



Full wwPDB EM Validation Report ⓘ

Jan 5, 2026 – 04:25 pm GMT

PDB ID : 9QCR / pdb_00009qcr
EMDB ID : EMD-53025
Title : DNA-PK bound to 153 bp H2AX nucleosome model 2
Authors : Hall, C.; Chaplin, A.
Deposited on : 2025-03-05
Resolution : 4.37 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev129
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

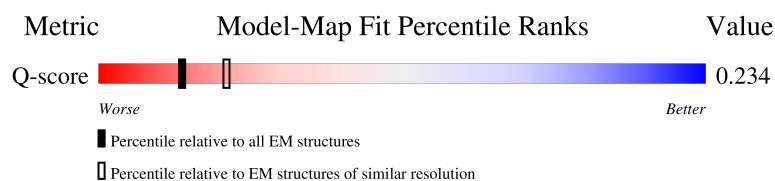
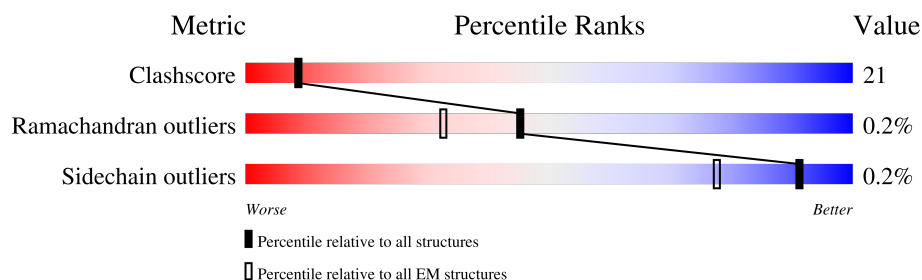
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 4.37 Å.

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



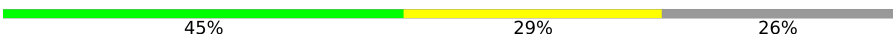
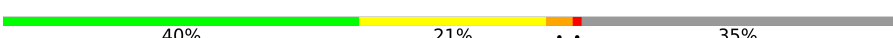
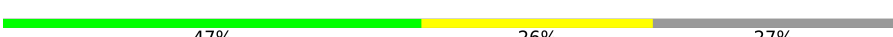
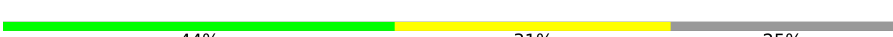
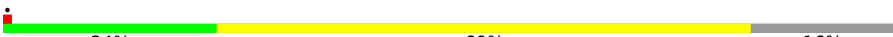
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	3738 (3.87 - 4.87)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	K	609	50% 31% 19%
2	L	732	39% 31% 29%
3	O	4128	49% 36% 15%
4	C	143	34% 30% 36%

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Mol	Chain	Length	Quality of chain
4	G	143	
5	D	126	
5	H	126	
6	A	136	
6	E	136	
7	B	103	
7	F	103	
8	I	153	
9	J	153	

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 46641 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called X-ray repair cross-complementing protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	K	493	Total	C	N	O	S	0	0
			3886	2489	647	732	18		

- Molecule 2 is a protein called X-ray repair cross-complementing protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	L	517	Total	C	N	O	S	0	0
			4051	2599	678	751	23		

- Molecule 3 is a protein called DNA-dependent protein kinase catalytic subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	O	3527	Total	C	N	O	S	0	0
			27819	17843	4673	5117	186		

- Molecule 4 is a protein called Histone H2AX.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	C	92	Total	C	N	O	0	0
			707	445	139	123		
4	G	97	Total	C	N	O	0	0
			738	463	145	130		

- Molecule 5 is a protein called Histone H2B type 1-J.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	D	93	Total	C	N	O	S	0	0
			705	443	126	135	1		
5	H	92	Total	C	N	O	S	0	0
			718	453	127	136	2		

- Molecule 6 is a protein called Histone H3.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	A	96	Total	C	N	O	S	0	0
			794	500	154	136	4		
6	E	88	Total	C	N	O	S	0	0
			705	447	130	124	4		

- Molecule 7 is a protein called Histone H4.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	B	75	Total	C	N	O	S	0	0
			595	377	116	101	1		
7	F	77	Total	C	N	O	S	0	0
			608	382	118	107	1		

- Molecule 8 is a DNA chain called 153 bp DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	129	Total	C	N	O	P	0	0
			2624	1247	481	769	127		

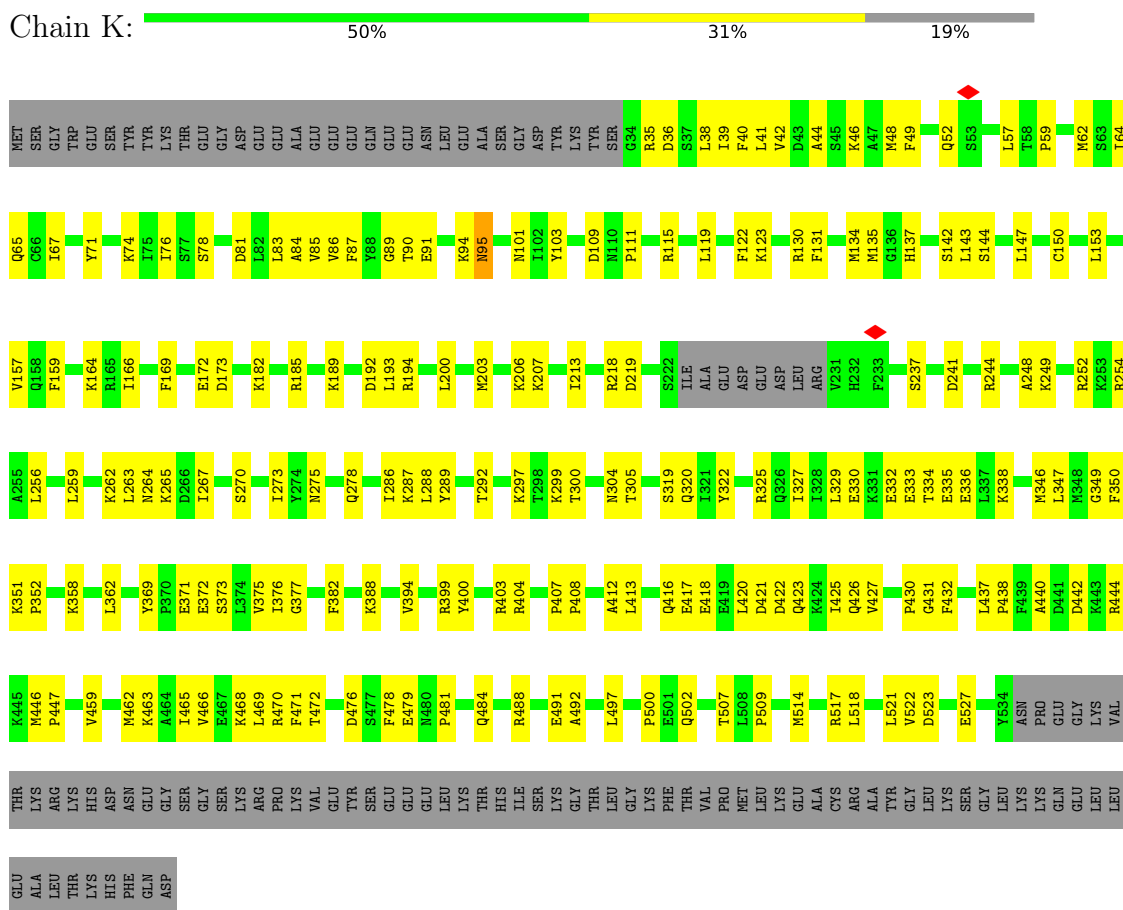
- Molecule 9 is a DNA chain called 153 bp DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	131	Total	C	N	O	P	0	0
			2691	1275	504	783	129		

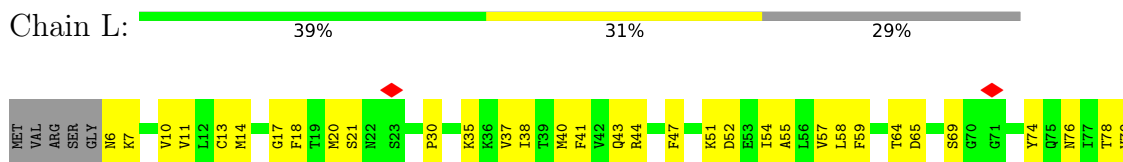
3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: X-ray repair cross-complementing protein 6



- Molecule 2: X-ray repair cross-complementing protein 5



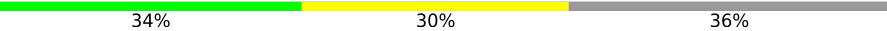


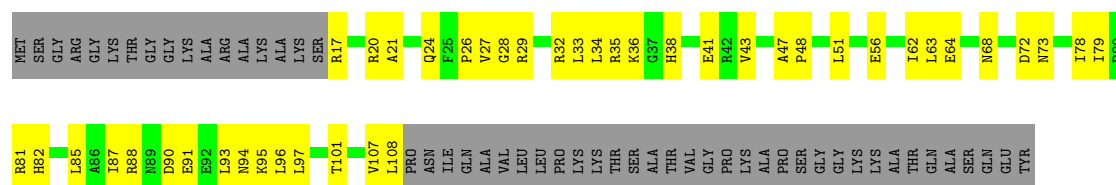




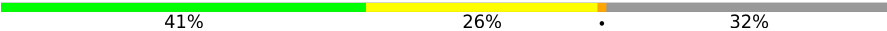
L3183	L3088	L3089	L3090	L3091	L3092	L3093	L3094	L3095	L3103	L3114	L3126	L3127	L3128	L3129	L3130	L3131	L3132	L3135	L3136	L3137	L3138	L3139	L3142	N3150	L3151	L3152	S3153	L3154	L3155	L3156	L3157	L3158	L3159	L3160	L3161	N3162	L3163	D3068	Q3069	S3060	L3061	T3065	D3066	K3067	M3068	L3069	Q3074	K3075	E3085																
K3257	L3258	L3259	L3262	S3191	K3192	L3357	R3269	E3194	L3193	L3196	G3281	R3282	L3283	S3284	H3285	C3286	R3287	S3288	R3289	S3290	Q3291	S3131	ASP	VAL	C3293	ASP	S3294	E3295	Q3296	E3197	L3298	T3299	A3391	V3300	L3301	ARG	MET	L3151	VAL	S3153	GLN	GLU	GLN	GLU	GLU	D3226	S3229	L3230	L3231	K3235	Q3059	F3236	S3237	K3238	L3239	D3170	A3171	K3172	M3173	A3068	L3069	P3176	Q3074	K3075	E3085
L3348	E3352	E3353	A3356	R3357	R3358	L3359	W3272	K3196	G3364	SER	SER	SER	SER	E3368	E3371	K3372	V3373	I3374	L3377	A3381	F3382	L3385	Q3390	T3399	A3391	A3392	E3393	E3394	E3395	ALA	GLN	PRO	PRO	K3318	N3319	TRP	SER	L3320	L3321	CYS	GLY	PRO	ALA	A3407	Y3413	L3416	F3419	C3420	D3421	D3422	Q3423	L3424	E3427												
E3428	E3429	ALA	SER	VAL	ILE	ASP	SER	L3360	G3364	SER	SER	SER	Y3442	P3443	V3446	V3447	E3448	K3449	M3450	L3451	K3452	A3453	L3454	S3458	N3459	E3460	A3461	R3462	L3463	F3465	P3466	R3467	L3468	L3469	Q3470	I3471	L3472	E3473	R3474	E3478	T3479	L3482	M3483	E3486	V3490	L3493	Q3494	W3498																	
K3502	V3503	L3505	L3506	D3507	K3508	A3513	V3514	Q3515	V3518	E3519	T3522	D3523	T3529	V3530	V3531	P3532	F3533	I3534	I3535	S3536	S3537	E3538	S3539	TYR	SER	PHE	LYS	ASP	K3545	S3546	T3547	C3548	H3549	K3552	V3555	L3558	K3561	Q3577	L3578	W3588	V3592	R3593	A3594	E3595	LEU	ALA	LYS																		
THR	PRO	VAL	ASN	LYS	K3604	N3605	L3606	E3607	K3608	N3609	Y3610	N3613	Y3614	L3617	G3618	L3625	R3629	F3632	I3633	F3636	G3637	F3640	D3641	K3642	G3645	LYS	GLY	GLY	SER	LYS	LEU	LEU	ARG	MET	LYS	PHE	N3660	D3661	L3662	M3665	L3666	K3669	D3675	P3676	V3677																				
K3679	L3680	K3681	E3682	C3683	S3688	D3689	E3693	F3694	L3695	R3696	E3700	I3701	Q3704	R3708	L3712	P3713	E3714	Y3715	H3716	V3717	R3718	A3720	G3721	F3722	D3723	E3724	R3725	V3728	N3729	R3734	R3737	I3738	L3739	I3740	H3743	P3749	F3750	L3751	R3759	Q3760	D3761	Q3762	R3763	V3764	V3770																				
K3771	N3772	G3773	K3774	L3775	L3788	V3793	V3794	P3795	L3796	T3797	L3800	G3801	L3802	K3805	L3806	T3809	V3810	T3811	L3812	K3813	D3814	L3815	N3818	T3819	M3820	S3821	G3822	E3823	E3824	K3825	R3833	A3834	P3835	P3836	C3837	E3838	L3839	K3840	D3841	L3842	L3843	THR	LYS	MET	SER	GLY	LYS	HIS	D3851	V3852	G3853														
K3858	T3859	K3860	C3861	L3862	N3863	R3864	T3865	V3868	T3869	S3870	R3874	E3875	P3879	A3880	D3881	L3882	R3885	R3889	P3894	F3897	L3898	A3899	L3900	H3908	A3909	W3916	D3922	L3925	N3926	N3927	V3930	V3937	I3940	F3946	T3950	L3958	M3959	P3960	R3965	Q3966	F3967																								
L3968	N3969	L3970	N3971	L3972	P3973	K3974	K3975	V3976	T3977	G3978	L3979	N3980	R3984	V3985	L3988	R3989	S3993	D3994	P3995	G3996	L3997	L3998	T3999	V4004	V4005	V4006	K4007	E4008	P4009	S4010	F4011	D4012	W4013	K4014	PHE	GLN	LYS	MET	LEU	LYS	LYS	GLY	SER	TRP	ILE	GLN	GLU	ILE	ASN	VAL	ALA	GLU													
LYS	ASN	W4038	R4041	Q4042	K4043	I4044	C4045	Y4046	K4047	K4048	R4049	K4050	L4051	A4052	G4053	A4054	N4055	P4056	A4057	V4058	I4059	T4060	E4063	L4064	H4068	A4069	K4070	A4073	R4082	Y4077	V4080	A4081	G4083	D4086	H4087	N4088	A4091	G4097	E4100	D4109	Q4110	A4111	T4112	D4113	P4114	N4115	I4116	L4117																	
T4120	W4121	W4124	P4125	W4127	W4128																																																												

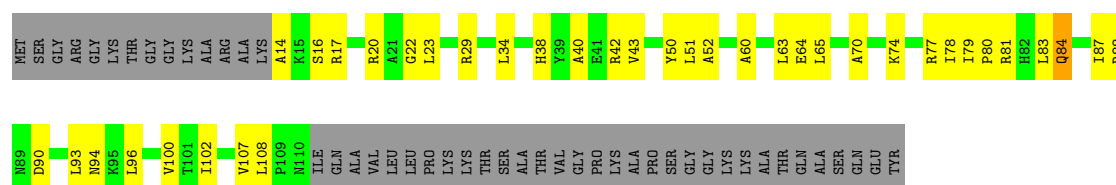
• Molecule 4: Histone H2AX

Chain C:  34% 30% 36%

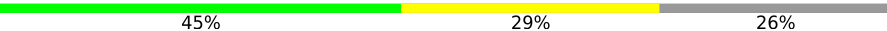


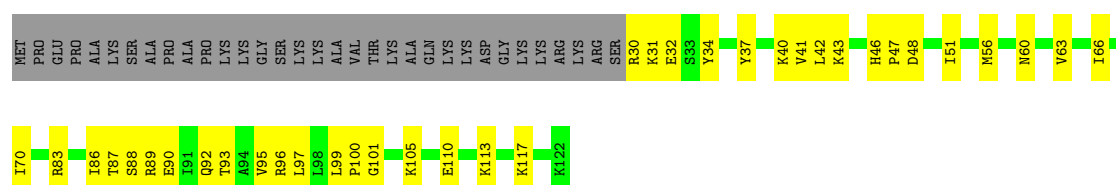
• Molecule 4: Histone H2AX

Chain G:  41% 26% 32%



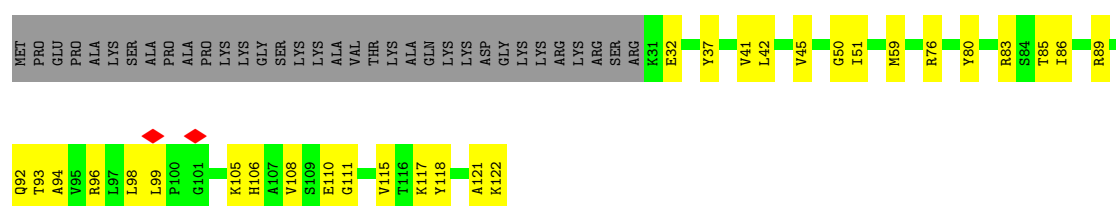
• Molecule 5: Histone H2B type 1-J

Chain D:  45% 29% 26%

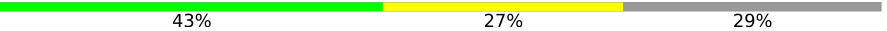


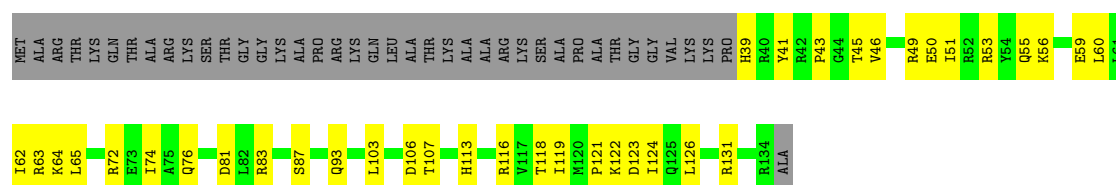
• Molecule 5: Histone H2B type 1-J

Chain H:  49% 24% 27%

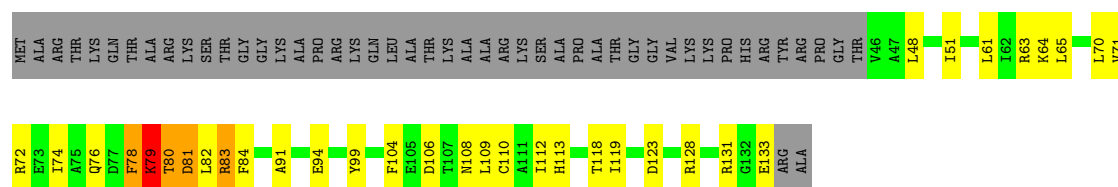


• Molecule 6: Histone H3.1

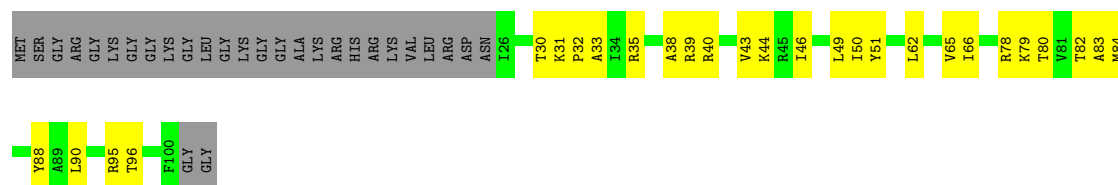
Chain A:  43% 27% 29%



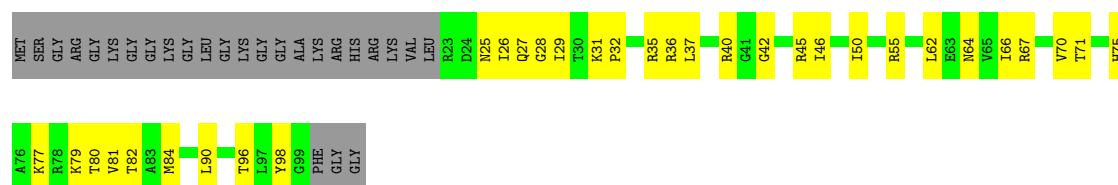
• Molecule 6: Histone H3.1



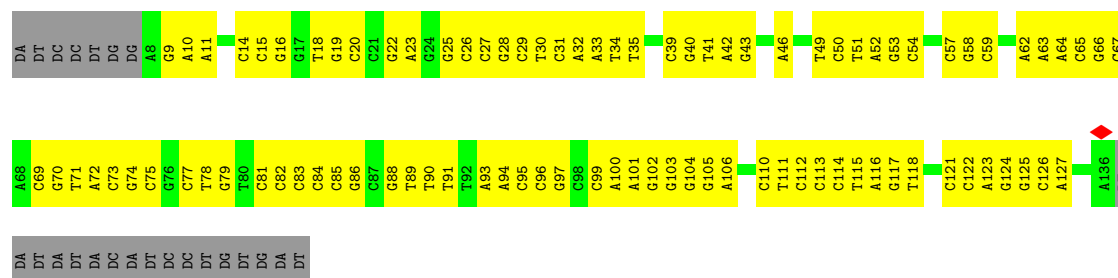
Chain B: 47% 26% 27%



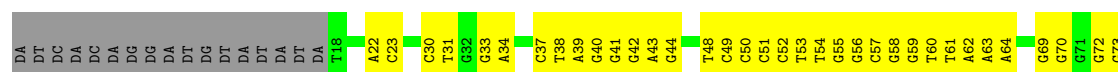
Chain F: 44% 31% 25%



Chain I: 24% 60% 16%



Chain J: 39% 47% 14%



A74	C75	A76	G79	C80	G81	T82	A83	G89	T90	T91	T92	A93	A94	G97	C101	T102	A103	G104	A105	G106	C107	T108	A113	T122	G125	C126	G127	G128	C129	C130	T131	C132	G133	G134	C135	A136	C137	C138	G139	G140	G141	C147	C148	DA	DG	DG	DG	DA	DT
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	15518	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	48.59	Depositor
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.875	Depositor
Minimum map value	-0.280	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.024	Depositor
Recommended contour level	0.19	Depositor
Map size (Å)	692.16, 692.16, 692.16	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.6479999, 1.6479999, 1.6479999	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	K	0.11	0/3962	0.27	0/5354
2	L	0.13	0/4131	0.35	0/5585
3	O	0.12	0/28365	0.36	0/38383
4	C	0.10	0/716	0.26	0/965
4	G	0.10	0/748	0.29	0/1010
5	D	0.12	0/714	0.32	0/961
5	H	0.10	0/729	0.28	0/979
6	A	0.11	0/805	0.30	0/1079
6	E	0.26	0/713	0.52	0/958
7	B	0.11	0/601	0.26	0/805
7	F	0.11	0/614	0.30	0/825
8	I	0.19	0/2940	0.36	0/4530
9	J	0.18	0/3020	0.36	0/4661
All	All	0.13	0/48058	0.35	0/66095

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	K	3886	0	3875	166	0
2	L	4051	0	4049	186	0
3	O	27819	0	27772	1141	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	C	707	0	744	38	0
4	G	738	0	769	40	0
5	D	705	0	719	33	0
5	H	718	0	740	26	0
6	A	794	0	831	43	0
6	E	705	0	726	44	0
7	B	595	0	640	29	0
7	F	608	0	639	45	0
8	I	2624	0	1449	118	0
9	J	2691	0	1472	92	0
All	All	46641	0	44425	1799	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 (1799) 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)
3:O:3868:VAL:HG12	3:O:4117:LEU:HB2	1.57	0.86
7:F:90:LEU:HB3	7:F:96:THR:HA	1.60	0.84
3:O:1172:LEU:HD11	3:O:1187:SER:HB2	1.62	0.82
6:E:128:ARG:HG3	6:E:133:GLU:HG3	1.62	0.82
3:O:196:LEU:HD13	3:O:227:LEU:HD11	1.61	0.81
6:E:83:ARG:HB2	7:F:80:THR:HG22	1.62	0.80
3:O:4116:ILE:HA	3:O:4124:TRP:HH2	1.47	0.80
3:O:364:ARG:HH12	3:O:415:GLN:HB2	1.47	0.79
3:O:2187:VAL:HB	3:O:2728:LEU:HD21	1.64	0.79
3:O:3163:THR:HB	3:O:3167:ARG:HH22	1.46	0.79
8:I:111:DT:H1'	9:J:44:DG:H22	1.48	0.79
1:K:507:THR:HB	2:L:394:ARG:HD3	1.63	0.78
3:O:3717:VAL:HG23	3:O:3743:HIS:H	1.49	0.78
2:L:251:LEU:HB2	2:L:261:ILE:HG12	1.66	0.78
3:O:393:LYS:HA	3:O:397:LEU:HD23	1.64	0.78
1:K:39:ILE:HG22	1:K:84:ALA:HB3	1.67	0.76
3:O:1169:VAL:HG21	3:O:1198:LEU:HD11	1.66	0.76
2:L:253:ILE:HD11	2:L:342:VAL:HG23	1.67	0.76
4:C:28:GLY:HA3	8:I:33:DA:H3'	1.67	0.75
9:J:41:DG:H2''	9:J:42:DG:N7	2.01	0.75
3:O:925:GLN:HG3	3:O:2800:ARG:HH12	1.52	0.75
3:O:1380:ALA:HA	3:O:1384:PHE:HA	1.69	0.75
3:O:2415:LEU:HB3	3:O:2420:PHE:HB2	1.66	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:4125:GLU:HB2	3:O:4128:MET:HE1	1.67	0.74
6:E:72:ARG:NH2	8:I:54:DC:OP1	2.20	0.74
1:K:95:ASN:HD22	1:K:95:ASN:N	1.82	0.74
3:O:893:SER:O	3:O:944:LYS:NZ	2.20	0.74
3:O:663:ILE:HG22	3:O:665:GLY:H	1.53	0.74
7:B:82:THR:HG22	7:B:84:MET:H	1.52	0.74
3:O:124:LYS:HZ2	8:I:11:DA:H3'	1.52	0.73
3:O:3535:ILE:HG23	3:O:3797:THR:HA	1.70	0.73
2:L:44:ARG:NH2	2:L:240:ILE:O	2.21	0.73
2:L:337:GLY:HA2	2:L:399:LYS:HA	1.69	0.73
3:O:1932:GLN:HB2	3:O:1937:ARG:HE	1.53	0.73
1:K:400:TYR:O	1:K:408:PRO:HA	1.90	0.72
3:O:1068:LEU:HD21	3:O:1106:ILE:HD12	1.71	0.72
3:O:1686:LEU:HD11	3:O:1738:ASN:HB3	1.71	0.72
3:O:901:MET:HG2	3:O:903:PRO:HD3	1.71	0.72
6:A:39:HIS:HB2	8:I:86:DG:H21	1.54	0.72
3:O:914:VAL:HG11	3:O:937:MET:HE1	1.72	0.71
1:K:299:LYS:NZ	2:L:296:CYS:O	2.22	0.71
6:A:113:HIS:NE2	6:E:123:ASP:OD1	2.23	0.71
7:F:31:LYS:HG3	7:F:32:PRO:HD3	1.72	0.71
6:E:82:LEU:O	6:E:83:ARG:C	2.33	0.71
3:O:1589:ASN:HD21	3:O:1592:MET:HB2	1.55	0.71
3:O:3681:LYS:NZ	3:O:3683:CYS:SG	2.63	0.71
3:O:271:GLY:O	3:O:274:LEU:HB2	1.91	0.71
7:F:25:ASN:HB3	7:F:29:ILE:HG12	1.71	0.71
2:L:362:LEU:HB2	2:L:421:TYR:HB3	1.73	0.71
3:O:867:ASN:HB3	3:O:3129:LEU:HD11	1.73	0.71
2:L:391:ALA:HB3	2:L:408:ALA:HB3	1.73	0.70
3:O:3069:MET:HA	3:O:3075:LYS:HB2	1.71	0.70
3:O:730:LEU:HD11	3:O:765:LEU:HD22	1.72	0.70
3:O:3156:PRO:O	3:O:3159:ARG:NH1	2.24	0.70
6:E:108:ASN:ND2	7:F:42:GLY:O	2.24	0.70
4:C:43:VAL:HG23	5:D:86:ILE:HB	1.72	0.69
3:O:771:ASN:OD1	3:O:854:ARG:NH2	2.26	0.69
3:O:2327:LEU:O	3:O:2333:ARG:NH1	2.26	0.69
9:J:69:DG:H2''	9:J:70:DG:C8	2.27	0.69
3:O:1034:ARG:HD2	3:O:1084:ASN:HB2	1.74	0.69
3:O:2357:GLU:HA	3:O:2360:PHE:HB3	1.75	0.69
1:K:172:GLU:HA	1:K:207:LYS:HE3	1.75	0.69
3:O:3969:ASN:HA	3:O:3972:LEU:HG	1.75	0.69
1:K:420:LEU:HG	1:K:426:GLN:HA	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:500:PRO:O	1:K:502:GLN:NE2	2.26	0.68
3:O:3130:GLN:NE2	3:O:3174:ASP:OD1	2.26	0.68
3:O:172:GLU:HB2	3:O:219:VAL:HG12	1.75	0.68
4:G:40:ALA:HB3	5:H:86:ILE:HD11	1.75	0.68
1:K:358:LYS:HA	2:L:353:ARG:HH12	1.58	0.68
1:K:264:ASN:HB2	2:L:530:LEU:HD22	1.75	0.67
6:E:74:ILE:HG23	7:F:66:ILE:HD13	1.76	0.67
3:O:1817:GLN:OE1	3:O:1936:ARG:NH2	2.27	0.67
1:K:300:THR:H	3:O:164:LYS:HZ2	1.43	0.67
2:L:248:PRO:HB2	2:L:262:ALA:HB1	1.75	0.67
3:O:1011:GLU:O	3:O:1015:ASP:N	2.27	0.67
3:O:2507:ILE:HD11	3:O:2545:LEU:HD12	1.77	0.67
3:O:2365:ASN:ND2	3:O:2399:GLU:OE1	2.27	0.67
4:G:84:GLN:HB3	4:G:102:ILE:HD11	1.75	0.67
3:O:275:PHE:HA	3:O:282:PHE:HE2	1.60	0.67
3:O:2461:PHE:HB2	3:O:2473:MET:HE3	1.77	0.67
6:A:116:ARG:NH1	6:A:118:THR:O	2.28	0.67
3:O:1568:ASN:HA	3:O:1600:MET:HE1	1.75	0.67
1:K:430:PRO:HG2	2:L:438:LEU:HD12	1.78	0.66
3:O:532:ARG:NH1	3:O:636:GLU:OE2	2.27	0.66
3:O:2361:ILE:HD11	3:O:2393:LEU:HD23	1.77	0.66
3:O:3531:TYR:OH	3:O:3796:MET:SD	2.51	0.66
4:G:23:LEU:HD21	4:G:52:ALA:HB3	1.76	0.66
3:O:1359:LEU:O	3:O:1362:ASP:HB2	1.94	0.66
7:B:78:ARG:NH2	7:B:80:THR:OG1	2.29	0.66
3:O:165:LYS:NZ	9:J:139:DG:N7	2.41	0.66
3:O:3314:SER:HB2	3:O:3318:LYS:HB3	1.78	0.66
2:L:111:LEU:HD22	2:L:150:ILE:HG12	1.78	0.66
3:O:297:LEU:HD13	3:O:316:LEU:HA	1.77	0.66
3:O:2407:GLY:HA3	3:O:2411:LEU:HD11	1.76	0.66
3:O:3291:GLN:HG2	3:O:3293:CYS:H	1.59	0.66
3:O:862:LEU:HB3	3:O:866:ILE:HD11	1.77	0.66
3:O:3693:GLU:HG3	3:O:3696:ARG:HH21	1.61	0.66
2:L:489:ARG:NH2	2:L:506:PRO:O	2.29	0.66
3:O:1475:LEU:HD22	3:O:1523:GLY:HA2	1.78	0.66
3:O:653:LEU:HD23	3:O:670:LEU:HD22	1.78	0.65
1:K:254:ARG:NH1	8:I:14:DC:OP1	2.29	0.65
3:O:2225:HIS:H	3:O:2231:PHE:HB2	1.61	0.65
3:O:4004:VAL:HG22	3:O:4005:PHE:H	1.62	0.65
4:C:85:LEU:HD23	4:C:108:LEU:HD21	1.79	0.65
3:O:1417:THR:O	3:O:1420:ARG:HB2	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:D:56:MET:O	5:D:60:ASN:ND2	2.29	0.65
3:O:2195:SER:O	3:O:2722:ARG:NH1	2.30	0.65
3:O:3739:ILE:HG23	3:O:3749:PRO:HB3	1.78	0.65
1:K:444:ARG:NH2	2:L:244:SER:OG	2.30	0.65
3:O:200:PHE:HE2	3:O:227:LEU:HD22	1.62	0.65
3:O:2446:LEU:HG	3:O:2450:GLU:HG3	1.78	0.65
3:O:3015:SER:HA	3:O:3044:MET:HE1	1.79	0.65
3:O:418:ALA:HB2	3:O:464:VAL:HG12	1.77	0.65
1:K:76:ILE:HG21	1:K:248:ALA:HA	1.77	0.65
3:O:469:ALA:HA	3:O:475:LEU:HD12	1.79	0.65
3:O:2165:LEU:HD11	3:O:2200:ALA:HB1	1.78	0.65
3:O:2287:PRO:HB3	3:O:2326:ILE:HD12	1.77	0.65
3:O:2531:LEU:HG	3:O:2538:ARG:HG3	1.79	0.65
3:O:4114:PRO:HA	3:O:4117:LEU:HG	1.78	0.65
3:O:1155:ARG:NH2	3:O:3689:ASP:OD1	2.30	0.64
3:O:1389:VAL:HG22	3:O:1390:GLN:H	1.61	0.64
4:C:20:ARG:NH1	8:I:35:DT:OP1	2.30	0.64
4:G:77:ARG:NH2	5:H:51:ILE:O	2.30	0.64
1:K:376:ILE:HB	2:L:540:ILE:HG13	1.77	0.64
3:O:1331:ASN:HA	3:O:1334:LYS:HE2	1.80	0.64
3:O:3870:SER:HB2	3:O:3874:ARG:HH21	1.61	0.64
1:K:94:LYS:H	1:K:103:TYR:HA	1.62	0.64
2:L:11:VAL:HB	2:L:132:ILE:HG12	1.79	0.64
3:O:3172:LYS:HG3	3:O:3173:MET:HG3	1.80	0.64
3:O:3838:GLU:OE2	3:O:3874:ARG:NH1	2.30	0.64
3:O:1445:ARG:NH2	3:O:1507:CYS:SG	2.70	0.64
3:O:1607:GLU:OE2	3:O:1614:GLN:NE2	2.31	0.64
9:J:104:DG:H2"	9:J:105:DA:C8	2.33	0.64
3:O:415:GLN:HA	3:O:463:LYS:HD2	1.79	0.64
3:O:2216:LEU:HD13	3:O:2241:LEU:HD23	1.80	0.64
4:G:81:ARG:NH1	4:G:107:VAL:O	2.24	0.64
2:L:250:ARG:NH1	2:L:252:THR:OG1	2.31	0.64
2:L:493:CYS:HB2	2:L:505:LEU:HD13	1.80	0.64
2:L:64:THR:HG22	2:L:69:SER:HB2	1.79	0.64
3:O:3311:ASN:HB3	3:O:3314:SER:HA	1.79	0.63
7:F:26:ILE:HG13	7:F:27:GLN:H	1.63	0.63
3:O:2367:VAL:O	3:O:2371:PHE:N	2.30	0.63
2:L:250:ARG:NH2	2:L:338:LYS:O	2.31	0.63
3:O:670:LEU:HB3	3:O:732:PHE:CE1	2.34	0.63
3:O:1445:ARG:NH2	3:O:1506:SER:OG	2.32	0.63
4:G:77:ARG:HA	5:H:50:GLY:H	1.62	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:289:TYR:HD2	1:K:292:THR:H	1.47	0.63
3:O:1458:LEU:HD22	3:O:1463:LEU:HD12	1.78	0.63
8:I:88:DG:H2"	8:I:89:DT:H5"	1.79	0.63
3:O:1851:LEU:HD13	3:O:1870:LYS:HD3	1.81	0.63
3:O:197:PHE:O	3:O:201:LEU:HG	1.98	0.63
3:O:3681:LYS:HG2	3:O:3724:GLU:HG2	1.79	0.63
6:E:82:LEU:C	7:F:80:THR:HA	2.24	0.63
3:O:2391:GLY:O	3:O:2431:ARG:NH2	2.32	0.63
8:I:9:DG:N2	9:J:147:DC:O2	2.32	0.63
1:K:275:ASN:ND2	1:K:278:GLN:OE1	2.32	0.62
3:O:174:VAL:O	3:O:177:LEU:HB2	1.99	0.62
3:O:1073:PHE:HE1	3:O:1121:LEU:HD22	1.64	0.62
5:D:101:GLY:O	5:D:105:LYS:NZ	2.32	0.62
1:K:48:MET:HA	1:K:59:PRO:HG2	1.79	0.62
3:O:956:PRO:HA	3:O:959:TYR:HB2	1.81	0.62
3:O:1071:ASN:ND2	3:O:1073:PHE:H	1.96	0.62
3:O:2353:GLN:HB3	3:O:2360:PHE:HB2	1.80	0.62
1:K:338:LYS:NZ	8:I:18:DT:OP1	2.31	0.62
2:L:316:TYR:HB3	2:L:319:ASP:HB2	1.81	0.62
2:L:347:LYS:HG3	2:L:349:SER:H	1.64	0.62
3:O:2356:MET:SD	3:O:2359:LYS:NZ	2.66	0.62
2:L:10:VAL:HB	2:L:54:ILE:HG13	1.81	0.62
3:O:1833:LEU:HD23	3:O:1835:ALA:H	1.65	0.62
1:K:95:ASN:N	1:K:95:ASN:ND2	2.47	0.62
3:O:2310:VAL:HG11	3:O:2359:LYS:HD2	1.81	0.62
4:C:87:ILE:HA	4:C:93:LEU:HD12	1.82	0.62
6:A:59:GLU:O	7:B:40:ARG:NH1	2.33	0.62
2:L:65:ASP:HB3	2:L:78:THR:HG23	1.82	0.62
3:O:3066:ASP:HA	3:O:3069:MET:SD	2.40	0.62
8:I:25:DG:H4'	8:I:26:DC:H5'	1.81	0.62
1:K:203:MET:HE1	1:K:241:ASP:HB2	1.81	0.62
3:O:396:PHE:HE2	3:O:441:MET:HG2	1.65	0.62
3:O:3759:ARG:HA	3:O:3762:GLN:HG2	1.81	0.62
1:K:484:GLN:O	1:K:488:ARG:HG2	1.99	0.61
3:O:2122:LEU:O	3:O:2127:LYS:NZ	2.32	0.61
3:O:1766:LEU:HD23	3:O:1775:GLU:HG3	1.82	0.61
3:O:2587:GLN:O	3:O:2777:HIS:N	2.33	0.61
6:A:106:ASP:OD2	6:A:131:ARG:NH2	2.32	0.61
2:L:465:LYS:O	2:L:474:GLU:N	2.33	0.61
3:O:914:VAL:O	3:O:918:ALA:N	2.30	0.61
3:O:1632:TRP:CD1	3:O:1645:VAL:HG21	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:2386:LEU:HD12	3:O:2418:LYS:HG3	1.82	0.61
1:K:407:PRO:HG2	2:L:486:ARG:HD2	1.82	0.61
3:O:655:LEU:HB3	3:O:659:ARG:HH12	1.65	0.61
3:O:1301:ILE:H	3:O:1301:ILE:HD12	1.66	0.61
2:L:461:MET:HB3	2:L:526:SER:HB3	1.82	0.61
3:O:23:ASP:OD2	3:O:70:ARG:NH1	2.34	0.61
3:O:2524:PHE:O	3:O:2530:ARG:NH1	2.27	0.61
2:L:7:LYS:HB2	2:L:51:LYS:HB3	1.83	0.61
2:L:264:TYR:HB2	2:L:363:LYS:HB3	1.83	0.61
3:O:990:GLN:NE2	3:O:2778:GLY:O	2.33	0.61
3:O:1820:VAL:HG23	3:O:1824:LEU:HB2	1.83	0.61
3:O:2808:LEU:HD23	3:O:2812:LEU:HD23	1.81	0.61
3:O:305:ASN:O	3:O:308:LEU:N	2.34	0.61
3:O:1452:VAL:HA	3:O:1517:LEU:HD11	1.83	0.61
5:D:83:ARG:NH1	8:I:43:DG:OP2	2.34	0.61
3:O:1725:GLN:O	3:O:1768:ARG:NH2	2.34	0.60
3:O:2125:TRP:O	3:O:2129:LEU:N	2.29	0.60
3:O:2404:ARG:O	3:O:2441:LYS:NZ	2.34	0.60
3:O:767:GLU:O	3:O:771:ASN:ND2	2.35	0.60
3:O:3720:ALA:HB3	3:O:3743:HIS:HA	1.82	0.60
4:G:100:VAL:HG12	7:F:96:THR:HG22	1.83	0.60
2:L:93:ASP:O	2:L:97:LYS:HB2	2.01	0.60
3:O:971:ARG:HG3	3:O:1025:LEU:HD11	1.83	0.60
3:O:1831:CYS:SG	3:O:1883:ARG:NH1	2.74	0.60
3:O:2136:PRO:O	3:O:2143:ARG:NH2	2.33	0.60
3:O:2538:ARG:NH2	3:O:2565:MET:HE3	2.16	0.60
3:O:164:LYS:HB2	3:O:166:ILE:HG12	1.83	0.60
8:I:57:DC:H1'	9:J:97:DG:H22	1.65	0.60
1:K:173:ASP:OD1	1:K:207:LYS:NZ	2.30	0.60
1:K:325:ARG:NH2	2:L:498:ALA:O	2.35	0.60
3:O:1367:HIS:HA	3:O:1370:ARG:HH11	1.67	0.60
4:C:101:THR:OG1	7:B:96:THR:O	2.20	0.60
8:I:20:DC:N4	9:J:134:DG:O6	2.35	0.60
3:O:1072:ALA:HB1	3:O:1123:THR:HG21	1.84	0.60
3:O:2097:LEU:HD11	3:O:2149:LEU:HD22	1.83	0.60
3:O:1602:ASP:O	3:O:1606:ARG:N	2.35	0.60
3:O:3960:PRO:HD3	3:O:4111:ALA:HB1	1.84	0.60
8:I:104:DG:N2	9:J:51:DC:O2	2.35	0.60
1:K:469:LEU:HD11	1:K:518:LEU:HD11	1.84	0.60
3:O:848:LEU:HB3	3:O:852:ARG:HH22	1.67	0.60
5:D:92:GLN:OE1	5:D:96:ARG:NH2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:17:GLY:O	2:L:21:SER:N	2.32	0.60
3:O:207:GLN:HG3	3:O:217:LEU:HD13	1.84	0.60
3:O:2278:GLY:O	3:O:2282:ALA:N	2.35	0.60
1:K:52:GLN:NE2	1:K:206:LYS:O	2.34	0.59
8:I:62:DA:H1'	8:I:63:DA:H5'	1.84	0.59
3:O:225:LYS:HE3	3:O:270:ALA:HB3	1.83	0.59
3:O:2544:SER:HA	3:O:2842:ARG:HH22	1.68	0.59
3:O:2843:PHE:O	3:O:2847:THR:OG1	2.20	0.59
1:K:413:LEU:HD12	1:K:432:PHE:HB3	1.85	0.59
3:O:908:ASP:HA	3:O:911:LEU:HD23	1.84	0.59
3:O:1727:ARG:NH2	3:O:1771:GLN:O	2.36	0.59
4:G:90:ASP:HB2	4:G:93:LEU:HB2	1.85	0.59
3:O:393:LYS:NZ	3:O:1685:ASP:OD2	2.35	0.59
3:O:2988:GLU:HA	3:O:2991:LYS:HE2	1.84	0.59
3:O:3190:LEU:HB3	3:O:3231:ILE:HG23	1.84	0.59
2:L:448:GLU:HA	2:L:451:LEU:HD12	1.84	0.59
3:O:415:GLN:NE2	3:O:460:ALA:HB2	2.17	0.59
3:O:950:GLU:OE1	3:O:950:GLU:N	2.33	0.59
8:I:117:DG:N2	9:J:38:DT:O2	2.35	0.59
3:O:3011:LEU:HB3	3:O:3047:SER:HB3	1.83	0.59
7:B:39:ARG:NH1	7:B:44:LYS:O	2.36	0.59
3:O:953:GLN:OE1	3:O:953:GLN:N	2.36	0.59
3:O:1083:ASN:ND2	3:O:1126:GLN:OE1	2.34	0.59
3:O:1583:MET:HG3	3:O:1625:HIS:HB3	1.85	0.59
3:O:3593:ARG:HH21	3:O:3660:ASN:HD22	1.51	0.59
7:F:35:ARG:HG3	7:F:46:ILE:HD11	1.83	0.59
8:I:97:DG:N1	9:J:57:DC:N3	2.50	0.59
2:L:315:ARG:HA	2:L:320:ILE:HA	1.85	0.59
3:O:3666:LEU:HA	3:O:3669:LYS:HD2	1.83	0.59
1:K:492:ALA:HA	1:K:497:LEU:HD13	1.83	0.58
2:L:54:ILE:HD13	2:L:86:PRO:HG3	1.84	0.58
3:O:584:GLU:O	3:O:613:HIS:N	2.34	0.58
3:O:4004:VAL:H	3:O:4007:LYS:HZ1	1.51	0.58
1:K:488:ARG:NH2	1:K:491:GLU:OE2	2.36	0.58
2:L:352:GLN:HB3	2:L:354:ARG:HG2	1.84	0.58
3:O:793:LEU:HB3	3:O:870:LEU:HA	1.84	0.58
3:O:3319:ASN:O	3:O:3322:ALA:N	2.32	0.58
3:O:3606:ILE:HA	3:O:3609:MET:HE2	1.84	0.58
3:O:1096:VAL:O	3:O:1100:VAL:HG13	2.03	0.58
3:O:2452:ARG:HB2	3:O:2498:ILE:HD11	1.85	0.58
9:J:73:DG:H2''	9:J:74:DA:N7	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:288:LEU:N	2:L:311:ILE:O	2.36	0.58
3:O:3416:LEU:HD22	3:O:3449:LYS:HE3	1.86	0.58
3:O:3880:ALA:O	3:O:3885:ARG:NH2	2.34	0.58
3:O:243:GLN:NE2	3:O:281:GLN:O	2.36	0.58
3:O:3909:ALA:HB1	3:O:3984:MET:HE3	1.86	0.58
4:C:17:ARG:HH21	4:C:27:VAL:HG12	1.67	0.58
3:O:958:MET:HB2	3:O:961:LEU:HB2	1.85	0.58
6:A:59:GLU:H	7:B:40:ARG:HH12	1.52	0.58
2:L:21:SER:HB2	2:L:100:PRO:HB2	1.86	0.58
3:O:1365:ASN:OD1	3:O:1370:ARG:NH1	2.37	0.58
3:O:2266:ASN:O	3:O:2311:ARG:NH1	2.36	0.58
8:I:124:DG:N2	9:J:31:DT:O2	2.37	0.58
9:J:133:DG:H2'	9:J:134:DG:C8	2.39	0.58
2:L:153:SER:HA	2:L:156:LYS:HG2	1.85	0.58
3:O:734:LEU:HD11	3:O:768:VAL:HB	1.85	0.58
3:O:1112:ALA:HB1	3:O:1180:GLN:HE21	1.69	0.58
3:O:3135:LEU:O	3:O:3138:ILE:HG22	2.04	0.58
3:O:3301:LEU:HD12	3:O:3304:VAL:HG23	1.86	0.58
4:C:79:ILE:HG22	4:C:81:ARG:H	1.67	0.58
2:L:165:LEU:O	2:L:227:PHE:N	2.35	0.58
3:O:1069:HIS:HB3	3:O:1074:LYS:HD2	1.85	0.58
3:O:1464:LEU:HD11	3:O:1521:PHE:HA	1.85	0.58
3:O:3471:ILE:HA	3:O:3474:ARG:HB2	1.85	0.58
4:G:16:SER:HA	9:J:34:DA:H4'	1.85	0.58
3:O:1230:GLY:O	3:O:1292:LYS:NZ	2.33	0.58
3:O:3993:SER:OG	3:O:3994:ASP:N	2.33	0.58
1:K:388:LYS:HE3	2:L:451:LEU:HB3	1.85	0.57
3:O:201:LEU:HD22	3:O:249:PHE:HD2	1.69	0.57
3:O:1304:HIS:O	3:O:1334:LYS:NZ	2.31	0.57
3:O:1841:SER:HA	3:O:1844:VAL:HG23	1.84	0.57
3:O:3974:MET:N	3:O:3974:MET:SD	2.77	0.57
3:O:4055:ASN:HD21	3:O:4057:ALA:HB3	1.69	0.57
4:G:84:GLN:HA	4:G:87:ILE:HG12	1.86	0.57
8:I:41:DT:H2''	8:I:42:DA:C8	2.40	0.57
8:I:94:DA:H2''	8:I:95:DC:H5''	1.85	0.57
1:K:416:GLN:NE2	1:K:417:GLU:O	2.37	0.57
3:O:860:GLY:HA3	3:O:3136:THR:HG21	1.86	0.57
3:O:2594:ASP:HB3	3:O:2596:ARG:HD3	1.86	0.57
8:I:102:DG:H2''	8:I:103:DG:C8	2.40	0.57
2:L:496:HIS:CG	2:L:506:PRO:HD3	2.39	0.57
2:L:193:PRO:HD2	2:L:195:LYS:HE2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:225:LYS:HB3	3:O:274:LEU:HD21	1.86	0.57
3:O:1961:PHE:CE1	3:O:2100:LEU:HD21	2.40	0.57
3:O:3875:GLU:HG3	3:O:3965:ARG:HE	1.70	0.57
6:E:70:LEU:HD22	7:F:25:ASN:HB2	1.87	0.57
1:K:192:ASP:OD1	3:O:2380:ASN:ND2	2.37	0.57
3:O:93:LEU:HD23	3:O:136:GLN:HG3	1.85	0.57
3:O:2322:VAL:HA	3:O:2325:LEU:HD12	1.85	0.57
3:O:2773:ARG:HG2	3:O:2789:SER:HB2	1.85	0.57
3:O:3321:LEU:HG	3:O:3324:ARG:HH21	1.70	0.57
3:O:3750:PHE:HB3	3:O:3802:LEU:HD11	1.86	0.57
8:I:103:DG:N2	9:J:52:DC:O2	2.38	0.57
1:K:299:LYS:HG3	2:L:294:VAL:HG23	1.86	0.57
2:L:130:ARG:NH2	2:L:157:CYS:O	2.38	0.57
3:O:2196:TRP:HB2	3:O:2199:LEU:HB2	1.87	0.57
3:O:3636:PHE:O	3:O:3640:PHE:N	2.32	0.57
4:G:43:VAL:HA	5:H:86:ILE:HB	1.86	0.57
8:I:53:DG:O6	9:J:101:DC:N4	2.38	0.57
1:K:194:ARG:NH1	1:K:219:ASP:O	2.37	0.57
3:O:1201:ASN:OD1	3:O:1207:TRP:N	2.34	0.57
3:O:2543:ASN:OD1	3:O:2544:SER:N	2.38	0.57
3:O:3281:CYS:O	3:O:3285:HIS:ND1	2.37	0.57
3:O:3662:ILE:HA	3:O:3665:MET:HE2	1.87	0.57
3:O:1075:ARG:NH2	3:O:1117:ASP:OD2	2.38	0.57
4:C:41:GLU:OE1	4:G:38:HIS:NE2	2.37	0.57
8:I:96:DC:H42	9:J:57:DC:H41	1.53	0.57
9:J:43:DA:H2''	9:J:44:DG:C8	2.40	0.57
1:K:369:TYR:OH	2:L:436:SER:O	2.21	0.57
2:L:316:TYR:N	2:L:319:ASP:O	2.38	0.57
3:O:724:GLU:HB3	3:O:2600:THR:HA	1.85	0.57
1:K:157:VAL:O	3:O:2388:LYS:NZ	2.37	0.56
3:O:3360:LEU:HB2	3:O:3373:VAL:HG21	1.86	0.56
4:C:17:ARG:NH1	8:I:34:DT:OP2	2.37	0.56
5:H:83:ARG:NH2	9:J:44:DG:OP2	2.38	0.56
1:K:147:LEU:HD12	1:K:189:LYS:HB3	1.86	0.56
1:K:403:ARG:HD2	9:J:140:DG:H4'	1.87	0.56
1:K:459:VAL:HG12	1:K:463:LYS:HE3	1.87	0.56
2:L:245:ILE:N	9:J:131:DT:OP1	2.37	0.56
3:O:1420:ARG:NH2	3:O:1466:ASN:O	2.38	0.56
3:O:2161:ALA:HA	3:O:2164:TRP:HB2	1.86	0.56
4:C:29:ARG:NH1	5:D:32:GLU:O	2.38	0.56
1:K:40:PHE:HB3	1:K:169:PHE:HE2	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:300:THR:HA	2:L:293:THR:HA	1.87	0.56
1:K:349:GLY:HA3	2:L:463:LEU:HG	1.85	0.56
2:L:51:LYS:NZ	8:I:27:DC:O2	2.33	0.56
3:O:220:LEU:HD23	3:O:224:LEU:HD23	1.87	0.56
3:O:331:ALA:O	3:O:334:HIS:ND1	2.38	0.56
3:O:1428:ILE:HA	3:O:1431:LEU:HB2	1.87	0.56
3:O:1711:ARG:NH1	3:O:1760:GLU:OE2	2.38	0.56
3:O:1805:PHE:HD1	3:O:1819:PHE:HB2	1.70	0.56
3:O:2168:LEU:O	3:O:2172:ALA:N	2.37	0.56
3:O:4055:ASN:HD22	3:O:4058:VAL:HG23	1.70	0.56
4:C:96:LEU:HD13	5:D:100:PRO:HD3	1.87	0.56
2:L:139:SER:HA	2:L:201:GLN:HG2	1.88	0.56
2:L:194:LEU:HD22	2:L:202:LYS:HE2	1.88	0.56
3:O:1369:MET:SD	3:O:1370:ARG:NH1	2.79	0.56
3:O:2938:VAL:HG22	3:O:3979:LEU:HD21	1.87	0.56
3:O:3578:LEU:HD13	3:O:3676:PRO:HA	1.87	0.56
3:O:527:TYR:O	3:O:530:LEU:HB3	2.06	0.56
3:O:1261:LEU:HD11	3:O:1336:THR:HG22	1.87	0.56
3:O:2167:PRO:O	3:O:2171:LEU:N	2.34	0.56
3:O:3737:ARG:HA	3:O:3751:LEU:HB2	1.88	0.56
3:O:346:TYR:HB3	3:O:349:ILE:HD11	1.87	0.56
3:O:971:ARG:HA	3:O:1025:LEU:HD21	1.88	0.56
3:O:3239:LYS:HG3	3:O:3262:LEU:HD21	1.88	0.56
2:L:47:PHE:HE2	2:L:495:LEU:HG	1.70	0.56
3:O:361:ILE:O	3:O:364:ARG:HB3	2.06	0.56
3:O:958:MET:N	3:O:958:MET:SD	2.79	0.56
3:O:1614:GLN:HA	3:O:1617:LYS:HE2	1.88	0.56
3:O:1825:LEU:HD21	3:O:1875:LYS:HD3	1.88	0.56
3:O:3838:GLU:O	3:O:3842:TRP:NE1	2.39	0.56
9:J:58:DG:C8	9:J:58:DG:H5'	2.41	0.56
1:K:469:LEU:HD21	1:K:518:LEU:HG	1.87	0.56
1:K:469:LEU:HD22	1:K:514:MET:HG3	1.86	0.56
2:L:326:VAL:O	2:L:329:GLU:HG3	2.06	0.56
8:I:114:DC:O2	9:J:41:DG:N2	2.38	0.56
2:L:253:ILE:HD13	2:L:340:PHE:CD2	2.41	0.56
3:O:367:GLY:HA3	3:O:416:SER:HA	1.88	0.56
3:O:998:ASN:HA	3:O:1001:PHE:HB2	1.88	0.56
3:O:1594:SER:O	3:O:1598:ASN:ND2	2.38	0.56
4:G:107:VAL:H	7:F:40:ARG:HH21	1.52	0.56
9:J:102:DT:H1'	9:J:103:DA:C5	2.41	0.56
3:O:360:SER:O	3:O:363:ILE:HG12	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1583:MET:HA	3:O:1586:SER:HB3	1.88	0.56
3:O:3988:LEU:HD23	3:O:4100:GLU:HA	1.87	0.56
1:K:264:ASN:HB3	1:K:267:ILE:H	1.71	0.55
3:O:91:ILE:HG21	3:O:834:LEU:HD23	1.89	0.55
3:O:612:LEU:HD11	3:O:2602:LEU:HD11	1.88	0.55
3:O:3794:VAL:HG11	3:O:3802:LEU:HD23	1.88	0.55
3:O:108:LYS:HE3	3:O:148:LYS:HE3	1.87	0.55
3:O:1413:ASP:OD1	3:O:1414:ILE:N	2.39	0.55
3:O:1771:GLN:OE1	3:O:1775:GLU:N	2.39	0.55
3:O:3048:LYS:HB3	3:O:3061:LEU:HD13	1.89	0.55
3:O:3588:TRP:HE1	3:O:3609:MET:HG3	1.71	0.55
5:D:37:TYR:HA	5:D:40:LYS:HE3	1.88	0.55
3:O:715:ALA:HA	3:O:718:MET:HE2	1.86	0.55
3:O:2410:GLU:HG3	3:O:2413:PHE:HB3	1.87	0.55
3:O:2890:ILE:HD13	3:O:2893:LEU:HD21	1.88	0.55
4:C:26:PRO:HG2	4:C:29:ARG:HB3	1.88	0.55
6:A:72:ARG:NH2	9:J:54:DT:OP2	2.39	0.55
2:L:41:PHE:HA	2:L:238:LYS:HZ3	1.72	0.55
3:O:415:GLN:HE21	3:O:460:ALA:HB2	1.71	0.55
3:O:1476:HIS:ND1	3:O:1476:HIS:O	2.38	0.55
3:O:1793:THR:O	3:O:1797:LEU:HG	2.06	0.55
3:O:3176:MET:HE1	3:O:3249:GLN:NE2	2.21	0.55
5:D:89:ARG:O	5:D:92:GLN:NE2	2.30	0.55
3:O:864:GLY:HA2	3:O:867:ASN:HB2	1.87	0.55
3:O:1436:LEU:HD22	3:O:1445:ARG:HG2	1.89	0.55
3:O:2327:LEU:HD11	3:O:2342:CYS:SG	2.47	0.55
6:E:83:ARG:HB3	8:I:53:DG:H4'	1.87	0.55
1:K:74:LYS:HG3	1:K:83:LEU:HD11	1.89	0.55
1:K:418:GLU:HG3	1:K:430:PRO:HD3	1.89	0.55
2:L:405:VAL:O	2:L:423:GLN:NE2	2.40	0.55
3:O:3236:PHE:HB3	3:O:3272:TRP:CH2	2.42	0.55
3:O:3446:VAL:HG23	3:O:3468:LEU:HD11	1.89	0.55
6:A:53:ARG:HA	6:A:56:LYS:HE2	1.88	0.55
3:O:334:HIS:O	3:O:337:LYS:HB3	2.06	0.55
3:O:892:LEU:HA	3:O:944:LYS:HE3	1.89	0.55
3:O:2824:LYS:O	3:O:2829:LYS:NZ	2.39	0.55
3:O:414:LEU:HD12	3:O:464:VAL:HG11	1.87	0.55
3:O:2093:CYS:O	3:O:2094:MET:HE2	2.07	0.55
3:O:3814:ASP:O	3:O:3818:ASN:ND2	2.39	0.55
2:L:108:LEU:O	2:L:112:ILE:HD12	2.06	0.55
3:O:894:PHE:HB2	3:O:940:PHE:CE2	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:103:DG:H2''	8:I:104:DG:O5'	2.06	0.55
1:K:327:ILE:HG23	2:L:497:ARG:HG2	1.89	0.55
2:L:266:SER:HB2	2:L:361:VAL:HG12	1.89	0.55
3:O:639:ALA:H	3:O:679:LYS:HZ3	1.55	0.55
3:O:2260:PHE:HA	3:O:2270:ASN:HB2	1.88	0.55
3:O:2295:GLN:HG2	3:O:2297:SER:H	1.70	0.55
3:O:3533:PHE:O	3:O:3537:SER:OG	2.23	0.55
3:O:3864:ARG:O	3:O:3868:VAL:HG13	2.07	0.55
3:O:3882:LEU:H	3:O:3966:GLN:HE22	1.53	0.55
3:O:4041:ARG:HE	3:O:4044:ILE:HD11	1.72	0.55
6:E:81:ASP:O	6:E:82:LEU:C	2.51	0.54
1:K:416:GLN:O	1:K:430:PRO:HA	2.07	0.54
3:O:2105:HIS:NE2	3:O:2156:VAL:O	2.39	0.54
1:K:404:ARG:HD2	3:O:213:ARG:HG3	1.89	0.54
3:O:1226:GLY:O	3:O:1230:GLY:N	2.35	0.54
3:O:1610:ASN:OD1	3:O:1611:GLN:N	2.41	0.54
3:O:2425:ARG:NH1	3:O:2460:GLU:OE2	2.39	0.54
3:O:3288:SER:HB2	3:O:3296:GLN:HG2	1.89	0.54
6:E:61:LEU:HD23	7:F:36:ARG:HB3	1.90	0.54
8:I:14:DC:H42	9:J:140:DG:H1	1.54	0.54
4:C:96:LEU:HD13	5:D:99:LEU:HA	1.90	0.54
6:A:83:ARG:HB3	9:J:53:DT:H4'	1.88	0.54
6:A:83:ARG:HB2	7:B:80:THR:HA	1.89	0.54
8:I:40:DG:O6	9:J:113:DA:N6	2.40	0.54
3:O:2561:PHE:O	3:O:2565:MET:HG3	2.08	0.54
6:E:82:LEU:HA	7:F:80:THR:HA	1.90	0.54
1:K:241:ASP:O	1:K:244:ARG:NH1	2.33	0.54
2:L:119:GLN:HA	2:L:122:THR:HB	1.89	0.54
3:O:240:GLU:HG2	3:O:243:GLN:HG2	1.90	0.54
3:O:2225:HIS:CD2	3:O:2226:PRO:HD2	2.43	0.54
3:O:3382:PHE:HD2	3:O:3419:PHE:HE2	1.55	0.54
3:O:3879:PRO:HB2	3:O:3882:LEU:HD21	1.90	0.54
8:I:101:DA:H2''	8:I:102:DG:C8	2.42	0.54
3:O:234:PHE:HD1	3:O:235:THR:HG23	1.73	0.54
3:O:332:GLU:O	3:O:335:LYS:NZ	2.40	0.54
3:O:1722:PHE:HZ	3:O:1742:CYS:HB2	1.73	0.54
3:O:3588:TRP:NE1	3:O:3609:MET:HG3	2.23	0.54
3:O:3980:MET:N	3:O:3980:MET:SD	2.81	0.54
8:I:69:DC:H2''	8:I:70:DG:C5	2.43	0.54
3:O:79:ARG:HA	3:O:119:ARG:HH21	1.73	0.54
3:O:1606:ARG:HH11	3:O:2042:GLN:HG2	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1632:TRP:HD1	3:O:1633:TRP:HB3	1.72	0.54
8:I:65:DC:H2"	8:I:66:DG:H8	1.73	0.54
3:O:639:ALA:H	3:O:679:LYS:NZ	2.06	0.54
3:O:2298:GLU:HA	3:O:2301:GLN:HG2	1.89	0.54
3:O:2568:MET:SD	3:O:2568:MET:N	2.80	0.54
3:O:3292:GLY:HA2	3:O:3297:VAL:HG11	1.89	0.54
4:G:17:ARG:HG2	4:G:20:ARG:HH21	1.73	0.54
1:K:299:LYS:HA	3:O:164:LYS:NZ	2.23	0.54
1:K:522:VAL:HG11	2:L:256:ASN:HB2	1.89	0.54
3:O:12:LEU:HD21	3:O:44:LEU:HD22	1.88	0.54
3:O:4005:PHE:O	3:O:4007:LYS:N	2.41	0.54
4:G:83:LEU:HD13	5:H:59:MET:HE3	1.90	0.54
3:O:2891:ARG:NH2	3:O:2895:GLU:OE2	2.41	0.53
3:O:3796:MET:HB3	3:O:3801:GLY:HA2	1.89	0.53
4:C:90:ASP:O	4:C:94:ASN:ND2	2.41	0.53
2:L:44:ARG:HD3	2:L:239:LYS:HD3	1.89	0.53
2:L:460:SER:HB2	2:L:525:LYS:HB3	1.90	0.53
3:O:1747:LEU:HD21	3:O:1781:SER:OG	2.08	0.53
3:O:2575:PRO:HA	3:O:2786:LYS:HA	1.90	0.53
3:O:3333:THR:O	3:O:3337:ILE:HG12	2.08	0.53
3:O:3679:ASN:N	3:O:3724:GLU:O	2.41	0.53
6:A:107:THR:HG22	6:A:124:ILE:HA	1.88	0.53
2:L:464:ALA:HB1	2:L:473:LEU:HB3	1.91	0.53
3:O:71:LYS:HG3	3:O:73:LEU:H	1.74	0.53
3:O:726:LEU:HG	3:O:730:LEU:HD23	1.90	0.53
4:C:72:ASP:OD1	4:C:73:ASN:N	2.41	0.53
4:G:88:ARG:HH21	4:G:94:ASN:HA	1.73	0.53
3:O:3259:LEU:HD11	3:O:3283:LEU:HD13	1.89	0.53
6:E:82:LEU:O	7:F:81:VAL:HG12	2.08	0.53
3:O:664:SER:HB3	3:O:725:LEU:HD12	1.89	0.53
3:O:790:LYS:HA	3:O:869:ASN:HB3	1.89	0.53
3:O:2263:LYS:HA	3:O:2309:PHE:HZ	1.74	0.53
3:O:4014:LYS:HG2	3:O:4015:ASN:H	1.74	0.53
4:C:107:VAL:O	6:A:55:GLN:NE2	2.42	0.53
3:O:710:PHE:O	3:O:714:VAL:HG12	2.08	0.53
3:O:865:GLN:HE22	3:O:3172:LYS:HB3	1.74	0.53
3:O:1423:ILE:HD11	3:O:1427:SER:HB3	1.91	0.53
3:O:3588:TRP:HZ2	3:O:3610:TYR:HB2	1.74	0.53
3:O:3637:GLY:O	3:O:3641:ASP:N	2.41	0.53
5:H:105:LYS:HA	5:H:108:VAL:HG12	1.90	0.53
8:I:57:DC:H2"	8:I:58:DG:C5	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:111:DT:H71	8:I:112:DC:H42	1.74	0.53
2:L:64:THR:HG23	2:L:76:ASN:H	1.74	0.53
3:O:1837:ARG:O	3:O:1840:PHE:HB3	2.08	0.53
3:O:3610:TYR:O	3:O:3614:TYR:HB3	2.08	0.53
4:G:42:ARG:NH2	8:I:114:DC:O2	2.42	0.53
3:O:746:ARG:HE	3:O:788:TYR:HE1	1.56	0.53
3:O:1354:GLU:HA	3:O:1357:LYS:HB3	1.90	0.53
3:O:1836:LEU:O	3:O:1840:PHE:N	2.34	0.53
3:O:2251:ILE:HD12	3:O:2252:PRO:HD2	1.91	0.53
3:O:4064:LEU:O	3:O:4068:HIS:N	2.38	0.53
3:O:169:THR:HG23	3:O:170:VAL:HG23	1.90	0.53
3:O:1288:SER:O	3:O:1292:LYS:N	2.32	0.53
3:O:3030:ILE:HG13	3:O:3067:LYS:HD2	1.91	0.53
3:O:4053:GLY:O	3:O:4097:GLY:N	2.42	0.53
4:C:62:ILE:HG13	4:C:63:LEU:HD12	1.91	0.53
4:C:88:ARG:NH2	4:C:94:ASN:OD1	2.41	0.53
5:D:92:GLN:HB2	5:D:96:ARG:HH21	1.74	0.53
2:L:40:MET:SD	2:L:238:LYS:NZ	2.73	0.53
3:O:528:VAL:HG23	3:O:633:ILE:HD13	1.91	0.53
4:G:79:ILE:HG13	4:G:80:PRO:HD2	1.89	0.53
6:E:71:VAL:HA	6:E:74:ILE:HG22	1.90	0.53
8:I:116:DA:H61	9:J:38:DT:H3	1.57	0.53
3:O:449:TYR:CD2	3:O:453:MET:HE1	2.43	0.52
3:O:643:GLU:HA	3:O:646:VAL:HG23	1.91	0.52
6:A:50:GLU:HG3	6:A:53:ARG:HH21	1.73	0.52
1:K:362:LEU:HD11	2:L:269:GLN:HB2	1.92	0.52
3:O:31:GLY:O	3:O:35:ILE:HG12	2.10	0.52
3:O:477:ASN:OD1	3:O:478:CYS:N	2.42	0.52
3:O:1374:GLN:O	3:O:1378:GLU:N	2.36	0.52
3:O:3975:LYS:HG3	3:O:3977:THR:H	1.74	0.52
8:I:51:DT:H2"	8:I:52:DA:N7	2.24	0.52
2:L:20:MET:HE1	2:L:30:PRO:HB2	1.92	0.52
2:L:235:CYS:O	2:L:237:PHE:N	2.41	0.52
2:L:431:ARG:NH1	8:I:15:DC:OP1	2.36	0.52
3:O:648:SER:O	3:O:651:TYR:N	2.43	0.52
3:O:1751:GLU:HA	3:O:1785:ILE:HD12	1.92	0.52
3:O:2332:GLU:O	3:O:2334:LYS:NZ	2.41	0.52
3:O:3139:GLN:HA	3:O:3142:ILE:HG12	1.91	0.52
1:K:403:ARG:HB3	3:O:213:ARG:HH12	1.72	0.52
3:O:714:VAL:HG11	3:O:733:LEU:HD21	1.92	0.52
3:O:1080:LEU:O	3:O:1084:ASN:ND2	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:2151:ILE:HD11	3:O:2189:ILE:HG22	1.92	0.52
3:O:2254:ARG:NH1	3:O:2292:CYS:SG	2.82	0.52
3:O:2322:VAL:O	3:O:2326:ILE:HG12	2.08	0.52
3:O:2589:TYR:HB2	3:O:2777:HIS:HB2	1.91	0.52
3:O:3535:ILE:HD12	3:O:3797:THR:N	2.25	0.52
3:O:3701:ILE:HG12	3:O:3717:VAL:HG13	1.91	0.52
6:E:83:ARG:CB	7:F:80:THR:HG22	2.37	0.52
8:I:118:DT:N3	9:J:37:DC:O2	2.43	0.52
3:O:486:GLY:O	3:O:490:ILE:HG12	2.09	0.52
3:O:1057:LYS:O	3:O:1061:LYS:HG2	2.10	0.52
3:O:1743:MET:HG3	3:O:1773:VAL:HG11	1.91	0.52
3:O:2169:LEU:HB3	3:O:2211:LEU:HD11	1.91	0.52
3:O:3453:ALA:O	3:O:3458:SER:OG	2.28	0.52
3:O:3460:GLU:O	3:O:3464:LYS:HG2	2.10	0.52
8:I:116:DA:H2"	8:I:117:DG:C8	2.45	0.52
2:L:361:VAL:HG13	2:L:420:VAL:HG13	1.90	0.52
3:O:899:ARG:HD2	3:O:2569:SER:N	2.25	0.52
3:O:1104:LEU:HD22	3:O:1134:LEU:HD21	1.92	0.52
3:O:1775:GLU:N	3:O:1775:GLU:OE1	2.42	0.52
3:O:3002:TYR:HD2	3:O:3014:CYS:HB3	1.73	0.52
1:K:213:ILE:O	1:K:218:ARG:N	2.43	0.52
3:O:225:LYS:O	3:O:274:LEU:HD11	2.10	0.52
3:O:3546:SER:O	3:O:3549:HIS:NE2	2.43	0.52
1:K:90:THR:O	1:K:101:ASN:ND2	2.39	0.52
3:O:176:GLU:HG3	3:O:223:CYS:HA	1.92	0.52
3:O:222:GLY:HA2	3:O:225:LYS:HE2	1.90	0.52
3:O:941:MET:HG2	3:O:958:MET:HE2	1.91	0.52
3:O:2129:LEU:HA	3:O:2132:LYS:HE3	1.91	0.52
3:O:3450:MET:O	3:O:3454:LEU:N	2.41	0.52
3:O:3605:ASN:HA	3:O:3608:LYS:HG2	1.91	0.52
3:O:3922:ASP:OD2	3:O:3927:ASN:ND2	2.43	0.52
5:D:93:THR:O	5:D:96:ARG:HG2	2.09	0.52
1:K:38:LEU:O	1:K:83:LEU:HA	2.09	0.52
2:L:246:HIS:CD2	2:L:264:TYR:HD1	2.28	0.52
3:O:1327:GLY:O	3:O:1331:ASN:ND2	2.43	0.52
3:O:1406:LEU:HD13	3:O:1415:LEU:HG	1.91	0.52
3:O:1815:THR:O	3:O:1818:SER:OG	2.26	0.52
6:A:45:THR:HG22	6:A:49:ARG:HH12	1.75	0.52
1:K:297:LYS:HG2	2:L:297:LEU:HD12	1.92	0.52
2:L:85:LEU:HD12	2:L:86:PRO:HD2	1.92	0.52
3:O:85:ILE:O	3:O:89:LEU:N	2.30	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:473:PRO:O	3:O:477:ASN:ND2	2.43	0.52
3:O:931:CYS:O	3:O:984:TYR:OH	2.23	0.52
3:O:1711:ARG:HG3	3:O:1761:LEU:HD11	1.93	0.52
3:O:2349:LEU:HB3	3:O:2360:PHE:HE1	1.75	0.52
4:C:21:ALA:O	5:D:117:LYS:NZ	2.42	0.52
4:G:14:ALA:HB3	8:I:122:DC:H4'	1.91	0.52
4:G:17:ARG:HG3	9:J:34:DA:H3'	1.92	0.52
1:K:147:LEU:HA	1:K:150:CYS:SG	2.49	0.51
2:L:295:TYR:HB2	2:L:304:GLU:HB2	1.92	0.51
3:O:307:GLU:HA	3:O:310:LYS:HE3	1.92	0.51
3:O:1605:PHE:HE2	3:O:2042:GLN:HA	1.75	0.51
4:C:64:GLU:O	4:C:68:ASN:ND2	2.43	0.51
3:O:638:GLN:HG3	3:O:640:GLU:HG3	1.92	0.51
3:O:1835:ALA:O	3:O:1838:GLU:HG2	2.11	0.51
3:O:4124:TRP:CZ3	3:O:4126:PRO:HG3	2.45	0.51
8:I:49:DT:H4'	8:I:50:DC:H5'	1.93	0.51
8:I:110:DC:H2''	8:I:111:DT:O4'	2.10	0.51
1:K:252:ARG:NE	8:I:14:DC:OP2	2.44	0.51
3:O:217:LEU:HG	3:O:221:ALA:HB2	1.93	0.51
3:O:397:LEU:HD21	3:O:438:LEU:HD21	1.91	0.51
3:O:2186:VAL:HA	3:O:2189:ILE:HG12	1.91	0.51
3:O:2473:MET:O	3:O:2477:LEU:HG	2.10	0.51
9:J:125:DG:H1'	9:J:126:DC:H5'	1.91	0.51
9:J:136:DA:H2'	9:J:137:DC:C6	2.45	0.51
1:K:95:ASN:HD22	1:K:95:ASN:H	1.55	0.51
3:O:341:PHE:O	3:O:342:MET:HE2	2.10	0.51
3:O:1588:ASP:OD1	3:O:1589:ASN:N	2.43	0.51
3:O:1727:ARG:NH1	3:O:1772:HIS:O	2.44	0.51
3:O:3269:ARG:O	3:O:3272:TRP:N	2.42	0.51
1:K:287:LYS:HA	2:L:312:GLN:HA	1.91	0.51
2:L:496:HIS:NE2	2:L:504:PRO:O	2.43	0.51
3:O:1052:SER:O	3:O:1055:ASN:ND2	2.38	0.51
6:E:48:LEU:HD13	6:E:51:ILE:HD12	1.91	0.51
1:K:319:SER:N	2:L:277:THR:O	2.37	0.51
1:K:189:LYS:O	1:K:193:LEU:HG	2.10	0.51
3:O:643:GLU:HG3	3:O:644:PRO:HD3	1.91	0.51
3:O:899:ARG:HH12	3:O:2566:THR:HG23	1.76	0.51
3:O:1282:LEU:HA	3:O:1286:ALA:HB2	1.92	0.51
3:O:2287:PRO:HG3	3:O:2326:ILE:HG23	1.93	0.51
3:O:2571:ASP:O	3:O:2787:HIS:ND1	2.43	0.51
3:O:3158:LYS:HB2	3:O:3162:ASN:ND2	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:27:DC:H3'	8:I:28:DG:C8	2.46	0.51
8:I:71:DT:H72	8:I:72:DA:H61	1.76	0.51
1:K:262:LYS:HE2	1:K:346:MET:HB3	1.92	0.51
3:O:251:PHE:O	3:O:255:ALA:N	2.44	0.51
3:O:955:ALA:N	3:O:956:PRO:HD3	2.26	0.51
3:O:3390:GLN:HA	3:O:3393:GLU:HG2	1.91	0.51
7:B:32:PRO:HG2	9:J:64:DA:H2'	1.91	0.51
9:J:138:DC:H2''	9:J:139:DG:C8	2.45	0.51
3:O:762:TYR:HD2	3:O:765:LEU:HG	1.75	0.51
3:O:1414:ILE:HD12	3:O:1417:THR:HB	1.92	0.51
3:O:2886:GLN:H	3:O:2886:GLN:CD	2.19	0.51
3:O:3479:THR:HA	3:O:3482:LEU:HD12	1.93	0.51
6:A:126:LEU:HD22	6:E:113:HIS:CG	2.45	0.51
2:L:364:VAL:HB	2:L:419:LEU:HB2	1.92	0.51
2:L:457:LEU:HD13	2:L:529:PRO:HB2	1.93	0.51
3:O:1414:ILE:O	3:O:1418:HIS:N	2.34	0.51
3:O:1963:GLN:HA	3:O:2125:TRP:CE2	2.46	0.51
3:O:2098:THR:O	3:O:2102:LYS:HD3	2.11	0.51
6:A:116:ARG:HH21	6:A:122:LYS:HE3	1.75	0.51
1:K:142:SER:HB3	1:K:182:LYS:HE2	1.93	0.50
2:L:206:GLU:HA	2:L:209:LYS:HD2	1.92	0.50
2:L:306:LEU:HG	2:L:308:GLU:H	1.75	0.50
3:O:859:LEU:O	3:O:867:ASN:ND2	2.41	0.50
3:O:3103:ILE:HG23	3:O:3135:LEU:HD11	1.93	0.50
4:C:63:LEU:HD22	5:D:41:VAL:HG23	1.92	0.50
4:C:88:ARG:HB2	4:C:108:LEU:HD23	1.92	0.50
6:E:63:ARG:NH2	8:I:63:DA:O4'	2.43	0.50
3:O:43:VAL:O	3:O:46:SER:OG	2.27	0.50
3:O:526:ASP:OD1	3:O:526:ASP:N	2.44	0.50
3:O:1104:LEU:HG	3:O:1168:LEU:HD11	1.93	0.50
3:O:2040:MET:HA	3:O:2040:MET:HE3	1.91	0.50
3:O:3295:GLU:O	3:O:3299:THR:N	2.43	0.50
3:O:3420:CYS:O	3:O:3424:LEU:HG	2.10	0.50
3:O:3592:VAL:HG12	3:O:3606:ILE:HD12	1.94	0.50
3:O:966:PHE:CD2	3:O:1011:GLU:HG2	2.47	0.50
3:O:1921:ASP:OD1	3:O:1922:ALA:N	2.44	0.50
3:O:3029:LYS:HB2	3:O:3033:GLU:HA	1.92	0.50
2:L:154:LEU:HD13	2:L:215:LEU:HD11	1.93	0.50
3:O:1073:PHE:O	3:O:1076:LEU:HG	2.12	0.50
3:O:2602:LEU:HG	3:O:2603:THR:HG23	1.93	0.50
3:O:3085:GLU:OE1	3:O:3085:GLU:N	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:3339:ASN:O	3:O:3343:SER:OG	2.27	0.50
3:O:3577:GLN:HA	3:O:3617:LEU:HD11	1.93	0.50
8:I:26:DC:O2	9:J:128:DG:N2	2.44	0.50
1:K:74:LYS:O	1:K:78:SER:N	2.44	0.50
3:O:1090:ARG:HA	3:O:1137:ILE:HD11	1.94	0.50
3:O:1372:LEU:HD21	3:O:1415:LEU:HD11	1.94	0.50
3:O:2538:ARG:HH21	3:O:2565:MET:HE3	1.75	0.50
3:O:2576:MET:N	3:O:2576:MET:SD	2.85	0.50
4:G:34:LEU:HD11	4:G:51:LEU:HD12	1.94	0.50
2:L:251:LEU:HD11	2:L:340:PHE:CE2	2.47	0.50
3:O:1142:HIS:CG	3:O:1197:LEU:HD12	2.47	0.50
3:O:1411:TYR:O	3:O:1414:ILE:HG22	2.10	0.50
3:O:2555:LEU:HD11	3:O:2854:PHE:HA	1.93	0.50
6:E:82:LEU:HA	7:F:79:LYS:O	2.12	0.50
3:O:1016:GLY:O	3:O:1026:ARG:HG2	2.12	0.50
3:O:1198:LEU:O	3:O:1202:ARG:NH2	2.34	0.50
3:O:1445:ARG:HE	3:O:1510:LEU:HD11	1.77	0.50
3:O:3506:LEU:HD11	3:O:3518:VAL:HG11	1.94	0.50
3:O:4088:ASN:ND2	3:O:4109:ASP:O	2.44	0.50
4:C:17:ARG:N	8:I:34:DT:H5"	2.26	0.50
4:G:96:LEU:HD13	5:H:99:LEU:HD12	1.94	0.50
8:I:14:DC:N3	9:J:141:DG:N2	2.60	0.50
9:J:33:DG:C2	9:J:34:DA:C6	3.00	0.50
3:O:394:GLN:HE21	3:O:1738:ASN:CG	2.19	0.50
3:O:847:SER:OG	3:O:848:LEU:N	2.45	0.50
3:O:848:LEU:HD13	3:O:851:ILE:HD11	1.94	0.50
3:O:898:PHE:HB3	3:O:2535:THR:HG21	1.93	0.50
3:O:2949:THR:N	3:O:2990:GLU:OE2	2.36	0.50
3:O:3728:VAL:HG23	3:O:3734:ARG:HD2	1.94	0.50
1:K:329:LEU:HD23	1:K:334:THR:HG22	1.94	0.50
2:L:329:GLU:OE2	2:L:330:GLN:NE2	2.45	0.50
3:O:180:LEU:HD23	3:O:189:MET:HE3	1.92	0.50
3:O:3451:LEU:O	3:O:3454:LEU:HB2	2.12	0.50
4:C:78:ILE:HB	5:D:51:ILE:HA	1.94	0.50
6:A:41:TYR:HB2	8:I:86:DG:H4'	1.93	0.50
8:I:121:DC:H1'	9:J:33:DG:H22	1.76	0.50
1:K:36:ASP:O	1:K:81:ASP:HA	2.12	0.49
3:O:672:ILE:HG22	3:O:676:ASN:HD21	1.78	0.49
3:O:1081:ALA:HA	3:O:1084:ASN:HD21	1.76	0.49
3:O:1330:TYR:CZ	3:O:1334:LYS:HD3	2.46	0.49
3:O:3618:GLY:H	3:O:3629:ARG:HG3	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:A:59:GLU:H	7:B:40:ARG:HH22	1.60	0.49
8:I:62:DA:H2''	8:I:63:DA:N7	2.27	0.49
9:J:30:DC:H2''	9:J:31:DT:C5	2.47	0.49
1:K:466:VAL:O	1:K:470:ARG:N	2.45	0.49
3:O:1267:TYR:HB3	3:O:1344:PHE:CE1	2.47	0.49
3:O:1684:LEU:O	3:O:1689:LYS:NZ	2.35	0.49
3:O:1779:GLN:O	3:O:1783:ARG:HG2	2.12	0.49
3:O:3007:GLU:HA	3:O:3257:LYS:HE3	1.94	0.49
3:O:3545:THR:HB	3:O:3548:GLY:HA3	1.93	0.49
6:A:107:THR:HG21	6:A:124:ILE:HG12	1.94	0.49
2:L:110:ALA:HA	2:L:113:VAL:HG12	1.94	0.49
2:L:168:SER:HB3	2:L:226:SER:HB2	1.93	0.49
2:L:529:PRO:HA	2:L:532:LYS:HG2	1.94	0.49
3:O:742:GLU:HB3	3:O:780:ILE:HD12	1.93	0.49
3:O:1180:GLN:OE1	3:O:1180:GLN:N	2.45	0.49
3:O:1251:GLN:OE1	3:O:1251:GLN:N	2.34	0.49
3:O:2476:ILE:O	3:O:2480:ILE:HG12	2.12	0.49
3:O:2980:ASP:N	3:O:2980:ASP:OD1	2.42	0.49
3:O:3192:LYS:O	3:O:3195:GLU:HG3	2.12	0.49
3:O:3916:TRP:HZ2	3:O:4056:PRO:HB3	1.77	0.49
3:O:3965:ARG:HA	3:O:3968:ILE:HD12	1.94	0.49
7:F:80:THR:N	9:J:105:DA:OP1	2.45	0.49
3:O:1722:PHE:CE2	3:O:1743:MET:HE3	2.47	0.49
3:O:1949:ILE:HG12	3:O:2100:LEU:HD13	1.94	0.49
3:O:2592:ASP:OD1	3:O:2593:SER:N	2.45	0.49
5:D:30:ARG:HA	9:J:125:DG:H4'	1.95	0.49
6:A:62:ILE:HA	7:B:33:ALA:HB1	1.94	0.49
6:E:82:LEU:CA	7:F:80:THR:HA	2.41	0.49
2:L:18:PHE:N	2:L:104:GLN:OE1	2.46	0.49
3:O:651:TYR:CZ	3:O:655:LEU:HD11	2.47	0.49
3:O:1301:ILE:HD11	3:O:1334:LYS:HB3	1.93	0.49
3:O:2510:LEU:HD21	3:O:2525:TRP:CD1	2.47	0.49
3:O:3337:ILE:HB	3:O:3377:LEU:HD21	1.95	0.49
1:K:91:GLU:OE1	1:K:137:HIS:N	2.45	0.49
3:O:785:MET:N	3:O:785:MET:SD	2.85	0.49
3:O:1261:LEU:HD12	3:O:1337:VAL:HA	1.95	0.49
3:O:1370:ARG:O	3:O:1374:GLN:NE2	2.46	0.49
3:O:2548:PRO:HB2	3:O:2848:PHE:CD1	2.47	0.49
3:O:2817:LEU:HA	3:O:2820:MET:HG3	1.95	0.49
3:O:3448:GLU:O	3:O:3451:LEU:HG	2.12	0.49
5:D:43:LYS:HD3	5:D:47:PRO:HA	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:19:DG:N2	9:J:136:DA:H2	2.11	0.49
8:I:104:DG:H2''	8:I:105:DG:H8	1.77	0.49
3:O:535:LEU:HD12	3:O:637:LYS:HE3	1.95	0.49
3:O:1515:LEU:HD12	3:O:1519:PHE:CZ	2.48	0.49
3:O:3046:ARG:NH2	3:O:3181:ASP:OD2	2.45	0.49
3:O:3320:ILE:O	3:O:3324:ARG:HG3	2.12	0.49
7:F:79:LYS:HB2	9:J:104:DG:H3'	1.95	0.49
8:I:66:DG:H1'	8:I:67:DC:H5'	1.94	0.49
9:J:22:DA:H2''	9:J:23:DC:C6	2.47	0.49
1:K:263:LEU:HD23	1:K:347:LEU:HD22	1.94	0.49
2:L:246:HIS:CD2	2:L:248:PRO:HD3	2.47	0.49
3:O:52:ALA:O	3:O:56:SER:OG	2.28	0.49
3:O:1361:LYS:NZ	3:O:1366:THR:OG1	2.45	0.49
3:O:3123:GLN:OE1	3:O:3123:GLN:N	2.36	0.49
3:O:3469:LEU:HA	3:O:3472:ILE:HD12	1.95	0.49
3:O:3505:LEU:HD13	3:O:3514:VAL:HG21	1.94	0.49
6:E:80:THR:O	6:E:81:ASP:C	2.56	0.49
1:K:65:GLN:HG2	1:K:123:LYS:HE3	1.95	0.49
1:K:147:LEU:HB3	1:K:193:LEU:HD11	1.95	0.49
2:L:404:GLN:HB3	2:L:423:GLN:HE22	1.77	0.49
3:O:759:GLY:O	3:O:799:TYR:OH	2.31	0.49
3:O:1471:GLN:HB2	3:O:1476:HIS:HA	1.95	0.49
3:O:1685:ASP:HB3	3:O:1688:LEU:HG	1.95	0.49
3:O:2373:PRO:HA	3:O:2404:ARG:HH22	1.77	0.49
3:O:3916:TRP:O	3:O:4050:LYS:NZ	2.46	0.49
4:C:34:LEU:HD12	4:C:48:PRO:HG3	1.95	0.49
6:E:106:ASP:OD2	6:E:131:ARG:NH2	2.44	0.49
9:J:73:DG:H2''	9:J:74:DA:C5	2.48	0.49
1:K:263:LEU:HA	1:K:347:LEU:HB3	1.95	0.49
2:L:11:VAL:HG22	2:L:55:ALA:HB3	1.94	0.49
2:L:163:PHE:O	2:L:225:TYR:N	2.45	0.49
3:O:304:THR:OG1	3:O:305:ASN:N	2.46	0.49
3:O:2351:GLN:O	3:O:2352:HIS:ND1	2.46	0.49
3:O:3235:LYS:HA	3:O:3238:MET:SD	2.53	0.49
3:O:3842:TRP:CD1	3:O:3858:MET:HE3	2.47	0.49
3:O:585:ILE:HA	3:O:612:LEU:HA	1.95	0.48
3:O:2303:LEU:HD13	3:O:2323:LEU:HD21	1.94	0.48
3:O:3090:TYR:HB3	3:O:3095:ASP:HB2	1.95	0.48
3:O:3505:LEU:HA	3:O:3508:LYS:HG2	1.94	0.48
3:O:3870:SER:HB2	3:O:3874:ARG:NH2	2.28	0.48
2:L:261:ILE:HD11	2:L:263:ALA:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:404:GLN:NE2	2:L:423:GLN:OE1	2.45	0.48
3:O:583:LEU:HD13	3:O:612:LEU:HB2	1.95	0.48
3:O:1348:LEU:O	3:O:1352:SER:OG	2.31	0.48
3:O:4042:GLN:OE1	3:O:4042:GLN:N	2.41	0.48
4:G:102:ILE:HA	7:F:98:TYR:HB2	1.95	0.48
2:L:106:ASP:HB3	2:L:109:ASP:HB2	1.95	0.48
3:O:78:PHE:O	3:O:82:ARG:HG2	2.13	0.48
3:O:1178:ARG:HH22	3:O:1187:SER:HB3	1.77	0.48
3:O:1412:LYS:O	3:O:1415:LEU:HB2	2.14	0.48
3:O:1961:PHE:CD2	3:O:2124:SER:HA	2.47	0.48
6:A:119:ILE:HG13	7:B:43:VAL:HG13	1.95	0.48
4:G:29:ARG:HG3	9:J:33:DG:OP1	2.13	0.48
1:K:462:MET:HA	1:K:465:ILE:HD12	1.96	0.48
3:O:82:ARG:HH21	3:O:85:ILE:HD12	1.78	0.48
3:O:463:LYS:HA	3:O:466:LEU:HD12	1.95	0.48
3:O:1178:ARG:NH2	3:O:1183:CYS:SG	2.66	0.48
3:O:2175:GLU:N	3:O:2175:GLU:OE1	2.47	0.48
3:O:3090:TYR:HA	3:O:3093:GLN:HG2	1.94	0.48
3:O:3588:TRP:CZ2	3:O:3610:TYR:HB2	2.47	0.48
8:I:91:DT:O4	9:J:62:DA:N6	2.46	0.48
9:J:93:DA:H1'	9:J:94:DA:C8	2.49	0.48
2:L:107:PHE:HZ	2:L:140:SER:H	1.61	0.48
2:L:261:ILE:HA	2:L:367:ALA:H	1.78	0.48
2:L:394:ARG:NH1	2:L:404:GLN:H	2.12	0.48
3:O:1278:ALA:HB1	3:O:1282:LEU:HD12	1.95	0.48
3:O:2382:VAL:O	3:O:2386:LEU:HG	2.14	0.48
3:O:3089:LEU:HA	3:O:3092:LEU:HD12	1.95	0.48
3:O:3123:GLN:H	3:O:3123:GLN:CD	2.18	0.48
3:O:3413:TYR:CD1	3:O:3449:LYS:HG3	2.47	0.48
3:O:4113:ASP:N	3:O:4114:PRO:HD2	2.29	0.48
3:O:175:TYR:HA	3:O:178:LEU:HD12	1.96	0.48
3:O:430:VAL:HG11	3:O:1644:ALA:HB2	1.96	0.48
3:O:921:ALA:HB3	3:O:927:LYS:HB2	1.94	0.48
3:O:1358:LEU:O	3:O:1362:ASP:N	2.47	0.48
3:O:1725:GLN:HB2	3:O:1728:GLU:HB3	1.95	0.48
3:O:3171:ALA:HB1	3:O:3245:SER:HB2	1.94	0.48
3:O:3837:CYS:O	3:O:3840:LYS:HG3	2.14	0.48
3:O:3908:HIS:HA	3:O:3937:VAL:HG21	1.96	0.48
6:A:63:ARG:NH1	9:J:63:DA:H5''	2.29	0.48
9:J:140:DG:H2''	9:J:141:DG:C8	2.48	0.48
2:L:6:ASN:ND2	8:I:27:DC:OP1	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:467:ASP:N	2:L:467:ASP:OD1	2.45	0.48
3:O:180:LEU:H	3:O:231:LEU:HD21	1.79	0.48
3:O:1082:PHE:HD2	3:O:1130:ALA:HB1	1.77	0.48
3:O:1092:GLU:O	3:O:1096:VAL:HG12	2.14	0.48
3:O:1142:HIS:O	3:O:1146:ASN:N	2.43	0.48
3:O:2962:ARG:HA	3:O:3989:ARG:NH1	2.29	0.48
3:O:3820:MET:SD	3:O:3824:GLU:HG3	2.53	0.48
1:K:254:ARG:NH1	8:I:14:DC:O4'	2.47	0.48
2:L:43:GLN:HB2	2:L:495:LEU:HD21	1.96	0.48
2:L:204:GLY:O	2:L:207:ILE:HG22	2.14	0.48
2:L:359:ASN:CG	2:L:360:GLN:HG3	2.39	0.48
2:L:457:LEU:O	2:L:461:MET:HG3	2.13	0.48
3:O:1257:LEU:HA	3:O:1260:LEU:HD12	1.95	0.48
3:O:2295:GLN:HG3	3:O:2298:GLU:H	1.79	0.48
3:O:2311:ARG:H	3:O:2315:VAL:HG21	1.78	0.48
3:O:2826:LEU:HA	3:O:2829:LYS:HE2	1.96	0.48
3:O:3467:ARG:O	3:O:3471:ILE:HG12	2.14	0.48
1:K:41:LEU:HD13	1:K:86:VAL:HB	1.96	0.48
1:K:57:LEU:HB2	1:K:62:MET:HE3	1.94	0.48
1:K:403:ARG:HG2	3:O:213:ARG:HH22	1.78	0.48
1:K:471:PHE:CE2	2:L:344:GLY:HA3	2.48	0.48
3:O:1605:PHE:HB2	3:O:1655:ILE:HD11	1.96	0.48
3:O:1629:CYS:HB2	3:O:1632:TRP:CH2	2.49	0.48
3:O:2225:HIS:CG	3:O:2226:PRO:HD2	2.49	0.48
3:O:3805:TRP:CG	3:O:3806:LEU:H	2.32	0.48
3:O:3930:VAL:HG12	3:O:3937:VAL:HG12	1.95	0.48
1:K:438:PRO:HB2	1:K:442:ASP:HB2	1.96	0.48
2:L:11:VAL:HG11	2:L:114:SER:HB2	1.95	0.48
2:L:512:ILE:HA	2:L:515:MET:HG2	1.94	0.48
3:O:1653:LEU:HA	3:O:1656:ASP:HB3	1.96	0.48
3:O:4083:GLY:HA2	3:O:4088:ASN:HB3	1.96	0.48
6:A:46:VAL:N	8:I:86:DG:OP1	2.41	0.48
7:F:25:ASN:O	7:F:55:ARG:NH2	2.38	0.48
1:K:286:ILE:O	2:L:313:GLY:N	2.47	0.47
2:L:341:SER:H	2:L:394:ARG:HB2	1.78	0.47
3:O:1041:ILE:HD11	3:O:1056:THR:HG21	1.96	0.47
3:O:1082:PHE:HA	3:O:1085:ILE:HG12	1.95	0.47
3:O:2957:LEU:HD21	3:O:2993:PHE:HZ	1.78	0.47
3:O:3029:LYS:HZ2	3:O:3074:GLN:HB2	1.79	0.47
8:I:25:DG:N1	9:J:129:DC:N3	2.62	0.47
8:I:28:DG:H2'	8:I:28:DG:OP2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:479:GLU:HG2	2:L:427:MET:HG3	1.96	0.47
3:O:213:ARG:NH2	9:J:141:DG:OP1	2.47	0.47
3:O:1005:ASP:OD1	3:O:1005:ASP:N	2.47	0.47
3:O:1147:LYS:HZ2	3:O:1149:LYS:HB3	1.78	0.47
3:O:1595:ALA:HA	3:O:1598:ASN:HD21	1.79	0.47
3:O:2931:ARG:HB2	3:O:2939:LEU:HD11	1.95	0.47
3:O:3729:MET:O	3:O:3734:ARG:HG3	2.13	0.47
3:O:2958:LEU:O	3:O:2962:ARG:NH1	2.48	0.47
5:D:34:TYR:HB3	5:D:37:TYR:HD2	1.79	0.47
8:I:99:DC:N3	8:I:100:DA:N6	2.63	0.47
3:O:399:GLN:H	3:O:1744:LYS:NZ	2.13	0.47
3:O:1300:SER:HB3	3:O:1301:ILE:HD12	1.95	0.47
3:O:1415:LEU:O	3:O:1419:LEU:HG	2.14	0.47
3:O:2274:ILE:HD13	3:O:2319:ALA:HB2	1.96	0.47
3:O:2574:ASN:O	3:O:2787:HIS:ND1	2.47	0.47
3:O:3811:THR:HG22	3:O:3813:LYS:H	1.78	0.47
4:C:24:GLN:N	4:C:56:GLU:OE2	2.47	0.47
6:E:82:LEU:HA	7:F:79:LYS:C	2.39	0.47
7:F:32:PRO:HB2	8:I:64:DA:P	2.54	0.47
8:I:34:DT:H2'	8:I:35:DT:C6	2.49	0.47
9:J:136:DA:H2'	9:J:137:DC:H6	1.78	0.47
3:O:67:VAL:HG21	3:O:82:ARG:NH1	2.29	0.47
3:O:586:GLN:OE1	3:O:586:GLN:N	2.47	0.47
3:O:1772:HIS:ND1	3:O:1773:VAL:HG23	2.29	0.47
3:O:3058:ASP:OD2	3:O:3060:SER:OG	2.28	0.47
3:O:3150:ASN:HD21	3:O:3157:LEU:HD21	1.79	0.47
3:O:3515:GLN:O	3:O:3519:GLU:N	2.36	0.47
3:O:3822:GLN:HA	3:O:3825:LYS:HE3	1.97	0.47
3:O:3860:LYS:HG3	3:O:4073:ALA:HB2	1.97	0.47
3:O:250:ASN:O	3:O:254:LYS:N	2.39	0.47
3:O:1782:PHE:HA	3:O:1785:ILE:HG22	1.96	0.47
3:O:2385:LEU:HD13	3:O:2388:LYS:HG3	1.96	0.47
3:O:2725:LEU:HA	3:O:2728:LEU:HB3	1.95	0.47
3:O:3039:THR:O	3:O:3042:PRO:HD2	2.14	0.47
3:O:3244:ASP:OD1	3:O:3245:SER:N	2.47	0.47
3:O:3357:ARG:HD2	3:O:3360:LEU:HD21	1.96	0.47
3:O:3724:GLU:OE1	3:O:3724:GLU:N	2.47	0.47
6:A:119:ILE:HB	7:B:46:ILE:HG22	1.95	0.47
9:J:135:DC:H2''	9:J:136:DA:O5'	2.14	0.47
1:K:481:PRO:HB2	2:L:333:TYR:CE2	2.50	0.47
3:O:170:VAL:HA	3:O:219:VAL:HG11	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:746:ARG:NH2	3:O:788:TYR:OH	2.48	0.47
3:O:914:VAL:HA	3:O:917:LEU:HD12	1.96	0.47
3:O:1085:ILE:O	3:O:1089:PHE:HB2	2.14	0.47
3:O:1269:THR:O	3:O:1273:GLU:HB2	2.14	0.47
3:O:1585:SER:OG	3:O:1588:ASP:OD1	2.29	0.47
3:O:1868:THR:HG22	3:O:1936:ARG:NH1	2.30	0.47
3:O:1927:MET:SD	3:O:1927:MET:N	2.86	0.47
3:O:2122:LEU:HB2	3:O:2126:MET:HG2	1.96	0.47
3:O:2147:ALA:O	3:O:2151:ILE:HG12	2.15	0.47
3:O:2255:LEU:O	3:O:2259:LYS:HB2	2.15	0.47
3:O:2349:LEU:HB3	3:O:2360:PHE:CE1	2.50	0.47
3:O:3103:ILE:HD12	3:O:3142:ILE:HD13	1.97	0.47
3:O:3995:PRO:O	3:O:3999:THR:N	2.48	0.47
9:J:79:DG:H2''	9:J:80:DC:H5'	1.97	0.47
3:O:129:ASP:HA	3:O:132:ILE:HG12	1.96	0.47
3:O:1015:ASP:N	3:O:1015:ASP:OD1	2.46	0.47
3:O:2965:TYR:O	3:O:2969:ALA:N	2.39	0.47
3:O:3000:ASP:O	3:O:3004:HIS:ND1	2.48	0.47
3:O:3321:LEU:HA	3:O:3324:ARG:HE	1.79	0.47
7:F:26:ILE:O	7:F:55:ARG:HG3	2.15	0.47
8:I:29:DC:N4	9:J:125:DG:O6	2.47	0.47
9:J:54:DT:N3	9:J:55:DG:O6	2.48	0.47
1:K:330:GLU:N	1:K:333:GLU:OE1	2.40	0.47
2:L:59:PHE:HB2	2:L:105:ALA:HB3	1.97	0.47
2:L:296:CYS:HB3	2:L:300:ASP:HA	1.96	0.47
3:O:738:HIS:HA	3:O:741:ILE:HB	1.97	0.47
3:O:738:HIS:CE1	3:O:779:TYR:HB3	2.49	0.47
3:O:2133:LEU:HD22	3:O:2171:LEU:HD11	1.96	0.47
3:O:3236:PHE:HB3	3:O:3272:TRP:CZ2	2.50	0.47
3:O:3300:VAL:HG11	3:O:3359:ILE:HD11	1.96	0.47
5:D:90:GLU:HG3	7:F:75:HIS:CE1	2.50	0.47
6:E:83:ARG:HD3	9:J:104:DG:H4'	1.96	0.47
9:J:61:DT:H2''	9:J:62:DA:N7	2.30	0.47
3:O:650:SER:O	3:O:654:ILE:HG12	2.15	0.47
3:O:1350:ASN:OD1	3:O:1351:THR:N	2.48	0.47
3:O:2455:LEU:HD21	3:O:2498:ILE:HG12	1.96	0.47
3:O:2792:THR:OG1	3:O:2793:PRO:HD3	2.15	0.47
3:O:3478:GLU:OE1	3:O:3478:GLU:N	2.48	0.47
3:O:3490:VAL:HG23	3:O:3494:GLN:HB2	1.96	0.47
4:C:33:LEU:HA	4:C:36:LYS:HG2	1.96	0.47
8:I:82:DC:H1'	8:I:83:DC:C2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:529:PRO:HA	2:L:532:LYS:HE3	1.95	0.46
3:O:128:LEU:HD22	3:O:170:VAL:HG12	1.97	0.46
3:O:2155:GLU:HA	3:O:2158:ARG:HG3	1.96	0.46
3:O:2196:TRP:CD1	3:O:2200:ALA:HB3	2.50	0.46
3:O:2328:ARG:NH2	3:O:2370:SER:O	2.48	0.46
3:O:2356:MET:HG2	3:O:2358:ASP:H	1.80	0.46
3:O:3065:ILE:HG22	3:O:3069:MET:HE1	1.96	0.46
3:O:3625:LEU:N	3:O:3683:CYS:O	2.48	0.46
4:G:87:ILE:HA	4:G:93:LEU:HB3	1.96	0.46
1:K:472:THR:HG23	2:L:350:GLN:NE2	2.30	0.46
2:L:251:LEU:CB	2:L:261:ILE:HG12	2.43	0.46
3:O:206:THR:HG22	3:O:212:VAL:HG21	1.98	0.46
3:O:2253:TYR:HA	3:O:2256:ILE:HD12	1.97	0.46
3:O:2443:MET:HE1	3:O:2479:TRP:CE3	2.50	0.46
3:O:3192:LYS:C	3:O:3196:LYS:HZ2	2.23	0.46
4:G:108:LEU:HD23	4:G:108:LEU:H	1.79	0.46
5:H:89:ARG:O	5:H:92:GLN:NE2	2.48	0.46
3:O:30:ALA:HA	3:O:33:GLN:HG2	1.97	0.46
3:O:887:ASP:OD2	3:O:890:LYS:N	2.48	0.46
3:O:1016:GLY:HA2	3:O:1019:ASP:HB3	1.98	0.46
3:O:1164:CYS:SG	3:O:1165:LEU:N	2.89	0.46
3:O:1354:GLU:HB3	3:O:1357:LYS:HD3	1.97	0.46
3:O:2225:HIS:CD2	3:O:2230:VAL:HB	2.50	0.46
3:O:3296:GLN:HB2	3:O:3301:LEU:HD23	1.97	0.46
3:O:3614:TYR:HB2	3:O:3640:PHE:HE2	1.80	0.46
3:O:3833:ARG:NH2	3:O:3835:PRO:HD3	2.29	0.46
8:I:122:DC:H2''	8:I:123:DA:N7	2.30	0.46
2:L:13:CYS:HB3	2:L:134:ILE:HA	1.98	0.46
2:L:57:VAL:HG22	2:L:79:VAL:HG13	1.97	0.46
2:L:531:SER:HA	2:L:534:LYS:HE2	1.97	0.46
3:O:31:GLY:HA2	3:O:77:GLU:OE1	2.16	0.46
3:O:332:GLU:OE1	3:O:332:GLU:N	2.44	0.46
3:O:953:GLN:HG2	3:O:954:GLY:H	1.79	0.46
3:O:1149:LYS:HE2	3:O:1151:ARG:HD2	1.96	0.46
3:O:1287:GLN:HG3	3:O:1289:SER:H	1.81	0.46
3:O:2531:LEU:HD23	3:O:2538:ARG:HH11	1.81	0.46
7:B:30:THR:HG21	9:J:64:DA:H5''	1.98	0.46
7:B:84:MET:HG3	7:B:88:TYR:CZ	2.50	0.46
8:I:82:DC:O2	9:J:72:DG:N1	2.31	0.46
1:K:252:ARG:CZ	8:I:14:DC:H4'	2.45	0.46
2:L:7:LYS:HE3	2:L:127:PHE:HD1	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:865:GLN:HG2	3:O:3170:ASP:HA	1.96	0.46
3:O:1201:ASN:CG	3:O:1206:LEU:HB2	2.41	0.46
3:O:1440:ASP:OD1	3:O:1440:ASP:N	2.47	0.46
6:A:65:LEU:HD12	8:I:94:DA:H2'	1.96	0.46
6:E:80:THR:O	6:E:82:LEU:N	2.49	0.46
8:I:121:DC:H2''	8:I:122:DC:C2	2.51	0.46
1:K:71:TYR:CE2	1:K:115:ARG:HD3	2.50	0.46
2:L:386:ASP:OD1	2:L:387:LEU:N	2.49	0.46
2:L:479:THR:O	2:L:482:ILE:HG22	2.16	0.46
3:O:71:LYS:HD2	3:O:75:SER:HB2	1.98	0.46
3:O:1442:GLN:HA	3:O:1445:ARG:HD3	1.96	0.46
3:O:2433:LYS:NZ	3:O:2437:ASP:OD1	2.49	0.46
3:O:3250:ASN:HA	3:O:3286:CYS:SG	2.55	0.46
3:O:3810:VAL:N	3:O:3930:VAL:O	2.43	0.46
7:F:82:THR:HB	7:F:84:MET:HG3	1.98	0.46
2:L:197:ILE:HG23	2:L:202:LYS:HE3	1.96	0.46
3:O:88:PHE:O	3:O:92:PHE:N	2.33	0.46
3:O:573:LEU:HA	3:O:576:VAL:HG22	1.97	0.46
3:O:3796:MET:HG3	3:O:3800:LEU:HB3	1.98	0.46
3:O:3985:VAL:HG12	3:O:3989:ARG:NE	2.30	0.46
4:C:91:GLU:HA	4:C:94:ASN:HD22	1.80	0.46
1:K:297:LYS:HZ2	2:L:297:LEU:HA	1.81	0.46
1:K:320:GLN:HB3	1:K:322:TYR:CE1	2.51	0.46
1:K:372:GLU:CD	1:K:377:GLY:H	2.22	0.46
2:L:324:SER:O	2:L:328:GLU:N	2.45	0.46
3:O:114:VAL:O	3:O:119:ARG:HB2	2.16	0.46
3:O:180:LEU:HG	3:O:185:HIS:CE1	2.50	0.46
3:O:736:LEU:HD21	3:O:740:ILE:HB	1.97	0.46
3:O:1417:THR:HA	3:O:1420:ARG:HG2	1.98	0.46
3:O:2724:ASP:N	3:O:2724:ASP:OD1	2.46	0.46
3:O:3770:VAL:O	3:O:3774:ILE:HG23	2.15	0.46
3:O:4060:THR:O	3:O:4064:LEU:HD23	2.16	0.46
6:E:64:LYS:HG3	6:E:65:LEU:HD12	1.98	0.46
8:I:57:DC:H1'	9:J:97:DG:H1	1.81	0.46
1:K:130:ARG:HB3	1:K:134:MET:HE1	1.98	0.46
1:K:399:ARG:HH12	2:L:517:ASN:HA	1.80	0.46
3:O:148:LYS:HG2	3:O:151:GLU:OE2	2.16	0.46
3:O:414:LEU:HB3	3:O:460:ALA:HB1	1.98	0.46
3:O:441:MET:O	3:O:445:SER:N	2.49	0.46
3:O:933:LEU:HG	3:O:937:MET:HE2	1.98	0.46
3:O:996:THR:HG23	3:O:1040:SER:HA	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:3529:ILE:O	3:O:3532:PRO:HD2	2.15	0.46
7:F:66:ILE:HG13	7:F:67:ARG:N	2.31	0.46
2:L:212:MET:HE2	2:L:220:GLY:HA2	1.97	0.46
2:L:357:MET:N	2:L:357:MET:SD	2.87	0.46
3:O:86:LEU:HA	3:O:89:LEU:HD12	1.98	0.46
3:O:374:LYS:HD3	3:O:423:TYR:HB3	1.98	0.46
3:O:2773:ARG:NH2	3:O:2785:ILE:HG21	2.31	0.46
3:O:3450:MET:HG2	3:O:3468:LEU:HD12	1.97	0.46
6:E:104:PHE:HE2	7:F:37:LEU:HB3	1.80	0.46
9:J:48:DT:H2''	9:J:49:DC:H5'	1.98	0.46
1:K:91:GLU:OE1	1:K:91:GLU:N	2.49	0.45
3:O:1235:ILE:HG23	3:O:1296:PHE:HZ	1.81	0.45
3:O:2330:VAL:HG12	3:O:2335:ASN:HB3	1.98	0.45
3:O:3700:GLU:HA	3:O:3718:ARG:HA	1.97	0.45
5:D:56:MET:HE3	5:D:60:ASN:HD21	1.80	0.45
6:A:43:PRO:HA	8:I:86:DG:H5''	1.98	0.45
6:E:83:ARG:HH21	8:I:53:DG:H5'	1.81	0.45
8:I:114:DC:H2''	8:I:115:DT:C6	2.51	0.45
1:K:478:PHE:O	2:L:427:MET:HG2	2.17	0.45
2:L:261:ILE:HA	2:L:367:ALA:N	2.31	0.45
3:O:248:ILE:HA	3:O:251:PHE:CD2	2.52	0.45
3:O:288:ASP:OD1	3:O:288:ASP:N	2.47	0.45
3:O:1330:TYR:O	3:O:1334:LYS:HG3	2.16	0.45
3:O:1412:LYS:HA	3:O:1415:LEU:HB2	1.98	0.45
3:O:2120:ARG:HA	3:O:2159:PRO:HB2	1.98	0.45
3:O:2166:SER:OG	3:O:2167:PRO:HD3	2.16	0.45
3:O:2819:GLU:O	3:O:2822:LYS:HG2	2.16	0.45
3:O:2837:LEU:HD11	3:O:2870:SER:HB2	1.97	0.45
3:O:2940:ARG:NH1	3:O:2961:ALA:HA	2.32	0.45
3:O:2999:LEU:HD23	3:O:3014:CYS:HB2	1.97	0.45
3:O:3151:LEU:HD11	3:O:3196:LYS:HD3	1.97	0.45
3:O:3152:SER:O	3:O:3154:GLN:NE2	2.49	0.45
3:O:3760:GLN:O	3:O:3764:VAL:HG23	2.16	0.45
3:O:4055:ASN:ND2	3:O:4058:VAL:HG23	2.31	0.45
7:B:46:ILE:HB	7:B:50:ILE:HG13	1.97	0.45
7:F:26:ILE:HG13	7:F:27:GLN:N	2.30	0.45
9:J:50:DC:H4'	9:J:51:DC:H5'	1.97	0.45
1:K:300:THR:H	3:O:164:LYS:NZ	2.11	0.45
3:O:1031:ARG:O	3:O:1034:ARG:HG2	2.16	0.45
3:O:1231:GLN:HA	3:O:1292:LYS:HD3	1.97	0.45
3:O:1508:LYS:NZ	3:O:1562:LEU:HB3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:2518:GLN:HA	3:O:2521:ILE:HG22	1.99	0.45
3:O:2551:GLU:OE2	3:O:2851:PHE:N	2.47	0.45
3:O:3446:VAL:HA	3:O:3449:LYS:HE2	1.99	0.45
4:C:38:HIS:O	4:G:38:HIS:HB3	2.16	0.45
6:A:123:ASP:OD1	6:A:124:ILE:N	2.49	0.45
8:I:22:DG:H1'	8:I:23:DA:C8	2.52	0.45
1:K:382:PHE:HE1	1:K:431:GLY:HA2	1.82	0.45
1:K:412:ALA:HB2	1:K:437:LEU:HD11	1.98	0.45
1:K:509:PRO:HG2	2:L:341:SER:HB3	1.98	0.45
2:L:359:ASN:OD1	2:L:360:GLN:HG3	2.16	0.45
3:O:490:ILE:HD12	3:O:527:TYR:CE2	2.52	0.45
3:O:886:TRP:NE1	3:O:912:PRO:HB3	2.31	0.45
3:O:1661:PHE:HA	3:O:1665:HIS:HD2	1.81	0.45
3:O:1747:LEU:O	3:O:1750:LEU:HG	2.17	0.45
3:O:2206:PRO:O	3:O:2210:VAL:HG12	2.16	0.45
3:O:2806:LYS:HG3	3:O:2857:CYS:HB2	1.98	0.45
5:D:83:ARG:HH11	8:I:43:DG:H2'	1.81	0.45
8:I:73:DC:H2''	8:I:74:DG:C8	2.51	0.45
1:K:463:LYS:O	1:K:466:VAL:N	2.49	0.45
2:L:251:LEU:HD21	2:L:253:ILE:HB	1.98	0.45
3:O:363:ILE:O	3:O:366:TYR:HB2	2.17	0.45
3:O:768:VAL:HA	3:O:771:ASN:HD22	1.80	0.45
3:O:1723:PRO:HB2	3:O:1725:GLN:OE1	2.16	0.45
3:O:2869:LEU:HB3	3:O:2896:ALA:HA	1.99	0.45
3:O:3183:ILE:HG13	3:O:3242:MET:SD	2.56	0.45
3:O:3381:ALA:O	3:O:3385:LEU:HG	2.17	0.45
3:O:3898:LEU:C	3:O:3900:LEU:H	2.24	0.45
6:A:83:ARG:HG3	7:B:79:LYS:HG3	1.98	0.45
1:K:304:ASN:OD1	1:K:305:THR:N	2.49	0.45
1:K:371:GLU:OE2	1:K:373:SER:OG	2.29	0.45
3:O:450:SER:HG	3:O:453:MET:HG3	1.81	0.45
3:O:475:LEU:O	3:O:479:ILE:HG12	2.17	0.45
3:O:853:ILE:HA	3:O:856:VAL:HG12	1.97	0.45
3:O:2245:TRP:HD1	3:O:2249:LEU:HD11	1.82	0.45
3:O:2424:MET:HE1	3:O:2457:PRO:HB2	1.98	0.45
3:O:3421:ASP:OD1	3:O:3467:ARG:NE	2.49	0.45
4:G:63:LEU:HD22	5:H:42:LEU:HD13	1.97	0.45
4:G:64:GLU:HB2	5:H:45:VAL:HB	1.99	0.45
6:E:91:ALA:HA	6:E:94:GLU:CD	2.41	0.45
1:K:256:LEU:HB2	1:K:273:ILE:O	2.17	0.45
3:O:712:LYS:NZ	3:O:748:TYR:OH	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1675:TYR:OH	3:O:1693:VAL:HA	2.16	0.45
8:I:32:DA:H2	9:J:122:DT:H3	1.65	0.45
1:K:329:LEU:HG	1:K:333:GLU:HB2	1.99	0.45
1:K:422:ASP:OD2	1:K:423:GLN:NE2	2.50	0.45
3:O:257:ARG:HD2	3:O:260:ILE:HD11	1.99	0.45
3:O:488:ILE:HA	3:O:491:CYS:SG	2.57	0.45
3:O:682:TYR:CZ	3:O:700:LYS:HD3	2.52	0.45
3:O:771:ASN:O	3:O:775:GLU:HG2	2.16	0.45
3:O:1766:LEU:HA	3:O:1772:HIS:CE1	2.52	0.45
3:O:3128:LYS:O	3:O:3132:VAL:HG13	2.17	0.45
3:O:3533:PHE:O	3:O:3537:SER:N	2.49	0.45
3:O:4091:ALA:HB3	3:O:4110:GLN:OE1	2.16	0.45
5:D:42:LEU:O	5:D:46:HIS:N	2.38	0.45
5:D:48:ASP:N	5:D:48:ASP:OD1	2.49	0.45
8:I:104:DG:H2''	8:I:105:DG:C8	2.52	0.45
3:O:58:VAL:HG23	3:O:61:ARG:HE	1.82	0.45
3:O:493:LYS:HD3	3:O:524:TYR:HD1	1.82	0.45
3:O:888:ARG:HB3	3:O:3889:ARG:NE	2.31	0.45
3:O:1934:LEU:HD22	3:O:1937:ARG:HD2	1.99	0.45
3:O:2421:VAL:O	3:O:2425:ARG:N	2.49	0.45
3:O:2429:ASP:HA	3:O:2432:GLN:NE2	2.32	0.45
3:O:2964:ASP:OD2	3:O:2967:GLU:HB3	2.17	0.45
3:O:3681:LYS:H	3:O:3724:GLU:HB2	1.82	0.45
3:O:3693:GLU:HG3	3:O:3696:ARG:NH2	2.28	0.45
5:H:115:VAL:HA	5:H:118:TYR:CE2	2.52	0.45
1:K:299:LYS:HA	3:O:164:LYS:HZ1	1.82	0.45
2:L:285:LYS:HB3	2:L:287:GLU:HG2	1.99	0.45
3:O:483:VAL:HG21	3:O:567:GLU:HG3	1.99	0.45
3:O:905:ILE:HG23	3:O:2811:SER:HB2	1.98	0.45
3:O:1249:SER:O	3:O:1253:THR:N	2.40	0.45
3:O:1560:TYR:CZ	3:O:1596:VAL:HA	2.51	0.45
3:O:1709:GLU:CD	3:O:1709:GLU:H	2.25	0.45
3:O:1757:MET:SD	3:O:1758:LEU:N	2.90	0.45
3:O:1818:SER:HA	3:O:1821:ASP:HB2	1.98	0.45
3:O:2392:VAL:O	3:O:2396:LEU:HG	2.15	0.45
3:O:2409:THR:C	3:O:2411:LEU:H	2.24	0.45
3:O:2987:THR:HG23	3:O:2990:GLU:H	1.81	0.45
3:O:3049:LEU:HD21	3:O:3088:LEU:HD12	1.99	0.45
3:O:3498:TRP:O	3:O:3502:MET:HG2	2.17	0.45
3:O:3718:ARG:H	3:O:3743:HIS:CG	2.35	0.45
8:I:58:DG:H1'	8:I:59:DC:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:I:97:DG:O6	9:J:57:DC:N4	2.50	0.45
1:K:476:ASP:OD1	1:K:476:ASP:N	2.47	0.44
3:O:20:SER:HA	3:O:70:ARG:HH12	1.81	0.44
3:O:80:GLU:O	3:O:83:GLU:HB2	2.17	0.44
3:O:485:GLN:HA	3:O:488:ILE:HG22	1.99	0.44
3:O:653:LEU:HB3	3:O:670:LEU:HD21	1.99	0.44
3:O:800:LEU:HB3	3:O:3114:TYR:CD1	2.52	0.44
3:O:891:ARG:NE	3:O:957:PRO:O	2.32	0.44
3:O:1349:LEU:HB3	3:O:1405:ALA:HB1	2.00	0.44
3:O:3226:ASP:O	3:O:3229:SER:OG	2.24	0.44
3:O:3283:LEU:O	3:O:3287:ARG:HG2	2.17	0.44
3:O:3493:TRP:HB2	3:O:3708:ARG:O	2.16	0.44
7:B:49:LEU:HD23	7:B:49:LEU:H	1.82	0.44
9:J:39:DA:H2''	9:J:40:DG:C8	2.51	0.44
9:J:105:DA:H2''	9:J:106:DG:C8	2.52	0.44
1:K:352:PRO:HG3	2:L:473:LEU:HD22	1.98	0.44
3:O:149:ILE:HD13	3:O:180:LEU:HD11	1.99	0.44
3:O:1279:LEU:HD13	3:O:1356:TRP:HE1	1.82	0.44
3:O:2396:LEU:O	3:O:2400:VAL:HG23	2.17	0.44
3:O:2429:ASP:OD1	3:O:2430:GLU:N	2.51	0.44
3:O:2866:ALA:HA	3:O:2869:LEU:HG	1.99	0.44
3:O:2897:LEU:HD11	3:O:2923:TRP:CE2	2.53	0.44
3:O:3771:MET:O	3:O:3775:LEU:HG	2.17	0.44
3:O:3839:TYR:HA	3:O:3842:TRP:CD1	2.52	0.44
3:O:3858:MET:HB3	3:O:3862:ALA:HB2	1.99	0.44
6:A:60:LEU:HD13	6:A:93:GLN:HG2	1.98	0.44
6:A:113:HIS:HE1	6:E:110:CYS:HB3	1.81	0.44
8:I:14:DC:N3	9:J:140:DG:N2	2.55	0.44
8:I:112:DC:H4'	8:I:113:DC:C2	2.52	0.44
2:L:245:ILE:HG22	2:L:246:HIS:H	1.81	0.44
2:L:450:GLN:HG2	2:L:536:LEU:HB3	1.99	0.44
3:O:391:ARG:HD3	3:O:391:ARG:HA	1.81	0.44
3:O:425:ASP:N	3:O:425:ASP:OD1	2.49	0.44
3:O:489:ARG:O	3:O:492:SER:OG	2.24	0.44
3:O:931:CYS:HB3	3:O:984:TYR:HE2	1.82	0.44
3:O:3424:LEU:HD21	3:O:3443:PRO:HB3	1.98	0.44
3:O:1335:CYS:O	3:O:1339:VAL:HG13	2.16	0.44
3:O:2430:GLU:N	3:O:2430:GLU:OE1	2.46	0.44
3:O:2773:ARG:NH1	3:O:2775:TYR:HA	2.32	0.44
3:O:2865:HIS:HB2	3:O:2868:LEU:HD12	1.99	0.44
3:O:3002:TYR:CD2	3:O:3014:CYS:HB3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:3762:GLN:HB2	3:O:3793:VAL:HG11	1.99	0.44
4:G:77:ARG:HE	5:H:50:GLY:HA3	1.82	0.44
1:K:111:PRO:HA	1:K:115:ARG:HD2	1.99	0.44
1:K:446:MET:HE3	1:K:447:PRO:HG2	1.98	0.44
2:L:151:ILE:HG12	2:L:211:VAL:HG13	1.98	0.44
3:O:358:GLU:O	3:O:361:ILE:HG12	2.17	0.44
3:O:618:LYS:HE2	3:O:618:LYS:HB2	1.87	0.44
3:O:640:GLU:O	3:O:643:GLU:HG3	2.18	0.44
3:O:727:ALA:HB1	3:O:765:LEU:HD21	1.98	0.44
3:O:1151:ARG:HB2	3:O:1163:LEU:HD12	2.00	0.44
3:O:1487:VAL:HG12	3:O:1559:PHE:CE1	2.53	0.44
3:O:1820:VAL:O	3:O:1825:LEU:HG	2.16	0.44
3:O:2197:THR:HG23	3:O:2722:ARG:HH12	1.83	0.44
3:O:2855:VAL:O	3:O:2859:GLN:HG2	2.16	0.44
3:O:3239:LYS:HB3	3:O:3262:LEU:HD11	1.98	0.44
9:J:56:DG:H2''	9:J:57:DC:C5	2.52	0.44
1:K:122:PHE:HB3	1:K:131:PHE:HB2	2.00	0.44
1:K:248:ALA:C	1:K:249:LYS:HD3	2.43	0.44
1:K:254:ARG:N	2:L:433:TYR:OH	2.50	0.44
2:L:539:LEU:HD23	2:L:539:LEU:HA	1.79	0.44
3:O:175:TYR:O	3:O:227:LEU:HD12	2.16	0.44
3:O:442:GLN:NE2	3:O:442:GLN:O	2.50	0.44
3:O:524:TYR:HD2	3:O:525:LYS:HD3	1.83	0.44
3:O:1288:SER:O	3:O:1288:SER:OG	2.36	0.44
3:O:1363:LEU:C	3:O:1365:ASN:H	2.25	0.44
3:O:1590:THR:OG1	3:O:1591:LYS:NZ	2.35	0.44
3:O:2364:LEU:HA	3:O:2367:VAL:HG12	2.00	0.44
3:O:2382:VAL:HG23	3:O:2397:CYS:HB2	1.99	0.44
3:O:2405:VAL:HG23	3:O:2441:LYS:HD3	2.00	0.44
3:O:2965:TYR:HB3	3:O:3001:CYS:HB2	2.00	0.44
3:O:3183:ILE:HG13	3:O:3242:MET:CE	2.48	0.44
3:O:3424:LEU:O	3:O:3427:GLU:HG2	2.16	0.44
8:I:65:DC:H2''	8:I:66:DG:C8	2.51	0.44
8:I:81:DC:H1'	9:J:73:DG:H22	1.82	0.44
9:J:90:DT:H2''	9:J:91:DT:H5'	1.99	0.44
1:K:36:ASP:HB2	1:K:81:ASP:CG	2.42	0.44
2:L:74:TYR:CD1	2:L:113:VAL:HB	2.53	0.44
2:L:167:PHE:HB3	2:L:192:PHE:HD2	1.81	0.44
3:O:290:TYR:HE2	3:O:340:TYR:HB3	1.83	0.44
3:O:561:ASN:HA	3:O:564:LEU:HG	1.98	0.44
3:O:1017:ILE:HG13	3:O:1080:LEU:HD11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1102:GLU:H	3:O:1102:GLU:CD	2.25	0.44
3:O:2304:VAL:O	3:O:2307:MET:HB2	2.18	0.44
3:O:3332:THR:HG23	3:O:3335:ARG:NH1	2.33	0.44
3:O:3360:LEU:O	3:O:3364:GLY:N	2.43	0.44
3:O:3460:GLU:H	3:O:3460:GLU:CD	2.24	0.44
3:O:3464:LYS:HE2	3:O:3998:LEU:HD21	1.98	0.44
3:O:3613:MET:SD	3:O:3614:TYR:N	2.90	0.44
6:A:74:ILE:HG22	7:B:66:ILE:HG21	2.00	0.44
9:J:89:DG:H21	9:J:91:DT:H5''	1.83	0.44
3:O:19:LEU:HD13	3:O:34:LEU:HG	2.00	0.44
3:O:200:PHE:HB3	3:O:224:LEU:HD22	2.00	0.44
3:O:1710:LEU:HD23	3:O:1710:LEU:H	1.83	0.44
3:O:3772:ASN:HD21	3:O:3788:LEU:HB3	1.83	0.44
6:E:61:LEU:HB2	7:F:37:LEU:HD23	1.99	0.44
6:E:76:GLN:C	6:E:78:PHE:N	2.76	0.44
3:O:468:LEU:HD13	3:O:478:CYS:SG	2.58	0.44
3:O:682:TYR:O	3:O:700:LYS:NZ	2.37	0.44
3:O:1017:ILE:HD11	3:O:1081:ALA:HB2	2.00	0.44
3:O:1034:ARG:HA	3:O:1085:ILE:HG22	2.00	0.44
3:O:1034:ARG:HH21	3:O:1087:ARG:HB2	1.82	0.44
3:O:1092:GLU:OE1	3:O:1095:LEU:HB2	2.18	0.44
3:O:2402:LEU:HA	3:O:2438:ILE:HG12	1.99	0.44
3:O:3519:GLU:O	3:O:3523:ASP:N	2.46	0.44
3:O:3851:ASP:OD1	3:O:3852:VAL:N	2.51	0.44
3:O:3865:THR:O	3:O:3868:VAL:HG22	2.18	0.44
6:E:118:THR:HA	7:F:45:ARG:O	2.18	0.44
8:I:126:DC:H2'	8:I:127:DA:C8	2.53	0.44
9:J:92:DT:H2''	9:J:93:DA:H5'	1.99	0.44
1:K:76:ILE:HG12	1:K:248:ALA:HB1	2.00	0.43
1:K:523:ASP:O	1:K:527:GLU:HG2	2.17	0.43
2:L:261:ILE:HG13	2:L:262:ALA:N	2.33	0.43
2:L:261:ILE:HD13	2:L:364:VAL:HG13	1.99	0.43
2:L:312:GLN:NE2	2:L:313:GLY:N	2.66	0.43
3:O:676:ASN:O	3:O:680:ILE:HG13	2.19	0.43
3:O:1184:ARG:NH2	3:O:1262:ALA:HA	2.33	0.43
3:O:1750:LEU:HD13	3:O:1759:LEU:HD23	1.99	0.43
3:O:1773:VAL:O	3:O:1773:VAL:HG12	2.18	0.43
3:O:2928:LYS:HA	3:O:2931:ARG:NH1	2.33	0.43
3:O:3552:LYS:HA	3:O:3555:VAL:HG12	1.99	0.43
3:O:3970:LEU:O	3:O:3971:MET:HE2	2.18	0.43
3:O:174:VAL:HA	3:O:177:LEU:HD23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:291:VAL:HG12	3:O:340:TYR:CG	2.52	0.43
3:O:385:TYR:O	3:O:389:ILE:HG12	2.18	0.43
3:O:966:PHE:HD2	3:O:1011:GLU:HG2	1.83	0.43
3:O:995:PHE:HB3	3:O:1005:ASP:HB3	1.99	0.43
3:O:2234:ASN:HA	3:O:2237:ILE:HD12	2.00	0.43
3:O:3132:VAL:O	3:O:3136:THR:HG23	2.18	0.43
3:O:3530:VAL:O	3:O:3534:ILE:HG13	2.19	0.43
6:A:121:PRO:HG2	7:B:49:LEU:HG	2.00	0.43
7:B:62:LEU:HA	7:B:65:VAL:HG22	1.99	0.43
5:H:99:LEU:HD12	5:H:99:LEU:HA	1.89	0.43
8:I:90:DT:H2"	8:I:91:DT:H5"	1.99	0.43
1:K:143:LEU:O	1:K:147:LEU:HG	2.17	0.43
1:K:468:LYS:O	1:K:517:ARG:NH2	2.50	0.43
2:L:14:MET:SD	2:L:38:ILE:HG13	2.58	0.43
2:L:14:MET:HB2	2:L:58:LEU:HB3	2.00	0.43
2:L:37:VAL:HG22	2:L:231:LEU:HB2	1.98	0.43
2:L:107:PHE:CZ	2:L:138:LEU:HA	2.52	0.43
3:O:181:LEU:HD23	3:O:234:PHE:HD2	1.82	0.43
3:O:270:ALA:O	3:O:273:ARG:HG2	2.18	0.43
3:O:395:MET:HE1	3:O:410:MET:HE1	2.00	0.43
3:O:789:TYR:O	3:O:793:LEU:HB2	2.18	0.43
3:O:1876:ILE:O	3:O:1880:MET:HG3	2.18	0.43
3:O:2139:PRO:O	3:O:2143:ARG:HG3	2.17	0.43
3:O:2415:LEU:O	3:O:2419:ASP:N	2.52	0.43
3:O:2532:PRO:HD2	3:O:2538:ARG:HA	2.00	0.43
3:O:3588:TRP:O	3:O:3592:VAL:HG13	2.18	0.43
3:O:3822:GLN:NE2	3:O:3822:GLN:O	2.51	0.43
3:O:3946:PHE:HZ	3:O:4047:ALA:HB2	1.83	0.43
3:O:3958:LEU:HD11	3:O:4081:ALA:HB2	1.99	0.43
3:O:4010:SER:O	3:O:4014:LYS:HB3	2.19	0.43
6:A:103:LEU:O	6:A:107:THR:HG23	2.18	0.43
4:G:60:ALA:HB1	5:H:45:VAL:HG11	2.00	0.43
4:G:77:ARG:HH12	9:J:23:DC:H5"	1.83	0.43
5:H:94:ALA:O	5:H:98:LEU:HB2	2.18	0.43
8:I:10:DA:H2"	8:I:11:DA:C8	2.53	0.43
1:K:44:ALA:HB3	1:K:89:GLY:C	2.44	0.43
1:K:278:GLN:O	2:L:429:ASP:HA	2.18	0.43
3:O:714:VAL:CG1	3:O:733:LEU:HD21	2.48	0.43
3:O:912:PRO:O	3:O:915:THR:HB	2.18	0.43
3:O:1056:THR:HA	3:O:1059:LEU:HG	1.99	0.43
3:O:1458:LEU:HB3	3:O:1463:LEU:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:2572:TYR:HA	3:O:2787:HIS:HB2	2.00	0.43
3:O:2918:PRO:HB2	3:O:2919:ASP:H	1.62	0.43
3:O:3192:LYS:HG3	3:O:3196:LYS:NZ	2.34	0.43
3:O:3894:PRO:HA	3:O:3897:PHE:HB3	1.99	0.43
5:D:63:VAL:HA	5:D:66:ILE:HG12	1.99	0.43
5:D:92:GLN:HA	5:D:95:VAL:HG22	2.01	0.43
6:A:64:LYS:H	8:I:95:DC:P	2.41	0.43
4:G:17:ARG:HA	4:G:20:ARG:HE	1.84	0.43
7:F:46:ILE:HB	7:F:50:ILE:HD11	2.00	0.43
7:F:66:ILE:O	7:F:70:VAL:HG23	2.17	0.43
1:K:350:PHE:CE2	2:L:458:ILE:HG12	2.52	0.43
3:O:357:LYS:NZ	3:O:1732:GLY:HA3	2.33	0.43
3:O:1195:VAL:HG12	3:O:1203:SER:HA	1.99	0.43
3:O:1428:ILE:HG12	3:O:1432:CYS:HB3	2.01	0.43
3:O:1646:LEU:HD11	3:O:1692:ALA:HB2	2.00	0.43
3:O:2185:MET:N	3:O:2185:MET:SD	2.91	0.43
3:O:2562:LEU:O	3:O:2566:THR:OG1	2.34	0.43
3:O:3139:GLN:NE2	3:O:3139:GLN:O	2.52	0.43
3:O:3371:GLU:HA	3:O:3374:ILE:HG12	1.99	0.43
3:O:3522:THR:HB	3:O:3561:LYS:HD2	2.01	0.43
3:O:4009:PRO:HA	3:O:4012:ASP:HB2	2.00	0.43
5:D:110:GLU:HA	5:D:113:LYS:HE3	1.99	0.43
8:I:105:DG:H2"	8:I:106:DA:C8	2.53	0.43
1:K:157:VAL:HG22	1:K:159:PHE:H	1.84	0.43
2:L:7:LYS:NZ	2:L:125:LYS:O	2.35	0.43
2:L:148:ASP:OD1	2:L:148:ASP:N	2.51	0.43
3:O:319:PHE:O	3:O:323:VAL:HG13	2.18	0.43
3:O:1423:ILE:O	3:O:1467:ILE:HD11	2.19	0.43
3:O:1611:GLN:HB2	3:O:1613:HIS:ND1	2.33	0.43
3:O:3235:LYS:O	3:O:3238:MET:HG2	2.18	0.43
3:O:3324:ARG:HG2	3:O:3391:ALA:HB3	2.00	0.43
1:K:270:SER:H	1:K:375:VAL:HB	1.82	0.43
2:L:347:LYS:HB2	2:L:347:LYS:HE2	1.76	0.43
3:O:136:GLN:NE2	3:O:140:SER:OG	2.52	0.43
3:O:925:GLN:O	3:O:925:GLN:NE2	2.51	0.43
3:O:1125:GLN:HA	3:O:1128:CYS:SG	2.59	0.43
3:O:3467:ARG:HB2	3:O:3997:LEU:CD1	2.48	0.43
3:O:3993:SER:C	3:O:3995:PRO:HD3	2.44	0.43
3:O:4121:TRP:HB3	3:O:4124:TRP:HB2	2.01	0.43
4:G:29:ARG:NH2	5:H:32:GLU:OE1	2.52	0.43
4:G:77:ARG:HA	5:H:50:GLY:N	2.31	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:654:ILE:HD12	3:O:710:PHE:CG	2.54	0.43
3:O:672:ILE:O	3:O:676:ASN:ND2	2.51	0.43
3:O:1128:CYS:HA	3:O:1131:ILE:HG12	2.01	0.43
3:O:1518:ALA:HB1	3:O:1524:LEU:HD21	2.00	0.43
3:O:1576:ASP:OD1	3:O:1576:ASP:N	2.52	0.43
3:O:2269:ASP:OD1	3:O:2269:ASP:N	2.52	0.43
3:O:3447:VAL:HA	3:O:3450:MET:HG3	2.01	0.43
3:O:3796:MET:HE3	3:O:3797:THR:HG22	2.00	0.43
5:D:87:THR:HG22	5:D:88:SER:H	1.84	0.43
6:A:62:ILE:HD11	6:A:93:GLN:HE22	1.84	0.43
4:G:50:TYR:CZ	5:H:111:GLY:HA3	2.54	0.43
7:F:67:ARG:O	7:F:71:THR:HG22	2.18	0.43
8:I:125:DG:H1'	8:I:126:DC:C2	2.53	0.43
9:J:59:DG:H2''	9:J:60:DT:C6	2.54	0.43
1:K:332:GLU:OE1	3:O:205:LYS:NZ	2.47	0.43
3:O:359:LEU:O	3:O:362:ALA:HB3	2.19	0.43
3:O:460:ALA:O	3:O:464:VAL:HG13	2.18	0.43
3:O:1432:CYS:HB2	3:O:1486:LEU:HD11	2.01	0.43
3:O:2245:TRP:CD1	3:O:2249:LEU:HD11	2.54	0.43
3:O:2325:LEU:N	3:O:2370:SER:OG	2.52	0.43
3:O:2544:SER:HA	3:O:2842:ARG:NH2	2.33	0.43
3:O:3239:LYS:O	3:O:3243:ILE:HG12	2.19	0.43
8:I:22:DG:N1	9:J:133:DG:C2	2.86	0.43
1:K:35:ARG:O	1:K:164:LYS:NZ	2.50	0.43
1:K:166:ILE:HG23	1:K:200:LEU:HA	2.00	0.43
1:K:349:GLY:HA2	2:L:461:MET:HE1	2.00	0.43
2:L:306:LEU:HD23	2:L:309:ASP:HB2	2.00	0.43
3:O:217:LEU:HB2	3:O:220:LEU:HB3	2.00	0.43
3:O:886:TRP:HE1	3:O:912:PRO:HB3	1.84	0.43
3:O:888:ARG:HD2	3:O:3889:ARG:HG2	2.00	0.43
3:O:913:ARG:NH1	3:O:916:GLU:OE1	2.51	0.43
3:O:1102:GLU:O	3:O:1106:ILE:HG12	2.18	0.43
3:O:1437:TYR:HA	3:O:1507:CYS:SG	2.59	0.43
3:O:1632:TRP:CG	3:O:1645:VAL:HG11	2.54	0.43
3:O:2257:PHE:CE1	3:O:2299:TYR:HA	2.53	0.43
3:O:3172:LYS:HA	3:O:3172:LYS:HD2	1.87	0.43
3:O:3810:VAL:O	3:O:3930:VAL:N	2.50	0.43
3:O:3882:LEU:H	3:O:3966:GLN:NE2	2.14	0.43
3:O:3995:PRO:HD2	3:O:4051:LEU:HD21	2.00	0.43
7:B:31:LYS:HG2	7:B:51:TYR:CE1	2.54	0.43
1:K:376:ILE:N	2:L:540:ILE:O	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:L:261:ILE:HB	2:L:365:PHE:O	2.18	0.42
3:O:540:MET:HE2	3:O:540:MET:HA	2.01	0.42
3:O:764:PRO:O	3:O:768:VAL:HG22	2.18	0.42
3:O:975:ASP:O	3:O:981:ARG:HD2	2.19	0.42
3:O:1111:LEU:HD11	3:O:1131:ILE:HD13	2.01	0.42
3:O:2301:GLN:HA	3:O:2304:VAL:HG22	2.00	0.42
3:O:2310:VAL:HG13	3:O:2316:TYR:CE2	2.54	0.42
3:O:2405:VAL:HA	3:O:2441:LYS:HD3	2.00	0.42
3:O:3052:LEU:HD11	3:O:3061:LEU:HD21	2.01	0.42
3:O:3504:ALA:O	3:O:3508:LYS:NZ	2.47	0.42
5:D:31:LYS:O	9:J:125:DG:H5''	2.18	0.42
5:D:110:GLU:HA	5:D:113:LYS:HG2	2.00	0.42
7:F:77:LYS:HE3	7:F:77:LYS:HB2	1.77	0.42
8:I:102:DG:N2	9:J:52:DC:O2	2.52	0.42
3:O:143:LEU:HG	3:O:182:GLY:HA2	2.00	0.42
3:O:478:CYS:SG	3:O:479:ILE:N	2.91	0.42
3:O:665:GLY:HA2	3:O:668:LYS:HD2	2.02	0.42
3:O:1069:HIS:CD2	3:O:1070:PRO:HD2	2.54	0.42
3:O:1069:HIS:CG	3:O:1070:PRO:HD2	2.55	0.42
3:O:1776:GLU:O	3:O:1779:GLN:HG3	2.19	0.42
3:O:2295:GLN:HE21	3:O:2295:GLN:HB3	1.70	0.42
3:O:3451:LEU:HD22	3:O:3486:GLU:HB3	2.00	0.42
3:O:3462:ARG:O	3:O:3465:PHE:HB3	2.19	0.42
3:O:3515:GLN:O	3:O:3519:GLU:HG2	2.19	0.42
7:B:90:LEU:HB3	7:B:95:ARG:O	2.18	0.42
6:E:51:ILE:HD13	7:F:42:GLY:HA2	2.00	0.42
3:O:382:ASP:OD1	3:O:424:LEU:HD11	2.18	0.42
3:O:1100:VAL:HG23	3:O:1101:PHE:N	2.34	0.42
3:O:1366:THR:O	3:O:1368:LEU:N	2.52	0.42
3:O:1755:SER:HB3	3:O:1758:LEU:HB2	2.01	0.42
3:O:3815:LEU:HA	3:O:3818:ASN:HD21	1.85	0.42
3:O:3822:GLN:HA	3:O:3825:LYS:HG2	2.00	0.42
4:C:91:GLU:HG2	4:C:95:LYS:HE2	2.02	0.42
6:A:76:GLN:OE1	6:A:81:ASP:N	2.49	0.42
8:I:74:DG:H1'	8:I:75:DC:C2	2.54	0.42
8:I:77:DC:H1'	8:I:78:DT:H5'	2.01	0.42
3:O:924:ARG:NH2	3:O:977:ASP:OD1	2.43	0.42
3:O:1560:TYR:OH	3:O:1599:GLY:HA3	2.19	0.42
3:O:1632:TRP:CD1	3:O:1633:TRP:HB3	2.52	0.42
3:O:3172:LYS:HA	3:O:3248:LYS:HZ1	1.84	0.42
3:O:4086:ASP:OD1	3:O:4086:ASP:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:4120:THR:HA	3:O:4124:TRP:CZ3	2.53	0.42
5:H:85:THR:OG1	9:J:43:DA:OP1	2.27	0.42
5:H:93:THR:HA	5:H:96:ARG:HE	1.85	0.42
6:E:78:PHE:O	6:E:80:THR:N	2.52	0.42
3:O:86:LEU:HD13	3:O:129:ASP:HB3	2.01	0.42
3:O:108:LYS:O	3:O:112:THR:HG22	2.19	0.42
3:O:371:GLY:O	3:O:374:LYS:N	2.52	0.42
3:O:1150:LYS:HD3	3:O:1162:SER:HA	2.01	0.42
3:O:2164:TRP:O	3:O:2167:PRO:HD2	2.19	0.42
3:O:2398:LEU:HD23	3:O:2434:VAL:HG13	2.00	0.42
3:O:3123:GLN:O	3:O:3126:LEU:HG	2.19	0.42
3:O:3161:LEU:HG	3:O:3166:ASN:ND2	2.34	0.42
3:O:3552:LYS:HA	3:O:3552:LYS:HD3	1.92	0.42
6:E:99:TYR:OH	6:E:133:GLU:OE1	2.28	0.42
2:L:342:VAL:HG22	2:L:393:VAL:HG12	2.02	0.42
3:O:131:LEU:HB3	3:O:177:LEU:HD21	2.01	0.42
3:O:643:GLU:HB3	3:O:680:ILE:HD13	2.02	0.42
3:O:1122:GLY:C	3:O:1124:ILE:H	2.27	0.42
3:O:1942:CYS:HB2	3:O:2094:MET:SD	2.60	0.42
3:O:2120:ARG:O	3:O:2160:TYR:HB2	2.19	0.42
3:O:2280:VAL:HG11	3:O:2287:PRO:HA	2.01	0.42
3:O:2773:ARG:HD2	3:O:2775:TYR:CE1	2.55	0.42
3:O:3161:LEU:HD11	3:O:3186:ARG:HH12	1.84	0.42
3:O:3291:GLN:HG2	3:O:3293:CYS:N	2.30	0.42
3:O:3522:THR:HG21	3:O:3558:ILE:HD12	2.01	0.42
3:O:3833:ARG:HG2	3:O:3834:ALA:H	1.83	0.42
1:K:333:GLU:HA	1:K:336:GLU:HG3	2.01	0.42
1:K:465:ILE:HG12	1:K:521:LEU:HB3	2.02	0.42
2:L:147:LEU:O	2:L:151:ILE:HG13	2.19	0.42
3:O:294:PHE:O	3:O:298:LEU:HG	2.20	0.42
3:O:364:ARG:NH1	3:O:415:GLN:HB2	2.25	0.42
3:O:442:GLN:HG2	3:O:461:ILE:HD11	2.02	0.42
3:O:468:LEU:HD22	3:O:478:CYS:SG	2.59	0.42
3:O:472:GLY:O	3:O:475:LEU:HB3	2.20	0.42
3:O:979:VAL:HA	3:O:982:GLN:HG2	2.00	0.42
3:O:1379:PRO:O	3:O:1382:ILE:HG12	2.19	0.42
3:O:1483:LEU:HD11	3:O:1515:LEU:HD22	2.00	0.42
3:O:2153:THR:HG21	3:O:2157:PHE:HE2	1.85	0.42
3:O:2268:LYS:HB3	3:O:2311:ARG:HD3	2.01	0.42
3:O:3034:PRO:HB2	3:O:3037:GLN:HG3	2.02	0.42
5:H:106:HIS:O	5:H:110:GLU:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:E:119:ILE:HD11	7:F:46:ILE:HG22	2.01	0.42
8:I:31:DC:H2''	8:I:32:DA:C5	2.55	0.42
1:K:109:ASP:HB3	1:K:115:ARG:HH12	1.84	0.42
1:K:332:GLU:O	1:K:335:GLU:HG3	2.20	0.42
2:L:17:GLY:HA2	2:L:103:GLN:O	2.19	0.42
2:L:326:VAL:HG12	2:L:330:GLN:HE22	1.84	0.42
3:O:68:PHE:CE1	3:O:117:LYS:HG3	2.55	0.42
3:O:416:SER:O	3:O:420:VAL:HG23	2.20	0.42
3:O:1711:ARG:HD2	3:O:1757:MET:HB2	2.00	0.42
3:O:1839:PHE:O	3:O:1842:THR:HB	2.20	0.42
3:O:2153:THR:HG22	3:O:2154:GLU:H	1.84	0.42
3:O:2279:ILE:O	3:O:2282:ALA:HB3	2.19	0.42
3:O:2385:LEU:HD12	3:O:2389:PHE:CZ	2.55	0.42
3:O:2503:LYS:O	3:O:2507:ILE:HG12	2.19	0.42
3:O:3419:PHE:O	3:O:3422:GLN:HG2	2.20	0.42
3:O:3737:ARG:HA	3:O:3751:LEU:CB	2.49	0.42
4:C:95:LYS:HB2	4:C:95:LYS:HE3	1.79	0.42
6:E:82:LEU:O	6:E:84:PHE:N	2.53	0.42
8:I:46:DA:H61	9:J:108:DT:H3	1.67	0.42
8:I:78:DT:H2''	8:I:79:DG:C8	2.54	0.42
9:J:102:DT:H4'	9:J:103:DA:O4'	2.20	0.42
2:L:7:LYS:HE2	2:L:7:LYS:HB3	1.54	0.42
2:L:528:ILE:HB	2:L:529:PRO:HD3	2.02	0.42
3:O:95:LYS:HD2	3:O:837:THR:HG22	2.00	0.42
3:O:164:LYS:HD3	3:O:164:LYS:N	2.34	0.42
3:O:888:ARG:HB3	3:O:3889:ARG:HE	1.84	0.42
3:O:1346:THR:HG22	3:O:1402:LEU:HA	2.00	0.42
3:O:1360:LYS:O	3:O:1363:LEU:HB2	2.20	0.42
3:O:1601:LEU:HD11	3:O:1652:ILE:HG13	2.01	0.42
3:O:2959:ALA:HA	3:O:2962:ARG:HH22	1.85	0.42
3:O:3447:VAL:O	3:O:3450:MET:HG3	2.19	0.42
3:O:3508:LYS:HE3	3:O:3508:LYS:HB3	1.80	0.42
3:O:3712:LEU:HB3	3:O:3716:HIS:CD2	2.54	0.42
8:I:111:DT:H5''	8:I:112:DC:C5	2.54	0.42
1:K:189:LYS:HD2	1:K:189:LYS:HA	1.80	0.42
2:L:213:ILE:HA	2:L:217:GLY:HA2	2.01	0.42
3:O:33:GLN:HG3	3:O:34:LEU:HD12	2.01	0.42
3:O:465:PHE:HD1	3:O:468:LEU:HD21	1.84	0.42
3:O:891:ARG:HH21	3:O:958:MET:HA	1.85	0.42
3:O:1071:ASN:ND2	3:O:1072:ALA:N	2.68	0.42
3:O:1071:ASN:HD21	3:O:1073:PHE:H	1.65	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1445:ARG:HB3	3:O:1510:LEU:HD11	2.02	0.42
3:O:1596:VAL:O	3:O:1600:MET:HG2	2.19	0.42
3:O:3289:ARG:H	3:O:3289:ARG:HD3	1.85	0.42
3:O:4070:LYS:HE2	3:O:4070:LYS:HB2	1.92	0.42
8:I:39:DC:H2"	8:I:40:DG:C4	2.55	0.42
1:K:144:SER:HB2	1:K:185:ARG:HG3	2.02	0.41
2:L:165:LEU:HB2	2:L:167:PHE:O	2.20	0.41
3:O:183:GLU:O	3:O:185:HIS:ND1	2.53	0.41
3:O:584:GLU:N	3:O:613:HIS:O	2.38	0.41
3:O:789:TYR:HA	3:O:792:ILE:HG12	2.02	0.41
3:O:910:PHE:O	3:O:914:VAL:HG12	2.19	0.41
3:O:938:VAL:O	3:O:941:MET:HB3	2.20	0.41
3:O:2145:PHE:O	3:O:2149:LEU:HG	2.19	0.41
3:O:2426:HIS:O	3:O:2432:GLN:OE1	2.38	0.41
3:O:2549:LYS:HB2	3:O:2549:LYS:HE3	1.79	0.41
3:O:3061:LEU:O	3:O:3065:ILE:HG12	2.20	0.41
3:O:3704:GLN:N	3:O:3704:GLN:HE21	2.18	0.41
3:O:3927:ASN:OD1	3:O:3940:ILE:N	2.50	0.41
7:B:35:ARG:HH22	8:I:85:DC:H2'	1.84	0.41
8:I:15:DC:H2"	8:I:16:DG:C8	2.55	0.41
1:K:115:ARG:O	1:K:119:LEU:HG	2.20	0.41
1:K:153:LEU:HD23	1:K:153:LEU:HA	1.88	0.41
1:K:259:LEU:HD23	1:K:259:LEU:HA	1.89	0.41
2:L:14:MET:HE1	2:L:135:PHE:CD1	2.55	0.41
3:O:191:ASN:O	3:O:195:ASN:OD1	2.38	0.41
3:O:623:PHE:HE2	3:O:665:GLY:HA3	1.85	0.41
3:O:932:GLU:HG3	3:O:2793:PRO:HB3	2.01	0.41
3:O:1483:LEU:HD22	3:O:1518:ALA:CB	2.50	0.41
3:O:1729:PHE:CZ	3:O:1735:ARG:HD2	2.54	0.41
3:O:2153:THR:HG22	3:O:2154:GLU:N	2.35	0.41
3:O:2186:VAL:O	3:O:2189:ILE:HG12	2.20	0.41
3:O:2193:ILE:HD13	3:O:2196:TRP:HZ2	1.85	0.41
3:O:2514:ASN:HB3	3:O:2517:LEU:HG	2.02	0.41
3:O:2776:ARG:HG3	3:O:2782:ASP:OD2	2.21	0.41
3:O:2825:THR:N	3:O:2828:GLU:OE1	2.48	0.41
3:O:3238:MET:O	3:O:3242:MET:HG2	2.19	0.41
3:O:3772:ASN:OD1	3:O:3788:LEU:N	2.53	0.41
3:O:3946:PHE:CZ	3:O:4047:ALA:HB2	2.55	0.41
7:F:62:LEU:O	7:F:66:ILE:HG12	2.20	0.41
2:L:543:LYS:HA	2:L:543:LYS:HD3	1.85	0.41
3:O:229:SER:HB3	3:O:274:LEU:HD13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:1294:VAL:HG21	3:O:1363:LEU:HG	2.03	0.41
3:O:1464:LEU:O	3:O:1468:LEU:N	2.50	0.41
3:O:2438:ILE:O	3:O:2442:MET:HG3	2.19	0.41
3:O:2470:ARG:NH1	3:O:2513:GLU:OE2	2.53	0.41
3:O:3069:MET:HB2	3:O:3075:LYS:HD3	2.02	0.41
3:O:3348:LEU:O	3:O:3352:GLU:N	2.46	0.41
3:O:3719:ILE:C	3:O:3743:HIS:HB2	2.45	0.41
3:O:3840:LYS:NZ	3:O:3874:ARG:HH22	2.18	0.41
3:O:4077:TYR:HA	3:O:4080:VAL:HG22	2.03	0.41
4:C:51:LEU:HD11	5:D:70:ILE:HG21	2.02	0.41
5:D:92:GLN:NE2	5:D:93:THR:OG1	2.54	0.41
1:K:49:PHE:CE2	1:K:137:HIS:HB2	2.55	0.41
1:K:330:GLU:O	1:K:334:THR:HG23	2.21	0.41
1:K:413:LEU:HB3	1:K:432:PHE:CD1	2.55	0.41
2:L:7:LYS:HG3	2:L:52:ASP:HA	2.02	0.41
2:L:237:PHE:CE2	2:L:511:HIS:HB3	2.55	0.41
3:O:717:LYS:HD2	3:O:717:LYS:HA	1.75	0.41
3:O:1322:THR:O	3:O:1327:GLY:N	2.41	0.41
3:O:1633:TRP:HB2	3:O:1678:LEU:HD21	2.02	0.41
3:O:1808:ASP:O	3:O:1816:ARG:NE	2.50	0.41
3:O:2965:TYR:HB2	3:O:3005:LEU:HD21	2.01	0.41
3:O:3725:ARG:O	3:O:3738:ILE:HA	2.21	0.41
3:O:3740:ILE:H	3:O:3749:PRO:HA	1.84	0.41
5:D:93:THR:HG21	7:F:75:HIS:HB2	2.01	0.41
6:A:103:LEU:HA	6:A:131:ARG:HH22	1.85	0.41
6:E:51:ILE:HG21	7:F:42:GLY:HA2	2.01	0.41
9:J:50:DC:H1'	9:J:51:DC:C2	2.55	0.41
1:K:248:ALA:O	1:K:249:LYS:HD3	2.20	0.41
1:K:252:ARG:HH22	1:K:254:ARG:HB2	1.85	0.41
1:K:350:PHE:HB3	1:K:394:VAL:HG21	2.03	0.41
3:O:349:ILE:H	3:O:391:ARG:NH2	2.18	0.41
3:O:2459:VAL:HA	3:O:2473:MET:HE2	2.01	0.41
3:O:2794:LEU:HG	3:O:2808:LEU:HD11	2.03	0.41
3:O:2806:LYS:HG3	3:O:2857:CYS:CB	2.50	0.41
3:O:3173:MET:HE2	3:O:3173:MET:O	2.21	0.41
3:O:3467:ARG:NH2	3:O:3471:ILE:HD11	2.35	0.41
3:O:3577:GLN:NE2	3:O:3629:ARG:HD2	2.36	0.41
8:I:126:DC:H2'	8:I:127:DA:H8	1.84	0.41
1:K:440:ALA:HB2	2:L:481:LYS:C	2.45	0.41
1:K:478:PHE:N	2:L:427:MET:HE2	2.34	0.41
3:O:238:MET:HE3	3:O:283:SER:OG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:320:LEU:HB3	3:O:368:LEU:HD23	2.02	0.41
3:O:327:VAL:HG12	3:O:333:MET:HB3	2.02	0.41
3:O:359:LEU:O	3:O:363:ILE:HG23	2.21	0.41
3:O:488:ILE:HD11	3:O:2036:LEU:HA	2.02	0.41
3:O:1086:TYR:CD1	3:O:1133:HIS:HB3	2.56	0.41
3:O:1196:PRO:HB3	3:O:1203:SER:HB3	2.02	0.41
3:O:1504:ASP:OD1	3:O:1505:LEU:N	2.52	0.41
3:O:2571:ASP:HA	3:O:2574:ASN:HB2	2.02	0.41
3:O:3719:ILE:HD11	3:O:3722:PHE:CZ	2.56	0.41
3:O:3950:THR:OG1	3:O:4063:GLU:OE2	2.32	0.41
5:H:37:TYR:O	5:H:41:VAL:HG23	2.21	0.41
7:F:64:ASN:HA	7:F:67:ARG:NH1	2.35	0.41
1:K:418:GLU:HB2	1:K:430:PRO:HB3	2.03	0.41
3:O:73:LEU:N	3:O:118:ASP:OD2	2.54	0.41
3:O:1533:LEU:HD13	3:O:1585:SER:HB3	2.02	0.41
3:O:3193:ILE:HA	3:O:3196:LYS:HG2	2.02	0.41
3:O:3677:PRO:O	3:O:3681:LYS:HD3	2.20	0.41
3:O:3717:VAL:HG23	3:O:3743:HIS:HB3	2.03	0.41
7:B:38:ALA:HB1	7:B:43:VAL:HB	2.01	0.41
4:G:65:LEU:HD13	4:G:93:LEU:HD11	2.02	0.41
1:K:351:LYS:HE3	1:K:351:LYS:HB2	1.67	0.41
3:O:173:LYS:HA	3:O:223:CYS:HB3	2.02	0.41
3:O:381:VAL:HG12	3:O:424:LEU:HD13	2.03	0.41
3:O:1141:LYS:HG3	3:O:1141:LYS:O	2.20	0.41
3:O:1184:ARG:HH22	3:O:1265:GLU:HB2	1.86	0.41
3:O:1256:TRP:CE2	3:O:1260:LEU:HD11	2.56	0.41
3:O:1300:SER:HB3	3:O:1301:ILE:H	1.61	0.41
3:O:1504:ASP:HB3	3:O:1507:CYS:SG	2.60	0.41
3:O:1619:ALA:HA	3:O:1622:ILE:HG22	2.03	0.41
3:O:2126:MET:HA	3:O:2129:LEU:HD12	2.02	0.41
3:O:2344:LEU:O	3:O:2347:LYS:HG2	2.21	0.41
3:O:2418:LYS:HD3	3:O:2418:LYS:HA	1.83	0.41
3:O:3368:GLU:HA	3:O:3372:LYS:HD2	2.02	0.41
3:O:3642:LYS:HA	3:O:3642:LYS:HD3	1.93	0.41
3:O:3809:THR:HG1	3:O:3930:VAL:C	2.27	0.41
4:C:32:ARG:N	4:C:35:ARG:HH21	2.19	0.41
6:A:83:ARG:HB2	7:B:80:THR:HG22	2.03	0.41
7:F:25:ASN:HD22	7:F:28:GLY:HA3	1.85	0.41
8:I:79:DG:N2	9:J:76:DA:N1	2.69	0.41
1:K:71:TYR:HE2	1:K:115:ARG:HD3	1.86	0.41
1:K:264:ASN:OD1	1:K:265:LYS:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:421:ASP:HB3	1:K:425:ILE:HB	2.03	0.41
1:K:459:VAL:O	1:K:463:LYS:HG3	2.20	0.41
2:L:155:LYS:HE3	2:L:215:LEU:HD23	2.02	0.41
2:L:523:THR:O	2:L:527:GLN:HG3	2.20	0.41
3:O:55:THR:HA	3:O:58:VAL:HG12	2.02	0.41
3:O:82:ARG:HG2	3:O:82:ARG:HH11	1.85	0.41
3:O:142:ARG:H	3:O:144:MET:HE1	1.86	0.41
3:O:320:LEU:HA	3:O:323:VAL:HG22	2.02	0.41
3:O:410:MET:N	3:O:411:PRO:HD2	2.36	0.41
3:O:446:PHE:CZ	3:O:530:LEU:HB2	2.56	0.41
3:O:671:SER:HA	3:O:674:VAL:HG12	2.03	0.41
3:O:714:VAL:O	3:O:718:MET:N	2.53	0.41
3:O:854:ARG:O	3:O:857:GLN:HG3	2.20	0.41
3:O:910:PHE:HB3	3:O:2804:ILE:HD11	2.03	0.41
3:O:1112:ALA:HA	3:O:1180:GLN:HG2	2.03	0.41
3:O:1342:MET:O	3:O:1346:THR:HG23	2.20	0.41
3:O:1526:GLU:OE1	3:O:1526:GLU:N	2.54	0.41
3:O:1754:GLN:HA	3:O:1785:ILE:HD11	2.02	0.41
3:O:1919:CYS:SG	3:O:1948:ALA:HB2	2.61	0.41
3:O:1935:GLU:O	3:O:1939:LEU:HG	2.20	0.41
3:O:2160:TYR:HD2	3:O:2164:TRP:NE1	2.18	0.41
3:O:2227:LYS:HG3	3:O:2228:ARG:H	1.86	0.41
3:O:2398:LEU:HA	3:O:2401:VAL:HG22	2.03	0.41
3:O:2404:ARG:C	3:O:2441:LYS:HZ3	2.27	0.41
3:O:2938:VAL:O	3:O:2942:ILE:HG12	2.21	0.41
3:O:3353:GLU:HA	3:O:3357:ARG:HG3	2.03	0.41
3:O:3447:VAL:HG12	3:O:3468:LEU:HD13	2.03	0.41
3:O:3483:MET:HE1	3:O:3513:ALA:HB3	2.02	0.41
3:O:3813:LYS:HD3	3:O:3925:LEU:HD12	2.01	0.41
3:O:3814:ASP:OD1	3:O:3815:LEU:N	2.54	0.41
3:O:3843:LEU:H	3:O:3843:LEU:HD23	1.85	0.41
5:D:93:THR:O	5:D:97:LEU:HD23	2.21	0.41
6:A:87:SER:C	7:B:83:ALA:HB2	2.45	0.41
6:E:109:LEU:HD23	6:E:112:ILE:HD11	2.03	0.41
8:I:41:DT:H6	8:I:41:DT:H2'	1.62	0.41
8:I:93:DA:H2''	8:I:94:DA:C8	2.56	0.41
8:I:113:DC:O2	9:J:42:DG:N2	2.54	0.41
9:J:51:DC:H2''	9:J:52:DC:C6	2.55	0.41
9:J:80:DC:H1'	9:J:81:DG:C4	2.56	0.41
1:K:64:ILE:O	1:K:67:ILE:HG22	2.21	0.41
1:K:484:GLN:O	1:K:488:ARG:NH1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:712:LYS:HA	3:O:712:LYS:HD3	1.96	0.41
3:O:1057:LYS:HE2	3:O:1057:LYS:HB2	1.85	0.41
3:O:1756:PRO:HA	3:O:1759:LEU:HD12	2.02	0.41
3:O:1835:ALA:HA	3:O:1838:GLU:CD	2.46	0.41
3:O:2599:SER:OG	3:O:2600:THR:N	2.53	0.41
3:O:2817:LEU:HD12	3:O:2865:HIS:CE1	2.56	0.41
3:O:3531:TYR:O	3:O:3535:ILE:HG12	2.20	0.41
3:O:3558:ILE:HD13	3:O:3558:ILE:HA	1.90	0.41
6:A:113:HIS:CE1	6:E:110:CYS:HB3	2.55	0.41
4:G:22:GLY:HA3	5:H:117:LYS:HZ2	1.87	0.41
8:I:84:DC:H2''	8:I:85:DC:C5	2.56	0.41
1:K:46:LYS:HA	1:K:49:PHE:HD2	1.86	0.40
2:L:64:THR:HG23	2:L:76:ASN:N	2.36	0.40
3:O:1098:GLN:HA	3:O:1151:ARG:HE	1.85	0.40
3:O:1403:MET:HB3	3:O:1463:LEU:HD11	2.03	0.40
3:O:1736:PHE:O	3:O:1740:VAL:HG13	2.21	0.40
3:O:3614:TYR:HB2	3:O:3640:PHE:CE2	2.56	0.40
6:A:51:ILE:HG13	7:B:39:ARG:HD2	2.02	0.40
5:H:121:ALA:HB3	5:H:122:LYS:HE2	2.03	0.40
8:I:49:DT:H2''	8:I:50:DC:C5	2.56	0.40
1:K:420:LEU:HA	1:K:427:VAL:H	1.85	0.40
2:L:395:TYR:O	2:L:404:GLN:HB2	2.22	0.40
3:O:78:PHE:O	3:O:82:ARG:NH1	2.55	0.40
3:O:186:PRO:O	3:O:190:ILE:HG12	2.21	0.40
3:O:385:TYR:CZ	3:O:421:LEU:HD13	2.56	0.40
3:O:627:VAL:HA	3:O:630:CYS:SG	2.61	0.40
3:O:1297:PHE:HA	3:O:1300:SER:OG	2.21	0.40
3:O:1366:THR:C	3:O:1368:LEU:H	2.29	0.40
3:O:2350:LYS:HD2	3:O:2350:LYS:HA	1.86	0.40
3:O:2957:LEU:HD23	3:O:2957:LEU:HA	1.84	0.40
4:C:29:ARG:HG3	4:C:32:ARG:HH21	1.86	0.40
4:C:93:LEU:O	4:C:97:LEU:HG	2.21	0.40
5:H:76:ARG:NE	5:H:80:TYR:OH	2.54	0.40
6:E:82:LEU:HB3	7:F:81:VAL:HG12	2.03	0.40
8:I:30:DT:H1'	8:I:31:DC:C4	2.56	0.40
9:J:30:DC:H1'	9:J:31:DT:C2	2.56	0.40
1:K:206:LYS:HB2	1:K:237:SER:HA	2.04	0.40
2:L:226:SER:HB3	2:L:229:GLU:HG2	2.03	0.40
3:O:13:LEU:HB2	3:O:59:PHE:CE2	2.57	0.40
3:O:363:ILE:HA	3:O:366:TYR:CD2	2.56	0.40
3:O:559:SER:OG	3:O:560:LEU:N	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:886:TRP:HE3	3:O:961:LEU:HD13	1.86	0.40
3:O:1442:GLN:HG2	3:O:1445:ARG:HD3	2.02	0.40
3:O:1849:ASP:OD1	3:O:1850:VAL:N	2.54	0.40
3:O:1963:GLN:HA	3:O:2125:TRP:NE1	2.36	0.40
3:O:2312:TYR:O	3:O:2315:VAL:HG22	2.20	0.40
3:O:2335:ASN:HD21	3:O:2337:LEU:HG	1.85	0.40
3:O:2339:GLU:OE1	3:O:2339:GLU:N	2.53	0.40
3:O:3048:LYS:HA	3:O:3048:LYS:HD3	1.83	0.40
3:O:3609:MET:O	3:O:3613:MET:HG3	2.22	0.40
3:O:3681:LYS:O	3:O:3688:SER:OG	2.37	0.40
3:O:3738:ILE:H	3:O:3751:LEU:HA	1.87	0.40
1:K:90:THR:OG1	1:K:135:MET:O	2.38	0.40
2:L:291:LYS:HB2	2:L:291:LYS:HE2	1.83	0.40
2:L:406:GLY:HA2	2:L:424:LEU:HG	2.04	0.40
3:O:201:LEU:HB3	3:O:249:PHE:CE2	2.56	0.40
3:O:225:LYS:HE2	3:O:225:LYS:HB2	1.87	0.40
3:O:275:PHE:CE1	3:O:319:PHE:HB2	2.57	0.40
3:O:392:CYS:SG	3:O:413:PHE:HD2	2.45	0.40
3:O:990:GLN:HB3	3:O:2781:PRO:HD3	2.02	0.40
3:O:1098:GLN:HE22	3:O:1151:ARG:HG2	1.86	0.40
3:O:1326:GLU:OE2	3:O:1329:ARG:HG3	2.21	0.40
3:O:2104:MET:HE1	3:O:2122:LEU:HD22	2.02	0.40
3:O:2873:PRO:C	3:O:2925:GLU:HG3	2.46	0.40
3:O:2945:SER:OG	3:O:3975:LYS:HE2	2.21	0.40
3:O:3029:LYS:NZ	3:O:3074:GLN:HB2	2.36	0.40
3:O:3675:LYS:O	3:O:3677:PRO:HD3	2.20	0.40
4:C:47:ALA:HB3	4:C:48:PRO:HD3	2.04	0.40
6:A:59:GLU:N	7:B:40:ARG:HH12	2.17	0.40
6:A:62:ILE:HG22	7:B:33:ALA:HB1	2.03	0.40
4:G:78:ILE:HD13	4:G:78:ILE:HA	1.93	0.40
6:E:79:LYS:HD2	6:E:79:LYS:HA	1.62	0.40
7:F:45:ARG:HE	9:J:83:DA:H5'	1.86	0.40
8:I:103:DG:H4'	8:I:104:DG:OP1	2.22	0.40
9:J:137:DC:H2'	9:J:138:DC:C6	2.57	0.40
1:K:38:LEU:HD12	1:K:39:ILE:H	1.87	0.40
1:K:42:VAL:HB	1:K:87:PHE:CD2	2.57	0.40
1:K:67:ILE:HD11	1:K:85:VAL:HG22	2.04	0.40
2:L:35:LYS:HE2	2:L:98:ILE:HG22	2.03	0.40
2:L:108:LEU:HD12	2:L:143:SER:O	2.21	0.40
2:L:408:ALA:HA	2:L:420:VAL:O	2.20	0.40
3:O:169:THR:HG21	8:I:10:DA:H5'	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:O:524:TYR:OH	3:O:625:ASN:O	2.27	0.40
3:O:653:LEU:HD21	3:O:669:LEU:HB3	2.03	0.40
3:O:714:VAL:O	3:O:718:MET:HG3	2.22	0.40
3:O:1166:LEU:C	3:O:1170:LYS:HZ3	2.29	0.40
3:O:2260:PHE:HE1	3:O:2302:ALA:HB3	1.86	0.40
3:O:3328:ILE:HD13	3:O:3328:ILE:HA	1.94	0.40
3:O:3356:ALA:HA	3:O:3359:ILE:HG12	2.02	0.40
3:O:3853:GLY:HA2	3:O:4121:TRP:CZ2	2.56	0.40
3:O:4045:CYS:HA	3:O:4048:LYS:HE2	2.03	0.40
3:O:4116:ILE:HA	3:O:4124:TRP:CH2	2.39	0.40
4:C:82:HIS:HA	4:C:85:LEU:HD12	2.04	0.40
4:G:70:ALA:O	4:G:74:LYS:N	2.54	0.40
8:I:18:DT:H2''	8:I:19:DG:OP1	2.19	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	K	489/609 (80%)	466 (95%)	23 (5%)	0	100	100
2	L	513/732 (70%)	451 (88%)	62 (12%)	0	100	100
3	O	3455/4128 (84%)	3118 (90%)	331 (10%)	6 (0%)	44	78
4	C	90/143 (63%)	87 (97%)	3 (3%)	0	100	100
4	G	95/143 (66%)	89 (94%)	6 (6%)	0	100	100
5	D	91/126 (72%)	88 (97%)	3 (3%)	0	100	100
5	H	90/126 (71%)	88 (98%)	2 (2%)	0	100	100
6	A	94/136 (69%)	87 (93%)	7 (7%)	0	100	100
6	E	86/136 (63%)	76 (88%)	6 (7%)	4 (5%)	2	17
7	B	73/103 (71%)	72 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	F	75/103 (73%)	73 (97%)	2 (3%)	0	100	100
All	All	5151/6485 (79%)	4695 (91%)	446 (9%)	10 (0%)	45	78

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	O	76	ILE
6	E	79	LYS
6	E	81	ASP
6	E	83	ARG
3	O	1956	PHE
3	O	3250	ASN
3	O	3633	ILE
6	E	80	THR
3	O	1925	GLU
3	O	956	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	K	427/548 (78%)	426 (100%)	1 (0%)	92	94
2	L	445/649 (69%)	443 (100%)	2 (0%)	89	91
3	O	3045/3671 (83%)	3041 (100%)	4 (0%)	92	95
4	C	70/106 (66%)	70 (100%)	0	100	100
4	G	73/106 (69%)	72 (99%)	1 (1%)	62	76
5	D	74/105 (70%)	74 (100%)	0	100	100
5	H	78/105 (74%)	78 (100%)	0	100	100
6	A	84/111 (76%)	84 (100%)	0	100	100
6	E	73/111 (66%)	71 (97%)	2 (3%)	40	60
7	B	61/79 (77%)	61 (100%)	0	100	100
7	F	62/79 (78%)	62 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
All	All	4492/5670 (79%)	4482 (100%)	10 (0%)	91	94

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	K	95	ASN
2	L	312	GLN
2	L	360	GLN
3	O	1691	GLN
3	O	2295	GLN
3	O	2432	GLN
3	O	3704	GLN
4	G	84	GLN
6	E	78	PHE
6	E	79	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
1	K	95	ASN
2	L	312	GLN
2	L	360	GLN
2	L	500	HIS
3	O	136	GLN
3	O	1568	ASN
3	O	2295	GLN
3	O	3166	ASN
3	O	3278	GLN
7	B	64	ASN
4	G	110	ASN
7	F	25	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

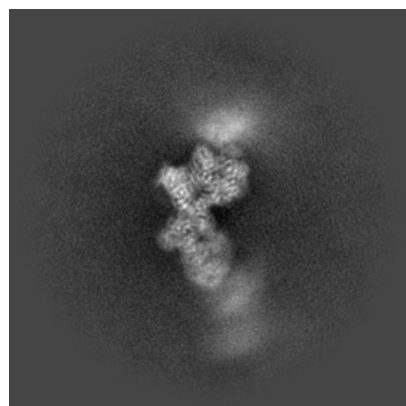
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-53025. These allow visual inspection of the internal detail of the map and identification of artifacts.

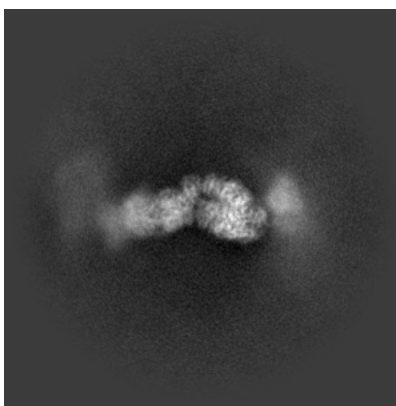
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

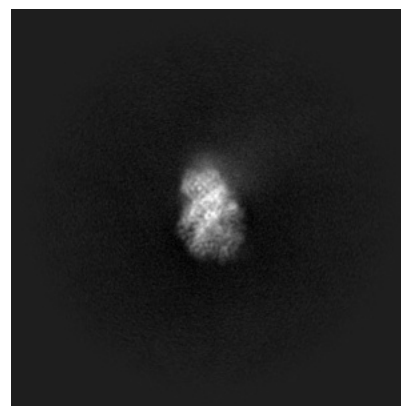
6.1.1 Primary map



X

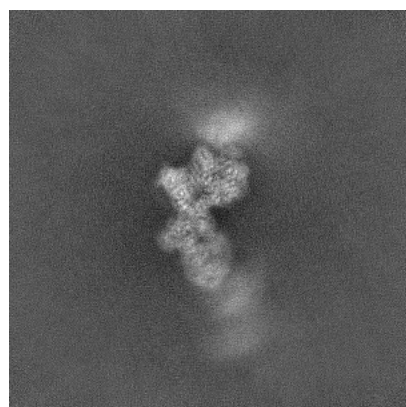


Y

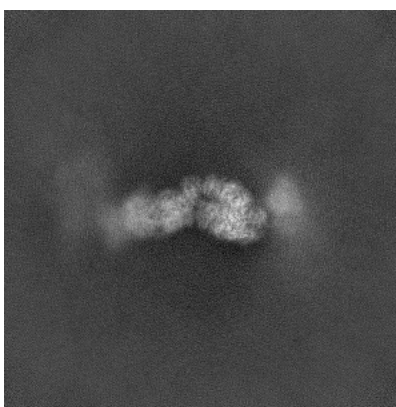


Z

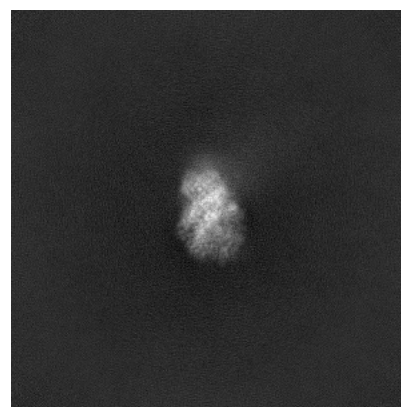
6.1.2 Raw map



X



Y

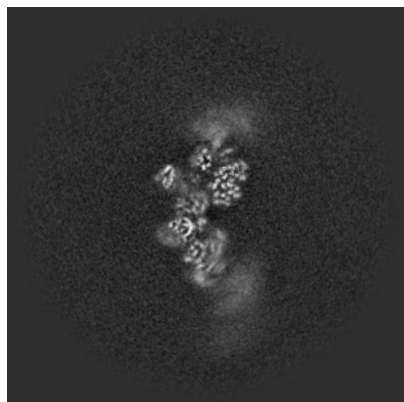


Z

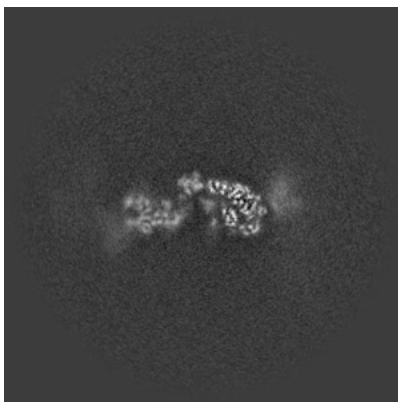
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

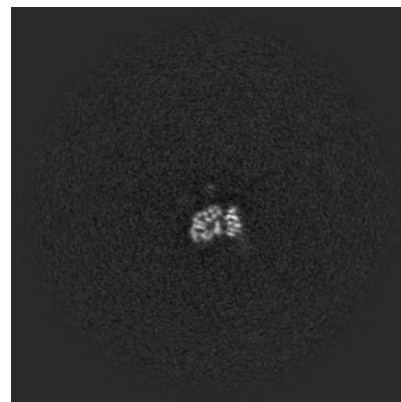
6.2.1 Primary map



X Index: 210

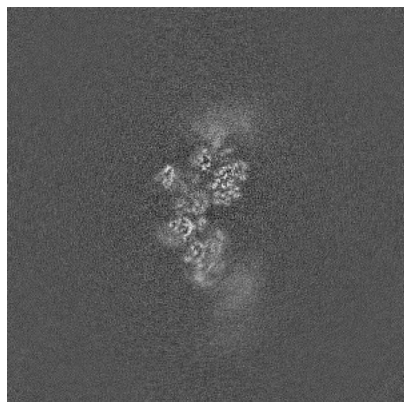


Y Index: 210

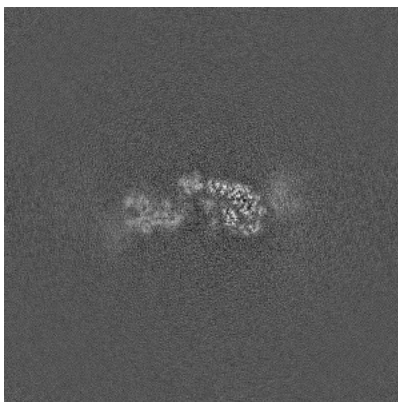


Z Index: 210

6.2.2 Raw map



X Index: 210



Y Index: 210

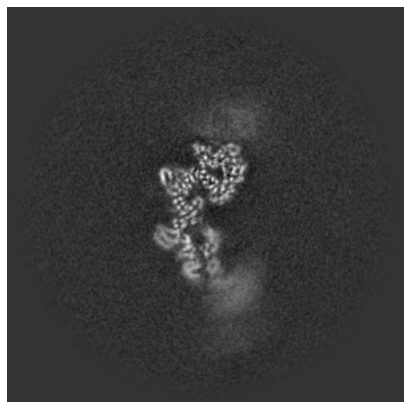


Z Index: 210

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

6.3 Largest variance slices [i](#)

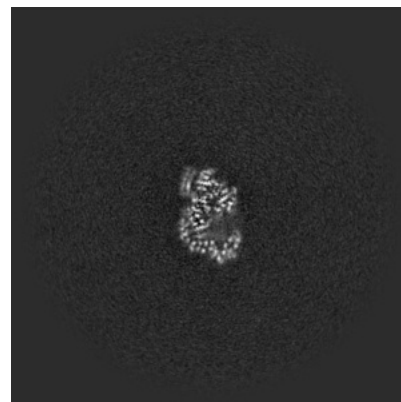
6.3.1 Primary map



X Index: 201

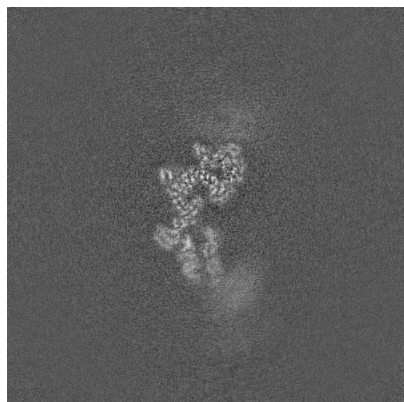


Y Index: 206



Z Index: 238

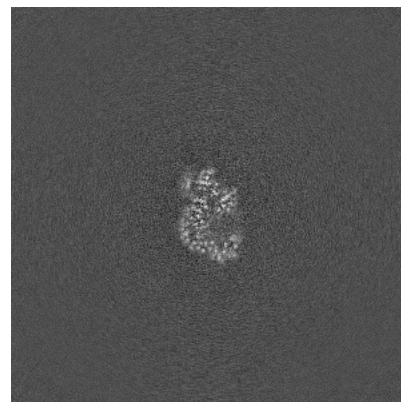
6.3.2 Raw map



X Index: 200



Y Index: 206

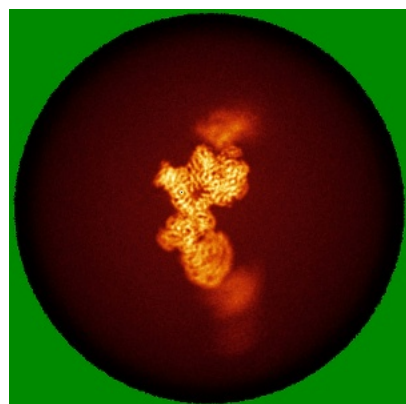


Z Index: 239

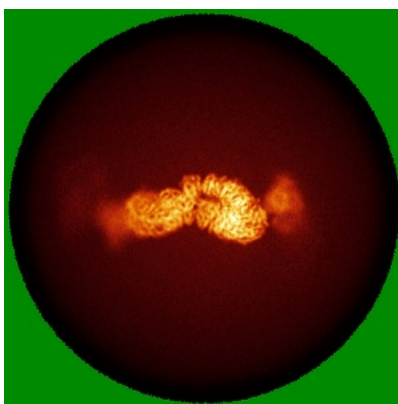
The images above show the largest variance slices of the map in three orthogonal directions.

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

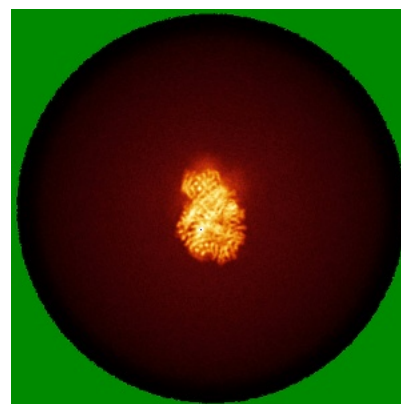
6.4.1 Primary map



X

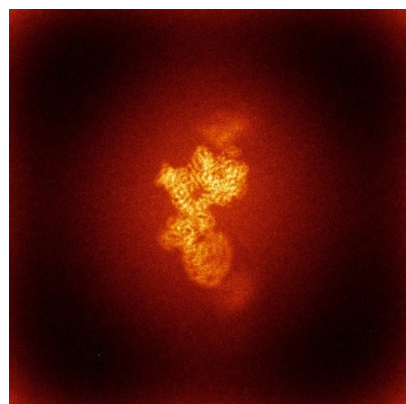


Y

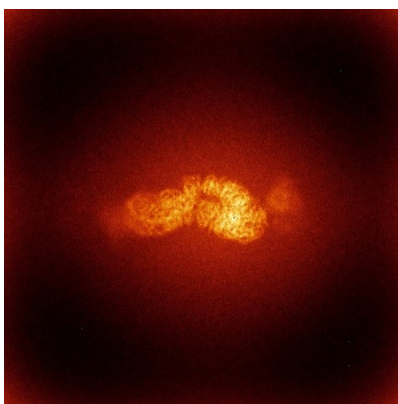


Z

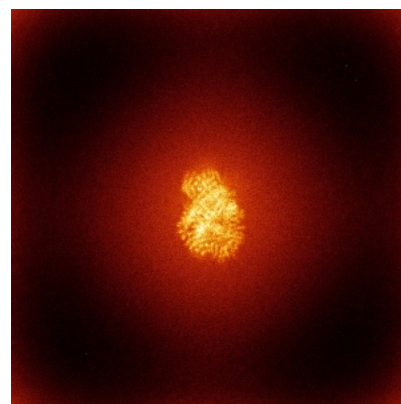
6.4.2 Raw map



X



Y

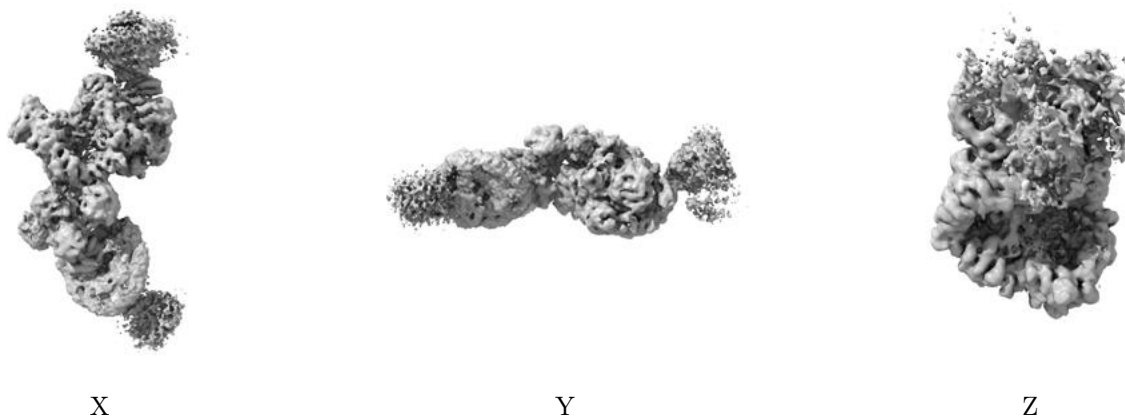


Z

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

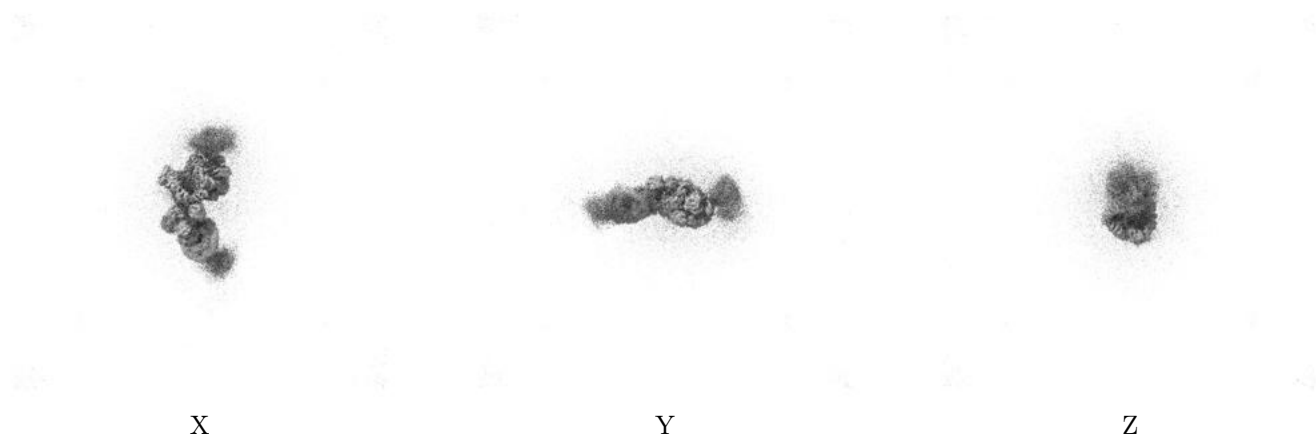
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.19. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

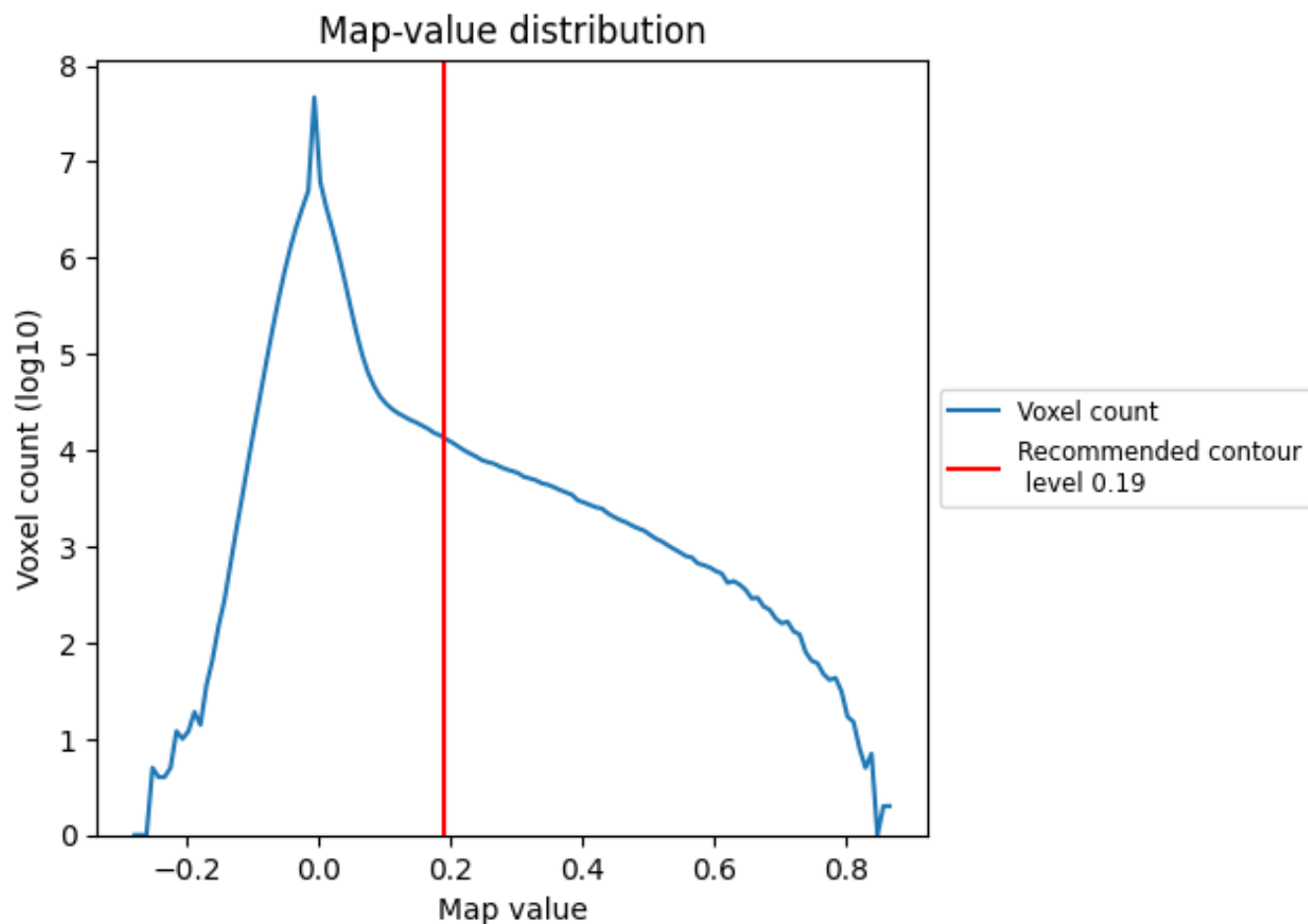
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

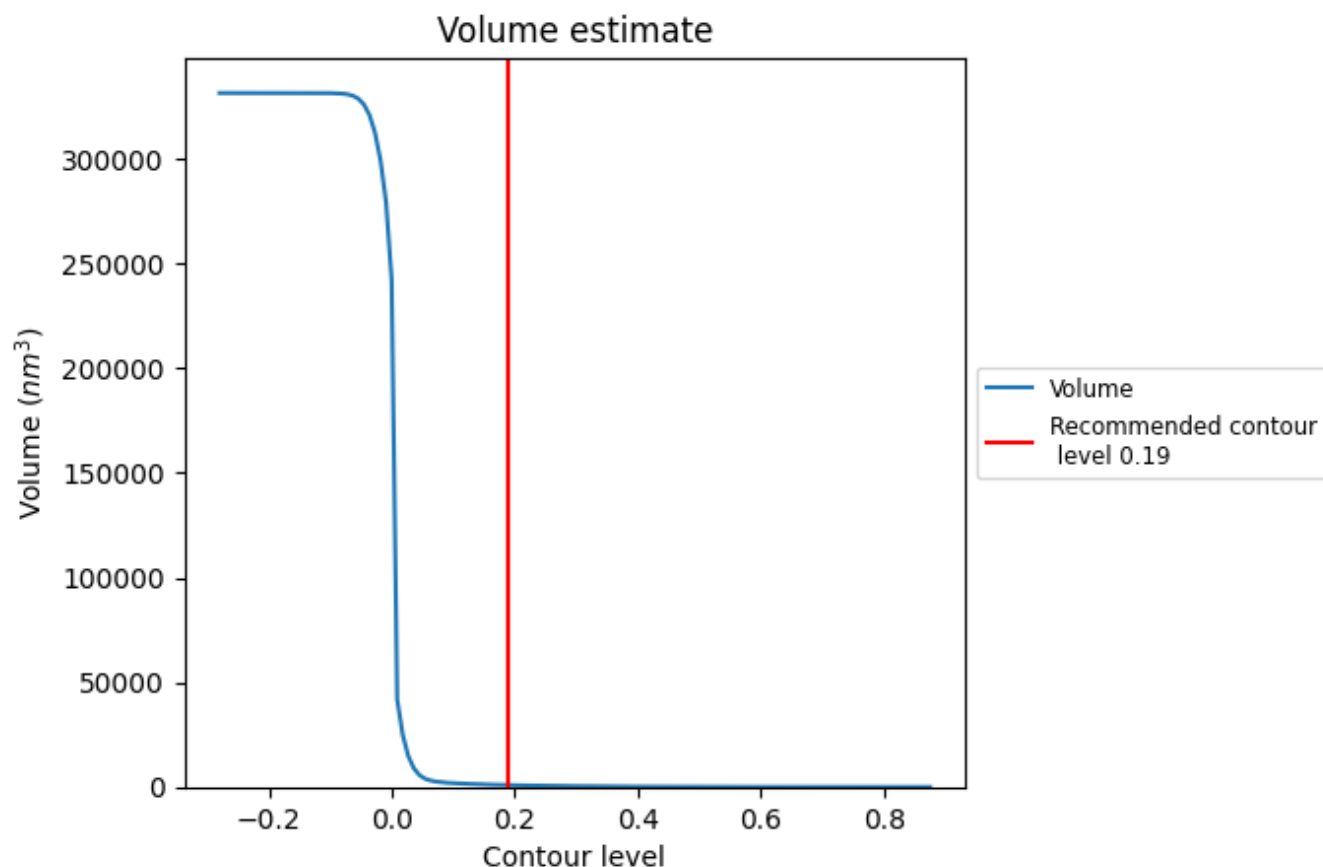
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

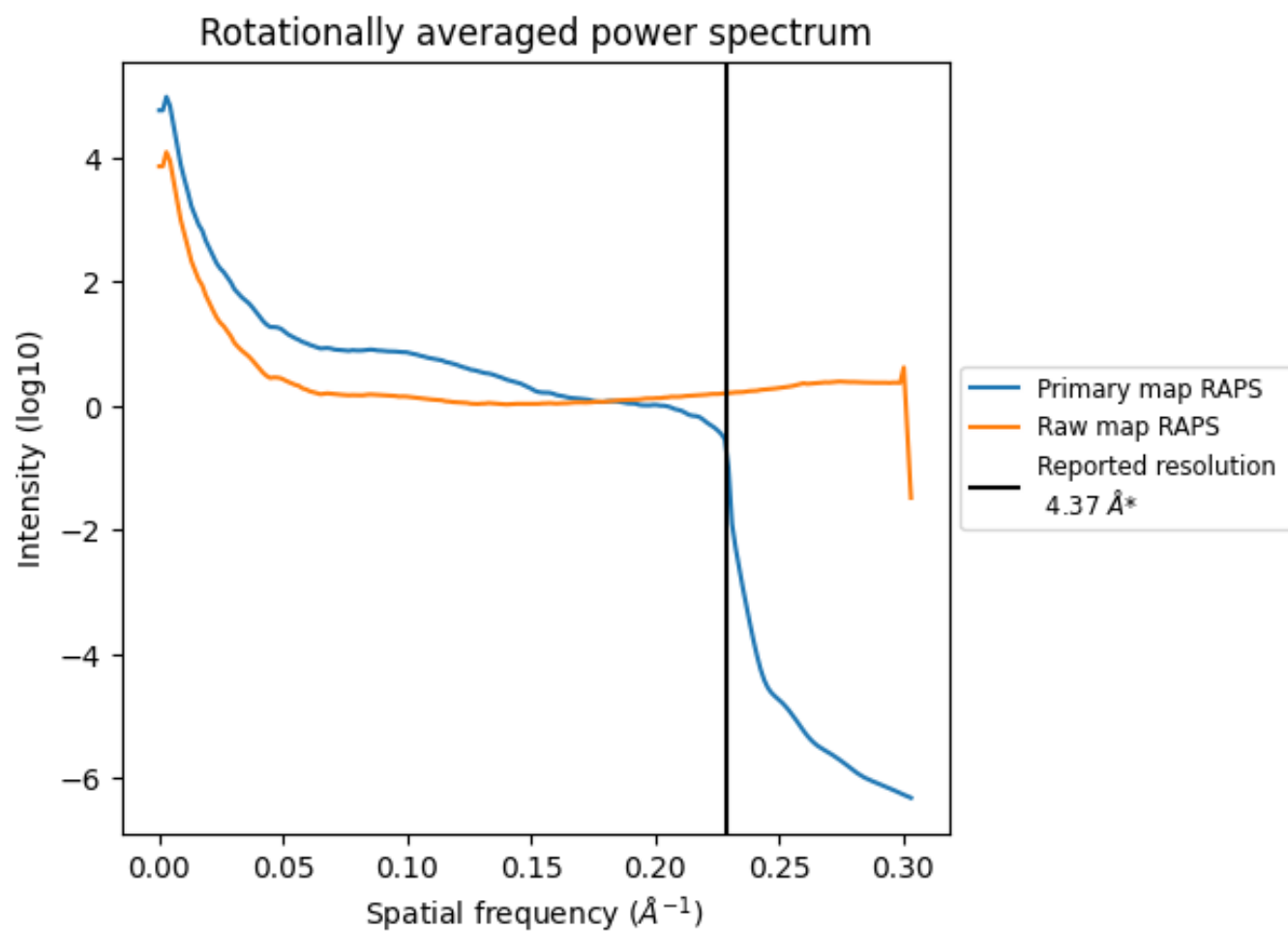
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 880 nm^3 ; this corresponds to an approximate mass of 795 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

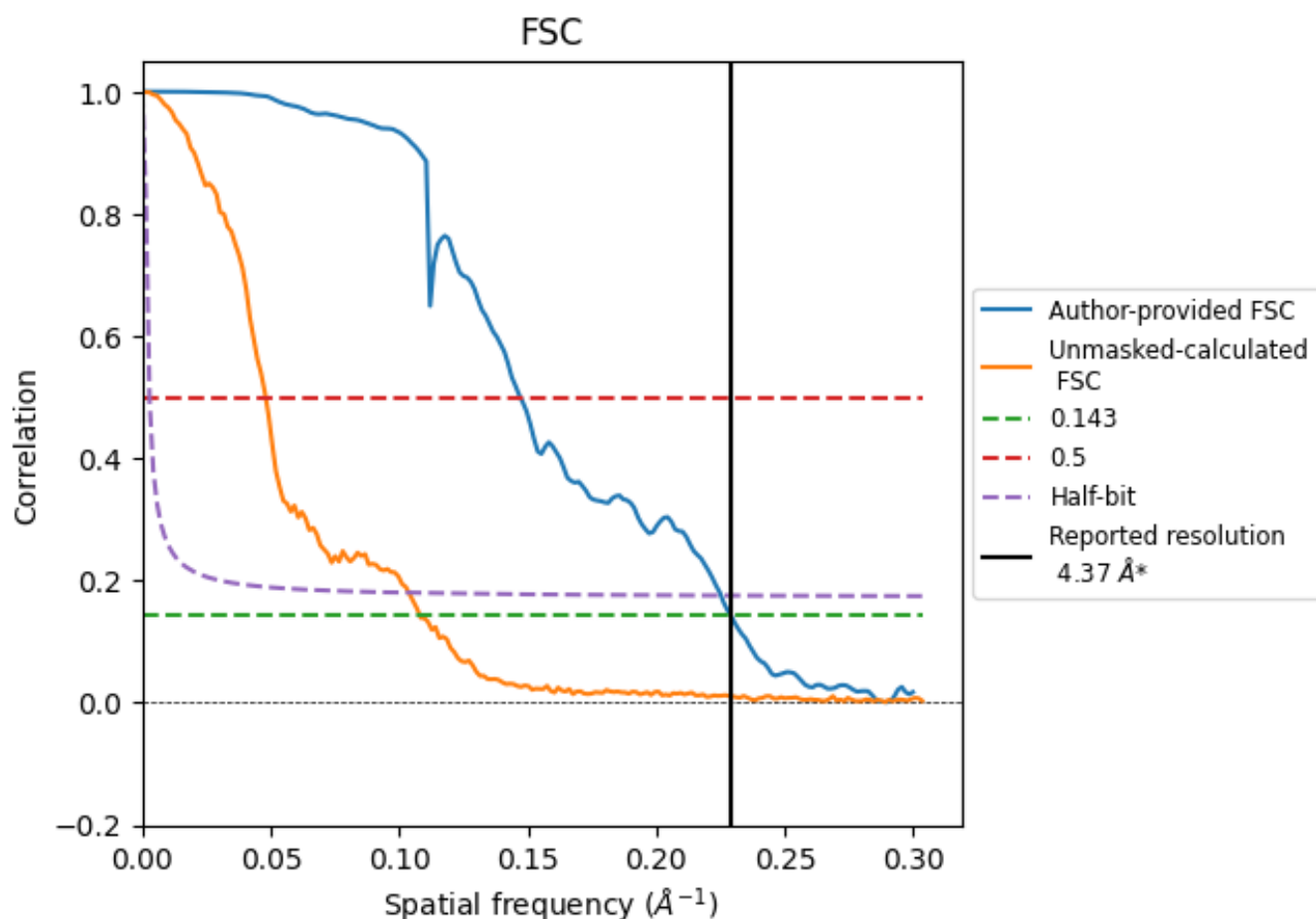


*Reported resolution corresponds to spatial frequency of 0.229 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.229 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

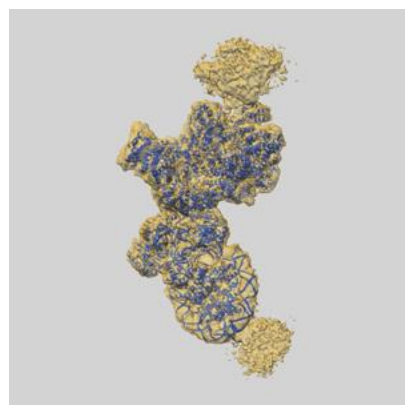
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.37	-	-
Author-provided FSC curve	4.37	6.80	4.44
Unmasked-calculated*	9.27	20.83	9.63

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 9.27 differs from the reported value 4.37 by more than 10 %

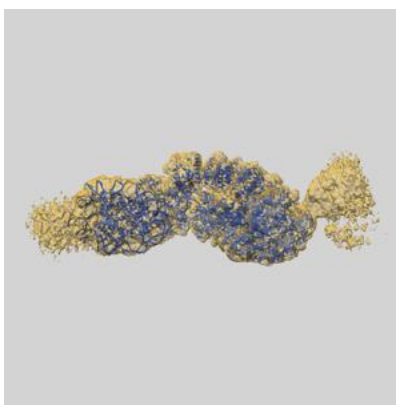
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-53025 and PDB model 9QCR. Per-residue inclusion information can be found in [section 3](#) on [page 6](#).

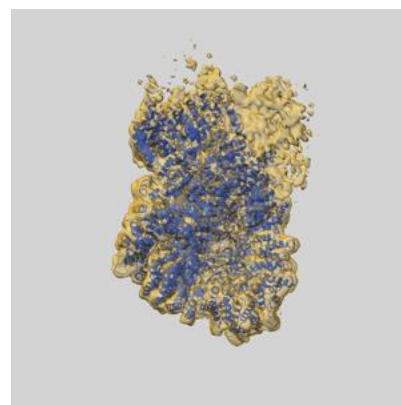
9.1 Map-model overlay [i](#)



X



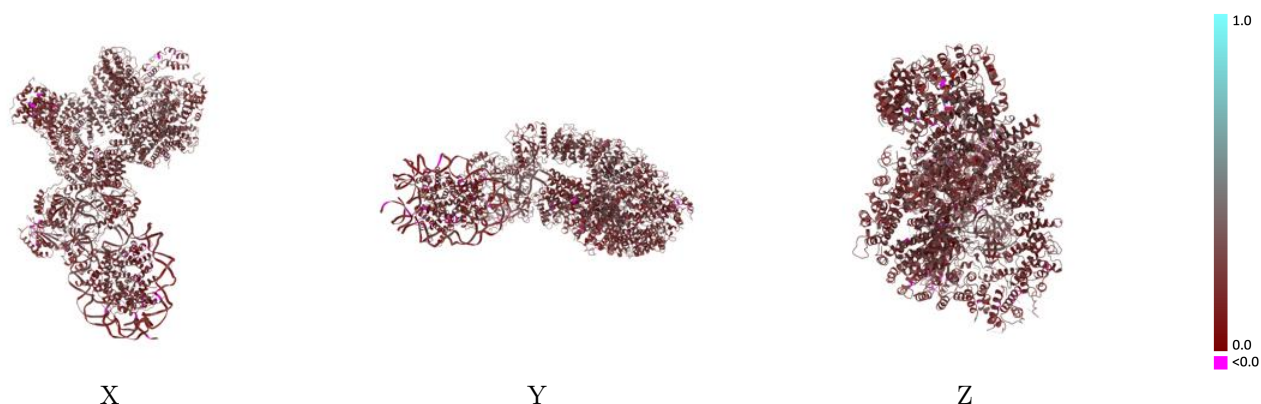
Y



Z

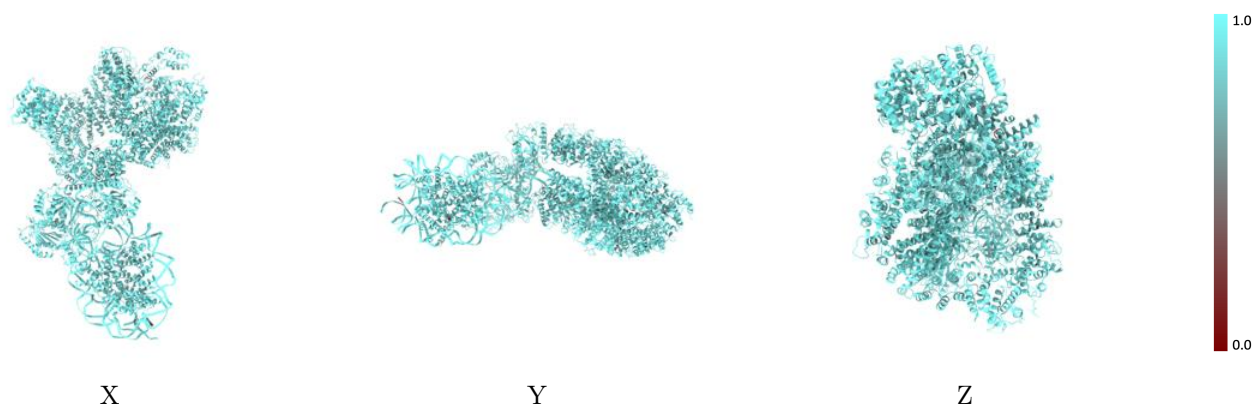
The images above show the 3D surface view of the map at the recommended contour level 0.19 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



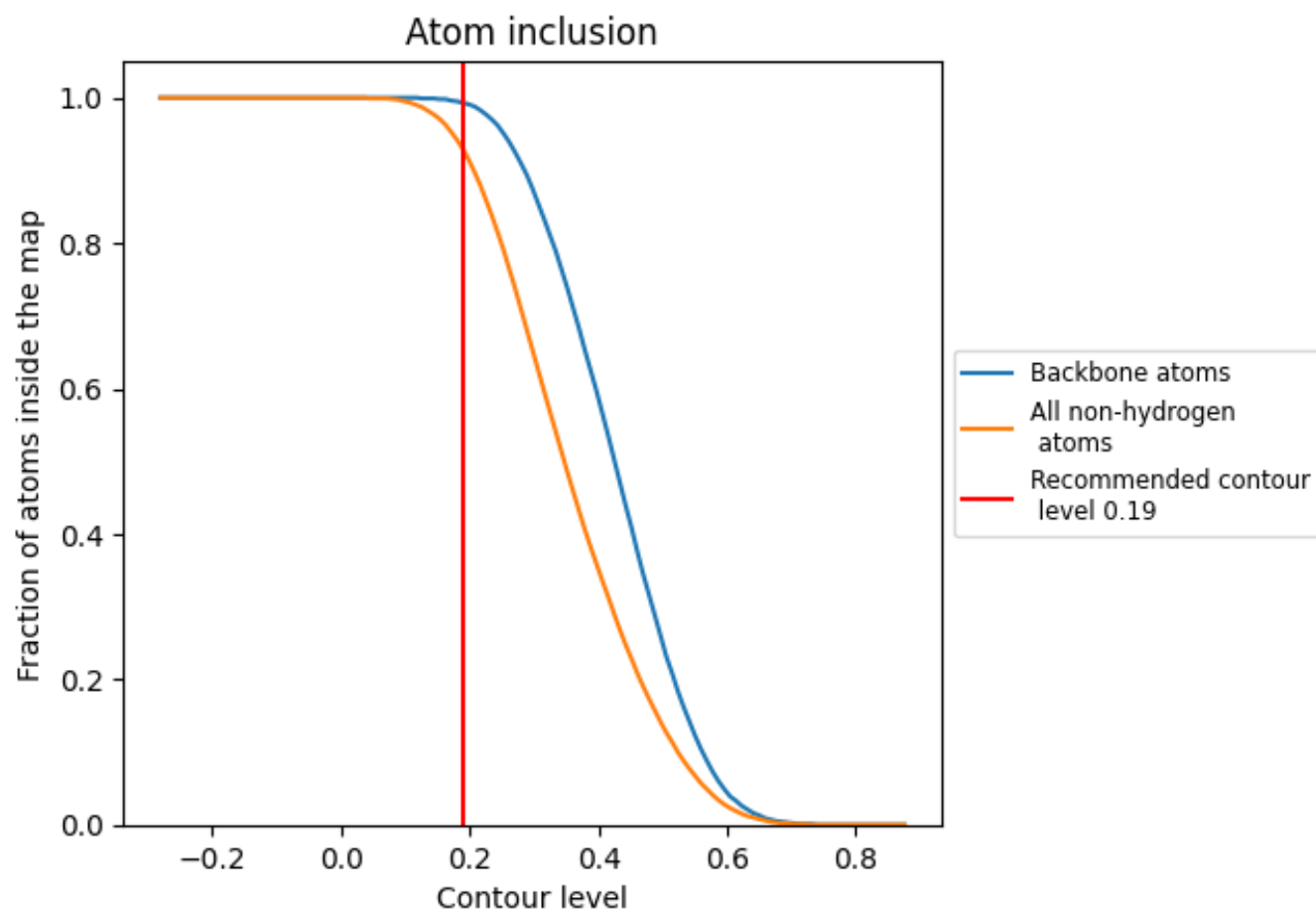
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.19).

9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.19) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9290	 0.2340
A	 0.9520	 0.1650
B	 0.9440	 0.1770
C	 0.9430	 0.2150
D	 0.9520	 0.2240
E	 0.9650	 0.1840
F	 0.9620	 0.1930
G	 0.9440	 0.1620
H	 0.9090	 0.1850
I	 0.9730	 0.2120
J	 0.9620	 0.2030
K	 0.9360	 0.2470
L	 0.9460	 0.2260
O	 0.9140	 0.2470

