A:2002:ILE:HB	1:A:2014:PHE:HE2	1.78	0.49
1:A:2385:VAL:HG23	1:A:2574:TYR:HD1	1.77	0.49
1:A:2654:ARG:HH22	1:A:2691:SER:HB2	1.77	0.49
1:A:1392:LEU:C	1:A:1392:LEU:CD1	2.78	0.49
1:A:3979:ASN:C	1:A:3981:PRO:CD	2.80	0.49
1:B:3566:LEU:HD13	1:B:3570:LEU:HD12	1.94	0.49
1:A:1657:THR:HG21	1:A:1734:PHE:O	2.12	0.49
1:A:2295:ILE:HG12	1:A:2314:ILE:HD12	1.93	0.49
1:A:3353:LEU:HD23	1:A:3358:VAL:HG11	1.95	0.49
1:B:1995:VAL:HG21	1:B:2024:SER:HB3	1.93	0.49
1:A:1849:GLU:CG	1:A:1899:ASN:HD22	2.22	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2064:GLN:NE2	1:A:2091:MET:CE	2.76	0.49
1:A:2960:THR:HG22	1:A:2961:ILE:N	2.27	0.49
1:A:3350:LYS:HA	1:A:3353:LEU:HD12	1.94	0.49
1:A:3566:LEU:HD13	1:A:3570:LEU:HD12	1.95	0.49
1:A:4033:LEU:HD12	1:A:4036:GLN:H	1.78	0.49
1:B:1645:PHE:CD2	1:B:1765:ILE:HG22	2.47	0.49
1:B:2105:ASP:OD2	1:B:2508:GLN:HB2	2.12	0.49
1:B:3319:GLU:HA	1:B:3359:LYS:O	2.13	0.49
1:A:1421:TYR:CZ	1:A:1425:GLU:HG3	2.46	0.49
1:A:1531:ARG:HG2	1:A:1537:PHE:CB	2.42	0.49
1:A:1540:LEU:HD11	1:A:1561:PHE:HB3	1.95	0.49
1:A:3848:LEU:HD12	1:A:3884:LEU:HD12	1.93	0.49
1:B:2170:LEU:HB3	1:B:2209:ARG:HD3	1.95	0.49
1:B:2552:ARG:NH2	2:B:5093:ATP:O2G	2.45	0.49
1:A:1626:CYS:SG	1:A:1639:VAL:CG1	3.01	0.49
1:A:1748:PHE:CE2	1:A:1755:LEU:HD22	2.47	0.49
1:A:2514:GLY:CA	1:A:2523:TRP:CZ2	2.96	0.49
1:A:3855:LEU:HD12	1:A:3859:VAL:HG23	1.93	0.49
1:B:2517:LYS:NZ	1:B:2520:GLU:OE1	2.45	0.49
1:A:1448:VAL:HG22	1:A:1513:ILE:HB	1.94	0.49
1:A:2074:GLY:O	1:A:2197:ASP:HA	2.13	0.49
1:A:2364:ASP:O	1:A:2365:LYS:HG2	2.13	0.49
1:B:1838:ILE:HG13	1:B:1843:ALA:HB3	1.95	0.49
1:B:1844:TRP:CD1	1:B:1893:ALA:HB3	2.48	0.49
1:B:3459:ASP:OD2	1:B:3461:ILE:CG1	2.60	0.49
1:A:3481:ILE:O	1:A:3483:ASP:N	2.36	0.49
1:A:3737:THR:HB	1:A:3740:THR:HG1	1.77	0.49
1:B:2095:ASP:CG	1:B:2149:ARG:NH2	2.66	0.49
1:B:2385:VAL:O	1:B:2574:TYR:HE1	1.96	0.49
1:B:2472:THR:HB	1:B:2524:VAL:HG22	1.94	0.49
1:B:3817:GLY:H	1:B:3821:ASN:HB2	1.78	0.49
1:A:1626:CYS:HB2	1:A:1643:TYR:CD2	2.48	0.49
1:A:3889:LEU:HG	1:A:3894:ARG:HD3	1.95	0.49
1:A:3946:VAL:HA	1:A:3947:PRO:C	2.33	0.49
1:B:1657:THR:HG21	1:B:1734:PHE:O	2.13	0.49
1:B:3555:TYR:HE1	1:B:3593:GLU:HG2	1.77	0.49
1:A:76:ASP:CB	1:B:85:PRO:CB	2.90	0.48
1:A:2828:LEU:HD13	1:A:2902:MET:SD	2.53	0.48
1:A:3671:VAL:O	1:A:3674:ILE:HG22	2.13	0.48
1:A:3978:ASN:O	1:A:3981:PRO:CD	2.60	0.48
1:B:2044:ARG:HH21	1:B:2093:ILE:HD11	1.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2737:SER:HB2	1:B:2924:THR:HG21	1.95	0.48
1:B:2760:GLY:O	1:B:2761:ALA:HB3	2.13	0.48
1:B:3460:PRO:O	1:B:3463:SER:HB3	2.13	0.48
1:A:1469:LEU:CD1	1:A:1523:LEU:HD21	2.43	0.48
1:A:1664:LEU:HD23	1:A:1669:PHE:HZ	1.77	0.48
1:A:1645:PHE:CD2	1:A:1765:ILE:HG22	2.48	0.48
1:A:2354:SER:OG	1:A:2357:SER:CB	2.61	0.48
1:A:2839:ASP:O	1:A:2841:PRO:HD3	2.12	0.48
1:B:23:LEU:O	1:B:24:GLU:CB	2.62	0.48
1:B:65:THR:O	1:B:66:GLN:CB	2.60	0.48
1:B:2446:SER:H	1:B:2449:THR:HG21	1.74	0.48
1:A:1911:ASN:OD1	1:A:1912:LEU:HG	2.13	0.48
1:A:2425:THR:HG23	3:A:5094:SO4:O2	2.14	0.48
1:A:3737:THR:CB	1:A:3740:THR:HB	2.44	0.48
1:B:2109:LEU:HD11	1:B:2129:LEU:CD2	2.44	0.48
1:B:2177:THR:HG22	1:B:2183:ARG:HG2	1.94	0.48
1:B:2654:ARG:HH22	1:B:2691:SER:HB2	1.79	0.48
1:B:2894:PRO:HG3	1:B:2916:TRP:CH2	2.49	0.48
1:B:3810:SER:HB3	1:B:3837:GLY:HA2	1.96	0.48
1:B:3946:VAL:HB	1:B:3947:PRO:HA	1.95	0.48
1:A:1683:LEU:HB3	1:A:1702:LEU:HD21	1.96	0.48
1:A:1794:PHE:HD1	1:A:1802:LYS:HB3	1.79	0.48
1:A:3721:THR:O	1:A:3725:VAL:HG23	2.14	0.48
1:B:2008:ASP:HA	1:B:2011:GLU:HB2	1.96	0.48
1:B:1531:ARG:HD3	1:B:1537:PHE:O	2.13	0.48
1:B:1559:SER:HB3	1:B:1572:ILE:HG22	1.96	0.48
1:A:2109:LEU:HD13	1:A:2129:LEU:HD23	1.94	0.48
1:A:2763:ARG:HA	3:A:5095:SO4:O1	2.14	0.48
1:A:3024:LEU:HD13	1:A:3303:LYS:HG3	1.92	0.48
1:A:3690:LEU:HD23	1:A:3694:PHE:HB3	1.96	0.48
1:B:2464:TYR:CE1	1:B:2524:VAL:HG11	2.48	0.48
1:B:2563:SER:CB	1:B:2566:SER:H	2.20	0.48
1:B:2655:ILE:HD11	1:B:2747:ARG:HH22	1.78	0.48
1:B:3612:ASP:C	1:B:3615:VAL:HG22	2.34	0.48
1:B:3934:TRP:CB	1:B:4023:ILE:HD13	2.43	0.48
1:B:3979:ASN:C	1:B:3981:PRO:CD	2.81	0.48
1:A:1826:PHE:CE1	1:A:1853:LEU:CD2	2.96	0.48
1:A:1967:HIS:NE2	1:A:2204:PRO:HB3	2.28	0.48
1:A:2169:VAL:HG13	1:A:2186:ILE:HG12	1.94	0.48
1:A:3541:MET:HB2	1:A:3607:PHE:HE1	1.78	0.48
1:B:2380:LEU:HD12	1:B:2380:LEU:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4059:LEU:HA	1:B:4063:LEU:HD13	1.95	0.48
1:A:1421:TYR:CE2	1:A:1425:GLU:CG	2.96	0.48
1:A:2084:TRP:CZ3	1:A:2085:LYS:HG3	2.49	0.48
1:A:4065:LEU:HD12	1:A:4065:LEU:C	2.33	0.48
1:B:2027:THR:HA	1:B:2028:PRO:HD3	1.49	0.48
1:B:3592:LYS:O	1:B:3596:ASN:N	2.46	0.48
1:B:3818:SER:O	1:B:3820:GLU:N	2.46	0.48
1:A:1540:LEU:CD1	1:A:1548:ILE:HD12	2.41	0.48
1:A:2860:THR:HG22	1:A:2865:LEU:O	2.13	0.48
1:B:1637:GLU:HG2	1:B:1686:LYS:HG3	1.96	0.48
1:B:1706:LEU:CD1	1:B:1936:ILE:HG12	2.43	0.48
1:B:3461:ILE:C	1:B:3463:SER:N	2.66	0.48
1:B:3566:LEU:HD11	1:B:3570:LEU:HD11	1.94	0.48
1:A:2741:HIS:O	1:A:2745:ILE:HG13	2.15	0.47
1:A:3373:LEU:O	1:A:3373:LEU:HD23	2.13	0.47
1:B:1540:LEU:HD11	1:B:1561:PHE:HB3	1.95	0.47
1:B:2316:LEU:HD13	1:B:2351:GLN:HB3	1.95	0.47
1:B:2514:GLY:HA3	1:B:2523:TRP:CZ2	2.49	0.47
1:A:1683:LEU:HD22	1:A:1698:ILE:HG23	1.96	0.47
1:A:2027:THR:HA	1:A:2028:PRO:HD3	1.48	0.47
1:A:3459:ASP:OD2	1:A:3461:ILE:CG1	2.61	0.47
1:A:3703:PHE:HE1	1:A:3766:GLU:HG2	1.79	0.47
1:B:1534:PHE:HD2	1:B:1537:PHE:CE1	2.33	0.47
1:B:1781:THR:HG21	1:B:1919:PHE:CD1	2.49	0.47
1:B:1849:GLU:CG	1:B:1899:ASN:ND2	2.74	0.47
1:B:1969:GLY:O	1:B:1972:THR:HB	2.14	0.47
1:B:2220:CYS:SG	1:B:2221:SER:N	2.88	0.47
1:B:2280:THR:HA	1:B:2283:LYS:HD2	1.95	0.47
1:A:1554:HIS:O	1:A:1555:HIS:HB2	2.15	0.47
1:A:1849:GLU:OE2	1:A:1899:ASN:ND2	2.47	0.47
1:B:1939:PHE:O	1:B:1940:GLU:HB3	2.14	0.47
1:B:1645:PHE:HB2	1:B:1697:LYS:HG3	1.97	0.47
1:B:1646:GLN:OE1	1:B:1763:ILE:HG12	2.14	0.47
1:B:2473:LEU:HD23	1:B:2475:PRO:N	2.29	0.47
1:B:2724:CYS:SG	1:B:2729:GLU:OE2	2.72	0.47
1:B:4021:LEU:HD23	1:B:4023:ILE:CG1	2.45	0.47
1:A:1542:ASN:O	1:A:1546:LEU:HG	2.14	0.47
1:A:1731:VAL:HG12	1:A:1732:GLN:N	2.28	0.47
1:B:1620:PHE:HB2	1:B:1760:PHE:CZ	2.49	0.47
1:A:4084:SER:O	1:A:4088:LEU:HG	2.14	0.47
1:B:40:TRP:O	1:B:44:LYS:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1726:LEU:HD13	1:B:3984:GLN:CB	2.44	0.47
1:B:1934:LEU:HD22	1:B:1945:LEU:HD12	1.97	0.47
1:B:2380:LEU:HD12	1:B:2380:LEU:C	2.35	0.47
1:B:2761:ALA:O	1:B:2892:CYS:SG	2.72	0.47
1:B:2828:LEU:HD13	1:B:2902:MET:SD	2.54	0.47
1:B:3010:LEU:HD22	1:B:3320:LEU:HD12	1.96	0.47
1:A:1636:ILE:O	1:A:1640:VAL:HG23	2.15	0.47
1:A:2424:LYS:H	1:A:2424:LYS:HG3	1.52	0.47
1:B:2064:GLN:OE1	1:B:2151:TRP:HH2	1.98	0.47
1:B:2452:GLU:HA	1:B:2455:LEU:HD12	1.97	0.47
1:A:1386:ILE:HD12	1:A:1396:ARG:HH11	1.80	0.47
1:A:1681:LYS:HE2	1:A:1939:PHE:CE1	2.50	0.47
1:A:2517:LYS:NZ	1:A:2520:GLU:OE1	2.48	0.47
1:A:1375:LYS:O	1:A:1379:LYS:HG2	2.15	0.47
1:A:3877:CYS:SG	1:A:3884:LEU:HD21	2.55	0.47
1:B:1392:LEU:HD13	1:B:1393:LYS:CA	2.45	0.47
1:B:3818:SER:O	1:B:3821:ASN:N	2.43	0.47
1:B:4021:LEU:HD23	1:B:4023:ILE:HG12	1.96	0.47
1:A:2580:LYS:HG2	1:A:2586:ARG:HH22	1.79	0.46
1:A:3934:TRP:HB3	1:A:4023:ILE:HD13	1.97	0.46
1:B:2494:LEU:HB2	1:B:2499:SER:N	2.30	0.46
1:B:3306:TRP:HH2	1:B:3594:ALA:HB1	1.80	0.46
1:B:3509:LEU:CG	1:B:3513:VAL:HG21	2.45	0.46
1:A:2105:ASP:OD2	1:A:2508:GLN:HB2	2.15	0.46
1:A:2358:THR:HG22	1:A:2359:ILE:N	2.29	0.46
1:A:3967:TYR:HE2	1:A:3985:VAL:HA	1.80	0.46
1:B:1459:LEU:HD23	1:B:1465:ILE:HG13	1.96	0.46
1:B:1917:ARG:HD2	1:B:3963:PHE:CE2	2.50	0.46
1:B:1973:LEU:O	1:B:1977:LEU:HG	2.15	0.46
1:B:2467:THR:O	1:B:2471:LEU:N	2.48	0.46
1:A:1422:LYS:O	1:A:1425:GLU:HB3	2.15	0.46
1:A:2763:ARG:CA	3:A:5095:SO4:O1	2.64	0.46
1:A:2878:VAL:HA	1:A:2881:ILE:HD12	1.97	0.46
1:A:3995:GLY:HA2	1:A:3998:ILE:CD1	2.46	0.46
1:B:1425:GLU:OE1	1:B:1425:GLU:C	2.53	0.46
1:B:1929:ILE:H	1:B:1929:ILE:HD12	1.81	0.46
1:B:2252:LEU:HD22	1:B:2314:ILE:HG13	1.97	0.46
1:B:3566:LEU:HA	1:B:3583:LEU:HD23	1.95	0.46
1:A:2571:TYR:HA	1:A:2574:TYR:HB2	1.97	0.46
1:A:3592:LYS:O	1:A:3596:ASN:N	2.48	0.46
1:B:2849:TYR:O	1:B:2853:LEU:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1409:LEU:CD2	1:A:1435:LEU:CB	2.82	0.46
1:A:2445:PHE:HA	1:A:2449:THR:HG21	1.96	0.46
1:A:2476:LYS:HZ2	1:A:2528:ARG:HB2	1.80	0.46
1:A:3415:ILE:HD13	1:A:3453:GLN:HG3	1.97	0.46
1:B:1694:VAL:HG23	1:B:1697:LYS:HE2	1.97	0.46
1:B:2201:HIS:CE1	1:B:2497:TYR:CA	2.98	0.46
1:B:2580:LYS:HG2	1:B:2586:ARG:HH22	1.79	0.46
1:A:2112:GLU:HB3	1:A:2117:SER:OG	2.16	0.46
1:A:2125:TRP:CZ2	1:A:2178:LEU:CD1	2.97	0.46
1:A:3509:LEU:CG	1:A:3513:VAL:HG21	2.45	0.46
1:A:3924:TRP:O	1:A:3927:TYR:HB3	2.15	0.46
1:B:1611:LEU:O	1:B:1615:ILE:HG12	2.15	0.46
1:B:1984:ILE:CG2	1:B:1989:GLU:HG3	2.44	0.46
1:B:3509:LEU:HG	1:B:3513:VAL:HG21	1.96	0.46
1:A:40:TRP:O	1:A:44:LYS:N	2.49	0.46
1:A:1418:SER:HB2	1:A:3446:PHE:HB3	1.96	0.46
1:A:1425:GLU:OE1	1:A:1425:GLU:C	2.54	0.46
1:A:1995:VAL:HG22	1:A:2022:PHE:HE2	1.80	0.46
1:A:2654:ARG:NH1	1:A:2658:ASP:OD1	2.49	0.46
1:A:2835:LEU:HD23	1:A:2911:ARG:HB2	1.97	0.46
1:B:1734:PHE:CD2	1:B:1749:ILE:HG12	2.50	0.46
1:B:1827:ASP:HB3	1:B:1830:VAL:HG12	1.97	0.46
1:B:2503:VAL:HA	1:B:2506:LEU:HD12	1.97	0.46
1:B:2988:SER:CB	1:B:2989:PRO:CD	2.85	0.46
1:B:3541:MET:HB2	1:B:3607:PHE:HE1	1.81	0.46
1:A:2318:ILE:O	1:A:2322:LEU:HB2	2.16	0.46
1:B:1421:TYR:CE2	1:B:1425:GLU:HG3	2.50	0.46
1:B:1547:LYS:O	1:B:1551:SER:HB3	2.16	0.46
1:B:2099:ASN:HA	1:B:2149:ARG:O	2.16	0.46
1:A:1527:LEU:HD21	1:A:1546:LEU:HD23	1.97	0.46
1:A:2627:ARG:NH1	1:A:2630:TYR:CD2	2.84	0.46
1:A:3612:ASP:O	1:A:3615:VAL:CG2	2.63	0.46
1:A:1748:PHE:HD2	1:A:1755:LEU:HD22	1.77	0.46
1:A:3508:PHE:O	1:A:3512:ARG:HG2	2.16	0.46
1:B:1612:ASP:HA	1:B:1615:ILE:CG1	2.46	0.46
1:B:3813:ILE:HG22	1:B:3840:LEU:HD23	1.98	0.46
1:A:1392:LEU:HD23	1:A:1484:LYS:HA	1.97	0.45
1:A:1462:ASN:HB2	1:A:1465:ILE:CG2	2.44	0.45
1:A:1586:GLU:HG3	1:A:1765:ILE:H	1.81	0.45
1:A:1660:VAL:HG13	1:A:1728:TRP:CH2	2.51	0.45
1:A:1945:LEU:HD13	1:A:1994:VAL:HG21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2204:PRO:HA	1:A:2207:ILE:HD12	1.97	0.45
1:A:3807:SER:O	1:A:3808:LYS:HB2	2.16	0.45
1:B:1535:PRO:C	1:B:1841:ILE:CD1	2.75	0.45
1:B:2785:LYS:NZ	1:B:3480:GLU:CD	2.69	0.45
1:A:2199:LEU:O	1:A:2201:HIS:N	2.49	0.45
1:B:1965:HIS:HD2	1:B:2212:LEU:HD21	1.81	0.45
1:B:1992:LYS:HG2	1:B:2024:SER:HB2	1.88	0.45
1:B:2425:THR:HG23	3:B:5095:SO4:O2	2.17	0.45
1:A:1534:PHE:CD2	1:A:1537:PHE:CE1	3.02	0.45
1:A:1844:TRP:CD1	1:A:1893:ALA:HB3	2.50	0.45
1:A:1951:HIS:O	1:A:1955:LEU:HB2	2.17	0.45
1:A:2286:THR:HA	1:A:2412:ARG:NE	2.31	0.45
1:B:1535:PRO:O	1:B:1841:ILE:HD11	2.14	0.45
1:B:1968:PHE:N	1:B:1968:PHE:CD1	2.84	0.45
1:A:2458:LEU:HG	1:A:2484:LEU:HD21	1.99	0.45
1:A:3330:TYR:CE1	1:A:3334:PHE:CD2	3.05	0.45
1:B:2354:SER:OG	1:B:2357:SER:HB2	2.16	0.45
1:A:1387:GLU:HA	1:A:1393:LYS:HA	1.98	0.45
1:A:1391:GLY:HA3	1:A:1484:LYS:HZ1	1.82	0.45
1:B:1540:LEU:HD11	1:B:1548:ILE:HD11	1.99	0.45
1:B:3462:ILE:O	1:B:3465:LEU:HB3	2.17	0.45
1:A:2766:LYS:CE	1:A:2890:THR:HB	2.39	0.45
1:A:2783:GLN:HG2	1:A:2816:ILE:HB	1.99	0.45
1:B:2472:THR:HG22	1:B:2524:VAL:CG1	2.47	0.45
1:B:3343:ALA:O	1:B:3347:VAL:HG23	2.17	0.45
1:A:1822:CYS:HB2	1:A:1853:LEU:CD2	2.31	0.45
1:A:1910:GLU:HB2	1:A:3846:MET:HA	1.98	0.45
1:A:3308:ASN:O	1:A:3312:GLN:HB2	2.16	0.45
1:A:3470:PHE:CE1	1:A:3488:VAL:HG21	2.52	0.45
1:B:1535:PRO:O	1:B:1841:ILE:CD1	2.65	0.45
1:B:1684:LEU:HD21	1:B:1936:ILE:O	2.16	0.45
1:B:1750:SER:CB	1:B:1755:LEU:HD23	2.46	0.45
1:B:1822:CYS:SG	1:B:1850:PHE:HA	2.56	0.45
1:B:1826:PHE:O	1:B:1826:PHE:CG	2.70	0.45
1:B:1910:GLU:HB2	1:B:3846:MET:HB3	1.98	0.45
1:B:1968:PHE:HD1	1:B:1968:PHE:N	2.15	0.45
1:B:3584:MET:HA	1:B:3587:LEU:HD12	1.98	0.45
1:A:1759:LYS:HE3	1:A:1761:GLU:OE2	2.17	0.45
1:A:2280:THR:HA	1:A:2283:LYS:HD2	1.99	0.45
1:A:2358:THR:CG2	1:A:2359:ILE:N	2.80	0.45
1:A:2446:SER:N	1:A:2449:THR:HG23	2.19	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2494:LEU:HB2	1:A:2499:SER:N	2.32	0.45
1:A:3462:ILE:O	1:A:3465:LEU:N	2.45	0.45
1:A:3832:SER:O	1:A:3836:GLY:N	2.45	0.45
1:B:1677:ASP:HA	1:B:1680:ILE:HD12	1.99	0.45
1:A:2984:VAL:C	1:A:2986:PRO:HD3	2.37	0.45
1:A:3010:LEU:HD22	1:A:3320:LEU:HD12	1.99	0.45
1:A:3461:ILE:C	1:A:3463:SER:N	2.70	0.45
1:B:1656:TRP:HE1	1:B:1712:ILE:HD11	1.81	0.45
1:B:2354:SER:OG	1:B:2357:SER:CB	2.65	0.45
1:B:2552:ARG:HG2	1:B:2552:ARG:HH11	1.81	0.45
1:A:1527:LEU:HD21	1:A:1546:LEU:HD21	1.98	0.45
1:A:1793:CYS:SG	1:A:1918:GLU:HG2	2.57	0.45
1:A:2386:MET:HB3	1:A:2627:ARG:NE	2.32	0.45
1:A:2707:VAL:HG11	1:A:2712:LEU:CD1	2.45	0.45
1:B:2039:LYS:HG2	1:B:2049:MET:HG3	1.98	0.45
1:B:2081:THR:O	1:B:2085:LYS:HB2	2.17	0.45
1:B:3342:ARG:NH2	1:B:3393:ASN:OD1	2.47	0.45
1:A:1392:LEU:HD13	1:A:1393:LYS:CA	2.46	0.44
1:A:2099:ASN:HA	1:A:2149:ARG:O	2.17	0.44
1:A:2155:ASP:OD1	1:A:2195:GLU:HG3	2.17	0.44
1:A:3330:TYR:CD1	1:A:3334:PHE:CD2	3.05	0.44
1:B:1826:PHE:CE1	1:B:1853:LEU:CD2	3.00	0.44
1:B:1849:GLU:CD	1:B:1899:ASN:HD22	2.21	0.44
1:B:2492:PRO:HB2	1:B:2502:VAL:HG11	1.99	0.44
1:B:2707:VAL:HG11	1:B:2712:LEU:HD12	1.98	0.44
1:B:3481:ILE:O	1:B:3483:ASP:N	2.47	0.44
1:B:3725:VAL:HG22	1:B:3731:ASP:HA	1.97	0.44
1:B:4020:ASN:ND2	1:B:4028:ARG:HD3	2.32	0.44
1:A:1968:PHE:N	1:A:1968:PHE:CD1	2.84	0.44
1:B:1536:ARG:HA	1:B:1536:ARG:HD3	1.72	0.44
1:B:1562:MET:CB	1:B:1569:ILE:HD11	2.40	0.44
1:B:1681:LYS:HE2	1:B:1939:PHE:HZ	1.83	0.44
1:B:3449:VAL:HG13	1:B:3493:LYS:HB2	1.99	0.44
1:B:3462:ILE:O	1:B:3465:LEU:N	2.48	0.44
1:A:23:LEU:O	1:A:25:GLU:N	2.50	0.44
1:B:1626:CYS:SG	1:B:1639:VAL:HG11	2.57	0.44
1:B:1796:GLY:O	1:B:1900:PRO:HD3	2.17	0.44
1:B:2473:LEU:CD2	1:B:2474:LEU:N	2.76	0.44
1:A:2021:ILE:HG22	1:A:2022:PHE:HD1	1.82	0.44
1:A:2646:ARG:NH1	1:A:2687:GLY:H	2.14	0.44
1:A:2749:LEU:HD12	1:A:2773:VAL:HG12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3579:GLU:O	1:A:3582:GLU:N	2.43	0.44
1:B:1612:ASP:CA	1:B:1615:ILE:HG12	2.48	0.44
1:B:1832:SER:O	1:B:1836:VAL:HG23	2.18	0.44
1:B:2960:THR:CG2	1:B:2961:ILE:N	2.80	0.44
1:B:3869:GLU:O	1:B:3870:LYS:C	2.56	0.44
1:A:1547:LYS:O	1:A:1551:SER:HB3	2.18	0.44
1:A:2861:ARG:HD2	1:A:2866:LEU:HD13	2.00	0.44
1:A:3407:LEU:HD23	1:A:3518:PHE:CE2	2.53	0.44
1:B:1469:LEU:HD13	1:B:1523:LEU:HD21	1.97	0.44
1:B:2002:ILE:HG22	1:B:2006:LEU:HD11	2.00	0.44
1:B:2084:TRP:HE3	1:B:2088:ILE:HD12	1.82	0.44
1:B:2437:LEU:H	1:B:2437:LEU:HD12	1.82	0.44
1:B:2728:LEU:HD12	1:B:2728:LEU:C	2.38	0.44
1:A:1559:SER:CB	1:A:1572:ILE:HG22	2.47	0.44
1:A:1826:PHE:O	1:A:1826:PHE:CG	2.70	0.44
1:B:1593:ASN:HD21	1:B:1621:THR:CB	2.30	0.44
1:B:2112:GLU:HB3	1:B:2117:SER:OG	2.18	0.44
1:B:3964:ALA:HB2	1:B:3993:VAL:HG11	2.00	0.44
1:B:4060:SER:HB3	1:B:4070:ILE:HG13	1.98	0.44
1:A:1421:TYR:O	1:A:1425:GLU:CA	2.65	0.44
1:A:1611:LEU:O	1:A:1615:ILE:HG23	2.18	0.44
1:A:3760:LEU:HD21	1:A:4078:ALA:HA	1.99	0.44
1:A:3767:PHE:HB3	1:A:3769:VAL:HG23	2.00	0.44
1:A:4034:LEU:HD23	1:A:4034:LEU:C	2.38	0.44
1:B:1664:LEU:HD23	1:B:1669:PHE:HZ	1.82	0.44
1:B:1748:PHE:CE2	1:B:1755:LEU:HD22	2.52	0.44
1:B:1870:ASN:O	1:B:1874:VAL:HG23	2.17	0.44
1:A:1646:GLN:OE1	1:A:1763:ILE:HG12	2.18	0.44
1:A:1803:THR:HG21	1:A:1848:ASP:CG	2.37	0.44
1:A:2037:CYS:SG	1:A:2094:PHE:HB2	2.57	0.44
1:A:2354:SER:H	1:A:2357:SER:HB2	1.83	0.44
1:A:2707:VAL:HG11	1:A:2712:LEU:HD12	2.00	0.44
1:A:3566:LEU:HD23	1:A:3587:LEU:HD11	1.99	0.44
1:A:3631:MET:HE1	1:A:3698:MET:HG3	2.00	0.44
1:A:3821:ASN:O	1:A:3825:ALA:HB2	2.17	0.44
1:B:1967:HIS:C	1:B:1968:PHE:CD1	2.82	0.44
1:B:2034:ILE:CD1	1:B:2061:TYR:CZ	3.00	0.44
1:B:2241:LEU:HD13	1:B:2299:ARG:HH11	1.82	0.44
1:B:2755:HIS:CB	1:B:2911:ARG:O	2.56	0.44
1:B:2758:LEU:HD13	1:B:2766:LYS:HB2	1.99	0.44
1:B:2783:GLN:HG2	1:B:2816:ILE:HB	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2788:ARG:HB2	1:B:3459:ASP:HB3	2.00	0.44
1:B:3671:VAL:HA	1:B:3674:ILE:HG22	1.99	0.44
1:A:1660:VAL:CG1	1:A:1728:TRP:CH2	3.01	0.44
1:A:1681:LYS:HE2	1:A:1939:PHE:CZ	2.53	0.44
1:A:2141:ILE:CD1	1:A:2146:LYS:CE	2.86	0.44
1:A:3702:MET:HB3	1:A:3767:PHE:HZ	1.83	0.44
1:B:1375:LYS:HE3	1:B:1431:LEU:HD13	1.99	0.44
1:B:2339:ILE:HG23	1:B:2353:LEU:HB3	2.00	0.44
1:B:2410:SER:O	1:B:2411:LYS:HG3	2.17	0.44
1:B:3458:PHE:HE1	1:B:3462:ILE:HB	1.82	0.44
1:B:3786:PHE:CD1	1:B:3895:PHE:HE2	2.36	0.44
1:A:1531:ARG:HD3	1:A:1538:TYR:HA	2.00	0.43
1:A:1926:SER:HA	1:A:1929:ILE:CD1	2.48	0.43
1:A:2266:PHE:HD1	1:A:2326:LEU:HD21	1.83	0.43
1:A:2375:ILE:HG22	1:A:2376:PRO:O	2.18	0.43
1:A:2512:LYS:O	1:A:2513:GLN:CB	2.66	0.43
1:A:3319:GLU:HA	1:A:3359:LYS:O	2.17	0.43
1:B:1531:ARG:HD2	1:B:1538:TYR:HA	2.00	0.43
1:B:1645:PHE:CZ	1:B:1649:LEU:HD22	2.52	0.43
1:B:3897:TYR:CZ	1:B:3899:ASP:HB3	2.53	0.43
1:A:2262:LEU:HA	1:A:2265:ILE:HD12	1.98	0.43
1:A:2404:PHE:CZ	1:A:2428:MET:HG2	2.53	0.43
1:A:2417:CYS:O	1:A:2558:TYR:HA	2.17	0.43
1:B:1418:SER:HB2	1:B:3446:PHE:HB3	1.99	0.43
1:B:1992:LYS:CG	1:B:2024:SER:CB	2.79	0.43
1:B:2476:LYS:HZ2	1:B:2528:ARG:HD2	1.77	0.43
1:A:1973:LEU:O	1:A:1977:LEU:HG	2.18	0.43
1:A:2197:ASP:HB3	1:A:2549:ARG:HD2	1.99	0.43
1:A:3964:ALA:HB2	1:A:3993:VAL:HG11	1.99	0.43
1:A:4033:LEU:HD13	1:A:4035:GLN:CG	2.49	0.43
1:B:1976:VAL:HG11	1:B:1998:LEU:HD23	2.00	0.43
1:B:2410:SER:O	1:B:2411:LYS:CB	2.66	0.43
1:B:2563:SER:C	1:B:2565:LYS:H	2.21	0.43
1:B:3839:ILE:HG22	1:B:3871:PHE:HE1	1.83	0.43
1:A:1531:ARG:HD2	1:A:1538:TYR:HA	2.01	0.43
1:A:1611:LEU:O	1:A:1615:ILE:HG12	2.19	0.43
1:A:2061:TYR:O	1:A:2064:GLN:HG2	2.17	0.43
1:A:2578:ILE:CG2	1:A:2630:TYR:HB2	2.48	0.43
1:A:3628:ILE:HG13	1:A:3705:LEU:HD23	2.00	0.43
1:A:3785:TYR:CD1	1:A:3785:TYR:N	2.87	0.43
1:B:1749:ILE:HD13	1:B:1813:LEU:HD22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1835:LEU:O	1:B:1838:ILE:HG22	2.18	0.43
1:B:2984:VAL:C	1:B:2986:PRO:HD3	2.38	0.43
1:B:3544:LYS:O	1:B:3548:LEU:HB2	2.18	0.43
1:A:1540:LEU:HD12	1:A:1548:ILE:HD12	2.00	0.43
1:B:1750:SER:HB2	1:B:1755:LEU:HD23	2.01	0.43
1:B:2833:THR:CG2	1:B:2841:PRO:HD2	2.48	0.43
1:B:3939:ILE:HG12	1:B:4010:LEU:CD2	2.49	0.43
1:A:2982:VAL:CG1	1:A:2983:GLY:N	2.82	0.43
1:B:2201:HIS:CE1	1:B:2497:TYR:O	2.72	0.43
1:B:2419:PRO:O	1:B:2424:LYS:NZ	2.51	0.43
1:A:2109:LEU:CD1	1:A:2129:LEU:HD23	2.49	0.43
1:A:2274:HIS:CE1	1:A:2326:LEU:O	2.54	0.43
1:A:3338:ASN:H	1:A:3341:GLU:HB2	1.82	0.43
1:A:4033:LEU:HD12	1:A:4033:LEU:C	2.39	0.43
1:B:1383:TYR:CZ	1:B:1401:LEU:HD13	2.54	0.43
1:B:1803:THR:HG21	1:B:1848:ASP:CG	2.39	0.43
1:B:2151:TRP:CE3	1:B:2193:LEU:HD11	2.54	0.43
1:B:2653:TRP:HB3	1:B:2654:ARG:NH1	2.34	0.43
1:A:1367:ILE:HG22	1:A:1371:LEU:HD12	2.00	0.43
1:A:1650:LEU:O	1:A:1654:VAL:HG23	2.19	0.43
1:A:2178:LEU:HB3	1:A:2179:PRO:HD2	2.01	0.43
1:A:2447:LYS:HE3	1:A:2493:LYS:HD3	2.00	0.43
1:A:2503:VAL:HA	1:A:2506:LEU:HD12	2.01	0.43
1:A:2575:TYR:HD1	1:A:2578:ILE:HD11	1.83	0.43
1:A:3810:SER:HB3	1:A:3837:GLY:HA2	2.01	0.43
1:B:1391:GLY:HA3	1:B:1484:LYS:HZ1	1.81	0.43
1:B:2226:ILE:HG12	1:B:2284:LEU:HD22	2.01	0.43
1:B:2760:GLY:HA2	1:B:2917:MET:HB2	2.00	0.43
1:B:2853:LEU:HD21	1:B:2870:GLU:HG3	2.00	0.43
1:A:2072:LEU:HD11	1:A:2193:LEU:HD23	2.01	0.43
1:A:2760:GLY:O	1:A:2761:ALA:HB3	2.18	0.43
1:A:3696:MET:SD	1:A:3760:LEU:HD23	2.59	0.43
1:A:3869:GLU:O	1:A:3870:LYS:C	2.56	0.43
1:B:2081:THR:OG1	2:B:5093:ATP:O1B	2.37	0.43
1:B:2380:LEU:CD1	1:B:2577:ALA:HB2	2.46	0.43
1:B:3636:GLY:CA	1:B:3642:TYR:O	2.67	0.43
1:A:1741:LEU:O	1:A:1742:ASP:HB2	2.19	0.43
1:A:1830:VAL:O	1:A:1834:LEU:HG	2.19	0.43
1:A:2829:GLU:HA	1:A:2832:ASN:HD22	1.84	0.43
1:B:1636:ILE:O	1:B:1640:VAL:HG23	2.19	0.43
1:B:1704:GLU:OE2	1:B:1768:ARG:NH1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1735:TYR:HB2	1:B:1748:PHE:CZ	2.53	0.43
1:B:2001:VAL:O	1:B:2004:PRO:HD2	2.19	0.43
1:B:2463:ASN:O	1:B:2475:PRO:HD2	2.19	0.43
1:B:2707:VAL:HG11	1:B:2712:LEU:CD1	2.45	0.43
1:B:2936:ILE:CG2	1:B:2962:ARG:HD3	2.48	0.43
1:B:3721:THR:O	1:B:3725:VAL:HG23	2.19	0.43
1:B:3886:ALA:N	1:B:3887:PRO:CD	2.80	0.43
1:B:4022:GLN:O	1:B:4023:ILE:C	2.57	0.43
1:A:1392:LEU:N	1:A:1484:LYS:HE2	2.34	0.42
1:A:2385:VAL:HG23	1:A:2574:TYR:CD1	2.53	0.42
1:A:2411:LYS:HG2	1:A:2530:HIS:CE1	2.41	0.42
1:A:2492:PRO:CB	1:A:2502:VAL:HG11	2.49	0.42
1:B:3889:LEU:HG	1:B:3894:ARG:HD3	2.01	0.42
1:A:1715:LEU:HG	1:A:1727:LEU:HD22	2.02	0.42
1:A:4033:LEU:CD1	1:A:4035:GLN:N	2.82	0.42
1:B:1554:HIS:O	1:B:1555:HIS:HB2	2.18	0.42
1:B:1762:TYR:CZ	1:B:1764:GLY:HA2	2.54	0.42
1:B:2410:SER:O	1:B:2411:LYS:CG	2.67	0.42
1:B:3719:VAL:HB	1:B:3744:LEU:HD11	2.01	0.42
1:A:1672:TYR:O	1:A:1676:VAL:HG23	2.19	0.42
1:A:1781:THR:HG21	1:A:1919:PHE:CE1	2.55	0.42
1:A:1953:LEU:HD11	1:A:1973:LEU:HB3	1.98	0.42
1:A:1991:GLU:O	1:A:1994:VAL:HB	2.19	0.42
1:A:1998:LEU:CD1	1:A:2022:PHE:HZ	2.32	0.42
1:A:2760:GLY:HA3	1:A:2766:LYS:HD3	2.01	0.42
1:A:3785:TYR:CE2	1:A:3859:VAL:HG13	2.54	0.42
1:A:4033:LEU:HD12	1:A:4035:GLN:H	1.84	0.42
1:A:4045:LEU:O	1:A:4048:ILE:HG22	2.19	0.42
1:B:1941:ASP:O	1:B:1945:LEU:HG	2.18	0.42
1:B:1970:LEU:CD1	1:B:1974:LYS:HE2	2.45	0.42
1:B:3566:LEU:CD2	1:B:3587:LEU:HD11	2.49	0.42
1:B:3815:PRO:O	1:B:3821:ASN:HB3	2.19	0.42
1:A:2707:VAL:CB	1:A:2712:LEU:CD1	2.72	0.42
1:A:3735:LYS:H	1:A:3735:LYS:HG2	1.69	0.42
1:B:1983:LEU:HB3	1:B:1993:THR:CG2	2.47	0.42
1:B:2104:ILE:O	1:B:2154:PHE:HA	2.19	0.42
1:A:1939:PHE:CD1	1:A:1939:PHE:N	2.87	0.42
1:A:2225:LYS:HD2	1:A:2281:PHE:CZ	2.55	0.42
1:A:2738:MET:HG2	1:A:2769:LEU:HD21	2.00	0.42
1:A:1575:LEU:O	1:A:1576:GLU:HB3	2.20	0.42
1:A:2306:ASP:HB2	1:A:2309:SER:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2640:THR:O	1:A:2643:SER:HB3	2.20	0.42
1:A:3365:ARG:HD2	1:A:3368:ASP:OD2	2.19	0.42
1:A:3461:ILE:C	1:A:3463:SER:H	2.22	0.42
1:B:2073:VAL:HG21	1:B:2199:LEU:HD11	2.01	0.42
1:B:2106:THR:H	1:B:2156:SER:HB2	1.84	0.42
1:B:3407:LEU:HD23	1:B:3518:PHE:CE2	2.55	0.42
1:B:3413:HIS:O	1:B:3417:VAL:HG23	2.20	0.42
1:B:3701:THR:OG1	1:B:4085:THR:HG22	2.19	0.42
1:A:1620:PHE:CA	1:A:1760:PHE:CE1	3.01	0.42
1:A:1965:HIS:HD2	1:A:2212:LEU:HD23	1.85	0.42
1:A:2423:GLY:CA	3:A:5094:SO4:O3	2.68	0.42
1:A:2860:THR:HG21	1:A:2867:LEU:HD12	2.02	0.42
1:B:1645:PHE:HZ	1:B:1768:ARG:HD2	1.84	0.42
1:B:1741:LEU:O	1:B:1742:ASP:HB2	2.19	0.42
1:B:1851:ASN:HD21	1:B:1899:ASN:HB2	1.84	0.42
1:B:2115:TYR:OH	1:B:2162:TYR:O	2.27	0.42
1:B:2141:ILE:HG22	1:B:2145:PHE:HB2	2.02	0.42
1:B:2354:SER:OG	1:B:2357:SER:CA	2.68	0.42
1:B:2745:ILE:HG12	1:B:2756:MET:CE	2.45	0.42
1:B:2941:THR:HG22	1:B:2942:ASP:N	2.30	0.42
1:A:1822:CYS:SG	1:A:1850:PHE:CA	3.04	0.42
1:A:2493:LYS:HG3	1:A:2494:LEU:N	2.33	0.42
1:A:3414:MET:O	1:A:3418:ILE:HG12	2.19	0.42
1:A:4074:GLU:HA	1:A:4077:GLN:HE21	1.84	0.42
1:B:2095:ASP:HB3	1:B:2097:HIS:ND1	2.35	0.42
1:B:2730:VAL:HA	1:B:2731:PRO:HD3	1.81	0.42
1:A:1365:PHE:O	1:A:1366:VAL:CB	2.68	0.42
1:A:1540:LEU:HA	1:A:1540:LEU:HD23	1.65	0.42
1:A:1568:SER:HB2	1:A:1816:VAL:HG21	2.01	0.42
1:A:2095:ASP:OD1	1:A:2149:ARG:NH2	2.53	0.42
1:A:2178:LEU:HB2	1:A:2182:GLU:H	1.83	0.42
1:A:2563:SER:C	1:A:2565:LYS:H	2.23	0.42
1:A:2609:THR:HA	1:A:2612:GLN:O	2.20	0.42
1:A:2708:ASN:O	1:A:2712:LEU:HD13	2.20	0.42
1:A:3784:ASN:ND2	1:A:3865:ALA:O	2.52	0.42
1:B:1409:LEU:CD2	1:B:1435:LEU:CB	2.83	0.42
1:B:1612:ASP:C	1:B:1615:ILE:HG12	2.39	0.42
1:B:1871:GLY:HA3	1:B:1879:ILE:HG21	2.02	0.42
1:B:2492:PRO:CB	1:B:2502:VAL:HG11	2.49	0.42
1:A:1727:LEU:O	1:A:1731:VAL:HG23	2.20	0.42
1:A:1967:HIS:C	1:A:1968:PHE:CD1	2.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2229:LEU:HD11	1:A:2285:GLU:HG3	2.02	0.42
1:A:2510:MET:O	1:A:2513:GLN:NE2	2.53	0.42
1:A:2755:HIS:HB3	1:A:2912:CYS:SG	2.60	0.42
1:A:3590:LEU:HD12	1:A:3593:GLU:HB2	2.02	0.42
1:A:3728:GLU:CG	1:A:4079:LYS:HE2	2.49	0.42
1:A:3978:ASN:O	1:A:3981:PRO:HD3	2.20	0.42
1:B:1951:HIS:O	1:B:1955:LEU:HB2	2.20	0.42
1:B:2169:VAL:HG13	1:B:2186:ILE:HG12	2.02	0.42
1:B:3817:GLY:H	1:B:3821:ASN:CB	2.33	0.42
1:A:3505:ILE:O	1:A:3510:ARG:NH1	2.53	0.41
1:B:1375:LYS:O	1:B:1379:LYS:HG2	2.20	0.41
1:B:1392:LEU:HD23	1:B:1484:LYS:HA	2.02	0.41
1:B:1998:LEU:CD1	1:B:2022:PHE:CZ	3.02	0.41
1:B:2578:ILE:CG2	1:B:2630:TYR:HB2	2.50	0.41
1:B:2908:LEU:O	1:B:2912:CYS:HB2	2.20	0.41
1:A:2034:ILE:HD12	1:A:2061:TYR:CE2	2.55	0.41
1:A:2141:ILE:CG2	1:A:2145:PHE:HB2	2.49	0.41
1:A:2786:ILE:HD12	1:A:3460:PRO:CG	2.49	0.41
1:B:1497:ILE:O	1:B:1500:ILE:HG12	2.19	0.41
1:B:1531:ARG:CD	1:B:1538:TYR:HA	2.50	0.41
1:B:2700:LEU:HD13	1:B:2707:VAL:HG11	2.01	0.41
1:B:3017:VAL:HG21	1:B:3313:PHE:HE2	1.83	0.41
1:A:2001:VAL:O	1:A:2004:PRO:HD2	2.20	0.41
1:A:2044:ARG:HH21	1:A:2093:ILE:HD11	1.85	0.41
1:A:2758:LEU:HD22	1:A:2917:MET:SD	2.60	0.41
1:B:1540:LEU:HD23	1:B:1540:LEU:HA	1.74	0.41
1:B:3551:LEU:HA	1:B:3554:GLU:HB3	2.01	0.41
1:A:23:LEU:O	1:A:24:GLU:C	2.58	0.41
1:A:2424:LYS:NZ	3:A:5094:SO4:O1	2.54	0.41
1:A:3544:LYS:HE3	1:A:3607:PHE:CD1	2.55	0.41
1:B:1392:LEU:N	1:B:1484:LYS:HE2	2.34	0.41
1:B:1873:GLN:HE22	1:B:1915:SER:HA	1.84	0.41
1:B:2047:PHE:CE2	1:B:2082:ALA:HB1	2.55	0.41
1:B:2138:ASN:ND2	1:B:2185:PRO:O	2.53	0.41
1:B:2763:ARG:HD3	1:B:3512:ARG:NH1	2.35	0.41
1:A:1536:ARG:HD3	1:A:1536:ARG:HA	1.79	0.41
1:A:2012:LEU:HD12	1:A:2013:VAL:N	2.35	0.41
1:A:2786:ILE:HD12	1:A:3460:PRO:HG2	2.02	0.41
1:A:3413:HIS:O	1:A:3417:VAL:HG23	2.21	0.41
1:A:3544:LYS:O	1:A:3548:LEU:HB2	2.19	0.41
1:B:115:GLU:CB	1:B:1372:ASN:CG	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2609:THR:HA	1:B:2612:GLN:O	2.20	0.41
1:B:3570:LEU:HD23	1:B:3580:ASN:CG	2.40	0.41
1:A:2039:LYS:HG2	1:A:2049:MET:HG3	2.03	0.41
1:A:2109:LEU:HB3	1:A:2113:SER:HB2	2.03	0.41
1:A:2141:ILE:HG22	1:A:2145:PHE:CB	2.51	0.41
1:A:2489:ILE:HD11	1:A:2506:LEU:HD13	2.02	0.41
1:B:2102:TYR:HB2	1:B:2152:VAL:HG22	2.02	0.41
1:B:2276:LEU:CD2	1:B:2415:ILE:HG21	2.47	0.41
1:B:2508:GLN:O	1:B:2512:LYS:HB2	2.20	0.41
1:B:2517:LYS:HD2	1:B:2520:GLU:OE1	2.20	0.41
1:B:2839:ASP:O	1:B:2841:PRO:HD3	2.20	0.41
1:B:2852:LEU:HG	1:B:2856:LEU:HD13	2.03	0.41
1:A:1966:TYR:CZ	1:A:2006:LEU:HD23	2.55	0.41
1:A:2225:LYS:HG2	1:A:2229:LEU:HD12	2.02	0.41
1:A:2336:ARG:HG2	1:A:2355:ASP:CG	2.41	0.41
1:A:2568:SER:HA	1:A:2597:VAL:HG21	2.02	0.41
1:A:2761:ALA:O	1:A:2892:CYS:CB	2.69	0.41
1:A:3330:TYR:CZ	1:A:3346:LEU:HD13	2.55	0.41
1:A:3534:LEU:HD12	1:A:3618:TYR:CZ	2.52	0.41
1:A:3833:LYS:NZ	1:A:3862:THR:HG21	2.36	0.41
1:A:4020:ASN:ND2	1:A:4028:ARG:HD3	2.35	0.41
1:B:2044:ARG:NH2	1:B:2093:ILE:HD11	2.35	0.41
1:B:2982:VAL:HG12	1:B:2983:GLY:N	2.36	0.41
1:A:23:LEU:C	1:A:25:GLU:N	2.74	0.41
1:A:1479:LEU:HD11	1:A:1515:SER:HB3	2.03	0.41
1:A:1706:LEU:HD21	1:A:1935:GLN:CG	2.48	0.41
1:A:2276:LEU:HD21	1:A:2415:ILE:HG21	2.03	0.41
1:A:2476:LYS:H	1:A:2476:LYS:HD2	1.73	0.41
1:A:2762:SER:O	1:A:2763:ARG:CB	2.68	0.41
1:A:2891:ILE:HD11	1:A:2903:ILE:HD11	2.03	0.41
1:A:4054:GLU:HA	1:A:4055:PRO:HD3	1.98	0.41
1:B:1963:MET:HB3	1:B:1966:TYR:CD2	2.55	0.41
1:B:3919:LYS:HZ1	1:B:4038:GLU:HG3	1.83	0.41
1:A:1742:ASP:HB3	1:A:1745:ASN:HD22	1.85	0.41
1:A:1898:LEU:HD11	1:A:1908:LEU:CD2	2.50	0.41
1:A:1929:ILE:H	1:A:1929:ILE:HD12	1.86	0.41
1:A:2852:LEU:HG	1:A:2856:LEU:HD13	2.03	0.41
1:A:3570:LEU:HD23	1:A:3580:ASN:CG	2.41	0.41
1:A:3737:THR:CB	1:A:3740:THR:OG1	2.56	0.41
1:A:3772:TRP:HZ3	1:A:3780:ASN:HD22	1.68	0.41
1:A:4033:LEU:CD1	1:A:4035:GLN:H	2.34	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1438:LEU:O	1:B:1442:GLN:HB2	2.20	0.41
1:B:1531:ARG:HD2	1:B:1538:TYR:CD1	2.55	0.41
1:B:1771:TYR:HA	1:B:1775:LEU:HD13	2.03	0.41
1:B:1939:PHE:CD1	1:B:1939:PHE:N	2.86	0.41
1:B:2229:LEU:HD11	1:B:2285:GLU:HG3	2.02	0.41
1:B:2752:VAL:O	1:B:2883:LYS:HA	2.21	0.41
1:B:3636:GLY:HA2	1:B:3642:TYR:O	2.20	0.41
1:B:3839:ILE:HG22	1:B:3871:PHE:CE1	2.56	0.41
1:B:3848:LEU:HD21	1:B:3852:LYS:HE3	2.02	0.41
1:B:4033:LEU:HA	1:B:4033:LEU:HD23	1.80	0.41
1:B:4065:LEU:HD12	1:B:4065:LEU:O	2.21	0.41
1:A:2088:ILE:HG12	1:A:2151:TRP:CZ2	2.55	0.41
1:A:3464:ARG:O	1:A:3467:SER:O	2.38	0.41
1:B:1674:LYS:HA	1:B:1677:ASP:HB3	2.03	0.41
1:B:1779:PHE:O	1:B:1783:THR:HG22	2.21	0.41
1:B:1872:LEU:HG	1:B:1888:LEU:HD21	2.04	0.41
1:B:2494:LEU:HD12	1:B:2494:LEU:C	2.41	0.41
1:B:2552:ARG:HG2	1:B:2552:ARG:NH1	2.36	0.41
1:B:3688:THR:HG21	1:B:3777:VAL:CG2	2.50	0.41
1:A:1992:LYS:CG	1:A:2024:SER:CB	2.78	0.40
1:A:2488:GLU:HB3	1:A:2491:LEU:CG	2.51	0.40
1:B:1383:TYR:CE2	1:B:1401:LEU:HD13	2.57	0.40
1:B:1493:LEU:HD23	1:B:1498:GLU:HB2	2.00	0.40
1:B:1534:PHE:CZ	1:B:1536:ARG:HB2	2.57	0.40
1:B:1773:PRO:HA	1:B:1776:LEU:HD12	2.03	0.40
1:B:2111:LYS:CD	1:B:2161:GLU:CG	2.87	0.40
1:B:3353:LEU:HD23	1:B:3358:VAL:HG11	2.02	0.40
1:B:3431:PHE:CZ	1:B:3458:PHE:HD1	2.40	0.40
1:B:3785:TYR:CD1	1:B:3785:TYR:N	2.89	0.40
1:B:3978:ASN:O	1:B:3981:PRO:HD2	2.21	0.40
1:B:1469:LEU:HD13	1:B:1523:LEU:HD23	2.02	0.40
1:B:1527:LEU:HD23	1:B:1545:LEU:CD2	2.50	0.40
1:B:2109:LEU:HD11	1:B:2129:LEU:HD23	2.03	0.40
1:B:2514:GLY:CA	1:B:2523:TRP:CZ2	3.05	0.40
1:A:2819:GLU:HB3	1:A:2891:ILE:HG22	2.03	0.40
1:A:3846:MET:HG3	1:A:3847:SER:N	2.35	0.40
1:A:3951:SER:HB3	1:A:4003:ASP:OD2	2.22	0.40
1:B:1660:VAL:HG13	1:B:1728:TRP:CH2	2.57	0.40
1:B:2032:LYS:HD3	1:B:2032:LYS:HA	1.89	0.40
1:B:3703:PHE:CE1	1:B:3766:GLU:HG2	2.56	0.40
1:B:3821:ASN:O	1:B:3825:ALA:HB2	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4081:VAL:O	1:B:4085:THR:HG23	2.22	0.40
1:A:1620:PHE:HB2	1:A:1760:PHE:CE1	2.57	0.40
1:A:1750:SER:HB2	1:A:1755:LEU:CD2	2.52	0.40
1:A:2661:VAL:HG12	1:A:2916:TRP:CE2	2.57	0.40
1:A:3612:ASP:C	1:A:3615:VAL:HG22	2.41	0.40
1:A:3924:TRP:CD1	1:A:3924:TRP:C	2.95	0.40
1:B:1991:GLU:O	1:B:1994:VAL:HB	2.21	0.40
1:B:2378:VAL:HG11	1:B:2392:ILE:HD12	2.02	0.40
1:B:3772:TRP:HZ3	1:B:3780:ASN:ND2	2.20	0.40
1:A:1365:PHE:O	1:A:1366:VAL:HB	2.21	0.40
1:A:1672:TYR:O	1:A:1675:GLU:HB3	2.22	0.40
1:A:2053:PHE:HB2	1:A:2219:VAL:HB	2.02	0.40
1:A:2418:GLY:O	1:A:2424:LYS:HE3	2.21	0.40
1:A:3406:PHE:CZ	1:A:3505:ILE:HG21	2.57	0.40
1:B:1612:ASP:O	1:B:1615:ILE:HG12	2.21	0.40
1:B:2107:LYS:CD	1:B:2499:SER:HB3	2.52	0.40
1:B:2336:ARG:HG2	1:B:2355:ASP:OD1	2.21	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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	2640/2695 (98%)	2519 (95%)	107 (4%)	14 (0%)	29 66
1	B	2640/2695 (98%)	2522 (96%)	104 (4%)	14 (0%)	29 66
All	All	5280/5390 (98%)	5041 (96%)	211 (4%)	28 (0%)	29 66

All (28) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	1391	GLY

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Mol	Chain	Res	Type
1	B	214	HIS
1	B	1366	VAL
1	B	1391	GLY
1	A	1366	VAL
1	A	2990	GLY
1	A	3306	TRP
1	A	3482	GLY
1	B	3482	GLY
1	A	53	ASN
1	B	53	ASN
1	B	2562	PRO
1	B	2731	PRO
1	A	115	GLU
1	A	2519	PRO
1	B	66	GLN
1	B	2519	PRO
1	A	66	GLN
1	B	3914	GLN
1	B	3980	ILE
1	A	3980	ILE
1	B	85	PRO
1	A	2562	PRO
1	B	3819	ILE
1	A	1470	PRO
1	A	1535	PRO
1	A	2028	PRO
1	B	2028	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2218/2453 (90%)	2140 (96%)	78 (4%)	36	63
1	B	2218/2453 (90%)	2144 (97%)	74 (3%)	38	64
All	All	4436/4906 (90%)	4284 (97%)	152 (3%)	37	64

All (152) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1383	TYR
1	A	1421	TYR
1	A	1425	GLU
1	A	1473	THR
1	A	1486	ILE
1	A	1493	LEU
1	A	1504	ASN
1	A	1794	PHE
1	A	1826	PHE
1	A	1852	ARG
1	A	1923	SER
1	A	1944	SER
1	A	1971	ARG
1	A	1992	LYS
1	A	1999	LYS
1	A	2012	LEU
1	A	2057	CYS
1	A	2078	CYS
1	A	2109	LEU
1	A	2202	THR
1	A	2218	ASP
1	A	2295	ILE
1	A	2346	PHE
1	A	2357	SER
1	A	2386	MET
1	A	2424	LYS
1	A	2428	MET
1	A	2461	HIS
1	A	2472	THR
1	A	2476	LYS
1	A	2526	ILE
1	A	2544	ILE
1	A	2563	SER
1	A	2566	SER
1	A	2611	LEU
1	A	2638	ARG
1	A	2694	LEU
1	A	2822	ILE
1	A	2833	THR
1	A	2843	LEU
1	A	2853	LEU
1	A	2856	LEU

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Mol	Chain	Res	Type
1	A	2865	LEU
1	A	2873	LEU
1	A	2875	ASP
1	A	2911	ARG
1	A	2920	TRP
1	A	3301	PHE
1	A	3329	ILE
1	A	3332	THR
1	A	3355	LYS
1	A	3372	THR
1	A	3400	SER
1	A	3418	ILE
1	A	3531	ASP
1	A	3538	ASN
1	A	3548	LEU
1	A	3565	ARG
1	A	3601	LEU
1	A	3618	TYR
1	A	3677	LEU
1	A	3717	GLU
1	A	3729	SER
1	A	3735	LYS
1	A	3737	THR
1	A	3744	LEU
1	A	3811	LEU
1	A	3871	PHE
1	A	3884	LEU
1	A	3906	THR
1	A	3917	THR
1	A	3943	THR
1	A	3950	PHE
1	A	3960	ASP
1	A	3982	TRP
1	A	4004	LEU
1	A	4016	CYS
1	A	4040	GLU
1	B	1383	TYR
1	B	1421	TYR
1	B	1425	GLU
1	B	1455	LEU
1	B	1486	ILE
1	B	1504	ASN

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Mol	Chain	Res	Type
1	B	1525	THR
1	B	1554	HIS
1	B	1605	GLN
1	B	1694	VAL
1	B	1743	ASP
1	B	1759	LYS
1	B	1767	GLU
1	B	1768	ARG
1	B	1794	PHE
1	B	1826	PHE
1	B	1832	SER
1	B	1903	ASN
1	B	1997	SER
1	B	2051	GLU
1	B	2057	CYS
1	B	2078	CYS
1	B	2126	ARG
1	B	2229	LEU
1	B	2285	GLU
1	B	2295	ILE
1	B	2307	ASP
1	B	2346	PHE
1	B	2351	GLN
1	B	2369	SER
1	B	2390	ILE
1	B	2395	ILE
1	B	2397	THR
1	B	2424	LYS
1	B	2428	MET
1	B	2476	LYS
1	B	2566	SER
1	B	2576	LYS
1	B	2613	SER
1	B	2681	LEU
1	B	2694	LEU
1	B	2822	ILE
1	B	2843	LEU
1	B	2856	LEU
1	B	2865	LEU
1	B	2866	LEU
1	B	2873	LEU
1	B	2875	ASP

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Mol	Chain	Res	Type
1	B	2920	TRP
1	B	3301	PHE
1	B	3329	ILE
1	B	3372	THR
1	B	3391	LEU
1	B	3400	SER
1	B	3502	SER
1	B	3560	LYS
1	B	3598	GLU
1	B	3605	GLU
1	B	3673	GLU
1	B	3677	LEU
1	B	3729	SER
1	B	3737	THR
1	B	3744	LEU
1	B	3871	PHE
1	B	3899	ASP
1	B	3905	ASP
1	B	3906	THR
1	B	3917	THR
1	B	3943	THR
1	B	3960	ASP
1	B	3980	ILE
1	B	3982	TRP
1	B	4016	CYS
1	B	4024	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (70) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1449	GLN
1	A	1622	GLN
1	A	1646	GLN
1	A	1736	GLN
1	A	1745	ASN
1	A	1851	ASN
1	A	1873	GLN
1	A	1899	ASN
1	A	1951	HIS
1	A	1965	HIS
1	A	1979	ASN
1	A	2068	GLN

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Mol	Chain	Res	Type
1	A	2099	ASN
1	A	2228	HIS
1	A	2274	HIS
1	A	2282	ASN
1	A	2293	HIS
1	A	2383	HIS
1	A	2409	ASN
1	A	2459	HIS
1	A	2530	HIS
1	A	2536	ASN
1	A	2634	ASN
1	A	2683	ASN
1	A	2688	ASN
1	A	3323	ASN
1	A	3338	ASN
1	A	3497	HIS
1	A	3521	ASN
1	A	3542	GLN
1	A	3588	ASN
1	A	3624	HIS
1	A	3780	ASN
1	A	3890	GLN
1	A	4020	ASN
1	A	4077	GLN
1	B	1533	GLN
1	B	1605	GLN
1	B	1622	GLN
1	B	1646	GLN
1	B	1851	ASN
1	B	1864	ASN
1	B	1873	GLN
1	B	1899	ASN
1	B	2064	GLN
1	B	2068	GLN
1	B	2099	ASN
1	B	2228	HIS
1	B	2274	HIS
1	B	2282	ASN
1	B	2293	HIS
1	B	2383	HIS
1	B	2409	ASN
1	B	2536	ASN

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Mol	Chain	Res	Type
1	B	2598	HIS
1	B	2634	ASN
1	B	2683	ASN
1	B	2753	GLN
1	B	3323	ASN
1	B	3336	HIS
1	B	3521	ASN
1	B	3542	GLN
1	B	3624	HIS
1	B	3685	GLN
1	B	3780	ASN
1	B	3890	GLN
1	B	3962	GLN
1	B	3970	ASN
1	B	4020	ASN
1	B	4077	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 10 ligands modelled in this entry, 2 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
3	SO4	B	5094	-	4,4,4	0.38	0	6,6,6	0.46	0
3	SO4	B	5096	-	4,4,4	0.22	0	6,6,6	0.30	0
3	SO4	A	5096	-	4,4,4	0.28	0	6,6,6	0.30	0
3	SO4	B	5095	-	4,4,4	0.35	0	6,6,6	0.27	0
2	ATP	B	5093	4	26,33,33	0.95	2 (7%)	31,52,52	1.63	6 (19%)
3	SO4	A	5094	-	4,4,4	0.49	0	6,6,6	0.49	0
2	ATP	A	5093	4	26,33,33	1.13	1 (3%)	31,52,52	1.88	6 (19%)
3	SO4	A	5095	-	4,4,4	0.48	0	6,6,6	0.72	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ATP	A	5093	4	-	3/18/38/38	0/3/3/3
2	ATP	B	5093	4	-	7/18/38/38	0/3/3/3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	5093	ATP	C5-C4	2.35	1.47	1.40
2	A	5093	ATP	C2'-C1'	-2.26	1.50	1.53
2	B	5093	ATP	O4'-C1'	2.18	1.44	1.41

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	5093	ATP	PA-O3A-PB	-4.42	117.66	132.83
2	A	5093	ATP	PB-O3B-PG	-4.16	118.56	132.83
2	A	5093	ATP	N3-C2-N1	-4.11	122.25	128.68
2	A	5093	ATP	C3'-C2'-C1'	3.92	106.89	100.98
2	B	5093	ATP	PB-O3B-PG	-3.74	119.98	132.83
2	B	5093	ATP	N3-C2-N1	-3.51	123.20	128.68
2	B	5093	ATP	PA-O3A-PB	-3.03	122.42	132.83
2	B	5093	ATP	C3'-C2'-C1'	2.97	105.45	100.98
2	A	5093	ATP	C4-C5-N7	-2.43	106.87	109.40
2	B	5093	ATP	C4-C5-N7	-2.05	107.26	109.40
2	B	5093	ATP	C2'-C3'-C4'	2.04	106.60	102.64
2	A	5093	ATP	C2-N1-C6	2.02	122.20	118.75

There are no chirality outliers.

All (10) torsion outliers are listed below:

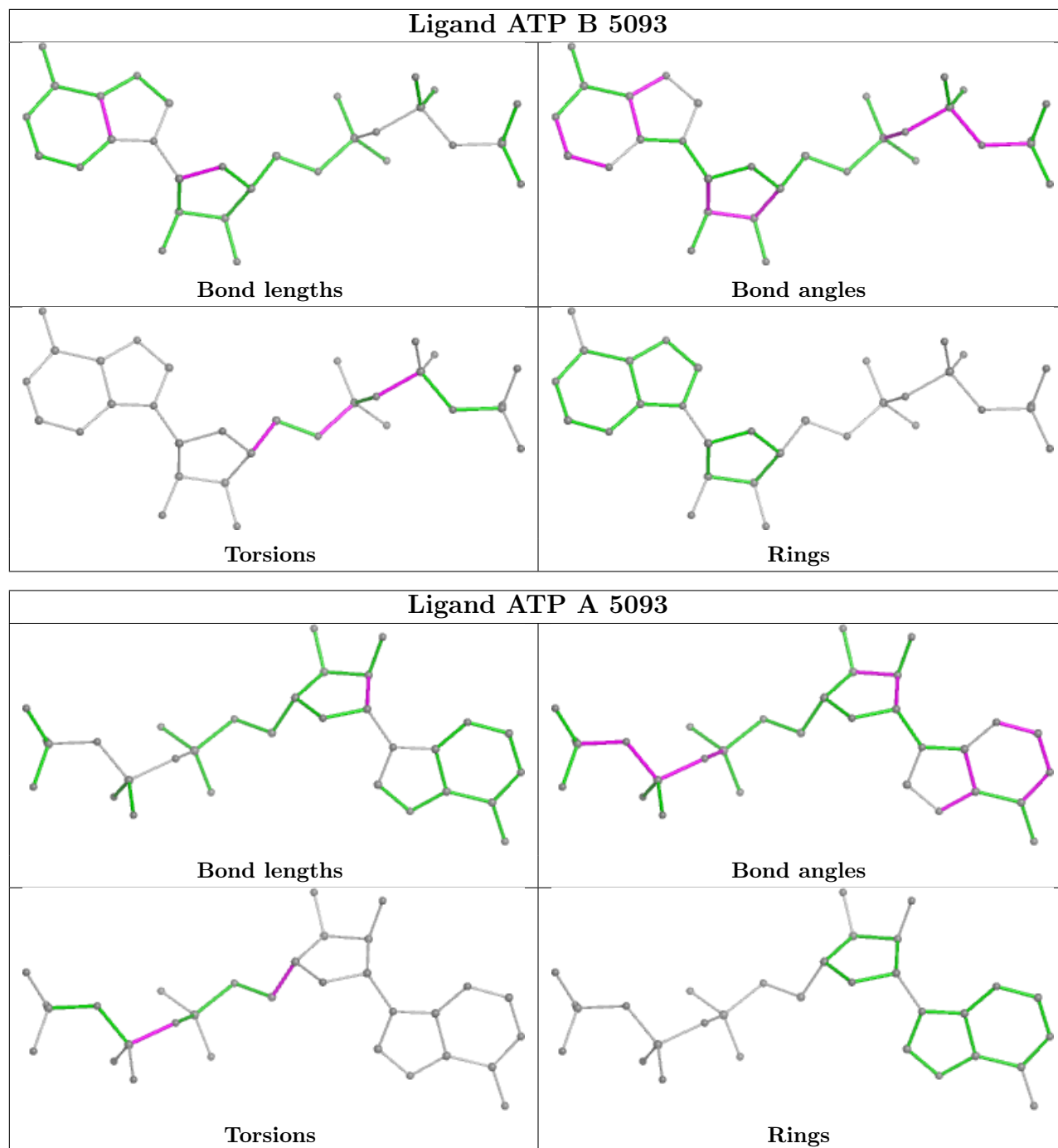
Mol	Chain	Res	Type	Atoms
2	B	5093	ATP	C5'-O5'-PA-O1A
2	B	5093	ATP	O4'-C4'-C5'-O5'
2	B	5093	ATP	C3'-C4'-C5'-O5'
2	A	5093	ATP	O4'-C4'-C5'-O5'
2	A	5093	ATP	C3'-C4'-C5'-O5'
2	B	5093	ATP	C5'-O5'-PA-O3A
2	B	5093	ATP	PA-O3A-PB-O1B
2	A	5093	ATP	PA-O3A-PB-O2B
2	B	5093	ATP	PA-O3A-PB-O2B
2	B	5093	ATP	C5'-O5'-PA-O2A

There are no ring outliers.

7 monomers are involved in 23 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	5096	SO4	1	0
3	A	5096	SO4	2	0
3	B	5095	SO4	2	0
2	B	5093	ATP	7	0
3	A	5094	SO4	4	0
2	A	5093	ATP	4	0
3	A	5095	SO4	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 [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	2650/2695 (98%)	0.14	157 (5%) 22 15	80, 163, 325, 500	0
1	B	2650/2695 (98%)	0.37	228 (8%) 10 8	117, 210, 355, 500	0
All	All	5300/5390 (98%)	0.25	385 (7%) 15 11	80, 188, 342, 500	0

All (385) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	148	THR	18.1
1	B	35	ASP	17.2
1	B	155	TYR	17.2
1	B	31	LEU	16.5
1	B	67	SER	16.1
1	A	210	GLY	15.9
1	B	143	ASN	15.5
1	B	71	ILE	15.4
1	A	211	GLY	15.1
1	B	30	HIS	12.7
1	B	151	ASP	12.2
1	B	59	ASP	12.0
1	B	18	LEU	11.7
1	B	152	PHE	11.4
1	A	84	CYS	11.2
1	B	29	GLU	10.7
1	B	17	ARG	10.1
1	A	209	PHE	9.9
1	A	202	LEU	9.4
1	B	19	LEU	9.2
1	B	73	TYR	9.2
1	A	54	LEU	8.8
1	B	1579	ILE	8.5
1	B	154	LEU	8.4

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Mol	Chain	Res	Type	RSRZ
1	B	1581	GLY	8.0
1	B	34	ARG	8.0
1	B	1596	ILE	7.9
1	B	1572	ILE	7.8
1	B	74	ILE	7.7
1	A	216	PRO	7.7
1	A	85	PRO	7.6
1	A	215	PRO	7.6
1	B	159	ASP	7.5
1	B	72	ARG	7.5
1	B	158	LEU	7.4
1	B	1580	THR	7.2
1	B	58	ILE	6.8
1	B	149	HIS	6.8
1	B	70	ILE	6.8
1	B	1549	ILE	6.7
1	B	94	LEU	6.5
1	B	47	LEU	6.4
1	B	1574	PHE	6.4
1	B	3580	ASN	6.3
1	B	1483	TYR	6.1
1	B	20	LEU	5.9
1	A	138	HIS	5.9
1	B	2024	SER	5.8
1	B	56	TYR	5.8
1	B	14	GLN	5.8
1	A	1597	GLU	5.6
1	A	135	ARG	5.5
1	B	1452	TRP	5.5
1	B	3582	GLU	5.5
1	B	1459	LEU	5.5
1	B	2025	ALA	5.5
1	A	59	ASP	5.4
1	A	58	ILE	5.4
1	B	95	GLU	5.4
1	B	75	ALA	5.4
1	A	3580	ASN	5.4
1	B	2844	PHE	5.3
1	A	143	ASN	5.3
1	B	2298	TYR	5.3
1	A	3537	GLU	5.2
1	A	131	MET	5.2

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Mol	Chain	Res	Type	RSRZ
1	B	3581	ASP	5.2
1	B	1597	GLU	5.1
1	B	61	ASP	5.1
1	B	87	GLU	5.1
1	A	3594	ALA	5.1
1	B	211	GLY	5.1
1	A	212	GLY	5.1
1	B	49	LEU	5.1
1	B	5	GLY	5.1
1	A	1487	THR	5.0
1	B	3839	ILE	5.0
1	B	1558	VAL	4.9
1	A	3584	MET	4.9
1	B	81	LEU	4.9
1	A	134	ASP	4.8
1	B	1546	LEU	4.8
1	B	144	GLY	4.7
1	B	108	ILE	4.7
1	B	1582	VAL	4.6
1	B	2808	LEU	4.6
1	B	1601	SER	4.6
1	B	22	TYR	4.6
1	A	3587	LEU	4.5
1	A	83	GLY	4.5
1	B	1424	PHE	4.5
1	A	3740	THR	4.5
1	A	3567	LEU	4.5
1	B	53	ASN	4.4
1	A	208	THR	4.4
1	A	29	GLU	4.4
1	B	60	GLY	4.4
1	B	21	GLU	4.4
1	B	40	TRP	4.4
1	A	132	PHE	4.3
1	A	1483	TYR	4.3
1	A	16	THR	4.3
1	A	3563	GLU	4.3
1	B	1573	ILE	4.3
1	B	1548	ILE	4.2
1	B	202	LEU	4.2
1	A	74	ILE	4.2
1	A	47	LEU	4.2

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Mol	Chain	Res	Type	RSRZ
1	A	139	LYS	4.1
1	A	2364	ASP	4.1
1	B	210	GLY	4.1
1	A	3025	ASN	4.1
1	B	6	TYR	4.1
1	A	203	GLN	4.1
1	B	116	THR	4.1
1	B	1545	LEU	4.0
1	A	168	CYS	4.0
1	B	16	THR	4.0
1	B	1845	GLY	4.0
1	A	24	GLU	4.0
1	A	108	ILE	4.0
1	A	27	TYR	4.0
1	A	1598	LEU	3.9
1	B	33	GLU	3.9
1	A	52	PRO	3.9
1	B	145	ASP	3.9
1	A	63	LYS	3.8
1	A	109	ALA	3.8
1	B	38	ASP	3.8
1	B	3534	LEU	3.8
1	B	54	LEU	3.8
1	A	2029	LEU	3.8
1	B	1395	VAL	3.8
1	A	3744	LEU	3.7
1	B	2026	GLY	3.7
1	B	43	LYS	3.7
1	B	3618	TYR	3.6
1	B	2863	LEU	3.6
1	B	42	ASN	3.6
1	B	2115	TYR	3.6
1	A	61	ASP	3.6
1	B	3540	GLU	3.6
1	B	91	ILE	3.6
1	B	37	GLY	3.6
1	B	3571	ASN	3.6
1	B	84	CYS	3.6
1	B	142	LEU	3.6
1	B	1594	GLU	3.5
1	B	1592	LEU	3.5
1	A	2868	ASP	3.5

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Mol	Chain	Res	Type	RSRZ
1	A	173	PRO	3.5
1	B	1937	MET	3.5
1	A	3581	ASP	3.5
1	A	67	SER	3.5
1	A	3589	ASN	3.5
1	A	3741	ASN	3.4
1	A	148	THR	3.4
1	B	2179	PRO	3.4
1	B	46	GLU	3.4
1	B	1550	GLY	3.4
1	A	1572	ILE	3.4
1	A	2030	ASN	3.4
1	A	3875	MET	3.4
1	A	3784	ASN	3.3
1	A	1393	LYS	3.3
1	B	1590	LEU	3.3
1	A	140	THR	3.3
1	B	8	LYS	3.3
1	B	1551	SER	3.3
1	B	3579	GLU	3.3
1	B	55	PRO	3.3
1	A	3731	ASP	3.3
1	A	3734	PRO	3.3
1	A	3571	ASN	3.2
1	B	1683	LEU	3.2
1	B	83	GLY	3.2
1	A	1378	TRP	3.2
1	B	88	ARG	3.2
1	B	156	ASP	3.2
1	B	1647	ALA	3.2
1	B	1401	LEU	3.2
1	B	157	ALA	3.2
1	B	52	PRO	3.2
1	B	3475	ASN	3.2
1	B	2355	ASP	3.2
1	B	1500	ILE	3.2
1	A	37	GLY	3.1
1	A	3566	LEU	3.1
1	B	132	PHE	3.1
1	B	3436	PHE	3.1
1	B	3583	LEU	3.1
1	A	62	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
1	A	23	LEU	3.1
1	A	22	TYR	3.1
1	A	3919	LYS	3.1
1	B	2241	LEU	3.1
1	B	135	ARG	3.1
1	B	2302	PHE	3.1
1	A	1458	ILE	3.1
1	A	60	GLY	3.1
1	B	161	VAL	3.0
1	B	1850	PHE	3.0
1	B	212	GLY	3.0
1	A	115	GLU	3.0
1	B	164	MET	3.0
1	B	2859	LYS	3.0
1	A	5	GLY	3.0
1	B	50	GLU	3.0
1	B	66	GLN	3.0
1	B	3538	ASN	3.0
1	A	53	ASN	3.0
1	B	209	PHE	3.0
1	B	1669	PHE	3.0
1	A	82	GLY	2.9
1	A	1459	LEU	2.9
1	B	3840	LEU	2.9
1	B	92	SER	2.9
1	A	79	ASN	2.9
1	B	1476	PHE	2.9
1	A	3722	MET	2.9
1	B	203	GLN	2.9
1	B	57	TYR	2.9
1	B	3816	LEU	2.9
1	A	18	LEU	2.9
1	B	1989	GLU	2.9
1	A	17	ARG	2.8
1	B	63	LYS	2.8
1	A	1382	GLN	2.8
1	B	3578	LEU	2.8
1	A	3865	ALA	2.8
1	B	11	GLY	2.8
1	A	49	LEU	2.8
1	A	31	LEU	2.8
1	B	3841	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	1394	LEU	2.8
1	A	55	PRO	2.8
1	A	25	GLU	2.8
1	B	3564	LYS	2.8
1	A	30	HIS	2.7
1	B	2029	LEU	2.8
1	A	3300	THR	2.7
1	A	3570	LEU	2.7
1	B	3533	THR	2.7
1	B	150	PRO	2.7
1	B	2795	PHE	2.7
1	B	1394	LEU	2.7
1	A	3556	LYS	2.7
1	B	2030	ASN	2.7
1	B	1631	LYS	2.7
1	A	3917	THR	2.7
1	A	1445	TRP	2.7
1	A	3739	ASP	2.7
1	A	3321	ILE	2.7
1	A	3899	ASP	2.7
1	B	1458	ILE	2.7
1	B	32	TYR	2.7
1	B	2151	TRP	2.7
1	A	91	ILE	2.7
1	B	2839	ASP	2.7
1	B	3584	MET	2.7
1	A	2034	ILE	2.7
1	B	3873	MET	2.6
1	A	149	HIS	2.6
1	A	40	TRP	2.6
1	A	2363	ASN	2.6
1	A	3555	TYR	2.6
1	B	3954	TYR	2.6
1	A	3024	LEU	2.6
1	B	2246	LEU	2.6
1	A	3297	LYS	2.6
1	A	174	LYS	2.6
1	A	2120	LYS	2.6
1	B	15	PRO	2.6
1	A	33	GLU	2.6
1	A	2942	ASP	2.6
1	B	1445	TRP	2.6

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Mol	Chain	Res	Type	RSRZ
1	A	20	LEU	2.6
1	B	2102	TYR	2.6
1	B	3617	GLU	2.5
1	B	1893	ALA	2.5
1	B	1593	ASN	2.5
1	A	71	ILE	2.5
1	B	2840	ILE	2.5
1	A	3561	ASN	2.5
1	B	1760	PHE	2.5
1	A	175	LEU	2.5
1	B	1730	LYS	2.5
1	B	3541	MET	2.5
1	B	2941	THR	2.5
1	B	1595	LYS	2.5
1	B	68	MET	2.5
1	B	1479	LEU	2.5
1	A	3016	PHE	2.4
1	A	4035	GLN	2.4
1	B	1505	PHE	2.4
1	B	1627	LEU	2.4
1	B	3359	LYS	2.4
1	B	62	VAL	2.4
1	B	115	GLU	2.4
1	A	178	PHE	2.4
1	B	2295	ILE	2.4
1	A	10	LYS	2.4
1	B	3874	PHE	2.4
1	B	1934	LEU	2.4
1	A	3572	ASN	2.4
1	A	1392	LEU	2.4
1	A	3874	PHE	2.4
1	A	3018	ASN	2.3
1	A	3299	LEU	2.3
1	A	92	SER	2.3
1	A	28	GLU	2.3
1	A	137	CYS	2.3
1	B	127	GLU	2.3
1	A	3542	GLN	2.3
1	B	1383	TYR	2.3
1	B	4	LEU	2.3
1	B	1949	ILE	2.3
1	A	136	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	48	GLY	2.3
1	B	208	THR	2.3
1	B	1390	SER	2.3
1	B	39	LYS	2.3
1	B	1828	TYR	2.3
1	B	3542	GLN	2.2
1	A	1596	ILE	2.2
1	B	2439	ASP	2.2
1	B	2257	PHE	2.2
1	B	79	ASN	2.2
1	B	3923	VAL	2.2
1	A	182	ILE	2.2
1	B	2817	ILE	2.2
1	B	2299	ARG	2.2
1	B	1435	LEU	2.2
1	A	3979	ASN	2.2
1	A	2179	PRO	2.2
1	A	144	GLY	2.2
1	B	2245	GLU	2.2
1	A	3588	ASN	2.2
1	B	3814	ILE	2.2
1	A	3737	THR	2.2
1	B	2856	LEU	2.2
1	A	38	ASP	2.2
1	A	3298	SER	2.2
1	A	2121	ALA	2.2
1	A	3569	GLU	2.2
1	A	2102	TYR	2.1
1	A	3021	LEU	2.1
1	B	1995	VAL	2.1
1	B	3565	ARG	2.1
1	A	48	GLY	2.1
1	B	2918	GLY	2.1
1	A	3022	GLU	2.1
1	B	78	HIS	2.1
1	B	171	ALA	2.1
1	B	1449	GLN	2.1
1	B	3566	LEU	2.1
1	B	7	TRP	2.1
1	A	181	ARG	2.1
1	A	75	ALA	2.1
1	B	2256	SER	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	1421	TYR	2.1
1	B	1441	ILE	2.1
1	A	21	GLU	2.1
1	A	3573	SER	2.1
1	A	2362	ALA	2.1
1	A	1548	ILE	2.1
1	A	1387	GLU	2.1
1	B	153	MET	2.1
1	B	2318	ILE	2.1
1	B	1460	GLY	2.1
1	B	2843	LEU	2.1
1	A	214	HIS	2.0
1	B	128	MET	2.0
1	A	3593	GLU	2.0
1	B	1578	PHE	2.0
1	A	1582	VAL	2.0
1	B	3574	GLN	2.0
1	B	1423	ILE	2.0
1	B	1513	ILE	2.0
1	B	1421	TYR	2.0
1	B	1762	TYR	2.0
1	A	1435	LEU	2.0
1	B	1437	LYS	2.0
1	B	2845	GLN	2.0
1	B	2889	PHE	2.0

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

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

6.3 Carbohydrates [i](#)

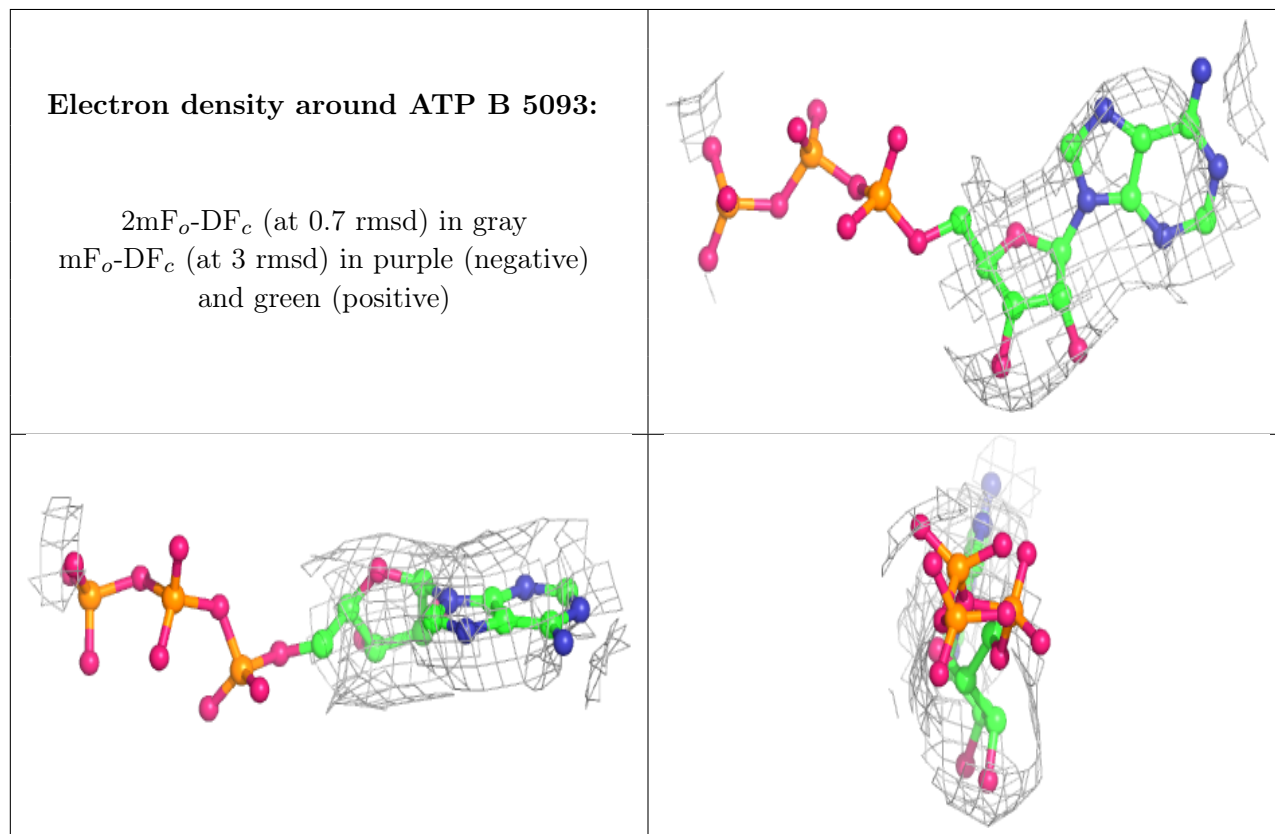
There are no monosaccharides in this entry.

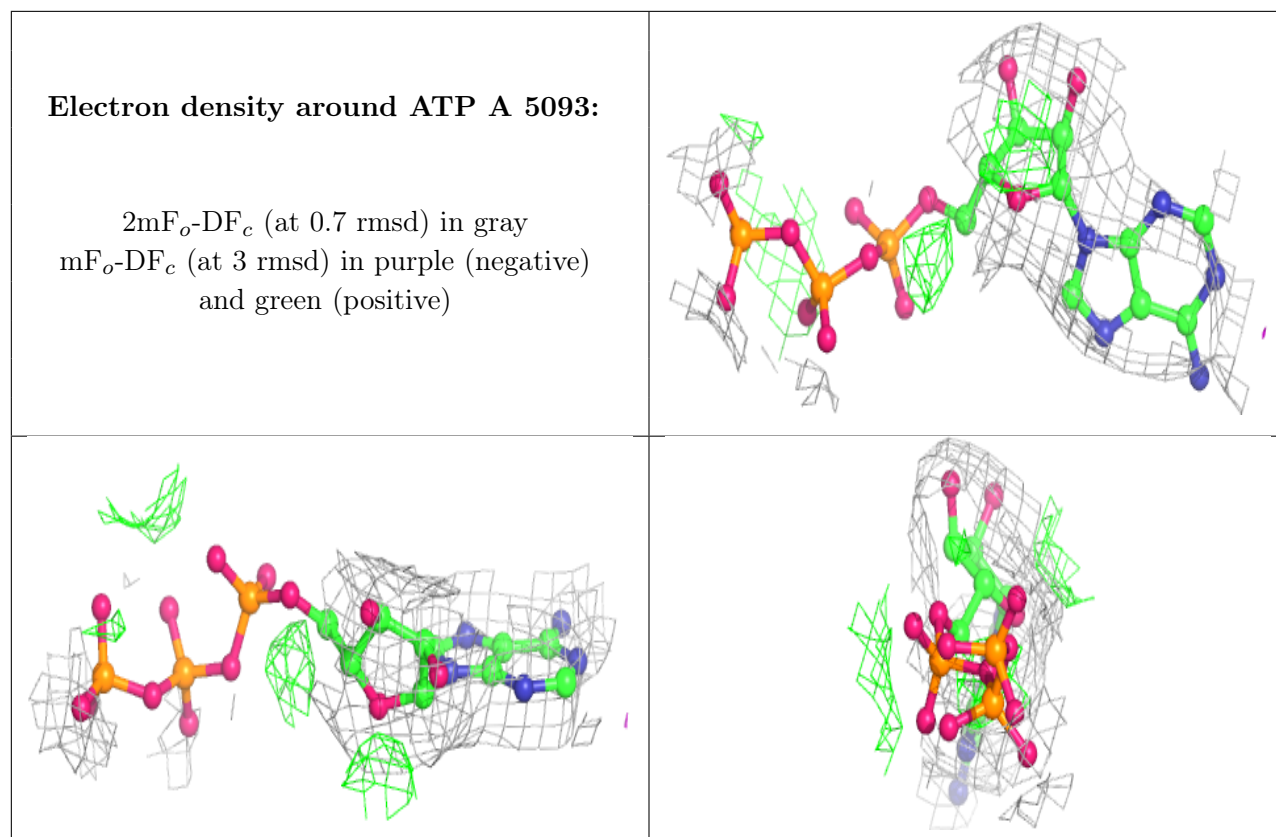
6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
3	SO4	A	5096	5/5	0.83	0.22	128,136,144,154	0
3	SO4	B	5094	5/5	0.86	0.30	151,165,190,192	0
3	SO4	B	5095	5/5	0.90	0.24	155,178,186,207	0
2	ATP	B	5093	31/31	0.93	0.28	115,184,238,261	0
2	ATP	A	5093	31/31	0.95	0.32	72,125,180,196	0
3	SO4	A	5094	5/5	0.95	0.29	109,114,153,161	0
3	SO4	A	5095	5/5	0.95	0.40	108,128,132,133	0
3	SO4	B	5096	5/5	0.96	0.14	158,193,224,235	0
4	MG	B	5097	1/1	0.98	0.24	127,127,127,127	0
4	MG	A	5097	1/1	0.99	0.40	59,59,59,59	0

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





6.5 Other polymers [i](#)

There are no such residues in this entry.