Full wwPDB EM Validation Report

Feb 5, 2026 – 08:55 AM EST

PDB ID	:	9E14 / pdb_00009e14
EMDB ID	:	EMD-47383
Title	:	Full-length human dynein-1 in phi-like comformation bound to a Lis1 dimer under Nde1-Lis1 condition
Authors	:	Yang, J.; Zhang, K.
Deposited on	:	2024-10-21
Resolution	:	5.00 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:

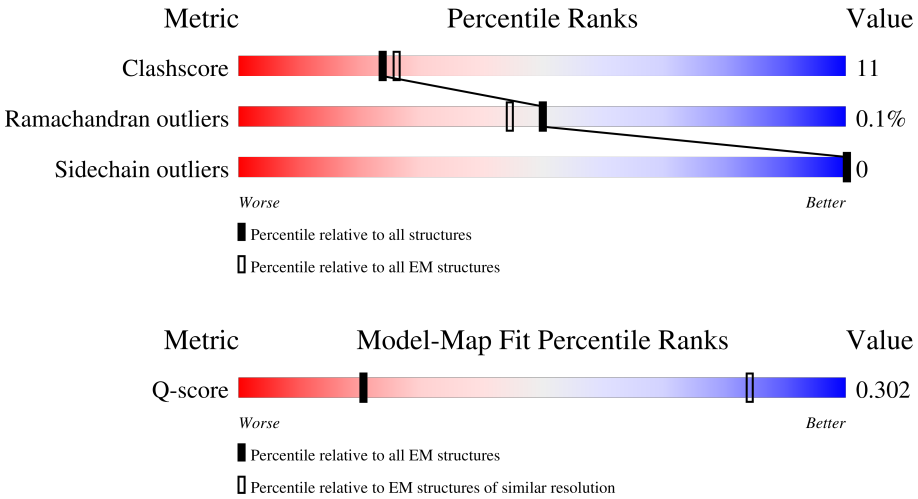
EMDB validation analysis	:	0.0.1.dev129
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive 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 5.00 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	1057 (4.50 - 5.50)

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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	4646	10% 79% 18%
1	B	4646	6% 75% 22%
2	C	638	56% 6% 38%
2	D	638	36% 26% 38%

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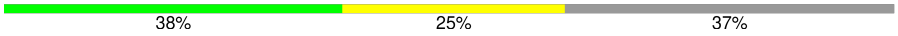
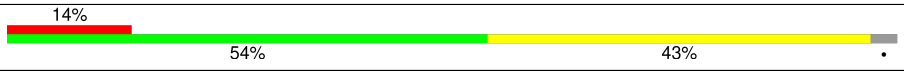
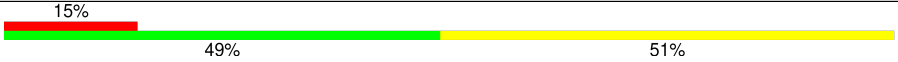
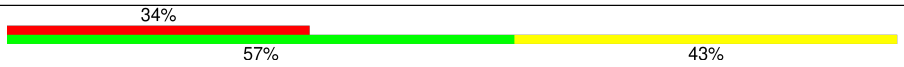
Mol	Chain	Length	Quality of chain
3	E	492	
3	F	492	
4	G	96	
4	H	96	
5	I	89	
5	J	89	
6	K	113	
6	L	113	
7	O	410	
7	P	410	

2 Entry composition (i)

There are 10 unique types of molecules in this entry. The entry contains 94479 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Cytoplasmic dynein 1 heavy chain 1.

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

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

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

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

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

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

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

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

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

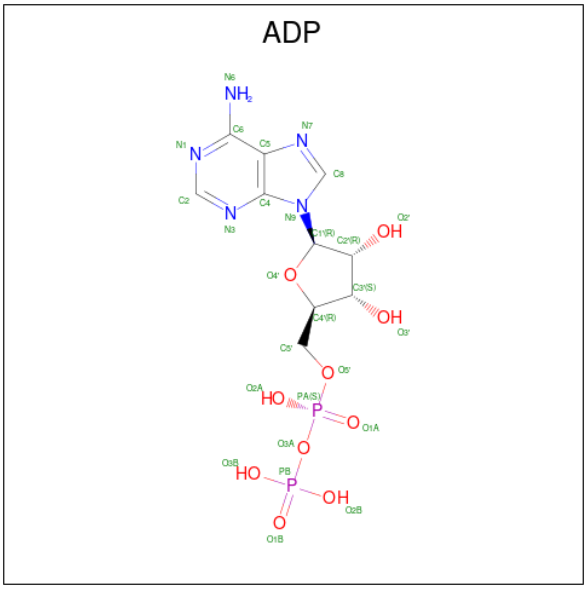
- Molecule 6 is a protein called Dynein light chain Tctex-type 1.

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

- Molecule 7 is a protein called Platelet-activating factor acetylhydrolase IB subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	O	322	Total	C	N	O	S	0	0
			2557	1608	452	477	20		
7	P	319	Total	C	N	O	S	0	0
			2531	1593	446	472	20		

- Molecule 8 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



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

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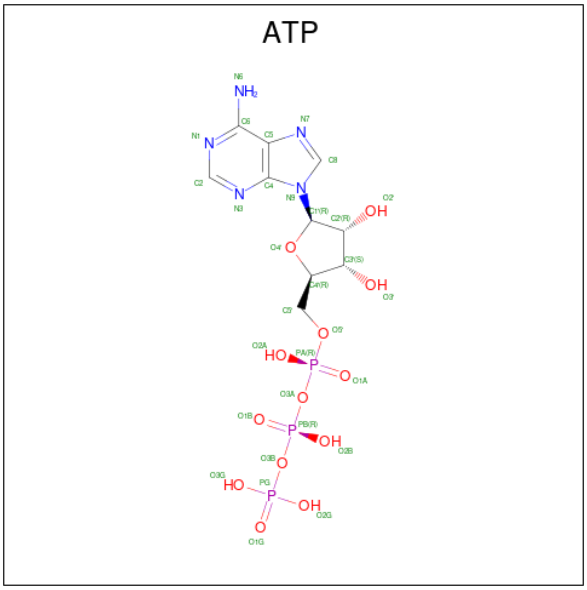
Mol	Chain	Residues	Atoms					AltConf
8	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
8	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
8	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
8	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
8	B	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 9 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 10 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
10	A	2	Total	Mg	0
			2	2	

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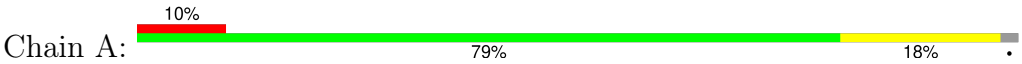
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
10	B	2	2	2	0

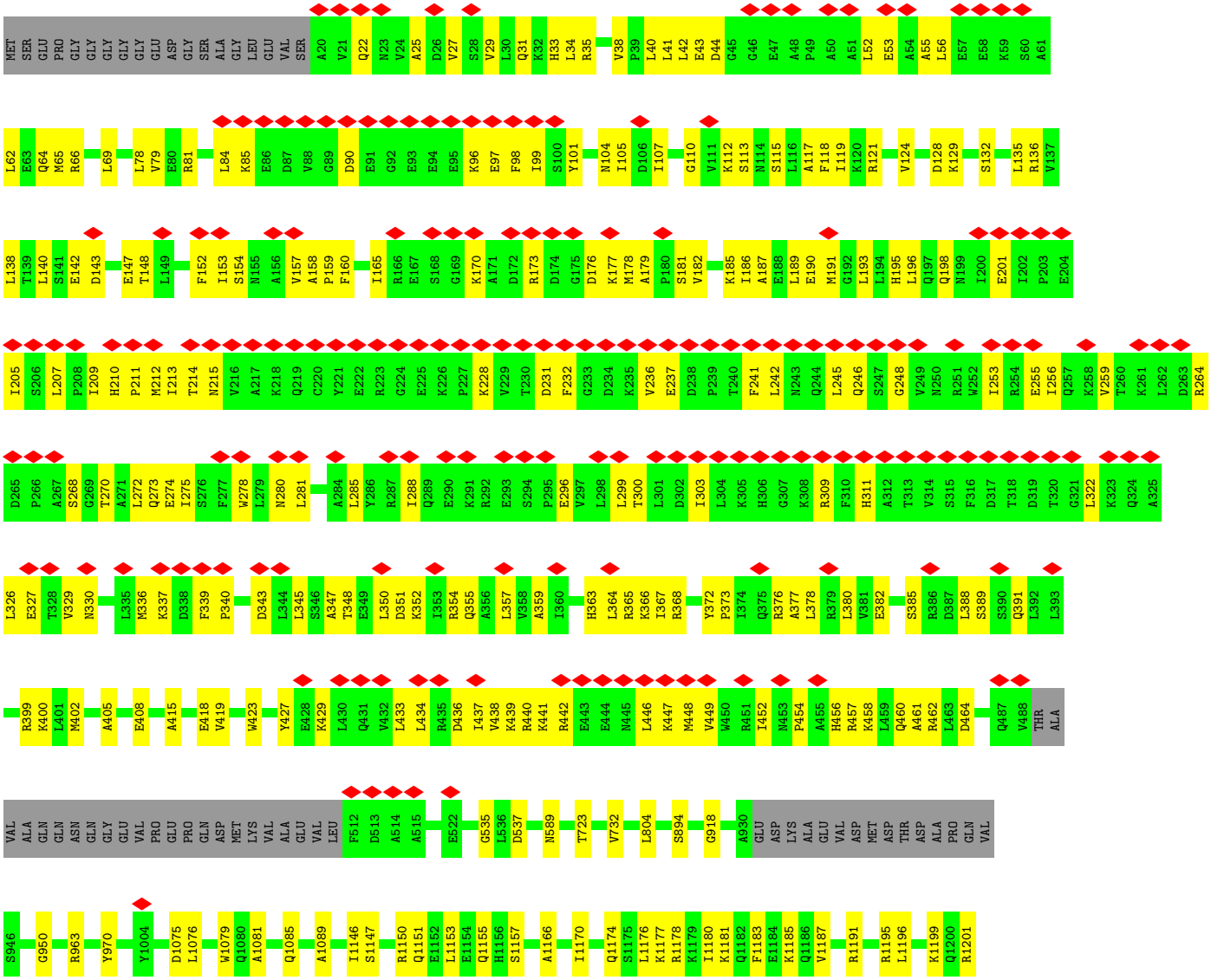
3 Residue-property plots (i)

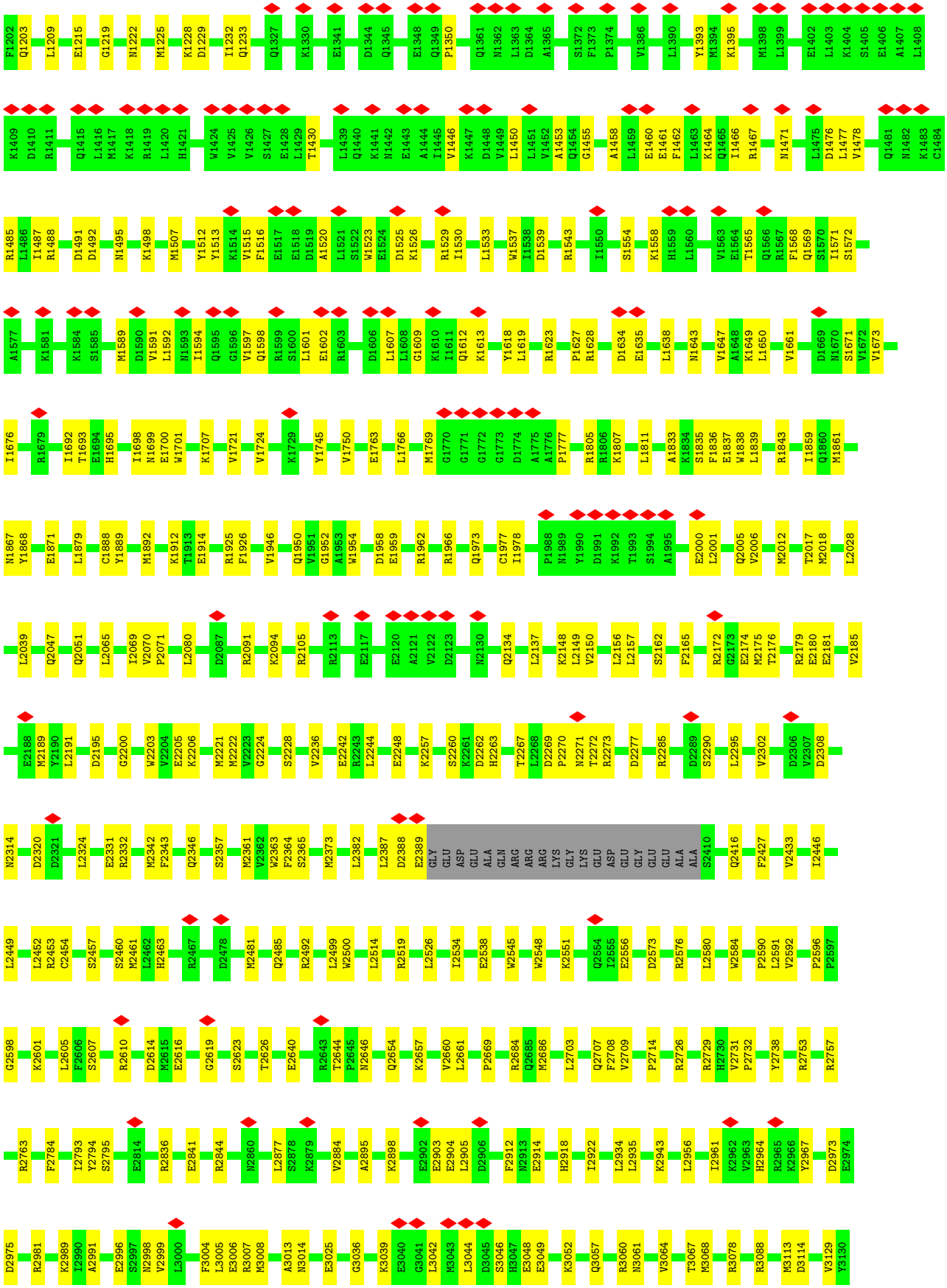
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: Cytoplasmic dynein 1 heavy chain 1

Chain A:



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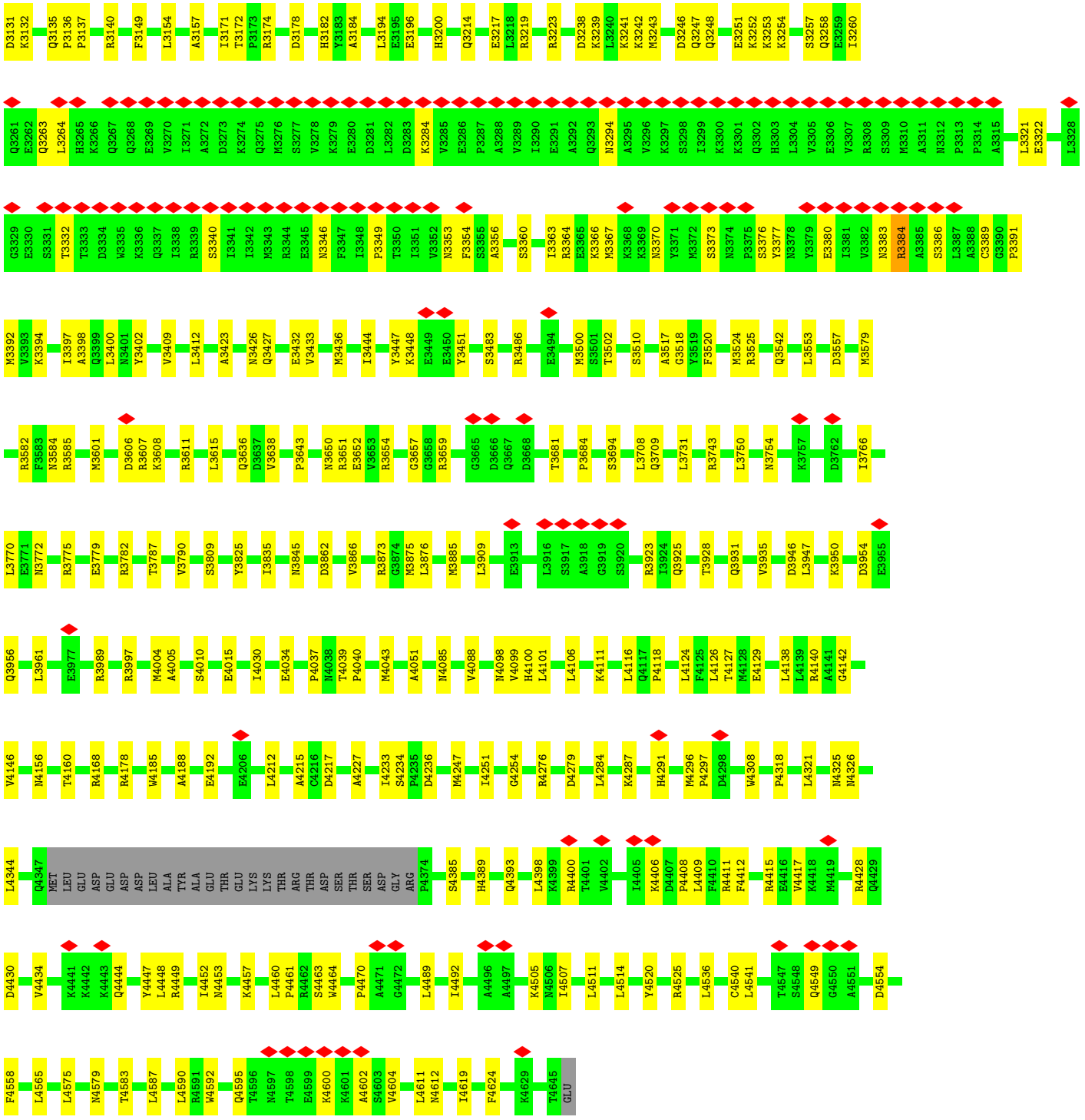
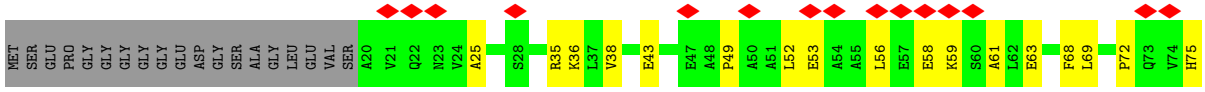
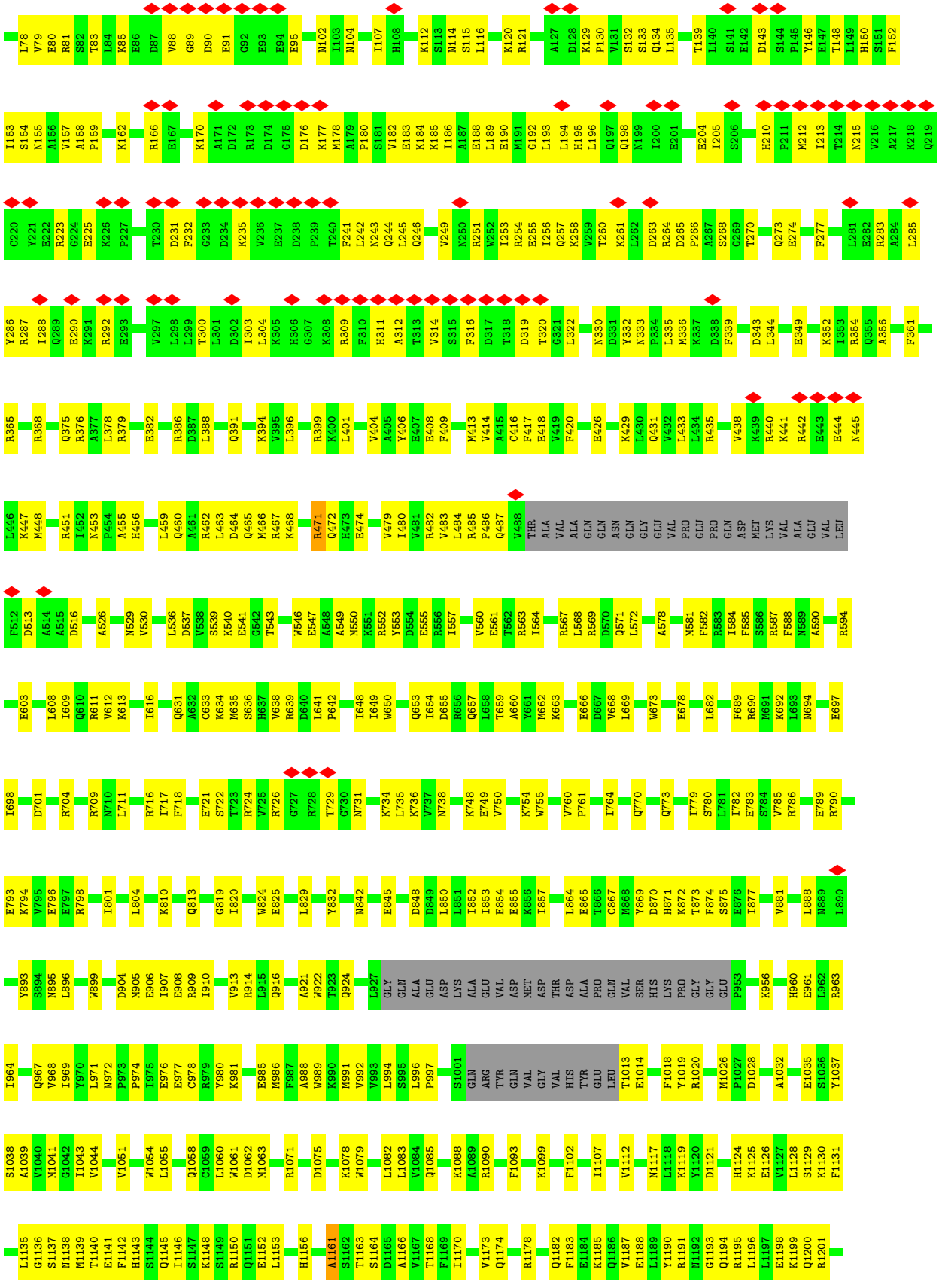
K1409 D1410 R1411 Q1415 L1416 M1417 K1418 R1419 L1420 H1421 W1424 V1425 V1426 S1427 E1428 L1429 T1430 L1439 Q1440 K1441 N1442 E1443 A1444 I1445 V1446 K1447 D1448 V1449 L1450 L1451 V1452 A1453 Q1454 G1455 A1458 L1459 E1460 E1461 F1462 L1463 K1464 Q1465 I1466 R1467 N1471 L1475 D1476 L1477 V1478 Q1481 N1482 K1483 C1484
R1485 L1486 I1487 R1488 D1491 D1492 N1495 K1498 M1507 Y1512 Y1513 K1514 V1515 F1516 E1517 E1518 D1519 A1520 L1521 S1522 W1523 E1524 D1525 K1526 R1529 I1530 L1533 W1537 I1538 D1539 R1543 I1550 S1554 K1558 H1559 L1560 V1563 E1564 T1565 Q1566 R1567 F1568 Q1569 S1570 I1571 S1572
A1577 K1581 K1584 S1585 M1589 D1590 V1591 L1592 N1593 I1594 Q1595 G1596 V1597 Q1598 R1599 S1600 L1601 E1602 R1603 D1606 L1607 L1608 G1609 K1610 I1611 Q1612 K1613 Y1618 L1619 R1623 P1627 R1628 D1634 E1635 L1638 N1643 V1647 A1648 K1649 L1650 V1661 D1669 N1670 S1671 V1672 V1673
I1676 R1679 I1692 T1693 E1694 H1695 I1698 N1699 E1700 W1701 K1707 V1721 V1724 K1729 Y1745 V1750 E1763 L1766 M1769 G1770 G1771 G1772 G1773 D1774 A1775 A1776 P1777 R1805 R1806 K1807 L1811 A1833 K1834 S1835 F1836 E1837 W1838 L1839 R1843 I1859 Q1860 M1861
N1867 Y1868 E1871 L1879 C1888 Y1889 M1892 K1912 T1913 E1914 R1925 F1926 V1946 Q1950 V1951 G1952 A1953 W1954 D1958 E1959 R1962 R1966 Q1973 C1977 I1978 P1988 N1989 Y1990 D1991 K1992 T1993 S1994 A1995 E2000 L2001 Q2005 V2006 M2012 T2017 M2018 L2028
L2039 Q2047 Q2051 L2065 I2069 V2070 P2071 L2080 D2087 R2091 K2094 R2105 R2113 E2117 E2120 A2121 V2122 D2123 N2130 Q2134 L2137 K2148 L2149 V2150 L2156 L2157 S2162 F2165 R2172 G2173 E2174 M2175 T2176 R2179 E2180 E2181 V2185
E2188 M2189 Y2190 L2191 D2195 G2200 W2203 V2204 E2205 K2206 M2221 M2222 V2223 G2224 S2228 V2236 E2242 R2243 L2244 E2248 K2257 S2260 K2261 D2262 H2263 T2267 L2268 D2269 P2270 N2271 T2272 R2273 D2277 R2285 D2289 S2290 L2295 V2302 D2306 V2307 D2308
W2314 D2320 D2321 L2324 E2331 R2332 M2342 F2343 Q2346 S2357 M2361 V2362 W2363 F2364 S2365 M2373 L2382 L2387 D2388 E2389 GLY GLU ASP GLU ALA GLN ARG ARG ARG LYS GLY LYS GLU ASP GLU GLY GLU GLU ALA ALA S2410 Q2416 F2427 V2433 I2446
L2449 L2452 R2453 C2454 S2457 S2460 M2461 L2462 H2463 R2467 D2478 M2481 Q2485 R2492 L2499 W2500 L2514 R2519 L2526 I2534 E2538 W2545 W2548 K2551 Q2554 I2555 E2556 D2573 R2576 L2580 W2584 P2590 L2591 V2592 P2596 P2597
G2598 K2601 L2605 F2606 S2607 R2610 D2614 M2615 E2616 G2619 S2623 T2626 E2640 R2643 T2644 P2645 N2646 Q2654 K2657 V2660 L2661 P2669 R2684 Q2685 M2686 L2703 Q2707 F2708 V2709 P2714 R2726 R2729 H2730 V2731 P2732 Y2738 R2753 R2757
R2763 F2784 I2793 Y2794 S2795 E2814 R2836 E2841 R2844 N2860 L2877 S2878 K2879 V2884 A2895 K2898 E2902 E2903 E2904 L2905 D2906 F2912 N2913 E2914 H2918 I2922 L2934 L2935 K2943 L2956 I2961 K2962 V2963 H2964 R2965 K2966 Y2967 D2973 E2974
D2975 R2981 K2989 I2990 A2991 E2996 S2997 N2998 V2999 L3000 F3004 L3005 E3006 R3007 M3008 A3013 N3014 E3025 G3036 K3039 E3040 G3041 L3042 M3043 L3044 D3045 S3046 H3047 E3048 E3049 K3052 Q3057 R3060 N3061 V3064 T3067 M3068 R3078 R3088 M3113 D3114 V3129 Y3130



• Molecule 1: Cytoplasmic dynein 1 heavy chain 1

Chain B:

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I153 S154 N155 A156 V157 A158 P159 K162 R166 E167 K170 A171 D172 R173 D174 G175 D176 K177 M178 A179 P180 S181 V182 E183 K184 K185 I186 A187 E188 L189 E190 M191 G192 L193 L194 H195 L196 Q197 Q198 N199 I200 E201 E204 I205 S206 H210 P211 M212 I213 T214 N215 V216 A217 K218 Q219
C220 Y221 E222 R223 G224 E225 K226 P227 T230 D231 F232 G233 D234 K235 V236 E237 D238 P239 T240 F241 L242 N243 Q244 L245 Q246 V249 N250 R251 W252 I253 R254 E255 I256 Q257 K258 V259 T260 K261 L262 D263 R264 D265 P266 A267 S268 G269 T270 Q273 E274 F277 L281 E282 R283 A284 L285
Y286 R287 I288 Q289 E290 K291 R292 E293 V297 L298 L299 T300 L301 D302 I303 L304 K305 H306 G307 K308 R309 F310 H311 A312 T313 V314 S315 F316 D317 T318 D319 T320 G321 L322 N330 D331 Y332 N333 P334 L335 M336 K337 D338 F339 D343 L344 E349 K352 I353 R354 Q355 A356 F361
R365 R368 Q375 R376 A377 L378 R379 E382 R386 D387 L388 Q391 K394 V395 L396 R399 K400 L401 V404 A405 Y406 E407 E408 F409 M413 V414 A415 C416 F417 E418 V419 F420 E426 K429 L430 Q431 V432 L433 L434 R435 V438 K439 R440 K441 R442 E443 E444 N445
L446 K447 M448 R451 I452 N453 P454 A455 H456 L459 Q460 A461 R462 L463 D464 Q465 M466 R467 K468 R471 Q472 H473 E474 V479 I480 V481 R482 V483 L484 R485 P486 Q487 V488 THR ALA VAL ALA GLN GLN ASN GLN GLY GLU VAL PRO GLU PRO GLN ASP MET LYS VAL ALA GLU VAL LEU
F512 D513 A514 A515 D516 A526 N529 V530 L536 D537 V538 S539 K540 E541 G542 T543 W546 E547 A548 A549 M550 K551 R552 Y553 D554 E555 R556 I557 V560 E561 T562 R563 I564 R567 L568 R569 D570 Q571 L572 A578 M581 F582 R583 I584 F585 S586 R587 F588 N589 A590 R594
E603 L608 I609 R610 R611 V612 K613 I616 Q631 A632 C633 K634 M635 S636 H637 V638 R639 D640 L641 P642 I648 I649 W650 Q653 I654 D655 R656 Q657 L658 T659 A660 Y661 M662 K663 E666 D667 V668 L669 W673 E678 L682 F689 R690 H691 K692 L693 N694 E697
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E793 K794 V795 E796 E797 R798 I801 L804 K810 Q813 G819 I820 W824 E825 L829 Y832 N842 E845 D848 D849 L850 L851 I852 I853 E854 E855 K856 I857 L864 E865 T866 C867 M868 Y869 D870 H871 K872 T873 F874 S875 E876 I877 V881 L888 N889 L890
Y893 S894 N895 L896 W899 D904 M905 E906 I907 E908 R909 I910 V913 R914 L915 Q916 A921 W922 T923 Q924 L927 GLY GLN ALA GLU ASP LYS ALA GLU VAL ASP MET ASP THR ASP ALA PRO GLN VAL SER HIS LYS PRO GLY GLY GLU P953 K956 H960 E961 L962 R963
I964 Q967 V968 I969 Y970 L971 N972 P973 P974 I975 E976 E977 C978 R979 Y980 K981 E985 M986 F987 A988 W989 K990 M991 V992 Y993 L994 S995 L996 P997 S1001 GLN ARG TYR GLN VAL GLY VAL HIS TYR GLU LEU T1013 E1014 F1018 Y1019 R1020 M1026 P1027 D1028 A1032 E1035 S1036 Y1037
S1038 A1039 V1040 M1041 G1042 I1043 V1044 V1051 W1054 L1055 Q1058 C1059 L1060 W1061 D1062 M1063 R1071 D1075 K1078 W1079 L1082 L1083 V1084 Q1085 K1088 A1089 R1090 F1093 K1099 F1102 I1107 V1112 N1117 L1118 K1119 Y1120 D1121 H1124 K1125 E1126 V1127 L1128 S1129 K1130 F1131
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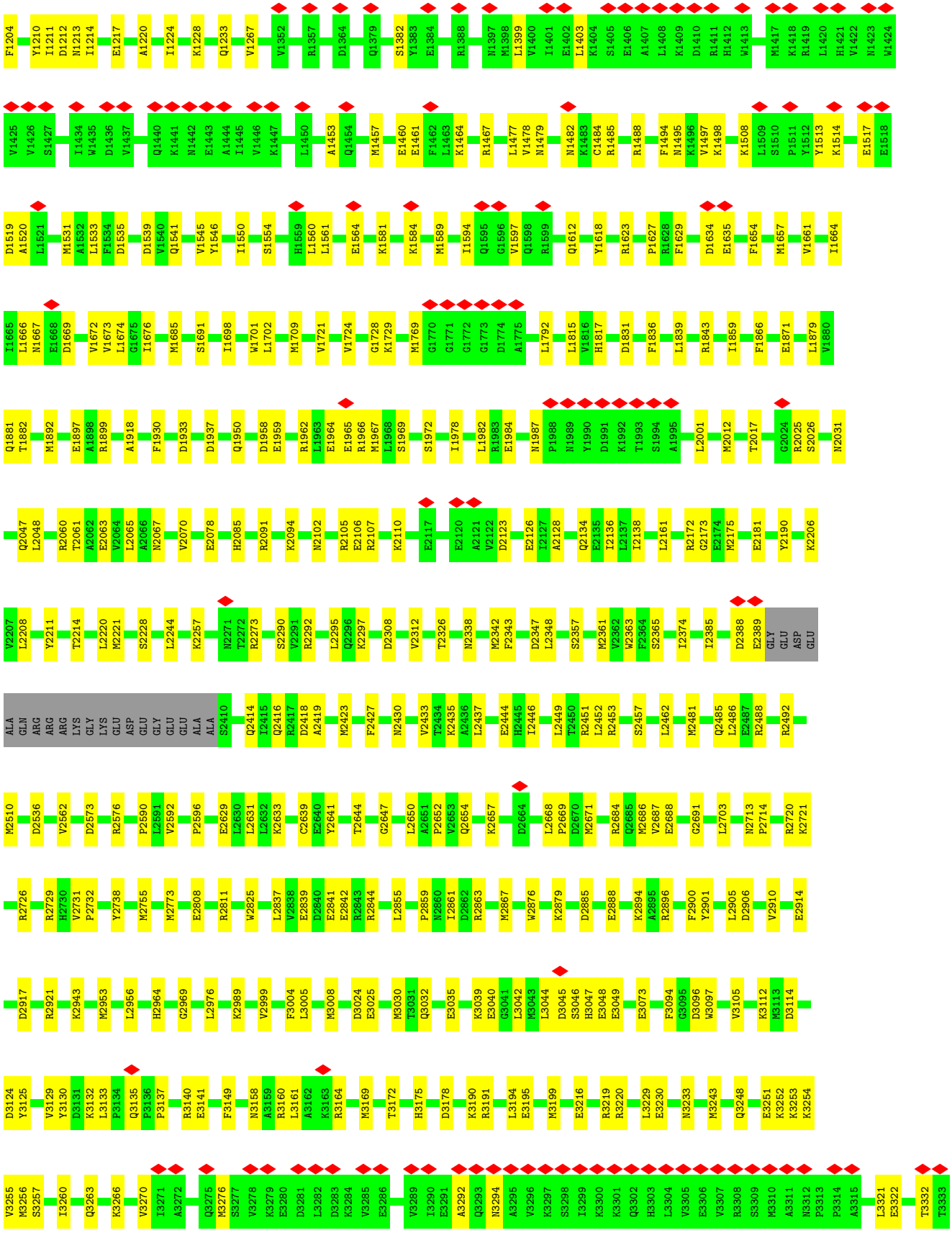
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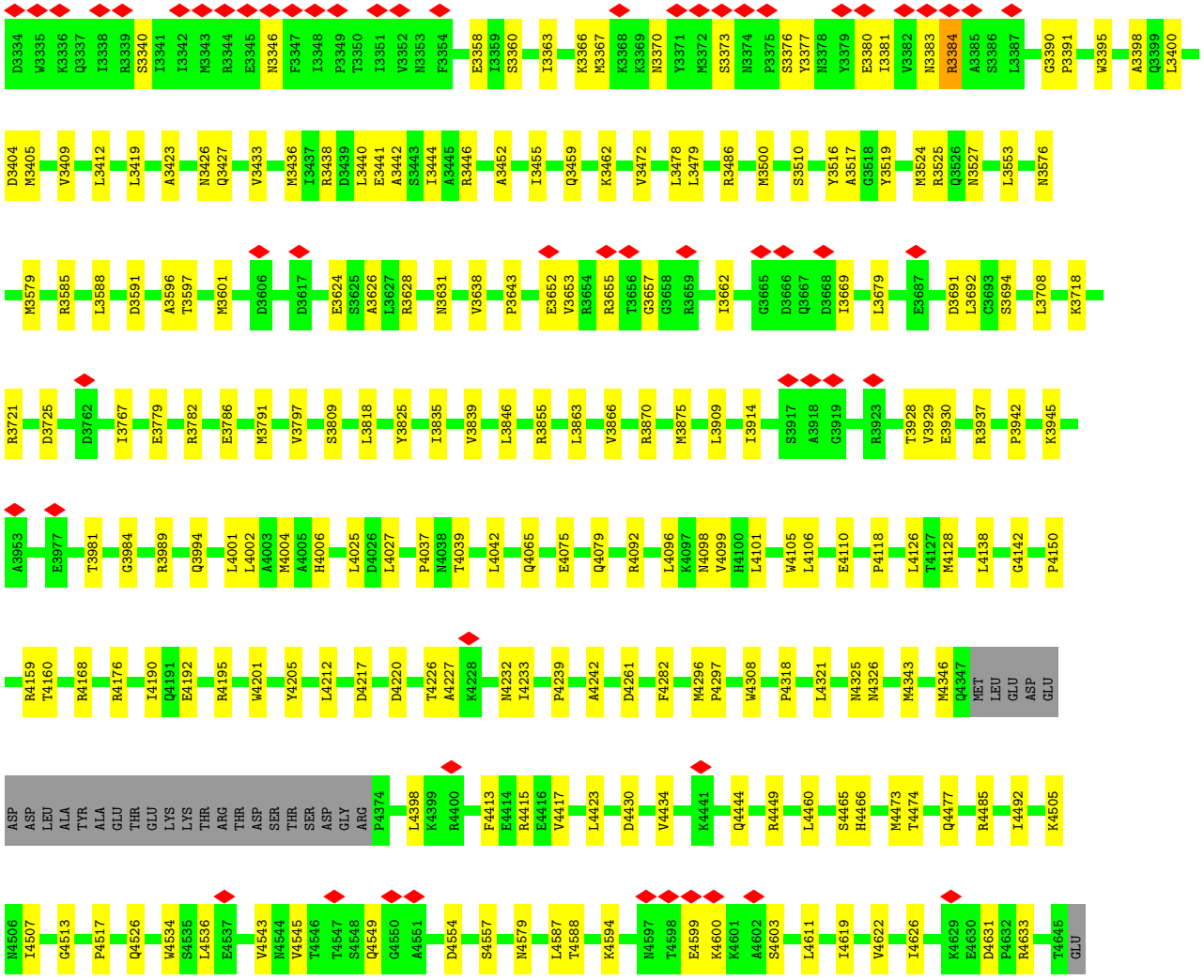
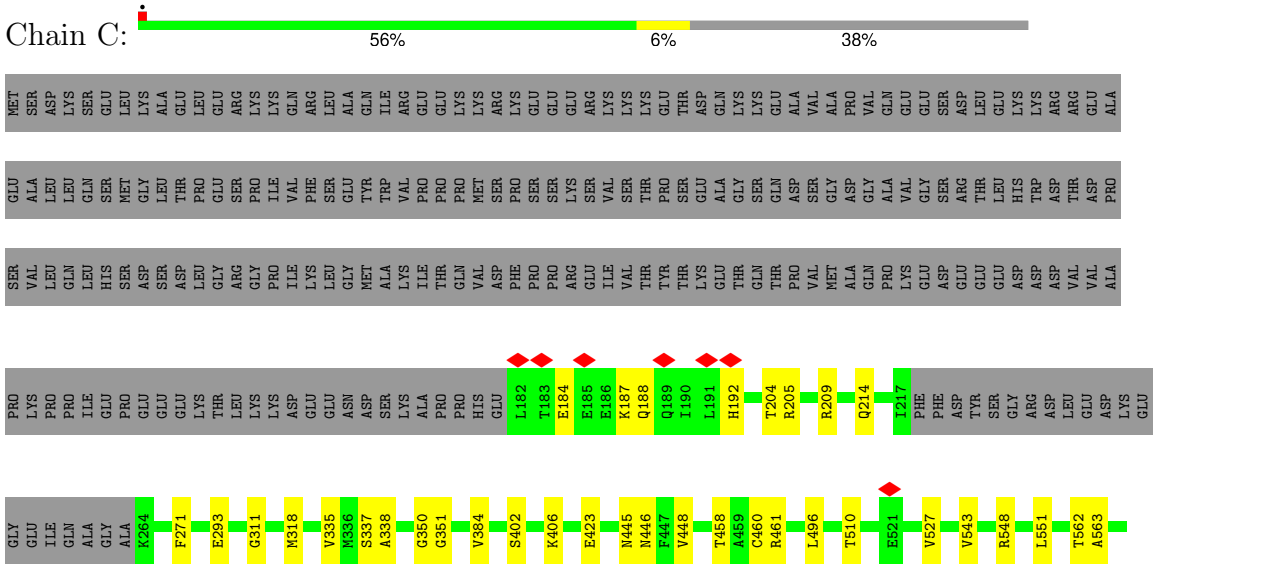
V1425 V1426 S1427 I1434 W1435 D1436 V1437 Q1440 K1441 N1442 E1443 A1444 I1445 V1446 K1447 L1450 A1453 Q1454 M1457 E1460 E1461 F1462 L1463 K1464 R1467 L1477 V1478 N1479 N1482 K1483 C1484 R1485 R1488 F1494 N1495 K1496 V1497 K1498 K1508 L1509 S1510 P1511 Y1512 Y1513 K1514 E1517 E1518
D1519 A1520 L1521 M1531 A1532 L1533 F1534 D1535 D1539 V1540 Q1541 V1545 Y1546 I1550 S1554 H1559 L1560 L1561 E1564 K1581 K1584 M1589 I1594 Q1595 G1596 V1597 Q1598 R1599 Q1612 Y1618 R1623 P1627 R1628 F1629 D1634 E1635 F1654 M1657 V1661 I1664
I1665 L1666 N1667 E1668 D1669 V1672 V1673 L1674 G1675 I1676 M1685 S1691 I1698 W1701 L1702 M1709 V1721 V1724 G1728 K1729 M1769 G1770 G1771 G1772 G1773 D1774 A1775 L1792 L1815 V1816 H1817 D1831 F1836 L1839 R1843 I1859 F1866 E1871 L1879 V1880
Q1881 T1882 M1892 E1897 A1898 R1899 A1918 F1930 D1933 D1937 Q1950 D1958 E1959 R1962 L1963 E1964 E1965 R1966 M1967 L1968 S1969 S1972 I1978 L1982 R1983 E1984 N1987 P1988 N1989 Y1990 D1991 K1992 T1993 S1994 A1995 L2001 M2012 T2017 G2024 R2025 S2026 N2031
Q2047 L2048 R2060 T2061 A2062 E2063 V2064 L2065 A2066 N2067 V2070 E2078 H2085 R2091 K2094 N2102 R2105 E2106 R2107 K2110 E2117 E2120 A2121 V2122 D2123 E2126 I2127 A2128 Q2134 E2135 I2136 L2137 I2138 L2161 R2172 G2173 E2174 M2175 E2181 Y2190 K2206
V2207 L2208 Y2211 T2214 L2220 M2221 S2228 L2244 K2257 N2271 T2272 R2273 S2290 V2291 R2292 L2295 Q2296 K2297 D2308 V2312 T2326 N2338 M2342 F2343 D2347 L2348 S2357 M2361 V2362 W2363 F2364 S2365 I2374 I2385 D2388 E2389 GLY GLU ASP GLU
ALA GLN ARG ARG ARG LYS GLY LYS GLU ASP GLU GLY GLU GLU ALA ALA S2410 Q2414 I2415 Q2416 R2417 D2418 A2419 M2423 F2427 N2430 V2433 T2434 K2435 A2436 L2437 E2444 H2445 I2446 L2449 T2450 R2451 L2452 R2453 S2457 L2462 M2481 Q2485 L2486 E2487 R2488 R2492
M2510 D2536 V2562 D2573 R2576 P2590 L2591 V2592 P2596 E2629 L2630 L2631 L2632 K2633 C2639 E2640 Y2641 T2644 G2647 L2650 A2651 P2652 V2653 Q2654 K2657 D2664 L2668 P2669 D2670 M2671 R2684 Q2685 M2686 V2687 E2688 G2691 L2703 N2713 P2714 R2720 K2721
R2726 R2729 H2730 V2731 P2732 Y2738 M2755 M2773 E2808 R2811 W2825 L2837 V2838 E2839 D2840 E2841 E2842 R2843 R2844 L2855 P2859 N2860 I2861 D2862 R2863 M2867 W2876 K2879 D2885 E2888 K2894 A2895 R2896 F2900 Y2901 L2905 D2906 V2910 E2914
D2917 R2921 K2943 M2953 L2956 H2964 G2969 L2976 K2989 V2999 F3004 L3005 M3008 D3024 E3025 M3030 T3031 Q3032 E3035 K3039 E3040 G3041 L3042 M3043 L3044 D3045 S3046 H3047 E3048 E3049 E3073 F3094 G3095 D3096 W3097 V3105 K3112 M3113 D3114
D3124 Y3125 V3129 Y3130 D3131 K3132 L3133 P3134 Q3135 P3136 P3137 R3140 E3141 F3149 N3158 A3159 R3160 L3161 A3162 K3163 R3164 M3169 T3172 H3175 D3178 K3190 R3191 L3194 E3195 M3199 E3216 R3219 R3220 L3229 E3230 N3233 M3243 Q3248 E3251 K3252 K3253 K3254
V3255 M3256 S3257 I3260 Q3263 K3266 V3270 I3271 A3272 Q3275 M3276 S3277 V3278 K3279 E3280 D3281 L3282 D3283 K3284 V3285 E3286 V3289 I3290 E3291 A3292 Q3293 N3294 A3295 V3296 K3297 S3298 I3299 K3300 K3301 Q3302 H3303 L3304 V3305 E3306 V3307 R3308 S3309 M3310 A3311 N3312 P3313 P3314 A3315 L3321 E3322 T3332 T3333



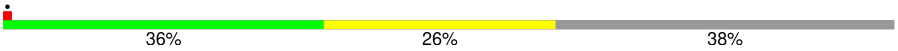
• Molecule 2: Cytoplasmic dynein 1 intermediate chain 2

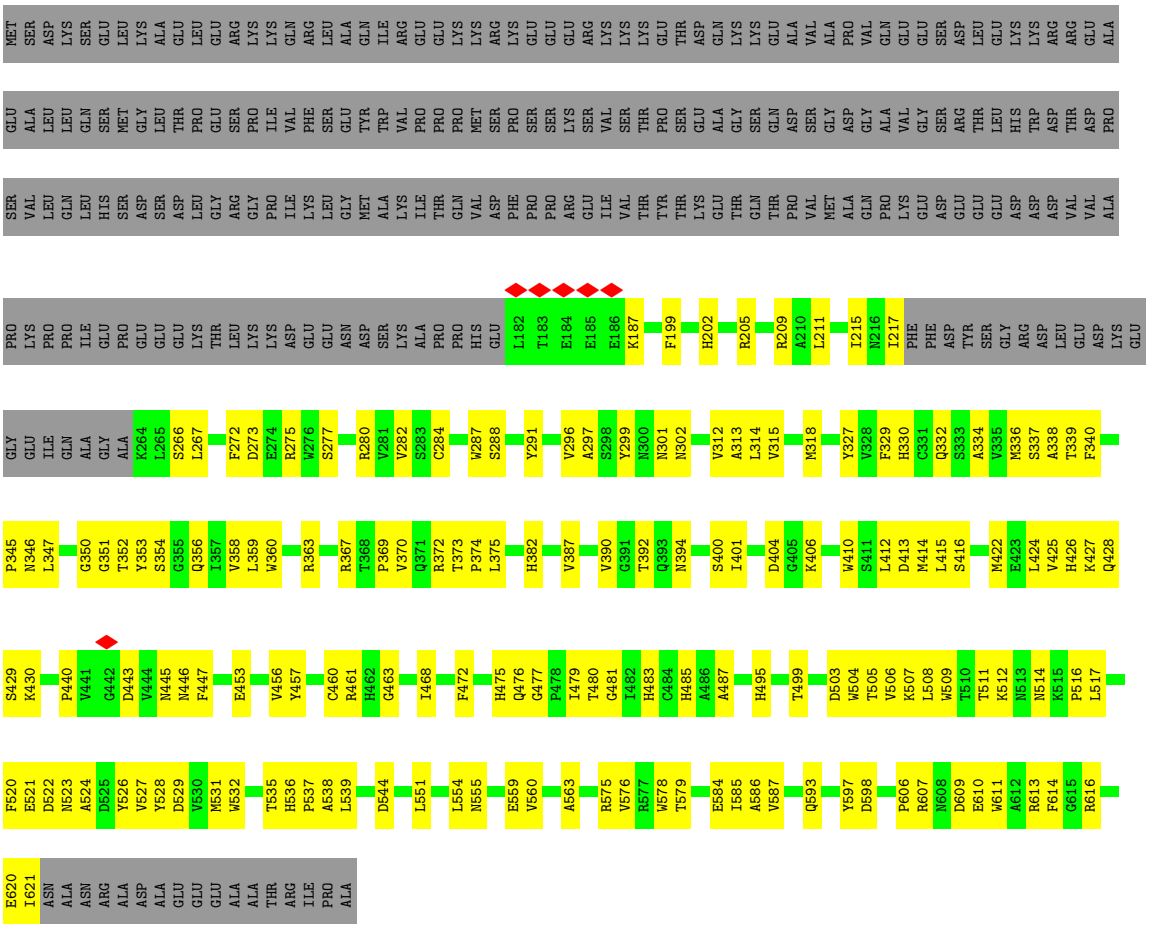
Chain C:



• Molecule 2: Cytoplasmic dynein 1 intermediate chain 2

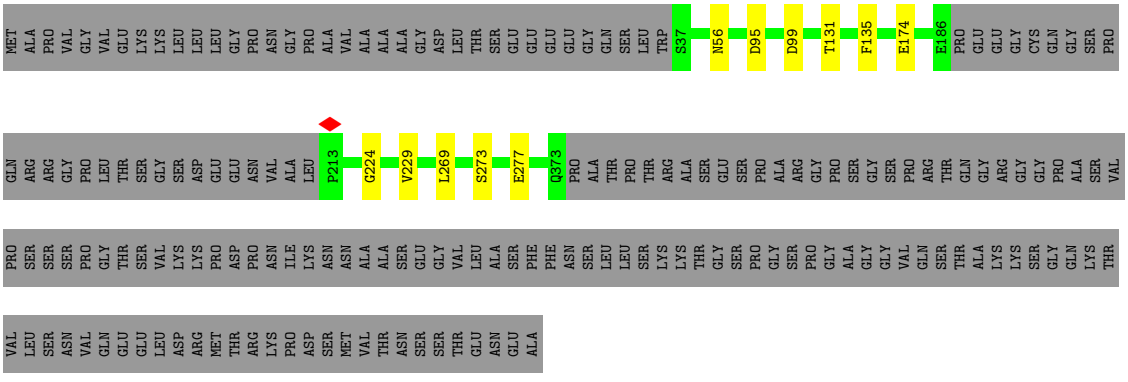
Chain D:





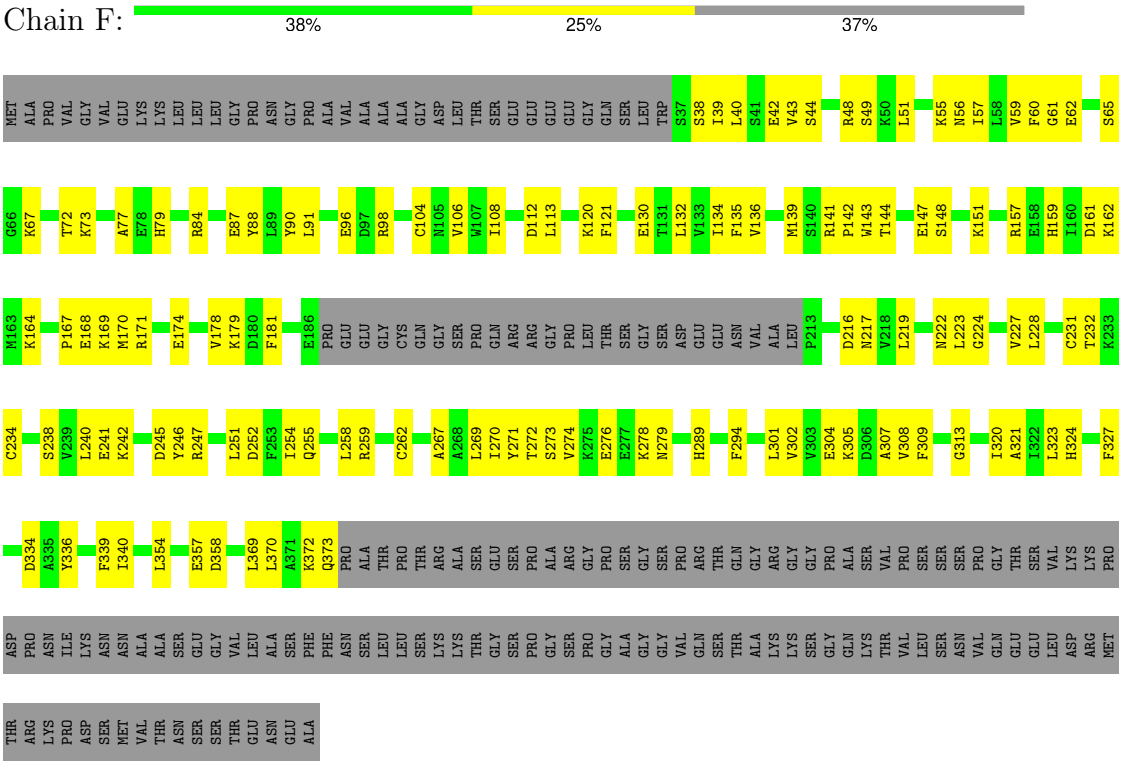
• Molecule 3: Cytoplasmic dynein 1 light intermediate chain 2

Chain E:



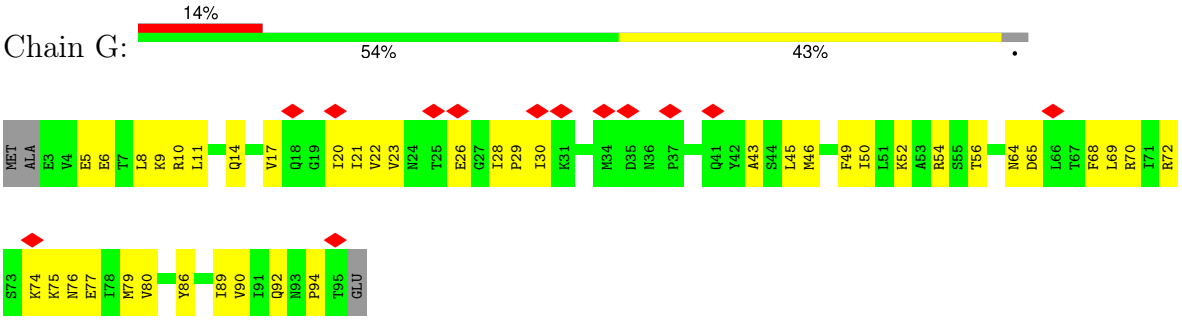
• Molecule 3: Cytoplasmic dynein 1 light intermediate chain 2

Chain F:



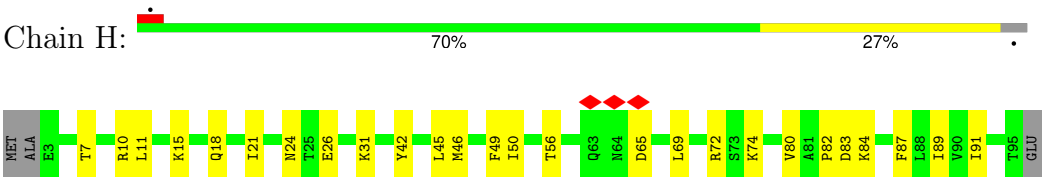
• Molecule 4: Dynein light chain roadblock-type 1

Chain G:



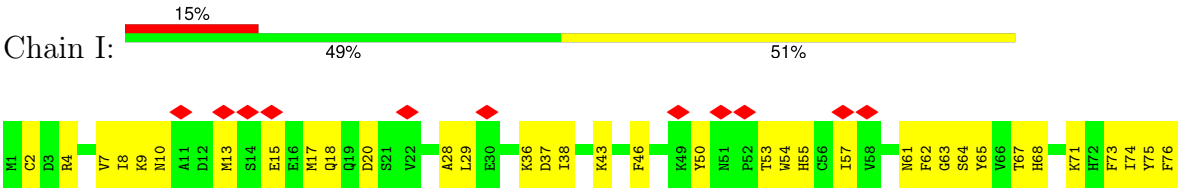
• Molecule 4: Dynein light chain roadblock-type 1

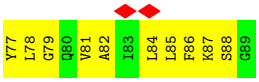
Chain H:



• Molecule 5: Dynein light chain 1, cytoplasmic

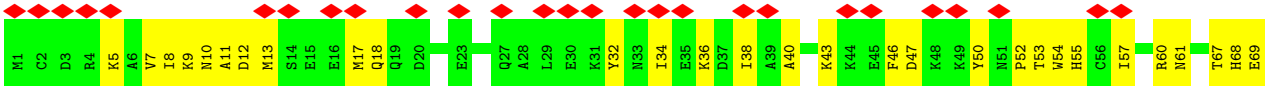
Chain I:

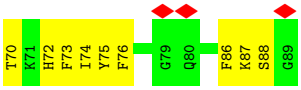




• Molecule 5: Dynein light chain 1, cytoplasmic

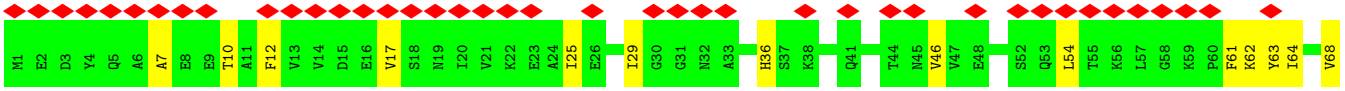
Chain J:

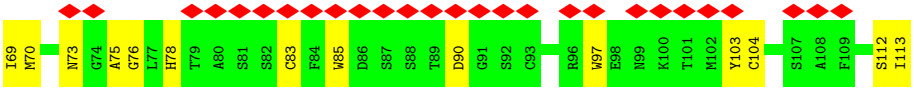




• Molecule 6: Dynein light chain Tctex-type 1

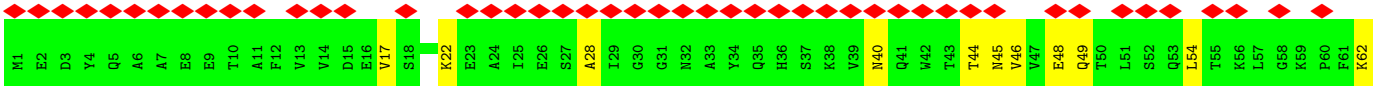
Chain K:

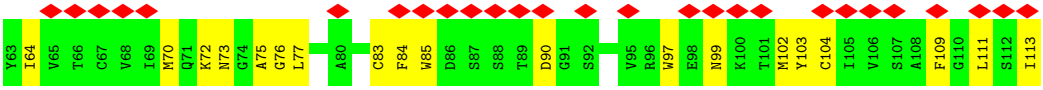




• Molecule 6: Dynein light chain Tctex-type 1

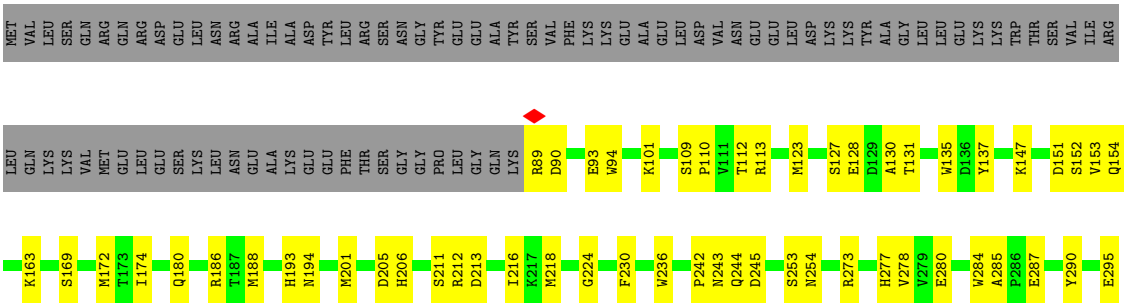
Chain L:

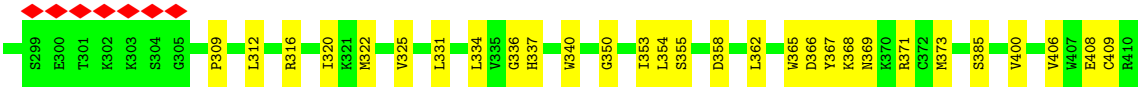




• Molecule 7: Platelet-activating factor acetylhydrolase IB subunit beta

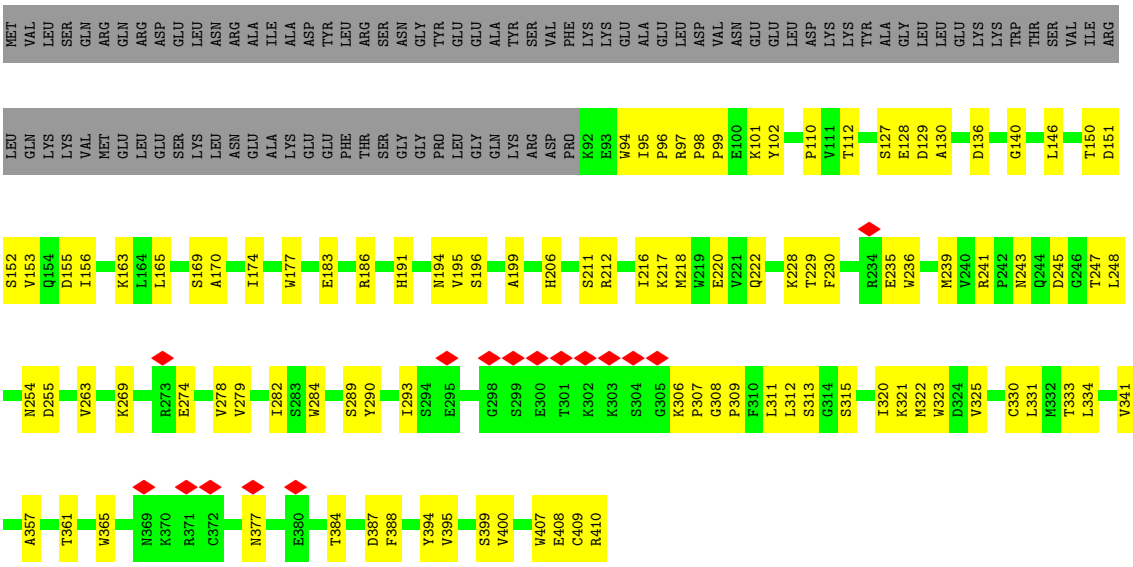
Chain O:





• Molecule 7: Platelet-activating factor acetylhydrolase IB subunit beta

Chain P:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	61684	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2600	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.773	Depositor
Minimum map value	0.000	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.016	Depositor
Recommended contour level	0.15	Depositor
Map size (Å)	729.12, 729.12, 729.12	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.736, 1.736, 1.736	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.10	0/37419	0.28	0/50625
1	B	0.11	0/37248	0.29	0/50392
2	C	0.11	0/3195	0.32	0/4351
2	D	0.10	0/3195	0.30	0/4351
3	E	0.13	0/2573	0.34	0/3473
3	F	0.11	0/2573	0.32	0/3473
4	G	0.15	0/752	0.41	0/1017
4	H	0.12	0/752	0.31	0/1017
5	I	0.18	0/744	0.43	0/997
5	J	0.13	0/744	0.35	0/997
6	K	0.10	0/888	0.28	0/1203
6	L	0.10	0/888	0.30	0/1203
7	O	0.12	0/2624	0.29	0/3555
7	P	0.13	0/2597	0.33	0/3518
All	All	0.11	0/96192	0.29	0/130172

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1
2	D	0	1
All	All	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	471	ARG	Sidechain
2	D	526	TYR	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	36692	0	36961	580	0
1	B	36527	0	36808	753	0
2	C	3112	0	2964	25	0
2	D	3112	0	2964	116	0
3	E	2518	0	2525	6	0
3	F	2518	0	2525	101	0
4	G	742	0	768	40	0
4	H	742	0	768	22	0
5	I	728	0	714	54	0
5	J	728	0	714	45	0
6	K	872	0	846	27	0
6	L	872	0	846	24	0
7	O	2557	0	2487	61	0
7	P	2531	0	2463	73	0
8	A	81	0	36	5	0
8	B	81	0	36	3	0
9	A	31	0	12	1	0
9	B	31	0	12	1	0
10	A	2	0	0	0	0
10	B	2	0	0	0	0
All	All	94479	0	94449	1824	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 11.

All (1824) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1937:ASP:HA	1:B:1967:MET:HE1	1.44	0.98
1:B:471:ARG:NH1	1:B:472:GLN:HG3	1.81	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:471:ARG:HH12	1:B:472:GLN:HG3	1.29	0.92
1:B:4296:MET:HE3	1:B:4297:PRO:HD2	1.53	0.90
7:P:306:LYS:HD3	7:P:308:GLY:H	1.37	0.87
1:B:3257:SER:HA	1:B:3260:ILE:HD12	1.58	0.85
7:P:199:ALA:HB2	7:P:241:ARG:HH21	1.41	0.85
1:B:462:ARG:NH1	1:B:466:MET:SD	2.51	0.84
1:B:1170:ILE:HG22	1:B:1174:GLN:HE22	1.45	0.80
1:B:853:ILE:HG21	1:B:888:LEU:HD21	1.64	0.80
1:B:2905:LEU:HD11	1:B:3652:GLU:HB2	1.63	0.79
5:I:4:ARG:NH2	5:I:78:LEU:O	2.16	0.79
1:A:182:VAL:HA	1:A:185:LYS:HG2	1.65	0.77
1:B:246:GLN:NE2	1:B:309:ARG:HD3	2.00	0.77
7:P:239:MET:SD	7:P:241:ARG:NH1	2.57	0.77
1:A:1170:ILE:HD11	1:A:1232:ILE:HG12	1.66	0.77
1:A:357:LEU:HD21	1:A:388:LEU:HD21	1.66	0.77
5:I:4:ARG:HE	5:I:78:LEU:HG	1.48	0.77
1:A:115:SER:H	1:A:140:LEU:HB3	1.49	0.77
1:B:162:LYS:HG2	1:B:166:ARG:HE	1.50	0.77
1:A:2956:LEU:HD23	1:A:2989:LYS:HB3	1.68	0.76
1:B:333:ASN:HA	1:B:336:MET:HE2	1.67	0.76
1:B:798:ARG:HH12	1:B:855:GLU:HB3	1.50	0.76
1:B:468:LYS:O	1:B:471:ARG:NH1	2.18	0.75
3:F:91:LEU:HB3	3:F:104:CYS:HB3	1.68	0.75
1:A:3242:LYS:HZ3	1:A:3447:TYR:HD2	1.32	0.75
1:B:399:ARG:HH22	1:B:404:VAL:HG11	1.49	0.75
1:A:3243:MET:HE2	1:A:3448:LYS:HG3	1.69	0.75
1:B:246:GLN:HA	1:B:249:VAL:HG12	1.69	0.75
1:A:246:GLN:HB2	1:A:309:ARG:HD3	1.69	0.75
1:B:3981:THR:HG23	1:B:3984:GLY:H	1.52	0.74
1:B:718:PHE:HA	1:B:738:ASN:H	1.52	0.74
1:B:3818:LEU:HD23	1:B:4346:MET:HE1	1.69	0.74
2:D:509:TRP:HB3	2:D:516:PRO:HA	1.69	0.73
5:J:8:ILE:HG23	5:J:76:PHE:HB3	1.70	0.73
1:B:343:ASP:OD1	1:B:352:LYS:NZ	2.22	0.72
1:A:2644:THR:HG22	1:A:2646:ASN:H	1.55	0.72
1:A:350:LEU:HB3	1:A:419:VAL:HG21	1.72	0.72
1:A:2189:MET:HG3	1:A:2191:LEU:HD23	1.71	0.72
6:K:62:LYS:HE2	6:K:113:ILE:HD13	1.69	0.72
1:B:874:PHE:HB3	1:B:996:LEU:HD21	1.72	0.72
1:A:1229:ASP:O	1:A:1233:GLN:NE2	2.23	0.71
1:B:609:ILE:HG21	1:B:678:GLU:HB3	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:754:LYS:HZ1	1:B:760:VAL:H	1.37	0.71
1:B:483:VAL:O	1:B:567:ARG:NH1	2.23	0.71
1:A:4043:MET:HE2	1:A:4051:ALA:HB1	1.73	0.71
1:B:264:ARG:HD3	1:B:274:GLU:HG2	1.73	0.71
3:F:62:GLU:HG3	3:F:65:SER:HB2	1.73	0.71
2:D:211:LEU:HG	4:H:15:LYS:HE3	1.73	0.70
1:B:150:HIS:HB2	1:B:193:LEU:HB3	1.72	0.70
1:B:223:ARG:NH1	1:B:225:GLU:OE2	2.23	0.70
4:G:54:ARG:HH12	4:G:65:ASP:HA	1.56	0.70
5:I:29:LEU:HD13	5:I:38:ILE:HD13	1.72	0.70
1:B:266:PRO:HB2	1:B:379:ARG:HB2	1.73	0.70
1:B:482:ARG:O	1:B:487:GLN:NE2	2.24	0.70
1:A:2457:SER:HB2	1:A:2732:PRO:HB3	1.74	0.70
1:B:2457:SER:HB3	1:B:2732:PRO:HB3	1.72	0.70
1:A:402:MET:HA	1:A:535:GLY:HA3	1.73	0.70
1:B:813:GLN:NE2	3:F:357:GLU:OE1	2.25	0.70
1:A:159:PRO:HD2	1:B:107:ILE:HD11	1.74	0.70
1:A:1966:ARG:HA	1:A:4101:LEU:HD13	1.74	0.70
1:B:653:GLN:NE2	2:D:503:ASP:OD2	2.25	0.70
2:D:445:ASN:HD21	2:D:463:GLY:H	1.37	0.69
5:I:57:ILE:HB	5:I:84:LEU:HB3	1.74	0.69
1:A:40:LEU:O	1:B:132:SER:OG	2.10	0.69
1:A:327:GLU:O	1:A:330:ASN:ND2	2.26	0.69
1:B:266:PRO:HB3	1:B:376:ARG:HG3	1.73	0.69
1:B:2684:ARG:NH1	1:B:2688:GLU:OE1	2.25	0.69
2:D:506:VAL:H	2:D:520:PHE:HB3	1.57	0.69
1:B:864:LEU:HD23	1:B:907:ILE:HD11	1.74	0.69
1:B:981:LYS:NZ	3:F:90:TYR:OH	2.25	0.69
1:A:189:LEU:HG	1:B:189:LEU:HD11	1.74	0.69
1:B:130:PRO:HB2	1:B:133:SER:HB2	1.74	0.69
1:A:3517:ALA:HB1	1:A:3525:ARG:HG2	1.73	0.69
1:B:4326:ASN:ND2	1:B:4579:ASN:O	2.26	0.68
7:P:243:ASN:ND2	7:P:245:ASP:OD1	2.26	0.68
1:B:379:ARG:NH2	1:B:451:ARG:O	2.26	0.68
1:B:581:MET:HG2	1:B:611:ARG:HH21	1.57	0.68
1:A:343:ASP:OD1	1:A:352:LYS:NZ	2.22	0.68
1:B:722:SER:HB3	1:B:731:ASN:HD21	1.57	0.68
1:A:3253:LYS:HD3	1:A:3436:MET:HG3	1.74	0.68
1:B:977:GLU:HB3	1:B:981:LYS:HZ3	1.58	0.68
1:B:1170:ILE:O	1:B:1174:GLN:NE2	2.26	0.68
4:G:80:VAL:HG12	4:G:89:ILE:HG22	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1461:GLU:HG3	1:B:1464:LYS:HZ2	1.59	0.68
1:B:330:ASN:HA	1:B:333:ASN:HB2	1.76	0.67
5:I:64:SER:OG	5:J:36:LYS:NZ	2.26	0.67
1:B:462:ARG:HD2	1:B:465:GLN:NE2	2.10	0.67
1:A:337:LYS:HZ1	1:A:367:ILE:HB	1.58	0.67
3:F:167:PRO:HA	3:F:170:MET:HE3	1.76	0.67
5:I:57:ILE:HD12	5:I:84:LEU:HD23	1.74	0.67
5:I:67:THR:HG23	5:J:43:LYS:HE3	1.76	0.67
1:B:441:LYS:O	1:B:445:ASN:N	2.28	0.67
1:B:462:ARG:HH21	1:B:537:ASP:HB2	1.59	0.67
1:A:3611:ARG:NH1	1:A:3636:GLN:OE1	2.28	0.67
1:A:3657:GLY:O	1:A:3659:ARG:NH1	2.28	0.67
1:A:4505:LYS:NZ	1:A:4554:ASP:O	2.28	0.67
4:G:8:LEU:HD23	4:G:20:ILE:HG22	1.77	0.67
1:B:386:ARG:NH2	1:B:453:ASN:O	2.28	0.66
7:P:322:MET:HE1	7:P:331:LEU:HD12	1.76	0.66
1:B:1082:LEU:HD21	3:F:39:ILE:HG21	1.76	0.66
6:K:73:ASN:HD21	6:L:75:ALA:HB2	1.60	0.66
1:A:3247:GLN:HG3	1:A:3444:ILE:HD13	1.77	0.66
1:B:669:LEU:HD22	1:B:673:TRP:HB3	1.78	0.66
2:D:187:LYS:HE3	4:H:24:ASN:H	1.59	0.66
5:I:9:LYS:HG2	5:I:76:PHE:HA	1.77	0.66
1:A:3257:SER:HA	1:A:3260:ILE:HD12	1.76	0.66
1:B:399:ARG:NH2	1:B:408:GLU:OE1	2.28	0.66
2:C:548:ARG:HA	2:C:566:SER:HA	1.76	0.66
1:A:2271:ASN:OD1	1:A:2272:THR:N	2.29	0.66
1:B:2590:PRO:HG3	1:B:2687:VAL:HG21	1.78	0.66
2:D:313:ALA:HB3	2:D:329:PHE:HB3	1.78	0.66
1:B:1148:LYS:NZ	1:B:1152:GLU:OE2	2.29	0.66
1:A:78:LEU:HB3	1:A:104:ASN:HB2	1.77	0.66
2:D:356:GLN:NE2	2:D:373:THR:O	2.28	0.66
1:A:132:SER:O	1:A:136:ARG:NH2	2.28	0.66
1:B:3178:ASP:OD2	1:B:3585:ARG:NE	2.29	0.66
4:G:74:LYS:NZ	4:H:65:ASP:OD1	2.29	0.66
2:D:358:VAL:HG13	2:D:369:PRO:HB3	1.78	0.65
1:A:359:ALA:O	1:A:363:HIS:ND1	2.29	0.65
1:B:365:ARG:NH2	1:B:429:LYS:O	2.29	0.65
1:B:442:ARG:O	1:B:445:ASN:ND2	2.29	0.65
3:F:273:SER:HB3	3:F:276:GLU:HG2	1.78	0.65
2:C:445:ASN:O	2:C:461:ARG:N	2.30	0.65
6:K:85:TRP:CD1	6:K:90:ASP:HB2	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:P:183:GLU:OE1	7:P:183:GLU:N	2.29	0.65
1:A:3363:ILE:HG22	1:A:3367:MET:HE1	1.77	0.65
1:B:516:ASP:HA	1:B:563:ARG:HH12	1.62	0.65
1:A:447:LYS:HD3	1:A:449:VAL:HG22	1.79	0.65
1:A:4600:LYS:HG3	1:A:4602:ALA:H	1.62	0.65
1:B:3045:ASP:OD1	1:B:3046:SER:N	2.30	0.65
1:A:201:GLU:HA	1:A:280:ASN:HD21	1.61	0.65
1:A:2449:LEU:HA	1:A:2453:ARG:HH21	1.61	0.64
1:B:257:GLN:NE2	1:B:319:ASP:O	2.30	0.64
1:B:1958:ASP:HA	1:B:2017:THR:HB	1.78	0.64
1:A:1594:ILE:HB	1:A:1597:VAL:HB	1.79	0.64
1:A:1565:THR:HG22	1:A:1569:GLN:HE22	1.63	0.64
1:A:3584:ASN:O	1:A:3651:ARG:NH1	2.30	0.64
1:B:1196:LEU:HD23	1:B:1199:LYS:HE2	1.80	0.64
1:B:1461:GLU:HA	1:B:1464:LYS:HG2	1.78	0.64
1:B:3229:LEU:O	1:B:3233:ASN:ND2	2.31	0.64
4:H:26:GLU:HA	4:H:87:PHE:HE2	1.62	0.64
1:A:195:HIS:O	1:A:198:GLN:HG2	1.98	0.64
1:A:4470:PRO:HG3	1:A:4612:ASN:HD22	1.60	0.64
5:I:20:ASP:OD2	5:I:50:TYR:OH	2.15	0.64
2:D:272:PHE:HB2	2:D:593:GLN:HG3	1.79	0.64
1:A:2162:SER:OG	1:A:4406:LYS:NZ	2.29	0.64
1:A:4326:ASN:ND2	1:A:4579:ASN:O	2.31	0.64
2:D:392:THR:HG23	2:D:394:ASN:H	1.62	0.64
1:B:2220:LEU:HD23	1:B:2342:MET:HE3	1.80	0.64
1:A:38:VAL:HG21	1:A:52:LEU:HD22	1.79	0.64
1:B:530:VAL:N	1:B:553:TYR:OH	2.28	0.64
3:F:142:PRO:O	3:F:336:TYR:OH	2.16	0.64
3:F:302:VAL:HA	3:F:308:VAL:HG13	1.79	0.64
1:A:270:THR:HG23	1:A:273:GLN:H	1.63	0.64
1:A:1222:ASN:HA	1:A:1225:MET:HG2	1.79	0.63
1:B:3479:LEU:O	1:B:3486:ARG:NH2	2.31	0.63
2:D:337:SER:O	2:D:351:GLY:N	2.31	0.63
1:A:3044:LEU:HD12	1:A:3049:GLU:HG3	1.79	0.63
1:A:160:PHE:HB2	1:B:107:ILE:HD12	1.79	0.63
1:A:2903:GLU:O	1:A:3654:ARG:NH2	2.30	0.63
1:B:260:THR:HG23	1:B:261:LYS:HD3	1.81	0.63
1:A:2000:GLU:OE1	1:A:2005:GLN:NE2	2.32	0.63
1:B:4505:LYS:NZ	1:B:4554:ASP:O	2.26	0.63
1:A:64:GLN:HE21	1:A:105:ILE:HB	1.64	0.63
1:A:121:ARG:HD2	1:A:136:ARG:HG2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4192:GLU:HG3	1:A:4321:LEU:HD11	1.79	0.63
1:A:4489:LEU:HD13	1:A:4492:ILE:HD11	1.79	0.63
1:B:396:LEU:HD11	1:B:536:LEU:HD22	1.81	0.63
1:B:666:GLU:OE1	1:B:673:TRP:NE1	2.32	0.63
2:C:337:SER:O	2:C:351:GLY:N	2.28	0.63
2:D:445:ASN:OD1	2:D:446:ASN:N	2.29	0.63
7:O:320:ILE:HB	7:O:334:LEU:HB2	1.79	0.63
1:B:530:VAL:HG13	1:B:553:TYR:CZ	2.34	0.63
1:B:649:ILE:O	1:B:653:GLN:HG2	1.99	0.63
1:A:2047:GLN:HA	1:A:2070:VAL:HG21	1.82	0.62
2:D:505:THR:OG1	2:D:521:GLU:OE2	2.16	0.62
1:A:3423:ALA:O	1:A:3427:GLN:N	2.28	0.62
1:A:3708:LEU:HD23	1:A:3809:SER:HA	1.80	0.62
1:B:3721:ARG:HH11	1:B:3797:VAL:HG13	1.65	0.62
1:B:4398:LEU:HG	1:B:4417:VAL:HG11	1.81	0.62
3:F:289:HIS:ND1	3:F:294:PHE:O	2.25	0.62
1:A:42:LEU:HB3	1:A:81:ARG:HH21	1.64	0.62
1:A:4318:PRO:HG2	1:A:4325:ASN:HA	1.81	0.62
2:D:400:SER:HB3	2:D:410:TRP:HZ3	1.65	0.62
1:A:1612:GLN:NE2	1:A:1635:GLU:OE1	2.32	0.62
2:D:457:TYR:HB3	2:D:468:ILE:HD12	1.82	0.62
6:K:78:HIS:NE2	6:L:40:ASN:OD1	2.32	0.62
1:A:2242:GLU:HG2	1:A:2248:GLU:HA	1.81	0.62
1:B:68:PHE:HZ	1:B:135:LEU:HD11	1.63	0.62
3:F:278:LYS:HE2	3:F:307:ALA:HB2	1.81	0.62
4:G:75:LYS:HD2	4:G:76:ASN:HB2	1.79	0.62
1:A:354:ARG:HD2	1:A:419:VAL:HG22	1.80	0.62
1:A:1888:CYS:O	1:A:1892:MET:HG2	2.00	0.62
1:B:25:ALA:HB3	1:B:69:LEU:HD21	1.81	0.62
1:B:255:GLU:HA	1:B:258:LYS:HE3	1.81	0.62
1:B:659:THR:OG1	1:B:690:ARG:NH2	2.33	0.62
1:B:2573:ASP:OD1	1:B:2576:ARG:NH2	2.33	0.62
1:A:348:THR:O	1:A:399:ARG:NH2	2.31	0.62
1:B:1174:GLN:OE1	1:B:1233:GLN:NE2	2.33	0.62
1:B:3194:LEU:HD23	1:B:3500:MET:HG2	1.82	0.62
3:F:136:VAL:HG13	3:F:232:THR:HG21	1.81	0.62
7:P:243:ASN:ND2	7:P:247:THR:OG1	2.32	0.62
1:A:3946:ASP:OD2	1:A:3950:LYS:NZ	2.32	0.61
1:B:701:ASP:OD1	1:B:704:ARG:NH2	2.32	0.61
1:B:1477:LEU:HB3	1:B:1485:ARG:HG3	1.80	0.61
1:A:118:PHE:HB3	1:A:135:LEU:HD21	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:423:TRP:HE1	1:A:457:ARG:HH12	1.46	0.61
7:P:309:PRO:HB2	7:P:325:VAL:HB	1.81	0.61
1:A:2981:ARG:HH22	1:A:3025:GLU:HG3	1.66	0.61
1:B:1170:ILE:HG23	1:B:1233:GLN:HE21	1.65	0.61
2:C:575:ARG:O	2:C:588:GLY:N	2.29	0.61
2:D:215:ILE:HG13	2:D:217:ILE:H	1.64	0.61
5:J:46:PHE:HB3	5:J:54:TRP:CD1	2.35	0.61
1:A:4453:ASN:O	1:A:4457:LYS:NZ	2.33	0.61
1:B:3718:LYS:NZ	1:B:3725:ASP:OD2	2.33	0.61
1:B:3825:TYR:CZ	1:B:3875:MET:HG3	2.35	0.61
1:B:4075:GLU:O	1:B:4079:GLN:NE2	2.33	0.61
1:A:1201:ARG:HH21	1:B:1061:TRP:HD1	1.48	0.61
1:A:1533:LEU:HD11	1:A:1597:VAL:HG22	1.81	0.61
1:A:3845:ASN:ND2	1:A:3862:ASP:OD2	2.32	0.61
1:B:2629:GLU:OE1	1:B:2629:GLU:N	2.33	0.61
1:B:3130:TYR:CZ	1:B:3132:LYS:HB2	2.36	0.61
1:B:3404:ASP:C	1:B:3405:MET:HE2	2.26	0.61
1:A:4398:LEU:HG	1:A:4417:VAL:HG21	1.83	0.61
1:B:761:PRO:HD2	1:B:764:ILE:HD12	1.82	0.61
1:B:2841:GLU:OE1	1:B:2844:ARG:NH2	2.33	0.61
2:D:315:VAL:HB	2:D:327:TYR:HB2	1.83	0.61
1:A:170:LYS:NZ	1:A:176:ASP:O	2.31	0.61
1:B:1933:ASP:HB2	1:B:1962:ARG:HH21	1.65	0.61
1:A:1461:GLU:HA	1:A:1464:LYS:HG2	1.82	0.61
1:A:3238:ASP:HA	1:A:3241:LYS:HD2	1.83	0.61
1:B:462:ARG:HD2	1:B:465:GLN:HE21	1.66	0.61
1:B:2449:LEU:HA	1:B:2453:ARG:HH21	1.66	0.61
1:B:2481:MET:HE3	1:B:2485:GLN:HG2	1.83	0.61
2:D:291:TYR:HE1	2:D:345:PRO:HB2	1.66	0.61
1:A:4040:PRO:HB3	1:A:4124:LEU:HD23	1.82	0.61
2:C:406:LYS:HA	2:C:423:GLU:HA	1.83	0.61
2:D:531:MET:HG2	2:D:578:TRP:H	1.66	0.61
2:D:539:LEU:HD21	2:D:551:LEU:HD11	1.83	0.61
4:H:80:VAL:HG22	4:H:82:PRO:HD3	1.82	0.61
1:A:439:LYS:HG2	1:A:442:ARG:HE	1.65	0.60
1:B:3782:ARG:NH1	1:B:3786:GLU:OE2	2.34	0.60
1:A:1181:LYS:HG2	1:A:1185:LYS:HZ1	1.66	0.60
1:B:484:LEU:HD13	1:B:564:ILE:HG12	1.83	0.60
1:B:468:LYS:O	1:B:471:ARG:HD3	2.01	0.60
1:B:3708:LEU:HD23	1:B:3809:SER:HA	1.83	0.60
1:A:205:ILE:HD13	1:A:255:GLU:HG2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2060:ARG:NH1	1:B:2128:ALA:O	2.34	0.60
1:B:3253:LYS:HA	1:B:3256:MET:HG2	1.83	0.60
3:F:87:GLU:HB2	3:F:108:ILE:HG23	1.83	0.60
2:D:607:ARG:NH1	2:D:610:GLU:OE2	2.34	0.60
1:B:465:GLN:HE22	1:B:546:TRP:HE1	1.50	0.60
1:B:613:LYS:HG3	1:B:682:LEU:HD12	1.83	0.60
1:B:1982:LEU:HD11	1:B:2012:MET:HB3	1.83	0.60
1:A:4168:ARG:NH2	1:A:4217:ASP:OD1	2.35	0.60
3:F:259:ARG:HD3	3:F:320:ILE:HG22	1.84	0.60
4:H:21:ILE:HG12	4:H:89:ILE:HD11	1.84	0.60
7:O:295:GLU:OE2	7:O:368:LYS:NZ	2.34	0.60
1:A:1491:ASP:O	1:A:1495:ASN:ND2	2.34	0.60
1:B:2257:LYS:NZ	1:B:2308:ASP:OD2	2.29	0.60
1:B:3073:GLU:OE2	1:B:3073:GLU:N	2.32	0.60
2:D:338:ALA:HA	2:D:350:GLY:HA2	1.84	0.60
2:D:551:LEU:HB3	2:D:563:ALA:HB3	1.82	0.60
7:P:95:ILE:HD11	7:P:352:PHE:HD2	1.66	0.60
6:K:36:HIS:CD2	6:L:76:GLY:HA3	2.36	0.60
1:B:195:HIS:O	1:B:198:GLN:NE2	2.35	0.59
1:B:485:ARG:O	1:B:487:GLN:NE2	2.35	0.59
1:B:3294:ASN:HB3	1:B:3391:PRO:HB3	1.84	0.59
1:B:3591:ASP:OD2	1:B:3596:ALA:N	2.35	0.59
3:F:178:VAL:HG22	3:F:219:LEU:HD13	1.83	0.59
1:A:44:ASP:HB2	1:B:130:PRO:HB3	1.84	0.59
1:A:119:ILE:HD12	1:B:155:ASN:HB2	1.84	0.59
1:A:2382:LEU:O	1:A:2416:GLN:NE2	2.34	0.59
1:A:3961:LEU:O	1:A:3997:ARG:NH1	2.34	0.59
2:D:485:HIS:NE2	2:D:487:ALA:O	2.35	0.59
1:A:147:GLU:HA	1:A:196:LEU:HD13	1.84	0.59
1:B:648:ILE:HD11	1:B:698:ILE:HB	1.82	0.59
1:B:2181:GLU:HG3	1:B:2244:LEU:HB2	1.83	0.59
1:B:2839:GLU:OE2	1:B:2839:GLU:N	2.29	0.59
3:F:231:CYS:HB2	3:F:271:TYR:HD1	1.68	0.59
1:A:2260:SER:OG	1:A:2262:ASP:OD1	2.17	0.59
1:A:3557:ASP:OD1	1:A:3743:ARG:NH1	2.34	0.59
1:A:4039:THR:HG23	1:A:4142:GLY:HA2	1.84	0.59
1:B:88:VAL:HG22	1:B:90:ASP:H	1.66	0.59
1:B:4039:THR:HG23	1:B:4142:GLY:HA2	1.83	0.59
1:B:4150:PRO:O	1:B:4195:ARG:NH2	2.35	0.59
6:L:45:ASN:HB3	6:L:49:GLN:HE22	1.67	0.59
1:A:1201:ARG:NH2	1:B:967:GLN:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:277:HIS:ND1	7:O:316:ARG:HB2	2.18	0.59
1:A:2841:GLU:OE1	1:A:2844:ARG:NH2	2.35	0.59
1:B:456:HIS:HA	1:B:459:LEU:HB2	1.85	0.59
1:B:1085:GLN:HE22	3:F:39:ILE:HD12	1.66	0.59
2:D:480:THR:OG1	2:D:528:TYR:O	2.17	0.59
5:J:54:TRP:CZ3	5:J:87:LYS:HB2	2.38	0.59
7:O:188:MET:HE2	7:O:224:GLY:HA2	1.85	0.59
7:O:211:SER:OG	7:O:213:ASP:OD1	2.18	0.59
1:A:81:ARG:HD3	1:A:99:ILE:HG13	1.85	0.59
1:B:177:LYS:O	1:B:177:LYS:HD3	2.03	0.59
1:B:1267:VAL:O	1:B:1382:SER:N	2.36	0.59
1:A:4444:GLN:HE21	1:A:4449:ARG:HA	1.67	0.59
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	1.85	0.59
1:B:581:MET:HE1	1:B:608:LEU:HD12	1.85	0.59
4:G:46:MET:SD	4:G:89:ILE:HG21	2.43	0.59
7:O:90:ASP:HB3	7:O:93:GLU:HB3	1.85	0.59
7:O:123:MET:HE3	7:O:137:TYR:HB3	1.84	0.59
1:A:4100:HIS:NE2	1:A:4129:GLU:OE2	2.36	0.59
1:B:721:GLU:OE2	1:B:736:LYS:NZ	2.36	0.59
1:B:864:LEU:HB2	1:B:877:ILE:HG21	1.85	0.58
1:B:869:TYR:HB2	1:B:914:ARG:HH21	1.68	0.58
2:D:559:GLU:HG2	2:D:560:VAL:HG13	1.85	0.58
4:G:69:LEU:H	4:G:79:MET:HE1	1.69	0.58
6:K:70:MET:HE1	6:L:77:LEU:HD13	1.83	0.58
1:A:1174:GLN:HA	1:A:1177:LYS:HG2	1.85	0.58
1:B:153:ILE:O	1:B:157:VAL:HG12	2.04	0.58
2:D:607:ARG:HG2	2:D:610:GLU:HG2	1.84	0.58
1:A:207:LEU:HG	1:A:209:ILE:HG12	1.84	0.58
1:A:296:GLU:OE2	1:A:300:THR:OG1	2.22	0.58
1:B:365:ARG:HD3	1:B:433:LEU:HD22	1.86	0.58
1:B:1131:PHE:O	1:B:1135:LEU:HG	2.03	0.58
1:A:274:GLU:OE1	1:A:376:ARG:NH2	2.36	0.58
4:G:46:MET:HA	4:G:49:PHE:CE2	2.38	0.58
1:B:552:ARG:O	1:B:555:GLU:HG2	2.03	0.58
1:B:2078:GLU:O	1:B:4415:ARG:NH1	2.36	0.58
3:F:62:GLU:O	3:F:67:LYS:NZ	2.37	0.58
5:I:8:ILE:HD13	5:I:18:GLN:NE2	2.18	0.58
6:K:54:LEU:HB3	6:K:63:TYR:CE2	2.38	0.58
1:A:2793:ILE:O	1:A:2836:ARG:NH1	2.37	0.58
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.86	0.58
1:B:3380:GLU:HA	1:B:3383:ASN:HD22	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:83:ASP:OD1	4:H:84:LYS:N	2.34	0.58
1:A:2626:THR:HB	1:A:2669:PRO:HG3	1.85	0.58
5:I:68:HIS:CG	5:I:73:PHE:HB2	2.38	0.58
1:A:185:LYS:HE3	1:B:189:LEU:HD23	1.86	0.58
1:A:405:ALA:HB3	1:A:408:GLU:HG2	1.86	0.58
1:B:584:ILE:HG23	1:B:587:ARG:HH21	1.69	0.58
1:A:3178:ASP:OD2	1:A:3585:ARG:NE	2.37	0.58
1:B:2102:ASN:OD1	1:B:2105:ARG:NH2	2.37	0.58
1:B:3367:MET:HE1	1:B:3400:LEU:HB3	1.85	0.58
7:O:309:PRO:HG2	7:O:325:VAL:HB	1.86	0.58
1:A:3172:THR:HG21	1:A:3694:SER:HB3	1.86	0.57
1:A:1695:HIS:HB3	1:A:1700:GLU:HG3	1.85	0.57
1:B:1453:ALA:O	1:B:1457:MET:HG2	2.04	0.57
1:B:4492:ILE:HG13	1:B:4507:ILE:HD13	1.86	0.57
3:F:72:THR:HG21	3:F:79:HIS:HA	1.85	0.57
7:O:147:LYS:NZ	7:P:136:ASP:OD2	2.34	0.57
7:P:94:TRP:HB3	7:P:409:CYS:HB3	1.85	0.57
1:A:1464:LYS:HA	1:A:1467:ARG:HB2	1.85	0.57
1:A:2172:ARG:HH22	1:A:2205:GLU:HG3	1.69	0.57
1:A:2877:LEU:HD11	1:A:2884:VAL:HG23	1.87	0.57
1:B:89:GLY:HA2	1:B:244:GLN:HG2	1.86	0.57
1:B:4096:LEU:HD13	1:B:4105:TRP:HH2	1.69	0.57
1:A:117:ALA:N	1:A:138:LEU:O	2.33	0.57
1:A:2091:ARG:HD2	1:A:2357:SER:HB2	1.87	0.57
1:A:4178:ARG:HH21	1:A:4296:MET:HG3	1.69	0.57
1:B:3172:THR:HG21	1:B:3694:SER:HB3	1.86	0.57
1:A:236:VAL:HG23	1:A:303:ILE:HB	1.85	0.57
1:B:264:ARG:NH2	1:B:268:SER:O	2.36	0.57
2:D:446:ASN:HA	2:D:460:CYS:HA	1.84	0.57
4:G:43:ALA:HA	4:G:46:MET:HG2	1.86	0.57
1:A:1195:ARG:NH2	3:F:96:GLU:O	2.37	0.57
1:A:2573:ASP:OD1	1:A:2576:ARG:NH2	2.38	0.57
1:A:2753:ARG:O	1:A:2763:ARG:NH1	2.28	0.57
1:B:4318:PRO:HG2	1:B:4325:ASN:HA	1.86	0.57
3:F:241:GLU:HA	3:F:246:TYR:HB2	1.86	0.57
6:L:62:LYS:HE3	6:L:113:ILE:HG12	1.86	0.57
1:B:2414:GLN:NE2	1:B:2418:ASP:OD2	2.29	0.57
1:B:4444:GLN:HE21	1:B:4449:ARG:HA	1.69	0.57
6:K:83:CYS:HB3	6:L:64:ILE:HA	1.86	0.57
7:P:174:ILE:HD11	7:P:195:VAL:HG11	1.85	0.57
1:B:264:ARG:NH1	1:B:274:GLU:OE2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:361:PHE:CG	1:B:426:GLU:HG3	2.40	0.57
1:A:1623:ARG:NH2	1:A:1634:ASP:OD1	2.38	0.57
1:B:2063:GLU:O	1:B:2067:ASN:ND2	2.38	0.57
2:D:538:ALA:HB1	2:D:554:LEU:HB2	1.86	0.57
5:I:62:PHE:HE2	5:I:64:SER:HB3	1.69	0.57
5:J:43:LYS:NZ	5:J:47:ASP:OD2	2.37	0.57
1:A:4227:ALA:HB2	1:A:4233:ILE:HD12	1.85	0.56
1:B:2562:VAL:HG11	1:B:2755:MET:HB2	1.85	0.56
2:D:447:PHE:HE2	2:D:461:ARG:HD3	1.70	0.56
7:P:243:ASN:HB3	7:P:284:TRP:CZ3	2.40	0.56
1:A:2499:LEU:HD12	1:A:2514:LEU:HD23	1.87	0.56
1:B:1484:CYS:SG	1:B:1485:ARG:N	2.78	0.56
2:D:511:THR:HG23	2:D:512:LYS:HD3	1.86	0.56
1:A:3174:ARG:NH1	1:A:3650:ASN:OD1	2.38	0.56
1:B:264:ARG:O	1:B:376:ARG:NH1	2.37	0.56
1:B:1193:GLY:HA2	1:B:1196:LEU:HD12	1.86	0.56
1:B:3030:MET:HA	1:B:3030:MET:HE3	1.87	0.56
1:B:4168:ARG:NH2	1:B:4217:ASP:OD1	2.37	0.56
2:D:299:TYR:HB3	2:D:312:VAL:HB	1.88	0.56
2:D:359:LEU:HD22	2:D:415:LEU:HD13	1.87	0.56
1:A:1085:GLN:O	1:A:1089:ALA:N	2.35	0.56
1:B:2867:MET:HA	1:B:2867:MET:HE3	1.87	0.56
2:D:352:THR:HG23	2:D:354:SER:H	1.71	0.56
1:A:1491:ASP:OD1	1:A:1492:ASP:N	2.38	0.56
1:A:2961:ILE:HD11	1:A:2998:ASN:HB3	1.87	0.56
1:A:4492:ILE:HG22	1:A:4507:ILE:HD13	1.88	0.56
2:D:284:CYS:HB2	2:D:337:SER:HA	1.88	0.56
5:I:13:MET:SD	5:I:74:ILE:HB	2.45	0.56
1:A:3825:TYR:CZ	1:A:3875:MET:HG3	2.41	0.56
1:B:1210:TYR:HB2	1:B:1213:ASN:OD1	2.05	0.56
1:B:1213:ASN:HD21	5:J:8:ILE:HG22	1.71	0.56
1:B:1984:GLU:O	1:B:1987:ASN:ND2	2.38	0.56
2:C:496:LEU:HA	2:C:510:THR:HA	1.88	0.56
2:D:287:TRP:CD1	2:D:579:THR:HA	2.41	0.56
6:K:83:CYS:HB2	6:K:85:TRP:CZ3	2.40	0.56
7:O:244:GLN:NE2	7:O:285:ALA:O	2.39	0.56
1:A:55:ALA:HB3	1:A:101:TYR:HD2	1.70	0.56
1:B:116:LEU:HD23	1:B:139:THR:HB	1.86	0.56
1:A:3260:ILE:O	1:A:3264:LEU:N	2.34	0.56
1:A:3349:PRO:O	1:A:3353:ASN:ND2	2.39	0.56
1:B:4517:PRO:HG3	1:B:4611:LEU:HD13	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:384:VAL:HA	2:C:402:SER:HA	1.87	0.56
4:G:65:ASP:HB3	4:H:74:LYS:HD3	1.88	0.56
7:O:216:ILE:HB	7:O:230:PHE:HB2	1.87	0.56
1:A:1879:LEU:HD11	1:A:1914:GLU:HB3	1.86	0.56
1:A:2091:ARG:NH1	1:A:2320:ASP:OD1	2.38	0.56
1:B:38:VAL:HB	1:B:52:LEU:HD21	1.88	0.56
1:B:485:ARG:NH1	1:B:486:PRO:O	2.39	0.56
1:B:3124:ASP:OD1	1:B:3125:TYR:N	2.39	0.56
2:D:551:LEU:N	2:D:563:ALA:O	2.38	0.56
1:B:283:ARG:HG3	1:B:287:ARG:HH12	1.71	0.56
7:P:236:TRP:HB3	7:P:254:ASN:ND2	2.21	0.56
1:A:2757:ARG:HA	1:A:2763:ARG:HD3	1.88	0.55
1:B:231:ASP:OD1	1:B:232:PHE:N	2.39	0.55
1:B:956:LYS:N	1:B:985:GLU:OE2	2.39	0.55
1:B:3510:SER:HB3	1:B:3553:LEU:HD21	1.87	0.55
1:B:3779:GLU:OE2	1:B:3782:ARG:NH2	2.37	0.55
1:B:4611:LEU:HB2	1:B:4619:ILE:HD11	1.89	0.55
1:B:3276:MET:HE1	1:B:3412:LEU:HD13	1.88	0.55
1:A:1673:VAL:HG23	1:A:1692:ILE:HD11	1.87	0.55
1:A:3247:GLN:O	1:A:3251:GLU:N	2.34	0.55
1:A:4010:SER:HB2	1:A:4015:GLU:HA	1.88	0.55
1:B:2047:GLN:NE2	1:B:2067:ASN:OD1	2.40	0.55
2:D:359:LEU:HB2	2:D:415:LEU:HD22	1.88	0.55
1:B:3626:ALA:HA	1:B:3631:ASN:HB2	1.88	0.55
6:L:64:ILE:HB	6:L:109:PHE:HB2	1.88	0.55
7:O:110:PRO:HB3	7:O:400:VAL:HA	1.89	0.55
1:A:2686:MET:HE3	1:A:2703:LEU:HD11	1.89	0.55
1:B:2430:ASN:O	1:B:2435:LYS:NZ	2.39	0.55
1:B:3263:GLN:CD	1:B:3426:ASN:HB3	2.31	0.55
1:B:4543:VAL:HG11	1:B:4622:VAL:HB	1.89	0.55
2:C:551:LEU:O	2:C:562:THR:N	2.39	0.55
2:D:475:HIS:HD2	2:D:507:LYS:HE3	1.72	0.55
1:A:1763:GLU:OE2	1:A:1838:TRP:NE1	2.32	0.55
1:A:3659:ARG:NH2	1:B:3631:ASN:OD1	2.39	0.55
1:B:529:ASN:HB3	1:B:553:TYR:HE1	1.72	0.55
1:B:3270:VAL:HG22	1:B:3419:LEU:HB3	1.88	0.55
3:F:38:SER:O	3:F:40:LEU:N	2.39	0.55
4:G:11:LEU:HG	4:G:20:ILE:HD12	1.87	0.55
5:I:15:GLU:O	5:I:18:GLN:HB2	2.06	0.55
1:A:1219:GLY:HA2	1:A:1222:ASN:HD21	1.70	0.55
1:A:1554:SER:O	1:A:1558:LYS:NZ	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:186:ILE:O	1:B:190:GLU:HG2	2.07	0.55
1:B:1174:GLN:O	1:B:1178:ARG:NH1	2.40	0.55
1:B:2091:ARG:NH2	8:B:4701:ADP:O3A	2.40	0.55
5:I:77:TYR:CE2	5:I:82:ALA:HB2	2.42	0.55
1:B:399:ARG:O	1:B:399:ARG:NH1	2.35	0.55
1:B:1623:ARG:NH1	1:B:1629:PHE:O	2.39	0.55
5:I:43:LYS:HE3	5:J:67:THR:H	1.72	0.55
7:O:353:ILE:HB	7:O:365:TRP:HB2	1.89	0.55
1:A:256:ILE:HA	1:A:259:VAL:HG12	1.89	0.55
1:A:2228:SER:N	9:A:4702:ATP:O1B	2.40	0.55
7:O:186:ARG:HD3	7:O:224:GLY:HA3	1.88	0.55
1:B:1672:VAL:HA	1:B:1691:SER:HA	1.89	0.55
5:J:9:LYS:N	5:J:75:TYR:O	2.35	0.55
1:A:2174:GLU:OE1	1:A:2176:THR:OG1	2.22	0.54
1:A:3008:MET:HE1	1:A:3064:VAL:HG11	1.89	0.54
1:B:3046:SER:OG	1:B:3048:GLU:OE1	2.26	0.54
1:B:3114:ASP:O	1:B:3140:ARG:NH2	2.40	0.54
3:F:241:GLU:HA	3:F:246:TYR:H	1.72	0.54
1:A:236:VAL:HG13	1:A:237:GLU:HG2	1.88	0.54
1:A:382:GLU:HG3	1:A:452:ILE:HG13	1.88	0.54
1:B:561:GLU:OE1	1:B:594:ARG:NH1	2.40	0.54
1:B:1075:ASP:HB3	1:B:1078:LYS:HB3	1.88	0.54
1:A:85:LYS:HE2	1:A:112:LYS:HE3	1.89	0.54
1:A:2619:GLY:O	1:A:3014:ASN:ND2	2.36	0.54
1:A:4215:ALA:HB1	1:A:4247:MET:HE2	1.89	0.54
1:B:2644:THR:OG1	1:B:2647:GLY:O	2.23	0.54
1:B:3219:ARG:NH2	1:B:3472:VAL:HG13	2.23	0.54
2:D:555:ASN:ND2	2:D:610:GLU:OE1	2.26	0.54
1:A:25:ALA:O	1:A:66:ARG:NH1	2.34	0.54
1:A:1464:LYS:HB3	1:A:1467:ARG:HH21	1.70	0.54
1:A:3380:GLU:HA	1:A:3383:ASN:HD22	1.71	0.54
1:B:1969:SER:OG	1:B:4098:ASN:ND2	2.36	0.54
1:B:4485:ARG:HG2	1:B:4513:GLY:HA2	1.90	0.54
1:A:113:SER:H	1:A:142:GLU:HG3	1.72	0.54
1:B:186:ILE:HA	1:B:189:LEU:HD12	1.89	0.54
1:B:2956:LEU:HD13	1:B:2989:LYS:HB3	1.90	0.54
2:D:440:PRO:HG2	2:D:443:ASP:HB3	1.88	0.54
1:A:963:ARG:N	1:A:970:TYR:O	2.40	0.54
1:A:1699:ASN:OD1	1:A:1700:GLU:N	2.41	0.54
1:A:1958:ASP:HA	1:A:2017:THR:HB	1.89	0.54
1:B:257:GLN:NE2	1:B:319:ASP:OD1	2.34	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:530:VAL:HG12	1:B:549:ALA:HB1	1.90	0.54
5:I:53:THR:H	5:I:87:LYS:HE2	1.73	0.54
1:A:3243:MET:HE1	1:B:3243:MET:HE1	1.90	0.54
1:A:4549:GLN:HG3	1:A:4587:LEU:HB2	1.89	0.54
1:B:88:VAL:HB	1:B:95:GLU:HA	1.89	0.54
1:B:391:GLN:O	1:B:394:LYS:HG2	2.08	0.54
1:B:3366:LYS:O	1:B:3370:ASN:N	2.39	0.54
1:B:755:TRP:CG	2:D:453:GLU:HG3	2.43	0.54
1:B:2452:LEU:HD13	1:B:2729:ARG:HH21	1.73	0.54
1:B:2808:GLU:OE1	1:B:2811:ARG:NH2	2.36	0.54
1:B:3914:ILE:O	1:B:3937:ARG:NH1	2.41	0.54
1:B:3942:PRO:O	1:B:3945:LYS:NZ	2.35	0.54
5:I:65:TYR:CD2	5:J:40:ALA:HA	2.43	0.54
1:A:446:LEU:HD23	1:A:446:LEU:H	1.73	0.54
1:B:636:SER:HB2	1:B:641:LEU:HB3	1.89	0.54
1:B:991:MET:HE1	1:B:1020:ARG:HH21	1.72	0.54
1:B:1139:MET:O	1:B:1143:HIS:ND1	2.41	0.54
1:B:4042:LEU:HD23	1:B:4142:GLY:HA3	1.89	0.54
1:A:3364:ARG:HA	1:A:3367:MET:HE2	1.90	0.54
1:A:4088:VAL:HG11	1:A:4116:LEU:HD21	1.90	0.54
1:B:904:ASP:HA	1:B:907:ILE:HG22	1.90	0.54
1:B:2671:MET:HE3	1:B:2721:LYS:HB3	1.89	0.54
5:I:55:HIS:NE2	5:I:88:SER:O	2.39	0.54
5:J:18:GLN:HG2	5:J:74:ILE:HD12	1.90	0.54
6:K:70:MET:HB2	6:K:103:TYR:HB2	1.89	0.54
7:P:110:PRO:HB3	7:P:400:VAL:HA	1.90	0.54
1:A:152:PHE:CZ	1:B:121:ARG:HA	2.43	0.53
1:A:1565:THR:O	1:A:1569:GLN:NE2	2.41	0.53
1:B:251:ARG:NH1	1:B:251:ARG:O	2.40	0.53
1:B:1879:LEU:HD13	1:B:1918:ALA:HB2	1.88	0.53
4:G:54:ARG:NH2	4:G:64:ASN:O	2.39	0.53
7:P:101:LYS:HE3	7:P:394:TYR:HE2	1.73	0.53
1:A:210:HIS:CD2	1:A:212:MET:HG2	2.43	0.53
1:A:228:LYS:N	1:A:231:ASP:OD2	2.41	0.53
1:B:1213:ASN:HA	5:J:10:ASN:HA	1.90	0.53
1:A:53:GLU:HA	1:A:56:LEU:HB3	1.90	0.53
1:A:78:LEU:HD13	1:A:107:ILE:HG22	1.89	0.53
1:A:242:LEU:HB3	1:A:309:ARG:HE	1.73	0.53
1:A:3114:ASP:O	1:A:3140:ARG:NH2	2.41	0.53
1:B:83:THR:O	1:B:112:LYS:NZ	2.40	0.53
6:K:25:ILE:HA	6:K:46:VAL:HG22	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1467:ARG:HG2	1:A:1523:TRP:HZ2	1.72	0.53
1:B:1210:TYR:CE2	5:J:7:VAL:HA	2.44	0.53
1:B:1213:ASN:HB3	5:J:11:ALA:HB3	1.91	0.53
1:B:1964:GLU:HB2	1:B:1967:MET:HB2	1.91	0.53
3:F:272:THR:HA	3:F:279:ASN:HD22	1.74	0.53
4:H:69:LEU:HB3	4:H:80:VAL:HG13	1.90	0.53
5:I:77:TYR:CZ	5:I:82:ALA:HB2	2.43	0.53
1:A:1201:ARG:NH1	1:B:1058:GLN:OE1	2.39	0.53
1:A:2973:ASP:OD2	1:A:3007:ARG:NH2	2.40	0.53
1:A:3042:LEU:HB3	1:A:3044:LEU:HD23	1.89	0.53
1:B:653:GLN:NE2	2:D:476:GLN:OE1	2.34	0.53
1:B:906:GLU:OE2	1:B:909:ARG:NH2	2.42	0.53
1:B:2943:LYS:N	8:B:4704:ADP:O1B	2.39	0.53
3:F:132:LEU:HD11	3:F:228:LEU:HD23	1.90	0.53
5:J:68:HIS:ND1	5:J:69:GLU:O	2.30	0.53
1:A:96:LYS:NZ	1:A:97:GLU:O	2.40	0.53
1:A:2269:ASP:OD2	1:A:2272:THR:OG1	2.24	0.53
1:A:2607:SER:HA	1:A:2610:ARG:HE	1.73	0.53
1:B:631:GLN:HA	1:B:634:LYS:HE2	1.91	0.53
1:B:1183:PHE:O	1:B:1187:VAL:HG23	2.09	0.53
1:B:1188:GLU:O	1:B:1191:ARG:HG2	2.09	0.53
1:A:1507:MET:HE2	1:A:1507:MET:N	2.24	0.53
1:A:2262:ASP:HB2	1:A:2267:THR:HG22	1.90	0.53
1:B:1892:MET:HA	1:B:1892:MET:HE3	1.90	0.53
7:P:334:LEU:HD23	7:P:365:TRP:HE3	1.73	0.53
1:A:2018:MET:HE1	1:A:2028:LEU:HD13	1.91	0.53
1:A:2592:VAL:HG23	1:A:2731:VAL:HG21	1.90	0.53
1:A:2943:LYS:N	8:A:4704:ADP:O1B	2.41	0.53
1:B:694:ASN:ND2	1:B:697:GLU:OE1	2.42	0.53
1:B:1161:ALA:C	1:B:1163:THR:H	2.17	0.53
4:G:79:MET:HB3	4:G:90:VAL:HB	1.90	0.53
1:B:78:LEU:HB3	1:B:104:ASN:HB2	1.91	0.53
3:F:245:ASP:OD1	3:F:247:ARG:NH1	2.41	0.53
4:G:26:GLU:HG3	4:G:28:ILE:HG12	1.90	0.53
7:P:216:ILE:HB	7:P:230:PHE:HB2	1.91	0.53
1:A:2684:ARG:CZ	1:A:2726:ARG:HD3	2.39	0.53
1:B:213:ILE:HD13	1:B:300:THR:HG22	1.91	0.53
2:D:584:GLU:HA	2:D:598:ASP:HA	1.91	0.53
3:F:73:LYS:HD2	3:F:274:VAL:HG23	1.91	0.53
7:P:101:LYS:HG2	7:P:102:TYR:CD2	2.44	0.53
1:A:1219:GLY:HA2	1:A:1222:ASN:ND2	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:91:GLU:HA	1:B:243:ASN:HB3	1.91	0.52
5:I:36:LYS:NZ	5:I:37:ASP:OD1	2.39	0.52
1:A:400:LYS:HD2	1:A:400:LYS:O	2.09	0.52
1:A:2457:SER:O	1:A:2460:SER:OG	2.27	0.52
1:B:1213:ASN:HD22	5:J:10:ASN:C	2.16	0.52
1:B:3478:LEU:HD13	1:B:3767:ILE:HG23	1.91	0.52
7:O:322:MET:HE3	7:O:331:LEU:HD12	1.91	0.52
1:A:186:ILE:O	1:A:190:GLU:HG2	2.09	0.52
1:A:2935:LEU:HB2	1:A:3067:THR:HG22	1.92	0.52
2:D:475:HIS:HB2	2:D:507:LYS:HD2	1.91	0.52
2:D:527:VAL:HA	2:D:544:ASP:HA	1.92	0.52
6:L:62:LYS:HG3	6:L:113:ILE:HG12	1.91	0.52
1:A:2262:ASP:OD1	1:A:2263:HIS:N	2.42	0.52
1:A:3772:ASN:OD1	1:A:3775:ARG:NH1	2.42	0.52
1:B:4239:PRO:HB2	1:B:4242:ALA:HB3	1.91	0.52
1:A:2538:GLU:HB3	1:A:2548:TRP:CE2	2.44	0.52
2:D:427:LYS:O	2:D:430:LYS:HG3	2.09	0.52
1:A:1174:GLN:O	1:A:1178:ARG:NH1	2.38	0.52
1:A:2446:ILE:HD11	1:A:2714:PRO:HB3	1.91	0.52
1:B:961:GLU:OE2	1:B:963:ARG:NH2	2.42	0.52
1:B:1043:ILE:HA	1:B:1102:PHE:HE2	1.75	0.52
1:B:1213:ASN:ND2	5:J:8:ILE:HG22	2.25	0.52
1:B:1937:ASP:CG	1:B:2273:ARG:HH22	2.17	0.52
7:P:212:ARG:HD3	7:P:236:TRP:CG	2.45	0.52
1:B:717:ILE:HA	1:B:824:TRP:HE3	1.73	0.52
1:B:819:GLY:HA3	1:B:832:TYR:CZ	2.45	0.52
1:B:1026:MET:HE3	1:B:1028:ASP:HB2	1.91	0.52
1:B:2481:MET:HE2	1:B:2486:LEU:HA	1.90	0.52
2:D:346:ASN:OD1	2:D:363:ARG:N	2.38	0.52
5:I:64:SER:H	5:J:36:LYS:HD3	1.75	0.52
1:A:152:PHE:HZ	1:B:121:ARG:HA	1.74	0.52
1:A:153:ILE:O	1:A:157:VAL:HG22	2.10	0.52
1:A:1147:SER:O	1:A:1151:GLN:HG2	2.10	0.52
1:A:1745:TYR:O	1:A:1807:LYS:NZ	2.36	0.52
1:A:2614:ASP:HA	1:A:2657:LYS:NZ	2.25	0.52
1:A:3284:LYS:O	1:A:3402:TYR:OH	2.20	0.52
1:B:997:PRO:HA	1:B:1018:PHE:HA	1.90	0.52
3:E:135:PHE:H	3:E:229:VAL:HA	1.73	0.52
1:A:84:LEU:HB3	1:A:98:PHE:HB3	1.91	0.52
1:B:852:ILE:O	1:B:855:GLU:HG3	2.10	0.52
1:B:1627:PRO:HB3	1:B:1950:GLN:HB3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1959:GLU:OE1	1:B:2025:ARG:NH1	2.42	0.52
1:B:2290:SER:HB2	1:B:2295:LEU:HG	1.92	0.52
1:B:3199:MET:HG3	7:P:150:THR:O	2.10	0.52
1:A:1912:LYS:N	8:A:4701:ADP:O1B	2.38	0.52
1:B:285:LEU:HB2	1:B:322:LEU:HD11	1.91	0.52
2:D:413:ASP:OD1	2:D:414:MET:N	2.43	0.52
7:O:201:MET:HE2	7:O:201:MET:HA	1.93	0.52
1:A:1962:ARG:NH2	1:A:2314:ASN:OD1	2.44	0.51
1:A:2302:VAL:HA	1:A:2342:MET:HB3	1.91	0.51
1:A:3254:LYS:O	1:A:3258:GLN:N	2.42	0.51
1:A:3483:SER:HA	1:A:3486:ARG:HE	1.75	0.51
2:D:613:ARG:HA	2:D:616:ARG:HG2	1.92	0.51
3:F:139:MET:HA	3:F:142:PRO:HB3	1.92	0.51
3:F:252:ASP:HB3	3:F:327:PHE:HE1	1.75	0.51
5:I:74:ILE:HG12	5:I:76:PHE:HD1	1.74	0.51
5:J:34:ILE:O	5:J:38:ILE:HG12	2.09	0.51
7:O:366:ASP:HB2	7:O:373:MET:SD	2.49	0.51
1:A:3135:GLN:O	1:A:3137:PRO:HD3	2.10	0.51
1:A:4106:LEU:HD13	1:A:4138:LEU:HD22	1.93	0.51
1:B:480:ILE:HG23	1:B:484:LEU:HB2	1.92	0.51
1:B:1508:LYS:HG2	1:B:1513:TYR:CZ	2.46	0.51
4:G:56:THR:HG23	4:H:45:LEU:HG	1.92	0.51
1:A:29:VAL:O	1:A:33:HIS:ND1	2.43	0.51
1:A:3502:THR:HG22	1:A:3542:GLN:HB3	1.91	0.51
1:B:243:ASN:HA	1:B:246:GLN:OE1	2.09	0.51
1:B:1937:ASP:HA	1:B:1967:MET:CE	2.28	0.51
1:B:3340:SER:O	1:B:3346:ASN:ND2	2.43	0.51
2:D:332:GLN:OE1	2:D:372:ARG:NH1	2.43	0.51
4:G:23:VAL:HA	4:G:29:PRO:HA	1.92	0.51
1:A:3251:GLU:HA	1:A:3254:LYS:HB2	1.92	0.51
1:A:3366:LYS:O	1:A:3370:ASN:N	2.40	0.51
1:B:420:PHE:CE2	1:B:460:GLN:HG2	2.46	0.51
1:B:448:MET:HA	1:B:448:MET:HE3	1.91	0.51
1:B:960:HIS:ND1	1:B:978:CYS:SG	2.83	0.51
1:B:1166:ALA:O	1:B:1170:ILE:HG12	2.10	0.51
4:G:45:LEU:HD21	4:H:56:THR:HA	1.92	0.51
1:A:3322:GLU:OE2	1:A:3377:TYR:OH	2.27	0.51
1:A:3909:LEU:HB3	1:A:4344:LEU:HD13	1.93	0.51
1:B:465:GLN:HE22	1:B:546:TRP:NE1	2.09	0.51
1:B:613:LYS:HE2	1:B:682:LEU:HB2	1.92	0.51
1:B:3292:ALA:HA	1:B:3395:TRP:HZ2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:8:ILE:HA	5:I:76:PHE:CB	2.40	0.51
5:I:29:LEU:HD22	5:I:38:ILE:HG21	1.91	0.51
1:A:1455:GLY:HA3	1:A:1512:TYR:HE2	1.76	0.51
1:B:689:PHE:HA	1:B:692:LYS:HE3	1.92	0.51
1:B:4190:ILE:HD12	1:B:4201:TRP:HZ2	1.75	0.51
5:I:74:ILE:HG22	5:I:85:LEU:O	2.10	0.51
1:A:2956:LEU:HD13	1:A:2991:ALA:HB2	1.91	0.51
1:B:479:VAL:HG11	1:B:590:ALA:HB2	1.92	0.51
1:B:1085:GLN:HA	1:B:1088:LYS:HE3	1.93	0.51
1:B:1191:ARG:HA	1:B:1194:GLN:HG3	1.93	0.51
1:B:1623:ARG:NH2	1:B:1634:ASP:OD1	2.44	0.51
5:J:13:MET:HG2	5:J:73:PHE:O	2.11	0.51
7:O:151:ASP:CG	7:O:152:SER:H	2.18	0.51
7:P:290:TYR:HD2	7:P:307:PRO:HG2	1.76	0.51
1:A:253:ILE:HD12	1:A:256:ILE:HD11	1.91	0.51
1:A:1835:SER:OG	1:A:1837:GLU:OE1	2.29	0.51
1:A:2094:LYS:HZ2	8:A:4701:ADP:HO2'	1.56	0.51
7:O:243:ASN:ND2	7:O:245:ASP:OD1	2.44	0.51
7:P:96:PRO:HA	7:P:408:GLU:O	2.11	0.51
1:A:4409:LEU:HD11	1:A:4558:PHE:HE2	1.76	0.51
1:B:3517:ALA:HB1	1:B:3525:ARG:HG2	1.93	0.51
1:A:1462:PHE:O	1:A:1466:ILE:HD12	2.11	0.51
1:A:2285:ARG:NH1	1:A:2331:GLU:OE2	2.35	0.51
1:B:242:LEU:HD23	1:B:309:ARG:HE	1.76	0.51
1:B:3129:VAL:HG21	1:B:3149:PHE:HB2	1.92	0.51
3:F:120:LYS:HD3	3:F:162:LYS:HE2	1.93	0.51
3:F:227:VAL:HG13	3:F:267:ALA:HB2	1.93	0.51
4:H:18:GLN:HB2	4:H:91:ILE:HG23	1.93	0.51
4:H:82:PRO:HB3	4:H:87:PHE:HD1	1.76	0.51
6:K:54:LEU:HB3	6:K:63:TYR:CD2	2.46	0.51
6:L:22:LYS:HE2	6:L:97:TRP:HD1	1.76	0.51
1:A:189:LEU:O	1:A:193:LEU:HD23	2.11	0.50
1:A:447:LYS:O	1:A:448:MET:HE2	2.11	0.50
1:A:2290:SER:HB2	1:A:2295:LEU:HG	1.92	0.50
1:A:2989:LYS:HD2	1:A:3061:ASN:HD22	1.75	0.50
1:A:3263:GLN:CD	1:A:3426:ASN:HB3	2.37	0.50
1:B:35:ARG:HD2	1:B:56:LEU:HD11	1.93	0.50
1:B:241:PHE:O	1:B:245:LEU:HG	2.11	0.50
1:B:905:MET:O	1:B:908:GLU:HG2	2.11	0.50
1:B:1514:LYS:HA	1:B:1517:GLU:OE2	2.11	0.50
7:P:186:ARG:NH2	7:P:222:GLN:O	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3161:LEU:HD11	1:B:3524:MET:HE1	1.93	0.50
1:B:3253:LYS:HD3	1:B:3436:MET:HG3	1.93	0.50
6:K:61:PHE:HD1	6:K:112:SER:HA	1.77	0.50
6:L:17:VAL:HG13	6:L:54:LEU:HD21	1.93	0.50
7:O:201:MET:HG3	7:O:206:HIS:HB2	1.92	0.50
1:A:179:ALA:HA	1:A:182:VAL:HG22	1.93	0.50
1:A:2181:GLU:HG3	1:A:2244:LEU:HB2	1.93	0.50
1:B:158:ALA:HB3	1:B:159:PRO:HD3	1.94	0.50
1:B:180:PRO:O	1:B:184:LYS:NZ	2.45	0.50
1:B:440:ARG:NH1	1:B:444:GLU:HB2	2.26	0.50
1:B:569:ARG:NH1	1:B:603:GLU:OE1	2.45	0.50
1:B:1032:ALA:HA	1:B:1035:GLU:HG2	1.94	0.50
1:B:2592:VAL:HG23	1:B:2731:VAL:HG11	1.93	0.50
1:B:4099:VAL:HB	1:B:4106:LEU:HD21	1.92	0.50
5:I:57:ILE:HD13	5:J:57:ILE:HD12	1.92	0.50
5:J:8:ILE:HA	5:J:76:PHE:HA	1.93	0.50
1:A:1350:PRO:HA	1:A:1430:THR:HA	1.93	0.50
1:B:210:HIS:CD2	1:B:244:GLN:HB3	2.47	0.50
1:B:1978:ILE:HD11	1:B:2001:LEU:HD11	1.92	0.50
1:B:2085:HIS:HB2	1:B:2361:MET:HE2	1.93	0.50
1:B:4545:VAL:HG12	1:B:4588:THR:HG22	1.93	0.50
1:A:185:LYS:HE3	1:B:189:LEU:HA	1.93	0.50
1:A:456:HIS:NE2	1:A:460:GLN:OE1	2.43	0.50
1:A:1229:ASP:CG	1:A:1233:GLN:HE22	2.19	0.50
1:A:2039:LEU:HD12	1:A:4254:GLY:HA2	1.94	0.50
1:A:2556:GLU:OE2	1:A:2753:ARG:NH1	2.44	0.50
1:A:3394:LYS:HA	1:A:3397:ILE:HD12	1.93	0.50
1:A:4030:ILE:HA	1:A:4034:GLU:HG3	1.94	0.50
1:B:2910:VAL:HG11	1:B:3105:VAL:HA	1.93	0.50
2:D:275:ARG:O	2:D:280:ARG:NH1	2.43	0.50
2:D:481:GLY:HA3	2:D:529:ASP:HA	1.94	0.50
4:G:14:GLN:NE2	4:G:92:GLN:OE1	2.43	0.50
7:O:350:GLY:O	7:O:367:TYR:OH	2.30	0.50
1:A:1533:LEU:HD13	1:A:1598:GLN:OE1	2.12	0.50
1:A:2221:MET:HG3	1:A:2343:PHE:HB2	1.93	0.50
1:A:3360:SER:HA	1:A:3363:ILE:HD12	1.93	0.50
5:J:12:ASP:N	5:J:73:PHE:O	2.44	0.50
5:J:13:MET:HE1	5:J:54:TRP:CH2	2.47	0.50
1:A:2134:GLN:HE21	1:A:2165:PHE:HD2	1.60	0.50
1:B:1126:GLU:OE1	1:B:1130:LYS:NZ	2.37	0.50
1:B:1194:GLN:HG2	1:B:1211:ILE:HG21	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3597:THR:O	1:B:3601:MET:HG2	2.12	0.50
2:C:551:LEU:N	2:C:563:ALA:O	2.36	0.50
1:A:339:PHE:HB2	1:A:340:PRO:HD3	1.94	0.50
1:B:349:GLU:OE1	1:B:349:GLU:N	2.45	0.50
1:B:354:ARG:HH22	1:B:418:GLU:HG2	1.76	0.50
1:B:921:ALA:O	1:B:924:GLN:HG3	2.10	0.50
1:B:1539:ASP:OD2	1:B:2292:ARG:NH2	2.45	0.50
1:B:1612:GLN:NE2	1:B:1635:GLU:OE1	2.44	0.50
1:B:3230:GLU:HA	1:B:3233:ASN:HD21	1.77	0.50
1:B:3791:MET:HE2	1:B:3791:MET:N	2.27	0.50
3:F:216:ASP:OD1	3:F:217:ASN:N	2.44	0.50
5:J:86:PHE:HE2	5:J:88:SER:HB3	1.76	0.50
1:A:1153:LEU:HD11	1:A:1228:LYS:HG3	1.94	0.50
1:A:1769:MET:SD	1:A:1777:PRO:HD2	2.52	0.50
1:A:2080:LEU:O	1:A:4415:ARG:NH1	2.45	0.50
1:A:2481:MET:SD	1:A:2485:GLN:HB3	2.52	0.50
1:A:3246:ASP:HB3	1:A:3444:ILE:HD11	1.93	0.50
1:B:1519:ASP:OD1	1:B:1520:ALA:N	2.44	0.50
6:L:99:ASN:ND2	6:L:102:MET:SD	2.84	0.50
1:A:1978:ILE:HD11	1:A:2001:LEU:HD11	1.93	0.49
1:A:2162:SER:HG	1:A:4406:LYS:NZ	2.09	0.49
1:A:3129:VAL:HG21	1:A:3149:PHE:HB2	1.94	0.49
1:A:3157:ALA:HB1	1:A:3524:MET:HE2	1.94	0.49
1:B:913:VAL:O	1:B:916:GLN:HG2	2.12	0.49
1:B:2488:ARG:O	1:B:2492:ARG:HG2	2.11	0.49
1:B:3657:GLY:HA2	7:O:172:MET:SD	2.52	0.49
3:F:39:ILE:HA	3:F:42:GLU:HG2	1.92	0.49
7:P:254:ASN:HA	7:P:278:VAL:HG13	1.94	0.49
1:A:1146:ILE:HG22	1:A:1150:ARG:HE	1.75	0.49
1:A:1467:ARG:O	1:A:1471:ASN:ND2	2.45	0.49
1:A:3750:LEU:O	1:A:3754:ASN:ND2	2.44	0.49
1:B:414:VAL:HA	1:B:417:PHE:HD2	1.77	0.49
1:B:960:HIS:CE1	1:B:1107:ILE:HG22	2.47	0.49
6:K:61:PHE:HB2	6:K:63:TYR:CE1	2.47	0.49
1:A:213:ILE:HB	1:A:241:PHE:HZ	1.77	0.49
1:A:272:LEU:HD13	1:A:275:ILE:HD11	1.94	0.49
1:A:3935:VAL:HG13	1:A:3947:LEU:HD23	1.94	0.49
1:B:80:GLU:O	1:B:102:ASN:N	2.42	0.49
1:B:1457:MET:O	1:B:1460:GLU:HG3	2.12	0.49
1:B:1897:GLU:O	1:B:1899:ARG:NH1	2.45	0.49
1:B:2347:ASP:OD1	1:B:2348:LEU:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2684:ARG:HD2	1:B:2726:ARG:HG2	1.94	0.49
1:B:3930:GLU:OE1	1:B:3930:GLU:N	2.42	0.49
4:G:46:MET:O	4:G:50:ILE:HG12	2.12	0.49
5:I:4:ARG:CZ	5:I:79:GLY:HA3	2.43	0.49
1:A:415:ALA:O	1:A:418:GLU:HG3	2.12	0.49
1:A:3377:TYR:HB3	1:A:3397:ILE:HD11	1.93	0.49
1:B:146:TYR:CG	1:B:196:LEU:HB3	2.48	0.49
1:B:1198:GLU:O	1:B:1201:ARG:NH1	2.45	0.49
1:B:1457:MET:O	1:B:1460:GLU:N	2.45	0.49
1:B:2388:ASP:OD1	1:B:2389:GLU:N	2.46	0.49
1:B:3158:ASN:ND2	1:B:3169:MET:O	2.42	0.49
1:B:4037:PRO:HB2	1:B:4118:PRO:HG2	1.94	0.49
3:F:56:ASN:OD1	3:F:57:ILE:N	2.45	0.49
5:J:60:ARG:NH1	5:J:61:ASN:HB3	2.27	0.49
5:J:68:HIS:CG	5:J:73:PHE:HB2	2.47	0.49
1:A:1393:TYR:O	1:A:1395:LYS:N	2.45	0.49
1:A:2175:MET:SD	1:A:2175:MET:N	2.85	0.49
1:A:3294:ASN:HB3	1:A:3391:PRO:HB3	1.94	0.49
1:B:170:LYS:NZ	1:B:176:ASP:O	2.45	0.49
1:B:292:ARG:NH2	1:B:316:PHE:O	2.44	0.49
2:D:422:MET:HE1	2:D:424:LEU:HA	1.94	0.49
1:A:165:ILE:HG23	1:A:170:LYS:HB3	1.93	0.49
1:A:193:LEU:HD13	1:B:182:VAL:HG11	1.93	0.49
1:A:423:TRP:NE1	1:A:457:ARG:HH12	2.10	0.49
1:A:1973:GLN:NE2	1:A:1977:CYS:SG	2.86	0.49
1:B:406:TYR:CD2	1:B:474:GLU:HG2	2.48	0.49
2:D:282:VAL:HG12	2:D:575:ARG:HH12	1.76	0.49
2:D:382:HIS:CG	2:D:404:ASP:HB2	2.47	0.49
5:I:8:ILE:HG23	5:I:76:PHE:HB3	1.95	0.49
1:B:1457:MET:HA	1:B:1460:GLU:HG3	1.94	0.49
1:B:1667:ASN:ND2	1:B:1672:VAL:HG12	2.27	0.49
3:E:229:VAL:O	3:E:269:LEU:HA	2.12	0.49
1:A:434:LEU:O	1:A:438:VAL:HG23	2.13	0.49
1:A:3885:MET:HE1	1:A:4005:ALA:HB1	1.93	0.49
1:A:4385:SER:O	1:A:4389:HIS:ND1	2.40	0.49
1:B:854:GLU:HA	1:B:857:ILE:HG22	1.95	0.49
1:B:922:TRP:CH2	1:B:986:MET:HB3	2.48	0.49
1:B:1013:THR:OG1	1:B:1014:GLU:N	2.38	0.49
1:B:1533:LEU:HD11	1:B:1597:VAL:HG22	1.94	0.49
1:B:2138:ILE:HD12	1:B:2161:LEU:HD22	1.94	0.49
2:D:504:TRP:CD1	2:D:523:ASN:H	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:68:HIS:CD2	5:I:73:PHE:HB2	2.47	0.49
1:A:1952:GLY:HA2	1:A:2012:MET:HB2	1.94	0.49
1:A:3659:ARG:HH12	1:B:3631:ASN:HD21	1.61	0.49
1:B:80:GLU:HB3	1:B:102:ASN:HB2	1.95	0.49
1:B:264:ARG:NH1	1:B:265:ASP:O	2.46	0.49
1:B:537:ASP:O	1:B:543:THR:OG1	2.19	0.49
1:B:650:TRP:CE2	1:B:654:ILE:HD11	2.48	0.49
1:B:842:ASN:O	1:B:845:GLU:HG3	2.13	0.49
1:B:3653:VAL:HG12	1:B:3662:ILE:HB	1.94	0.49
2:D:297:ALA:HB3	2:D:314:LEU:HB3	1.95	0.49
2:D:390:VAL:HG11	2:D:447:PHE:HZ	1.77	0.49
3:F:234:CYS:SG	3:F:271:TYR:HB3	2.53	0.49
7:P:321:LYS:HG2	7:P:333:THR:HG22	1.94	0.49
1:A:2934:LEU:HD11	1:A:3068:MET:HE2	1.95	0.49
1:B:121:ARG:NH1	1:B:133:SER:O	2.42	0.49
1:B:2065:LEU:HD21	1:B:2134:GLN:HG2	1.95	0.49
1:B:2999:VAL:HG11	1:B:3005:LEU:HG	1.95	0.49
1:A:1478:VAL:HG23	1:A:1488:ARG:NH1	2.28	0.48
1:B:3928:THR:HG22	1:B:3929:VAL:H	1.78	0.48
4:G:76:ASN:HA	4:G:94:PRO:HD3	1.93	0.48
7:P:312:LEU:HD21	7:P:320:ILE:HG23	1.94	0.48
1:A:34:LEU:O	1:A:38:VAL:HG13	2.13	0.48
1:A:3606:ASP:OD1	1:A:3607:ARG:N	2.46	0.48
1:B:129:LYS:HD2	1:B:130:PRO:HD2	1.95	0.48
1:B:254:ARG:NH2	1:B:257:GLN:OE1	2.35	0.48
1:B:1204:PHE:H	5:J:5:LYS:HE3	1.78	0.48
1:B:3024:ASP:OD1	1:B:3025:GLU:N	2.46	0.48
1:B:3030:MET:HG3	1:B:3047:HIS:CE1	2.47	0.48
1:B:4227:ALA:HB2	1:B:4233:ILE:HD12	1.95	0.48
6:L:72:LYS:HG2	6:L:103:TYR:CE2	2.49	0.48
1:A:189:LEU:HD13	1:B:185:LYS:HE2	1.96	0.48
1:B:246:GLN:CD	1:B:309:ARG:HD3	2.38	0.48
1:B:988:ALA:O	1:B:992:VAL:HG23	2.12	0.48
1:B:1495:ASN:HA	1:B:1498:LYS:HZ2	1.79	0.48
3:F:238:SER:O	3:F:241:GLU:HG2	2.12	0.48
4:G:22:VAL:HG11	4:G:86:TYR:HB3	1.93	0.48
4:G:49:PHE:O	4:G:52:LYS:HG2	2.14	0.48
4:G:69:LEU:HD11	4:H:69:LEU:HD11	1.96	0.48
7:P:228:LYS:NZ	7:P:263:VAL:O	2.46	0.48
1:A:128:ASP:OD1	1:A:129:LYS:N	2.45	0.48
1:A:1476:ASP:HB3	1:A:1488:ARG:CZ	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:286:TYR:O	1:B:290:GLU:HG2	2.13	0.48
1:B:585:PHE:CD2	1:B:668:VAL:HG23	2.49	0.48
1:B:1126:GLU:O	1:B:1129:SER:OG	2.29	0.48
1:B:1839:LEU:O	1:B:1843:ARG:NH1	2.46	0.48
1:B:2917:ASP:OD2	1:B:2921:ARG:NH2	2.45	0.48
1:B:3135:GLN:O	1:B:3137:PRO:HD3	2.13	0.48
1:B:3381:ILE:HD12	1:B:3390:GLY:HA2	1.95	0.48
1:B:4160:THR:HG23	1:B:4212:LEU:HD21	1.94	0.48
2:C:187:LYS:HZ2	4:G:30:ILE:HA	1.77	0.48
2:C:204:THR:HA	4:G:10:ARG:HH12	1.79	0.48
1:A:3510:SER:HB3	1:A:3553:LEU:HD21	1.95	0.48
1:B:246:GLN:NE2	1:B:309:ARG:CD	2.75	0.48
2:D:296:VAL:HG13	2:D:340:PHE:CZ	2.48	0.48
1:B:804:LEU:HD11	1:B:899:TRP:CD1	2.49	0.48
1:B:1060:LEU:HD22	1:B:1119:LYS:HE2	1.96	0.48
1:B:2855:LEU:HD21	1:B:2863:ARG:HG2	1.95	0.48
1:B:3360:SER:HA	1:B:3363:ILE:HD12	1.96	0.48
2:D:334:ALA:O	2:D:353:TYR:N	2.39	0.48
4:G:21:ILE:HG23	4:G:89:ILE:HG13	1.95	0.48
7:P:196:SER:OG	7:P:236:TRP:NE1	2.36	0.48
1:A:354:ARG:NH1	1:A:355:GLN:HG2	2.28	0.48
1:A:4549:GLN:HA	1:A:4587:LEU:HD22	1.96	0.48
1:B:779:ILE:HA	1:B:782:ILE:HG22	1.95	0.48
1:B:790:ARG:O	1:B:794:LYS:HG2	2.14	0.48
1:B:1071:ARG:NH1	3:F:43:VAL:HA	2.28	0.48
1:B:2969:GLY:HA2	1:B:3004:PHE:HE1	1.77	0.48
1:B:3440:LEU:O	1:B:3444:ILE:N	2.35	0.48
2:C:188:GLN:O	2:C:192:HIS:ND1	2.43	0.48
2:D:504:TRP:CD1	2:D:522:ASP:H	2.30	0.48
7:P:218:MET:HE3	7:P:228:LYS:HE2	1.96	0.48
1:A:209:ILE:HA	1:A:248:GLY:HA3	1.96	0.48
1:A:285:LEU:HA	1:A:288:ILE:HG12	1.96	0.48
1:B:582:PHE:CE1	1:B:668:VAL:HG11	2.48	0.48
1:B:770:GLN:HG2	1:B:773:GLN:HE21	1.79	0.48
1:B:1546:TYR:OH	1:B:1612:GLN:OE1	2.25	0.48
1:B:1560:LEU:HD23	1:B:1561:LEU:HG	1.95	0.48
1:B:2488:ARG:HG2	1:B:2492:ARG:HH12	1.78	0.48
1:B:4025:LEU:HG	1:B:4027:LEU:HD22	1.95	0.48
1:A:437:ILE:HG22	1:A:441:LYS:HD2	1.96	0.48
1:A:458:LYS:O	1:A:462:ARG:HG3	2.13	0.48
1:B:1137:SER:O	1:B:1140:THR:OG1	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1150:ARG:HG3	5:J:70:THR:HG21	1.96	0.48
1:B:2629:GLU:O	1:B:2633:LYS:HG2	2.13	0.48
1:B:3459:GLN:HA	1:B:3462:LYS:HD2	1.96	0.48
1:B:3638:VAL:HG21	1:B:3679:LEU:HB3	1.94	0.48
1:B:4099:VAL:HG22	1:B:4128:MET:HB3	1.96	0.48
1:B:4474:THR:H	1:B:4477:GLN:HE21	1.60	0.48
2:D:504:TRP:HA	2:D:527:VAL:HG12	1.95	0.48
7:O:366:ASP:OD1	7:O:369:ASN:N	2.42	0.48
1:A:213:ILE:HB	1:A:241:PHE:CZ	2.49	0.48
1:A:1628:ARG:NH2	1:A:1871:GLU:OE1	2.46	0.48
1:A:4098:ASN:N	1:A:4127:THR:O	2.46	0.48
1:A:4463:SER:HG	1:A:4464:TRP:CD1	2.32	0.48
1:B:438:VAL:HG13	1:B:448:MET:HE2	1.96	0.48
1:B:1561:LEU:HD11	1:B:1618:TYR:HB2	1.96	0.48
2:D:479:ILE:HD12	2:D:499:THR:HB	1.96	0.48
3:F:159:HIS:HA	3:F:162:LYS:HG2	1.96	0.48
3:F:181:PHE:CE1	3:F:313:GLY:HA2	2.48	0.48
1:A:1166:ALA:O	1:A:1170:ILE:HG12	2.14	0.47
1:A:3447:TYR:HB3	1:A:3451:TYR:OH	2.14	0.47
2:D:504:TRP:HE1	2:D:522:ASP:HB2	1.79	0.47
3:F:271:TYR:CE2	3:F:308:VAL:HB	2.49	0.47
3:F:370:LEU:HA	3:F:373:GLN:HG2	1.96	0.47
6:K:90:ASP:OD1	6:K:112:SER:N	2.46	0.47
1:A:272:LEU:HD21	1:A:345:LEU:HD21	1.96	0.47
1:A:1513:TYR:HE1	1:A:1520:ALA:HB3	1.79	0.47
1:A:1530:ILE:HD11	1:A:1589:MET:HE1	1.96	0.47
1:A:4460:LEU:HD12	1:A:4461:PRO:HD2	1.96	0.47
1:B:79:VAL:HG23	1:B:116:LEU:HB2	1.95	0.47
1:B:185:LYS:O	1:B:188:GLU:HG3	2.13	0.47
1:B:1038:SER:O	1:B:1041:MET:HG3	2.13	0.47
1:B:1136:GLY:HA2	1:B:1139:MET:HE2	1.95	0.47
1:A:1836:PHE:HA	1:A:1839:LEU:HB2	1.96	0.47
1:A:2452:LEU:HD13	1:A:2729:ARG:HH21	1.79	0.47
1:A:3923:ARG:HH12	1:A:3925:GLN:HA	1.78	0.47
1:A:368:ARG:HH11	1:A:437:ILE:HD13	1.79	0.47
1:A:1079:TRP:C	1:A:1081:ALA:H	2.22	0.47
1:A:4037:PRO:HB2	1:A:4118:PRO:HG2	1.96	0.47
1:B:204:GLU:HA	1:B:288:ILE:HD11	1.97	0.47
1:B:1164:SER:O	1:B:1168:THR:OG1	2.27	0.47
1:B:2091:ARG:HD2	1:B:2357:SER:HB2	1.96	0.47
1:B:2423:MET:HE1	1:B:2462:LEU:HD13	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3989:ARG:HG3	1:B:4004:MET:HE2	1.96	0.47
2:D:508:LEU:O	2:D:517:LEU:N	2.42	0.47
3:F:164:LYS:O	3:F:164:LYS:HD3	2.15	0.47
5:I:55:HIS:N	5:I:86:PHE:O	2.39	0.47
1:A:182:VAL:HG21	1:B:196:LEU:HD11	1.97	0.47
1:A:1750:VAL:HG12	1:A:1811:LEU:HD21	1.96	0.47
3:F:57:ILE:HD13	3:F:106:VAL:HG22	1.96	0.47
6:L:85:TRP:CD1	6:L:90:ASP:HB2	2.49	0.47
1:B:2060:ARG:HG3	1:B:2061:THR:HG23	1.96	0.47
1:B:3438:ARG:HA	1:B:3441:GLU:HB2	1.94	0.47
3:F:51:LEU:HB3	3:F:98:ARG:HE	1.79	0.47
3:F:174:GLU:HA	3:F:224:GLY:HA2	1.96	0.47
5:I:61:ASN:HB3	5:J:60:ARG:CZ	2.44	0.47
1:A:336:MET:HB3	1:A:363:HIS:CD2	2.50	0.47
1:A:368:ARG:NH1	1:A:437:ILE:HD13	2.29	0.47
1:A:1222:ASN:HA	1:A:1225:MET:HE3	1.97	0.47
1:A:1839:LEU:O	1:A:1843:ARG:NH1	2.48	0.47
1:A:2461:MET:HE2	1:A:2461:MET:HB3	1.83	0.47
1:A:4099:VAL:HG11	1:A:4126:LEU:HD22	1.96	0.47
1:A:4156:ASN:ND2	1:A:4188:ALA:HA	2.30	0.47
1:B:213:ILE:HG13	1:B:232:PHE:CE1	2.50	0.47
1:B:468:LYS:HA	1:B:471:ARG:CD	2.44	0.47
1:B:709:ARG:HD2	1:B:711:LEU:HG	1.94	0.47
1:B:717:ILE:HG22	1:B:718:PHE:HD2	1.78	0.47
1:B:724:ARG:HH11	1:B:726:ARG:HH21	1.63	0.47
1:B:1093:PHE:HE2	1:B:1117:ASN:HB2	1.79	0.47
1:B:1170:ILE:O	1:B:1173:VAL:HG12	2.15	0.47
1:B:2297:LYS:O	1:B:2338:ASN:ND2	2.36	0.47
2:D:535:THR:O	2:D:606:PRO:HG3	2.14	0.47
7:P:306:LYS:HD3	7:P:308:GLY:N	2.19	0.47
1:A:195:HIS:ND1	1:A:268:SER:O	2.46	0.47
1:A:804:LEU:HA	1:A:894:SER:O	2.14	0.47
1:A:2449:LEU:HD11	1:A:2454:CYS:SG	2.55	0.47
1:A:3518:GLY:CA	1:A:3579:MET:HE1	2.44	0.47
1:B:1220:ALA:O	1:B:1224:ILE:HG12	2.15	0.47
1:B:2228:SER:N	9:B:4702:ATP:O1B	2.46	0.47
1:B:3251:GLU:HA	1:B:3254:LYS:HB2	1.97	0.47
2:D:537:PRO:HB3	2:D:611:TRP:CZ3	2.50	0.47
3:F:168:GLU:HB2	3:F:171:ARG:HH21	1.80	0.47
7:P:289:SER:O	7:P:293:ILE:HG12	2.15	0.47
7:P:361:THR:HG22	7:P:377:ASN:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:363:HIS:HA	1:A:366:LYS:HZ3	1.78	0.47
1:A:3383:ASN:O	1:A:3384:ARG:HB3	2.15	0.47
1:B:2123:ASP:HB3	1:B:2126:GLU:HG2	1.96	0.47
1:B:2221:MET:HG2	1:B:2343:PHE:HB2	1.97	0.47
1:B:4460:LEU:HD21	1:B:4465:SER:HB3	1.97	0.47
5:I:78:LEU:O	5:I:81:VAL:N	2.48	0.47
6:K:83:CYS:HB2	6:K:85:TRP:HZ3	1.79	0.47
7:O:212:ARG:HG3	7:O:236:TRP:CG	2.50	0.47
7:P:399:SER:OG	7:P:400:VAL:N	2.48	0.47
1:A:62:LEU:O	1:A:66:ARG:HG2	2.15	0.47
1:A:2388:ASP:OD1	1:A:2389:GLU:N	2.48	0.47
1:A:4434:VAL:HG13	1:A:4452:ILE:HD11	1.97	0.47
4:H:7:THR:O	4:H:11:LEU:HD23	2.15	0.47
5:I:28:ALA:HB1	5:I:38:ILE:HG23	1.97	0.47
1:A:241:PHE:O	1:A:245:LEU:HG	2.15	0.46
1:A:427:TYR:OH	1:A:452:ILE:HG12	2.15	0.46
1:B:78:LEU:HD11	1:B:115:SER:HB2	1.97	0.46
1:B:180:PRO:O	1:B:184:LYS:HG2	2.14	0.46
1:B:991:MET:HE1	1:B:994:LEU:HD23	1.96	0.46
1:B:1041:MET:HA	1:B:1044:VAL:HG12	1.97	0.46
1:B:3373:SER:HB3	1:B:3376:SER:OG	2.15	0.46
1:B:3383:ASN:O	1:B:3384:ARG:HB3	2.14	0.46
3:F:113:LEU:HD21	3:F:151:LYS:HD2	1.97	0.46
1:A:364:LEU:O	1:A:367:ILE:HG22	2.16	0.46
1:A:2895:ALA:HA	1:A:2898:LYS:HD2	1.97	0.46
1:A:2903:GLU:HG3	1:A:2904:GLU:OE1	2.14	0.46
1:A:4525:ARG:NH1	1:A:4536:LEU:HG	2.30	0.46
1:B:210:HIS:HB3	1:B:213:ILE:HG22	1.96	0.46
1:B:431:GLN:O	1:B:435:ARG:HG2	2.15	0.46
1:B:1497:VAL:HG21	1:B:1531:MET:HE3	1.97	0.46
1:B:1721:VAL:HA	1:B:1724:VAL:HG12	1.97	0.46
1:B:4176:ARG:NH1	1:B:4220:ASP:OD1	2.48	0.46
1:B:4473:MET:HG2	1:B:4477:GLN:HE21	1.81	0.46
1:B:4549:GLN:HG3	1:B:4587:LEU:HB2	1.97	0.46
2:D:301:ASN:OD1	2:D:302:ASN:N	2.48	0.46
1:A:2203:TRP:HH2	1:A:2236:VAL:HG21	1.81	0.46
1:A:2605:LEU:HD11	1:A:2709:VAL:HG11	1.98	0.46
1:A:4430:ASP:OD2	1:A:4447:TYR:OH	2.34	0.46
1:B:486:PRO:HA	1:B:567:ARG:NH2	2.29	0.46
1:B:635:MET:O	1:B:639:ARG:HG2	2.15	0.46
1:B:1041:MET:HG2	3:F:121:PHE:CE1	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:I:7:VAL:O	5:I:76:PHE:HB2	2.15	0.46
7:P:211:SER:OG	7:P:212:ARG:N	2.49	0.46
7:P:311:LEU:HB3	7:P:323:TRP:HB2	1.98	0.46
1:A:3989:ARG:HB3	1:A:4004:MET:CE	2.44	0.46
1:B:146:TYR:CZ	1:B:196:LEU:HD22	2.50	0.46
1:B:304:LEU:HD13	1:B:312:ALA:HB3	1.96	0.46
1:B:825:GLU:HA	1:B:829:LEU:HD11	1.98	0.46
1:B:1541:GLN:O	1:B:1545:VAL:HG23	2.16	0.46
1:B:3321:LEU:HD22	1:B:3332:THR:HA	1.97	0.46
5:I:43:LYS:HE3	5:J:67:THR:N	2.30	0.46
7:O:163:LYS:HG2	7:O:180:GLN:HE22	1.79	0.46
7:P:127:SER:OG	7:P:128:GLU:N	2.48	0.46
7:P:195:VAL:HA	7:P:211:SER:HB2	1.96	0.46
1:A:65:MET:O	1:A:69:LEU:HG	2.15	0.46
1:A:1698:ILE:HD12	1:A:1701:TRP:HE1	1.81	0.46
1:A:1861:MET:HE1	1:A:1889:TYR:HB3	1.98	0.46
1:A:2654:GLN:HG3	1:A:2657:LYS:HB2	1.96	0.46
1:A:2964:HIS:HA	1:A:3643:PRO:HD2	1.97	0.46
1:A:3013:ALA:HA	1:A:3088:ARG:HG3	1.98	0.46
1:A:3366:LYS:HD2	1:A:3400:LEU:HD21	1.98	0.46
1:A:3876:LEU:HD23	1:A:4146:VAL:HG11	1.97	0.46
1:B:864:LEU:HA	1:B:867:CYS:HB2	1.97	0.46
1:B:3423:ALA:O	1:B:3427:GLN:N	2.33	0.46
2:C:311:GLY:HA3	2:C:335:VAL:H	1.80	0.46
5:I:74:ILE:O	5:I:84:LEU:HD12	2.16	0.46
7:P:191:HIS:HB2	7:P:217:LYS:HD2	1.97	0.46
1:A:1176:LEU:O	1:A:1180:ILE:HG13	2.16	0.46
1:A:3248:GLN:O	1:A:3252:LYS:N	2.38	0.46
1:A:3354:PHE:CE2	1:A:3356:ALA:HB3	2.50	0.46
1:A:3928:THR:H	1:A:3931:GLN:HE21	1.62	0.46
1:B:977:GLU:O	1:B:981:LYS:HG2	2.16	0.46
2:D:374:PRO:HD3	2:D:416:SER:HA	1.97	0.46
7:P:206:HIS:CE1	7:P:220:GLU:HG2	2.51	0.46
7:P:243:ASN:HD21	7:P:247:THR:H	1.64	0.46
1:B:464:ASP:O	1:B:467:ARG:HG2	2.15	0.46
1:B:895:ASN:HB2	3:F:354:LEU:HD23	1.98	0.46
1:B:1099:LYS:HD3	1:B:1107:ILE:O	2.16	0.46
1:B:1966:ARG:HA	1:B:4101:LEU:HD13	1.98	0.46
1:B:3835:ILE:HG23	1:B:3866:VAL:HG12	1.97	0.46
5:I:54:TRP:HA	5:I:87:LYS:HA	1.98	0.46
5:I:62:PHE:CE2	5:I:64:SER:HB3	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:723:THR:O	1:A:732:VAL:N	2.48	0.46
1:A:1495:ASN:HA	1:A:1498:LYS:HE3	1.97	0.46
1:B:148:THR:HG23	1:B:152:PHE:CE2	2.51	0.46
1:B:734:LYS:NZ	1:B:789:GLU:OE2	2.41	0.46
1:B:801:ILE:HD11	1:B:850:LEU:HB3	1.97	0.46
1:B:872:LYS:O	1:B:875:SER:N	2.49	0.46
1:B:3133:LEU:HD11	1:B:3141:GLU:HB3	1.98	0.46
3:F:61:GLY:HA3	3:F:67:LYS:HD3	1.97	0.46
1:A:1627:PRO:HB3	1:A:1950:GLN:HB3	1.97	0.46
1:B:1063:MET:SD	3:F:44:SER:HA	2.55	0.46
1:B:1399:LEU:O	1:B:1403:LEU:N	2.48	0.46
1:B:2964:HIS:HA	1:B:3643:PRO:HD2	1.98	0.46
2:D:607:ARG:HG3	2:D:609:ASP:HB3	1.97	0.46
3:F:301:LEU:HB3	3:F:309:PHE:HB3	1.98	0.46
3:F:321:ALA:HA	3:F:324:HIS:NE2	2.31	0.46
7:P:95:ILE:HD11	7:P:352:PHE:CD2	2.47	0.46
1:A:373:PRO:HB2	1:A:376:ARG:HB3	1.98	0.46
1:A:1155:GLN:NE2	1:A:1157:SER:H	2.14	0.46
1:A:1618:TYR:HD2	1:A:1619:LEU:HD22	1.81	0.46
1:A:4276:ARG:NH1	1:A:4279:ASP:OD2	2.48	0.46
1:B:1142:PHE:CE2	1:B:1214:ILE:HD12	2.51	0.46
1:B:1214:ILE:HA	1:B:1217:GLU:HG2	1.98	0.46
1:B:1666:LEU:HD23	1:B:1673:VAL:HA	1.97	0.46
1:B:3039:LYS:HB3	7:O:273:ARG:HH21	1.80	0.46
1:B:3256:MET:HE3	1:B:3256:MET:HB2	1.83	0.46
1:B:4517:PRO:HG2	1:B:4619:ILE:HD12	1.98	0.46
2:D:620:GLU:HG3	2:D:621:ILE:HG12	1.98	0.46
3:F:258:LEU:HB3	3:F:269:LEU:HD11	1.97	0.46
3:F:321:ALA:HA	3:F:324:HIS:CD2	2.51	0.46
1:A:2596:PRO:HB2	1:A:2738:TYR:CZ	2.51	0.45
1:B:464:ASP:OD1	1:B:465:GLN:N	2.50	0.45
1:B:479:VAL:HG11	1:B:590:ALA:CB	2.46	0.45
1:B:513:ASP:HB3	1:B:516:ASP:HB2	1.98	0.45
1:B:1188:GLU:HA	1:B:1191:ARG:HE	1.80	0.45
1:B:2047:GLN:HA	1:B:2070:VAL:HG21	1.98	0.45
1:B:2906:ASP:OD2	1:B:3655:ARG:HG2	2.15	0.45
1:B:3442:ALA:O	1:B:3446:ARG:HG2	2.16	0.45
2:D:336:MET:HE3	2:D:353:TYR:HB2	1.97	0.45
2:D:429:SER:O	2:D:429:SER:OG	2.33	0.45
5:I:9:LYS:HE3	5:I:77:TYR:CD1	2.51	0.45
6:K:64:ILE:HD11	6:L:111:LEU:HD21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:232:PHE:HZ	1:A:299:LEU:HD13	1.81	0.45
1:A:1647:VAL:HA	1:A:1650:LEU:HD12	1.98	0.45
1:A:3321:LEU:HD22	1:A:3332:THR:HA	1.98	0.45
1:A:3601:MET:CE	1:A:3611:ARG:HB2	2.46	0.45
1:B:58:GLU:HG3	1:B:61:ALA:H	1.80	0.45
1:B:81:ARG:N	1:B:114:ASN:O	2.49	0.45
1:B:263:ASP:HA	1:B:277:PHE:HE2	1.81	0.45
1:B:557:ILE:HA	1:B:560:VAL:HG22	1.97	0.45
2:D:475:HIS:CE1	2:D:477:GLY:H	2.34	0.45
3:F:48:ARG:HD2	3:F:49:SER:HB2	1.97	0.45
3:F:278:LYS:HG3	3:F:279:ASN:ND2	2.32	0.45
3:F:369:LEU:HA	3:F:372:LYS:HG2	1.98	0.45
7:P:282:ILE:HG22	7:P:313:SER:HA	1.97	0.45
7:P:341:VAL:HA	7:P:357:ALA:HA	1.97	0.45
1:A:110:GLY:H	1:A:140:LEU:HD21	1.81	0.45
1:A:2623:SER:H	1:A:2626:THR:HG1	1.58	0.45
1:A:3182:HIS:NE2	1:A:3582:ARG:O	2.49	0.45
1:A:3219:ARG:O	1:A:3223:ARG:NE	2.38	0.45
1:A:3238:ASP:OD1	1:A:3239:LYS:N	2.49	0.45
1:A:3779:GLU:HB2	1:A:3782:ARG:HH22	1.80	0.45
1:A:4234:SER:OG	1:A:4236:ASP:OD1	2.29	0.45
1:A:4525:ARG:HD2	1:A:4592:TRP:CH2	2.51	0.45
1:B:635:MET:SD	1:B:636:SER:N	2.90	0.45
1:B:869:TYR:OH	1:B:989:TRP:O	2.33	0.45
1:B:1589:MET:N	1:B:1589:MET:SD	2.89	0.45
1:B:3160:ARG:HG2	1:B:3164:ARG:HH22	1.82	0.45
1:B:3292:ALA:HA	1:B:3395:TRP:CZ2	2.51	0.45
1:B:4150:PRO:HB3	1:B:4159:ARG:HE	1.81	0.45
2:D:199:PHE:HA	2:D:202:HIS:CD2	2.51	0.45
5:J:60:ARG:H	5:J:60:ARG:HD3	1.82	0.45
7:P:274:GLU:HG3	7:P:323:TRP:CH2	2.50	0.45
1:A:388:LEU:O	1:A:391:GLN:HG3	2.16	0.45
1:A:2179:ARG:NH2	1:A:2195:ASP:OD1	2.50	0.45
1:A:2277:ASP:OD2	1:A:2285:ARG:NE	2.45	0.45
1:A:4287:LYS:NZ	1:A:4291:HIS:O	2.38	0.45
2:D:483:HIS:ND1	2:D:532:TRP:HD1	2.14	0.45
2:D:495:HIS:HB2	2:D:511:THR:HG22	1.99	0.45
3:F:305:LYS:HD3	3:F:305:LYS:HA	1.74	0.45
1:A:1450:LEU:O	1:A:1453:ALA:N	2.50	0.45
1:A:1609:GLY:O	1:A:1613:LYS:HG2	2.16	0.45
1:B:253:ILE:HA	1:B:256:ILE:HG12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1051:VAL:O	1:B:1055:LEU:N	2.36	0.45
1:B:2596:PRO:HB2	1:B:2738:TYR:CZ	2.52	0.45
1:B:2631:LEU:HD13	1:B:2686:MET:HE1	1.99	0.45
1:B:3216:GLU:OE2	1:B:3220:ARG:NH1	2.48	0.45
1:B:4065:GLN:HB3	1:B:4092:ARG:HH21	1.80	0.45
1:A:35:ARG:HD3	1:A:53:GLU:HG2	1.97	0.45
1:A:462:ARG:NH1	1:A:537:ASP:O	2.50	0.45
1:A:1203:GLN:HB2	1:B:1062:ASP:O	2.16	0.45
1:A:4412:PHE:CZ	1:A:4520:TYR:HB2	2.52	0.45
1:B:232:PHE:HB3	1:B:235:LYS:HB2	1.98	0.45
1:B:635:MET:O	1:B:639:ARG:N	2.49	0.45
1:B:1479:ASN:HD21	1:B:1482:ASN:H	1.65	0.45
1:B:3588:LEU:HD11	1:B:3638:VAL:HG11	1.98	0.45
3:F:262:CYS:HB2	3:F:267:ALA:HB3	1.98	0.45
7:O:201:MET:HE1	7:O:242:PRO:HB3	1.99	0.45
1:A:41:LEU:HD13	1:B:132:SER:HB2	1.99	0.45
1:A:253:ILE:HA	1:A:256:ILE:HG12	1.98	0.45
1:A:1476:ASP:HB3	1:A:1488:ARG:NH1	2.32	0.45
1:A:1661:VAL:HG22	1:A:1676:ILE:HD12	1.99	0.45
1:B:718:PHE:CD1	1:B:735:LEU:HD11	2.52	0.45
4:G:68:PHE:HD2	4:H:72:ARG:HB3	1.81	0.45
5:I:9:LYS:N	5:I:75:TYR:O	2.42	0.45
6:K:75:ALA:HB2	6:L:73:ASN:HD21	1.80	0.45
7:O:254:ASN:HD22	7:O:278:VAL:HG21	1.81	0.45
1:A:187:ALA:O	1:A:191:MET:HG3	2.15	0.45
1:A:2176:THR:O	1:A:2180:GLU:HG2	2.16	0.45
1:A:2185:VAL:HG13	1:A:2189:MET:HE3	1.99	0.45
1:B:130:PRO:O	1:B:134:GLN:N	2.50	0.45
1:B:150:HIS:CE1	1:B:194:LEU:HB3	2.51	0.45
1:B:1135:LEU:HD22	1:B:1190:TYR:CD1	2.52	0.45
1:B:1674:LEU:HB3	1:B:1685:MET:HE1	1.99	0.45
1:B:2175:MET:HE2	1:B:2208:LEU:HD22	1.99	0.45
1:B:3251:GLU:O	1:B:3255:VAL:HG23	2.17	0.45
1:B:3366:LYS:HD2	1:B:3400:LEU:HD21	1.99	0.45
1:B:3409:VAL:HA	1:B:3412:LEU:HD12	1.97	0.45
3:F:251:LEU:O	3:F:254:ILE:HG22	2.17	0.45
5:I:13:MET:HE3	5:I:17:MET:CE	2.47	0.45
6:K:7:ALA:HA	6:K:10:THR:HG22	1.98	0.45
7:O:280:GLU:OE2	7:O:316:ARG:NE	2.50	0.45
1:A:79:VAL:C	1:A:115:SER:HG	2.25	0.45
1:A:2222:MET:HG2	1:A:2364:PHE:CE1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3036:GLY:HA2	1:A:3039:LYS:NZ	2.32	0.45
1:A:3046:SER:HB3	1:A:3049:GLU:CD	2.42	0.45
1:A:3263:GLN:NE2	1:A:3426:ASN:HB3	2.32	0.45
1:B:798:ARG:O	1:B:801:ILE:HG22	2.17	0.45
1:B:1156:HIS:NE2	1:B:1166:ALA:HA	2.32	0.45
1:B:1188:GLU:HA	1:B:1191:ARG:NE	2.32	0.45
1:B:2639:CYS:HA	1:B:2652:PRO:HA	1.98	0.45
3:E:174:GLU:HA	3:E:224:GLY:HA3	1.99	0.45
7:O:112:THR:HG21	7:O:154:GLN:HA	1.98	0.45
7:O:337:HIS:NE2	7:O:355:SER:OG	2.38	0.45
7:P:212:ARG:HD3	7:P:236:TRP:HB2	1.98	0.45
1:A:368:ARG:HH12	1:A:436:ASP:C	2.25	0.45
1:A:2519:ARG:HG3	1:A:2526:LEU:HD12	1.98	0.45
1:A:2584:TRP:HE3	1:A:2591:LEU:HD22	1.82	0.45
1:A:2623:SER:OG	1:A:3006:GLU:OE1	2.34	0.45
1:A:2661:LEU:HD22	1:A:2708:PHE:CE1	2.52	0.45
1:B:578:ALA:HB2	1:B:611:ARG:HG2	1.99	0.45
1:B:1836:PHE:HA	1:B:1839:LEU:HB2	1.98	0.45
6:K:63:TYR:HB2	6:L:84:PHE:CE1	2.52	0.45
1:A:2538:GLU:OE2	1:A:2551:LYS:NZ	2.35	0.44
1:B:283:ARG:HH11	1:B:287:ARG:HH22	1.63	0.44
2:D:538:ALA:HB2	2:D:614:PHE:CG	2.52	0.44
3:F:255:GLN:OE1	3:F:323:LEU:HD21	2.17	0.44
3:F:304:GLU:HG2	3:F:307:ALA:HB3	1.99	0.44
4:G:70:ARG:NH2	4:G:72:ARG:HH21	2.16	0.44
1:A:178:MET:HE1	1:B:196:LEU:HG	1.99	0.44
1:A:3380:GLU:OE1	1:A:3380:GLU:N	2.50	0.44
1:B:375:GLN:HB2	1:B:447:LYS:HZ3	1.83	0.44
1:B:786:ARG:NH1	1:B:790:ARG:HH12	2.16	0.44
1:B:1213:ASN:HD21	5:J:8:ILE:C	2.25	0.44
1:B:2106:GLU:O	1:B:2110:LYS:N	2.39	0.44
2:D:330:HIS:HB3	2:D:367:ARG:HG3	2.00	0.44
3:F:120:LYS:HA	3:F:159:HIS:CE1	2.52	0.44
5:J:13:MET:HB2	5:J:18:GLN:HG3	1.99	0.44
5:J:55:HIS:HB2	5:J:86:PHE:CE1	2.51	0.44
7:P:97:ARG:HE	7:P:410:ARG:HB2	1.82	0.44
7:P:130:ALA:HA	7:P:153:VAL:HG23	1.98	0.44
1:A:42:LEU:HD23	1:A:81:ARG:HE	1.83	0.44
1:A:177:LYS:HD3	1:A:177:LYS:HA	1.75	0.44
1:A:178:MET:HE2	1:B:195:HIS:CD2	2.53	0.44
1:A:1571:ILE:HD11	1:A:1607:LEU:HD12	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.99	0.44
1:A:2257:LYS:NZ	1:A:2308:ASP:OD2	2.43	0.44
1:A:3135:GLN:HB3	1:A:3136:PRO:HD3	1.99	0.44
1:A:4540:CYS:SG	1:A:4595:GLN:NE2	2.91	0.44
1:B:153:ILE:HG13	1:B:154:SER:N	2.33	0.44
1:B:257:GLN:HA	1:B:260:THR:HG22	2.00	0.44
1:B:547:GLU:HA	1:B:550:MET:HE3	2.00	0.44
1:B:642:PRO:HB2	1:B:749:GLU:OE2	2.17	0.44
2:D:504:TRP:CD2	2:D:523:ASN:HB3	2.52	0.44
3:F:120:LYS:HA	3:F:159:HIS:HE1	1.82	0.44
3:F:142:PRO:HB2	3:F:254:ILE:HD11	2.00	0.44
3:F:238:SER:C	3:F:242:LYS:HZ2	2.26	0.44
4:H:42:TYR:O	4:H:46:MET:HG2	2.18	0.44
7:P:235:GLU:HB2	7:P:255:ASP:HB3	2.00	0.44
1:A:242:LEU:HB3	1:A:309:ARG:NE	2.31	0.44
1:A:4215:ALA:HA	1:A:4251:ILE:HD13	1.98	0.44
1:B:270:THR:HG23	1:B:273:GLN:H	1.83	0.44
1:B:718:PHE:HD1	1:B:735:LEU:HD11	1.83	0.44
1:B:754:LYS:NZ	1:B:760:VAL:HG22	2.33	0.44
1:B:908:GLU:HB2	1:B:1019:TYR:CZ	2.52	0.44
1:B:1146:ILE:O	1:B:1150:ARG:HG2	2.17	0.44
1:B:4473:MET:HG2	1:B:4477:GLN:NE2	2.32	0.44
2:D:287:TRP:HZ3	2:D:318:MET:HE1	1.83	0.44
1:A:351:ASP:OD1	1:A:352:LYS:N	2.49	0.44
1:A:1460:GLU:OE1	1:A:1460:GLU:N	2.48	0.44
1:A:3253:LYS:HB3	1:A:3433:VAL:HG13	1.98	0.44
1:B:212:MET:HA	1:B:215:ASN:HD21	1.82	0.44
1:B:893:TYR:HB2	1:B:896:LEU:HD21	1.99	0.44
1:B:2905:LEU:CD1	1:B:3652:GLU:HB2	2.40	0.44
2:C:338:ALA:HA	2:C:350:GLY:HA2	2.00	0.44
2:D:523:ASN:CG	2:D:524:ALA:H	2.25	0.44
2:D:578:TRP:HA	2:D:585:ILE:HD12	2.00	0.44
7:O:89:ARG:NH2	7:O:409:CYS:O	2.51	0.44
7:O:131:THR:HG22	7:O:147:LYS:HG2	1.98	0.44
1:A:326:LEU:HA	1:A:329:VAL:HG12	1.98	0.44
1:A:1515:VAL:HG23	1:A:1516:PHE:CD2	2.53	0.44
1:A:2387:LEU:HD21	1:A:2463:HIS:HB3	1.99	0.44
1:A:3057:GLN:OE1	1:A:3060:ARG:NH1	2.51	0.44
1:B:311:HIS:HA	1:B:314:VAL:HG22	2.00	0.44
1:B:516:ASP:HA	1:B:563:ARG:NH1	2.30	0.44
1:B:718:PHE:CE1	1:B:820:ILE:HD13	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:724:ARG:HH21	1:B:729:THR:HA	1.81	0.44
1:B:1090:ARG:HH21	1:B:1121:ASP:HA	1.83	0.44
1:B:1135:LEU:HD22	1:B:1190:TYR:HD1	1.83	0.44
1:B:2107:ARG:HD3	1:B:2136:ILE:HG12	2.00	0.44
1:B:3452:ALA:O	1:B:3455:ILE:HG22	2.17	0.44
2:D:339:THR:HG22	2:D:387:VAL:HG23	1.99	0.44
1:A:1568:PHE:O	1:A:1572:SER:N	2.43	0.44
1:A:2591:LEU:HA	1:A:2731:VAL:HG23	2.00	0.44
1:B:35:ARG:NH2	1:B:53:GLU:OE2	2.51	0.44
1:B:2885:ASP:HB3	1:B:2888:GLU:OE1	2.18	0.44
2:D:287:TRP:HZ2	2:D:586:ALA:HB2	1.83	0.44
2:D:359:LEU:O	2:D:370:VAL:N	2.47	0.44
7:O:123:MET:N	7:O:135:TRP:O	2.38	0.44
1:A:158:ALA:HB3	1:A:159:PRO:HD3	2.00	0.44
1:A:365:ARG:NH2	1:A:429:LYS:O	2.50	0.44
1:A:1539:ASP:O	1:A:1543:ARG:HG2	2.18	0.44
1:A:1619:LEU:HD21	1:A:1638:LEU:HD21	2.00	0.44
1:A:1698:ILE:HD12	1:A:1701:TRP:NE1	2.33	0.44
1:A:2607:SER:HA	1:A:2610:ARG:NE	2.32	0.44
1:A:2660:VAL:HG22	1:A:2707:GLN:HB3	2.00	0.44
1:A:2999:VAL:HG13	1:A:3004:PHE:HB2	2.00	0.44
1:A:3196:GLU:O	1:A:3200:HIS:ND1	2.32	0.44
1:A:3398:ALA:C	1:A:3400:LEU:H	2.26	0.44
1:A:3607:ARG:O	1:A:3608:LYS:HG2	2.18	0.44
1:A:3954:ASP:OD2	1:A:3956:GLN:NE2	2.50	0.44
1:B:332:TYR:CE1	1:B:335:LEU:HD22	2.53	0.44
1:B:567:ARG:O	1:B:571:GLN:HG3	2.18	0.44
1:B:1090:ARG:HH22	1:B:1124:HIS:CB	2.31	0.44
1:B:4534:TRP:CD2	1:B:4594:LYS:HD3	2.52	0.44
2:C:187:LYS:HB3	4:G:30:ILE:HG13	2.00	0.44
3:F:59:VAL:HG12	3:F:108:ILE:HA	2.00	0.44
3:F:231:CYS:HB2	3:F:271:TYR:CD1	2.52	0.44
3:F:259:ARG:HH11	3:F:323:LEU:HD22	1.83	0.44
7:O:218:MET:HG3	7:O:230:PHE:HE1	1.82	0.44
7:O:287:GLU:HA	7:O:290:TYR:CE1	2.53	0.44
7:P:269:LYS:NZ	7:P:325:VAL:O	2.50	0.44
1:A:143:ASP:N	1:A:143:ASP:OD1	2.50	0.44
1:A:1959:GLU:N	1:A:2017:THR:O	2.51	0.44
1:B:1204:PHE:H	5:J:5:LYS:CE	2.31	0.44
1:B:1478:VAL:HG11	1:B:1488:ARG:HH21	1.83	0.44
1:B:1661:VAL:HG22	1:B:1676:ILE:HD12	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1965:GLU:HB3	1:B:4101:LEU:HD22	2.00	0.44
1:B:3433:VAL:HA	1:B:3436:MET:HE2	1.99	0.44
1:B:4554:ASP:OD2	1:B:4557:SER:OG	2.28	0.44
5:J:52:PRO:HA	5:J:53:THR:HA	1.66	0.44
1:A:52:LEU:HD12	1:A:101:TYR:CD1	2.53	0.43
1:A:2661:LEU:HD22	1:A:2708:PHE:HE1	1.83	0.43
1:A:3386:SER:OG	1:A:3389:CYS:SG	2.76	0.43
1:B:344:LEU:HD23	1:B:356:ALA:HB1	2.00	0.43
1:B:845:GLU:HA	1:B:848:ASP:OD2	2.17	0.43
1:B:1654:PHE:HA	1:B:1657:MET:HE2	2.00	0.43
1:B:1709:MET:HE3	1:B:1871:GLU:HA	1.99	0.43
1:B:2446:ILE:HD11	1:B:2714:PRO:HB3	1.99	0.43
1:B:3096:ASP:OD1	1:B:3097:TRP:N	2.51	0.43
2:D:426:HIS:ND1	2:D:427:LYS:HG2	2.33	0.43
3:F:219:LEU:HD22	3:F:222:ASN:CG	2.43	0.43
6:L:45:ASN:O	6:L:46:VAL:C	2.61	0.43
1:A:22:GLN:NE2	1:A:124:VAL:O	2.51	0.43
1:A:136:ARG:HG3	1:B:152:PHE:CZ	2.52	0.43
1:A:170:LYS:HG2	1:A:179:ALA:HB3	2.00	0.43
1:A:385:SER:HB2	1:A:454:PRO:HB3	1.99	0.43
1:A:3731:LEU:HD21	1:A:3790:VAL:HB	2.00	0.43
1:B:463:LEU:HA	1:B:466:MET:HE3	2.01	0.43
1:B:810:LYS:HD3	1:B:810:LYS:HA	1.68	0.43
1:B:1194:GLN:CD	1:B:1211:ILE:HD13	2.43	0.43
1:B:1667:ASN:ND2	1:B:1669:ASP:OD1	2.52	0.43
1:B:2363:TRP:HE1	1:B:2365:SER:HB2	1.83	0.43
2:C:446:ASN:HA	2:C:460:CYS:HA	2.00	0.43
3:F:334:ASP:OD2	3:F:339:PHE:HB2	2.18	0.43
1:A:27:VAL:O	1:A:31:GLN:HB2	2.17	0.43
1:A:154:SER:O	1:A:158:ALA:HB3	2.19	0.43
1:A:461:ALA:HA	1:A:464:ASP:OD2	2.18	0.43
1:A:1209:LEU:HD23	1:A:1209:LEU:H	1.83	0.43
1:A:1805:ARG:NE	1:A:2105:ARG:HH21	2.16	0.43
1:A:2640:GLU:N	1:A:2640:GLU:OE1	2.51	0.43
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.99	0.43
1:B:1550:ILE:O	1:B:1554:SER:OG	2.29	0.43
1:B:2536:ASP:OD1	1:B:2576:ARG:NH1	2.51	0.43
1:B:2691:GLY:HA2	1:B:2703:LEU:HG	2.00	0.43
1:B:3624:GLU:O	1:B:3628:ARG:HG2	2.19	0.43
1:B:4099:VAL:HG11	1:B:4126:LEU:HD22	2.00	0.43
1:B:4413:PHE:CD2	1:B:4492:ILE:HG21	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4631:ASP:OD2	1:B:4633:ARG:NH2	2.51	0.43
7:O:94:TRP:HB2	7:O:409:CYS:HB3	2.00	0.43
1:A:215:ASN:C	1:A:215:ASN:HD22	2.27	0.43
1:A:385:SER:O	1:A:388:LEU:HB2	2.18	0.43
1:A:1183:PHE:O	1:A:1187:VAL:HG23	2.19	0.43
1:A:2492:ARG:HG2	1:A:2545:TRP:NE1	2.33	0.43
1:A:3253:LYS:O	1:A:3257:SER:N	2.49	0.43
1:B:2641:TYR:CE1	1:B:2650:LEU:HD13	2.53	0.43
2:D:425:VAL:HG11	2:D:429:SER:HA	2.00	0.43
2:D:427:LYS:HG3	2:D:428:GLN:OE1	2.19	0.43
5:J:10:ASN:O	5:J:75:TYR:N	2.51	0.43
7:O:354:LEU:HD12	7:O:362:LEU:HD11	2.00	0.43
7:P:212:ARG:HA	7:P:236:TRP:CD1	2.54	0.43
1:A:1867:ASN:O	1:A:1925:ARG:NH1	2.38	0.43
1:B:388:LEU:O	1:B:391:GLN:HG3	2.19	0.43
1:B:657:GLN:HE21	2:D:503:ASP:HB3	1.84	0.43
1:B:793:GLU:HA	1:B:796:GLU:HG3	2.00	0.43
1:B:1182:GLN:CD	1:B:1185:LYS:HZ3	2.26	0.43
3:F:144:THR:HA	3:F:147:GLU:OE2	2.18	0.43
5:I:13:MET:HA	5:I:71:LYS:HA	1.99	0.43
6:K:76:GLY:O	6:L:70:MET:HE2	2.18	0.43
7:P:101:LYS:HE3	7:P:394:TYR:CE2	2.52	0.43
7:P:243:ASN:CG	7:P:248:LEU:H	2.26	0.43
7:P:323:TRP:CZ3	7:P:330:CYS:HB2	2.53	0.43
1:A:2590:PRO:O	1:A:2732:PRO:HD2	2.18	0.43
1:A:3601:MET:HE1	1:A:3611:ARG:HB2	2.00	0.43
1:A:4575:LEU:HG	1:A:4624:PHE:HB3	2.01	0.43
1:B:68:PHE:O	1:B:120:LYS:NZ	2.30	0.43
1:B:72:PRO:O	1:B:75:HIS:NE2	2.51	0.43
1:B:378:LEU:HG	1:B:379:ARG:HH21	1.83	0.43
1:B:382:GLU:O	1:B:386:ARG:HG2	2.18	0.43
1:B:386:ARG:HH11	1:B:455:ALA:HB2	1.84	0.43
1:B:612:VAL:O	1:B:616:ILE:HG12	2.18	0.43
1:B:660:ALA:HA	1:B:663:LYS:HG2	2.00	0.43
1:B:1664:ILE:HG22	1:B:1676:ILE:HG22	2.01	0.43
1:B:1769:MET:HB3	1:B:1831:ASP:HB2	2.01	0.43
1:B:2190:TYR:CE2	1:B:2385:ILE:HD11	2.54	0.43
1:B:2437:LEU:HD21	1:B:2451:ARG:HG3	2.01	0.43
1:B:2855:LEU:HD11	1:B:2863:ARG:HD2	2.00	0.43
1:B:3032:GLN:HA	1:B:3035:GLU:HB3	2.00	0.43
1:B:3191:ARG:O	1:B:3195:GLU:HG2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4192:GLU:HB2	1:B:4321:LEU:HD21	1.99	0.43
2:D:495:HIS:CD2	2:D:495:HIS:H	2.36	0.43
3:E:56:ASN:O	3:E:131:THR:HA	2.19	0.43
3:F:38:SER:OG	3:F:39:ILE:N	2.51	0.43
4:G:72:ARG:HA	4:G:77:GLU:HA	2.00	0.43
7:O:312:LEU:HD21	7:O:353:ILE:HD13	2.00	0.43
1:A:1464:LYS:HA	1:A:1467:ARG:HE	1.84	0.43
1:A:3363:ILE:HG23	1:A:3400:LEU:HD22	2.00	0.43
1:B:568:LEU:O	1:B:572:LEU:N	2.46	0.43
1:B:1018:PHE:CZ	1:B:1020:ARG:HD2	2.53	0.43
1:B:1211:ILE:HG13	1:B:1212:ASP:N	2.34	0.43
1:B:1594:ILE:HB	1:B:1597:VAL:HB	2.01	0.43
1:B:3039:LYS:HB3	7:O:273:ARG:NH2	2.33	0.43
3:F:358:ASP:OD1	3:F:358:ASP:N	2.51	0.43
4:G:5:GLU:HA	4:G:8:LEU:HD12	2.00	0.43
5:I:8:ILE:HA	5:I:76:PHE:HB3	2.00	0.43
5:J:70:THR:O	5:J:72:HIS:ND1	2.48	0.43
7:O:123:MET:HE1	7:O:406:VAL:HG22	2.01	0.43
7:O:174:ILE:HB	7:O:188:MET:HB2	2.00	0.43
1:A:185:LYS:NZ	1:B:192:GLY:HA3	2.33	0.43
1:B:462:ARG:HH21	1:B:537:ASP:CB	2.27	0.43
1:B:641:LEU:HA	1:B:748:LYS:HZ1	1.84	0.43
1:B:1037:TYR:HB3	3:F:121:PHE:CZ	2.54	0.43
1:B:3044:LEU:HD23	1:B:3049:GLU:HB2	2.01	0.43
1:B:3835:ILE:HG12	1:B:3870:ARG:HD2	2.01	0.43
2:D:579:THR:HG21	2:D:584:GLU:CD	2.44	0.43
3:F:141:ARG:HB2	3:F:143:TRP:HE1	1.84	0.43
3:F:168:GLU:HG2	3:F:169:LYS:HD3	2.01	0.43
7:O:127:SER:OG	7:O:128:GLU:N	2.51	0.43
7:P:136:ASP:O	7:P:140:GLY:N	2.47	0.43
1:A:148:THR:O	1:A:152:PHE:HD1	2.01	0.43
1:A:173:ARG:HD2	1:B:283:ARG:NH2	2.34	0.43
1:A:211:PRO:O	1:A:214:THR:OG1	2.33	0.43
1:A:1529:ARG:HE	1:A:1592:LEU:HD11	1.84	0.43
1:A:2065:LEU:HD22	1:A:2137:LEU:HD22	2.00	0.43
1:A:2446:ILE:HD12	1:A:2446:ILE:HA	1.88	0.43
1:B:178:MET:O	1:B:182:VAL:HG13	2.19	0.43
1:B:1213:ASN:HA	5:J:11:ALA:H	1.83	0.43
1:B:2914:GLU:OE1	1:B:2914:GLU:N	2.49	0.43
1:B:3039:LYS:HE2	7:O:273:ARG:NH2	2.34	0.43
7:P:129:ASP:OD1	7:P:129:ASP:N	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2091:ARG:NH2	8:A:4701:ADP:O2A	2.52	0.43
1:A:2784:PHE:HB2	1:A:2794:TYR:HE2	1.84	0.43
1:A:3389:CYS:HA	1:A:3392:MET:HE2	2.01	0.43
1:B:52:LEU:O	1:B:56:LEU:HG	2.18	0.43
1:B:1882:THR:HA	1:B:2048:LEU:HD23	2.01	0.43
1:B:2900:PHE:CE2	1:B:2905:LEU:HB3	2.53	0.43
1:B:4110:GLU:HG3	1:B:4138:LEU:HA	2.00	0.43
2:D:576:VAL:HG12	2:D:587:VAL:HG22	2.00	0.43
3:F:60:PHE:HE2	3:F:148:SER:HB2	1.83	0.43
5:I:2:CYS:C	5:I:4:ARG:H	2.26	0.43
7:O:194:ASN:O	7:O:212:ARG:N	2.50	0.43
7:O:212:ARG:HA	7:O:236:TRP:CD1	2.54	0.43
7:P:387:ASP:OD1	7:P:388:PHE:N	2.52	0.43
1:A:1446:VAL:O	1:A:1450:LEU:N	2.43	0.42
1:A:1671:SER:HB2	1:A:1693:THR:HG23	2.01	0.42
1:A:1926:PHE:O	1:A:1954:TRP:N	2.49	0.42
1:A:2047:GLN:NE2	1:A:2051:GLN:OE1	2.49	0.42
1:A:2324:LEU:HD22	1:A:2332:ARG:HB3	2.01	0.42
1:A:2616:GLU:OE1	1:A:2654:GLN:NE2	2.52	0.42
1:A:2905:LEU:HD12	1:A:2905:LEU:HA	1.90	0.42
1:A:3615:LEU:HD11	1:A:4111:LYS:HD3	2.00	0.42
1:B:871:HIS:HB2	1:B:992:VAL:HG13	2.01	0.42
1:B:981:LYS:NZ	3:F:90:TYR:HH	2.15	0.42
1:B:2654:GLN:NE2	1:B:2657:LYS:O	2.48	0.42
1:B:2837:LEU:HD13	1:B:2842:GLU:HB3	2.01	0.42
1:B:3839:VAL:HG21	1:B:3863:LEU:HA	2.00	0.42
1:B:4423:LEU:HD11	1:B:4466:HIS:ND1	2.34	0.42
2:D:327:TYR:HB3	2:D:360:TRP:HH2	1.84	0.42
5:I:74:ILE:HG12	5:I:76:PHE:CD1	2.54	0.42
7:O:152:SER:C	7:O:169:SER:HG	2.26	0.42
7:O:371:ARG:NH1	7:O:373:MET:HG3	2.34	0.42
1:A:388:LEU:O	1:A:389:SER:C	2.63	0.42
1:A:1766:LEU:HD13	1:A:1833:ALA:HA	2.01	0.42
1:B:38:VAL:HG11	1:B:52:LEU:HD11	2.00	0.42
1:B:1061:TRP:C	1:B:1063:MET:H	2.26	0.42
1:B:1079:TRP:O	1:B:1083:LEU:HD23	2.20	0.42
1:B:4002:LEU:O	1:B:4006:HIS:ND1	2.45	0.42
2:D:267:LEU:HA	2:D:597:TYR:HB3	2.01	0.42
2:D:288:SER:HB2	2:D:340:PHE:CE2	2.54	0.42
2:D:347:LEU:HD23	2:D:359:LEU:HD11	2.01	0.42
2:D:401:ILE:HD12	2:D:406:LYS:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:96:LYS:HE3	1:A:96:LYS:HB3	1.90	0.42
1:A:2150:VAL:HA	1:A:2363:TRP:CD1	2.54	0.42
1:B:1039:ALA:O	1:B:1043:ILE:HG12	2.18	0.42
1:B:2419:ALA:O	1:B:2423:MET:HG2	2.18	0.42
1:B:3322:GLU:OE2	1:B:3377:TYR:OH	2.33	0.42
1:B:3909:LEU:HD21	1:B:4343:MET:HE3	2.02	0.42
2:C:184:GLU:HA	2:C:187:LYS:HE2	2.01	0.42
5:J:13:MET:HE2	5:J:73:PHE:C	2.43	0.42
6:K:70:MET:HE3	6:L:70:MET:HE1	2.00	0.42
7:P:151:ASP:OD1	7:P:152:SER:N	2.47	0.42
1:A:31:GLN:HE21	1:A:56:LEU:HG	1.84	0.42
1:A:372:TYR:HD2	1:A:377:ALA:HB2	1.84	0.42
1:A:1558:LYS:HG3	1:A:1565:THR:HG21	2.01	0.42
1:A:3154:LEU:HB3	1:A:3171:ILE:HG13	2.01	0.42
1:B:1535:ASP:OD1	1:B:2292:ARG:NH2	2.46	0.42
1:B:4226:THR:HG21	1:B:4239:PRO:HD3	2.02	0.42
1:B:4282:PHE:HB3	1:B:4296:MET:HB2	2.01	0.42
2:C:271:PHE:O	2:C:594:ILE:N	2.51	0.42
3:F:59:VAL:HG23	3:F:134:ILE:O	2.19	0.42
6:K:97:TRP:HE3	6:K:104:CYS:HB3	1.85	0.42
1:A:264:ARG:NH1	1:A:274:GLU:OE1	2.53	0.42
1:A:1196:LEU:HA	1:A:1199:LYS:HG2	2.02	0.42
1:A:1526:LYS:HB2	1:A:1526:LYS:HE3	1.80	0.42
1:A:2149:LEU:HD11	1:A:2157:LEU:HD13	2.01	0.42
1:A:2964:HIS:H	1:A:2967:TYR:HB2	1.84	0.42
1:A:3835:ILE:HG23	1:A:3866:VAL:HG12	2.02	0.42
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	2.02	0.42
1:A:4185:TRP:CD1	1:A:4284:LEU:HD22	2.55	0.42
1:B:642:PRO:HG2	1:B:749:GLU:HG2	2.01	0.42
1:B:1698:ILE:HD12	1:B:1701:TRP:HE1	1.85	0.42
1:B:2901:TYR:HA	1:B:2905:LEU:O	2.20	0.42
1:B:3662:ILE:HG23	1:B:3669:ILE:HB	2.01	0.42
4:G:14:GLN:HB3	4:G:17:VAL:HG21	2.01	0.42
7:O:109:SER:HB3	7:O:128:GLU:HB2	2.01	0.42
1:A:441:LYS:HE3	1:A:448:MET:HE1	2.01	0.42
1:A:1537:TRP:HE3	1:A:1601:LEU:HD11	1.83	0.42
1:A:2069:ILE:HB	1:A:2137:LEU:HD21	2.02	0.42
1:B:309:ARG:HG3	1:B:311:HIS:CE1	2.55	0.42
1:B:578:ALA:HB1	1:B:582:PHE:CE2	2.55	0.42
1:B:634:LYS:O	1:B:638:VAL:HG23	2.20	0.42
1:B:916:GLN:HB2	1:B:1026:MET:HE1	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3008:MET:HA	1:B:3008:MET:HE3	2.02	0.42
1:B:3381:ILE:HG23	1:B:3390:GLY:HA2	2.00	0.42
3:F:139:MET:SD	3:F:139:MET:N	2.74	0.42
5:I:13:MET:HE3	5:I:17:MET:SD	2.60	0.42
5:J:11:ALA:HA	5:J:74:ILE:HA	2.02	0.42
7:O:113:ARG:HA	7:O:385:SER:OG	2.20	0.42
1:B:750:VAL:O	1:B:754:LYS:HG2	2.19	0.42
1:B:1020:ARG:HH22	3:F:84:ARG:N	2.17	0.42
1:B:1090:ARG:HH22	1:B:1124:HIS:HB2	1.85	0.42
1:B:2094:LYS:HE3	8:B:4701:ADP:O2'	2.20	0.42
1:B:2773:MET:HG2	1:B:2825:TRP:HE1	1.85	0.42
1:B:4232:ASN:OD1	1:B:4233:ILE:N	2.53	0.42
2:D:273:ASP:O	2:D:277:SER:OG	2.23	0.42
2:D:536:HIS:HB3	2:D:539:LEU:HB3	2.00	0.42
4:H:46:MET:O	4:H:50:ILE:HG12	2.20	0.42
5:I:63:GLY:HA2	5:J:36:LYS:HG2	2.01	0.42
7:O:128:GLU:HA	7:O:152:SER:HB2	2.00	0.42
1:A:376:ARG:O	1:A:380:LEU:HG	2.20	0.42
1:A:1181:LYS:HG2	1:A:1185:LYS:NZ	2.34	0.42
1:A:1591:VAL:HA	1:A:1594:ILE:HG13	2.00	0.42
1:A:4565:LEU:O	1:A:4583:THR:N	2.50	0.42
1:B:49:PRO:HG3	1:B:81:ARG:NH2	2.35	0.42
1:B:292:ARG:HH12	1:B:320:THR:HG22	1.85	0.42
1:B:336:MET:HA	1:B:339:PHE:HE2	1.84	0.42
1:B:484:LEU:HD11	1:B:563:ARG:NH1	2.35	0.42
1:B:1859:ILE:N	1:B:1866:PHE:O	2.47	0.42
1:B:2206:LYS:HA	1:B:2206:LYS:HD3	1.84	0.42
1:B:3380:GLU:OE1	1:B:3380:GLU:N	2.52	0.42
1:B:4603:SER:O	1:B:4626:ILE:HG12	2.20	0.42
2:D:485:HIS:HA	2:D:532:TRP:CD1	2.54	0.42
3:F:55:LYS:HZ3	3:F:130:GLU:HA	1.83	0.42
3:F:141:ARG:HB2	3:F:143:TRP:NE1	2.35	0.42
1:A:40:LEU:C	1:B:132:SER:HG	2.22	0.42
1:A:214:THR:HA	1:A:296:GLU:OE1	2.20	0.42
1:A:3131:ASP:OD1	1:A:3132:LYS:N	2.53	0.42
1:A:3214:GLN:O	1:A:3217:GLU:HG3	2.20	0.42
1:A:4106:LEU:HD23	1:A:4106:LEU:HA	1.87	0.42
1:B:85:LYS:HE3	1:B:95:GLU:HB2	2.02	0.42
1:B:977:GLU:OE1	1:B:977:GLU:N	2.37	0.42
1:B:1965:GLU:OE2	1:B:2026:SER:HB3	2.19	0.42
1:B:2172:ARG:NH1	1:B:2173:GLY:O	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3524:MET:HA	1:B:3527:ASN:HB2	2.02	0.42
1:B:3846:LEU:HD22	1:B:3855:ARG:HD2	2.00	0.42
2:C:214:GLN:HB2	2:D:209:ARG:NH1	2.34	0.42
3:F:39:ILE:O	3:F:43:VAL:HG13	2.20	0.42
5:I:10:ASN:HB2	5:I:75:TYR:HB3	2.02	0.42
7:P:217:LYS:HG2	7:P:229:THR:HG23	2.02	0.42
1:A:1458:ALA:HA	1:A:1461:GLU:CD	2.44	0.42
1:A:2156:LEU:HD21	1:A:4400:ARG:HH12	1.85	0.42
1:A:2224:GLY:O	1:A:2346:GLN:HA	2.20	0.42
1:A:3432:GLU:O	1:A:3436:MET:HG2	2.20	0.42
1:A:3709:GLN:HG3	1:A:3809:SER:HB3	2.02	0.42
1:B:143:ASP:OD1	1:B:143:ASP:N	2.53	0.42
1:B:413:MET:HA	1:B:416:CYS:SG	2.60	0.42
1:B:526:ALA:O	1:B:553:TYR:CZ	2.73	0.42
1:B:655:ASP:OD1	1:B:690:ARG:NE	2.53	0.42
1:B:716:ARG:H	1:B:738:ASN:HD22	1.68	0.42
1:B:1054:TRP:HE1	1:B:1112:VAL:HG21	1.85	0.42
1:B:1138:ASN:OD1	1:B:1139:MET:N	2.53	0.42
1:B:1933:ASP:HA	1:B:1962:ARG:HE	1.84	0.42
1:B:2713:ASN:OD1	1:B:2720:ARG:NH2	2.47	0.42
1:B:3175:HIS:HB3	1:B:3516:TYR:CE1	2.55	0.42
1:B:4526:GLN:OE1	1:B:4536:LEU:HD11	2.20	0.42
2:D:485:HIS:HE1	2:D:537:PRO:HA	1.85	0.42
4:G:6:GLU:O	4:G:9:LYS:HG3	2.20	0.42
4:G:52:LYS:HZ2	4:H:49:PHE:HA	1.85	0.42
7:O:253:SER:OG	7:O:254:ASN:N	2.53	0.42
7:P:330:CYS:SG	7:P:331:LEU:N	2.93	0.42
1:A:285:LEU:HB2	1:A:322:LEU:HD21	2.01	0.41
1:A:1191:ARG:NH2	1:A:1215:GLU:OE2	2.53	0.41
1:A:2363:TRP:HE1	1:A:2365:SER:HB3	1.85	0.41
1:A:3196:GLU:HG3	1:A:3200:HIS:HE1	1.85	0.41
1:A:3885:MET:HE2	1:A:3885:MET:HB2	1.78	0.41
1:A:4178:ARG:NH2	1:A:4297:PRO:O	2.53	0.41
1:B:782:ILE:HA	1:B:785:VAL:HG12	2.02	0.41
1:B:2444:GLU:H	1:B:2510:MET:HE2	1.85	0.41
1:B:3260:ILE:HA	1:B:3263:GLN:CD	2.45	0.41
2:D:266:SER:O	2:D:597:TYR:HB2	2.20	0.41
3:E:95:ASP:O	3:E:99:ASP:N	2.48	0.41
3:F:254:ILE:O	3:F:258:LEU:HG	2.20	0.41
4:H:21:ILE:HD12	4:H:31:LYS:HB2	2.02	0.41
7:O:193:HIS:HD1	7:O:194:ASN:H	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:193:HIS:HB3	7:O:212:ARG:HB3	2.02	0.41
7:P:112:THR:HA	7:P:384:THR:HG21	2.02	0.41
7:P:165:LEU:HB3	7:P:177:TRP:HB2	2.02	0.41
7:P:243:ASN:ND2	7:P:248:LEU:H	2.17	0.41
7:P:248:LEU:HB3	7:P:284:TRP:HH2	1.85	0.41
1:A:2148:LYS:HB2	1:A:2361:MET:HB2	2.02	0.41
1:A:4408:PRO:HB3	1:A:4411:ARG:HH21	1.86	0.41
1:B:43:GLU:OE2	1:B:81:ARG:NH2	2.40	0.41
1:B:543:THR:O	1:B:547:GLU:OE1	2.37	0.41
1:B:1141:GLU:O	1:B:1145:GLN:HG2	2.20	0.41
1:B:2374:ILE:H	1:B:2374:ILE:HG13	1.71	0.41
1:B:3005:LEU:HD23	1:B:3005:LEU:HA	1.94	0.41
4:G:43:ALA:HA	4:G:46:MET:CG	2.48	0.41
6:L:44:THR:O	6:L:48:GLU:HG2	2.20	0.41
1:A:25:ALA:HB3	1:A:69:LEU:HD13	2.01	0.41
1:A:1598:GLN:O	1:A:1602:GLU:HG2	2.20	0.41
1:A:2427:PHE:CE1	1:A:2433:VAL:HG21	2.56	0.41
1:A:2996:GLU:OE1	1:A:2996:GLU:N	2.51	0.41
1:A:3684:PRO:HD2	1:A:4140:ARG:NH2	2.35	0.41
1:B:401:LEU:HD12	1:B:409:PHE:HE1	1.85	0.41
1:B:2427:PHE:CD1	1:B:2433:VAL:HG21	2.55	0.41
1:B:4599:GLU:C	1:B:4600:LYS:HD2	2.45	0.41
4:G:45:LEU:HD12	4:G:45:LEU:HA	1.87	0.41
4:G:70:ARG:HH21	4:G:72:ARG:HH21	1.69	0.41
5:I:8:ILE:HD13	5:I:18:GLN:HE22	1.84	0.41
1:A:1525:ASP:OD2	1:A:1529:ARG:NH1	2.50	0.41
1:A:1707:LYS:O	1:A:1707:LYS:HD3	2.21	0.41
1:A:1888:CYS:HA	1:A:2039:LEU:HD22	2.03	0.41
1:A:2967:TYR:OH	1:A:2975:ASP:OD2	2.31	0.41
1:A:4099:VAL:HB	1:A:4106:LEU:HD21	2.02	0.41
1:B:794:LYS:HA	1:B:794:LYS:HD3	1.80	0.41
1:B:1071:ARG:CZ	3:F:43:VAL:HG12	2.51	0.41
1:B:1224:ILE:HD12	1:B:1228:LYS:NZ	2.36	0.41
1:B:1495:ASN:HA	1:B:1498:LYS:NZ	2.36	0.41
1:B:2879:LYS:HE2	7:O:336:GLY:HA2	2.01	0.41
1:B:2943:LYS:HG2	1:B:3094:PHE:HD2	1.85	0.41
1:B:3040:GLU:OE2	1:B:3042:LEU:HB2	2.19	0.41
3:E:273:SER:O	3:E:277:GLU:N	2.53	0.41
3:F:179:LYS:HE3	3:F:179:LYS:HB3	1.83	0.41
3:F:222:ASN:OD1	3:F:223:LEU:N	2.53	0.41
6:K:29:ILE:HD11	6:K:69:ILE:HD11	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:K:68:VAL:CG1	6:K:70:MET:HE2	2.51	0.41
1:A:90:ASP:N	1:A:90:ASP:OD1	2.52	0.41
1:A:309:ARG:HG3	1:A:311:HIS:CE1	2.56	0.41
1:A:3409:VAL:HA	1:A:3412:LEU:HD12	2.02	0.41
1:A:3585:ARG:NH1	1:A:3694:SER:O	2.39	0.41
1:A:3873:ARG:HD3	1:A:3873:ARG:HA	1.81	0.41
1:A:4297:PRO:HG3	1:A:4308:TRP:CG	2.55	0.41
1:A:4511:LEU:HD23	1:A:4511:LEU:HA	1.91	0.41
1:A:4600:LYS:HZ1	1:A:4604:VAL:H	1.68	0.41
1:B:969:ILE:HD13	1:B:969:ILE:HA	1.94	0.41
1:B:971:LEU:HB3	1:B:974:PRO:HA	2.02	0.41
1:B:976:GLU:HB2	3:F:88:TYR:OH	2.20	0.41
1:B:2385:ILE:O	1:B:2416:GLN:NE2	2.46	0.41
1:B:2859:PRO:O	1:B:2861:ILE:HG23	2.20	0.41
1:B:2876:TRP:CE2	1:B:2953:MET:HE1	2.55	0.41
1:B:3691:ASP:OD1	1:B:3692:LEU:N	2.53	0.41
2:C:214:GLN:C	2:D:209:ARG:HH12	2.29	0.41
2:D:456:VAL:O	2:D:472:PHE:HB2	2.21	0.41
2:D:472:PHE:HA	2:D:514:ASN:OD1	2.20	0.41
3:F:55:LYS:HE2	3:F:130:GLU:HB3	2.02	0.41
3:F:72:THR:OG1	3:F:77:ALA:HB3	2.20	0.41
4:H:10:ARG:HG3	4:H:11:LEU:HD22	2.01	0.41
6:L:97:TRP:HE3	6:L:104:CYS:HB3	1.86	0.41
7:O:340:TRP:HB2	7:O:358:ASP:OD2	2.19	0.41
7:P:146:LEU:HB3	7:P:177:TRP:CZ3	2.55	0.41
1:A:178:MET:O	1:A:181:SER:OG	2.26	0.41
1:A:918:GLY:HA2	1:A:950:GLY:HA2	2.02	0.41
1:A:2071:PRO:HB3	1:A:4536:LEU:HD23	2.02	0.41
1:B:368:ARG:HD2	1:B:368:ARG:HA	1.81	0.41
1:B:1196:LEU:O	1:B:1200:GLN:HG2	2.20	0.41
1:B:1581:LYS:HA	1:B:1584:LYS:NZ	2.36	0.41
1:B:2896:ARG:HA	1:B:2896:ARG:HD3	1.85	0.41
1:B:3112:LYS:HD3	1:B:3112:LYS:HA	1.82	0.41
1:B:3928:THR:HG22	1:B:3929:VAL:N	2.36	0.41
1:B:4297:PRO:HG3	1:B:4308:TRP:CD2	2.55	0.41
7:P:395:VAL:HG23	7:P:407:TRP:HD1	1.86	0.41
1:A:81:ARG:HA	1:A:101:TYR:HA	2.02	0.41
1:A:2534:ILE:H	1:A:2534:ILE:HD12	1.86	0.41
1:A:3196:GLU:HG3	1:A:3200:HIS:CE1	2.55	0.41
1:A:4541:LEU:HD21	1:A:4590:LEU:HD12	2.03	0.41
1:B:180:PRO:HA	1:B:183:GLU:CD	2.45	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:242:LEU:O	1:B:246:GLN:OE1	2.39	0.41
1:B:722:SER:HB3	1:B:731:ASN:ND2	2.30	0.41
1:B:865:GLU:HG2	1:B:910:ILE:HD13	2.02	0.41
1:B:1135:LEU:HD13	1:B:1190:TYR:HE1	1.85	0.41
1:B:1698:ILE:O	1:B:1702:LEU:HD23	2.20	0.41
1:B:2308:ASP:O	1:B:2312:VAL:HG12	2.21	0.41
1:B:2654:GLN:NE2	1:B:2657:LYS:HB2	2.35	0.41
2:C:448:VAL:HA	2:C:458:THR:HA	2.02	0.41
2:D:445:ASN:OD1	2:D:461:ARG:N	2.50	0.41
3:F:62:GLU:CD	3:F:141:ARG:HH12	2.28	0.41
4:G:23:VAL:HG11	4:G:43:ALA:HB1	2.02	0.41
5:I:36:LYS:HE3	5:I:36:LYS:HB3	1.87	0.41
7:O:130:ALA:HA	7:O:153:VAL:HG23	2.02	0.41
7:P:194:ASN:C	7:P:211:SER:HG	2.27	0.41
1:A:2601:LYS:N	8:A:4703:ADP:O1B	2.54	0.41
1:B:633:CYS:SG	1:B:634:LYS:HD3	2.61	0.41
1:B:1817:HIS:CD2	1:B:1881:GLN:HG2	2.56	0.41
1:B:3263:GLN:HA	1:B:3266:LYS:HD2	2.02	0.41
3:F:142:PRO:HB2	3:F:254:ILE:CD1	2.51	0.41
3:F:240:LEU:HB3	3:F:246:TYR:CD2	2.56	0.41
6:L:28:ALA:HB2	6:L:49:GLN:NE2	2.36	0.41
1:A:27:VAL:HA	1:A:65:MET:HE1	2.03	0.41
1:A:43:GLU:HG3	1:A:81:ARG:HH22	1.86	0.41
1:A:347:ALA:HA	1:A:352:LYS:HD3	2.03	0.41
1:A:1476:ASP:O	1:A:1487:ILE:HA	2.21	0.41
1:A:2270:PRO:HA	1:A:2273:ARG:NH1	2.36	0.41
1:A:3005:LEU:HD11	1:A:3078:ARG:HE	1.85	0.41
1:A:3194:LEU:HD23	1:A:3500:MET:HE2	2.03	0.41
1:A:3731:LEU:HG	1:A:3787:THR:HG23	2.03	0.41
1:A:4085:ASN:HB3	7:O:205:ASP:OD2	2.21	0.41
1:B:232:PHE:CE2	1:B:303:ILE:HG21	2.56	0.41
1:B:718:PHE:HB2	1:B:736:LYS:O	2.20	0.41
1:B:783:GLU:HG2	2:D:375:LEU:HD22	2.03	0.41
1:B:974:PRO:HD2	1:B:977:GLU:CD	2.46	0.41
1:B:980:TYR:HD2	3:F:90:TYR:HH	1.64	0.41
1:B:1125:LYS:HA	1:B:1128:LEU:HD12	2.03	0.41
1:B:1150:ARG:O	1:B:1153:LEU:HG	2.21	0.41
1:B:1494:PHE:O	1:B:1498:LYS:HG3	2.21	0.41
1:B:2211:TYR:O	1:B:2214:THR:OG1	2.36	0.41
1:B:2894:LYS:HB2	1:B:2894:LYS:HE3	1.85	0.41
1:B:2976:LEU:HD23	1:B:2976:LEU:HA	1.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3248:GLN:O	1:B:3252:LYS:N	2.42	0.41
1:B:3358:GLU:OE1	1:B:3366:LYS:NZ	2.48	0.41
1:B:3638:VAL:CG2	1:B:3679:LEU:HB3	2.51	0.41
2:D:205:ARG:HH21	2:D:327:TYR:HE1	1.69	0.41
4:H:26:GLU:HA	4:H:87:PHE:CE2	2.49	0.41
5:I:46:PHE:HD2	5:I:54:TRP:CD2	2.38	0.41
7:O:273:ARG:O	7:O:273:ARG:HG2	2.21	0.41
7:P:163:LYS:HE3	7:P:163:LYS:HB2	1.80	0.41
7:P:243:ASN:ND2	7:P:247:THR:H	2.19	0.41
7:P:279:VAL:HA	7:P:315:SER:HA	2.02	0.41
1:A:1075:ASP:O	1:A:1076:LEU:C	2.64	0.41
1:A:1859:ILE:HD11	1:A:1868:TYR:HD1	1.86	0.41
1:A:2596:PRO:HB2	1:A:2738:TYR:CE1	2.56	0.41
1:A:2905:LEU:HD11	1:A:3652:GLU:HB3	2.03	0.41
1:A:4511:LEU:HD23	1:A:4514:LEU:HD12	2.02	0.41
1:B:205:ILE:HD12	1:B:255:GLU:CD	2.47	0.41
1:B:539:SER:O	1:B:541:GLU:N	2.54	0.41
1:B:801:ILE:HD11	1:B:850:LEU:CB	2.51	0.41
1:B:1195:ARG:O	1:B:1199:LYS:HG2	2.20	0.41
1:B:3253:LYS:HB3	1:B:3433:VAL:HG13	2.03	0.41
3:F:270:ILE:HG22	3:F:271:TYR:N	2.36	0.41
1:A:40:LEU:HD11	1:B:36:LYS:HD2	2.02	0.40
1:A:210:HIS:NE2	1:A:212:MET:HG2	2.36	0.40
1:A:278:TRP:O	1:A:281:LEU:HG	2.21	0.40
1:A:368:ARG:NH2	1:A:440:ARG:HG3	2.35	0.40
1:A:1477:LEU:HB3	1:A:1485:ARG:HB3	2.03	0.40
1:A:1643:ASN:CG	1:A:1649:LYS:HD2	2.46	0.40
1:A:2598:GLY:HA3	1:A:2795:SER:HB2	2.03	0.40
1:A:2912:PHE:CE2	1:A:2914:GLU:HB2	2.56	0.40
1:A:4296:MET:HE2	1:A:4296:MET:HA	2.03	0.40
1:B:59:LYS:HZ1	1:B:63:GLU:HB2	1.85	0.40
1:B:1464:LYS:O	1:B:1467:ARG:N	2.50	0.40
1:B:4430:ASP:O	1:B:4434:VAL:HG23	2.20	0.40
3:F:134:ILE:HG13	3:F:135:PHE:N	2.37	0.40
5:I:4:ARG:HH22	5:I:81:VAL:HG23	1.86	0.40
1:A:365:ARG:HD3	1:A:433:LEU:HD22	2.03	0.40
1:A:2206:LYS:HD3	1:A:2206:LYS:HA	1.86	0.40
1:A:2500:TRP:HB3	1:A:2580:LEU:HD11	2.03	0.40
1:A:4430:ASP:O	1:A:4434:VAL:HG23	2.21	0.40
1:A:4448:LEU:HD23	1:A:4448:LEU:HA	1.94	0.40
1:B:716:ARG:HD2	1:B:820:ILE:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:780:SER:O	1:B:783:GLU:HG3	2.22	0.40
1:B:1561:LEU:HD22	1:B:1564:GLU:OE2	2.21	0.40
1:B:1728:GLY:O	1:B:1729:LYS:HG2	2.21	0.40
1:B:1930:PHE:HA	1:B:2326:THR:HG21	2.03	0.40
1:B:3190:LYS:HD3	1:B:3190:LYS:HA	1.85	0.40
1:B:3576:ASN:HA	1:B:3579:MET:HE3	2.03	0.40
2:D:426:HIS:CD2	2:D:468:ILE:HG21	2.57	0.40
5:J:17:MET:HE2	5:J:50:TYR:CD1	2.56	0.40
5:J:32:TYR:HB2	5:J:38:ILE:HD13	2.03	0.40
7:O:101:LYS:NZ	7:O:408:GLU:OE2	2.44	0.40
1:A:378:LEU:O	1:A:382:GLU:OE1	2.39	0.40
1:A:1146:ILE:HD11	1:A:1183:PHE:CE2	2.56	0.40
1:A:1946:VAL:HG22	1:A:2006:VAL:HG21	2.03	0.40
1:A:2918:HIS:O	1:A:2922:ILE:HG12	2.21	0.40
1:A:3048:GLU:O	1:A:3052:LYS:HG2	2.21	0.40
1:A:3373:SER:HB3	1:A:3376:SER:OG	2.21	0.40
1:A:3989:ARG:HB3	1:A:4004:MET:HE3	2.03	0.40
1:B:479:VAL:HG13	1:B:480:ILE:HG12	2.02	0.40
1:B:659:THR:HA	1:B:662:MET:HG2	2.03	0.40
1:B:961:GLU:HG2	1:B:972:ASN:O	2.22	0.40
1:B:1698:ILE:HD12	1:B:1701:TRP:NE1	2.36	0.40
1:B:1792:LEU:HD12	1:B:1815:LEU:HD22	2.03	0.40
1:B:2668:LEU:N	1:B:2669:PRO:HD2	2.37	0.40
2:C:205:ARG:NH2	2:C:209:ARG:HH21	2.20	0.40
2:C:293:GLU:O	2:C:318:MET:N	2.53	0.40
2:D:412:LEU:HD12	2:D:412:LEU:HA	1.96	0.40
3:F:157:ARG:NH1	3:F:161:ASP:OD1	2.37	0.40
5:I:46:PHE:HD2	5:I:54:TRP:CE2	2.40	0.40
7:P:155:ASP:OD1	7:P:156:ILE:N	2.54	0.40
1:A:1458:ALA:HA	1:A:1461:GLU:OE2	2.21	0.40
1:A:1661:VAL:HG13	1:A:1676:ILE:HB	2.02	0.40
1:A:2200:GLY:HA2	1:A:2373:MET:HE1	2.03	0.40
1:A:3113:MET:SD	1:A:3184:ALA:HA	2.60	0.40
1:A:3340:SER:O	1:A:3346:ASN:ND2	2.55	0.40
1:A:3766:ILE:O	1:A:3770:LEU:HG	2.20	0.40
1:B:857:ILE:HD11	1:B:881:VAL:HG22	2.04	0.40
1:B:964:ILE:HG13	1:B:968:VAL:C	2.47	0.40
1:B:3169:MET:HG2	1:B:3519:TYR:CE2	2.56	0.40
1:B:3398:ALA:C	1:B:3400:LEU:H	2.28	0.40
1:B:3994:GLN:HB2	1:B:4001:LEU:HD21	2.03	0.40
1:B:4205:TYR:OH	1:B:4261:ASP:OD2	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:287:TRP:CZ3	2:D:318:MET:HE1	2.56	0.40
3:F:336:TYR:CZ	3:F:340:ILE:HD11	2.56	0.40
6:K:12:PHE:CZ	6:K:17:VAL:HG21	2.55	0.40
6:K:64:ILE:HG23	6:L:83:CYS:SG	2.61	0.40
1:A:193:LEU:HA	1:B:178:MET:HE3	2.04	0.40
1:A:1959:GLU:HB3	1:A:1962:ARG:HD3	2.04	0.40
1:A:4393:GLN:HG3	1:A:4428:ARG:CZ	2.52	0.40
1:B:483:VAL:HG21	1:B:588:PHE:HB2	2.03	0.40
1:B:870:ASP:HB3	1:B:873:THR:HG22	2.04	0.40
1:B:1478:VAL:HG11	1:B:1488:ARG:HE	1.86	0.40
1:B:1972:SER:OG	1:B:2031:ASN:ND2	2.54	0.40
2:C:204:THR:HA	4:G:10:ARG:NH1	2.36	0.40
2:C:527:VAL:HA	2:C:543:VAL:O	2.22	0.40
2:D:475:HIS:CE1	2:D:503:ASP:HB2	2.56	0.40
4:G:43:ALA:HA	4:G:46:MET:HE3	2.03	0.40
7:O:284:TRP:HZ3	7:O:309:PRO:HB2	1.86	0.40
7:P:98:PRO:N	7:P:99:PRO:HD2	2.37	0.40
7:P:169:SER:OG	7:P:170:ALA:N	2.55	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	4530/4646 (98%)	4400 (97%)	128 (3%)	2 (0%)	100 100
1	B	4507/4646 (97%)	4375 (97%)	129 (3%)	3 (0%)	48 83
2	C	390/638 (61%)	369 (95%)	21 (5%)	0	100 100
2	D	390/638 (61%)	369 (95%)	21 (5%)	0	100 100
3	E	307/492 (62%)	298 (97%)	9 (3%)	0	100 100
3	F	307/492 (62%)	294 (96%)	12 (4%)	1 (0%)	37 72

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	G	91/96 (95%)	86 (94%)	5 (6%)	0	100	100
4	H	91/96 (95%)	83 (91%)	8 (9%)	0	100	100
5	I	87/89 (98%)	80 (92%)	7 (8%)	0	100	100
5	J	87/89 (98%)	83 (95%)	4 (5%)	0	100	100
6	K	111/113 (98%)	110 (99%)	1 (1%)	0	100	100
6	L	111/113 (98%)	107 (96%)	4 (4%)	0	100	100
7	O	320/410 (78%)	306 (96%)	14 (4%)	0	100	100
7	P	317/410 (77%)	303 (96%)	14 (4%)	0	100	100
All	All	11646/12968 (90%)	11263 (97%)	377 (3%)	6 (0%)	50	83

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3384	ARG
1	B	540	LYS
1	B	3384	ARG
1	A	589	ASN
1	B	1161	ALA
3	F	112	ASP

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	4044/4125 (98%)	4044 (100%)	0	100	100
1	B	4028/4125 (98%)	4028 (100%)	0	100	100
2	C	344/557 (62%)	344 (100%)	0	100	100
2	D	344/557 (62%)	344 (100%)	0	100	100
3	E	279/422 (66%)	279 (100%)	0	100	100
3	F	279/422 (66%)	279 (100%)	0	100	100
4	G	87/89 (98%)	87 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	H	87/89 (98%)	87 (100%)	0	100	100
5	I	78/78 (100%)	78 (100%)	0	100	100
5	J	78/78 (100%)	78 (100%)	0	100	100
6	K	97/97 (100%)	97 (100%)	0	100	100
6	L	97/97 (100%)	97 (100%)	0	100	100
7	O	287/364 (79%)	287 (100%)	0	100	100
7	P	284/364 (78%)	284 (100%)	0	100	100
All	All	10413/11464 (91%)	10413 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (115) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	64	GLN
1	A	114	ASN
1	A	198	GLN
1	A	215	ASN
1	A	219	GLN
1	A	244	GLN
1	A	280	ASN
1	A	355	GLN
1	A	421	GLN
1	A	1186	GLN
1	A	1233	GLN
1	A	1465	GLN
1	A	1569	GLN
1	A	1855	GLN
1	A	1856	GLN
1	A	1950	GLN
1	A	1973	GLN
1	A	1974	GLN
1	A	2171	HIS
1	A	2215	GLN
1	A	2263	HIS
1	A	2464	GLN
1	A	2468	ASN
1	A	2476	HIS
1	A	2485	GLN

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Mol	Chain	Res	Type
1	A	2549	GLN
1	A	2588	HIS
1	A	2698	GLN
1	A	2849	ASN
1	A	3061	ASN
1	A	3152	GLN
1	A	3158	ASN
1	A	3353	ASN
1	A	3383	ASN
1	A	3427	GLN
1	A	3499	GLN
1	A	3526	GLN
1	A	3538	GLN
1	A	3735	GLN
1	A	3754	ASN
1	A	3820	GLN
1	A	3877	HIS
1	A	3952	GLN
1	A	4029	HIS
1	A	4429	GLN
1	A	4444	GLN
1	A	4490	GLN
1	A	4506	ASN
1	A	4530	GLN
1	A	4566	GLN
1	A	4589	GLN
1	B	195	HIS
1	B	280	ASN
1	B	421	GLN
1	B	465	GLN
1	B	487	GLN
1	B	680	GLN
1	B	731	ASN
1	B	871	HIS
1	B	879	ASN
1	B	1174	GLN
1	B	1213	ASN
1	B	1233	GLN
1	B	1495	ASN
1	B	1559	HIS
1	B	1755	GLN
1	B	1841	GLN

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Mol	Chain	Res	Type
1	B	1974	GLN
1	B	1987	ASN
1	B	2031	ASN
1	B	2047	GLN
1	B	2067	ASN
1	B	2212	GLN
1	B	2482	GLN
1	B	2485	GLN
1	B	2827	HIS
1	B	2918	HIS
1	B	3014	ASN
1	B	3233	ASN
1	B	3353	ASN
1	B	3383	ASN
1	B	3427	GLN
1	B	3735	GLN
1	B	3744	GLN
1	B	3792	GLN
1	B	3820	GLN
1	B	3826	GLN
1	B	3877	HIS
1	B	3952	GLN
1	B	4079	GLN
1	B	4098	ASN
1	B	4249	GLN
1	B	4258	ASN
1	B	4325	ASN
1	B	4386	ASN
1	B	4389	HIS
1	B	4393	GLN
1	B	4425	GLN
1	B	4444	GLN
1	B	4477	GLN
1	B	4566	GLN
2	C	188	GLN
2	D	270	GLN
2	D	393	GLN
2	D	419	GLN
2	D	426	HIS
3	F	295	HIS
4	H	64	ASN
5	I	18	GLN

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Mol	Chain	Res	Type
5	I	51	ASN
6	K	41	GLN
6	K	71	GLN
7	O	154	GLN
7	O	254	ASN
7	P	154	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
8	ADP	B	4703	-	24,29,29	0.86	0	29,45,45	1.21	2 (6%)
9	ATP	B	4702	10	28,33,33	0.68	0	34,52,52	0.59	1 (2%)
8	ADP	B	4704	-	24,29,29	0.87	0	29,45,45	1.18	2 (6%)
8	ADP	A	4701	10	24,29,29	0.89	0	29,45,45	1.24	2 (6%)
9	ATP	A	4702	10	28,33,33	0.66	0	34,52,52	0.59	1 (2%)
8	ADP	A	4703	-	24,29,29	0.88	0	29,45,45	1.22	2 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
8	ADP	A	4704	-	24,29,29	0.87	0	29,45,45	1.19	2 (6%)
8	ADP	B	4701	10	24,29,29	0.86	0	29,45,45	1.27	2 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	ADP	B	4703	-	-	5/12/32/32	0/3/3/3
9	ATP	B	4702	10	-	3/18/38/38	0/3/3/3
8	ADP	B	4704	-	-	1/12/32/32	0/3/3/3
8	ADP	A	4701	10	-	1/12/32/32	0/3/3/3
9	ATP	A	4702	10	-	5/18/38/38	0/3/3/3
8	ADP	A	4703	-	-	5/12/32/32	0/3/3/3
8	ADP	A	4704	-	-	1/12/32/32	0/3/3/3
8	ADP	B	4701	10	-	2/12/32/32	0/3/3/3

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	B	4703	ADP	N3-C2-N1	-3.74	123.59	128.67
8	A	4703	ADP	N3-C2-N1	-3.70	123.65	128.67
8	B	4701	ADP	N3-C2-N1	-3.67	123.69	128.67
8	A	4704	ADP	N3-C2-N1	-3.67	123.69	128.67
8	A	4701	ADP	N3-C2-N1	-3.64	123.73	128.67
8	B	4704	ADP	N3-C2-N1	-3.59	123.79	128.67
8	A	4701	ADP	C4-C5-N7	-2.64	106.55	109.34
8	B	4704	ADP	C4-C5-N7	-2.55	106.64	109.34
8	A	4704	ADP	C4-C5-N7	-2.52	106.68	109.34
8	B	4703	ADP	C4-C5-N7	-2.47	106.72	109.34
8	B	4701	ADP	C4-C5-N7	-2.46	106.73	109.34
8	A	4703	ADP	C4-C5-N7	-2.44	106.75	109.34
9	A	4702	ATP	C5-C6-N6	2.34	123.87	120.31
9	B	4702	ATP	C5-C6-N6	2.32	123.84	120.31

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	A	4701	ADP	C5'-O5'-PA-O2A
8	A	4703	ADP	C5'-O5'-PA-O1A
8	A	4703	ADP	C5'-O5'-PA-O3A
8	B	4701	ADP	C5'-O5'-PA-O2A
8	B	4701	ADP	C5'-O5'-PA-O3A
8	B	4703	ADP	C5'-O5'-PA-O1A
8	B	4703	ADP	C5'-O5'-PA-O3A
9	A	4702	ATP	O4'-C4'-C5'-O5'
8	A	4703	ADP	O4'-C4'-C5'-O5'
9	B	4702	ATP	O4'-C4'-C5'-O5'
8	A	4703	ADP	C3'-C4'-C5'-O5'
8	B	4703	ADP	O4'-C4'-C5'-O5'
8	B	4703	ADP	C3'-C4'-C5'-O5'
9	A	4702	ATP	C3'-C4'-C5'-O5'
9	B	4702	ATP	PB-O3B-PG-O3G
9	B	4702	ATP	C3'-C4'-C5'-O5'
8	A	4703	ADP	C5'-O5'-PA-O2A
8	A	4704	ADP	C5'-O5'-PA-O1A
8	B	4703	ADP	C5'-O5'-PA-O2A
8	B	4704	ADP	C5'-O5'-PA-O1A
9	A	4702	ATP	PB-O3B-PG-O1G
9	A	4702	ATP	PB-O3B-PG-O2G
9	A	4702	ATP	PB-O3B-PG-O3G

There are no ring outliers.

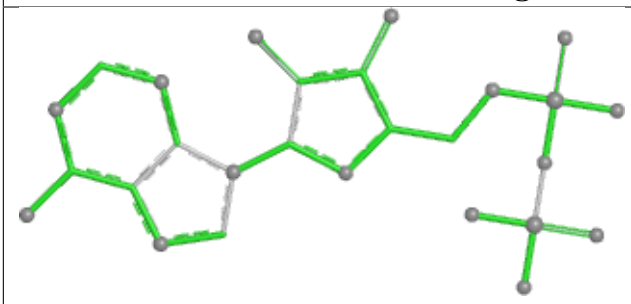
7 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
9	B	4702	ATP	1	0
8	B	4704	ADP	1	0
8	A	4701	ADP	3	0
9	A	4702	ATP	1	0
8	A	4703	ADP	1	0
8	A	4704	ADP	1	0
8	B	4701	ADP	2	0

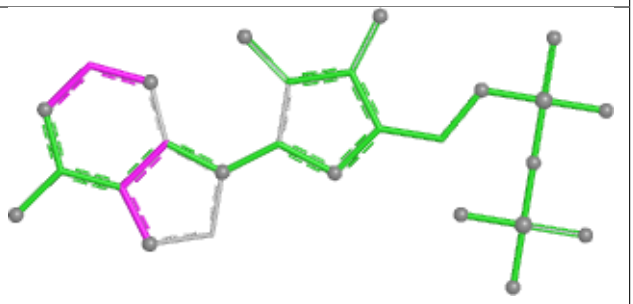
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

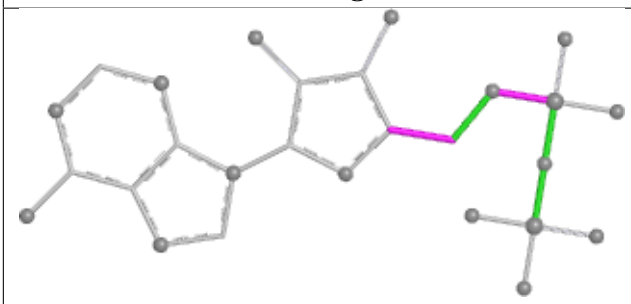
Ligand ADP B 4703



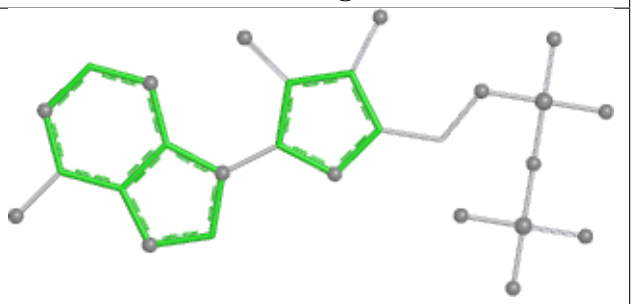
Bond lengths



Bond angles

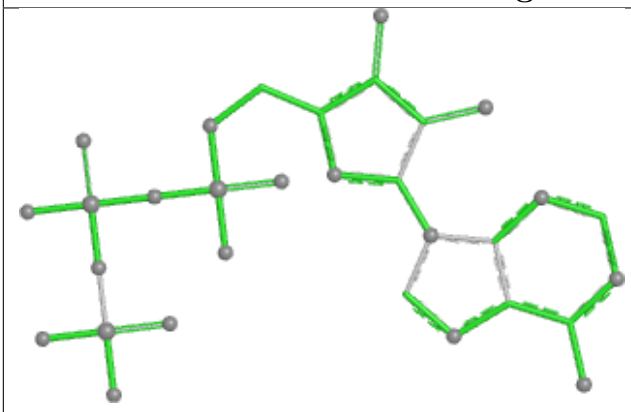


Torsions

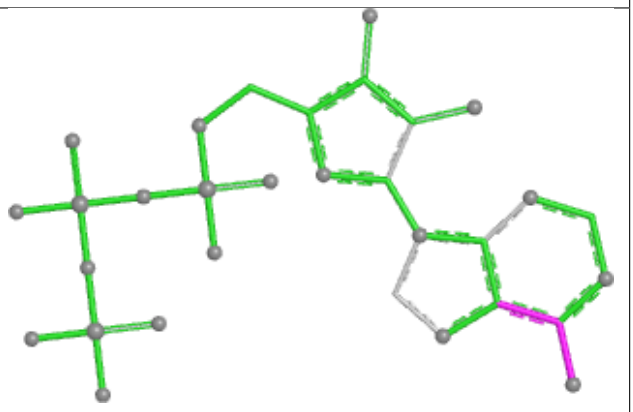


Rings

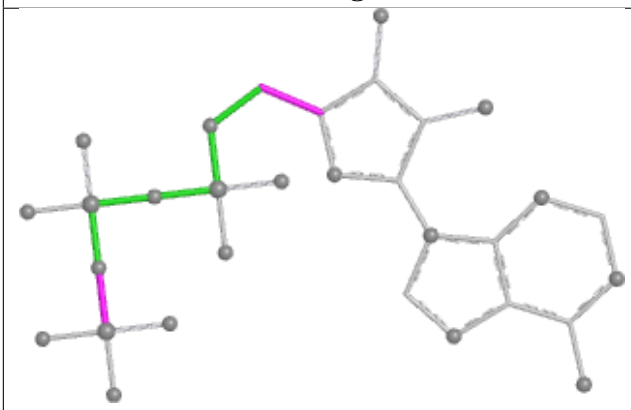
Ligand ATP B 4702



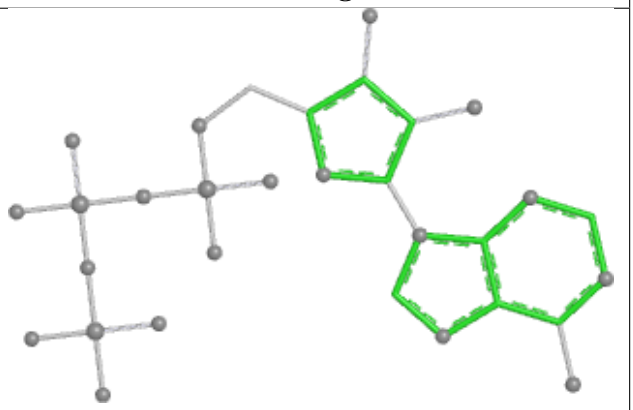
Bond lengths



Bond angles

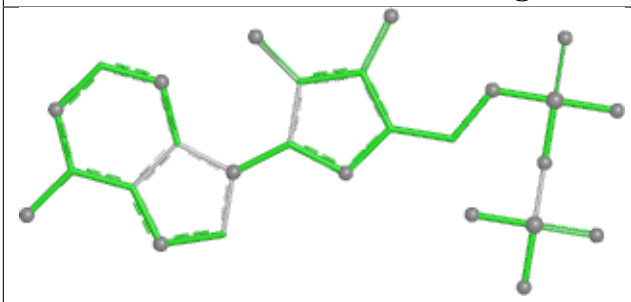


Torsions

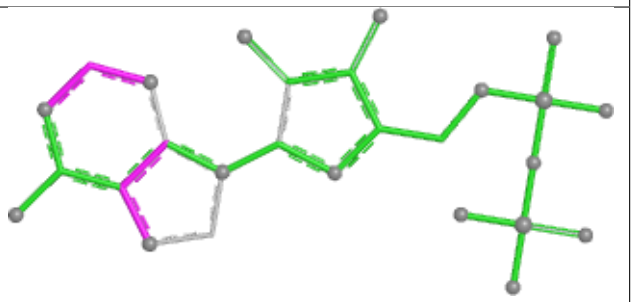


Rings

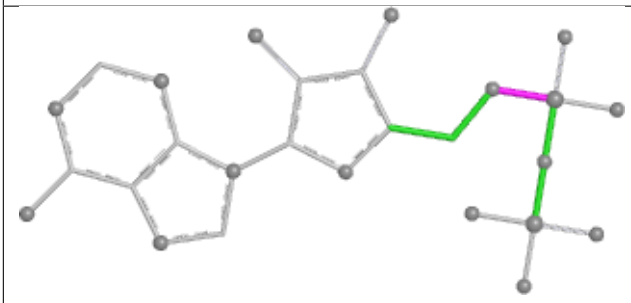
Ligand ADP B 4704



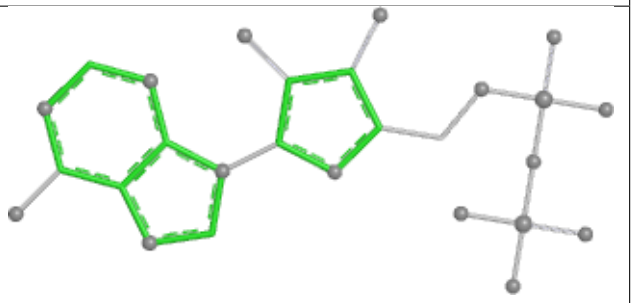
Bond lengths



Bond angles

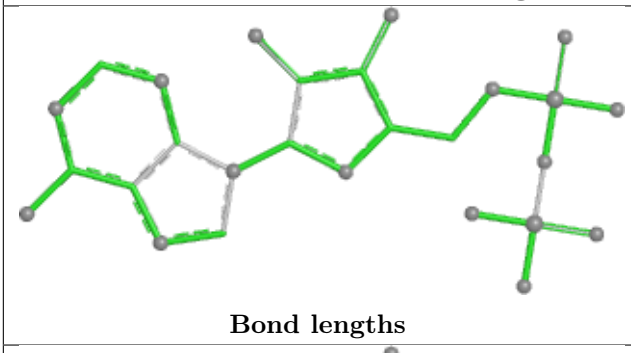


Torsions

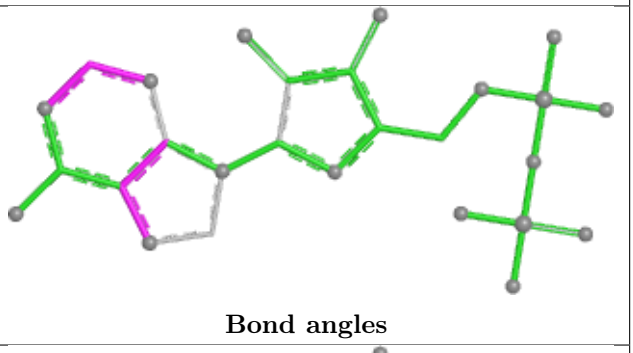


Rings

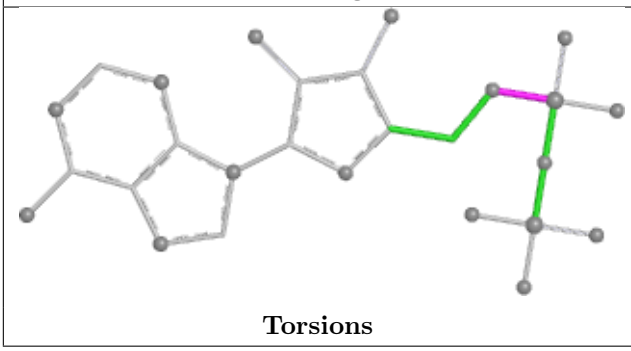
Ligand ADP A 4701



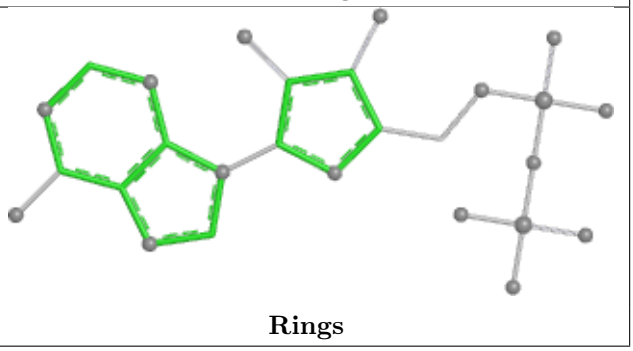
Bond lengths



Bond angles

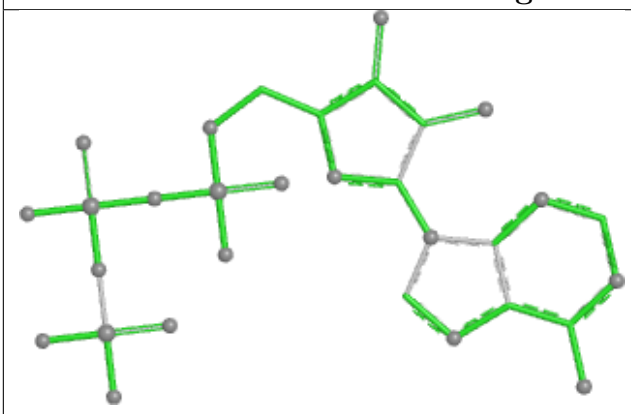


Torsions

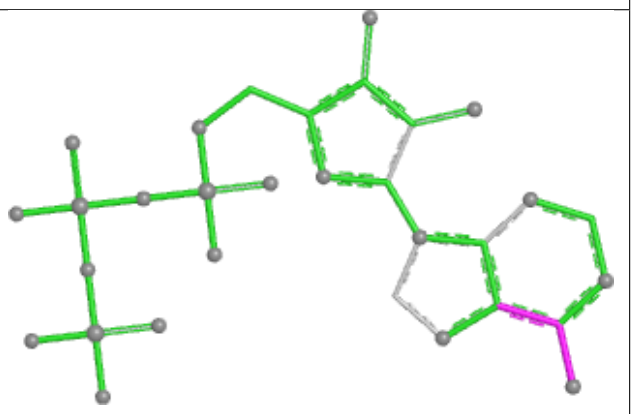


Rings

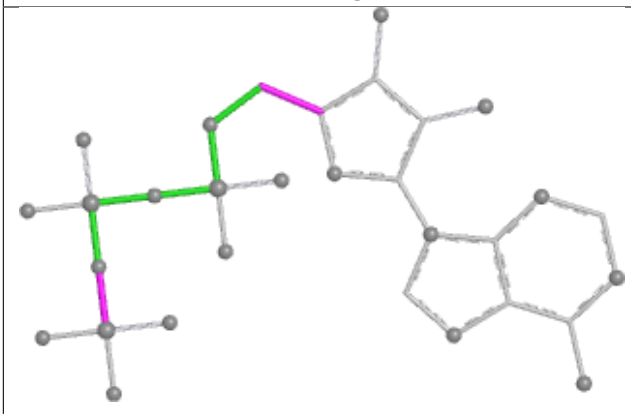
Ligand ATP A 4702



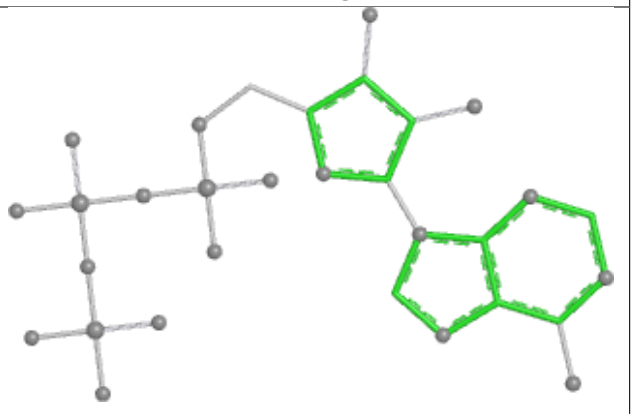
Bond lengths



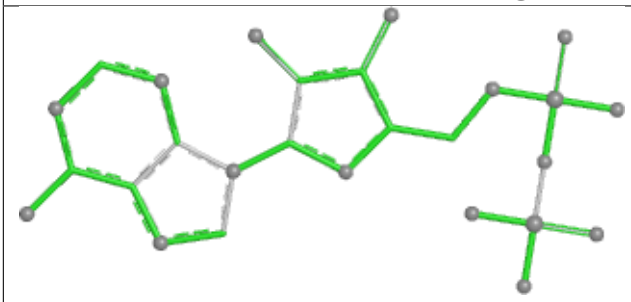
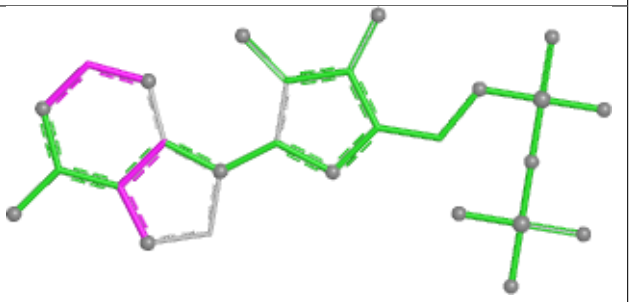
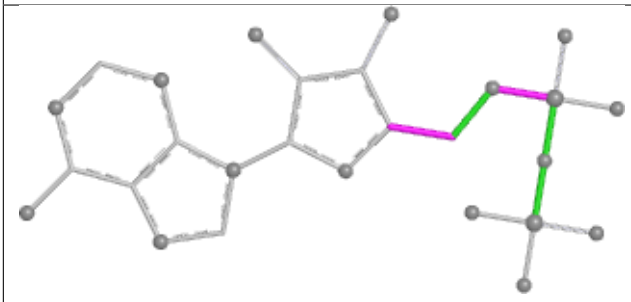
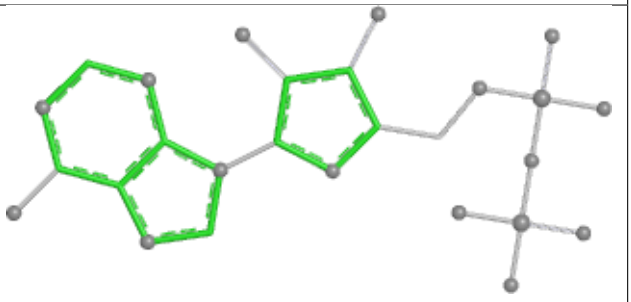
Bond angles

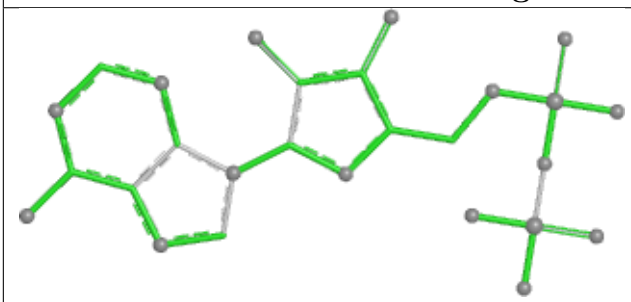
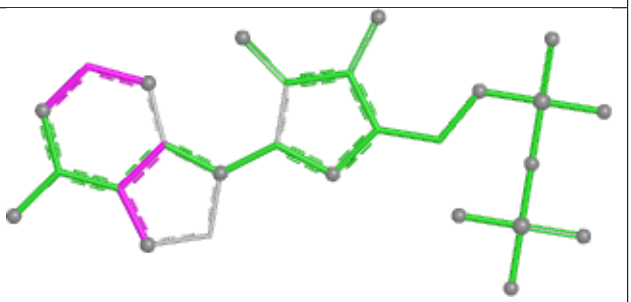
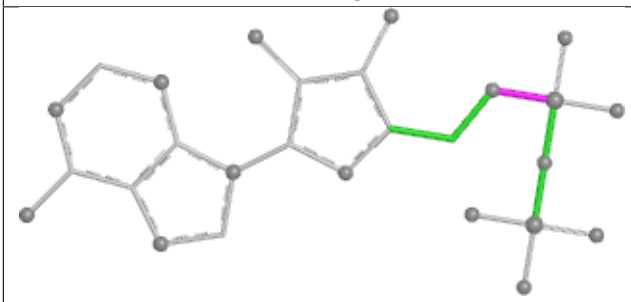
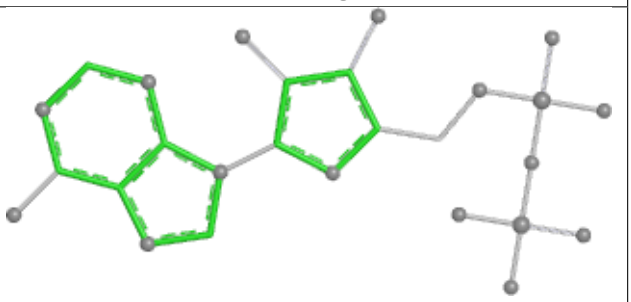


Torsions

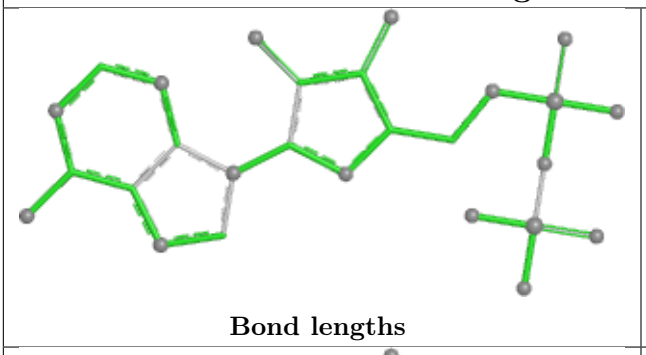


Rings

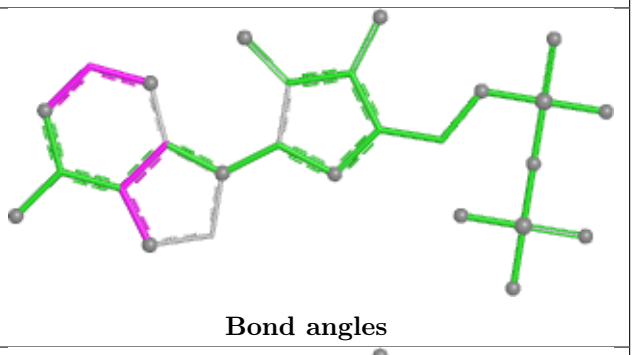
Ligand ADP A 4703	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP A 4704	
 Bond lengths	 Bond angles
 Torsions	 Rings

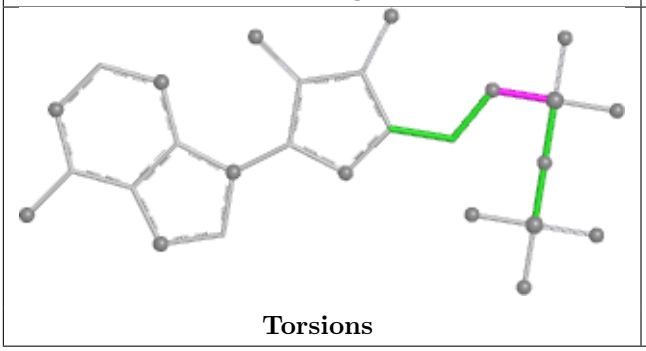
Ligand ADP B 4701



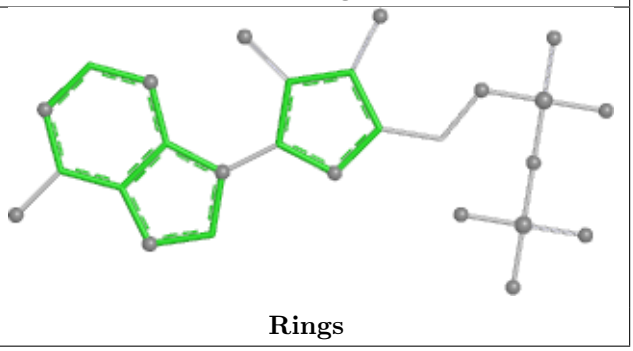
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	B	1
1	A	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	1394:MET	C	1395:LYS	N	8.85
1	A	1394:MET	C	1395:LYS	N	3.62

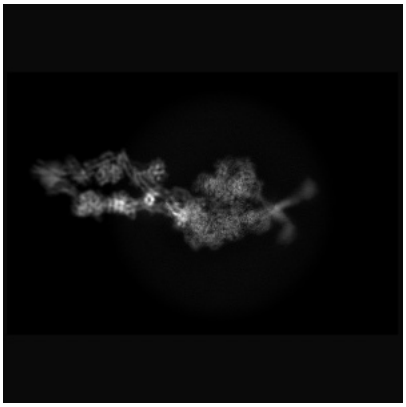
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-47383. These allow visual inspection of the internal detail of the map and identification of artifacts.

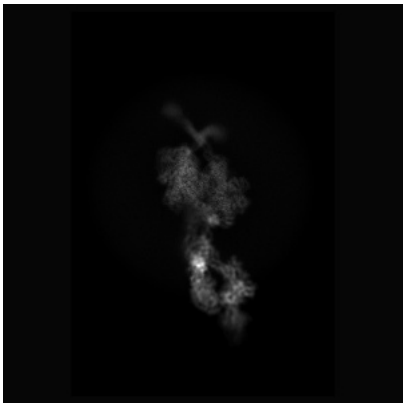
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

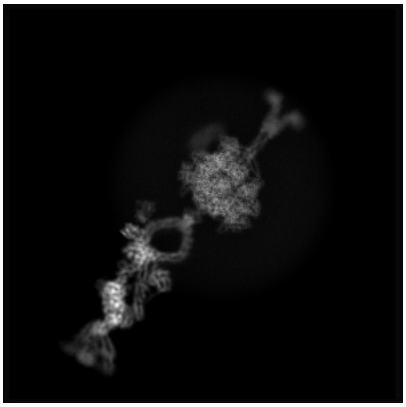
6.1.1 Primary map



X



Y

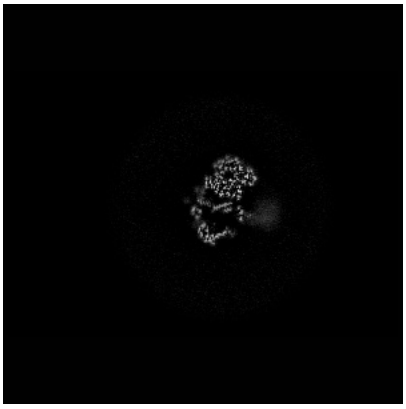


Z

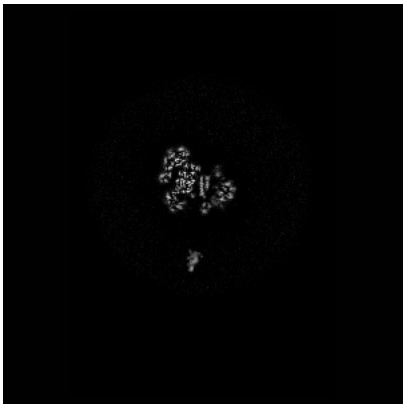
The images above show the map projected in three orthogonal directions.

6.2 Central slices

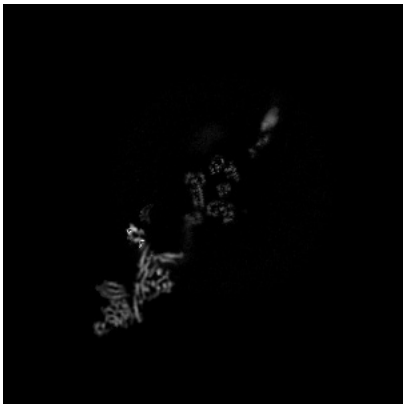
6.2.1 Primary map



X Index: 210



Y Index: 210



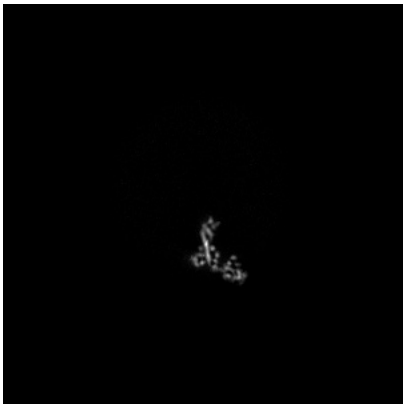
Z Index: 210

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

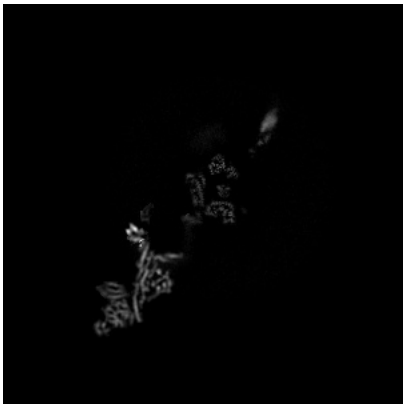
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 144



Y Index: 156

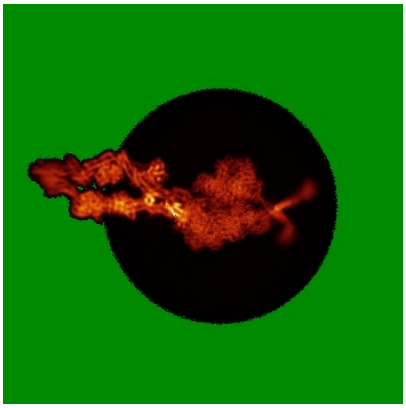


Z Index: 209

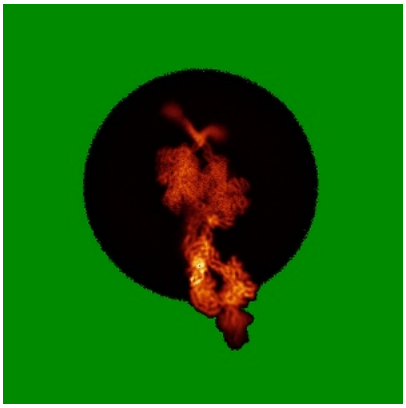
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

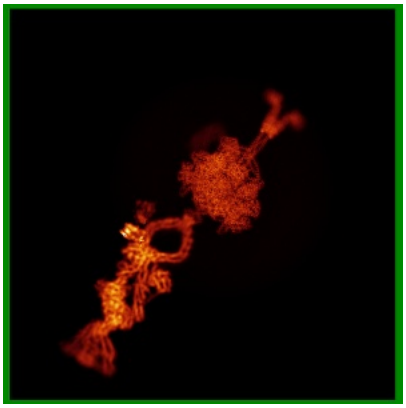
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.15. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

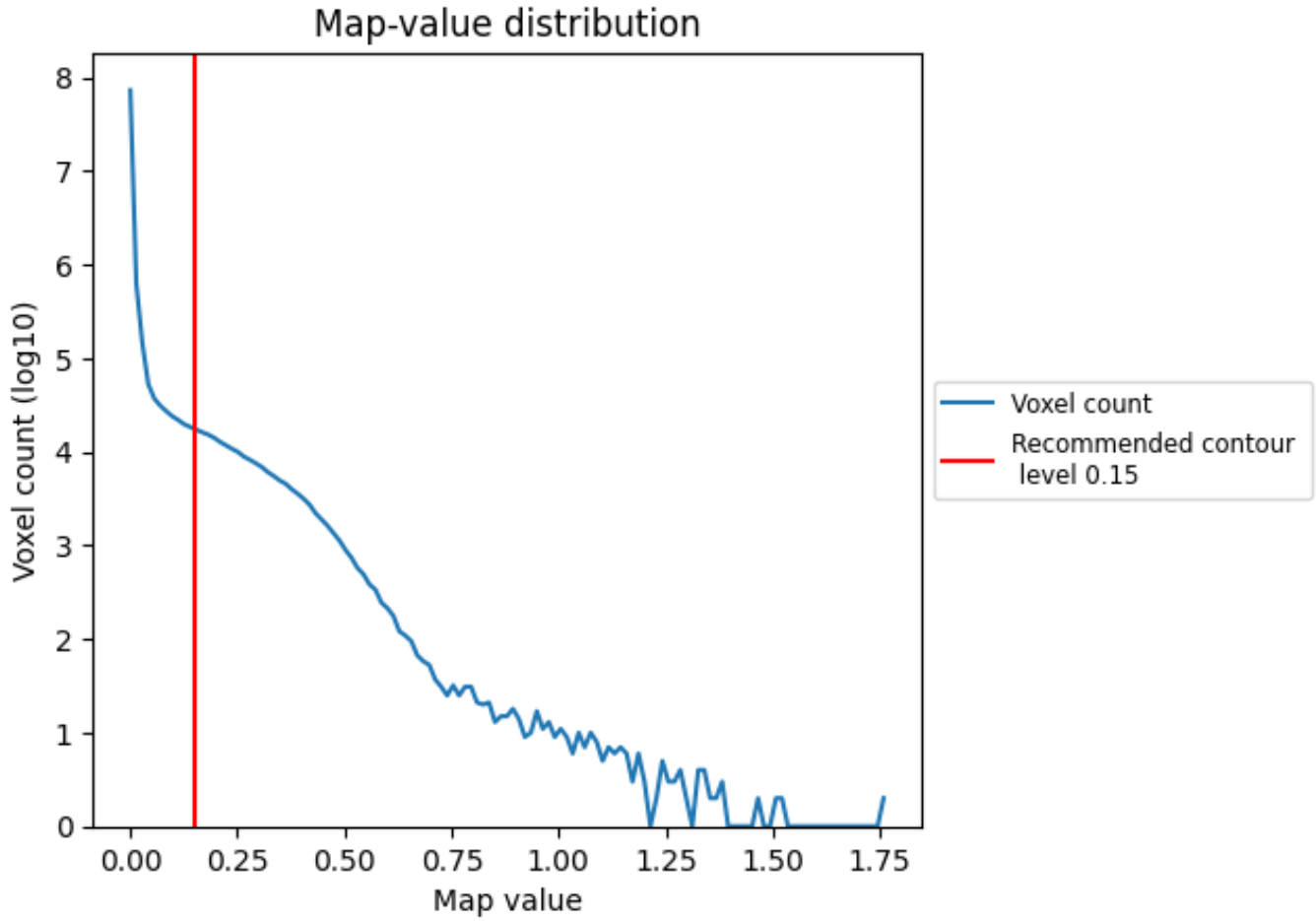
6.6 Mask visualisation (i)

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

7 Map analysis

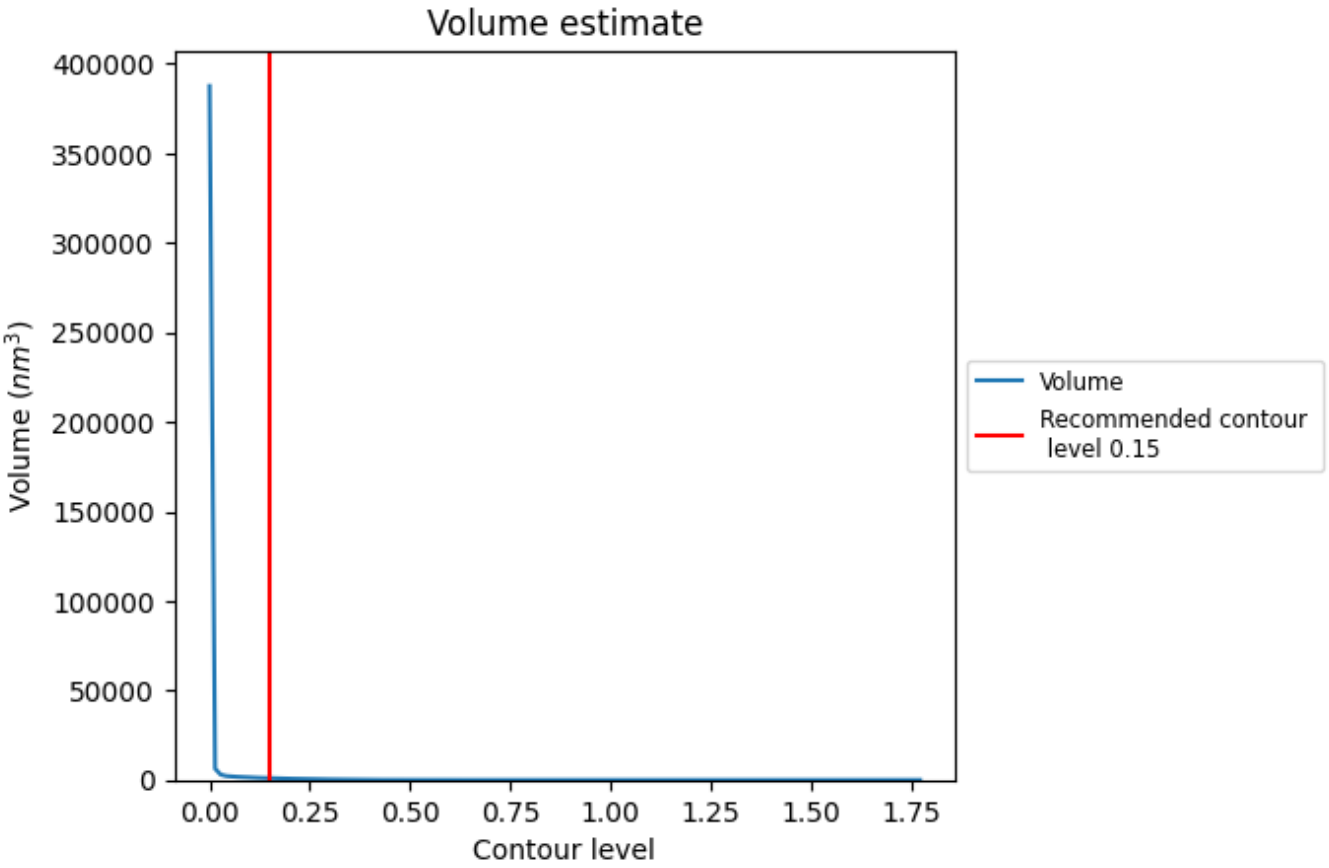
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

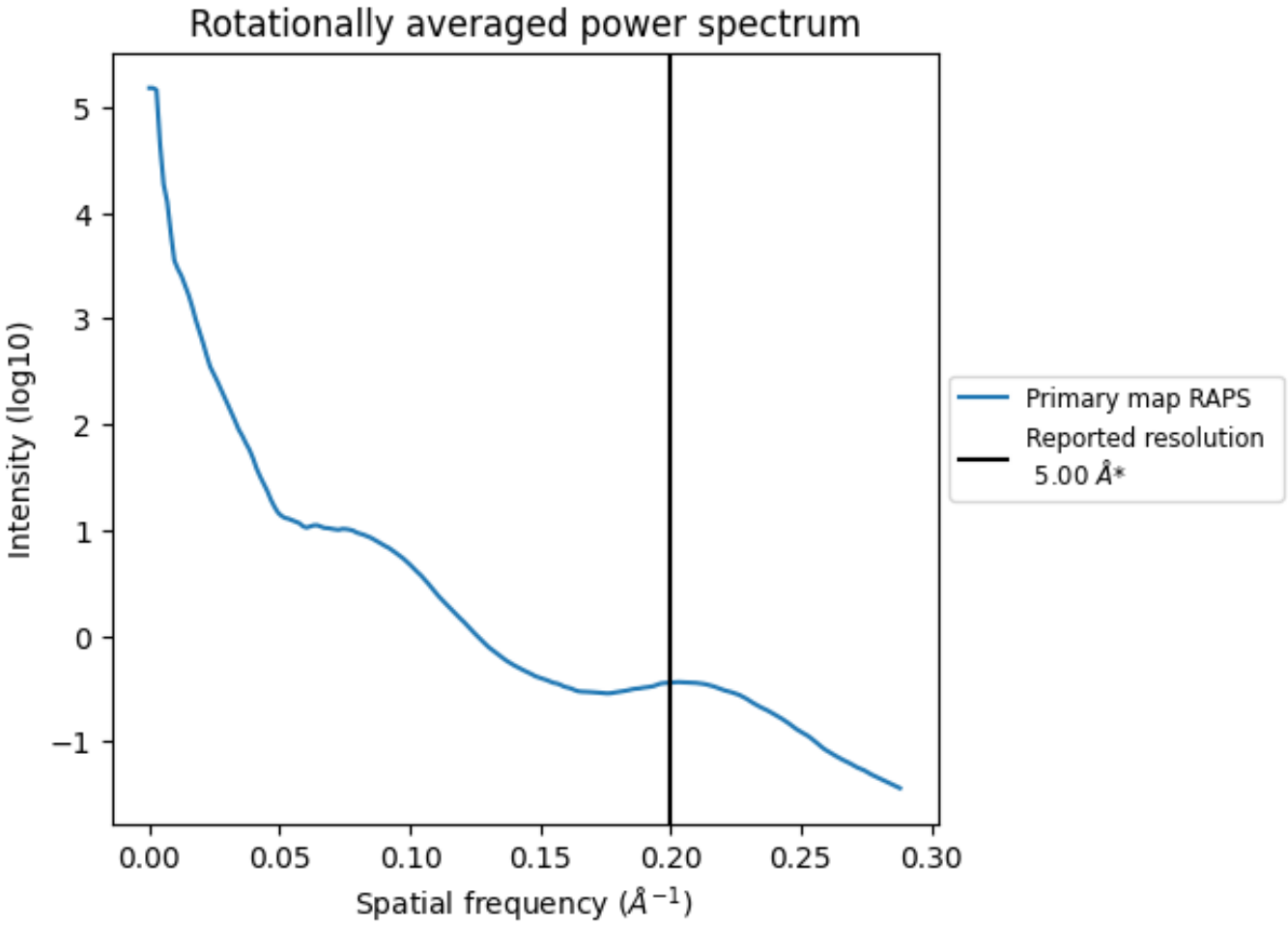
7.2 Volume estimate



The volume at the recommended contour level is 1005 nm^3; this corresponds to an approximate mass of 908 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.200 Å^{-1}

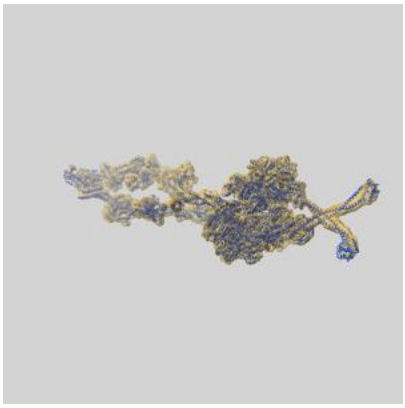
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

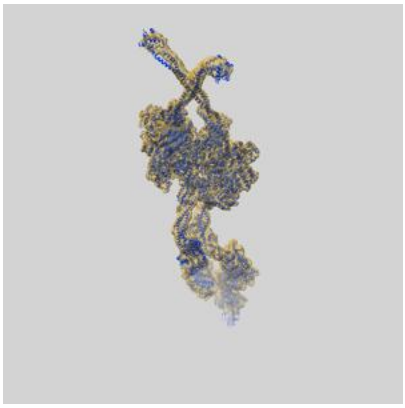
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-47383 and PDB model 9E14. Per-residue inclusion information can be found in section 3 on page 8.

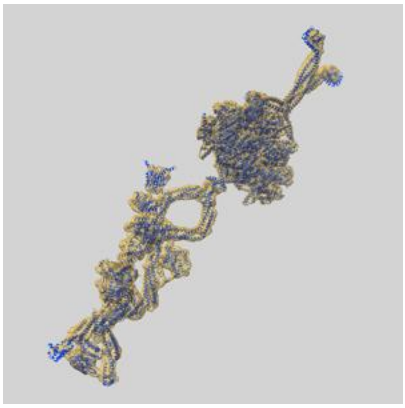
9.1 Map-model overlay



X



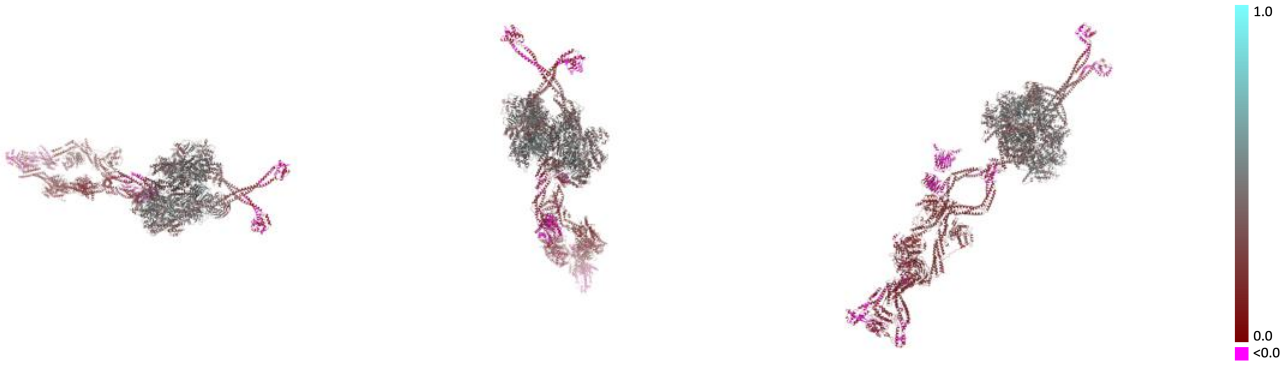
Y



Z

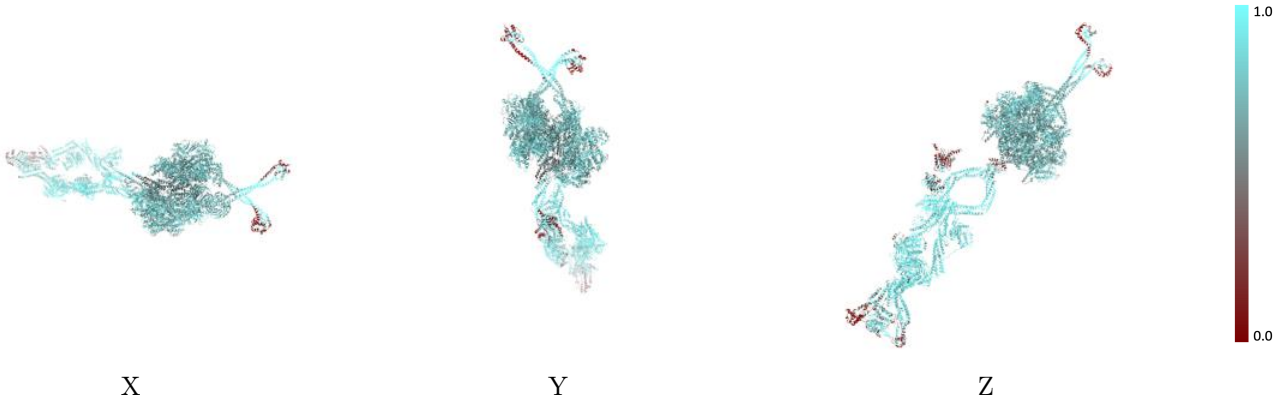
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)



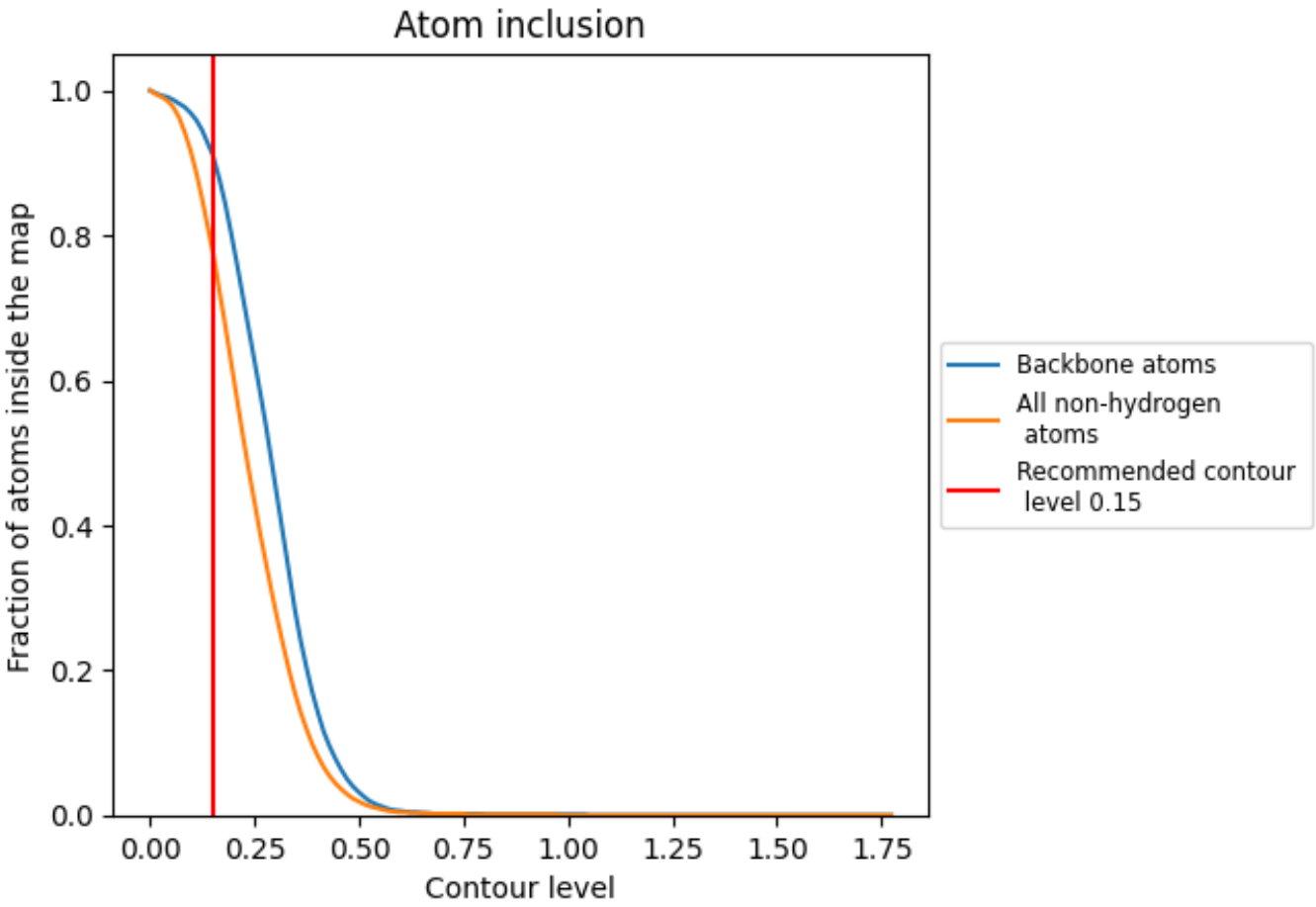
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model (i)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.15).

9.4 Atom inclusion (i)



At the recommended contour level, 91% of all backbone atoms, 78% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7770	0.3020
A	0.7410	0.3160
B	0.7900	0.3320
C	0.9210	0.2070
D	0.9250	0.1850
E	0.9320	0.2040
F	0.9220	0.1970
G	0.7570	0.1070
H	0.8730	0.1490
I	0.7660	0.0700
J	0.6230	0.0360
K	0.3560	0.0150
L	0.3330	0.0080
O	0.8120	0.4860
P	0.7490	0.3860