Full wwPDB EM Validation Report

Oct 28, 2024 – 12:55 AM EDT

PDB ID	:	8TEP
EMDB ID	:	EMD-41194
Title	:	Human cytomegalovirus portal vertex, virion configuration 1 (VC1)
Authors	:	Jih, J.; Liu, Y.T.; Liu, W.; Zhou, H.
Deposited on	:	2023-07-06
Resolution	:	3.50 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

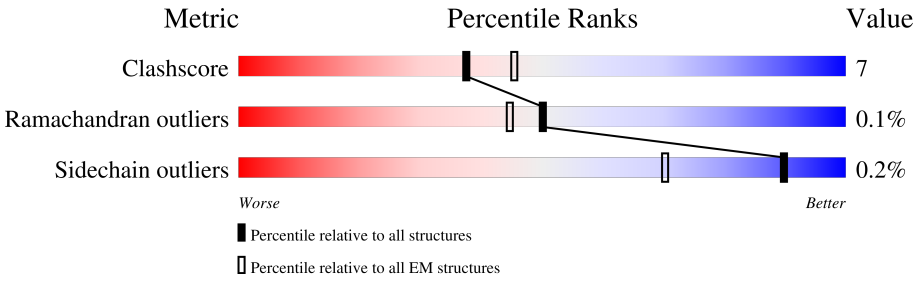
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	2241	19% 23% 9% 68%
1	C	2241	28% 23% 8% 69%
2	B	983	26% 33% 17% 50%
2	D	983	43% 32% 14% 54%
3	E	642	60% 57% 18% 25%
3	F	642	66% 63% 14% 23%
4	G	594	5% 68% 11% 21%
5	H	1370	• 81% 14% •

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Mol	Chain	Length	Quality of chain
5	I	1370	81% 18%
5	J	1370	5% 81% 15%
5	K	1370	81% 14% 5%
5	L	1370	84% 15%
5	M	1370	6% 82% 16%
6	N	75	8% 71% 13% 16%
6	O	75	73% 9% 16%
6	P	75	19% 68% 16% 16%
6	Q	75	11% 67% 17% 16%
6	R	75	16% 65% 19% 16%
6	S	75	20% 76% 8% 16%
7	T	290	11% 72% 10% 17%
7	W	290	8% 89% 11%
8	U	306	6% 80% 15% 5%
8	V	306	6% 74% 20% 6%
8	X	306	7% 84% 12%
8	Y	306	8% 79% 13% 7%
9	Z	1048	23% 73%

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 112987 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 Large tegument protein deneddylase.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	723	Total	C	N	O	S	0	0
			5833	3733	1026	1052	22		
1	C	699	Total	C	N	O	S	0	0
			5651	3626	997	1006	22		

- Molecule 2 is a protein called Inner tegument protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	492	Total	C	N	O	S	0	0
			3993	2535	709	734	15		
2	D	453	Total	C	N	O	S	0	0
			3685	2349	645	676	15		

- Molecule 3 is a protein called Capsid vertex component 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	482	Total	C	N	O	S	0	0
			3915	2516	688	699	12		
3	F	492	Total	C	N	O	S	0	0
			3986	2562	705	708	11		

- Molecule 4 is a protein called Capsid vertex component 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	G	472	Total	C	N	O	S	0	0
			3873	2422	744	693	14		

- Molecule 5 is a protein called Major capsid protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	H	1311	Total	C	N	O	S	0	0
			10406	6630	1802	1913	61		

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Mol	Chain	Residues	Atoms					AltConf	Trace
5	I	1350	Total	C	N	O	S	0	0
			10693	6809	1853	1970	61		
5	J	1317	Total	C	N	O	S	0	0
			10433	6641	1814	1919	59		
5	K	1298	Total	C	N	O	S	0	0
			10282	6544	1792	1887	59		
5	L	1350	Total	C	N	O	S	0	0
			10693	6809	1853	1970	61		
5	M	1350	Total	C	N	O	S	0	0
			10693	6809	1853	1970	61		

- Molecule 6 is a protein called Small capsomere-interacting protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	N	63	Total	C	N	O	S	0	0
			513	321	97	91	4		
6	O	63	Total	C	N	O	S	0	0
			513	321	97	91	4		
6	P	63	Total	C	N	O	S	0	0
			513	321	97	91	4		
6	Q	63	Total	C	N	O	S	0	0
			513	321	97	91	4		
6	R	63	Total	C	N	O	S	0	0
			513	321	97	91	4		
6	S	63	Total	C	N	O	S	0	0
			513	321	97	91	4		

- Molecule 7 is a protein called Triplex capsid protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	T	240	Total	C	N	O	S	0	0
			1919	1235	335	338	11		
7	W	290	Total	C	N	O	S	0	0
			2325	1485	411	417	12		

- Molecule 8 is a protein called Triplex capsid protein 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	U	292	Total	C	N	O	S	0	0
			2317	1489	399	411	18		
8	V	288	Total	C	N	O	S	0	0
			2292	1471	397	407	17		

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Mol	Chain	Residues	Atoms					AltConf	Trace
8	X	295	Total	C	N	O	S	0	0
			2334	1501	402	412	19		
8	Y	285	Total	C	N	O	S	0	0
			2266	1456	387	405	18		

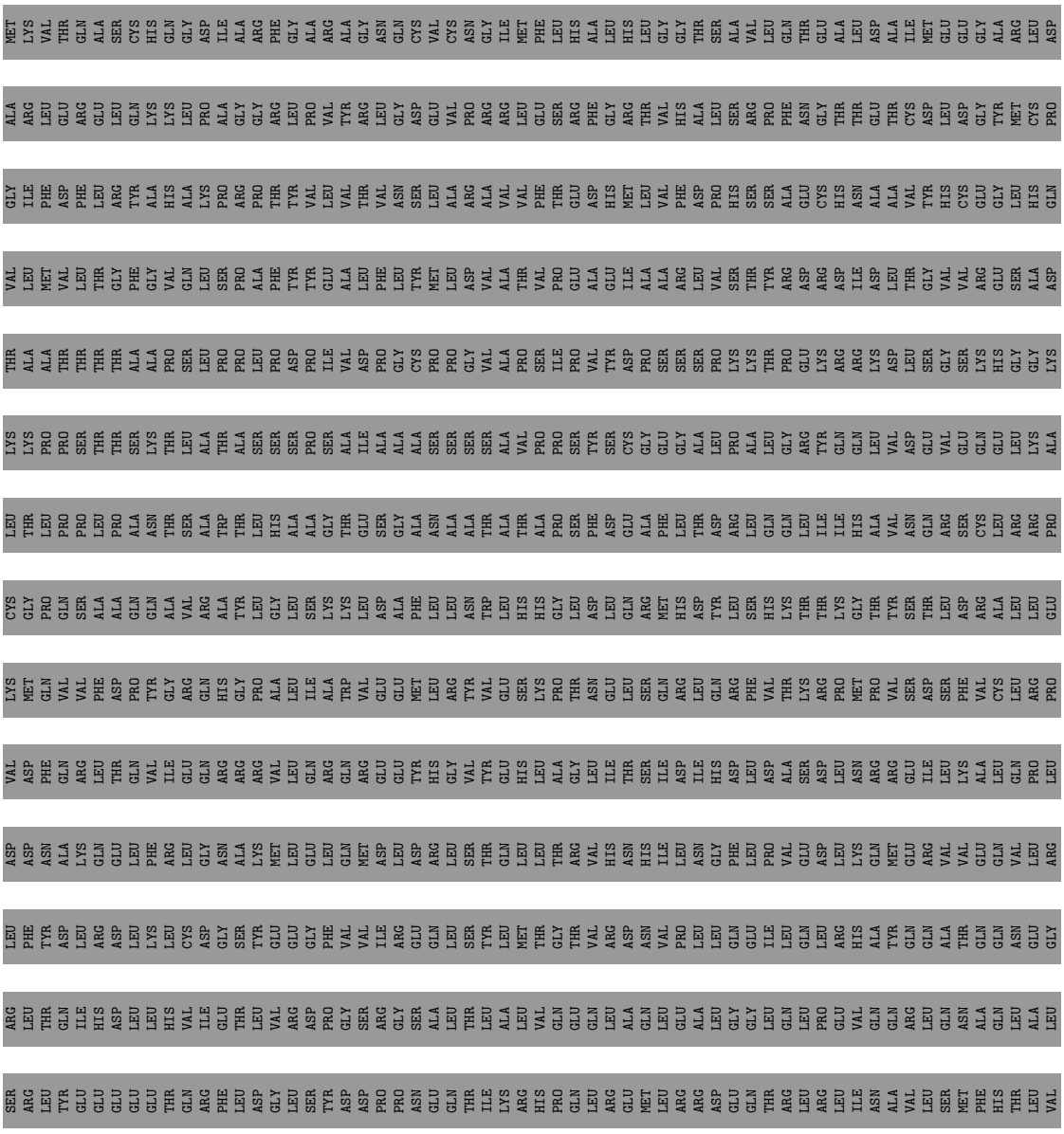
- Molecule 9 is a protein called Large structural phosphoprotein.

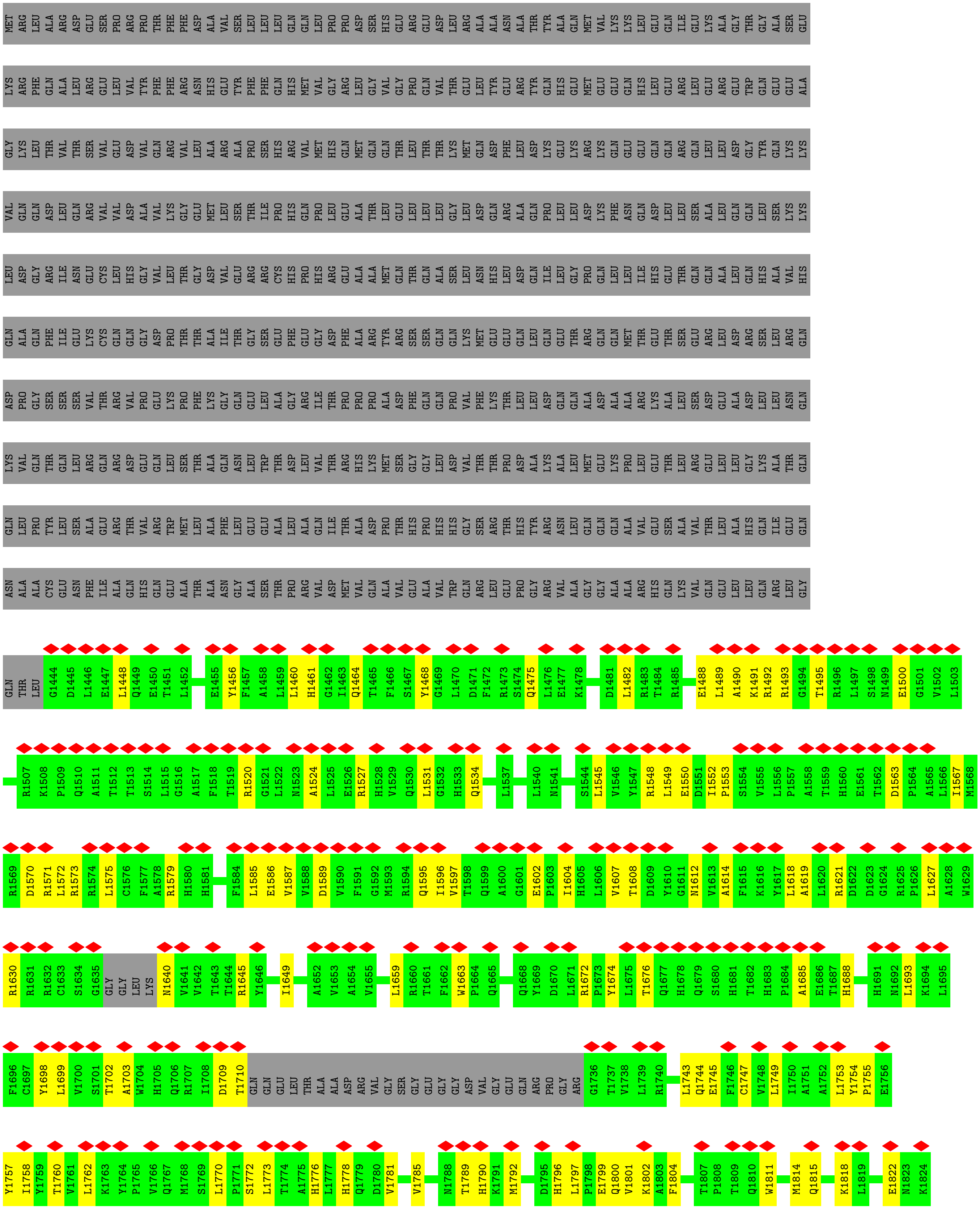
Mol	Chain	Residues	Atoms					AltConf	Trace
9	Z	284	Total	C	N	O	S	0	0
			2320	1463	425	420	12		

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: Large tegument protein deneddylase

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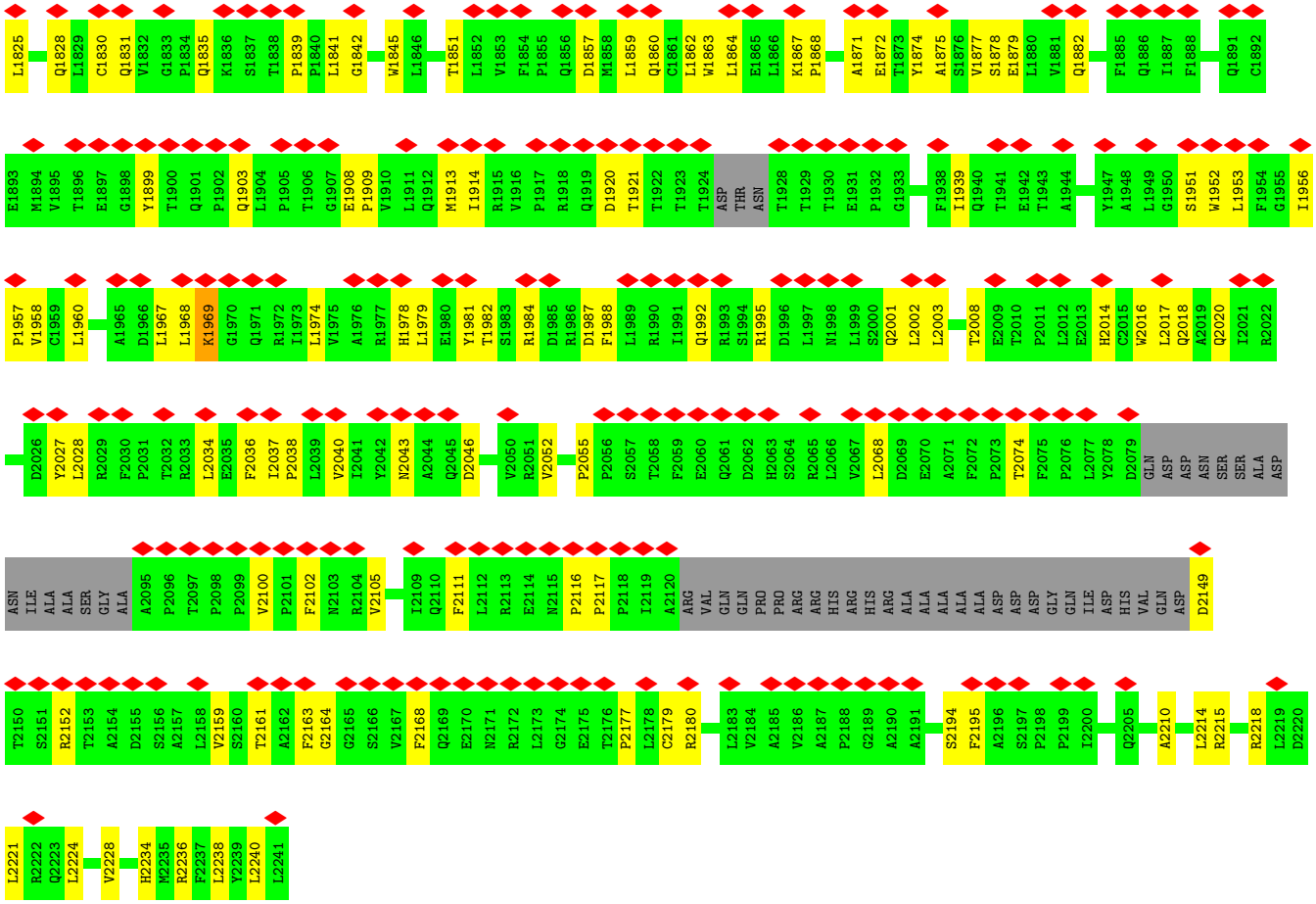
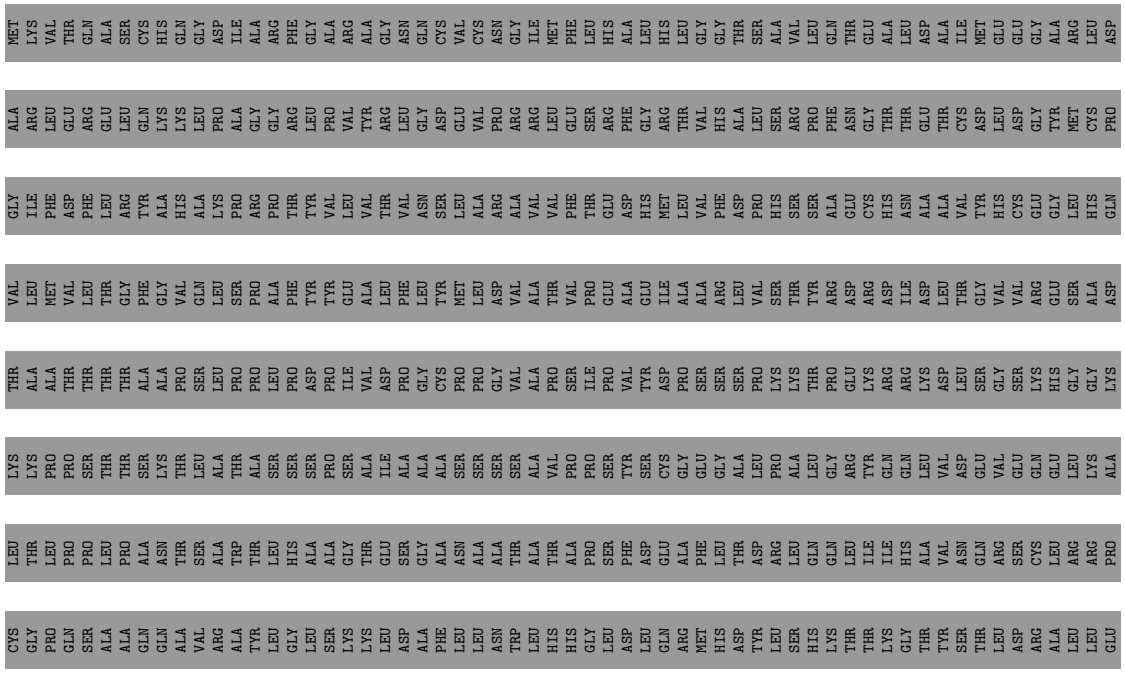
LYS ARG PHE GLN ALA LEU ARG GLU LEU VAL TYR PHE PHE ARG ASN HIS GLU TYR PHE PHE GLN HIS MET VAL GLY ARG LEU GLY VAL GLY PRO GLN VAL THR GLU LEU TYR GLU ARG TYR GLN HIS GLU MET GLU GLU GLN HIS LEU GLU ARG LEU GLU ARG GLU TRP GLN GLU GLU ALA
GLY LYS LEU THR VAL THR SER VAL GLU ASP VAL GLN ARG VAL LEU ALA ARG ALA PRO SER HIS ARG VAL MET HIS GLN MET GLN GLN THR LEU THR THR LYS MET GLN ASP PHE LEU ASP LYS GLU LYS ARG LYS GLN GLU GLU GLN GLN ARG GLN LEU LEU ASP GLY TYR GLN LYS LYS
VAL GLN GLN ASP LEU GLN ARG VAL VAL ASP ALA VAL LYS GLY GLU MET LEU SER THR ILE PRO HIS GLN PRO LEU GLU ALA THR LEU GLN LEU LEU LEU GLY LEU ASP GLN ARG ALA GLN PRO LEU LEU ASP LYS PHE ASN GLN ASP LEU LEU SER ALA LEU GLN GLN LEU SER LYS LYS
LEU ASP GLY ARG ILE ASN GLU CYS LEU HIS GLY VAL LEU THR GLY ASP VAL GLU ARG ARG CYS HIS PRO HIS ARG GLU ALA ALA MET GLN THR GLN ALA SER LEU ASN HIS LEU ASP GLN ILE LEU GLY PRO GLN LEU LEU ILE HIS GLU THR GLN GLN ALA LEU GLN HIS ALA VAL HIS
GLN ALA GLN PHE ILE GLU LYS CYS GLN GLN GLY ASP PRO THR THR ALA ILE THR GLY SER GLU PHE GLU GLY ASP PHE ALA ARG TYR ARG SER SER GLN GLN LYS MET GLU GLU GLN LEU GLN GLU THR ARG GLN GLN MET THR GLU THR SER GLU ARG LEU ASP ARG SER LEU ARG GLN
ASP PRO GLY SER SER SER VAL THR ARG VAL PRO GLU LYS PRO PHE LYS GLY GLN GLU LEU ALA GLY ARG ILE THR PRO PRO PRO ALA ASP PHE GLN GLN PRO VAL PHE LYS THR LEU LEU ASP GLN GLN ALA ASP ALA ALA ARG LYS ALA LEU SER ASP GLU ALA ASP LEU LEU ASN GLN
LYS VAL GLN THR GLN LEU ARG GLN ARG ASP GLU GLN LEU SER THR ALA GLN ASN LEU TRP THR ASP LEU VAL THR ARG HIS LYS MET SER GLY GLY LEU ASP VAL THR THR PRO ASP ALA LYS ALA LEU MET GLU LYS PRO LEU GLU THR LEU ARG GLU LEU LEU GLY LYS ALA THR GLN
GLN LEU PRO TYR LEU SER ALA GLU ARG THR VAL ARG TRP MET LEU ALA PHE LEU GLU GLU ALA LEU ALA GLN ILE THR ALA ASP PRO THR HIS PRO HIS HIS GLY SER ARG THR HIS TYR ARG ASN LEU GLN GLN ALA VAL GLU SER ALA VAL THR LEU ALA HIS GLN ILE GLN GLN
ASN ALA ALA CYS GLU ASN PHE ILE ALA GLN HIS GLN GLU ALA THR ALA ASN GLY ALA SER THR PRO ARG VAL ASP MET VAL GLN ALA VAL GLU ALA VAL TRP GLN ARG LEU GLU PRO GLY ARG VAL ALA GLY GLY ALA ALA ARG HIS GLN LYS VAL GLN GLU LEU LEU GLN ARG LEU GLY
GLN THR LEU G1444 D1445 L1446 E1447 L1448 Q1449 E1450 T1451 L1452 E1455 Y1456 F1457 A1458 L1459 L1460 H1461 G1462 I1463 Q1464 T1465 F1466 S1467 Y1468 G1469 L1470 D1471 F1472 R1473 S1474 Q1475 L1476 E1477 K1478 D1481 L1482 R1483 T1484 R1485 E1488 L1489 A1490 K1491 R1492 R1493 G1494 T1495 R1496 L1497 S1498 N1499 E1500 G1501 V1502 L1503
R1507 K1508 P1509 Q1510 A1511 T1512 T1513 S1514 L1515 G1516 A1517 F1518 T1519 R1520 G1521 L1522 N1523 A1524 L1525 E1526 R1527 H1528 V1529 Q1530 L1531 G1532 H1533 Q1534 L1537 L1540 N1541 S1544 L1545 V1546 Y1547 R1548 L1549 E1550 D1551 I1552 P1553 S1554 V1555 L1556 P1557 A1558 T1559 H1560 E1561 T1562 D1563 P1564 A1565 L1566 I1567 M1568
R1569 D1570 R1571 L1572 R1573 R1574 L1575 C1576 F1577 A1578 R1579 H1580 H1581 F1584 L1585 E1586 V1587 V1588 D1589 V1590 F1591 G1592 M1593 R1594 Q1595 I1596 V1597 T1598 Q1599 A1600 G1601 E1602 P1603 I1604 H1605 L1606 V1607 T1608 D1609 Y1610 G1611 N1612 V1613 A1614 F1615 K1616 Y1617 L1618 A1619 L1620 R1621 D1622 D1623 G1624 R1625 P1626 L1627 A1628 W1629
R1630 R1631 R1632 C1633 S1634 G1635 GLY GLY LEU LYS N1640 V1641 V1642 T1643 T1644 R1645 Y1646 I1649 A1652 V1653 A1654 V1655 L1659 R1660 T1661 F1662 W1663 P1664 Q1665 Q1668 Y1669 D1670 L1671 R1672 P1673 Y1674 L1675 T1676 Q1677 H1678 Q1679 S1680 H1681 T1682 H1683 P1684 A1685 E1686 T1687 H1688 H1691 N1692 L1693 K1694 L1695
F1696 C1697 Y1698 L1699 V1700 S1701 T1702 A1703 W1704 H1705 Q1706 R1707 I1708 D1709 T1710 GLN GLN GLU LEU THR ALA ALA ASP ARG VAL GLY SER GLY GLU GLY GLY ASP VAL GLY GLU GLN ARG PRO GLY ARG G1736 T1737 V1738 L1739 R1740 L1743 Q1744 E1745 F1746 C1747 V1748 L1749 I1750 A1751 A1752 L1753 Y1754 P1755 E1756
Y1757 I1758 Y1759 T1760 V1761 L1762 K1763 Y1764 P1765 V1766 Q1767 M1768 S1769 L1770 P1771 S1772 L1773 T1774 A1775 H1776 L1777 H1778 Q1779 D1780 V1781 V1785 N1788 T1789 H1790 K1791 M1792 D1795 H1796 L1797 P1798 E1799 Q1800 V1801 K1802 A1803 F1804 T1807 P1808 T1809 Q1810 W1811 M1814 Q1815 K1818 L1819 E1822 N1823 K1824



• Molecule 1: Large tegument protein deneddylase

Chain C:



LYS MET GLN VAL VAL PHE ASP PRO TYR GLY ARG GLN HIS GLY PRO ALA LEU ILE ALA TRP VAL GLU GLU MET LEU ARG TYR VAL GLU SER LYS PRO THR ASN GLU LEU SER GLN ARG LEU GLN ARG PHE VAL THR LYS ARG PRO MET PRO VAL SER ASP SER PHE VAL CYS LEU ARG PRO

VAL ASP PHE GLN ARG LEU THR GLN VAL ILE GLU GLN ARG ARG ARG VAL LEU GLN ARG GLN ARG GLU GLU TYR HIS GLY VAL TYR GLU HIS LEU ALA GLY LEU ILE THR SER ILE ASP ILE HIS ASP LEU ASP ALA SER ASP LEU ASN ARG ARG GLU ILE LEU LYS ALA LEU GLN PRO LEU

ASP ASP ASN ALA LYS GLN GLU LEU PHE ARG LEU GLY ASN ALA LYS MET LEU GLU LEU GLN MET ASP LEU ASP ARG LEU SER THR GLN LEU LEU THR ARG VAL HIS ASN HIS ILE LEU ASN GLY PHE LEU PRO VAL GLU ASP LEU LYS GLN MET GLU ARG VAL VAL GLU GLN VAL LEU ARG

LEU PHE TYR ASP LEU ARG ASP LEU LYS LEU CYS ASP GLY SER TYR GLU GLU GLY PHE VAL VAL ILE ARG GLU GLN LEU SER TYR LEU MET THR GLY THR VAL ARG ASP ASN VAL PRO LEU LEU GLN GLU ILE LEU GLN LEU ARG HIS ALA TYR GLN GLN ALA THR GLN GLN ASN GLU GLY

ARG LEU THR GLN ILE HIS ASP LEU LEU HIS VAL ILE GLU THR LEU VAL ARG ASP PRO GLY SER ARG GLY SER ALA LEU THR LEU ALA LEU VAL GLN GLU GLN LEU ALA GLN LEU GLU ALA LEU GLY GLY LEU GLN LEU PRO GLU VAL GLN GLN ARG LEU GLN ASN ALA GLN LEU ALA LEU

SER ARG LEU TYR GLU GLU GLU GLU GLU THR GLN ARG PHE LEU ASP GLY LEU SER TYR ASP ASP PRO PRO ASN GLU GLN THR ILE LYS ARG HIS PRO GLN LEU ARG GLU MET LEU ARG ARG ASP GLU GLN THR ARG LEU ARG LEU ILE ASN ALA VAL LEU SER MET PHE HIS THR LEU VAL

MET ARG LEU ALA ARG ASP GLU SER PRO ARG PRO THR PHE PHE ASP ALA VAL SER LEU LEU LEU GLN GLN LEU PRO PRO ASP SER HIS GLU ARG GLU ASP LEU ARG ALA ALA ASN ALA THR TYR ALA GLN MET VAL LYS LYS LEU GLU GLN ILE GLU LYS ALA GLY THR GLY ALA SER GLU

LYS ARG PHE GLN ALA LEU ARG GLU LEU VAL TYR PHE PHE ARG ASN HIS GLU TYR PHE PHE GLN HIS MET VAL GLY ARG LEU GLY VAL GLY PRO GLN VAL THR GLU LEU TYR GLU ARG TYR GLN HIS GLU MET GLU GLU GLN HIS LEU GLU ARG LEU GLU ARG GLU TRP GLN GLU GLU ALA

GLY LYS LEU THR VAL THR SER VAL GLU ASP VAL GLN ARG VAL LEU ALA ARG ALA PRO SER HIS ARG VAL MET HIS GLN MET GLN GLN THR LEU THR THR LYS MET GLN ASP PHE LEU ASP LYS GLU LYS ARG LYS GLN GLU GLU GLN GLN ARG GLN LEU LEU ASP GLY TYR GLN LYS LYS

VAL GLN GLN ASP LEU GLN ARG VAL VAL ASP ALA VAL LYS GLY GLU MET LEU SER THR ILE PRO HIS GLN PRO LEU GLU ALA THR LEU GLU LEU LEU LEU GLY LEU ASP GLN ARG ALA GLN PRO LEU LEU ASP LYS PHE ASN GLN ASP LEU LEU SER ALA LEU GLN GLN LEU SER LYS LYS

LEU ASP GLY ARG ILE ASN GLU CYS LEU HIS GLY VAL LEU THR GLY ASP VAL GLU ARG ARG CYS HIS PRO HIS ARG GLU ALA ALA MET GLN THR GLN ALA SER LEU ASN HIS LEU ASP GLN ILE LEU GLY PRO GLN LEU LEU ILE HIS GLU THR GLN GLN ALA LEU GLN HIS ALA VAL HIS

GLN ALA GLN PHE ILE GLU LYS CYS GLN GLN GLY ASP PRO THR THR ALA ILE THR GLY SER GLU PHE GLU GLY ASP PHE ALA ARG TYR ARG SER SER GLN GLN LYS MET GLU GLU GLN LEU GLN GLU THR ARG GLN GLN MET THR GLU THR SER GLU ARG LEU ASP ARG SER LEU ARG GLN

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

LYS VAL GLN THR GLN LEU ARG GLN ARG ASP GLU GLN LEU SER THR ALA GLN ASN LEU TRP THR ASP LEU VAL THR ARG HIS LYS MET SER GLY GLY LEU ASP VAL THR THR PRO ASP ALA LYS ALA LEU MET GLU LYS PRO LEU GLU THR LEU ARG GLU LEU LEU GLY LYS ALA THR GLN

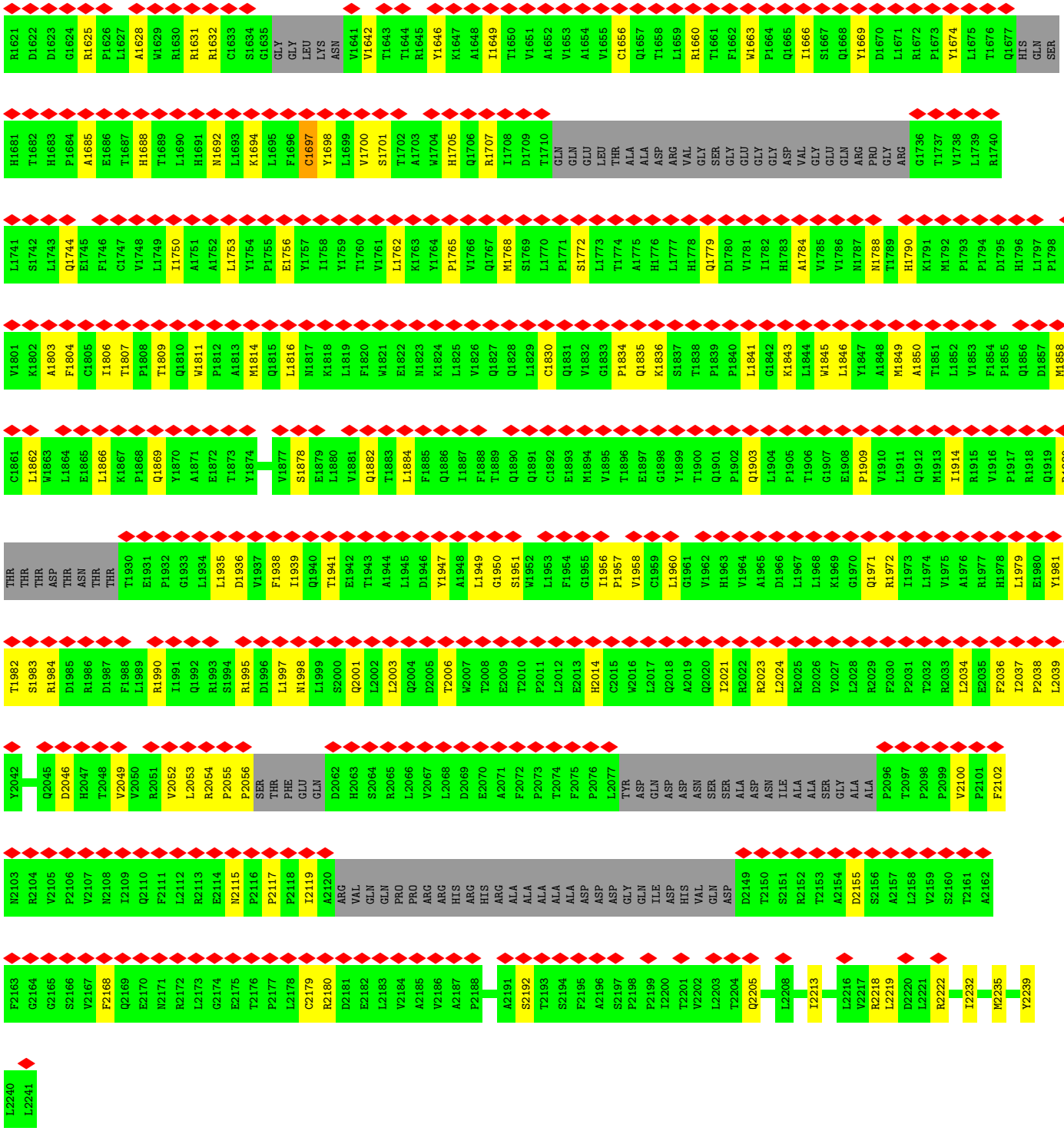
GLN LEU PRO TYR LEU SER ALA GLU ARG THR VAL ARG TRP MET LEU ALA PHE LEU GLU GLU ALA LEU ALA GLN ILE THR ALA ASP PRO THR HIS PRO HIS HIS GLY SER ARG THR HIS TYR ARG ASN LEU GLN GLN GLN ALA VAL GLU SER ALA VAL THR LEU ALA HIS GLN ILE GLU GLN

ASN ALA ALA CYS GLU ASN PHE ILE ALA GLN HIS GLN GLU ALA THR ALA ASN GLY ALA SER THR PRO ARG VAL ASP MET VAL GLN ALA VAL GLU ALA VAL TRP GLN ARG LEU GLU PRO GLY ARG VAL ALA GLY GLY ALA ALA ARG HIS GLN LYS VAL GLN GLU LEU LEU GLN ARG LEU GLY

GLN THR LEU GLY ASP LEU GLU L1448 Q1449 E1450 T1451 L1452 A1453 T1454 E1455 Y1456 F1457 A1458 L1459 L1460 H1461 G1462 I1463 Q1464 T1465 F1466 S1467 Y1468 G1469 L1470 D1471 F1472 R1473 S1474 Q1475 L1476 E1477 K1478 I1479 R1480 D1481 L1482 R1483 T1484 R1485 F1486 A1487 E1488 L1489 A1490 K1491 R1492 R1493 GLY THR R1496 L1497 S1498 N1499 E1500

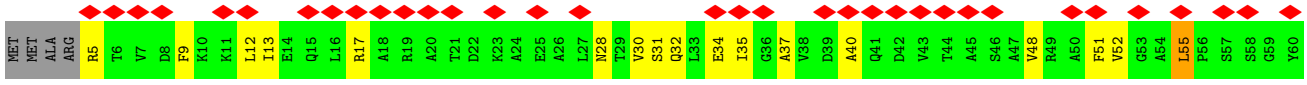
G1501 V1502 L1503 P1504 N1505 P1506 R1507 K1508 P1509 Q1510 A1511 T1512 T1513 S1514 L1515 G1516 A1517 F1518 T1519 R1520 G1521 L1522 N1523 A1524 L1525 E1526 R1527 H1528 V1529 Q1530 L1531 G1532 H1533 Q1534 Y1535 L1536 L1537 N1538 K1539 L1540 N1541 G1542 S1543 S1544 L1545 V1546 Y1547 R1548 L1549 E1550 D1551 I1552 P1553 S1554 V1555 L1556 P1557 A1558 T1559 H1560

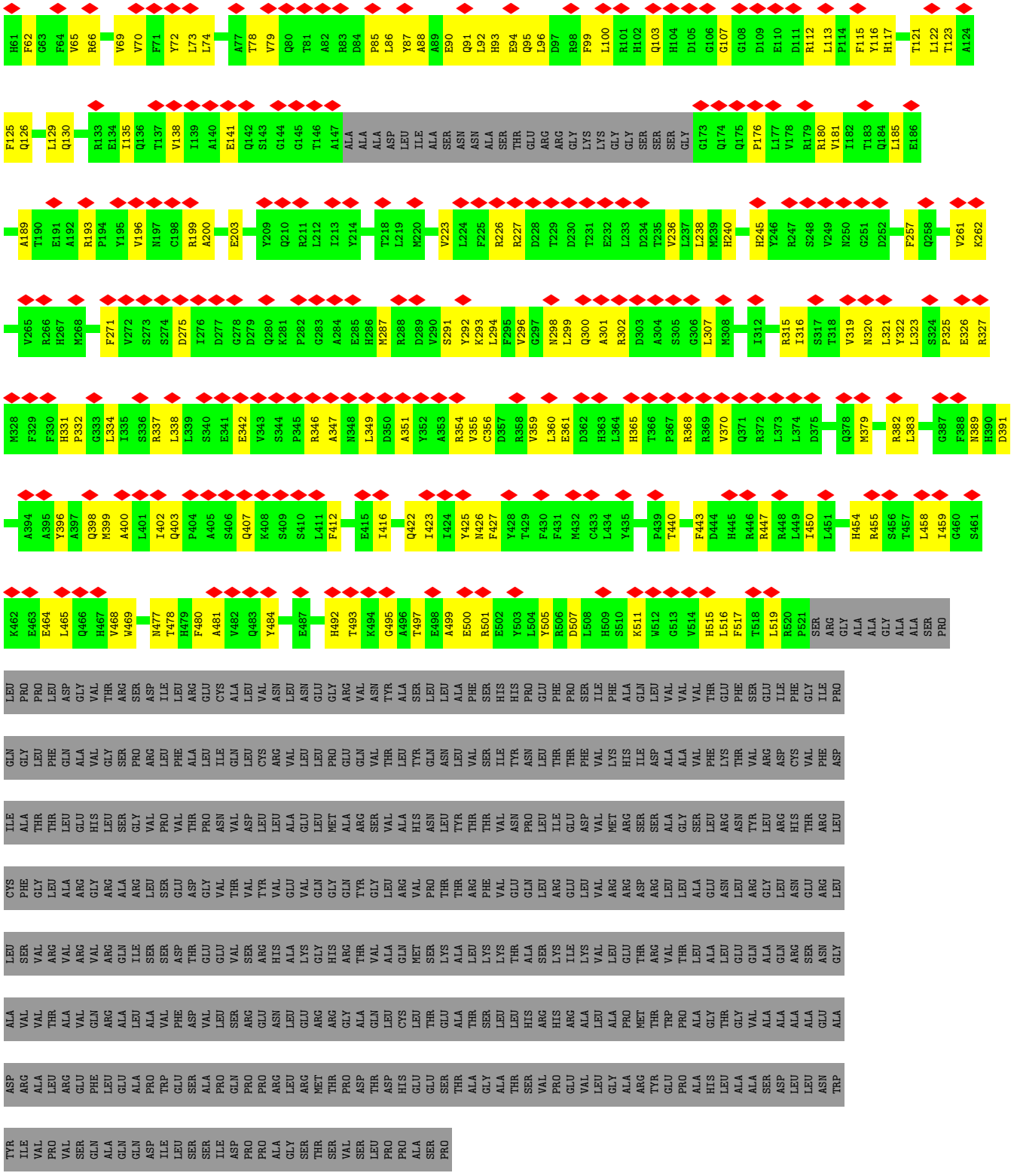
E1561 T1562 D1563 P1564 A1565 L1566 I1567 M1568 R1569 D1570 R1571 L1572 R1573 R1574 L1575 C1576 F1577 A1578 R1579 H1580 H1581 D1582 T1583 F1584 L1585 E1586 V1587 V1588 D1589 V1590 F1591 G1592 M1593 R1594 Q1595 I1596 V1597 T1598 Q1599 A1600 G1601 E1602 P1603 I1604 H1605 L1606 V1607 T1608 D1609 Y1610 G1611 N1612 V1613 A1614 F1615 K1616 Y1617 L1618 A1619 L1620



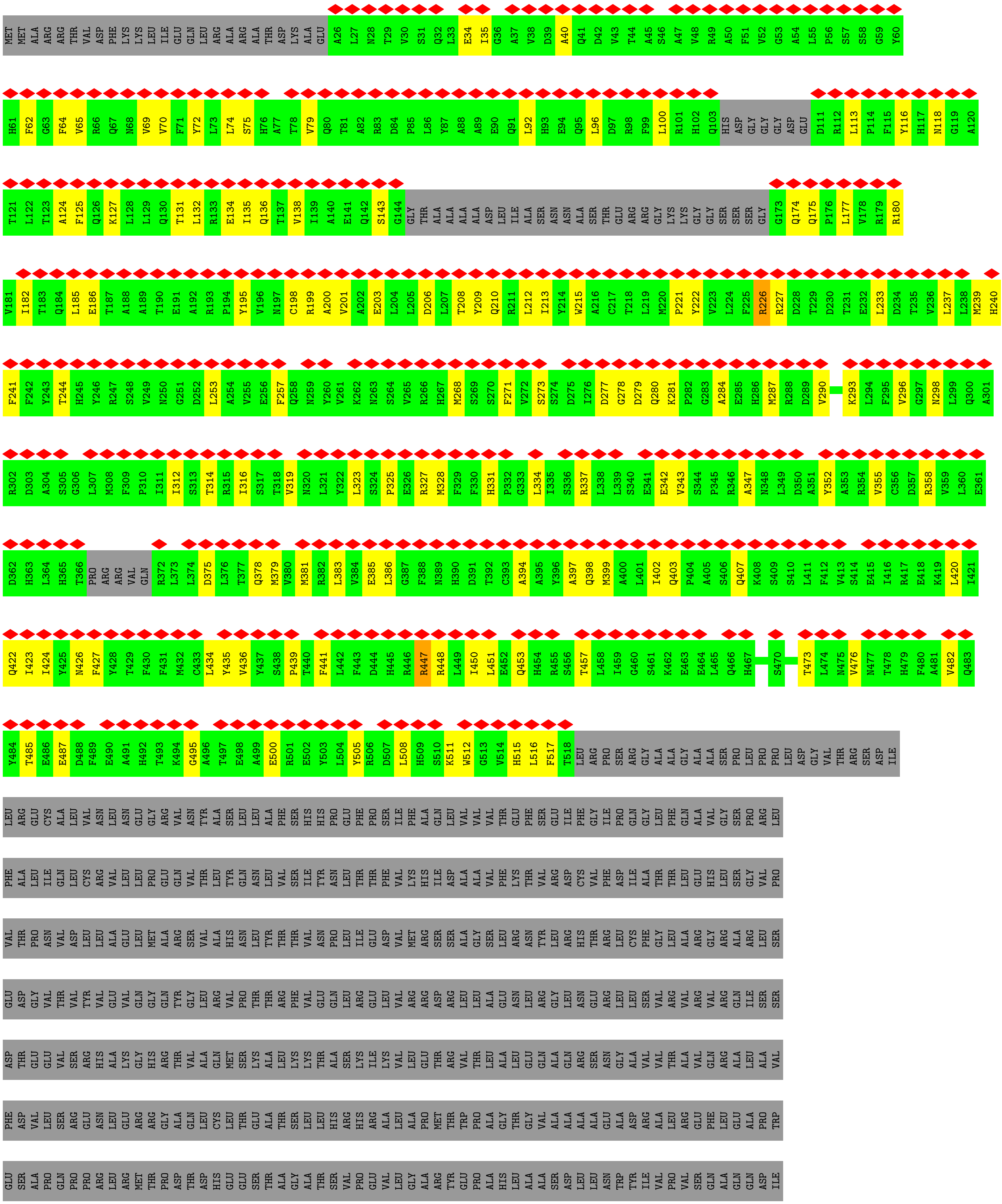
• Molecule 2: Inner tegument protein

Chain B:



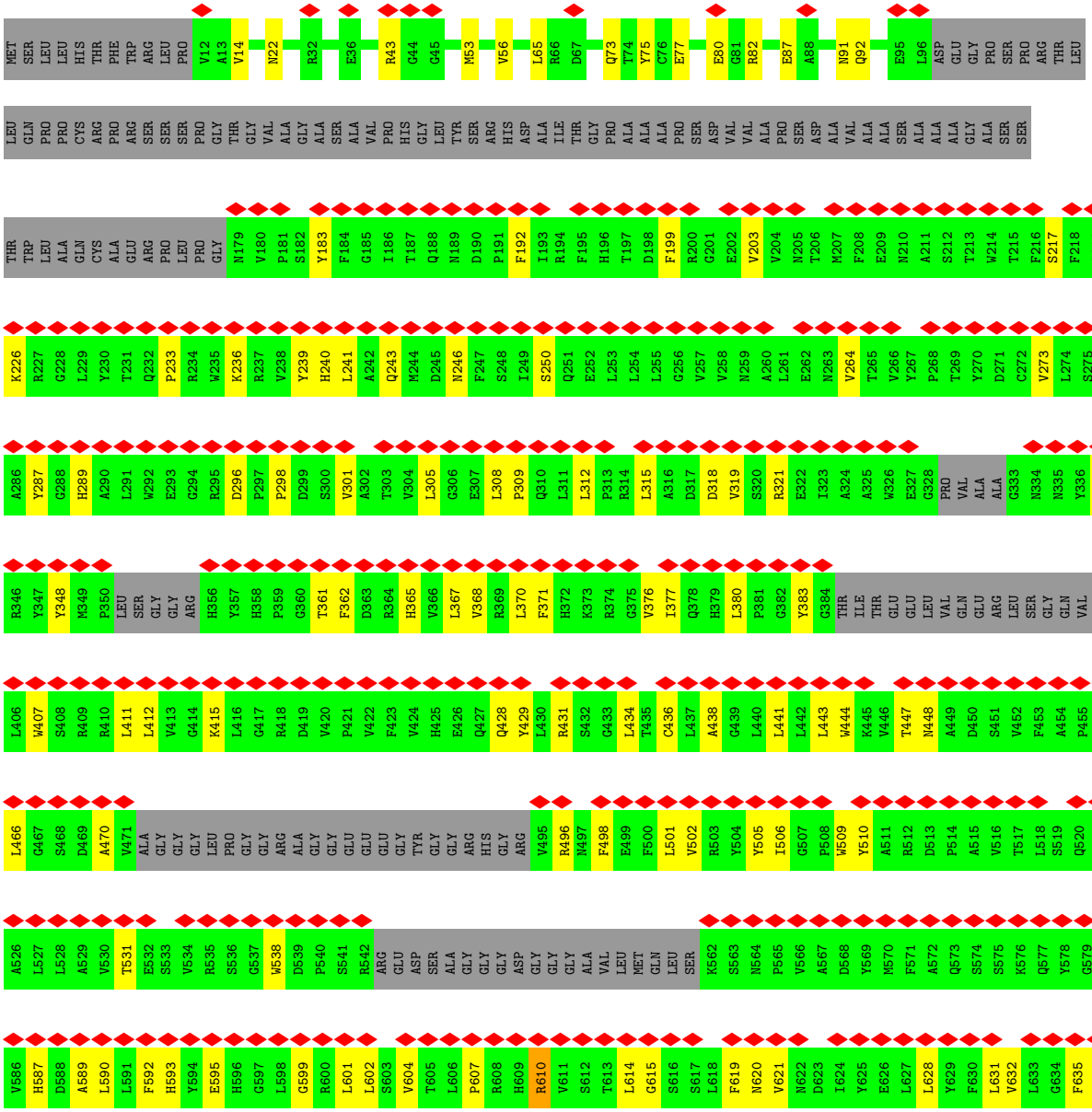


• Molecule 2: Inner tegument protein


MET MET ALA ARG ARG THR VAL ASP PHE LYS LYS LEU ILE GLU GLN LEU ARG ALA ARG ALA THR ASP LYS ALA GLU A26 L27 N28 T29 V30 S31 Q32 L33 E34 I35 G36 A37 V38 D39 A40 Q41 D42 V43 T44 A45 S46 A47 V48 R49 A50 F51 V52 G53 A54 L55 P56 S57 S58 G59 Y60
H61 F62 G63 F64 V65 R66 Q67 N68 V69 V70 F71 Y72 L73 L74 S75 H76 A77 T78 V79 Q80 T81 A82 R83 D84 P85 L86 Y87 A88 A89 E90 Q91 L92 H93 E94 Q95 L96 D97 R98 F99 L100 R101 H102 Q103 HIS ASP GLY GLY GLY ASP GLU D111 R112 L113 P114 F115 Y116 H117 N118 G119 A120
T121 L122 T123 A124 F125 Q126 K127 L128 L129 Q130 T131 L132 R133 E134 I135 Q136 T137 V138 I139 A140 E141 Q142 S143 G144 GLY THR ALA ALA ALA ALA ASP LEU ILE ALA SER ASN ASN ALA SER THR GLU ARG ARG GLY LYS LYS GLY GLY SER SER SER GLY G173 Q174 Q175 P176 L177 V178 R179 R180
V181 I182 T183 Q184 L185 E186 T187 A188 A189 T190 E191 A192 R193 P194 Y195 V196 N197 C198 R199 A200 V201 A202 E203 L204 L205 D206 L207 T208 Y209 Q210 R211 L212 I213 Y214 W215 A216 C217 T218 L219 M220 P221 Y222 V223 L224 F225 R226 R227 D228 T229 D230 T231 E232 L233 D234 T235 V236 L237 L238 M239 H240
F241 F242 Y243 T244 H245 Y246 R247 S248 V249 N250 G251 D252 L253 A254 V255 E256 F257 Q258 N259 Y260 V261 K262 N263 S264 V265 R266 H267 M268 S269 S270 F271 V272 S273 S274 D275 I276 D277 G278 D279 Q280 K281 P282 G283 A284 E285 H286 M287 R288 D289 V290 K293 L294 F295 V296 G297 N298 L299 Q300 A301
R302 D303 A304 S305 G306 L307 M308 F309 P310 I311 I312 S313 T314 R315 I316 S317 T318 V319 N320 L321 Y322 L323 S324 P325 E326 R327 M328 F329 F330 H331 P332 G333 L334 I335 S336 R337 L338 L339 S340 E341 E342 V343 S344 P345 R346 A347 N348 L349 D350 A351 Y352 A353 R354 V355 C356 D357 R358 V359 L360 E361
D362 H363 L364 H365 T366 PRO ARG ARG VAL GLN R372 L373 L374 D375 L376 T377 Q378 M379 V380 M381 R382 L383 V384 E385 L386 G387 F388 N389 H390 D391 T392 C393 A394 A395 Y396 A397 Q398 M399 A400 L401 I402 Q403 P404 A405 S406 Q407 K408 S409 S410 L411 F412 V413 S414 E415 I416 R417 E418 K419 L420 I421
Q422 I423 I424 Y425 N426 F427 Y428 T429 F430 F431 M432 C433 L434 Y435 V436 Y437 S438 P439 T440 F441 L442 F443 D444 H445 R446 R447 R448 L449 I450 L451 E452 Q453 H454 R455 S456 T457 L458 I459 G460 S461 K462 E463 E464 L465 Q466 H467 S470 T473 L474 N475 V476 N477 T478 H479 F480 A481 V482 Q483
Y484 T485 E486 E487 D488 F489 E490 A491 H492 T493 K494 G495 A496 T497 E498 A499 E500 R501 E502 Y503 L504 Y505 R506 D507 L508 H509 S510 K511 W512 G513 V514 H515 L516 F517 T518 LEU ARG PRO SER ARG GLY ALA ALA GLY ALA ALA SER PRO LEU PRO PRO LEU ASP GLY VAL THR ARG SER ASP ILE
LEU ARG GLU CYS ALA LEU VAL ASN LEU ASN GLY ARG VAL ASN TYR ALA SER LEU LEU ALA PHE SER HIS HIS PRO GLN PHE PRO SER ILE PHE ALA GLN LEU VAL VAL VAL THR GLU PHE SER GLU ILE PHE GLY ILE PRO GLN GLY LEU PHE GLN ALA ALA VAL GLY SER PRO ARG LEU
PHE ALA LEU ILE GLN LEU CYS ARG VAL LEU LEU PRO GLU GLN VAL THR LEU TYR GLN ASN LEU VAL SER ILE TYR ASN LEU THR THR PHE VAL LYS HIS ILE ASP ALA ALA ALA VAL PHE LYS THR VAL ARG ASP CYS VAL PHE ASP ILE ALA THR THR LEU GLU HIS LEU SER GLY VAL PRO
VAL THR PRO ASN VAL ASP LEU LEU ALA GLU LEU MET ALA ARG SER VAL ALA HIS ASN LEU TYR THR THR VAL ASN PRO LEU ILE GLU ASP VAL MET ARG SER SER ALA GLY SER LEU ARG ASN TYR LEU ARG HIS THR ARG LEU CYS PHE GLY LEU ALA ARG GLY ARG ALA ARG LEU SER
GLU ASP GLY VAL THR VAL TYR VAL GLU VAL GLN GLY GLN TYR GLY LEU ARG VAL PRO THR THR ARG PHE VAL GLU GLN LEU ARG GLU LEU VAL ARG ARG ASP ARG LEU LEU ALA GLU ASN LEU ARG GLY LEU ASN GLU ARG LEU LEU SER VAL ARG VAL ARG VAL ARG GLN ILE SER SER
ASP THR GLU GLU VAL SER ARG HIS ALA LYS GLY HIS ARG THR VAL ALA GLN MET SER LYS ALA LEU LYS LYS THR ALA SER LYS ILE LYS VAL LEU GLU THR ARG VAL THR LEU ALA LEU GLU GLN ALA GLN ARG SER ASN GLY ALA VAL VAL THR ALA VAL GLN ARG ALA LEU ALA VAL
PHE ASP VAL LEU SER ARG GLU ASN LEU GLU ARG ARG GLY ALA GLN LEU CYS LEU THR GLU ALA THR SER LEU LEU HIS ARG HIS ARG ALA LEU ALA PRO MET THR TRP PRO ALA GLY THR GLY VAL ALA ALA ALA ALA GLU ALA ASP ARG ALA LEU ARG GLU PHE LEU GLU ALA PRO TRP
GLU SER ALA PRO GLN PRO PRO ARG LEU ARG MET THR PRO ASP THR ASP HIS GLU GLU SER THR ALA GLY ALA THR SER VAL PRO GLU VAL LEU GLY ALA ARG TYR GLU PRO ALA HIS LEU ALA LEU ALA SER ASP LEU LEU ASN TRP TYR ILE VAL PRO VAL SER GLN ALA GLN GLN ASP ILE

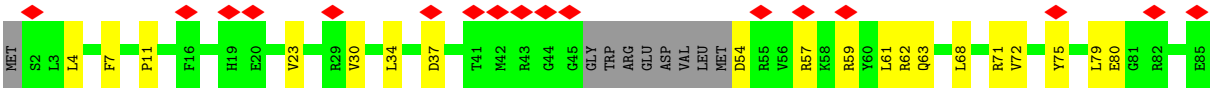
• Molecule 3: Capsid vertex component 2

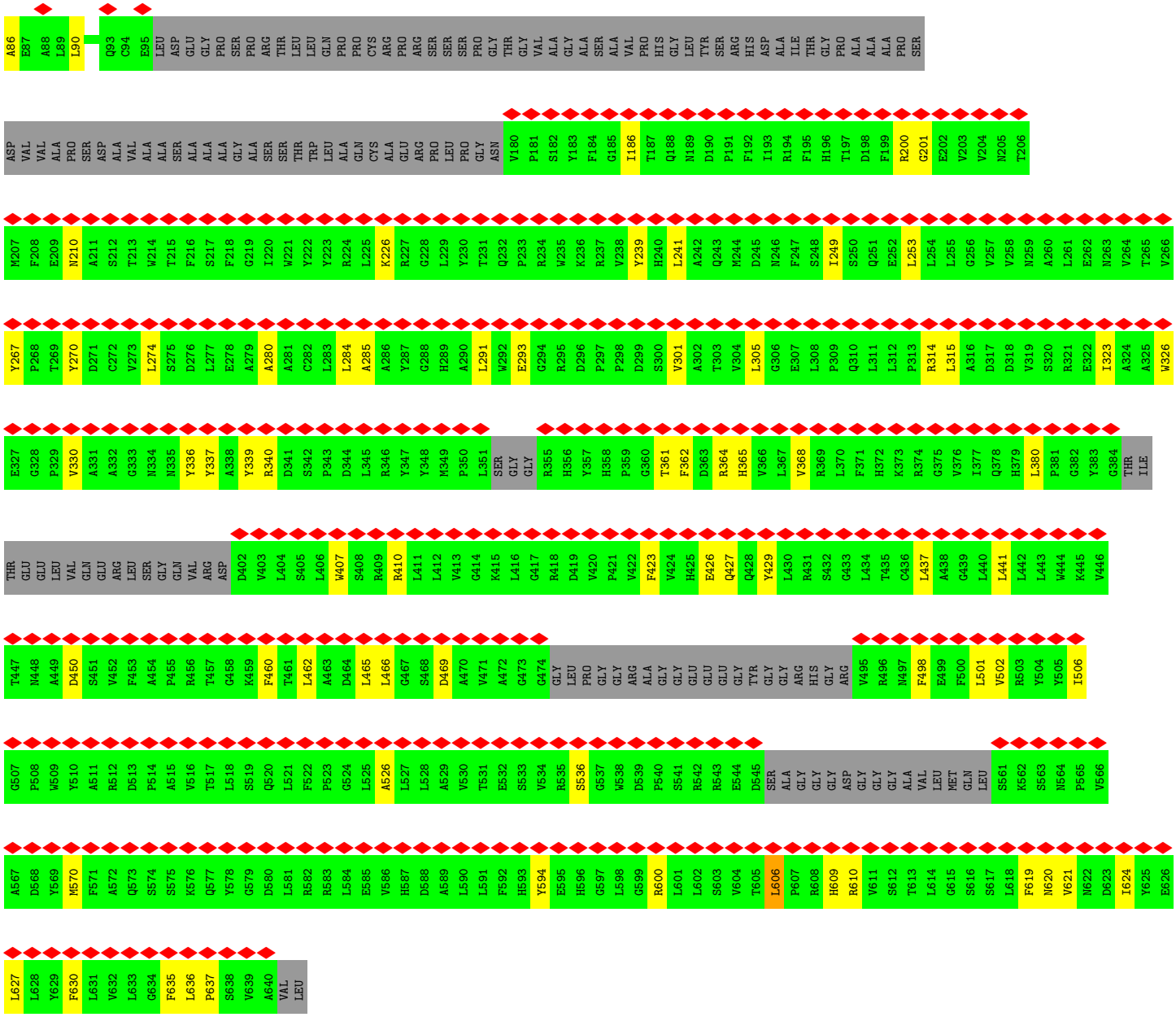
Chain E:



• Molecule 3: Capsid vertex component 2

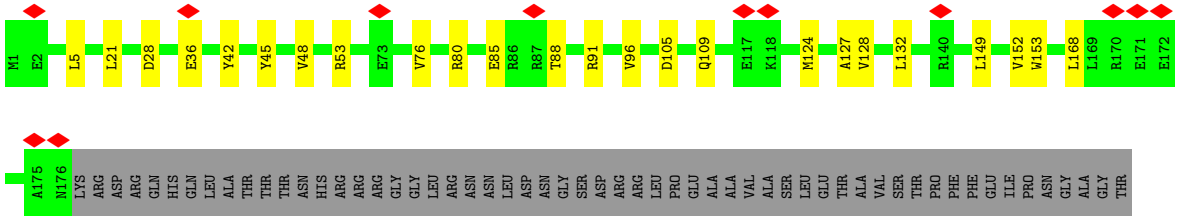
Chain F:

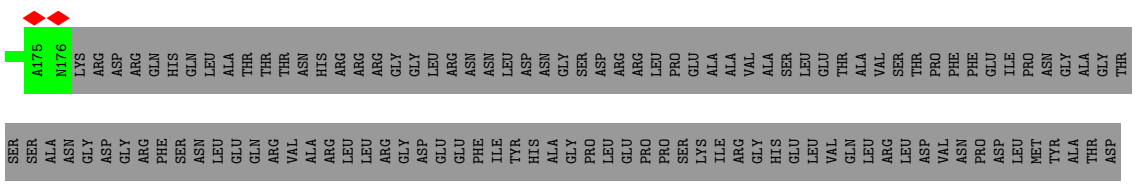


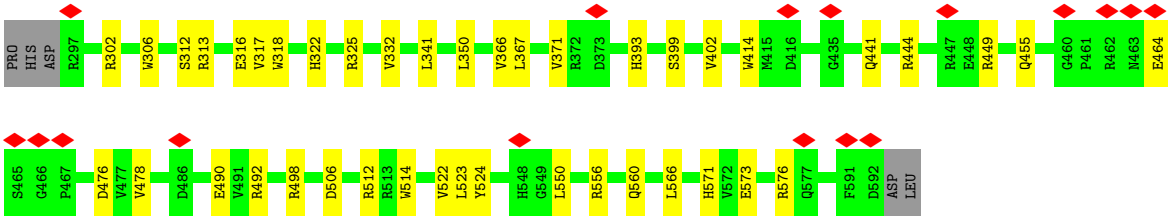


• Molecule 4: Capsid vertex component 1

Chain G:

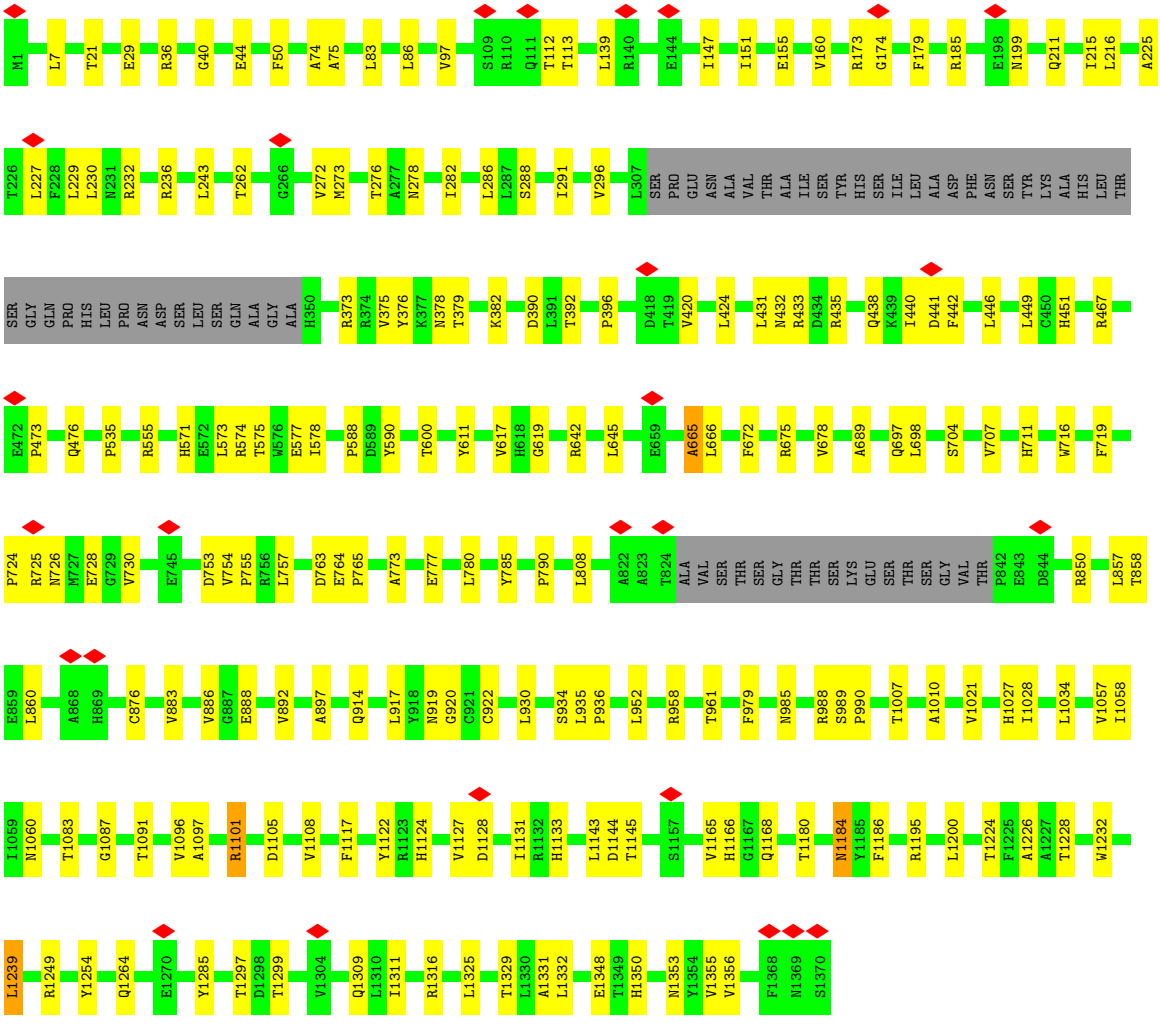






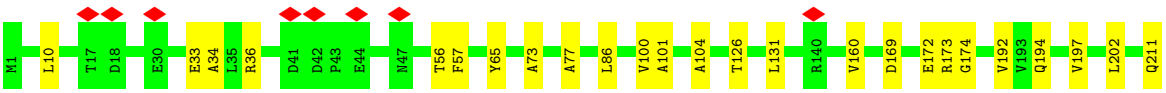
• Molecule 5: Major capsid protein

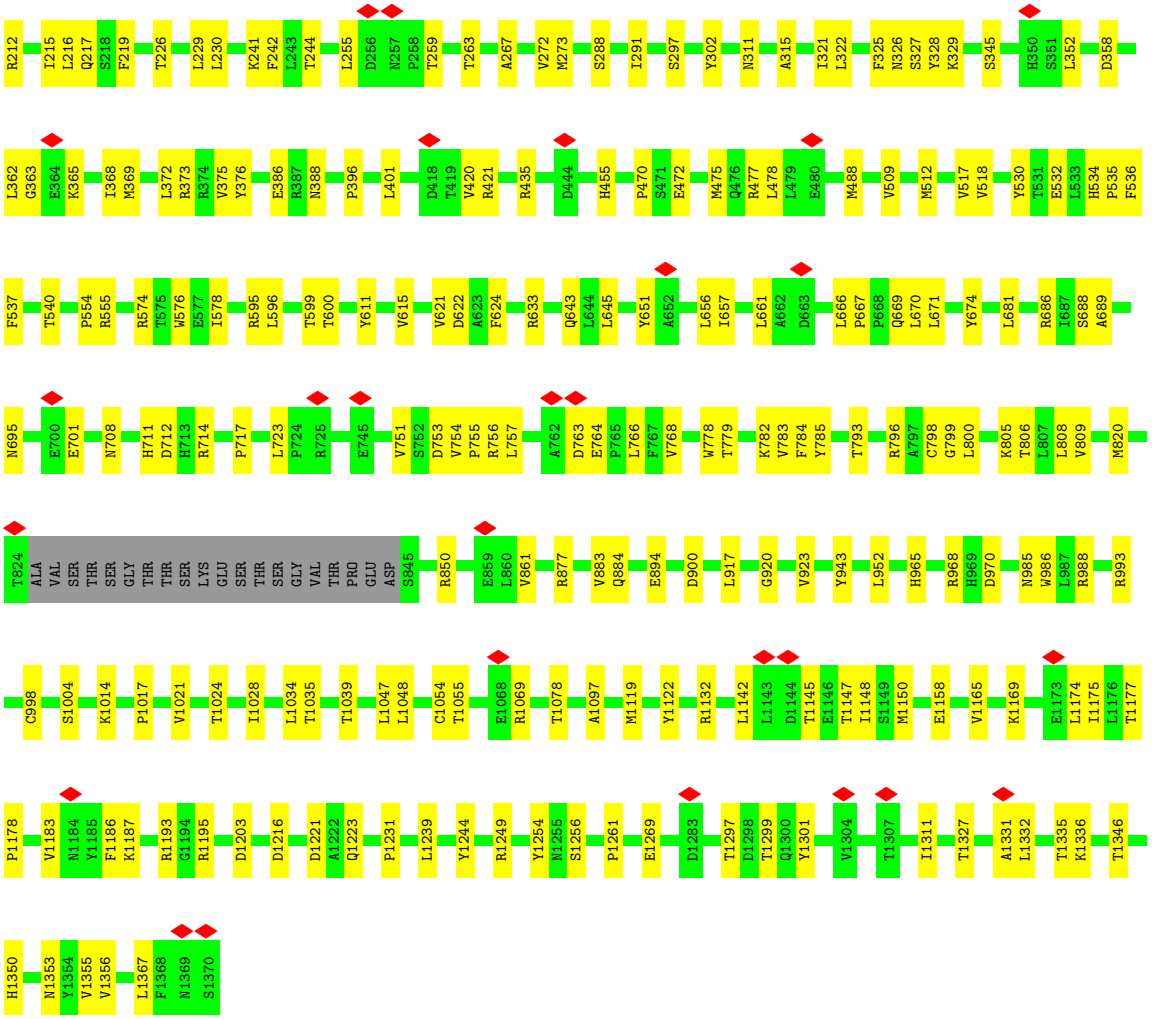
Chain H:



• Molecule 5: Major capsid protein

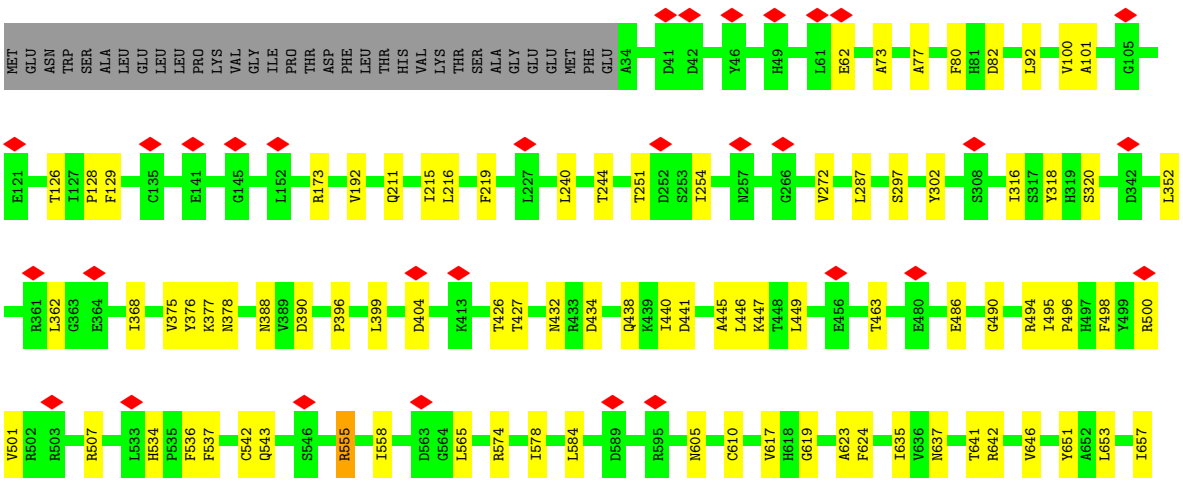
Chain I:

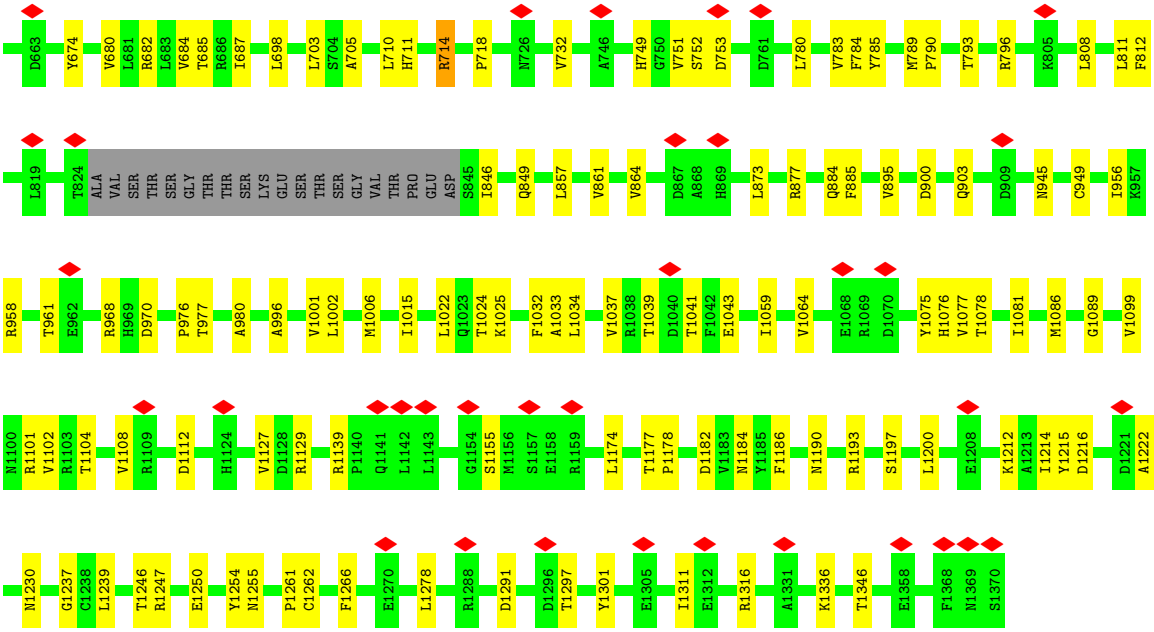




• Molecule 5: Major capsid protein

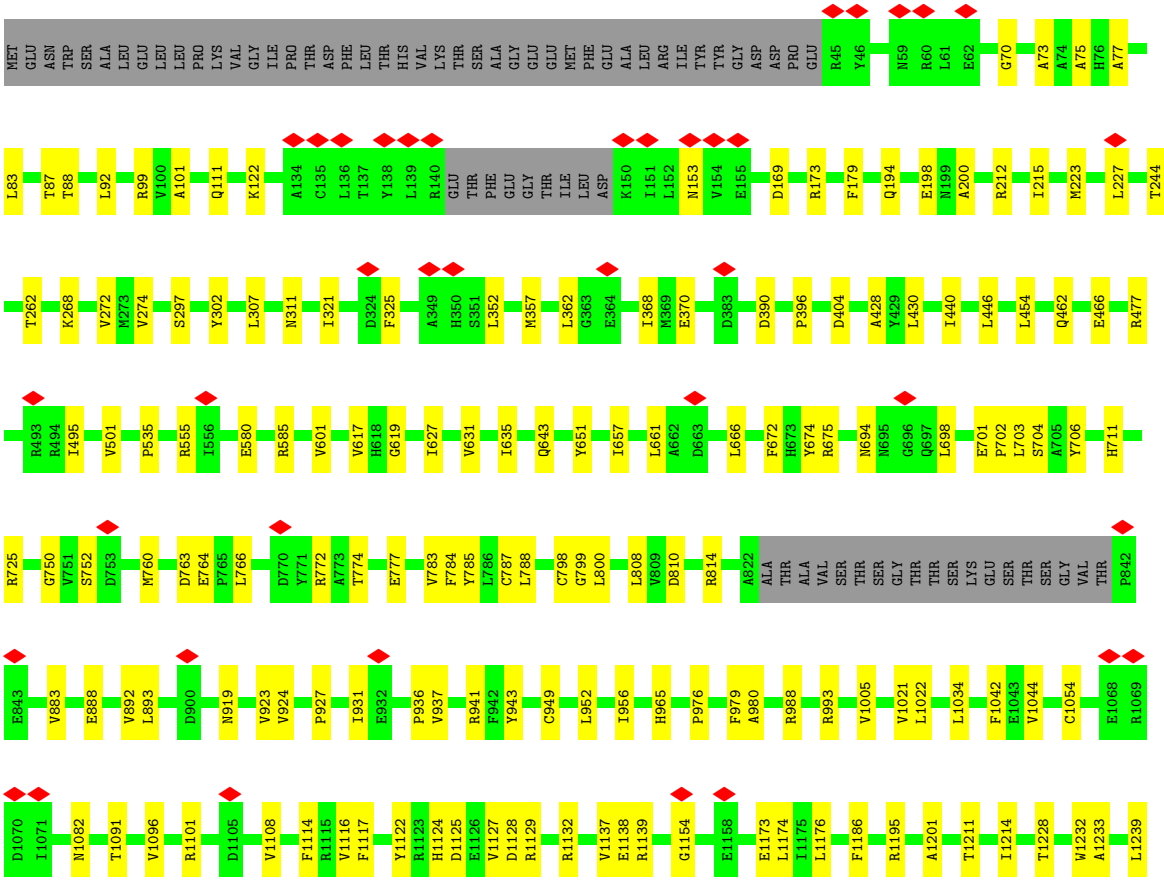
Chain J:

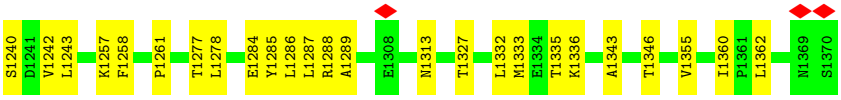




• Molecule 5: Major capsid protein

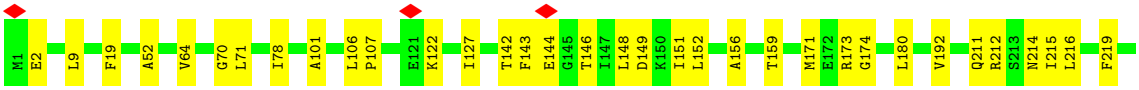
Chain K:

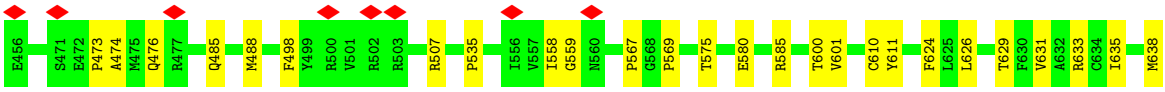


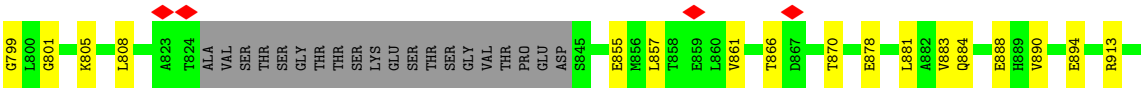


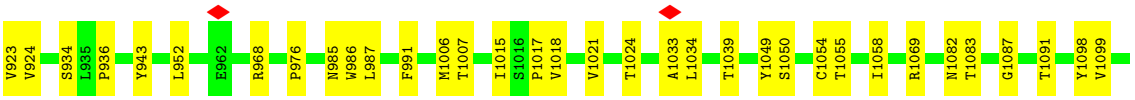
• Molecule 5: Major capsid protein

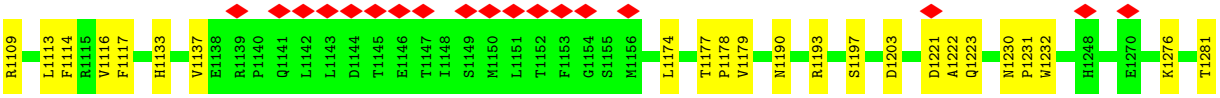
Chain L:

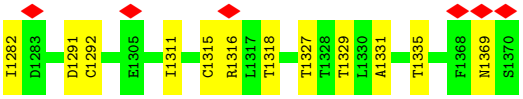






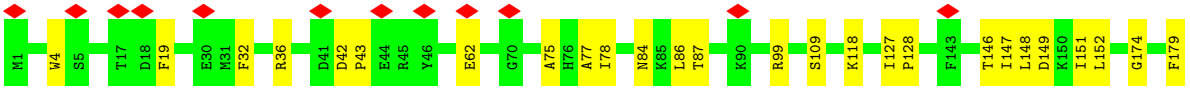


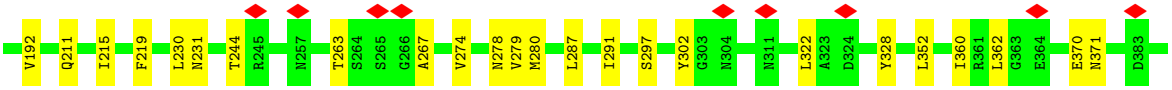


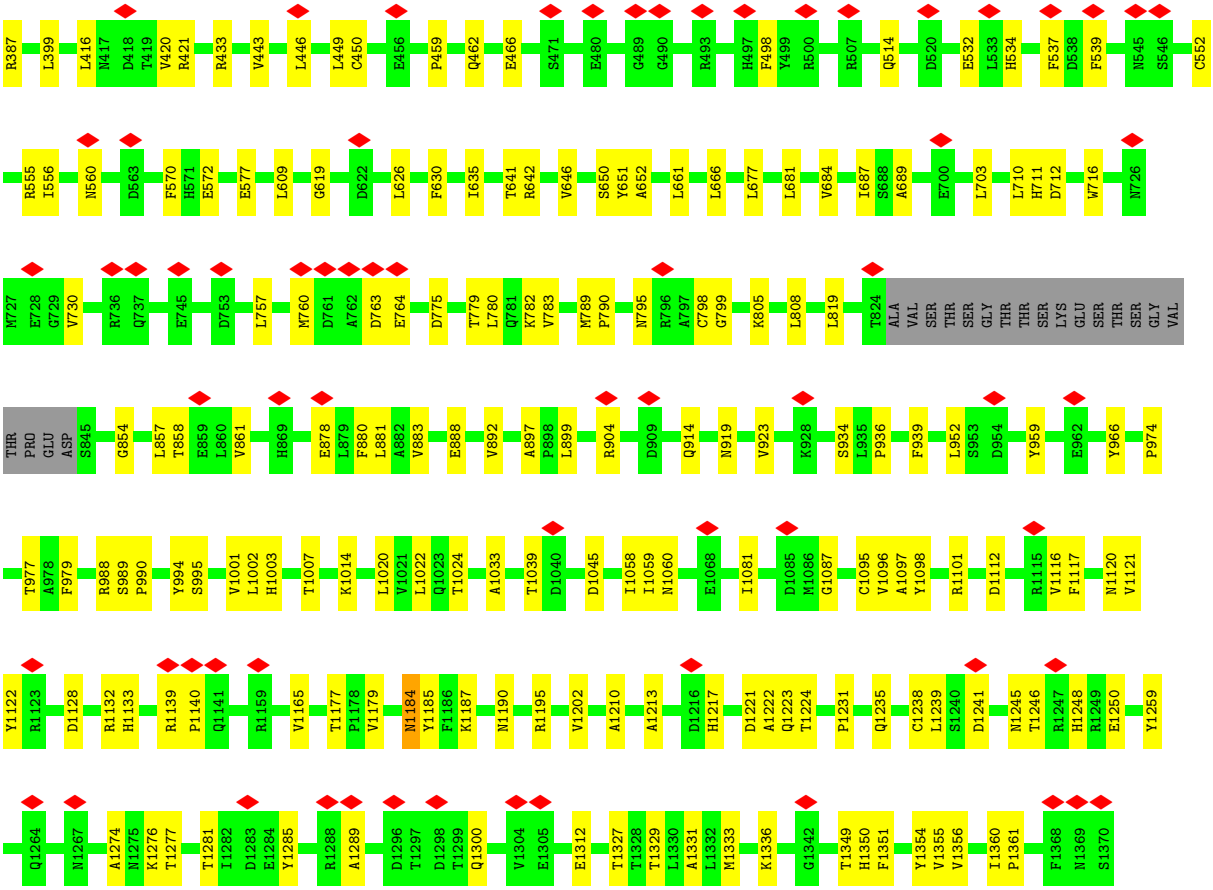


• Molecule 5: Major capsid protein

Chain M:

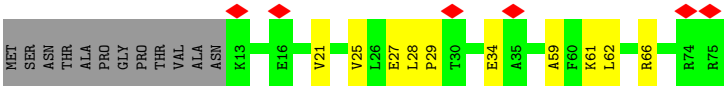






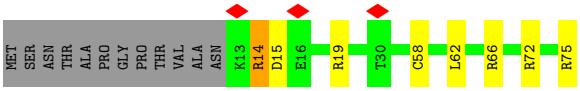
• Molecule 6: Small capsomere-interacting protein

Chain N:



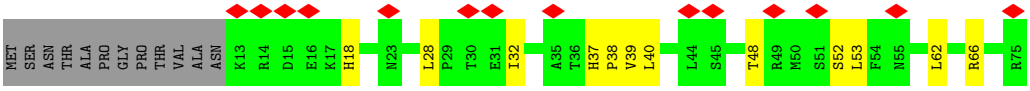
• Molecule 6: Small capsomere-interacting protein

Chain O:



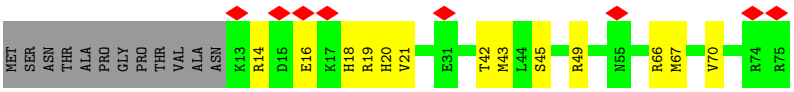
• Molecule 6: Small capsomere-interacting protein

Chain P:



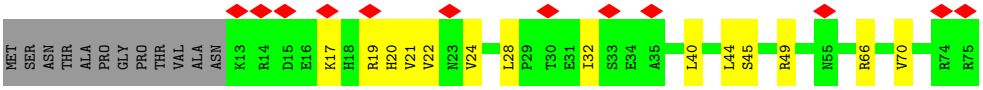
• Molecule 6: Small capsomere-interacting protein

Chain Q:



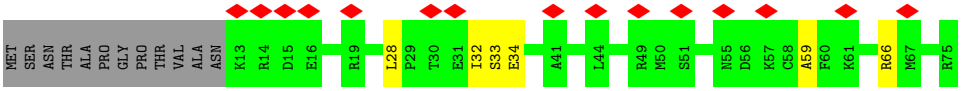
• Molecule 6: Small capsomere-interacting protein

Chain R:



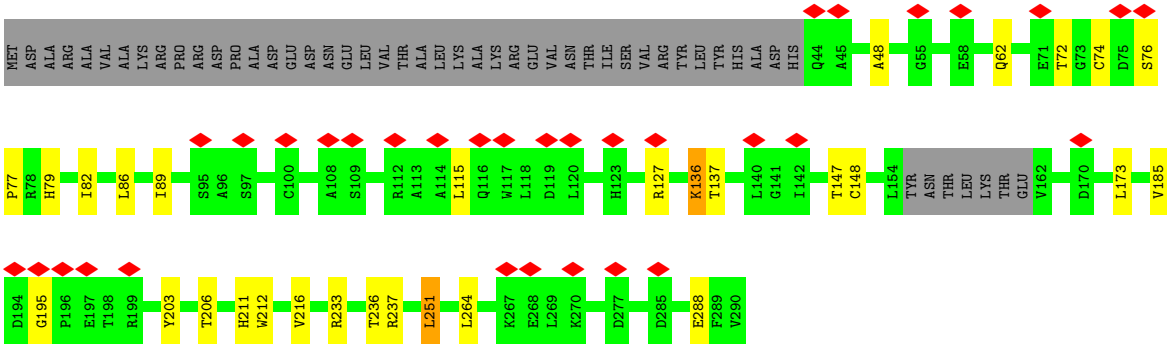
• Molecule 6: Small capsomere-interacting protein

Chain S:



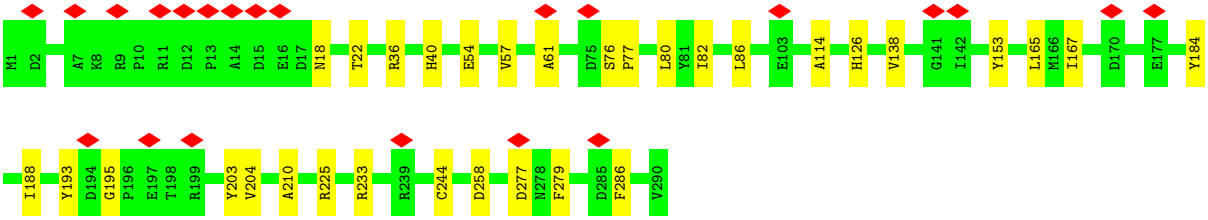
• Molecule 7: Triplex capsid protein 1

Chain T:



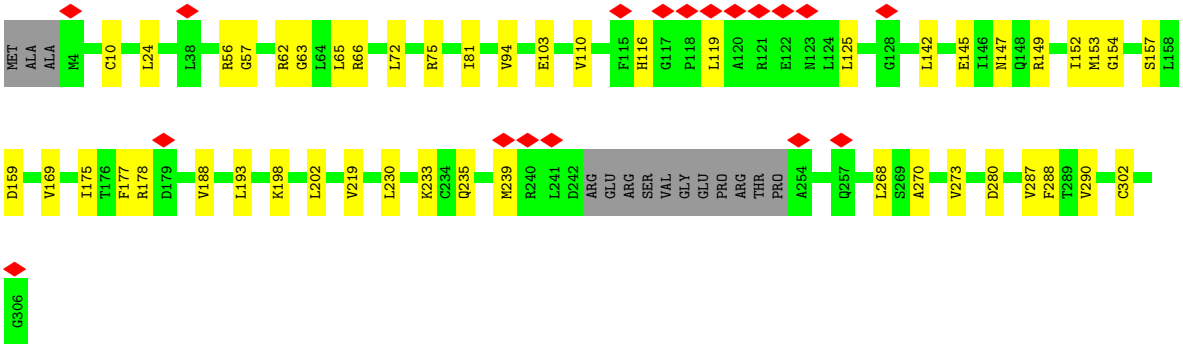
• Molecule 7: Triplex capsid protein 1

Chain W:



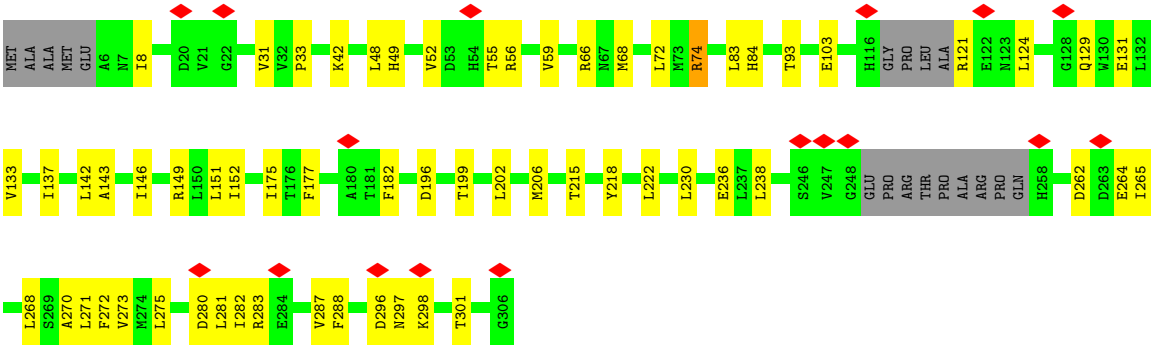
• Molecule 8: Triplex capsid protein 2

Chain U:



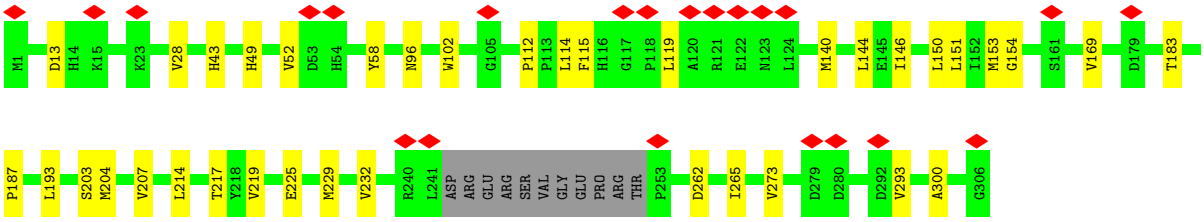
• Molecule 8: Triplex capsid protein 2

Chain V:



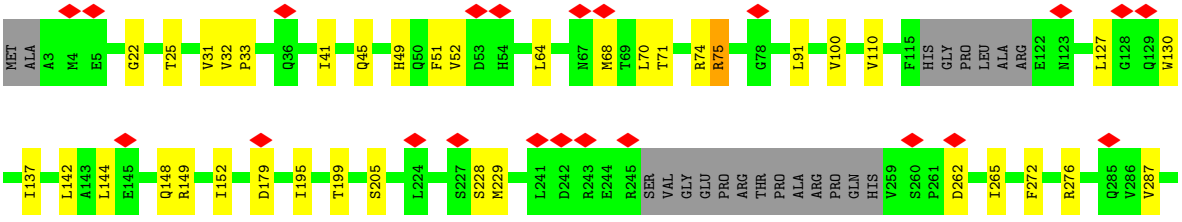
• Molecule 8: Triplex capsid protein 2

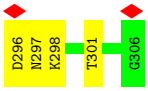
Chain X:



• Molecule 8: Triplex capsid protein 2

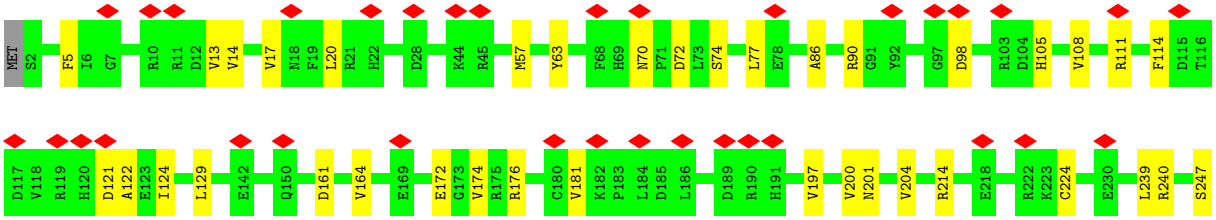
Chain Y:

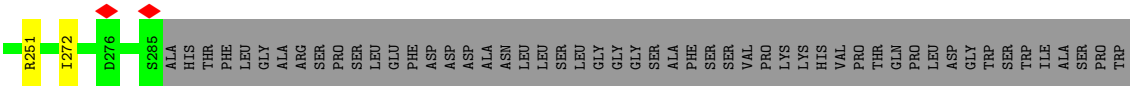


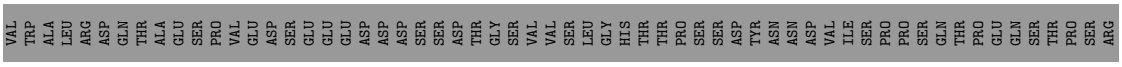


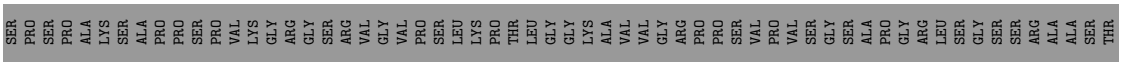
• Molecule 9: Large structural phosphoprotein

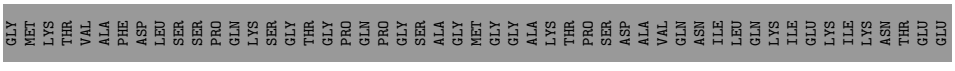
Chain Z:











4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C5	Depositor
Number of particles used	35055	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	47.2	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.035	Depositor
Minimum map value	-0.023	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.005	Depositor
Map size (Å)	489.6, 489.6, 489.6	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.36, 1.36, 1.36	Depositor

5 Model quality

5.1 Standard geometry

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	0.25	0/5975	0.51	0/8149
1	C	0.26	0/5787	0.54	1/7885 (0.0%)
2	B	0.25	0/4082	0.52	1/5535 (0.0%)
2	D	0.27	0/3768	0.51	0/5111
3	E	0.25	0/4015	0.52	0/5453
3	F	0.24	0/4090	0.50	1/5557 (0.0%)
4	G	0.25	0/3962	0.60	0/5371
5	H	0.33	0/10653	0.62	7/14508 (0.0%)
5	I	0.31	0/10949	0.59	5/14916 (0.0%)
5	J	0.29	0/10682	0.55	2/14553 (0.0%)
5	K	0.30	0/10527	0.58	6/14339 (0.0%)
5	L	0.28	0/10949	0.54	3/14916 (0.0%)
5	M	0.25	0/10949	0.51	0/14916
6	N	0.23	0/520	0.53	0/697
6	O	0.23	0/520	0.51	0/697
6	P	0.23	0/520	0.56	0/697
6	Q	0.25	0/520	0.57	0/697
6	R	0.24	0/520	0.58	0/697
6	S	0.23	0/520	0.53	0/697
7	T	0.25	0/1960	0.56	1/2658 (0.0%)
7	W	0.33	0/2374	0.62	0/3221
8	U	0.25	0/2361	0.51	0/3206
8	V	0.27	0/2333	0.57	0/3164
8	X	0.25	0/2379	0.51	0/3230
8	Y	0.25	0/2305	0.54	0/3126
9	Z	0.25	0/2358	0.53	0/3182
All	All	0.28	0/115578	0.55	27/157178 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
5	H	0	1
5	J	0	1
All	All	0	2

There are no bond length outliers.

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	H	555	ARG	NE-CZ-NH2	10.46	125.53	120.30
5	H	1195	ARG	NE-CZ-NH2	10.05	125.33	120.30
5	K	988	ARG	NE-CZ-NH2	8.23	124.41	120.30
5	K	555	ARG	NE-CZ-NH2	7.65	124.12	120.30
5	K	1195	ARG	NE-CZ-NH2	7.28	123.94	120.30
5	H	185	ARG	NE-CZ-NH2	7.11	123.85	120.30
5	J	555	ARG	NE-CZ-NH2	7.01	123.80	120.30
5	K	993	ARG	NE-CZ-NH2	6.59	123.60	120.30
5	I	633	ARG	NE-CZ-NH2	6.30	123.45	120.30
5	I	850	ARG	NE-CZ-NH2	6.17	123.38	120.30
5	H	1316	ARG	NE-CZ-NH2	6.09	123.34	120.30
7	T	251	LEU	CA-CB-CG	5.89	128.84	115.30
5	L	19	PHE	CB-CG-CD1	5.73	124.81	120.80
5	H	1195	ARG	NE-CZ-NH1	-5.73	117.44	120.30
5	H	642	ARG	NE-CZ-NH2	5.69	123.15	120.30
5	J	714	ARG	NE-CZ-NH1	5.64	123.12	120.30
5	L	19	PHE	CB-CG-CD2	-5.57	116.90	120.80
5	I	1132	ARG	NE-CZ-NH2	5.46	123.03	120.30
5	K	941	ARG	NE-CZ-NH2	5.37	122.99	120.30
5	L	1109	ARG	NE-CZ-NH2	5.37	122.99	120.30
2	B	55	LEU	CA-CB-CG	5.30	127.49	115.30
3	F	606	LEU	CA-CB-CG	5.24	127.35	115.30
1	C	1697	CYS	CA-CB-SG	5.21	123.38	114.00
5	K	1195	ARG	CD-NE-CZ	5.12	130.76	123.60
5	H	467	ARG	NE-CZ-NH2	5.11	122.86	120.30
5	I	877	ARG	NE-CZ-NH2	5.10	122.85	120.30
5	I	1122	TYR	CB-CG-CD1	-5.04	117.98	121.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	H	611	TYR	Sidechain
5	J	555	ARG	Sidechain

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	5833	0	5848	153	0
1	C	5651	0	5691	129	0
2	B	3993	0	3925	121	0
2	D	3685	0	3611	95	0
3	E	3915	0	3838	84	0
3	F	3986	0	3912	65	0
4	G	3873	0	3792	48	0
5	H	10406	0	10362	127	0
5	I	10693	0	10635	162	0
5	J	10433	0	10379	133	0
5	K	10282	0	10238	118	0
5	L	10693	0	10635	137	0
5	M	10693	0	10635	147	0
6	N	513	0	539	8	0
6	O	513	0	539	8	0
6	P	513	0	539	10	0
6	Q	513	0	539	9	0
6	R	513	0	539	9	0
6	S	513	0	539	5	0
7	T	1919	0	1957	20	0
7	W	2325	0	2363	21	0
8	U	2317	0	2405	35	0
8	V	2292	0	2379	42	0
8	X	2334	0	2431	25	0
8	Y	2266	0	2355	25	0
9	Z	2320	0	2351	23	0
All	All	112987	0	112976	1638	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 7.

All (1638) 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)
5:K:1327:THR:HG21	5:K:1333:MET:HB2	1.58	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:446:LEU:HD21	5:M:1024:THR:HG21	1.61	0.83
1:A:1553:PRO:HB3	2:B:402:ILE:HA	1.62	0.80
5:H:446:LEU:HD11	5:H:1021:VAL:HG23	1.64	0.80
1:C:1700:VAL:HG11	1:C:1750:ILE:HG21	1.66	0.78
1:C:2232:ILE:HB	3:E:65:LEU:HD21	1.66	0.77
4:G:514:TRP:CD1	4:G:522:VAL:HG11	2.21	0.76
7:T:137:THR:HB	7:T:147:THR:HG22	1.68	0.75
5:M:760:MET:HG2	5:M:805:LYS:HB2	1.67	0.75
1:C:1697:CYS:HA	1:C:1700:VAL:HG12	1.69	0.75
5:L:212:ARG:HH22	5:L:1203:ASP:HA	1.52	0.75
3:E:505:TYR:HA	3:E:509:TRP:HD1	1.52	0.74
3:F:606:LEU:HD13	3:F:609:HIS:HB2	1.69	0.74
5:I:470:PRO:HB2	5:I:475:MET:HG2	1.68	0.74
7:W:61:ALA:HA	7:W:138:VAL:HG11	1.68	0.74
5:H:672:PHE:HE2	5:I:643:GLN:HB2	1.52	0.73
5:H:716:TRP:O	5:H:914:GLN:NE2	2.21	0.73
5:I:701:GLU:OE2	5:I:714:ARG:NH2	2.22	0.72
5:L:760:MET:HG3	5:L:888:GLU:HB2	1.70	0.72
5:J:1039:THR:HG23	5:J:1261:PRO:HB3	1.70	0.72
5:H:575:THR:HG21	5:H:1007:THR:HA	1.70	0.72
3:E:604:VAL:HB	3:E:607:PRO:HG3	1.70	0.72
2:D:210:GLN:NE2	2:D:435:TYR:O	2.22	0.72
5:I:1047:LEU:HD22	5:I:1097:ALA:HB2	1.72	0.72
5:K:783:VAL:O	5:K:787:CYS:HB3	1.89	0.72
1:A:1618:LEU:HA	1:A:1621:ARG:HD3	1.72	0.71
8:U:72:LEU:HD11	8:U:94:VAL:HG12	1.73	0.71
9:Z:129:LEU:HD11	9:Z:204:VAL:HA	1.71	0.71
2:B:55:LEU:HD12	2:B:66:ARG:HH22	1.54	0.70
5:M:99:ARG:NH2	5:M:109:SER:O	2.24	0.70
5:H:432:ASN:OD1	5:H:438:GLN:NE2	2.25	0.70
1:A:1586:GLU:HB3	1:A:1596:ILE:HG12	1.73	0.70
2:B:223:VAL:HA	2:B:226:ARG:HH11	1.57	0.70
5:H:1101:ARG:HH22	5:I:202:LEU:HG	1.57	0.70
5:J:446:LEU:HD11	5:J:1024:THR:HG21	1.72	0.70
5:I:681:LEU:HD21	5:I:784:PHE:HB2	1.72	0.70
1:A:1579:ARG:NH2	1:A:1831:GLN:O	2.24	0.69
1:A:1797:LEU:O	1:A:1800:GLN:NE2	2.25	0.69
1:A:1859:LEU:HD12	1:A:1877:VAL:HG11	1.74	0.69
5:L:474:ALA:HA	5:M:1133:HIS:CE1	2.28	0.69
5:K:70:GLY:N	5:K:370:GLU:OE2	2.25	0.69
2:B:74:LEU:HD21	2:B:96:LEU:HD11	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:272:VAL:HG12	5:J:368:ILE:HB	1.74	0.68
4:G:132:LEU:HD11	4:G:149:LEU:HD13	1.75	0.68
5:I:1142:LEU:HD13	5:I:1147:THR:HB	1.76	0.68
5:K:194:GLN:HE22	5:K:245:ARG:HG2	1.58	0.68
2:B:48:VAL:HB	2:B:99:PHE:CZ	2.28	0.68
5:H:139:LEU:HD22	5:H:160:VAL:HG21	1.76	0.68
3:F:293:GLU:O	4:G:313:ARG:NH1	2.26	0.68
7:W:258:ASP:OD2	7:W:277:ASP:N	2.27	0.68
2:D:447:ARG:HH11	2:D:476:VAL:HG11	1.58	0.68
5:K:274:VAL:HG12	5:K:370:GLU:HB2	1.76	0.68
5:J:617:VAL:HG13	5:J:619:GLY:H	1.57	0.67
7:W:167:ILE:HD13	7:W:204:VAL:HG11	1.74	0.67
1:A:1548:ARG:HE	1:A:1549:LEU:H	1.43	0.67
5:I:173:ARG:HB3	5:J:100:VAL:HG12	1.75	0.67
5:K:694:ASN:ND2	5:K:704:SER:OG	2.28	0.67
5:L:750:GLY:HA2	6:R:70:VAL:HG11	1.77	0.67
5:J:710:LEU:HD21	5:J:783:VAL:HG22	1.76	0.67
5:H:36:ARG:NH2	5:H:44:GLU:OE2	2.27	0.67
5:L:600:THR:HG23	5:L:644:LEU:HD12	1.77	0.67
1:C:1519:THR:HA	1:C:1522:LEU:HD12	1.77	0.67
5:J:732:VAL:HG12	5:J:895:VAL:HG12	1.77	0.67
5:J:703:LEU:HD22	5:J:1022:LEU:HD11	1.77	0.66
5:I:1195:ARG:NH1	5:I:1216:ASP:O	2.28	0.66
5:I:666:LEU:HD12	5:I:667:PRO:HD2	1.76	0.66
5:I:1332:LEU:HD23	5:I:1355:VAL:HG23	1.77	0.66
5:K:1124:HIS:HB3	5:K:1127:VAL:HG12	1.77	0.66
1:A:1957:PRO:HG3	1:A:2036:PHE:HD1	1.61	0.66
1:C:1753:LEU:HD23	1:C:1803:ALA:HB3	1.78	0.66
5:M:1235:GLN:HB2	5:M:1238:CYS:HB3	1.77	0.66
5:L:610:CYS:HA	5:L:647:PHE:HE1	1.61	0.66
5:H:440:ILE:HB	5:H:1108:VAL:HG21	1.77	0.66
5:K:1154:GLY:HA3	5:K:1257:LYS:HE3	1.77	0.66
1:C:1843:LYS:NZ	1:C:1938:PHE:O	2.29	0.65
5:M:462:GLN:O	5:M:466:GLU:HG2	1.95	0.65
8:U:202:LEU:HD22	8:V:230:LEU:HD11	1.79	0.65
2:D:222:TYR:O	2:D:226:ARG:NH2	2.29	0.65
3:E:377:ILE:HD12	3:E:380:LEU:HD11	1.78	0.65
1:A:1596:ILE:HB	1:A:1604:ILE:HD11	1.79	0.65
4:G:571:HIS:HA	8:U:188:VAL:HG23	1.79	0.65
5:J:1214:ILE:HG22	5:J:1215:TYR:HD1	1.62	0.65
2:D:399:MET:HA	2:D:402:ILE:HB	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:1037:VAL:HG21	5:J:1262:CYS:HB3	1.79	0.64
2:B:32:GLN:HA	2:B:35:ILE:HG12	1.79	0.64
1:A:1862:LEU:HD11	1:A:1952:TRP:HH2	1.60	0.64
8:X:154:GLY:HA3	8:X:193:LEU:HD21	1.79	0.64
5:J:641:THR:HG23	5:J:642:ARG:HG3	1.77	0.64
1:C:1983:SER:OG	1:C:1984:ARG:NH2	2.30	0.64
5:K:766:LEU:HD11	5:K:893:LEU:HD21	1.80	0.64
2:B:492:HIS:HD2	2:B:493:THR:HG23	1.63	0.64
1:A:1952:TRP:O	1:A:1995:ARG:NH1	2.28	0.64
1:A:2228:VAL:HG11	3:F:72:VAL:HG11	1.80	0.64
2:B:447:ARG:NH2	2:B:480:PHE:O	2.30	0.64
5:M:716:TRP:O	5:M:914:GLN:NE2	2.31	0.64
2:B:331:HIS:CD2	2:B:334:LEU:H	2.15	0.64
4:G:42:TYR:HB2	4:G:152:VAL:HB	1.79	0.64
8:U:24:LEU:HD21	8:U:81:ILE:HD12	1.80	0.64
8:U:62:ARG:NH2	8:U:147:ASN:OD1	2.31	0.64
6:S:28:LEU:HD12	6:S:32:ILE:HD11	1.79	0.63
1:C:1765:PRO:HB3	1:C:2119:ILE:HA	1.79	0.63
8:U:149:ARG:HD2	8:U:175:ILE:HD11	1.80	0.63
1:C:1566:LEU:HA	1:C:1569:ARG:HG2	1.80	0.63
1:A:1627:LEU:HD23	1:A:1630:ARG:HG3	1.80	0.63
1:A:1607:VAL:HG13	1:A:1608:THR:HG23	1.80	0.63
5:M:278:ASN:ND2	5:M:1098:TYR:OH	2.31	0.63
1:A:1602:GLU:HG2	1:A:1607:VAL:HB	1.81	0.63
8:Y:74:ARG:HG3	8:Y:75:ARG:H	1.63	0.63
1:A:1548:ARG:HG3	1:A:1550:GLU:H	1.64	0.63
4:G:316:GLU:OE1	4:G:325:ARG:NH2	2.32	0.63
5:K:1239:LEU:HA	5:K:1242:VAL:HG12	1.81	0.63
5:I:104:ALA:HB3	8:V:42:LYS:HE2	1.80	0.63
5:J:1177:THR:OG1	5:J:1230:ASN:ND2	2.32	0.62
5:H:1168:GLN:NE2	5:H:1297:THR:O	2.32	0.62
5:H:1224:THR:HG23	5:H:1226:ALA:H	1.63	0.62
5:I:315:ALA:HB2	5:I:321:ILE:HD11	1.79	0.62
8:V:72:LEU:O	8:V:84:HIS:N	2.31	0.62
1:C:1604:ILE:HA	1:C:1607:VAL:HG12	1.80	0.62
3:F:23:VAL:HG12	4:G:393:HIS:HB2	1.81	0.62
5:J:682:ARG:HH11	5:J:780:LEU:HD11	1.64	0.62
2:B:300:GLN:O	2:B:302:ARG:NH2	2.31	0.62
8:U:65:LEU:HD21	8:U:110:VAL:HG22	1.80	0.62
2:B:505:TYR:OH	2:B:515:HIS:ND1	2.31	0.62
1:A:1789:THR:O	1:A:1790:HIS:ND1	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1835:GLN:HG3	1:C:1836:LYS:H	1.63	0.62
3:E:411:LEU:HD12	3:E:412:LEU:HG	1.79	0.62
9:Z:174:VAL:HG13	9:Z:181:VAL:HG11	1.82	0.62
5:L:446:LEU:HD11	5:L:1021:VAL:HG23	1.82	0.62
1:C:1486:PHE:HD2	1:C:1522:LEU:HD11	1.63	0.62
1:C:1501:GLY:O	1:C:1520:ARG:NH2	2.33	0.62
2:D:293:LYS:HA	2:D:296:VAL:HG12	1.82	0.62
5:H:730:VAL:HG23	5:H:897:ALA:HB2	1.82	0.62
5:L:701:GLU:OE1	5:L:714:ARG:NH1	2.29	0.62
5:M:798:CYS:SG	5:M:799:GLY:N	2.73	0.61
3:E:278:GLU:OE2	3:E:415:LYS:NZ	2.33	0.61
4:G:312:SER:O	4:G:313:ARG:HG3	2.00	0.61
5:J:534:HIS:CE1	5:J:1239:LEU:HD12	2.36	0.61
5:K:657:ILE:HA	5:K:661:LEU:HD13	1.82	0.61
2:B:399:MET:HA	2:B:402:ILE:HB	1.82	0.61
4:G:476:ASP:HB2	4:G:523:LEU:HD23	1.81	0.61
5:H:40:GLY:HA2	5:K:111:GLN:HB2	1.82	0.61
5:I:1336:LYS:HE3	5:I:1355:VAL:HG11	1.81	0.61
5:J:624:PHE:HZ	5:J:657:ILE:HD13	1.65	0.61
5:K:169:ASP:OD1	5:K:173:ARG:NH2	2.31	0.61
5:K:244:THR:HA	5:K:362:LEU:HD23	1.82	0.61
5:L:558:ILE:HD13	5:L:1015:ILE:HD13	1.82	0.61
2:D:378:GLN:HA	2:D:381:MET:SD	2.40	0.61
5:I:820:MET:O	6:O:72:ARG:NH2	2.34	0.61
8:Y:32:VAL:O	8:Y:71:THR:OG1	2.17	0.61
2:B:5:ARG:HH11	2:B:199:ARG:HE	1.48	0.61
5:L:535:PRO:HG3	5:L:1232:TRP:CD2	2.35	0.61
1:A:1586:GLU:HA	1:A:1596:ILE:HA	1.82	0.61
1:C:1584:PHE:HZ	1:C:1596:ILE:HB	1.64	0.61
5:H:617:VAL:HG13	5:H:619:GLY:H	1.64	0.61
5:M:710:LEU:HD21	5:M:783:VAL:HG22	1.82	0.61
6:Q:43:MET:HE3	6:Q:67:MET:HG2	1.81	0.61
5:I:970:ASP:OD2	5:I:993:ARG:NH2	2.32	0.61
5:L:473:PRO:HA	5:L:476:GLN:HB2	1.82	0.61
2:B:70:VAL:HG22	2:B:96:LEU:HD22	1.82	0.60
1:C:1990:ARG:NH2	1:C:2168:PHE:O	2.34	0.60
2:D:422:GLN:O	2:D:426:ASN:ND2	2.29	0.60
5:J:1193:ARG:NH1	5:J:1197:SER:OG	2.25	0.60
1:A:1567:ILE:O	1:A:1571:ARG:HG2	2.00	0.60
5:K:965:HIS:CE1	5:L:696:GLY:H	2.19	0.60
1:C:1846:LEU:HD11	1:C:1950:GLY:HA2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:1155:SER:HA	5:J:1255:ASN:HD21	1.66	0.60
5:M:1327:THR:HG21	5:M:1333:MET:HB2	1.83	0.60
5:H:578:ILE:HD13	5:H:1028:ILE:HD12	1.83	0.60
5:L:631:VAL:HG23	5:L:647:PHE:CD2	2.37	0.60
5:M:1139:ARG:HD3	5:M:1140:PRO:HD2	1.83	0.60
1:A:1659:LEU:HD21	1:A:1693:LEU:HD22	1.84	0.60
2:D:75:SER:HA	2:D:198:CYS:HA	1.84	0.60
3:E:308:LEU:HG	3:E:309:PRO:HD3	1.83	0.60
3:F:284:LEU:HD13	3:F:315:LEU:HD22	1.82	0.60
8:Y:33:PRO:HB2	8:Y:68:MET:HG2	1.84	0.60
2:D:485:THR:HG22	2:D:487:GLU:H	1.67	0.60
5:L:631:VAL:HG23	5:L:647:PHE:HD2	1.67	0.60
1:A:1867:LYS:HD2	1:A:1872:GLU:HA	1.82	0.60
1:C:1656:CYS:HB3	1:C:1660:ARG:HH22	1.65	0.60
4:G:316:GLU:HB3	4:G:325:ARG:HD3	1.84	0.60
1:A:1875:ALA:HB3	1:A:1879:GLU:HG2	1.83	0.59
1:A:1992:GLN:OE1	1:A:1995:ARG:NH1	2.35	0.59
5:I:624:PHE:HZ	5:I:657:ILE:HD13	1.67	0.59
5:I:985:ASN:O	5:I:988:ARG:NH2	2.35	0.59
5:L:1222:ALA:O	5:L:1223:GLN:HG3	2.01	0.59
5:M:1329:THR:HG22	5:M:1331:ALA:H	1.67	0.59
8:U:268:LEU:HD22	8:V:152:ILE:HG23	1.84	0.59
5:K:99:ARG:NH1	5:K:111:GLN:OE1	2.35	0.59
1:A:2016:TRP:O	1:A:2020:GLN:NE2	2.35	0.59
3:E:278:GLU:HG2	3:E:412:LEU:HD21	1.84	0.59
5:H:433:ARG:HH22	5:I:217:GLN:HB2	1.67	0.59
5:I:373:ARG:NH2	5:I:376:TYR:O	2.35	0.59
5:K:446:LEU:HD11	5:K:1021:VAL:HG22	1.83	0.59
1:C:1814:MET:HG3	1:C:2054:ARG:HB2	1.84	0.59
3:E:538:TRP:HZ3	3:E:593:HIS:HA	1.68	0.59
5:I:1193:ARG:HH21	5:I:1195:ARG:HB3	1.67	0.59
5:K:763:ASP:OD1	5:K:764:GLU:N	2.35	0.59
5:M:514:GLN:NE2	5:M:989:SER:OG	2.35	0.59
1:A:1585:LEU:N	1:A:1597:VAL:O	2.27	0.59
5:K:643:GLN:HB2	5:L:672:PHE:CE2	2.38	0.59
2:D:198:CYS:HB2	2:D:201:VAL:HG22	1.84	0.59
2:B:113:LEU:HD12	2:B:116:TYR:H	1.67	0.59
1:C:1790:HIS:HA	1:C:2056:PRO:HD2	1.84	0.59
3:E:460:PHE:HE1	3:E:465:LEU:HD11	1.68	0.59
5:H:112:THR:HG22	5:H:113:THR:HG23	1.85	0.59
1:C:1452:LEU:HB3	1:C:1486:PHE:HE1	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1620:LEU:HD11	1:C:2006:THR:HG22	1.84	0.59
3:E:444:TRP:O	3:E:448:ASN:ND2	2.35	0.59
2:B:368:ARG:HA	2:B:478:THR:HG23	1.84	0.58
1:C:1536:LEU:HA	1:C:1539:LYS:HE3	1.85	0.58
1:C:1566:LEU:HD23	1:C:1569:ARG:HD3	1.84	0.58
5:M:888:GLU:H	5:M:919:ASN:ND2	2.01	0.58
5:M:899:LEU:O	5:M:904:ARG:NH2	2.32	0.58
5:J:574:ARG:O	5:J:578:ILE:HG12	2.03	0.58
1:A:1903:GLN:HA	1:A:1909:PRO:HA	1.85	0.58
2:B:196:VAL:HG13	2:B:440:THR:HG22	1.85	0.58
1:C:1859:LEU:HD23	1:C:1862:LEU:HD21	1.85	0.58
5:H:757:LEU:HD11	6:N:62:LEU:HD22	1.85	0.58
5:K:1332:LEU:HD23	5:K:1355:VAL:HG23	1.83	0.58
2:D:199:ARG:HG3	2:D:511:LYS:HE3	1.85	0.58
5:L:106:LEU:HD12	5:L:107:PRO:HD2	1.85	0.58
7:T:86:LEU:HD11	7:T:115:LEU:HD21	1.84	0.58
1:A:2014:HIS:O	1:A:2018:GLN:HG2	2.03	0.58
5:H:934:SER:OG	5:H:952:LEU:HD11	2.03	0.58
7:W:76:SER:HB3	7:W:77:PRO:HD2	1.85	0.58
9:Z:239:LEU:HD22	9:Z:251:ARG:HG3	1.85	0.58
5:K:101:ALA:HB3	5:L:174:GLY:HA3	1.86	0.58
5:L:798:CYS:SG	5:L:799:GLY:N	2.77	0.58
5:M:1327:THR:HB	5:M:1355:VAL:HG12	1.85	0.58
5:K:1176:LEU:HB2	5:K:1239:LEU:HD21	1.86	0.58
5:K:1284:GLU:OE1	5:K:1288:ARG:NH2	2.36	0.58
5:K:1336:LYS:NZ	5:K:1346:THR:O	2.35	0.58
2:D:206:ASP:O	2:D:210:GLN:HG2	2.04	0.58
4:G:5:LEU:HD13	4:G:306:TRP:CD1	2.39	0.58
3:E:289:HIS:HB2	3:E:407:TRP:HE1	1.69	0.57
1:C:1613:VAL:HG11	1:C:2021:ILE:HD11	1.85	0.57
3:E:226:LYS:HG3	3:E:241:LEU:HD22	1.85	0.57
6:R:28:LEU:HD12	6:R:32:ILE:HG21	1.85	0.57
9:Z:197:VAL:HA	9:Z:200:VAL:HG12	1.85	0.57
1:A:1785:VAL:HG13	1:A:1804:PHE:HA	1.86	0.57
5:I:230:LEU:HD23	5:I:1097:ALA:HB1	1.85	0.57
5:K:1336:LYS:NZ	5:K:1343:ALA:O	2.29	0.57
5:L:661:LEU:HD23	5:L:666:LEU:HD11	1.85	0.57
6:Q:42:THR:O	6:Q:45:SER:OG	2.22	0.57
3:E:243:GLN:HE21	3:E:246:ASN:HB3	1.70	0.57
5:H:689:ALA:HB2	5:H:711:HIS:CE1	2.39	0.57
5:L:192:VAL:HG11	5:L:1282:ILE:HD12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:241:PHE:HA	2:D:244:THR:HG22	1.86	0.57
3:F:291:LEU:HD11	3:F:314:ARG:HG3	1.86	0.57
5:H:704:SER:HA	5:H:707:VAL:HG12	1.86	0.57
5:K:1125:ASP:OD2	5:K:1129:ARG:NH1	2.37	0.57
5:K:1128:ASP:O	5:K:1132:ARG:HG2	2.05	0.57
5:I:596:LEU:O	5:I:600:THR:HG23	2.04	0.57
5:M:626:LEU:HD21	5:M:881:LEU:HB2	1.86	0.57
5:H:1124:HIS:HB3	5:H:1127:VAL:HG12	1.87	0.57
5:I:534:HIS:CE1	5:I:1239:LEU:HD12	2.40	0.57
5:I:1169:LYS:HE2	5:I:1299:THR:HG22	1.87	0.57
5:J:1297:THR:HG21	5:J:1301:TYR:HD2	1.70	0.57
2:B:501:ARG:HD2	2:B:519:LEU:HD23	1.86	0.57
5:I:600:THR:HG21	5:I:645:LEU:HG	1.86	0.57
5:K:272:VAL:HG12	5:K:368:ILE:HB	1.87	0.57
5:M:1285:TYR:HA	5:M:1289:ALA:HB3	1.86	0.57
1:A:1755:PRO:HB2	1:A:2105:VAL:HG23	1.87	0.57
2:B:113:LEU:HD13	2:B:115:PHE:HB3	1.87	0.57
1:C:1707:ARG:NH1	1:C:1779:GLN:OE1	2.37	0.57
1:C:2205:GLN:HG2	3:F:90:LEU:HA	1.86	0.57
3:F:330:VAL:HG21	3:F:364:ARG:HA	1.87	0.57
5:H:390:ASP:HB2	5:H:1311:ILE:HG21	1.87	0.57
5:L:1193:ARG:HH12	5:L:1197:SER:HB3	1.69	0.57
5:M:416:LEU:HD21	5:M:1329:THR:HG21	1.86	0.57
8:Y:296:ASP:O	8:Y:298:LYS:N	2.38	0.57
1:A:1754:TYR:HB2	1:A:1757:TYR:CE2	2.40	0.57
2:B:293:LYS:HB3	2:B:299:LEU:HD13	1.87	0.57
5:H:1122:TYR:HB2	5:H:1128:ASP:HB2	1.87	0.57
8:X:265:ILE:HD11	8:Y:148:GLN:HB3	1.87	0.57
5:K:454:LEU:HD21	5:K:1243:LEU:HD11	1.86	0.56
5:L:173:ARG:NH2	5:L:375:VAL:O	2.37	0.56
5:L:1291:ASP:OD1	5:L:1316:ARG:NH1	2.33	0.56
7:T:136:LYS:HD2	7:T:136:LYS:O	2.05	0.56
2:B:65:VAL:O	2:B:69:VAL:HB	2.05	0.56
2:B:497:THR:HG23	2:B:499:ALA:H	1.69	0.56
5:H:155:GLU:HG3	5:L:9:LEU:HD13	1.87	0.56
5:J:432:ASN:HB2	5:J:434:ASP:O	2.06	0.56
8:V:264:GLU:O	8:V:268:LEU:HD12	2.06	0.56
4:G:91:ARG:NH2	8:U:159:ASP:OD1	2.37	0.56
5:H:433:ARG:HD2	5:H:1105:ASP:HA	1.88	0.56
5:H:449:LEU:HD21	5:H:1034:LEU:HD21	1.88	0.56
5:K:70:GLY:HA3	5:K:357:MET:HE1	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:633:ARG:NH1	5:L:878:GLU:OE2	2.26	0.56
8:U:202:LEU:HB2	8:V:230:LEU:HD21	1.86	0.56
1:A:1815:GLN:HB2	1:A:1818:LYS:HE2	1.88	0.56
1:A:2236:ARG:HA	1:A:2240:LEU:HD23	1.87	0.56
5:H:216:LEU:HD13	5:H:1200:LEU:HD12	1.86	0.56
5:I:311:ASN:HD21	5:I:325:PHE:HB2	1.70	0.56
5:J:440:ILE:HD12	5:J:1108:VAL:HB	1.86	0.56
3:E:264:VAL:HG21	3:E:590:LEU:HD22	1.86	0.56
5:H:83:LEU:HA	5:H:86:LEU:HD23	1.87	0.56
5:H:1105:ASP:HB3	5:H:1166:HIS:O	2.05	0.56
1:A:1814:MET:HB2	1:C:1631:ARG:HH22	1.70	0.56
2:B:112:ARG:NH2	2:B:500:GLU:OE2	2.38	0.56
5:I:1034:LEU:HD12	5:I:1174:LEU:HB3	1.87	0.56
5:J:1250:GLU:OE2	5:J:1254:TYR:OH	2.22	0.56
8:U:280:ASP:OD1	8:V:283:ARG:NH1	2.36	0.56
5:M:291:ILE:HG22	5:M:360:ILE:HG22	1.86	0.56
1:C:2218:ARG:NH1	3:E:87:GLU:OE1	2.39	0.56
5:I:965:HIS:O	5:I:968:ARG:NH2	2.38	0.56
5:K:949:CYS:HB3	5:K:956:ILE:HD13	1.88	0.56
8:V:215:THR:HG22	8:V:238:LEU:HD22	1.88	0.56
2:B:315:ARG:HH12	2:B:347:ALA:HB2	1.70	0.56
2:D:337:ARG:HH12	2:D:343:VAL:HG13	1.71	0.56
5:H:886:VAL:HG21	6:N:62:LEU:HD21	1.87	0.56
8:V:218:TYR:OH	8:V:268:LEU:HD11	2.06	0.56
1:C:1688:HIS:NE2	1:C:2115:ASN:OD1	2.37	0.56
5:H:424:LEU:HD13	5:H:573:LEU:HD23	1.88	0.56
8:Y:49:HIS:O	8:Y:52:VAL:HG12	2.06	0.56
2:D:453:GLN:O	2:D:457:THR:HG22	2.06	0.55
5:H:1027:HIS:CD2	5:I:517:VAL:HG11	2.41	0.55
5:M:1350:HIS:CG	5:M:1351:PHE:H	2.24	0.55
1:A:2179:CYS:SG	1:A:2180:ARG:N	2.79	0.55
1:A:1799:GLU:HG3	1:A:2164:GLY:HA3	1.86	0.55
5:H:1329:THR:HG22	5:H:1331:ALA:H	1.70	0.55
8:V:151:LEU:HD11	8:V:281:LEU:HD13	1.88	0.55
1:A:1800:GLN:HE21	1:A:1801:VAL:HG12	1.70	0.55
1:C:1586:GLU:HG3	1:C:1596:ILE:HG22	1.88	0.55
1:C:1597:VAL:HG12	1:C:1603:PRO:HA	1.88	0.55
2:D:34:GLU:OE2	2:D:72:TYR:OH	2.25	0.55
2:D:278:GLY:HA2	2:D:281:LYS:HE2	1.89	0.55
5:H:571:HIS:O	5:H:575:THR:HG23	2.06	0.55
6:N:28:LEU:HD12	6:N:29:PRO:HD2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:U:10:CYS:HB3	8:U:81:ILE:HG23	1.88	0.55
2:D:127:LYS:O	2:D:131:THR:HG23	2.06	0.55
5:M:572:GLU:OE2	5:M:994:TYR:OH	2.16	0.55
7:T:236:THR:HG23	7:T:237:ARG:HG3	1.89	0.55
8:X:293:VAL:HG23	8:X:300:ALA:HB2	1.88	0.55
1:C:1806:ILE:HD11	1:C:1811:TRP:CE2	2.41	0.55
3:E:592:PHE:HA	3:E:595:GLU:OE1	2.07	0.55
5:H:574:ARG:O	5:H:578:ILE:HG12	2.07	0.55
8:Y:70:LEU:HD21	8:Y:110:VAL:HG21	1.89	0.55
3:E:456:ARG:NH2	3:E:458:GLY:O	2.35	0.55
5:I:712:ASP:O	5:I:782:LYS:NZ	2.40	0.55
5:I:800:LEU:HD23	5:I:923:VAL:HG11	1.88	0.55
5:M:84:ASN:OD1	5:M:1060:ASN:ND2	2.39	0.55
3:F:315:LEU:HD23	3:F:441:LEU:HD13	1.89	0.55
5:I:211:GLN:O	5:I:215:ILE:HG12	2.07	0.55
5:K:390:ASP:OD1	5:K:1313:ASN:ND2	2.40	0.55
5:L:1018:VAL:HA	5:L:1021:VAL:HG12	1.89	0.55
5:M:619:GLY:HA3	5:M:652:ALA:HB1	1.87	0.55
5:M:795:ASN:ND2	5:M:995:SER:OG	2.39	0.55
1:A:1796:HIS:HB2	1:A:1800:GLN:NE2	2.22	0.55
5:J:486:GLU:OE2	5:J:977:THR:OG1	2.23	0.55
5:K:198:GLU:OE2	5:K:245:ARG:NH2	2.40	0.55
1:A:2001:GLN:HG2	1:A:2002:LEU:HD12	1.89	0.54
5:I:272:VAL:HG22	5:I:368:ILE:HB	1.89	0.54
5:M:274:VAL:HG12	5:M:370:GLU:HB2	1.89	0.54
8:U:56:ARG:HG2	8:U:57:GLY:H	1.72	0.54
1:A:1749:LEU:HD11	1:A:1974:LEU:HG	1.87	0.54
1:A:1772:SER:O	1:A:1776:HIS:ND1	2.29	0.54
1:A:2221:LEU:HD23	3:F:80:GLU:HB2	1.88	0.54
3:E:438:ALA:HB1	3:E:602:LEU:HD11	1.89	0.54
5:K:297:SER:HB3	5:K:352:LEU:HD12	1.89	0.54
1:A:1468:TYR:HB3	1:A:1475:GLN:NE2	2.22	0.54
5:H:174:GLY:HA3	5:I:101:ALA:HB3	1.88	0.54
5:I:1178:PRO:HG3	5:I:1231:PRO:HD2	1.90	0.54
5:M:936:PRO:HB3	5:M:952:LEU:HD23	1.89	0.54
8:U:103:GLU:OE1	8:U:178:ARG:NH2	2.39	0.54
9:Z:172:GLU:OE2	9:Z:176:ARG:NH1	2.40	0.54
2:B:319:VAL:HG11	2:B:334:LEU:HD11	1.88	0.54
3:F:37:ASP:HB3	5:K:501:VAL:HG23	1.89	0.54
5:H:672:PHE:CE2	5:I:643:GLN:HB2	2.39	0.54
1:A:1987:ASP:HB3	1:A:2168:PHE:HD2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:79:VAL:HG13	2:B:88:ALA:HB3	1.90	0.54
2:D:284:ALA:HA	2:D:287:MET:HG2	1.89	0.54
5:J:646:VAL:O	5:J:674:TYR:OH	2.25	0.54
9:Z:121:ASP:OD1	9:Z:122:ALA:N	2.40	0.54
1:A:1545:LEU:HD13	1:A:1825:LEU:HD21	1.89	0.54
2:B:379:MET:O	2:B:383:LEU:HG	2.08	0.54
1:C:1476:LEU:HD23	1:C:1479:ILE:HD11	1.90	0.54
1:C:1756:GLU:HB2	1:C:2102:PHE:CE1	2.42	0.54
5:H:211:GLN:O	5:H:215:ILE:HG12	2.08	0.54
5:I:688:SER:OG	5:I:708:ASN:ND2	2.41	0.54
8:Y:74:ARG:HG3	8:Y:75:ARG:HD3	1.90	0.54
2:B:85:PRO:HG2	2:B:86:LEU:HD12	1.89	0.54
1:C:1663:TRP:HA	1:C:1666:ILE:HG22	1.89	0.54
3:E:264:VAL:O	3:E:587:HIS:NE2	2.40	0.54
5:I:1165:VAL:HG22	5:J:1222:ALA:HB1	1.89	0.54
7:W:126:HIS:HE1	7:W:286:PHE:HB3	1.73	0.54
2:B:135:ILE:HG12	2:B:185:LEU:HD11	1.90	0.54
2:D:327:ARG:HH22	2:D:386:LEU:HD23	1.73	0.54
5:I:1165:VAL:HG21	5:J:1223:GLN:HB3	1.90	0.54
5:L:801:GLY:HA3	5:L:890:VAL:HG11	1.88	0.54
1:C:2003:LEU:HD23	1:C:2014:HIS:CD2	2.43	0.53
5:J:495:ILE:HD12	5:J:976:PRO:HG2	1.89	0.53
5:M:1360:ILE:HD12	5:M:1361:PRO:HD2	1.90	0.53
8:V:296:ASP:O	8:V:298:LYS:N	2.41	0.53
5:J:463:THR:HG21	5:J:1237:GLY:HA3	1.89	0.53
5:M:146:THR:OG1	5:M:149:ASP:OD2	2.24	0.53
1:A:1802:LYS:HZ2	1:A:2163:PHE:HE2	1.55	0.53
1:C:1520:ARG:HA	1:C:1523:ASN:ND2	2.22	0.53
2:D:174:GLN:HA	2:D:177:LEU:HD12	1.91	0.53
5:H:382:LYS:HD3	5:H:1309:GLN:HE22	1.72	0.53
5:I:241:LYS:HA	5:I:244:THR:HG22	1.90	0.53
5:K:635:ILE:HD11	5:K:674:TYR:HE2	1.73	0.53
5:M:399:LEU:HD22	5:M:1033:ALA:HB1	1.90	0.53
5:M:539:PHE:HE1	5:M:552:CYS:HG	1.54	0.53
5:M:857:LEU:O	5:M:861:VAL:HG22	2.08	0.53
1:A:1585:LEU:HD23	1:A:1913:MET:HG3	1.89	0.53
1:A:1818:LYS:HA	1:A:1822:GLU:HB3	1.89	0.53
1:C:1936:ASP:O	1:C:1939:ILE:N	2.42	0.53
1:A:1575:LEU:HD13	1:A:1914:ILE:HG21	1.91	0.53
1:A:1579:ARG:NH1	1:A:1835:GLN:O	2.41	0.53
1:A:1772:SER:HB2	1:A:2100:VAL:H	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1573:ARG:HH12	1:C:1620:LEU:HB3	1.74	0.53
1:C:1584:PHE:CZ	1:C:1596:ILE:HB	2.43	0.53
5:J:297:SER:HB3	5:J:352:LEU:HD12	1.89	0.53
5:K:651:TYR:HB2	5:K:784:PHE:CD1	2.43	0.53
5:M:1122:TYR:HB2	5:M:1128:ASP:HB2	1.89	0.53
7:T:86:LEU:O	7:T:89:ILE:HG22	2.08	0.53
1:A:2215:ARG:HE	1:A:2218:ARG:HD3	1.73	0.53
5:H:936:PRO:HB3	5:H:952:LEU:HD23	1.91	0.53
2:D:314:THR:HG23	2:D:331:HIS:HE1	1.73	0.53
3:E:296:ASP:O	3:E:298:PRO:HD3	2.09	0.53
5:H:21:THR:HA	5:K:200:ALA:HB1	1.89	0.53
5:H:83:LEU:HB2	5:H:1060:ASN:HD21	1.73	0.53
5:J:610:CYS:SG	5:J:646:VAL:HG22	2.49	0.53
5:J:653:LEU:O	5:J:657:ILE:HG12	2.08	0.53
5:M:42:ASP:N	5:M:42:ASP:OD1	2.42	0.53
5:M:703:LEU:HD21	5:M:1022:LEU:HG	1.91	0.53
2:D:327:ARG:NH1	2:D:385:GLU:O	2.42	0.53
3:E:287:TYR:OH	3:E:318:ASP:OD2	2.24	0.53
3:F:323:ILE:HA	3:F:326:TRP:CD1	2.44	0.53
8:X:144:LEU:HD13	8:Y:276:ARG:HD2	1.91	0.53
1:A:1618:LEU:HA	1:A:1621:ARG:CD	2.37	0.53
1:C:1569:ARG:HA	1:C:1572:LEU:HG	1.91	0.53
1:C:1701:SER:O	1:C:1705:HIS:ND1	2.40	0.53
1:C:2235:MET:HE1	3:F:68:LEU:HD22	1.91	0.53
2:D:65:VAL:O	2:D:69:VAL:HB	2.09	0.53
5:I:73:ALA:HB3	5:I:272:VAL:HG21	1.91	0.53
5:J:445:ALA:HB1	5:J:449:LEU:HD23	1.90	0.53
5:M:1185:TYR:O	5:M:1190:ASN:ND2	2.40	0.53
1:C:1674:TYR:OH	1:C:2117:PRO:O	2.26	0.52
5:H:392:THR:HG21	5:H:1264:GLN:HE22	1.73	0.52
5:K:725:ARG:HH11	5:K:772:ARG:HB2	1.74	0.52
5:L:143:PHE:HD2	5:L:144:GLU:HG2	1.74	0.52
5:L:211:GLN:O	5:L:215:ILE:HG12	2.09	0.52
4:G:399:SER:O	4:G:402:VAL:HG22	2.10	0.52
5:M:387:ARG:NH2	5:M:1312:GLU:OE2	2.42	0.52
1:A:1587:VAL:HB	1:A:1908:GLU:HB3	1.92	0.52
1:C:1581:HIS:CE1	1:C:1600:ALA:HB2	2.44	0.52
3:F:365:HIS:HD2	3:F:368:VAL:HG13	1.73	0.52
5:I:65:TYR:HA	5:I:172:GLU:HG2	1.90	0.52
5:K:888:GLU:O	5:K:919:ASN:ND2	2.43	0.52
9:Z:111:ARG:HD2	9:Z:111:ARG:O	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:Z:201:ASN:HA	9:Z:204:VAL:HG12	1.91	0.52
9:Z:239:LEU:HD21	9:Z:247:SER:HB3	1.91	0.52
1:A:1952:TRP:HA	1:A:1992:GLN:HE22	1.74	0.52
2:B:52:VAL:HG22	2:B:66:ARG:HH11	1.74	0.52
3:E:589:ALA:O	3:E:593:HIS:ND1	2.43	0.52
5:K:635:ILE:HD11	5:K:674:TYR:CE2	2.44	0.52
5:K:1360:ILE:O	5:K:1362:LEU:N	2.42	0.52
5:L:1327:THR:HG22	5:L:1329:THR:H	1.73	0.52
5:L:1331:ALA:O	5:L:1335:THR:HG23	2.10	0.52
5:M:1231:PRO:O	5:M:1235:GLN:HG2	2.09	0.52
1:C:1486:PHE:CD2	1:C:1522:LEU:HD11	2.43	0.52
1:C:1998:ASN:O	1:C:2001:GLN:NE2	2.36	0.52
4:G:366:VAL:HG13	4:G:550:LEU:HD21	1.90	0.52
5:H:50:PHE:CE1	5:I:86:LEU:HB3	2.44	0.52
5:J:244:THR:HA	5:J:362:LEU:HD12	1.91	0.52
5:J:1190:ASN:OD1	5:J:1223:GLN:NE2	2.42	0.52
5:K:703:LEU:HD21	5:K:1022:LEU:HD11	1.92	0.52
1:A:1957:PRO:HG3	1:A:2036:PHE:CD1	2.41	0.52
2:B:356:CYS:HA	2:B:359:VAL:HG22	1.91	0.52
5:I:753:ASP:O	5:I:756:ARG:HG2	2.09	0.52
6:Q:18:HIS:HA	6:Q:21:VAL:HG12	1.91	0.52
1:A:1828:GLN:NE2	1:A:1831:GLN:OE1	2.43	0.52
1:C:1694:LYS:O	1:C:1698:TYR:HB2	2.10	0.52
3:E:280:ALA:HB2	3:E:436:CYS:HB3	1.91	0.52
4:G:455:GLN:HE21	5:I:1119:MET:HG3	1.74	0.52
5:H:985:ASN:O	5:H:988:ARG:NH2	2.42	0.52
5:L:1113:LEU:HA	5:L:1116:VAL:HG12	1.91	0.52
1:A:1572:LEU:HA	1:A:1575:LEU:HG	1.91	0.52
1:A:1745:GLU:HG2	1:A:1967:LEU:HD22	1.90	0.52
2:B:316:ILE:HA	2:B:319:VAL:HB	1.91	0.52
2:B:459:ILE:HA	2:B:465:LEU:HD22	1.91	0.52
3:F:407:TRP:O	3:F:410:ARG:HG2	2.10	0.52
2:B:138:VAL:HA	2:B:141:GLU:HG2	1.90	0.52
1:C:1957:PRO:HG3	1:C:2036:PHE:CD2	2.45	0.52
5:H:1143:LEU:HD21	8:U:233:LYS:HB3	1.92	0.52
7:T:72:THR:HG22	7:T:74:CYS:H	1.74	0.52
1:C:1607:VAL:HG13	1:C:1608:THR:HG23	1.91	0.52
2:D:40:ALA:HB1	2:D:92:LEU:HB2	1.92	0.52
2:D:210:GLN:HE22	2:D:436:VAL:HA	1.75	0.52
5:H:725:ARG:HD2	5:H:726:ASN:HB3	1.91	0.52
7:T:48:ALA:N	7:T:148:CYS:O	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:630:PHE:HB2	3:F:636:LEU:HB2	1.91	0.51
5:H:276:THR:HG1	5:H:373:ARG:HH11	1.58	0.51
5:I:917:LEU:HD21	5:I:920:GLY:HA3	1.92	0.51
5:J:1222:ALA:O	5:J:1223:GLN:HG2	2.10	0.51
7:T:76:SER:OG	7:T:77:PRO:HD3	2.10	0.51
1:A:1586:GLU:CB	1:A:1596:ILE:HG12	2.39	0.51
1:A:1770:LEU:HD12	1:A:1773:LEU:HD11	1.92	0.51
2:D:100:LEU:HD21	2:D:118:ASN:HB3	1.91	0.51
3:E:91:ASN:OD1	3:E:92:GLN:N	2.43	0.51
6:P:37:HIS:ND1	6:P:40:LEU:HD23	2.26	0.51
1:C:1555:VAL:HG21	1:C:2014:HIS:CE1	2.45	0.51
1:C:2034:LEU:HD13	1:C:2054:ARG:HH22	1.75	0.51
3:E:217:SER:N	3:E:638:SER:O	2.37	0.51
4:G:573:GLU:OE1	4:G:576:ARG:NH2	2.42	0.51
5:J:584:LEU:HD12	5:J:687:ILE:HD11	1.91	0.51
5:L:610:CYS:HA	5:L:647:PHE:CE1	2.43	0.51
2:B:399:MET:HB2	2:B:403:GLN:HE21	1.76	0.51
2:D:516:LEU:HD12	2:D:517:PHE:HB2	1.90	0.51
5:I:244:THR:HA	5:I:362:LEU:HD23	1.91	0.51
5:J:192:VAL:HG23	5:J:219:PHE:CZ	2.45	0.51
5:J:753:ASP:OD1	6:P:66:ARG:NH2	2.43	0.51
3:F:365:HIS:HB3	3:F:368:VAL:HG22	1.92	0.51
5:J:399:LEU:HD22	5:J:1033:ALA:HB1	1.91	0.51
5:J:884:GLN:O	6:P:66:ARG:NH1	2.37	0.51
2:D:328:MET:HG3	2:D:334:LEU:HD23	1.91	0.51
5:M:231:ASN:OD1	5:M:1098:TYR:HB2	2.09	0.51
5:M:808:LEU:HD21	5:M:883:VAL:HG23	1.92	0.51
2:B:93:HIS:CE1	2:B:126:GLN:HB3	2.46	0.51
2:B:379:MET:HA	2:B:382:ARG:HG2	1.93	0.51
1:C:1556:LEU:HD12	1:C:1557:PRO:HD2	1.93	0.51
1:C:1903:GLN:HG2	1:C:1909:PRO:HA	1.92	0.51
3:F:59:ARG:O	3:F:62:ARG:HG2	2.11	0.51
3:F:186:ILE:HG22	3:F:501:LEU:HA	1.91	0.51
5:I:174:GLY:HA3	5:J:101:ALA:HB3	1.93	0.51
1:A:2149:ASP:HB3	1:A:2152:ARG:HG3	1.92	0.51
5:H:276:THR:OG1	5:H:373:ARG:NH1	2.42	0.51
5:I:1331:ALA:O	5:I:1335:THR:HG23	2.11	0.51
5:M:1003:HIS:O	5:M:1007:THR:HG23	2.11	0.51
8:Y:31:VAL:HG21	8:Y:137:ILE:HD11	1.92	0.51
1:A:1988:PHE:O	1:A:1992:GLN:HG2	2.11	0.51
1:C:1574:ARG:HE	1:C:1605:HIS:HA	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:H:808:LEU:HD21	5:H:883:VAL:HG13	1.93	0.51
5:K:477:ARG:HD3	5:L:1133:HIS:CE1	2.46	0.51
1:A:1968:LEU:O	1:A:1969:LYS:HG3	2.11	0.51
5:K:404:ASP:HB3	5:L:421:ARG:HG2	1.92	0.51
5:M:78:ILE:HB	5:M:1058:ILE:HG22	1.93	0.51
7:W:165:LEU:HD13	7:W:279:PHE:CE2	2.46	0.51
8:Y:41:ILE:HD11	8:Y:45:GLN:HG3	1.92	0.51
9:Z:86:ALA:O	9:Z:90:ARG:HG2	2.10	0.51
1:C:1663:TRP:CE2	1:C:1744:GLN:HB3	2.47	0.50
5:I:751:VAL:O	6:O:66:ARG:NH2	2.41	0.50
5:L:148:LEU:HA	5:L:151:ILE:HG22	1.92	0.50
1:A:1688:HIS:CD2	1:A:2116:PRO:HD3	2.46	0.50
1:C:1584:PHE:HD2	1:C:1914:ILE:HB	1.76	0.50
5:I:764:GLU:O	5:I:766:LEU:N	2.45	0.50
5:K:1034:LEU:HD13	5:K:1174:LEU:HD13	1.93	0.50
5:M:681:LEU:HB3	5:M:780:LEU:HD11	1.93	0.50
8:Y:144:LEU:O	8:Y:148:GLN:HG2	2.12	0.50
1:A:1851:THR:HG22	1:A:1877:VAL:HB	1.94	0.50
1:C:1617:TYR:HA	1:C:2006:THR:HG21	1.93	0.50
5:I:798:CYS:SG	5:I:799:GLY:N	2.84	0.50
5:K:617:VAL:HG23	5:K:619:GLY:H	1.77	0.50
8:Y:100:VAL:HG21	8:Y:142:LEU:HD13	1.94	0.50
9:Z:5:PHE:CZ	9:Z:13:VAL:HG22	2.47	0.50
2:D:342:GLU:OE2	2:D:407:GLN:NE2	2.44	0.50
3:E:338:ALA:HB1	3:E:340:ARG:HE	1.77	0.50
4:G:302:ARG:N	8:V:236:GLU:OE2	2.27	0.50
5:H:29:GLU:OE1	5:K:1277:THR:OG1	2.21	0.50
5:I:1035:THR:HG1	5:I:1186:PHE:HE1	1.59	0.50
5:J:496:PRO:O	5:J:500:ARG:HG3	2.12	0.50
5:L:101:ALA:HB3	5:M:174:GLY:HA3	1.93	0.50
5:L:156:ALA:O	5:L:159:THR:HG22	2.12	0.50
5:L:760:MET:HE1	5:L:805:LYS:HB2	1.94	0.50
5:L:785:TYR:O	5:L:943:TYR:OH	2.26	0.50
5:L:1292:CYS:HA	5:L:1311:ILE:HG12	1.92	0.50
1:A:1621:ARG:NH1	1:A:1627:LEU:HD11	2.27	0.50
2:B:360:LEU:HB2	2:B:423:ILE:HD11	1.93	0.50
1:C:1971:GLN:HB3	1:C:1972:ARG:HH21	1.76	0.50
2:D:239:MET:HE1	2:D:257:PHE:HA	1.93	0.50
2:D:296:VAL:HG13	2:D:298:ASN:H	1.77	0.50
3:E:318:ASP:HA	3:E:321:ARG:HD2	1.93	0.50
4:G:76:VAL:HG23	4:G:556:ARG:HH21	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:498:ARG:HH12	7:W:225:ARG:HG2	1.77	0.50
5:I:1249:ARG:HD2	5:I:1254:TYR:CD1	2.46	0.50
5:J:1291:ASP:OD1	5:J:1316:ARG:NH1	2.45	0.50
5:L:71:LEU:HD13	5:L:274:VAL:HG11	1.92	0.50
5:L:122:LYS:HD2	5:L:1082:ASN:ND2	2.27	0.50
1:A:2037:ILE:N	1:A:2038:PRO:HD3	2.26	0.50
1:C:1663:TRP:CD2	1:C:1744:GLN:HB3	2.46	0.50
1:C:2039:LEU:HD23	1:C:2053:LEU:HB2	1.93	0.50
1:C:2239:TYR:HB3	3:F:61:LEU:HD12	1.94	0.50
3:F:624:ILE:HA	3:F:627:LEU:HB3	1.94	0.50
5:I:478:LEU:HD12	5:I:512:MET:HE2	1.94	0.50
5:J:73:ALA:HB3	5:J:272:VAL:HG11	1.93	0.50
5:M:297:SER:HB3	5:M:352:LEU:HD23	1.93	0.50
7:W:80:LEU:HD23	7:W:114:ALA:HB2	1.93	0.50
2:B:116:TYR:HE2	2:B:492:HIS:CE1	2.30	0.50
3:F:305:LEU:HD13	3:F:506:ILE:HG22	1.92	0.50
5:I:488:MET:HG3	5:I:894:GLU:HG3	1.93	0.50
5:J:173:ARG:NH2	5:J:375:VAL:O	2.45	0.50
5:J:900:ASP:HB2	5:J:903:GLN:HE22	1.76	0.50
1:A:1958:VAL:H	1:A:1981:TYR:HB2	1.76	0.50
1:A:2034:LEU:HD22	1:C:1632:ARG:HA	1.94	0.50
3:F:362:PHE:HZ	3:F:380:LEU:HB3	1.77	0.50
5:H:7:LEU:HD22	5:K:92:LEU:HD12	1.92	0.50
5:H:225:ALA:O	5:H:232:ARG:NH2	2.39	0.50
5:H:724:PRO:HA	5:H:773:ALA:HB3	1.93	0.50
5:M:959:TYR:HH	5:M:966:TYR:HE2	1.59	0.50
1:A:2224:LEU:HD21	3:E:75:TYR:HB3	1.94	0.49
5:K:1211:THR:HA	5:K:1214:ILE:HG12	1.94	0.49
5:M:443:VAL:HA	5:M:446:LEU:HD23	1.93	0.49
9:Z:121:ASP:OD2	9:Z:214:ARG:NH2	2.41	0.49
3:E:239:TYR:O	3:E:250:SER:OG	2.22	0.49
5:K:311:ASN:HD21	5:K:325:PHE:HB2	1.76	0.49
5:K:1116:VAL:HG23	5:K:1117:PHE:HD1	1.77	0.49
5:M:560:ASN:CG	5:M:988:ARG:HG3	2.32	0.49
1:A:1490:ALA:HA	1:A:1493:ARG:HG2	1.94	0.49
1:A:1674:TYR:OH	1:A:2117:PRO:O	2.31	0.49
2:D:355:VAL:HG22	2:D:358:ARG:HH11	1.76	0.49
5:H:83:LEU:HD11	5:H:1058:ILE:HG22	1.94	0.49
5:H:883:VAL:O	5:H:886:VAL:HG13	2.12	0.49
2:D:448:ARG:O	2:D:451:LEU:HG	2.12	0.49
5:J:216:LEU:HD12	5:J:1200:LEU:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:396:PRO:HB3	5:J:1186:PHE:CZ	2.47	0.49
5:J:1336:LYS:NZ	5:J:1346:THR:OG1	2.45	0.49
2:B:176:PRO:O	2:B:180:ARG:HG2	2.12	0.49
2:B:423:ILE:HA	2:B:426:ASN:HD21	1.78	0.49
1:C:1947:TYR:HE2	1:C:2049:VAL:HG11	1.78	0.49
3:F:226:LYS:HG3	3:F:241:LEU:HD13	1.95	0.49
5:J:751:VAL:HG22	5:J:752:SER:H	1.78	0.49
5:M:1223:GLN:O	5:M:1224:THR:HG23	2.11	0.49
8:U:290:VAL:HG12	8:U:302:CYS:SG	2.52	0.49
1:A:1549:LEU:HD23	1:A:1552:ILE:HD12	1.93	0.49
2:B:236:VAL:HG12	2:B:240:HIS:NE2	2.28	0.49
2:D:423:ILE:HG23	2:D:427:PHE:CE2	2.48	0.49
5:I:666:LEU:HD11	5:I:670:LEU:HB2	1.95	0.49
5:K:750:GLY:HA2	6:Q:70:VAL:HG21	1.95	0.49
5:K:752:SER:O	6:Q:66:ARG:NH2	2.45	0.49
5:L:808:LEU:HD21	5:L:883:VAL:HG13	1.94	0.49
1:A:1456:TYR:HB2	1:A:1482:LEU:HD21	1.95	0.49
5:J:949:CYS:SG	5:J:956:ILE:HG21	2.53	0.49
5:M:883:VAL:HG13	6:S:66:ARG:HA	1.94	0.49
8:X:13:ASP:OD1	8:X:43:HIS:NE2	2.35	0.49
2:D:316:ILE:HD13	2:D:347:ALA:HB1	1.93	0.49
3:E:524:GLY:HA3	3:E:631:LEU:HA	1.94	0.49
5:I:532:GLU:OE2	5:I:555:ARG:NH1	2.46	0.49
5:L:291:ILE:HA	5:L:360:ILE:HG22	1.94	0.49
1:A:2240:LEU:HD11	3:F:61:LEU:HD22	1.93	0.49
2:B:103:GLN:O	2:B:107:GLY:N	2.42	0.49
1:C:1692:ASN:HB3	1:C:1762:LEU:HD13	1.94	0.49
1:C:2222:ARG:NH1	3:E:80:GLU:OE2	2.46	0.49
3:F:249:ILE:HG23	3:F:253:LEU:HD23	1.94	0.49
5:J:215:ILE:HG21	5:J:1278:LEU:HD11	1.93	0.49
5:K:430:LEU:HD12	5:K:1108:VAL:HG12	1.95	0.49
5:L:399:LEU:HD22	5:L:1033:ALA:HB1	1.94	0.49
2:D:124:ALA:HB1	2:D:195:TYR:CE2	2.48	0.49
4:G:414:TRP:HB2	4:G:478:VAL:HG11	1.94	0.49
5:K:73:ALA:HB3	5:K:272:VAL:HG11	1.95	0.49
5:L:626:LEU:HD21	5:L:881:LEU:HB2	1.93	0.49
1:A:1649:ILE:HD13	1:A:1978:HIS:ND1	2.28	0.48
1:A:1792:MET:HB3	1:A:2055:PRO:HG3	1.95	0.48
1:C:1772:SER:HB2	1:C:2100:VAL:H	1.77	0.48
5:I:805:LYS:HE2	6:O:58:CYS:HB2	1.94	0.48
5:L:455:HIS:CD2	5:L:1017:PRO:HG3	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:710:LEU:HD21	5:L:783:VAL:HG22	1.94	0.48
5:M:1277:THR:O	5:M:1281:THR:N	2.41	0.48
9:Z:14:VAL:HA	9:Z:17:VAL:HG12	1.95	0.48
1:A:1839:PRO:HG2	1:A:1939:ILE:HD13	1.95	0.48
1:A:2238:LEU:HD13	4:G:350:LEU:HD22	1.94	0.48
1:C:1459:LEU:HD13	1:C:1478:LYS:HD3	1.96	0.48
3:F:274:LEU:H	3:F:429:TYR:HE2	1.61	0.48
3:F:301:VAL:O	3:F:305:LEU:HG	2.13	0.48
5:J:432:ASN:ND2	5:J:438:GLN:HE21	2.11	0.48
1:A:1760:THR:HG21	1:A:2102:PHE:HE1	1.76	0.48
2:B:338:LEU:HD11	2:B:349:LEU:HD13	1.94	0.48
2:D:64:PHE:HB2	2:D:500:GLU:OE1	2.13	0.48
5:I:534:HIS:CD2	5:I:537:PHE:HD2	2.31	0.48
5:I:578:ILE:HD13	5:I:1028:ILE:HD12	1.94	0.48
7:T:195:GLY:O	7:T:233:ARG:NH1	2.46	0.48
8:U:219:VAL:HG11	8:V:206:MET:HE2	1.94	0.48
9:Z:57:MET:CE	9:Z:272:ILE:HD11	2.44	0.48
2:B:70:VAL:HG13	2:B:96:LEU:HD13	1.95	0.48
3:F:462:LEU:HD12	3:F:465:LEU:HD12	1.94	0.48
4:G:367:LEU:O	4:G:371:VAL:HG23	2.12	0.48
5:H:1127:VAL:O	5:H:1131:ILE:HG12	2.13	0.48
5:H:1239:LEU:C	5:H:1239:LEU:HD12	2.33	0.48
5:I:212:ARG:NH1	5:I:1203:ASP:OD1	2.40	0.48
5:I:1021:VAL:HA	5:I:1024:THR:HG22	1.95	0.48
5:J:565:LEU:HB3	5:J:1178:PRO:HB3	1.96	0.48
5:J:1246:THR:O	5:J:1250:GLU:HG2	2.13	0.48
8:V:199:THR:HA	8:V:202:LEU:HG	1.96	0.48
1:C:1700:VAL:HG21	1:C:1750:ILE:HG12	1.96	0.48
3:E:599:GLY:HA2	3:E:602:LEU:HD12	1.95	0.48
4:G:105:ASP:O	4:G:109:GLN:HG2	2.13	0.48
4:G:318:TRP:CE3	4:G:325:ARG:HB2	2.49	0.48
5:H:892:VAL:HG11	5:H:979:PHE:CE1	2.49	0.48
5:I:226:THR:HG22	5:I:226:THR:O	2.13	0.48
5:K:1122:TYR:N	5:K:1128:ASP:OD2	2.44	0.48
5:L:1033:ALA:HB2	5:L:1179:VAL:HA	1.95	0.48
8:X:225:GLU:OE1	8:X:225:GLU:N	2.47	0.48
1:A:1698:TYR:CE2	1:A:2074:THR:HB	2.49	0.48
1:A:1830:CYS:HB2	1:A:1841:LEU:HB2	1.95	0.48
5:H:600:THR:HG21	5:H:645:LEU:CD1	2.44	0.48
5:J:388:ASN:HB2	5:J:1311:ILE:HD12	1.94	0.48
5:J:1214:ILE:HG22	5:J:1215:TYR:CD1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:390:ASP:OD1	5:L:1039:THR:OG1	2.31	0.48
5:M:1350:HIS:CD2	5:M:1351:PHE:H	2.32	0.48
1:A:1830:CYS:SG	1:A:1842:GLY:N	2.86	0.48
2:B:291:SER:O	2:B:294:LEU:HG	2.13	0.48
1:C:1620:LEU:HD21	1:C:2006:THR:HB	1.96	0.48
1:C:1830:CYS:O	1:C:1834:PRO:HD2	2.14	0.48
2:D:227:ARG:HH11	2:D:327:ARG:HG2	1.79	0.48
3:E:365:HIS:CE1	3:E:434:LEU:HD21	2.49	0.48
5:J:427:THR:HG22	5:J:441:ASP:HB3	1.96	0.48
5:J:438:GLN:OE1	5:J:1108:VAL:HG22	2.13	0.48
5:K:477:ARG:HD3	5:L:1133:HIS:NE2	2.29	0.48
5:K:810:ASP:O	5:K:814:ARG:NH2	2.46	0.48
5:M:244:THR:HA	5:M:362:LEU:HD23	1.96	0.48
8:V:262:ASP:N	8:V:262:ASP:OD1	2.46	0.48
2:B:459:ILE:HG23	2:B:465:LEU:HB2	1.96	0.48
5:H:719:PHE:CZ	5:H:922:CYS:HB3	2.49	0.48
5:J:861:VAL:HA	5:J:864:VAL:HG12	1.95	0.48
5:M:1045:ASP:HB2	5:M:1097:ALA:HB3	1.96	0.48
8:U:57:GLY:HA2	8:U:188:VAL:HG12	1.96	0.48
1:A:1614:ALA:HB3	1:A:1845:TRP:CZ3	2.49	0.48
1:A:1874:TYR:HB3	1:A:1879:GLU:OE2	2.14	0.48
2:B:181:VAL:O	2:B:185:LEU:HD23	2.14	0.48
2:D:132:LEU:HA	2:D:135:ILE:HG12	1.96	0.48
2:D:379:MET:O	2:D:383:LEU:HG	2.14	0.48
3:F:71:ARG:NH1	3:F:75:TYR:OH	2.46	0.48
4:G:45:TYR:HB3	4:G:132:LEU:HD22	1.96	0.48
5:J:254:ILE:HG12	5:J:1086:MET:O	2.14	0.48
5:L:638:MET:SD	5:L:642:ARG:HD2	2.54	0.48
5:L:1190:ASN:OD1	5:L:1223:GLN:NE2	2.46	0.48
5:L:1276:LYS:O	5:L:1281:THR:OG1	2.32	0.48
5:M:421:ARG:NH2	5:M:577:GLU:OE2	2.40	0.48
6:R:20:HIS:O	6:R:24:VAL:HG22	2.13	0.48
7:W:54:GLU:O	7:W:57:VAL:HG12	2.13	0.48
1:A:1982:THR:HG22	1:A:1984:ARG:H	1.79	0.48
3:F:285:ALA:HB3	3:F:407:TRP:HH2	1.78	0.48
7:T:185:VAL:HB	7:T:206:THR:HG22	1.96	0.48
8:V:33:PRO:HB2	8:V:68:MET:SD	2.54	0.48
2:D:70:VAL:HG13	2:D:96:LEU:HD13	1.94	0.47
2:D:135:ILE:HG13	2:D:136:GLN:N	2.29	0.47
2:D:447:ARG:HA	2:D:450:ILE:HB	1.96	0.47
4:G:514:TRP:HE1	4:G:522:VAL:HG21	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:605:ASN:ND2	5:J:642:ARG:HD3	2.29	0.47
5:K:800:LEU:HD22	5:K:952:LEU:HD21	1.96	0.47
5:L:142:THR:O	7:W:36:ARG:NH1	2.47	0.47
5:L:1193:ARG:NH1	5:L:1197:SER:HB3	2.29	0.47
5:M:446:LEU:HD21	5:M:1024:THR:CG2	2.40	0.47
5:M:730:VAL:HG13	5:M:897:ALA:HB2	1.95	0.47
9:Z:63:TYR:HB2	9:Z:224:CYS:SG	2.53	0.47
1:A:1456:TYR:CZ	1:A:1460:LEU:HD11	2.50	0.47
1:A:1602:GLU:CG	1:A:1607:VAL:HB	2.42	0.47
1:A:1868:PRO:HD2	1:A:1871:ALA:HB3	1.95	0.47
1:C:1869:GLN:HB2	1:C:2046:ASP:HA	1.96	0.47
2:D:319:VAL:HA	2:D:323:LEU:HD13	1.96	0.47
5:H:665:ALA:C	5:H:666:LEU:HD12	2.34	0.47
5:K:785:TYR:O	5:K:943:TYR:OH	2.32	0.47
5:K:1116:VAL:HG12	5:K:1258:PHE:CD1	2.50	0.47
5:M:1039:THR:HG21	5:M:1259:TYR:HE2	1.79	0.47
8:X:203:SER:O	8:X:207:VAL:HG13	2.14	0.47
1:C:1957:PRO:HG3	1:C:2036:PHE:HD2	1.79	0.47
5:H:857:LEU:HD21	5:H:876:CYS:SG	2.54	0.47
5:L:786:LEU:HD11	5:L:987:LEU:HD22	1.96	0.47
5:L:1114:PHE:HB2	5:L:1137:VAL:HG11	1.96	0.47
5:M:684:VAL:HA	5:M:687:ILE:HG22	1.96	0.47
5:M:854:GLY:O	5:M:858:THR:HG23	2.14	0.47
6:N:27:GLU:OE2	6:N:61:LYS:NZ	2.45	0.47
8:V:142:LEU:HD12	8:V:177:PHE:CG	2.49	0.47
2:B:30:VAL:HG22	2:B:72:TYR:OH	2.13	0.47
2:B:257:PHE:O	2:B:261:VAL:HG23	2.13	0.47
1:C:1807:THR:HG22	1:C:1809:THR:HG22	1.96	0.47
2:D:383:LEU:HD13	2:D:427:PHE:HE1	1.78	0.47
3:F:469:ASP:OD1	3:F:469:ASP:N	2.45	0.47
5:H:1144:ASP:OD1	5:H:1145:THR:N	2.48	0.47
5:H:1249:ARG:HG2	5:H:1254:TYR:CD1	2.50	0.47
5:K:698:LEU:HD21	5:K:1127:VAL:HB	1.97	0.47
5:L:1116:VAL:HG13	5:L:1117:PHE:HD1	1.80	0.47
2:B:9:PHE:O	2:B:13:ILE:HG12	2.15	0.47
2:B:238:LEU:HD21	2:B:327:ARG:HD2	1.97	0.47
1:C:2003:LEU:HD23	1:C:2014:HIS:NE2	2.29	0.47
3:E:641:VAL:O	3:E:641:VAL:HG12	2.14	0.47
3:F:68:LEU:HA	3:F:71:ARG:HG2	1.97	0.47
5:I:785:TYR:O	5:I:943:TYR:OH	2.32	0.47
5:K:1044:VAL:HG11	5:K:1096:VAL:HG13	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:420:VAL:HG11	5:M:577:GLU:HA	1.97	0.47
5:M:1001:VAL:HG12	5:M:1002:LEU:HD23	1.97	0.47
5:M:1039:THR:HG23	5:M:1300:GLN:HE22	1.79	0.47
7:W:18:ASN:O	7:W:22:THR:HG23	2.15	0.47
1:A:1969:LYS:HG2	1:C:2155:ASP:HB3	1.96	0.47
3:E:183:TYR:HB2	3:E:192:PHE:HB3	1.96	0.47
3:E:338:ALA:HB1	3:E:340:ARG:NE	2.30	0.47
3:E:506:ILE:HG23	3:E:510:TYR:CE2	2.50	0.47
3:F:340:ARG:HB3	3:F:361:THR:HA	1.96	0.47
5:H:229:LEU:HD12	5:H:230:LEU:HD22	1.96	0.47
5:I:595:ARG:O	5:I:599:THR:HG23	2.15	0.47
5:I:1039:THR:HG23	5:I:1261:PRO:HB3	1.97	0.47
5:J:498:PHE:O	5:J:501:VAL:HG12	2.14	0.47
5:K:643:GLN:HB2	5:L:672:PHE:HE2	1.78	0.47
5:M:534:HIS:HB3	5:M:537:PHE:O	2.14	0.47
9:Z:161:ASP:HA	9:Z:164:VAL:HG12	1.96	0.47
1:A:1493:ARG:HG3	1:A:1495:THR:H	1.80	0.47
2:B:227:ARG:HH12	2:B:326:GLU:HB2	1.79	0.47
2:B:245:HIS:ND1	2:B:389:ASN:OD1	2.48	0.47
2:B:296:VAL:HG13	2:B:298:ASN:H	1.79	0.47
2:B:391:ASP:N	2:B:391:ASP:OD1	2.48	0.47
1:C:1951:SER:HA	1:C:1956:ILE:HG22	1.97	0.47
3:E:305:LEU:HD11	3:E:510:TYR:HD2	1.79	0.47
3:E:531:THR:HG21	3:E:619:PHE:HZ	1.80	0.47
5:J:884:GLN:HA	6:P:66:ARG:HB2	1.97	0.47
5:K:212:ARG:NH2	5:K:1201:ALA:O	2.42	0.47
5:K:672:PHE:HE1	5:K:675:ARG:HH12	1.61	0.47
5:L:1221:ASP:OD1	5:L:1222:ALA:N	2.46	0.47
5:M:689:ALA:HB2	5:M:711:HIS:NE2	2.29	0.47
5:M:712:ASP:O	5:M:782:LYS:NZ	2.47	0.47
5:M:760:MET:SD	5:M:888:GLU:HA	2.55	0.47
6:S:33:SER:OG	6:S:34:GLU:OE1	2.31	0.47
7:T:251:LEU:HD12	7:T:251:LEU:O	2.14	0.47
3:E:365:HIS:CD2	3:E:368:VAL:HG23	2.49	0.47
5:I:421:ARG:NH2	5:J:404:ASP:OD2	2.46	0.47
5:L:1116:VAL:HG13	5:L:1117:PHE:CD1	2.50	0.47
1:A:1645:ARG:HA	1:A:2163:PHE:CE1	2.50	0.47
2:D:439:PRO:HA	2:D:482:VAL:HG22	1.97	0.47
2:D:441:PHE:HB3	2:D:512:TRP:CE2	2.50	0.47
5:H:698:LEU:HD21	5:H:1127:VAL:HG23	1.97	0.47
5:K:99:ARG:NH2	5:K:111:GLN:OE1	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:651:TYR:CZ	5:L:655:THR:HG21	2.50	0.47
5:M:287:LEU:O	5:M:291:ILE:HG23	2.15	0.47
5:M:641:THR:HG23	5:M:642:ARG:HG3	1.96	0.47
8:U:116:HIS:O	8:U:119:LEU:HD22	2.15	0.47
1:A:1461:HIS:HA	1:A:1464:GLN:HG2	1.97	0.47
1:A:2027:TYR:HD1	1:A:2028:LEU:HD22	1.80	0.47
2:B:117:HIS:O	2:B:121:THR:N	2.33	0.47
2:B:292:TYR:CE1	2:B:307:LEU:HD11	2.50	0.47
2:B:422:GLN:HG2	2:B:468:VAL:HG23	1.96	0.47
5:H:1297:THR:HG22	5:H:1299:THR:H	1.79	0.47
5:M:118:LYS:NZ	5:M:1087:GLY:O	2.46	0.47
8:X:229:MET:HA	8:X:232:VAL:HG12	1.96	0.47
1:C:1545:LEU:HB3	1:C:2023:ARG:HG2	1.97	0.46
1:C:1642:VAL:O	1:C:2192:SER:N	2.35	0.46
3:E:447:THR:HG22	3:E:628:LEU:HD21	1.97	0.46
5:H:575:THR:HG22	5:H:1010:ALA:HB3	1.97	0.46
5:I:229:LEU:HD22	5:I:242:PHE:CD2	2.49	0.46
5:I:358:ASP:HB2	5:I:369:MET:HB2	1.97	0.46
5:J:440:ILE:HB	5:J:1108:VAL:HG21	1.97	0.46
5:J:846:ILE:HD12	5:J:849:GLN:HE21	1.81	0.46
5:L:559:GLY:HA3	5:L:991:PHE:HE1	1.80	0.46
5:L:684:VAL:HG23	5:L:1006:MET:HG2	1.97	0.46
5:M:532:GLU:CD	5:M:555:ARG:HH12	2.18	0.46
5:M:757:LEU:HB3	6:S:59:ALA:HB1	1.98	0.46
9:Z:105:HIS:HA	9:Z:108:VAL:HG22	1.96	0.46
1:A:1573:ARG:NH2	1:A:1619:ALA:O	2.48	0.46
1:A:1862:LEU:HD11	1:A:1952:TRP:CH2	2.45	0.46
2:B:326:GLU:HA	2:B:355:VAL:HG11	1.97	0.46
4:G:96:VAL:HA	4:G:128:VAL:HA	1.97	0.46
5:L:214:ASN:HB3	5:M:1101:ARG:HD2	1.98	0.46
5:L:388:ASN:HB2	5:L:1311:ILE:HD12	1.97	0.46
5:L:567:PRO:HB2	5:L:569:PRO:HD2	1.97	0.46
1:A:1792:MET:HB2	1:A:1811:TRP:HH2	1.81	0.46
2:B:412:PHE:O	2:B:416:ILE:HG12	2.16	0.46
1:C:1859:LEU:O	1:C:1862:LEU:HG	2.15	0.46
4:G:85:GLU:O	4:G:88:THR:HG22	2.15	0.46
4:G:449:ARG:NH2	4:G:464:GLU:OE1	2.44	0.46
5:I:326:ASN:O	5:I:329:LYS:HG2	2.15	0.46
5:J:749:HIS:NE2	5:J:885:PHE:HA	2.30	0.46
5:J:1193:ARG:HD3	5:J:1266:PHE:CE2	2.50	0.46
5:M:635:ILE:HG22	5:M:646:VAL:HG23	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1531:LEU:O	1:A:1534:GLN:HG3	2.15	0.46
1:A:2234:HIS:CE1	1:A:2238:LEU:HD12	2.50	0.46
3:E:22:ASN:HB3	3:F:7:PHE:H	1.80	0.46
3:E:615:GLY:HA3	3:E:621:VAL:HB	1.98	0.46
5:H:785:TYR:O	5:H:790:PRO:HD3	2.16	0.46
5:I:534:HIS:CD2	5:I:536:PHE:H	2.33	0.46
5:K:1173:GLU:HG3	5:K:1261:PRO:HD2	1.98	0.46
5:L:789:MET:O	5:L:793:THR:HG22	2.15	0.46
5:L:884:GLN:HA	6:R:66:ARG:HB2	1.98	0.46
5:M:1184:ASN:O	5:M:1184:ASN:ND2	2.48	0.46
6:Q:16:GLU:O	6:Q:20:HIS:ND1	2.48	0.46
2:D:233:LEU:HD13	2:D:323:LEU:HD11	1.97	0.46
3:E:348:TYR:O	3:E:431:ARG:NH1	2.48	0.46
4:G:566:LEU:HD12	8:U:157:SER:HB2	1.97	0.46
5:H:860:LEU:HD11	5:H:930:LEU:HD21	1.97	0.46
5:J:1064:VAL:HG22	5:J:1077:VAL:HG12	1.97	0.46
5:K:215:ILE:HG21	5:K:1278:LEU:HD11	1.97	0.46
5:M:192:VAL:HG23	5:M:219:PHE:CZ	2.51	0.46
5:M:280:MET:HG3	5:M:371:ASN:HB3	1.97	0.46
8:U:154:GLY:HA3	8:U:193:LEU:HD21	1.98	0.46
1:C:1982:THR:HG22	1:C:1983:SER:H	1.81	0.46
2:D:131:THR:HA	2:D:134:GLU:HG2	1.96	0.46
3:E:82:ARG:HD3	3:E:82:ARG:HA	1.73	0.46
3:F:59:ARG:O	3:F:63:GLN:OE1	2.32	0.46
5:H:935:LEU:HD12	5:H:936:PRO:HD2	1.98	0.46
5:J:240:LEU:HD12	5:J:287:LEU:HD11	1.98	0.46
5:J:376:TYR:O	5:J:378:ASN:N	2.48	0.46
5:K:307:LEU:HD23	5:K:307:LEU:H	1.80	0.46
5:K:798:CYS:SG	5:K:799:GLY:N	2.89	0.46
5:L:1034:LEU:HD12	5:L:1174:LEU:HB3	1.96	0.46
5:M:1121:VAL:HA	5:M:1132:ARG:HH11	1.81	0.46
8:X:58:TYR:CE1	8:X:112:PRO:HG2	2.51	0.46
1:A:1500:GLU:HA	1:A:1520:ARG:HH11	1.81	0.46
2:B:92:LEU:HD12	2:B:95:GLN:NE2	2.31	0.46
1:C:1570:ASP:OD1	1:C:1571:ARG:N	2.49	0.46
1:C:1784:ALA:O	1:C:1788:ASN:N	2.49	0.46
1:C:1843:LYS:NZ	1:C:1941:THR:O	2.42	0.46
2:D:182:ILE:O	2:D:186:GLU:HG3	2.15	0.46
2:D:334:LEU:HA	2:D:337:ARG:HG2	1.98	0.46
3:E:621:VAL:HG22	3:E:636:LEU:HD22	1.98	0.46
3:F:30:VAL:O	3:F:34:LEU:HD23	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:H:1057:VAL:HG12	5:H:1083:THR:HG22	1.97	0.46
5:K:698:LEU:HD22	5:K:706:TYR:HE2	1.80	0.46
5:M:556:ILE:HD11	5:M:1014:LYS:HE3	1.97	0.46
8:Y:195:ILE:O	8:Y:199:THR:HG23	2.16	0.46
1:A:1920:ASP:OD1	1:A:1921:THR:N	2.38	0.46
2:B:332:PRO:HB3	2:B:396:TYR:CZ	2.51	0.46
5:H:753:ASP:N	5:H:753:ASP:OD1	2.49	0.46
5:J:1034:LEU:HD13	5:J:1174:LEU:HG	1.97	0.46
5:L:192:VAL:HG13	5:L:219:PHE:CZ	2.51	0.46
5:M:459:PRO:O	5:M:462:GLN:HG3	2.16	0.46
8:X:153:MET:SD	8:X:169:VAL:HG22	2.56	0.46
8:X:262:ASP:O	8:X:265:ILE:HG22	2.16	0.46
1:C:2179:CYS:SG	1:C:2180:ARG:N	2.89	0.46
3:F:606:LEU:HD12	3:F:606:LEU:O	2.16	0.46
5:H:1332:LEU:HD13	5:H:1355:VAL:HG13	1.98	0.46
5:L:1177:THR:OG1	5:L:1230:ASN:ND2	2.40	0.46
5:M:77:ALA:HB1	5:M:302:TYR:CD2	2.50	0.46
6:Q:14:ARG:HB2	6:Q:18:HIS:CE1	2.50	0.46
8:U:230:LEU:HD21	8:V:202:LEU:HD11	1.96	0.46
8:V:287:VAL:HG23	8:V:288:PHE:HD2	1.81	0.46
2:D:473:THR:HA	2:D:476:VAL:HG12	1.96	0.46
3:E:278:GLU:HB3	3:E:412:LEU:HD11	1.98	0.46
3:F:423:PHE:HB2	3:F:426:GLU:HB2	1.98	0.46
5:I:651:TYR:HB2	5:I:784:PHE:CD1	2.51	0.46
5:I:689:ALA:HB2	5:I:711:HIS:NE2	2.31	0.46
5:J:635:ILE:HG13	5:J:646:VAL:HG12	1.98	0.46
1:A:1899:TYR:HB2	1:A:1913:MET:SD	2.55	0.45
1:A:2043:ASN:ND2	1:A:2046:ASP:OD1	2.49	0.45
2:D:240:HIS:HE1	2:D:293:LYS:HG3	1.81	0.45
4:G:514:TRP:HZ2	4:G:524:TYR:HH	1.64	0.45
5:H:1133:HIS:CE1	5:I:477:ARG:HD3	2.51	0.45
5:I:1327:THR:HB	5:I:1355:VAL:HG22	1.97	0.45
8:U:63:GLY:HA2	8:U:66:ARG:HG2	1.98	0.45
1:A:1753:LEU:HD21	1:A:1785:VAL:HG11	1.98	0.45
1:A:2177:PRO:HB2	2:B:307:LEU:HD13	1.97	0.45
2:B:351:ALA:HA	2:B:354:ARG:NE	2.31	0.45
2:B:361:GLU:O	2:B:365:HIS:ND1	2.34	0.45
3:F:460:PHE:CZ	3:F:465:LEU:HD11	2.51	0.45
4:G:168:LEU:HD23	4:G:317:VAL:HG21	1.98	0.45
5:H:757:LEU:HB3	6:N:59:ALA:HB1	1.99	0.45
5:K:661:LEU:HD23	5:K:666:LEU:HD21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:653:LEU:O	5:L:657:ILE:HG12	2.16	0.45
5:M:77:ALA:HB1	5:M:302:TYR:HD2	1.81	0.45
8:V:8:ILE:HB	8:V:83:LEU:HB2	1.98	0.45
7:W:244:CYS:SG	8:X:273:VAL:HG11	2.57	0.45
8:X:204:MET:O	8:X:207:VAL:HG22	2.16	0.45
1:A:1524:ALA:O	1:A:1527:ARG:HG2	2.17	0.45
2:B:96:LEU:HB3	2:B:122:LEU:HD21	1.98	0.45
2:D:271:PHE:HD1	2:D:312:ILE:HG23	1.80	0.45
3:E:318:ASP:HB3	3:E:370:LEU:HD21	1.98	0.45
5:I:754:VAL:N	5:I:755:PRO:HD2	2.31	0.45
5:J:1001:VAL:HG12	5:J:1002:LEU:HD23	1.98	0.45
5:J:1059:ILE:HG22	5:J:1081:ILE:HG22	1.97	0.45
5:L:214:ASN:OD1	5:M:433:ARG:NH1	2.49	0.45
5:M:1033:ALA:HB2	5:M:1179:VAL:HA	1.98	0.45
2:B:48:VAL:HG11	2:B:73:LEU:HD11	1.99	0.45
2:D:213:ILE:HG12	2:D:434:LEU:HG	1.97	0.45
2:D:325:PRO:HB2	2:D:355:VAL:HG21	1.99	0.45
3:E:301:VAL:HG23	3:E:411:LEU:HD13	1.99	0.45
4:G:441:GLN:OE1	4:G:444:ARG:NH1	2.50	0.45
5:H:753:ASP:OD1	6:N:66:ARG:NH2	2.37	0.45
5:I:455:HIS:CE1	5:I:1017:PRO:HD3	2.51	0.45
5:J:211:GLN:O	5:J:215:ILE:HG12	2.17	0.45
5:J:318:TYR:CD2	5:J:320:SER:HB2	2.51	0.45
5:K:580:GLU:OE1	5:K:585:ARG:NH2	2.49	0.45
5:L:624:PHE:HZ	5:L:657:ILE:HD13	1.81	0.45
6:O:75:ARG:OXT	9:Z:251:ARG:NH1	2.38	0.45
7:T:79:HIS:CD2	8:V:103:GLU:HG2	2.51	0.45
8:V:270:ALA:HA	8:V:273:VAL:HG12	1.98	0.45
2:B:315:ARG:HD2	2:B:337:ARG:HH12	1.82	0.45
2:B:351:ALA:O	2:B:354:ARG:HG2	2.16	0.45
3:E:498:PHE:HE1	3:E:501:LEU:HD22	1.82	0.45
5:I:388:ASN:HB2	5:I:1311:ILE:HD12	1.98	0.45
5:I:1035:THR:HG22	5:I:1177:THR:OG1	2.17	0.45
5:L:1178:PRO:HG3	5:L:1231:PRO:HD2	1.99	0.45
6:P:18:HIS:HA	6:P:48:THR:HG21	1.98	0.45
8:U:152:ILE:HD12	8:V:268:LEU:HB3	1.99	0.45
8:V:59:VAL:HB	8:V:196:ASP:OD2	2.16	0.45
9:Z:74:SER:HA	9:Z:77:LEU:HD12	1.97	0.45
1:C:2037:ILE:N	1:C:2038:PRO:HD3	2.31	0.45
3:E:309:PRO:HA	3:E:312:LEU:HD12	1.98	0.45
3:F:526:ALA:HA	3:F:594:TYR:CD1	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:36:GLU:HB2	4:G:153:TRP:CE2	2.51	0.45
5:I:475:MET:SD	5:I:530:TYR:CE1	3.10	0.45
5:J:1043:GLU:OE1	5:J:1101:ARG:NE	2.40	0.45
5:M:450:CYS:O	5:M:1122:TYR:OH	2.23	0.45
7:T:127:ARG:NH2	7:T:288:GLU:OE2	2.42	0.45
7:W:193:TYR:CD1	7:W:233:ARG:HD2	2.51	0.45
8:X:214:LEU:HA	8:X:217:THR:HG22	1.99	0.45
1:A:1527:ARG:O	1:A:1531:LEU:HB2	2.16	0.45
1:A:1685:ALA:O	1:A:1688:HIS:ND1	2.50	0.45
1:A:1857:ASP:O	1:A:1860:GLN:HG3	2.16	0.45
1:A:1953:LEU:O	1:A:2028:LEU:HD12	2.17	0.45
1:A:2040:VAL:HG22	1:A:2052:VAL:HG12	1.98	0.45
2:B:271:PHE:HB3	2:B:322:TYR:CD2	2.52	0.45
2:D:239:MET:HB2	2:D:253:LEU:HD11	1.99	0.45
3:E:371:PHE:HB3	3:E:376:VAL:HB	1.98	0.45
3:E:635:PHE:HD2	3:E:637:PRO:HD3	1.80	0.45
4:G:5:LEU:HD13	4:G:306:TRP:CG	2.52	0.45
5:I:194:GLN:HA	5:I:197:VAL:HG12	1.98	0.45
5:I:326:ASN:OD1	5:I:327:SER:N	2.49	0.45
5:K:1286:LEU:HD12	5:K:1287:LEU:HG	1.98	0.45
5:M:449:LEU:HD13	5:M:1020:LEU:HD21	1.99	0.45
1:A:1703:ALA:HB2	1:A:1773:LEU:HD13	1.98	0.45
1:C:1449:GLN:OE1	1:C:1493:ARG:NH2	2.49	0.45
1:C:1574:ARG:NH1	1:C:1608:THR:O	2.49	0.45
2:D:209:TYR:HA	2:D:212:LEU:HG	1.99	0.45
2:D:279:ASP:N	2:D:279:ASP:OD1	2.50	0.45
2:D:399:MET:HB2	2:D:403:GLN:HE21	1.81	0.45
3:F:239:TYR:OH	3:F:570:MET:SD	2.69	0.45
3:F:362:PHE:CE1	3:F:380:LEU:HD13	2.51	0.45
3:F:427:GLN:HB3	3:F:429:TYR:HD1	1.82	0.45
5:H:754:VAL:N	5:H:755:PRO:HD2	2.32	0.45
5:H:917:LEU:HD21	5:H:920:GLY:HA3	1.99	0.45
5:I:33:GLU:HG2	5:I:34:ALA:N	2.32	0.45
5:I:1054:CYS:SG	5:I:1055:THR:HG23	2.57	0.45
5:L:70:GLY:N	5:L:370:GLU:OE1	2.49	0.45
5:L:507:ARG:NH1	5:L:968:ARG:HH12	2.15	0.45
5:L:1055:THR:OG1	5:L:1083:THR:OG1	2.34	0.45
8:X:115:PHE:HD2	8:X:183:THR:HB	1.82	0.45
2:D:508:LEU:HD23	2:D:516:LEU:HD21	1.99	0.45
3:F:339:TYR:HB3	3:F:364:ARG:HD2	1.98	0.45
5:J:534:HIS:CD2	5:J:537:PHE:HD2	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:K:223:MET:O	5:K:227:LEU:HG	2.17	0.45
5:K:760:MET:SD	5:K:888:GLU:HA	2.57	0.45
5:K:937:VAL:HG13	5:K:937:VAL:O	2.16	0.45
5:L:559:GLY:HA3	5:L:991:PHE:CE1	2.52	0.45
5:L:601:VAL:HG13	5:L:924:VAL:HG11	1.99	0.45
5:L:611:TYR:CZ	5:L:923:VAL:HG23	2.52	0.45
5:M:1222:ALA:C	5:M:1224:THR:H	2.20	0.45
6:N:21:VAL:O	6:N:25:VAL:HB	2.16	0.45
7:T:211:HIS:CE1	8:U:66:ARG:HD3	2.52	0.45
8:V:66:ARG:NH1	8:V:280:ASP:O	2.50	0.45
8:V:93:THR:HG22	8:V:301:THR:HG22	1.98	0.45
2:B:92:LEU:O	2:B:95:GLN:HG3	2.17	0.45
1:C:1575:LEU:O	1:C:1579:ARG:NH2	2.50	0.45
5:J:447:LYS:HB3	5:J:1112:ASP:HA	1.99	0.45
5:J:1212:LYS:HA	5:J:1216:ASP:OD1	2.17	0.45
5:K:698:LEU:HD11	5:K:1127:VAL:HA	1.99	0.45
5:M:75:ALA:HB2	5:M:179:PHE:CZ	2.52	0.45
9:Z:98:ASP:OD1	9:Z:98:ASP:N	2.50	0.45
2:B:454:HIS:O	2:B:458:LEU:HB2	2.17	0.44
1:C:1536:LEU:HA	1:C:1539:LYS:HG2	1.98	0.44
2:D:62:PHE:HA	2:D:65:VAL:HG12	1.99	0.44
2:D:383:LEU:HD13	2:D:427:PHE:CE1	2.52	0.44
5:I:126:THR:HG22	5:I:1078:THR:HG22	1.99	0.44
5:I:297:SER:HB3	5:I:352:LEU:HD12	1.98	0.44
5:J:718:PRO:HD2	5:J:785:TYR:HB3	1.99	0.44
5:K:122:LYS:HE3	5:K:1082:ASN:HD21	1.82	0.44
5:L:146:THR:HG23	5:L:149:ASP:H	1.82	0.44
5:L:610:CYS:SG	5:L:647:PHE:HD1	2.40	0.44
5:M:677:LEU:O	5:M:681:LEU:HG	2.17	0.44
5:M:888:GLU:H	5:M:919:ASN:HD21	1.64	0.44
7:W:184:TYR:CE1	7:W:210:ALA:HB2	2.52	0.44
1:A:2046:ASP:OD1	1:A:2046:ASP:N	2.46	0.44
2:B:296:VAL:HG11	2:B:301:ALA:HB3	1.98	0.44
2:B:398:GLN:O	2:B:402:ILE:HG13	2.16	0.44
5:J:396:PRO:HB2	5:J:399:LEU:HD23	1.98	0.44
5:J:534:HIS:CD2	5:J:536:PHE:H	2.35	0.44
5:J:623:ALA:HB2	5:J:885:PHE:CD2	2.52	0.44
5:J:811:LEU:HD23	5:J:812:PHE:CE1	2.52	0.44
5:J:968:ARG:NH2	5:J:970:ASP:OD1	2.49	0.44
5:K:75:ALA:HB2	5:K:179:PHE:CZ	2.53	0.44
5:M:555:ARG:HA	5:M:560:ASN:HD22	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:V:55:THR:HG23	8:V:56:ARG:HG2	1.99	0.44
7:W:258:ASP:OD1	7:W:277:ASP:HB2	2.17	0.44
2:B:400:ALA:HB3	2:B:425:TYR:OH	2.17	0.44
2:D:316:ILE:HD11	2:D:337:ARG:NH2	2.33	0.44
3:E:73:GLN:NE2	3:E:77:GLU:HG3	2.32	0.44
5:J:426:THR:HG23	5:J:427:THR:HG23	1.99	0.44
5:J:796:ARG:O	5:J:945:ASN:ND2	2.50	0.44
5:K:800:LEU:HD23	5:K:923:VAL:HG21	2.00	0.44
5:K:808:LEU:HD23	5:K:883:VAL:HG23	1.99	0.44
5:L:857:LEU:O	5:L:861:VAL:HG22	2.17	0.44
5:M:880:PHE:O	5:M:883:VAL:HG12	2.17	0.44
7:T:193:TYR:HB3	7:T:233:ARG:HB2	2.00	0.44
2:B:262:LYS:HD2	2:B:262:LYS:HA	1.68	0.44
3:E:296:ASP:OD1	3:E:296:ASP:N	2.47	0.44
3:F:54:ASP:OD1	3:F:57:ARG:NH2	2.51	0.44
5:H:473:PRO:HA	5:H:476:GLN:HB2	2.00	0.44
5:I:57:PHE:HE2	5:J:254:ILE:HD12	1.82	0.44
5:I:517:VAL:HG22	5:I:518:VAL:H	1.81	0.44
5:K:1114:PHE:CD1	5:K:1137:VAL:HG11	2.51	0.44
5:L:180:LEU:HD23	5:L:384:PRO:HG2	2.00	0.44
5:M:1112:ASP:OD1	5:M:1112:ASP:N	2.50	0.44
2:D:74:LEU:HD13	2:D:125:PHE:CZ	2.53	0.44
5:H:147:ILE:O	5:H:151:ILE:HG12	2.17	0.44
5:H:726:ASN:HB2	5:H:728:GLU:OE1	2.17	0.44
5:I:1069:ARG:HD2	8:Y:301:THR:HG21	1.99	0.44
5:I:1187:LYS:HG2	5:I:1356:VAL:HG12	2.00	0.44
5:J:637:ASN:O	5:J:641:THR:HG22	2.17	0.44
5:J:749:HIS:CE1	5:J:885:PHE:HA	2.53	0.44
4:G:85:GLU:HB3	4:G:560:GLN:HE22	1.82	0.44
5:H:97:VAL:O	5:H:97:VAL:HG13	2.18	0.44
5:I:998:CYS:SG	5:I:1004:SER:HB3	2.58	0.44
5:K:495:ILE:HD12	5:K:976:PRO:HG2	2.00	0.44
5:K:1054:CYS:SG	5:K:1091:THR:HB	2.58	0.44
5:L:629:THR:OG1	5:L:878:GLU:OE1	2.31	0.44
5:M:534:HIS:NE2	5:M:1239:LEU:HD12	2.32	0.44
2:B:34:GLU:HB2	2:B:72:TYR:OH	2.17	0.44
2:B:55:LEU:HD12	2:B:55:LEU:O	2.18	0.44
2:B:55:LEU:O	2:B:66:ARG:NH2	2.49	0.44
2:B:87:TYR:O	2:B:90:GLU:HG3	2.18	0.44
2:B:113:LEU:HB3	2:B:495:GLY:HA3	1.99	0.44
2:D:319:VAL:O	2:D:323:LEU:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:447:ARG:NH2	2:D:451:LEU:HB3	2.33	0.44
5:H:1348:GLU:H	5:H:1355:VAL:HG22	1.83	0.44
5:I:574:ARG:O	5:I:578:ILE:HG12	2.18	0.44
5:L:580:GLU:HG2	5:L:585:ARG:HD3	1.99	0.44
5:M:322:LEU:HD21	5:M:328:TYR:CD2	2.52	0.44
5:M:1033:ALA:O	5:M:1177:THR:HB	2.18	0.44
5:M:1246:THR:O	5:M:1250:GLU:HG2	2.17	0.44
8:Y:149:ARG:HA	8:Y:152:ILE:HG22	2.00	0.44
1:A:2003:LEU:HD11	1:A:2017:LEU:HB3	1.99	0.44
5:I:793:THR:HG23	5:I:796:ARG:H	1.83	0.44
5:L:446:LEU:HD12	5:L:1024:THR:HG21	2.00	0.44
5:M:789:MET:HB3	5:M:790:PRO:HD3	2.00	0.44
1:A:1762:LEU:HA	1:A:2117:PRO:HG3	2.00	0.44
2:D:237:LEU:HD21	2:D:331:HIS:HB2	1.99	0.44
4:G:322:HIS:ND1	4:G:322:HIS:O	2.51	0.44
5:H:1350:HIS:HB3	5:H:1353:ASN:HB2	2.00	0.44
5:I:611:TYR:O	5:I:615:VAL:HG23	2.18	0.44
5:I:621:VAL:HG13	5:I:622:ASP:H	1.83	0.44
5:K:1332:LEU:O	5:K:1335:THR:HG22	2.17	0.44
5:M:966:TYR:CE2	5:M:974:PRO:HG2	2.53	0.44
7:T:82:ILE:HG23	7:T:86:LEU:HD23	2.00	0.44
1:A:1743:LEU:HA	1:A:2068:LEU:HD11	2.00	0.43
1:A:2221:LEU:HD12	1:A:2224:LEU:HD12	1.98	0.43
2:B:9:PHE:HA	2:B:12:LEU:HB2	2.00	0.43
2:B:200:ALA:O	2:B:203:GLU:HG3	2.17	0.43
1:C:1579:ARG:HG3	1:C:1581:HIS:O	2.18	0.43
1:C:1862:LEU:O	1:C:1866:LEU:HG	2.18	0.43
1:C:2213:ILE:HG21	3:F:86:ALA:HB1	2.00	0.43
2:D:240:HIS:CE1	2:D:290:VAL:HA	2.52	0.43
5:H:173:ARG:HB3	5:I:100:VAL:HG23	2.00	0.43
8:U:268:LEU:HD22	8:V:152:ILE:CG2	2.47	0.43
2:B:423:ILE:HA	2:B:426:ASN:ND2	2.33	0.43
3:F:280:ALA:HB1	3:F:437:LEU:HB3	1.99	0.43
4:G:512:ARG:HA	4:G:512:ARG:HD3	1.77	0.43
5:H:278:ASN:O	5:H:282:ILE:HG12	2.18	0.43
5:H:888:GLU:H	5:H:919:ASN:ND2	2.15	0.43
5:H:1165:VAL:HG23	5:I:216:LEU:HD23	2.00	0.43
5:I:1158:GLU:HG3	5:I:1301:TYR:OH	2.19	0.43
5:L:78:ILE:HB	5:L:1058:ILE:HG22	1.99	0.43
5:L:419:THR:HG22	5:L:421:ARG:H	1.81	0.43
5:M:1185:TYR:CZ	5:M:1190:ASN:HB3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1612:ASN:HB3	1:A:1845:TRP:CH2	2.53	0.43
1:C:1685:ALA:HA	1:C:1688:HIS:NE2	2.34	0.43
4:G:21:LEU:HD22	4:G:341:LEU:HD21	2.00	0.43
5:I:169:ASP:OD2	5:I:173:ARG:NH2	2.47	0.43
5:K:927:PRO:O	5:K:931:ILE:HG13	2.17	0.43
5:M:4:TRP:CG	5:M:36:ARG:HD3	2.54	0.43
6:N:34:GLU:OE1	6:N:34:GLU:N	2.48	0.43
8:V:262:ASP:O	8:V:265:ILE:HG22	2.18	0.43
2:B:516:LEU:HD12	2:B:517:PHE:HD1	1.82	0.43
1:C:1452:LEU:HD12	1:C:1489:LEU:HD11	2.00	0.43
5:I:1269:GLU:OE1	5:I:1269:GLU:N	2.49	0.43
5:J:390:ASP:CG	5:J:1311:ILE:HG21	2.39	0.43
5:K:704:SER:HB3	5:K:711:HIS:CD2	2.52	0.43
5:L:631:VAL:HG21	5:L:657:ILE:HD11	2.00	0.43
6:O:14:ARG:H	6:O:14:ARG:HD3	1.83	0.43
8:U:142:LEU:HB2	8:U:177:PHE:CD1	2.53	0.43
8:U:145:GLU:OE2	8:U:149:ARG:NH1	2.38	0.43
1:A:1488:GLU:HA	1:A:1491:LYS:HE3	2.00	0.43
1:A:1663:TRP:CD1	1:A:1744:GLN:HB3	2.54	0.43
1:C:1858:MET:SD	1:C:1862:LEU:HD23	2.58	0.43
3:E:365:HIS:CD2	3:E:434:LEU:HD11	2.53	0.43
3:E:498:PHE:CE1	3:E:501:LEU:HD22	2.54	0.43
4:G:506:ASP:OD2	4:G:512:ARG:NH1	2.52	0.43
5:I:192:VAL:HG23	5:I:219:PHE:CZ	2.54	0.43
5:K:774:THR:HG23	5:K:777:GLU:H	1.83	0.43
5:L:645:LEU:HD23	5:L:645:LEU:H	1.84	0.43
5:M:1187:LYS:HG2	5:M:1356:VAL:HG12	2.01	0.43
6:P:28:LEU:HD12	6:P:32:ILE:HD11	2.00	0.43
7:W:76:SER:HB3	7:W:77:PRO:CD	2.49	0.43
8:X:153:MET:HE1	8:X:187:PRO:HB2	2.00	0.43
8:Y:91:LEU:HD23	8:Y:91:LEU:H	1.84	0.43
1:A:1862:LEU:HD21	1:A:1952:TRP:CH2	2.54	0.43
2:B:325:PRO:HB2	2:B:355:VAL:HG21	2.01	0.43
1:C:1503:LEU:HD12	1:C:1590:VAL:HA	2.00	0.43
3:E:365:HIS:HD2	3:E:368:VAL:HG23	1.82	0.43
4:G:48:VAL:HG13	4:G:53:ARG:O	2.19	0.43
5:H:396:PRO:HB3	5:H:1186:PHE:CZ	2.54	0.43
5:I:396:PRO:HB3	5:I:1186:PHE:CZ	2.54	0.43
5:I:808:LEU:HD21	5:I:883:VAL:HG13	2.01	0.43
5:J:705:ALA:HA	5:J:711:HIS:HB2	2.00	0.43
5:K:535:PRO:HD2	5:K:1239:LEU:HD23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:2:GLU:OE1	5:L:2:GLU:N	2.50	0.43
5:L:122:LYS:HD2	5:L:1082:ASN:HD21	1.83	0.43
5:L:451:HIS:CE1	5:L:453:VAL:HG13	2.53	0.43
6:R:45:SER:O	6:R:49:ARG:HG2	2.18	0.43
8:V:149:ARG:NH2	8:V:175:ILE:HD13	2.32	0.43
8:X:114:LEU:HD21	8:X:146:ILE:HD11	2.01	0.43
1:A:1758:ILE:HD12	1:A:2111:PHE:CE2	2.54	0.43
2:B:320:ASN:OD1	2:B:321:LEU:N	2.51	0.43
2:B:443:PHE:CE2	2:B:480:PHE:HB3	2.54	0.43
2:D:135:ILE:HG13	2:D:136:GLN:H	1.83	0.43
2:D:135:ILE:HD13	2:D:208:THR:HG23	2.01	0.43
3:E:283:LEU:HA	3:E:404:LEU:HD21	2.00	0.43
5:I:900:ASP:OD2	5:I:1014:LYS:NZ	2.33	0.43
5:I:985:ASN:OD1	5:I:986:TRP:N	2.51	0.43
5:M:230:LEU:HD22	5:M:279:VAL:HG23	2.01	0.43
7:W:82:ILE:HD11	7:W:86:LEU:HD22	2.00	0.43
1:C:1646:TYR:HA	1:C:1649:ILE:HG22	2.00	0.43
1:C:1957:PRO:O	1:C:2038:PRO:HG2	2.18	0.43
3:E:340:ARG:HB2	3:E:361:THR:HA	2.01	0.43
3:F:410:ARG:NH1	4:G:332:VAL:HG11	2.33	0.43
3:F:635:PHE:CD2	3:F:637:PRO:HD3	2.54	0.43
5:I:77:ALA:HB1	5:I:302:TYR:HD1	1.84	0.43
5:J:1102:VAL:HG23	5:J:1102:VAL:O	2.19	0.43
5:M:779:THR:O	5:M:783:VAL:HG23	2.19	0.43
2:B:399:MET:O	2:B:403:GLN:HG2	2.19	0.43
1:C:1982:THR:HG22	1:C:1983:SER:N	2.34	0.43
2:D:175:GLN:HG2	2:D:221:PRO:HG3	2.01	0.43
3:E:14:VAL:HG22	3:F:11:PRO:HB2	2.00	0.43
5:H:74:ALA:HB2	5:H:272:VAL:HG21	2.00	0.43
5:H:420:VAL:HG11	5:H:577:GLU:HA	2.01	0.43
5:I:322:LEU:HD21	5:I:328:TYR:CD2	2.53	0.43
5:I:401:LEU:HD23	5:I:1183:VAL:HG21	2.01	0.43
5:I:420:VAL:HG11	5:I:576:TRP:HB3	2.00	0.43
5:J:900:ASP:HB2	5:J:903:GLN:NE2	2.33	0.43
5:K:701:GLU:HG3	5:K:702:PRO:HD2	2.00	0.43
5:K:965:HIS:HD2	5:L:697:GLN:OE1	2.02	0.43
5:M:1336:LYS:HE2	5:M:1355:VAL:HG21	2.01	0.43
1:A:1614:ALA:O	1:A:1618:LEU:HG	2.19	0.43
1:C:1920:ASP:N	1:C:1920:ASP:OD1	2.50	0.43
2:D:113:LEU:HD13	2:D:495:GLY:H	1.84	0.43
5:H:262:THR:O	5:H:296:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:H:763:ASP:O	5:H:765:PRO:HD2	2.19	0.43
5:K:122:LYS:HG2	5:K:1082:ASN:ND2	2.33	0.43
5:L:148:LEU:O	5:L:152:LEU:HD23	2.19	0.43
6:P:52:SER:OG	6:P:53:LEU:N	2.51	0.43
2:B:331:HIS:HD2	2:B:334:LEU:H	1.63	0.42
2:B:383:LEU:HD22	2:B:427:PHE:CZ	2.54	0.42
1:C:1788:ASN:HB3	1:C:1804:PHE:HE1	1.82	0.42
3:F:210:ASN:HD22	3:F:466:LEU:HG	1.83	0.42
3:F:536:SER:OG	3:F:600:ARG:HD2	2.19	0.42
5:I:666:LEU:HD23	5:I:671:LEU:HB2	2.00	0.42
5:J:789:MET:HB3	5:J:790:PRO:HD3	2.01	0.42
5:M:148:LEU:O	5:M:152:LEU:HG	2.19	0.42
5:M:989:SER:N	5:M:990:PRO:HD2	2.33	0.42
5:M:1202:VAL:HG21	5:M:1210:ALA:HA	2.01	0.42
8:V:271:LEU:HD23	8:V:275:LEU:HD23	2.01	0.42
8:Y:22:GLY:O	8:Y:25:THR:HG22	2.19	0.42
1:A:1778:HIS:CD2	1:A:1781:VAL:H	2.36	0.42
1:A:2221:LEU:HD22	3:F:79:LEU:HD22	2.01	0.42
2:D:394:ALA:O	2:D:398:GLN:HG2	2.19	0.42
3:E:53:MET:HA	3:E:56:VAL:HG12	2.01	0.42
4:G:168:LEU:HA	4:G:317:VAL:HG21	2.01	0.42
7:T:82:ILE:HG23	7:T:86:LEU:HB3	2.00	0.42
8:V:143:ALA:O	8:V:146:ILE:HG22	2.18	0.42
1:A:1448:LEU:HG	1:A:1489:LEU:HD11	2.01	0.42
1:A:1755:PRO:HD3	1:A:1802:LYS:HG3	2.01	0.42
1:A:1878:SER:O	1:A:1882:GLN:HG3	2.19	0.42
2:B:257:PHE:HZ	2:B:294:LEU:HA	1.84	0.42
2:B:346:ARG:HA	2:B:346:ARG:HD2	1.89	0.42
1:C:1577:PHE:O	1:C:1579:ARG:NH2	2.52	0.42
1:C:1845:TRP:O	1:C:1849:MET:HG2	2.19	0.42
2:D:177:LEU:HD23	2:D:180:ARG:HH21	1.85	0.42
5:H:588:PRO:HB2	5:H:590:TYR:CE2	2.54	0.42
5:H:1350:HIS:N	5:H:1353:ASN:O	2.44	0.42
5:K:892:VAL:HG11	5:K:979:PHE:CE1	2.54	0.42
5:L:1087:GLY:HA3	5:L:1091:THR:HG21	2.02	0.42
6:O:15:ASP:O	6:O:19:ARG:HG2	2.18	0.42
8:X:96:ASN:HB3	8:X:102:TRP:CZ2	2.54	0.42
1:C:1460:LEU:HD21	1:C:1591:PHE:HA	2.00	0.42
2:D:375:ASP:O	2:D:379:MET:HG2	2.17	0.42
5:I:386:GLU:OE1	5:I:386:GLU:N	2.53	0.42
5:J:62:GLU:OE1	5:J:62:GLU:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:K:262:THR:HG22	5:K:268:LYS:HG2	2.01	0.42
5:K:462:GLN:O	5:K:466:GLU:HG2	2.19	0.42
5:K:1285:TYR:HA	5:K:1289:ALA:HB3	2.01	0.42
5:L:64:VAL:HG21	5:L:375:VAL:HG12	2.00	0.42
5:L:684:VAL:O	5:L:687:ILE:HG22	2.19	0.42
5:L:985:ASN:OD1	5:L:986:TRP:N	2.53	0.42
5:M:775:ASP:O	5:M:779:THR:HG23	2.19	0.42
1:C:1448:LEU:N	2:D:35:ILE:HD13	2.34	0.42
2:D:135:ILE:HG22	2:D:185:LEU:HD22	2.01	0.42
3:E:315:LEU:O	3:E:319:VAL:HG23	2.19	0.42
3:E:443:LEU:HD23	3:E:443:LEU:HA	1.82	0.42
3:E:498:PHE:O	3:E:502:VAL:HG23	2.19	0.42
5:H:1087:GLY:HA3	5:H:1091:THR:HG21	2.01	0.42
5:H:1166:HIS:CD2	5:I:1223:GLN:HA	2.55	0.42
5:I:645:LEU:HD13	5:I:674:TYR:HE1	1.84	0.42
5:I:661:LEU:O	5:I:661:LEU:HD23	2.20	0.42
5:L:127:ILE:HD12	5:L:171:MET:SD	2.60	0.42
5:L:260:THR:HG22	5:L:261:TYR:CD2	2.55	0.42
5:L:1315:CYS:HA	5:L:1318:THR:HG22	2.02	0.42
5:M:43:PRO:HG2	8:X:28:VAL:HG11	2.01	0.42
5:M:1245:ASN:HB2	5:M:1248:HIS:HB3	2.02	0.42
8:X:146:ILE:O	8:X:150:LEU:HD23	2.19	0.42
2:B:123:THR:O	2:B:126:GLN:HG3	2.19	0.42
2:B:126:GLN:O	2:B:130:GLN:HG2	2.20	0.42
2:B:464:GLU:HG2	2:B:465:LEU:HD12	2.01	0.42
1:C:1768:MET:N	1:C:1768:MET:SD	2.93	0.42
2:D:134:GLU:O	2:D:138:VAL:HG23	2.20	0.42
2:D:505:TYR:OH	2:D:515:HIS:ND1	2.45	0.42
3:E:615:GLY:O	3:E:620:ASN:N	2.52	0.42
3:F:200:ARG:HG3	3:F:201:GLY:H	1.84	0.42
4:G:514:TRP:NE1	4:G:522:VAL:HG11	2.34	0.42
5:H:227:LEU:O	5:H:1096:VAL:HG13	2.19	0.42
5:I:723:LEU:HD23	5:I:768:VAL:HG23	2.01	0.42
5:I:1195:ARG:HD2	5:I:1221:ASP:CG	2.40	0.42
5:J:558:ILE:HA	5:J:1015:ILE:HD11	2.02	0.42
5:K:454:LEU:CD2	5:K:1243:LEU:HD11	2.48	0.42
5:K:601:VAL:HG13	5:K:924:VAL:HG11	2.01	0.42
5:M:630:PHE:HB2	5:M:878:GLU:OE2	2.20	0.42
5:M:661:LEU:HD23	5:M:666:LEU:HD11	2.02	0.42
1:A:2194:SER:OG	1:A:2195:PHE:N	2.52	0.42
1:C:1816:LEU:HG	1:C:2052:VAL:HG11	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:438:ALA:O	3:E:441:LEU:HG	2.20	0.42
3:F:267:TYR:HE2	3:F:270:TYR:HB3	1.85	0.42
5:H:375:VAL:HG13	5:H:376:TYR:CD2	2.54	0.42
5:I:56:THR:HG22	5:J:92:LEU:HB3	2.01	0.42
5:K:83:LEU:HD23	5:K:83:LEU:HA	1.89	0.42
5:K:788:LEU:HA	5:K:1005:VAL:HG13	2.00	0.42
5:L:216:LEU:HD23	5:M:1165:VAL:HG13	2.01	0.42
8:V:272:PHE:HA	8:V:275:LEU:HG	2.01	0.42
1:A:1743:LEU:O	1:A:1747:CYS:HB2	2.19	0.42
2:B:257:PHE:CZ	2:B:294:LEU:HA	2.54	0.42
2:B:447:ARG:HA	2:B:450:ILE:HB	2.01	0.42
3:E:233:PRO:HA	3:E:236:LYS:HG2	2.02	0.42
3:E:601:LEU:O	3:E:607:PRO:HG2	2.19	0.42
3:F:410:ARG:HH11	4:G:332:VAL:HG11	1.82	0.42
3:F:619:PHE:HB2	3:F:621:VAL:HG23	2.02	0.42
5:H:675:ARG:HA	5:H:678:VAL:HG22	2.01	0.42
5:H:1180:THR:HG22	5:H:1180:THR:O	2.20	0.42
5:I:288:SER:HA	5:I:291:ILE:HD12	2.02	0.42
5:J:682:ARG:HA	5:J:685:THR:HG22	2.02	0.42
5:L:936:PRO:HB3	5:L:952:LEU:HD23	2.00	0.42
5:M:808:LEU:HD12	5:M:808:LEU:HA	1.89	0.42
8:U:153:MET:SD	8:U:169:VAL:HG12	2.60	0.42
8:Y:110:VAL:HG23	8:Y:287:VAL:HG21	2.01	0.42
8:Y:262:ASP:O	8:Y:265:ILE:HG22	2.20	0.42
2:B:454:HIS:O	2:B:458:LEU:CB	2.68	0.42
1:C:1498:SER:HB3	1:C:1516:GLY:HA3	2.02	0.42
1:C:1878:SER:O	1:C:1882:GLN:OE1	2.38	0.42
1:C:1884:LEU:HD22	1:C:1935:LEU:HD13	2.02	0.42
1:C:1979:LEU:HD23	1:C:1979:LEU:HA	1.92	0.42
2:D:328:MET:CG	2:D:334:LEU:HD23	2.50	0.42
3:E:466:LEU:HB3	3:E:470:ALA:HB3	2.02	0.42
3:E:496:ARG:HD2	3:E:498:PHE:HB3	2.02	0.42
5:I:263:THR:HG1	5:I:267:ALA:H	1.62	0.42
5:L:488:MET:HE3	5:L:894:GLU:HB2	2.01	0.42
5:L:855:GLU:OE1	5:L:855:GLU:N	2.46	0.42
5:M:147:ILE:O	5:M:151:ILE:HG12	2.20	0.42
5:M:819:LEU:HD21	6:S:32:ILE:HG21	2.02	0.42
6:P:37:HIS:CE1	6:P:39:VAL:HG22	2.54	0.42
8:X:119:LEU:HD23	8:X:119:LEU:O	2.20	0.42
1:A:1589:ASP:HB3	1:A:1595:GLN:NE2	2.35	0.42
1:A:1672:ARG:O	1:A:1676:THR:OG1	2.29	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1979:LEU:HD21	1:A:1981:TYR:CZ	2.55	0.42
1:A:2210:ALA:O	1:A:2214:LEU:HG	2.20	0.42
2:B:40:ALA:HB3	2:B:88:ALA:HB1	2.02	0.42
2:B:507:ASP:OD1	2:B:511:LYS:NZ	2.33	0.42
2:D:200:ALA:O	2:D:203:GLU:HG3	2.20	0.42
5:H:989:SER:N	5:H:990:PRO:HD2	2.35	0.42
5:I:717:PRO:HD2	5:I:778:TRP:CH2	2.55	0.42
5:J:542:CYS:SG	5:J:543:GLN:N	2.92	0.42
5:L:645:LEU:HD12	5:L:674:TYR:CZ	2.55	0.42
1:A:1621:ARG:HH11	1:A:1627:LEU:HD11	1.84	0.41
1:C:2034:LEU:HD13	1:C:2054:ARG:NH2	2.35	0.41
3:F:4:LEU:HD23	3:F:4:LEU:H	1.85	0.41
3:F:450:ASP:OD1	3:F:450:ASP:N	2.47	0.41
3:F:498:PHE:O	3:F:502:VAL:HG23	2.20	0.41
3:F:635:PHE:HD2	3:F:637:PRO:HD3	1.85	0.41
5:H:243:LEU:HD11	5:H:273:MET:HE1	2.01	0.41
5:I:669:GLN:OE1	5:I:669:GLN:N	2.48	0.41
5:I:1254:TYR:CZ	5:I:1256:SER:HA	2.55	0.41
5:K:428:ALA:O	5:K:440:ILE:HG22	2.20	0.41
5:L:600:THR:OG1	5:L:644:LEU:HB2	2.20	0.41
5:M:892:VAL:HG11	5:M:979:PHE:CZ	2.55	0.41
5:M:939:PHE:HA	5:M:979:PHE:CD2	2.55	0.41
7:T:173:LEU:HD23	7:T:203:TYR:CD1	2.55	0.41
8:U:57:GLY:HA2	8:U:188:VAL:CG1	2.50	0.41
8:U:270:ALA:O	8:U:273:VAL:HG12	2.20	0.41
1:A:1563:ASP:O	1:A:1567:ILE:HG12	2.20	0.41
1:A:1960:LEU:O	1:A:1978:HIS:HB3	2.20	0.41
2:B:62:PHE:O	2:B:66:ARG:HG2	2.20	0.41
2:B:100:LEU:HD22	2:B:122:LEU:HD12	2.02	0.41
2:B:287:MET:HG2	2:B:291:SER:HG	1.84	0.41
2:B:484:TYR:CE1	2:B:516:LEU:HD22	2.56	0.41
3:E:628:LEU:O	3:E:632:VAL:HG22	2.20	0.41
4:G:490:GLU:OE2	4:G:492:ARG:NH1	2.54	0.41
5:H:75:ALA:HB2	5:H:179:PHE:CZ	2.54	0.41
5:J:251:THR:HG21	5:J:1089:GLY:H	1.84	0.41
5:J:536:PHE:HE1	5:J:1032:PHE:CE2	2.37	0.41
5:K:77:ALA:HB1	5:K:302:TYR:CD1	2.56	0.41
5:K:1116:VAL:HG12	5:K:1258:PHE:CG	2.56	0.41
5:K:1138:GLU:HG3	5:K:1139:ARG:H	1.85	0.41
5:K:1332:LEU:O	5:K:1336:LYS:HG2	2.20	0.41
5:L:307:LEU:HD22	5:L:321:ILE:CD1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:322:LEU:HD21	5:L:328:TYR:CD2	2.55	0.41
5:M:651:TYR:OH	5:M:780:LEU:HD23	2.20	0.41
5:M:1120:ASN:O	5:M:1132:ARG:NH1	2.53	0.41
6:R:17:LYS:HA	6:R:17:LYS:HD3	1.75	0.41
8:V:175:ILE:HG22	8:V:182:PHE:HB2	2.01	0.41
8:Y:228:SER:O	8:Y:229:MET:HG3	2.19	0.41
1:C:2021:ILE:HA	1:C:2024:LEU:HG	2.02	0.41
5:H:1101:ARG:NH2	5:I:202:LEU:HG	2.31	0.41
5:I:255:LEU:HD21	5:I:345:SER:HB3	2.02	0.41
5:J:811:LEU:HG	5:J:857:LEU:HD21	2.00	0.41
5:K:1233:ALA:HB1	5:K:1240:SER:HB3	2.02	0.41
5:L:287:LEU:O	5:L:291:ILE:HG23	2.20	0.41
5:M:211:GLN:O	5:M:215:ILE:HG12	2.20	0.41
5:M:798:CYS:O	5:M:923:VAL:HG12	2.21	0.41
5:M:934:SER:OG	5:M:952:LEU:HD11	2.20	0.41
5:M:1349:THR:HA	5:M:1354:TYR:HA	2.01	0.41
8:U:198:LYS:HG2	8:V:222:LEU:HD21	2.02	0.41
8:X:151:LEU:HD22	8:Y:272:PHE:CZ	2.55	0.41
1:A:1596:ILE:HB	1:A:1604:ILE:CD1	2.48	0.41
2:D:397:ALA:HB2	2:D:424:ILE:HB	2.02	0.41
3:E:199:PHE:O	3:E:203:VAL:HG12	2.20	0.41
5:H:230:LEU:HD23	5:H:1097:ALA:HB1	2.03	0.41
5:H:288:SER:HA	5:H:291:ILE:HG12	2.02	0.41
5:H:1165:VAL:HG11	5:I:1223:GLN:HB2	2.03	0.41
5:I:259:THR:O	5:I:259:THR:HG22	2.20	0.41
5:I:695:ASN:HD21	5:J:507:ARG:NE	2.19	0.41
5:J:128:PRO:HB3	5:J:1076:HIS:ND1	2.35	0.41
5:M:888:GLU:O	5:M:919:ASN:ND2	2.53	0.41
5:M:1095:CYS:SG	5:M:1096:VAL:N	2.94	0.41
8:U:24:LEU:HD13	8:U:125:LEU:HD11	2.01	0.41
8:V:49:HIS:O	8:V:52:VAL:HG12	2.20	0.41
2:B:319:VAL:HG13	2:B:323:LEU:HD21	2.03	0.41
3:E:506:ILE:HG23	3:E:510:TYR:HE2	1.85	0.41
4:G:124:MET:HE3	4:G:127:ALA:HB2	2.02	0.41
5:H:433:ARG:HH22	5:I:217:GLN:CB	2.33	0.41
5:H:600:THR:HG21	5:H:645:LEU:HD11	2.01	0.41
5:I:472:GLU:O	5:I:475:MET:HB3	2.20	0.41
5:I:534:HIS:ND1	5:I:535:PRO:HD2	2.36	0.41
5:I:537:PHE:HD1	5:I:554:PRO:HA	1.85	0.41
5:J:1041:THR:OG1	5:J:1104:THR:HG23	2.20	0.41
5:K:87:THR:HG23	5:K:88:THR:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:K:535:PRO:HB3	5:K:1232:TRP:CE2	2.56	0.41
5:L:498:PHE:CE2	5:L:976:PRO:HA	2.56	0.41
5:L:635:ILE:HD11	5:L:674:TYR:CE1	2.54	0.41
5:M:1116:VAL:HG13	5:M:1117:PHE:CD2	2.56	0.41
5:M:1195:ARG:NE	5:M:1213:ALA:O	2.40	0.41
7:T:212:TRP:O	7:T:216:VAL:HG23	2.20	0.41
8:V:48:LEU:HB2	8:V:133:VAL:HG13	2.02	0.41
7:W:188:ILE:HB	7:W:203:TYR:HB2	2.03	0.41
8:Y:51:PHE:CD1	8:Y:64:LEU:HD13	2.55	0.41
9:Z:70:ASN:O	9:Z:72:ASP:N	2.54	0.41
1:A:1640:ASN:HA	1:A:1864:LEU:HG	2.03	0.41
1:A:1699:LEU:HA	1:A:1702:THR:HG22	2.02	0.41
2:B:86:LEU:HD12	2:B:86:LEU:H	1.86	0.41
1:C:1841:LEU:HD23	1:C:1841:LEU:H	1.86	0.41
3:E:301:VAL:O	3:E:305:LEU:HB2	2.20	0.41
3:F:330:VAL:HB	3:F:364:ARG:HG2	2.03	0.41
5:H:697:GLN:HB3	5:I:965:HIS:CE1	2.55	0.41
5:I:779:THR:O	5:I:783:VAL:HG23	2.20	0.41
5:I:884:GLN:HA	6:O:66:ARG:HB2	2.02	0.41
5:J:388:ASN:HB2	5:J:1311:ILE:CD1	2.51	0.41
5:L:558:ILE:HD12	5:L:558:ILE:HA	1.94	0.41
5:L:575:THR:OG1	5:L:1007:THR:HA	2.20	0.41
5:M:681:LEU:CB	5:M:780:LEU:HD11	2.51	0.41
5:M:1350:HIS:CG	5:M:1351:PHE:N	2.88	0.41
6:R:19:ARG:HA	6:R:22:VAL:HG12	2.03	0.41
1:A:1492:ARG:HH12	1:A:1493:ARG:HB3	1.86	0.41
2:B:370:VAL:HG22	2:B:481:ALA:HB3	2.03	0.41
2:B:425:TYR:CD2	2:B:458:LEU:HG	2.56	0.41
5:I:131:LEU:HD21	5:I:160:VAL:HG23	2.02	0.41
5:J:495:ILE:HB	5:J:496:PRO:HD3	2.03	0.41
5:J:651:TYR:HB2	5:J:784:PHE:CD1	2.56	0.41
5:K:1042:PHE:CE2	5:K:1362:LEU:HD11	2.55	0.41
5:L:78:ILE:O	5:L:1058:ILE:HA	2.21	0.41
5:M:19:PHE:HE1	5:M:32:PHE:HZ	1.69	0.41
5:M:86:LEU:HG	5:M:87:THR:O	2.20	0.41
7:W:126:HIS:CE1	7:W:286:PHE:HB3	2.55	0.41
1:A:1709:ASP:OD1	1:A:1710:THR:N	2.54	0.41
1:A:1745:GLU:HB3	1:A:1967:LEU:HD13	2.01	0.41
1:A:1863:TRP:O	1:A:1867:LYS:HB3	2.20	0.41
2:B:477:ASN:O	2:B:481:ALA:HB2	2.20	0.41
1:C:1625:ARG:HE	1:C:1628:ALA:HA	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:70:VAL:HG22	2:D:96:LEU:HD22	2.03	0.41
3:E:240:HIS:O	3:E:240:HIS:ND1	2.51	0.41
5:H:236:ARG:HA	5:H:286:LEU:HD21	2.02	0.41
5:H:431:LEU:HD12	5:H:435:ARG:HA	2.03	0.41
5:I:174:GLY:HA3	5:J:101:ALA:H	1.85	0.41
5:I:808:LEU:HD12	5:I:808:LEU:HA	1.95	0.41
5:I:1175:ILE:HG22	5:I:1244:TYR:CE2	2.56	0.41
5:L:1099:VAL:O	5:L:1369:ASN:ND2	2.54	0.41
5:M:1195:ARG:HA	5:M:1221:ASP:OD2	2.20	0.41
8:V:31:VAL:HG21	8:V:137:ILE:HD11	2.02	0.41
7:W:195:GLY:O	7:W:233:ARG:NH1	2.54	0.41
1:A:1492:ARG:NH1	1:A:1493:ARG:HB3	2.35	0.41
1:A:1956:ILE:HD12	1:A:1957:PRO:HD2	2.02	0.41
1:A:2159:VAL:HG12	1:A:2161:THR:H	1.86	0.41
2:B:28:ASN:O	2:B:31:SER:OG	2.26	0.41
2:B:342:GLU:OE2	2:B:407:GLN:NE2	2.52	0.41
1:C:1995:ARG:NH2	1:C:1997:LEU:HD21	2.36	0.41
1:C:2219:LEU:HD23	1:C:2219:LEU:HA	1.89	0.41
2:D:143:SER:OG	2:D:215:TRP:NE1	2.53	0.41
2:D:195:TYR:O	2:D:201:VAL:HG21	2.20	0.41
2:D:268:MET:HA	2:D:271:PHE:CE2	2.56	0.41
3:E:43:ARG:NE	3:E:43:ARG:HA	2.35	0.41
3:E:337:TYR:HE2	3:E:367:LEU:HD23	1.85	0.41
3:F:600:ARG:HH12	3:F:610:ARG:HH22	1.67	0.41
4:G:28:ASP:HB3	4:G:124:MET:SD	2.60	0.41
5:H:850:ARG:HG3	5:H:858:THR:HG21	2.03	0.41
5:I:229:LEU:HD22	5:I:242:PHE:CE2	2.56	0.41
5:I:273:MET:HA	5:I:1048:LEU:O	2.21	0.41
5:I:435:ARG:HG3	5:I:1367:LEU:HD22	2.03	0.41
5:I:686:ARG:NH1	5:J:996:ALA:O	2.54	0.41
5:I:763:ASP:OD1	5:I:764:GLU:N	2.51	0.41
5:I:952:LEU:HD12	5:I:952:LEU:HA	1.87	0.41
5:I:1145:THR:O	5:I:1148:ILE:HG22	2.21	0.41
5:J:77:ALA:HB1	5:J:302:TYR:HD1	1.85	0.41
5:J:808:LEU:HD23	6:P:62:LEU:HD11	2.03	0.41
5:J:873:LEU:HD21	5:J:877:ARG:HH11	1.85	0.41
5:K:321:ILE:HB	5:L:52:ALA:HA	2.03	0.41
5:K:627:ILE:HG22	5:K:631:VAL:HG23	2.03	0.41
5:L:485:GLN:OE1	5:L:913:ARG:NH1	2.51	0.41
5:L:1050:SER:OG	5:L:1054:CYS:SG	2.63	0.41
5:L:1098:TYR:OH	5:L:1369:ASN:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:M:62:GLU:HG2	5:M:62:GLU:O	2.21	0.41
8:U:235:GLN:O	8:U:239:MET:N	2.54	0.41
8:U:287:VAL:HG23	8:U:288:PHE:HD2	1.85	0.41
8:V:74:ARG:HG2	8:V:74:ARG:O	2.21	0.41
8:V:121:ARG:HE	8:V:124:LEU:HD11	1.85	0.41
8:X:49:HIS:O	8:X:52:VAL:HG12	2.21	0.41
2:B:91:GLN:HA	2:B:94:GLU:OE1	2.20	0.41
1:C:1589:ASP:HB3	1:C:1595:GLN:HB3	2.02	0.41
1:C:1603:PRO:HG2	1:C:1606:LEU:HD12	2.01	0.41
1:C:1850:ALA:HB1	1:C:1949:LEU:HD22	2.02	0.41
2:D:352:TYR:OH	2:D:420:LEU:HD13	2.21	0.41
3:E:610:ARG:CZ	3:E:614:LEU:HG	2.51	0.41
5:H:199:ASN:HD21	5:H:215:ILE:HD11	1.85	0.41
5:H:1184:ASN:O	5:H:1184:ASN:ND2	2.51	0.41
5:J:126:THR:HG22	5:J:1078:THR:HG23	2.02	0.41
5:J:129:PHE:CE1	5:J:1075:TYR:HB2	2.56	0.41
5:J:680:VAL:O	5:J:684:VAL:HG13	2.21	0.41
5:M:127:ILE:HD12	5:M:128:PRO:HD2	2.03	0.41
5:M:609:LEU:HD22	5:M:861:VAL:HG12	2.03	0.41
5:M:1217:HIS:HE1	5:M:1235:GLN:HA	1.86	0.41
5:M:1241:ASP:CG	5:M:1245:ASN:HD21	2.24	0.41
5:M:1274:ALA:O	5:M:1276:LYS:N	2.54	0.41
6:Q:19:ARG:NE	6:Q:19:ARG:HA	2.36	0.41
6:Q:49:ARG:HA	6:Q:49:ARG:NE	2.36	0.41
9:Z:20:LEU:HD23	9:Z:20:LEU:HA	1.91	0.41
1:A:1792:MET:HE1	1:A:2038:PRO:C	2.40	0.40
2:B:455:ARG:HB2	2:B:469:TRP:CZ2	2.56	0.40
1:C:1459:LEU:HD21	1:C:1479:ILE:HG22	2.03	0.40
1:C:1960:LEU:HD23	1:C:1960:LEU:H	1.85	0.40
1:C:2037:ILE:HB	1:C:2055:PRO:HG2	2.03	0.40
5:H:441:ASP:OD1	5:H:442:PHE:N	2.54	0.40
5:I:194:GLN:O	5:I:197:VAL:HG12	2.21	0.40
5:I:509:VAL:HG21	5:I:540:THR:HG23	2.03	0.40
5:I:624:PHE:CD2	5:I:656:LEU:HB3	2.55	0.40
5:I:753:ASP:C	5:I:755:PRO:HD2	2.41	0.40
5:I:757:LEU:HD12	6:O:62:LEU:HD23	2.02	0.40
5:I:806:THR:HA	5:I:809:VAL:HG12	2.03	0.40
5:I:1150:MET:HG2	7:W:76:SER:HB2	2.03	0.40
5:I:1297:THR:HG21	5:I:1301:TYR:CE2	2.56	0.40
5:J:684:VAL:CG2	5:J:783:VAL:HG11	2.51	0.40
5:J:789:MET:O	5:J:793:THR:HG22	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:1129:ARG:HE	5:J:1139:ARG:NH2	2.19	0.40
5:J:1182:ASP:OD2	5:J:1184:ASN:ND2	2.53	0.40
5:K:936:PRO:HB3	5:K:952:LEU:HD22	2.02	0.40
5:L:535:PRO:HG3	5:L:1232:TRP:CE3	2.56	0.40
5:L:600:THR:OG1	5:L:645:LEU:HD23	2.20	0.40
5:L:866:THR:OG1	5:L:870:THR:O	2.22	0.40
6:P:37:HIS:HA	6:P:38:PRO:HD3	1.92	0.40
8:X:219:VAL:HG23	8:Y:205:SER:OG	2.20	0.40
1:A:1570:ASP:OD2	1:A:2008:THR:HG21	2.21	0.40
1:A:1627:LEU:CD2	1:A:1630:ARG:HG3	2.48	0.40
1:A:1951:SER:HA	1:A:1956:ILE:HG22	2.03	0.40
1:A:1979:LEU:HD21	1:A:1981:TYR:OH	2.21	0.40
2:B:189:ALA:O	2:B:193:ARG:N	2.54	0.40
2:B:443:PHE:O	2:B:447:ARG:HB3	2.20	0.40
2:D:277:ASP:O	2:D:280:GLN:HG2	2.22	0.40
3:E:273:VAL:N	3:E:429:TYR:OH	2.43	0.40
3:F:336:TYR:CG	3:F:337:TYR:N	2.88	0.40
5:H:777:GLU:HA	5:H:780:LEU:HB2	2.03	0.40
5:I:478:LEU:HD21	5:I:509:VAL:HG13	2.03	0.40
5:L:192:VAL:HG11	5:L:1282:ILE:CD1	2.51	0.40
5:L:397:VAL:HG23	5:L:428:ALA:HB2	2.03	0.40
6:R:17:LYS:O	6:R:21:VAL:HG22	2.20	0.40
7:T:62:GLN:HG3	7:T:264:LEU:HD11	2.02	0.40
8:Y:127:LEU:HB2	8:Y:130:TRP:HB3	2.02	0.40
9:Z:114:PHE:CD1	9:Z:124:ILE:HD11	2.57	0.40
2:B:48:VAL:HA	2:B:51:PHE:HB3	2.04	0.40
1:C:1553:PRO:HG3	2:D:402:ILE:HG12	2.03	0.40
3:E:501:LEU:HG	3:E:505:TYR:HD2	1.87	0.40
5:H:392:THR:HG21	5:H:1264:GLN:NE2	2.35	0.40
5:H:451:HIS:CE1	5:H:1117:PHE:HB2	2.56	0.40
5:H:535:PRO:HD3	5:H:1232:TRP:CG	2.57	0.40
5:I:10:LEU:HD21	5:J:316:ILE:HG21	2.04	0.40
5:I:1336:LYS:NZ	5:I:1346:THR:O	2.53	0.40
5:J:80:PHE:HD1	5:J:82:ASP:H	1.69	0.40
5:J:687:ILE:HG13	5:J:1006:MET:SD	2.61	0.40
5:J:958:ARG:HA	5:J:961:THR:HG22	2.04	0.40
5:J:1043:GLU:O	5:J:1099:VAL:HG23	2.21	0.40
5:L:363:GLY:O	5:L:364:GLU:HG2	2.21	0.40
5:M:498:PHE:CE1	5:M:977:THR:HG23	2.57	0.40
1:A:1859:LEU:HB3	1:A:1877:VAL:HG21	2.03	0.40
1:C:1669:TYR:HB3	1:C:1694:LYS:HG2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:79:VAL:HB	2:D:203:GLU:OE2	2.21	0.40
2:D:113:LEU:HG	2:D:116:TYR:H	1.87	0.40
2:D:210:GLN:NE2	2:D:436:VAL:HA	2.37	0.40
3:E:362:PHE:HE1	3:E:383:TYR:HD1	1.70	0.40
3:E:428:GLN:HG2	3:E:429:TYR:N	2.37	0.40
5:H:958:ARG:HA	5:H:961:THR:HG22	2.02	0.40
5:H:1325:LEU:HA	5:H:1356:VAL:O	2.21	0.40
5:I:363:GLY:C	5:I:365:LYS:H	2.24	0.40
5:I:372:LEU:O	5:I:375:VAL:HG12	2.21	0.40
5:J:490:GLY:O	5:J:494:ARG:HG3	2.22	0.40
5:J:698:LEU:HD12	5:J:1127:VAL:HA	2.03	0.40
5:J:1025:LYS:HE2	5:J:1025:LYS:HB2	1.94	0.40
5:K:396:PRO:HB3	5:K:1186:PHE:CZ	2.57	0.40
5:K:698:LEU:HD22	5:K:706:TYR:CE2	2.57	0.40
5:K:725:ARG:NH1	5:K:772:ARG:HB2	2.36	0.40
5:L:367:VAL:HG11	5:L:1049:TYR:HE2	1.86	0.40
5:L:934:SER:OG	5:L:952:LEU:HD11	2.22	0.40
5:M:263:THR:HG22	5:M:267:ALA:H	1.87	0.40
5:M:1059:ILE:HG22	5:M:1081:ILE:HG22	2.04	0.40
6:R:40:LEU:HD12	6:R:44:LEU:HD21	2.03	0.40
8:X:140:MET:HG3	8:X:144:LEU:HD12	2.02	0.40
2:B:37:ALA:HB1	2:B:78:THR:HB	2.03	0.40
2:B:125:PHE:O	2:B:129:LEU:HG	2.20	0.40
2:B:275:ASP:N	2:B:275:ASP:OD1	2.51	0.40
1:C:1958:VAL:H	1:C:1981:TYR:HB2	1.86	0.40
1:C:2213:ILE:HD12	1:C:2213:ILE:HA	1.99	0.40
2:D:441:PHE:HB3	2:D:512:TRP:CD2	2.57	0.40
5:H:952:LEU:HA	5:H:952:LEU:HD12	1.88	0.40
5:I:624:PHE:CZ	5:I:657:ILE:HD13	2.51	0.40
5:I:1350:HIS:N	5:I:1353:ASN:O	2.43	0.40
5:J:534:HIS:CD2	5:J:536:PHE:HB2	2.56	0.40
5:L:451:HIS:ND1	5:L:453:VAL:HG22	2.37	0.40
5:L:648:ALA:HA	5:L:654:VAL:HG12	2.03	0.40
5:M:555:ARG:HB3	5:M:560:ASN:HB3	2.03	0.40
5:M:570:PHE:CE1	5:M:1179:VAL:HG11	2.56	0.40
5:M:763:ASP:OD1	5:M:764:GLU:N	2.53	0.40
8:V:49:HIS:ND1	8:V:131:GLU:HG2	2.37	0.40
8:V:282:ILE:HG13	8:V:283:ARG:N	2.37	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	711/2241 (32%)	685 (96%)	26 (4%)	0	100	100
1	C	681/2241 (30%)	657 (96%)	24 (4%)	0	100	100
2	B	488/983 (50%)	476 (98%)	12 (2%)	0	100	100
2	D	445/983 (45%)	436 (98%)	9 (2%)	0	100	100
3	E	468/642 (73%)	461 (98%)	7 (2%)	0	100	100
3	F	478/642 (74%)	467 (98%)	11 (2%)	0	100	100
4	G	468/594 (79%)	446 (95%)	22 (5%)	0	100	100
5	H	1305/1370 (95%)	1255 (96%)	47 (4%)	3 (0%)	44	75
5	I	1346/1370 (98%)	1291 (96%)	55 (4%)	0	100	100
5	J	1313/1370 (96%)	1245 (95%)	66 (5%)	2 (0%)	44	75
5	K	1292/1370 (94%)	1238 (96%)	53 (4%)	1 (0%)	48	79
5	L	1346/1370 (98%)	1280 (95%)	65 (5%)	1 (0%)	48	79
5	M	1346/1370 (98%)	1284 (95%)	61 (4%)	1 (0%)	48	79
6	N	61/75 (81%)	59 (97%)	2 (3%)	0	100	100
6	O	61/75 (81%)	58 (95%)	3 (5%)	0	100	100
6	P	61/75 (81%)	60 (98%)	1 (2%)	0	100	100
6	Q	61/75 (81%)	59 (97%)	2 (3%)	0	100	100
6	R	61/75 (81%)	61 (100%)	0	0	100	100
6	S	61/75 (81%)	57 (93%)	4 (7%)	0	100	100
7	T	236/290 (81%)	228 (97%)	8 (3%)	0	100	100
7	W	288/290 (99%)	274 (95%)	14 (5%)	0	100	100
8	U	288/306 (94%)	281 (98%)	7 (2%)	0	100	100
8	V	282/306 (92%)	262 (93%)	18 (6%)	2 (1%)	19	53
8	X	291/306 (95%)	281 (97%)	10 (3%)	0	100	100
8	Y	279/306 (91%)	266 (95%)	11 (4%)	2 (1%)	19	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
9	Z	282/1048 (27%)	270 (96%)	12 (4%)	0	100 100
All	All	13999/19848 (70%)	13437 (96%)	550 (4%)	12 (0%)	50 79

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
5	H	764	GLU
8	Y	297	ASN
5	J	377	LYS
5	L	377	LYS
8	V	297	ASN
5	J	980	ALA
8	V	129	GLN
5	M	650	SER
5	H	665	ALA
5	K	980	ALA
8	Y	179	ASP
5	H	378	ASN

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	647/1941 (33%)	646 (100%)	1 (0%)	92 97
1	C	626/1941 (32%)	626 (100%)	0	100 100
2	B	431/837 (52%)	430 (100%)	1 (0%)	92 97
2	D	400/837 (48%)	397 (99%)	3 (1%)	79 88
3	E	417/526 (79%)	416 (100%)	1 (0%)	92 97
3	F	423/526 (80%)	422 (100%)	1 (0%)	92 97
4	G	398/500 (80%)	397 (100%)	1 (0%)	91 96
5	H	1144/1192 (96%)	1138 (100%)	6 (0%)	86 93
5	I	1175/1192 (99%)	1173 (100%)	2 (0%)	92 97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	J	1146/1192 (96%)	1144 (100%)	2 (0%)	92 97
5	K	1131/1192 (95%)	1128 (100%)	3 (0%)	91 96
5	L	1175/1192 (99%)	1174 (100%)	1 (0%)	92 97
5	M	1175/1192 (99%)	1174 (100%)	1 (0%)	92 97
6	N	59/68 (87%)	59 (100%)	0	100 100
6	O	59/68 (87%)	58 (98%)	1 (2%)	56 75
6	P	59/68 (87%)	59 (100%)	0	100 100
6	Q	59/68 (87%)	59 (100%)	0	100 100
6	R	59/68 (87%)	59 (100%)	0	100 100
6	S	59/68 (87%)	59 (100%)	0	100 100
7	T	209/252 (83%)	208 (100%)	1 (0%)	86 93
7	W	252/252 (100%)	250 (99%)	2 (1%)	79 88
8	U	262/273 (96%)	261 (100%)	1 (0%)	89 95
8	V	260/273 (95%)	259 (100%)	1 (0%)	89 95
8	X	263/273 (96%)	263 (100%)	0	100 100
8	Y	257/273 (94%)	256 (100%)	1 (0%)	89 95
9	Z	255/883 (29%)	254 (100%)	1 (0%)	89 95
All	All	12400/17147 (72%)	12369 (100%)	31 (0%)	90 96

All (31) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1969	LYS
2	B	17	ARG
2	D	226	ARG
2	D	273	SER
2	D	447	ARG
3	E	610	ARG
3	F	620	ASN
4	G	80	ARG
5	H	379	THR
5	H	1101	ARG
5	H	1184	ASN
5	H	1228	THR
5	H	1239	LEU
5	H	1285	TYR

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Mol	Chain	Res	Type
5	I	36	ARG
5	I	861	VAL
5	J	714	ARG
5	J	1247	ARG
5	K	153	ASN
5	K	1101	ARG
5	K	1228	THR
5	L	1069	ARG
5	M	1184	ASN
6	O	14	ARG
7	T	136	LYS
8	U	75	ARG
8	V	74	ARG
7	W	40	HIS
7	W	153	TYR
8	Y	75	ARG
9	Z	240	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1475	GLN
1	A	1778	HIS
1	A	1828	GLN
1	A	1831	GLN
1	A	2018	GLN
1	A	2020	GLN
2	B	331	HIS
2	B	492	HIS
2	D	258	GLN
2	D	403	GLN
3	E	365	HIS
3	E	448	ASN
4	G	455	GLN
5	H	199	ASN
5	H	919	ASN
5	H	1184	ASN
5	I	76	HIS
5	I	534	HIS
5	I	708	ASN
5	I	713	HIS
5	J	432	ASN

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Mol	Chain	Res	Type
5	J	534	HIS
5	J	849	GLN
5	J	1223	GLN
5	J	1230	ASN
5	K	194	GLN
5	K	694	ASN
5	K	905	GLN
5	K	965	HIS
5	L	649	HIS
5	L	697	GLN
5	L	915	HIS
5	M	278	ASN
5	M	514	GLN
5	M	560	ASN
5	M	919	ASN
5	M	965	HIS
5	M	1133	HIS
5	M	1184	ASN
7	T	211	HIS

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

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

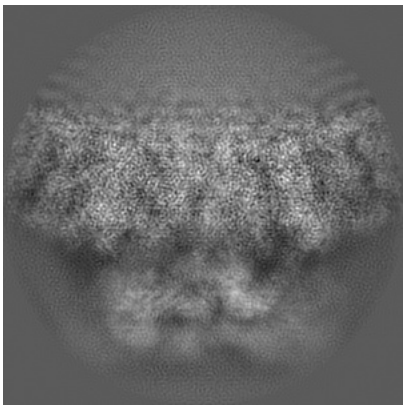
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-41194. These allow visual inspection of the internal detail of the map and identification of artifacts.

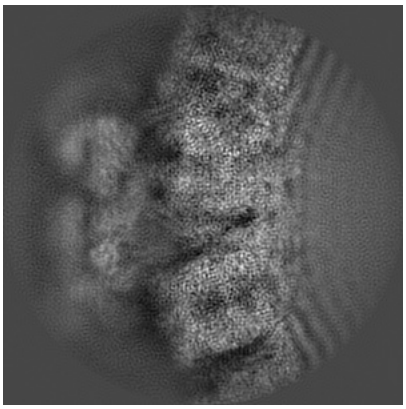
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

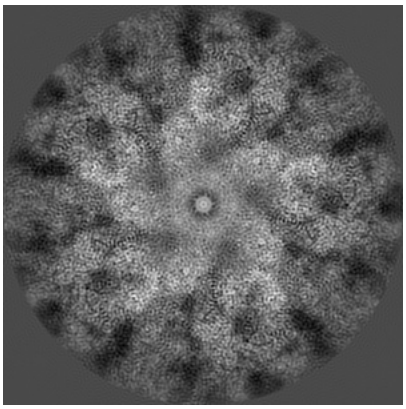
6.1.1 Primary map



X

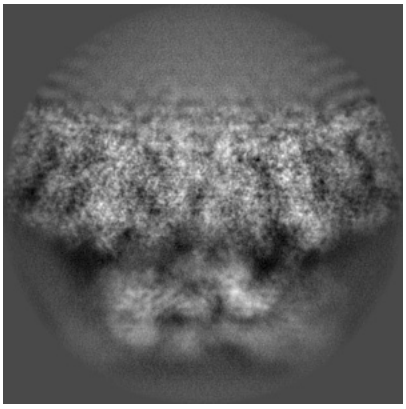


Y

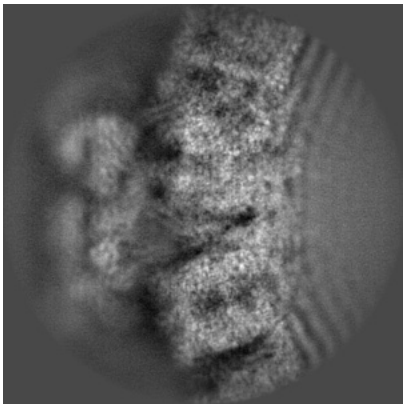


Z

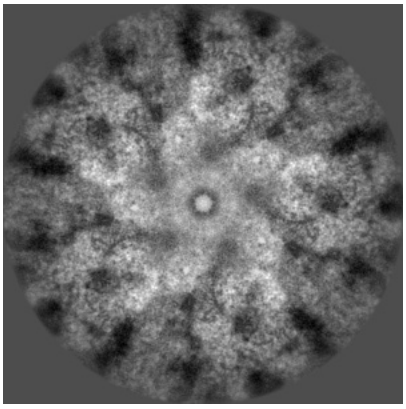
6.1.2 Raw map



X



Y

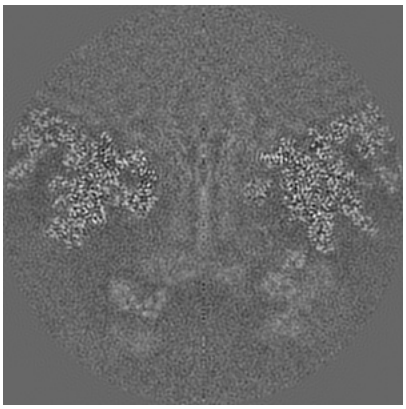


Z

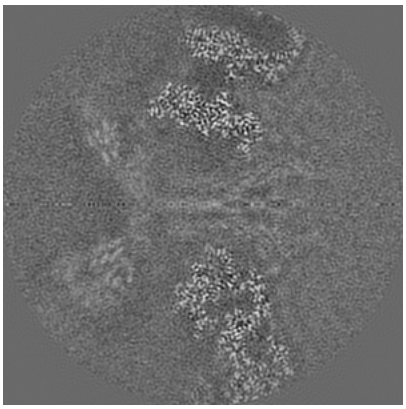
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

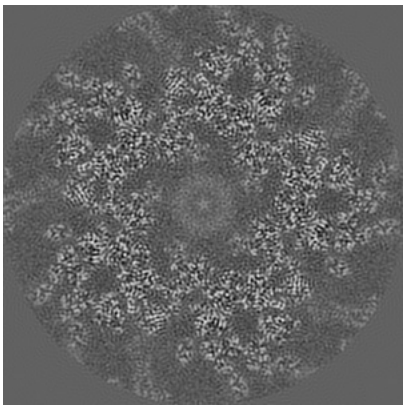
6.2.1 Primary map



X Index: 180

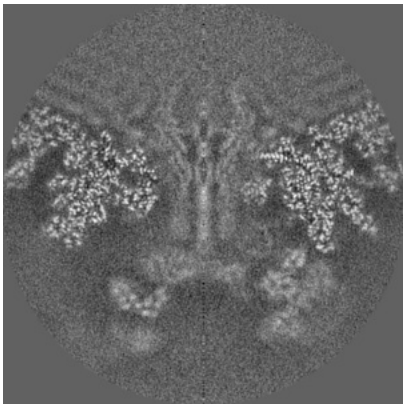


Y Index: 180

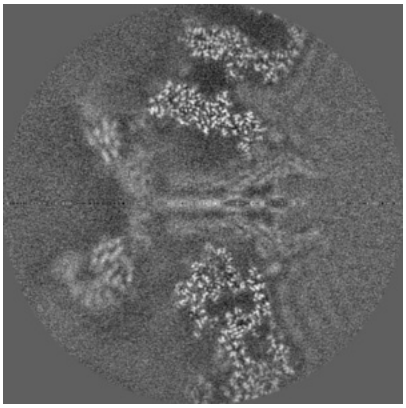


Z Index: 180

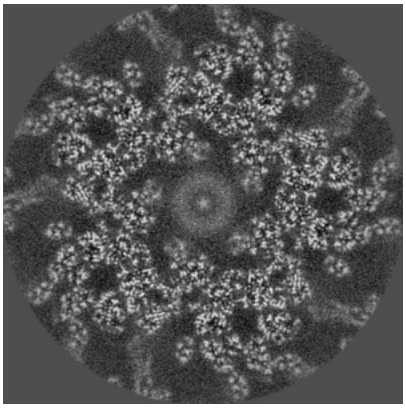
6.2.2 Raw map



X Index: 180



Y Index: 180



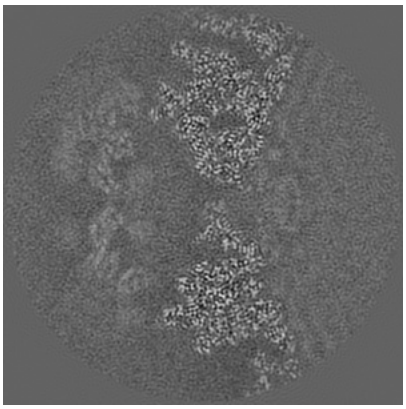
Z Index: 180

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

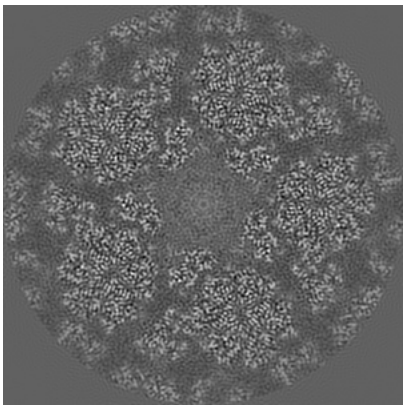
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 235

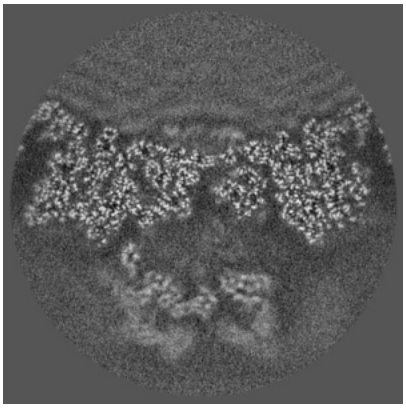


Y Index: 218

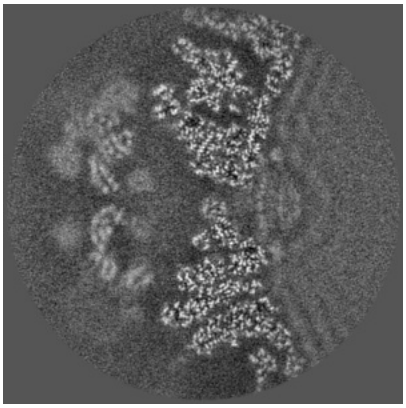


Z Index: 203

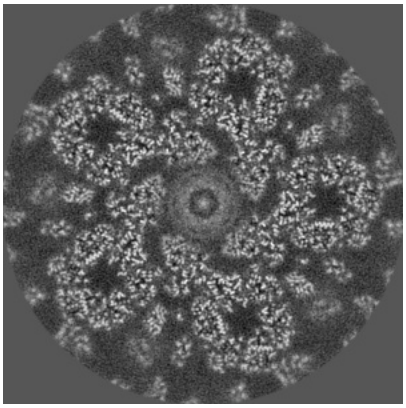
6.3.2 Raw map



X Index: 233



Y Index: 221

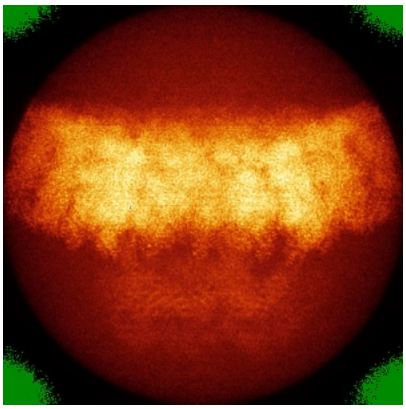


Z Index: 189

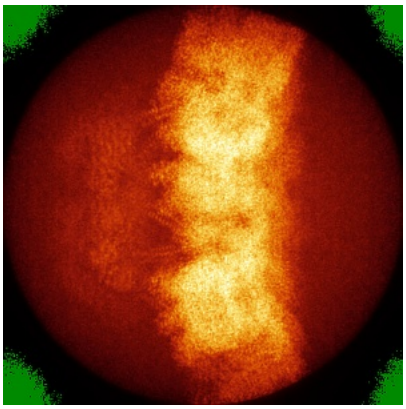
The images above show the largest variance slices of the map in three orthogonal directions.

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

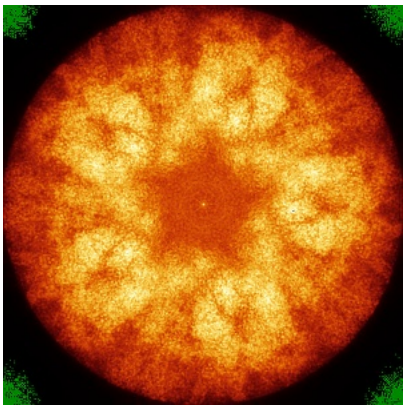
6.4.1 Primary map



X

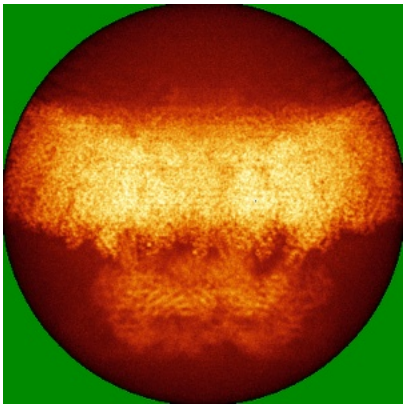


Y

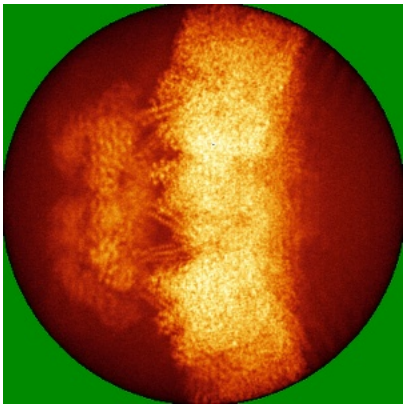


Z

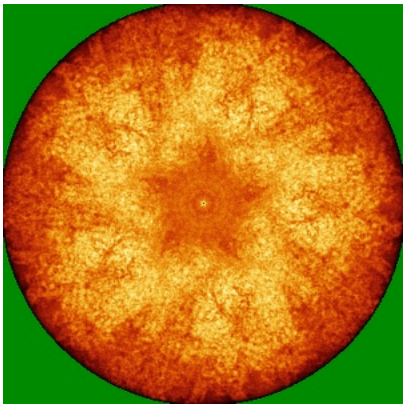
6.4.2 Raw map



X



Y



Z

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

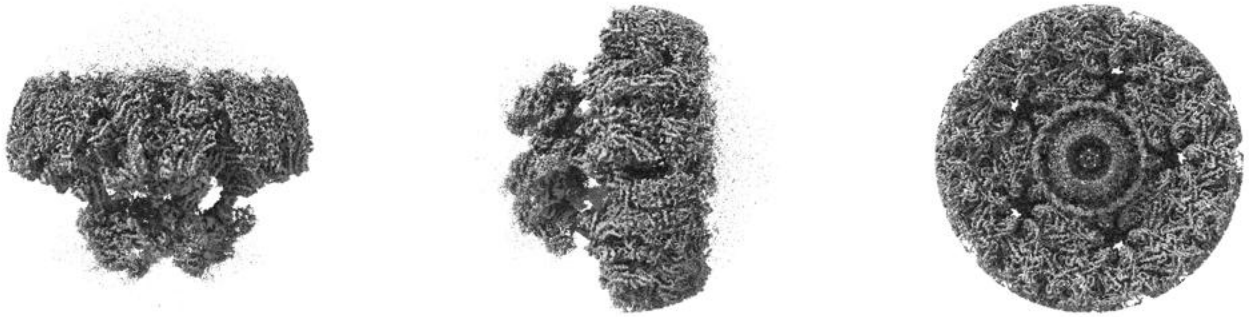
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.005. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

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

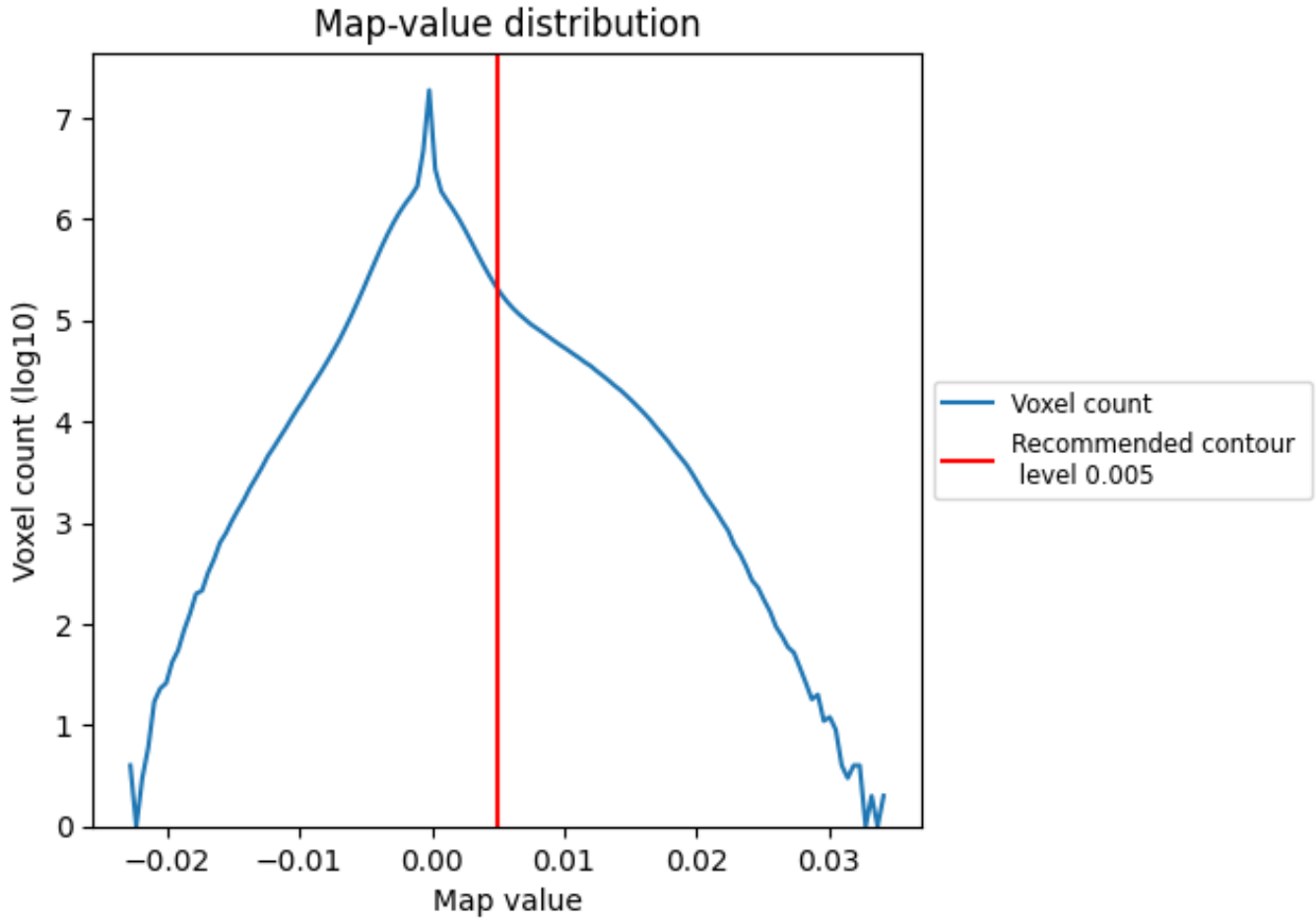
6.6 Mask visualisation (i)

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

7 Map analysis

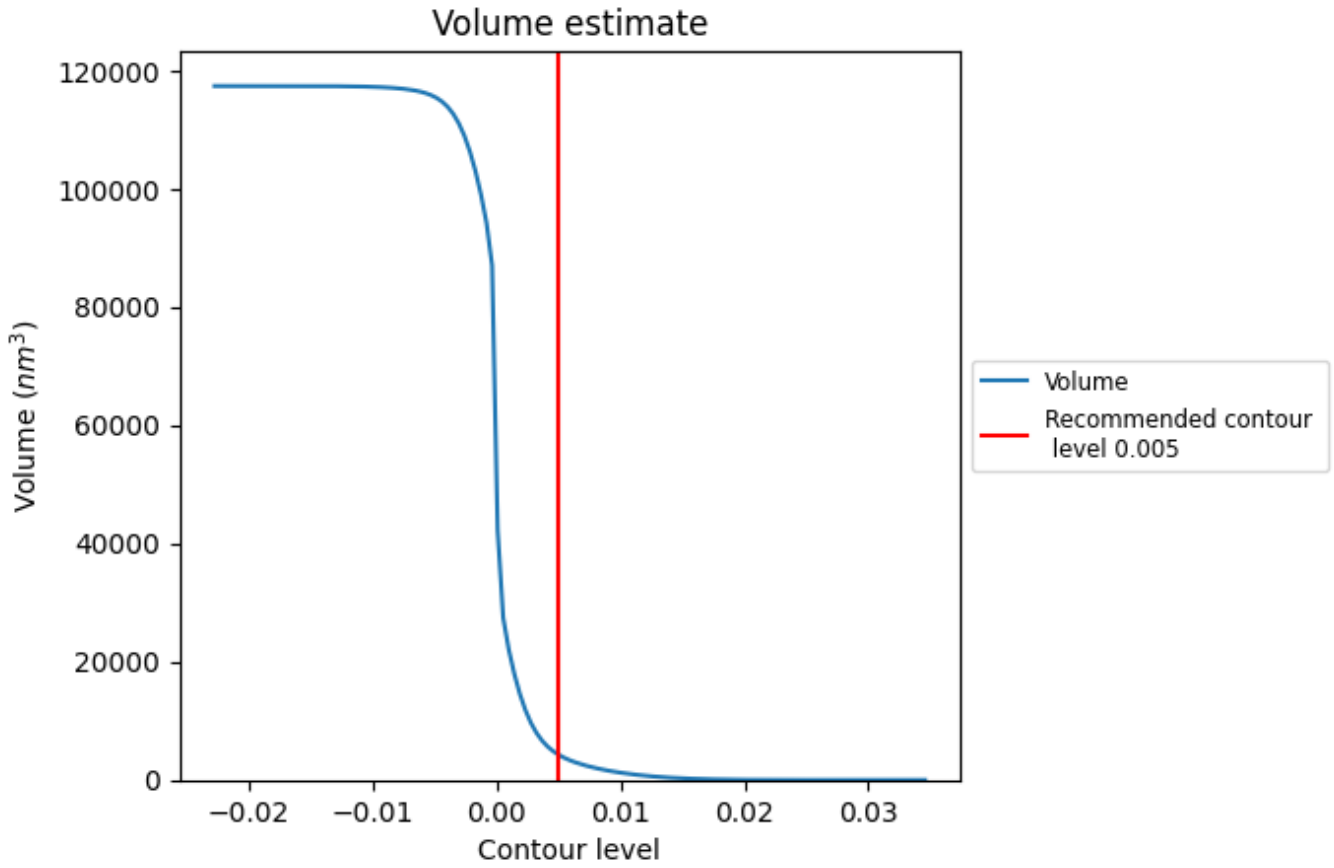
This section contains the results of statistical analysis of the map.

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.

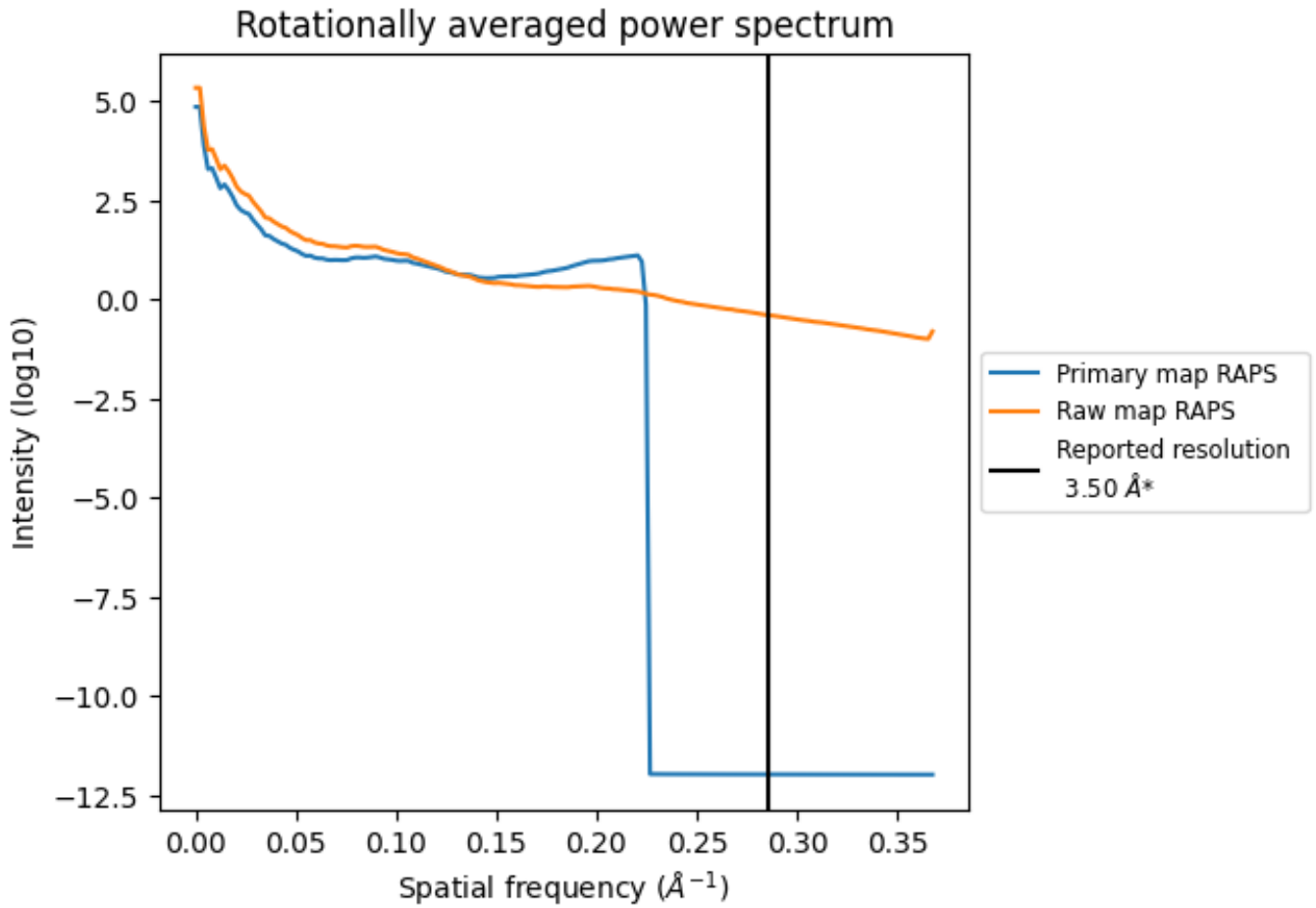
7.2 Volume estimate



The volume at the recommended contour level is 4271 nm^3; this corresponds to an approximate mass of 3858 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)

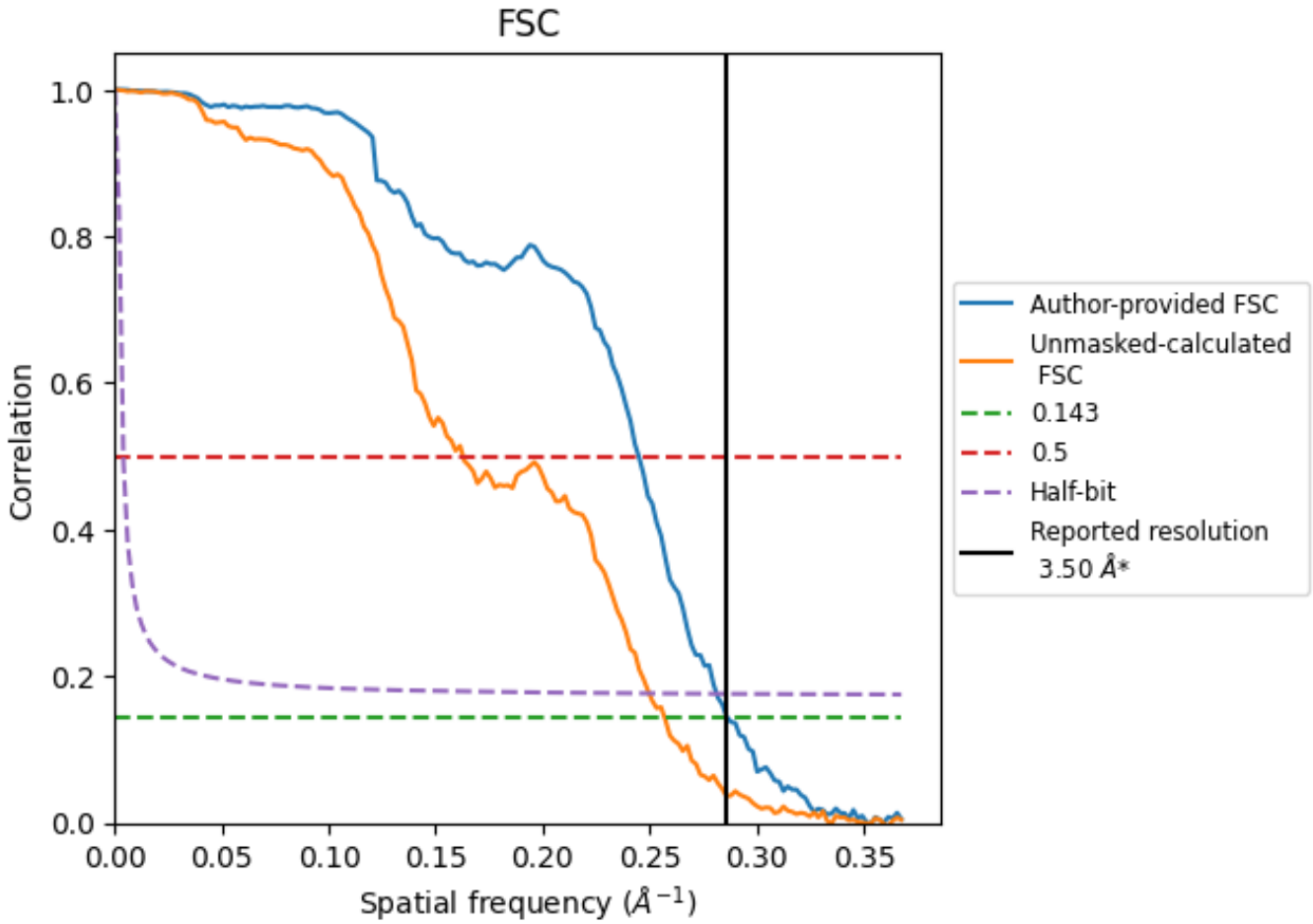


*Reported resolution corresponds to spatial frequency of 0.286 $Å^{-1}$

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.286 Å^{-1}

8.2 Resolution estimates (i)

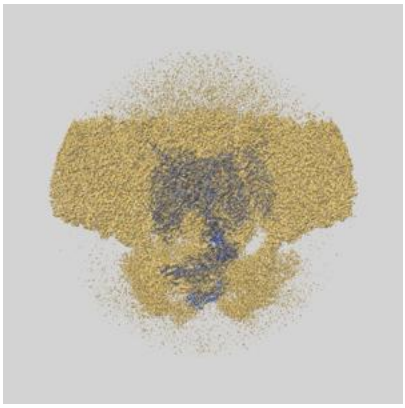
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	3.49	4.08	3.55
Unmasked-calculated*	3.89	6.15	4.00

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.89 differs from the reported value 3.5 by more than 10 %

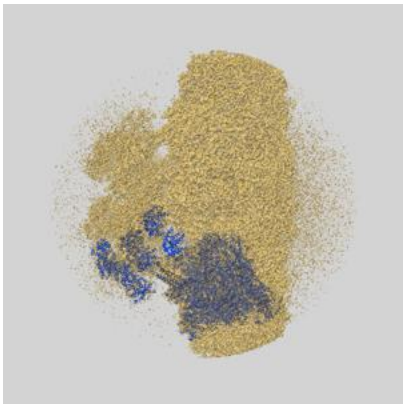
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-41194 and PDB model 8TEP. Per-residue inclusion information can be found in section 3 on page 7.

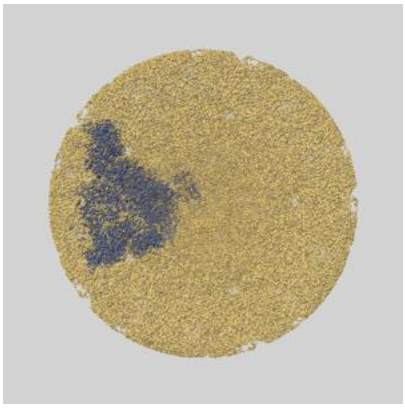
9.1 Map-model overlay



X



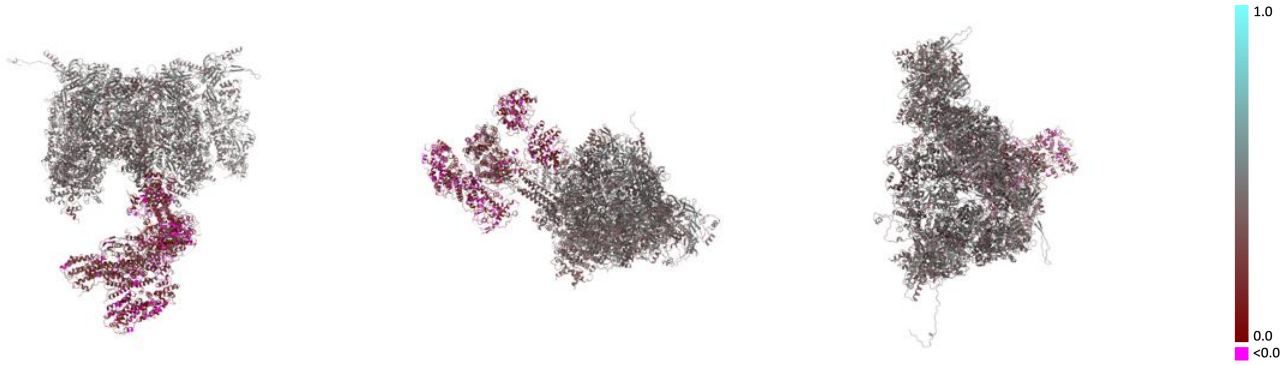
Y



Z

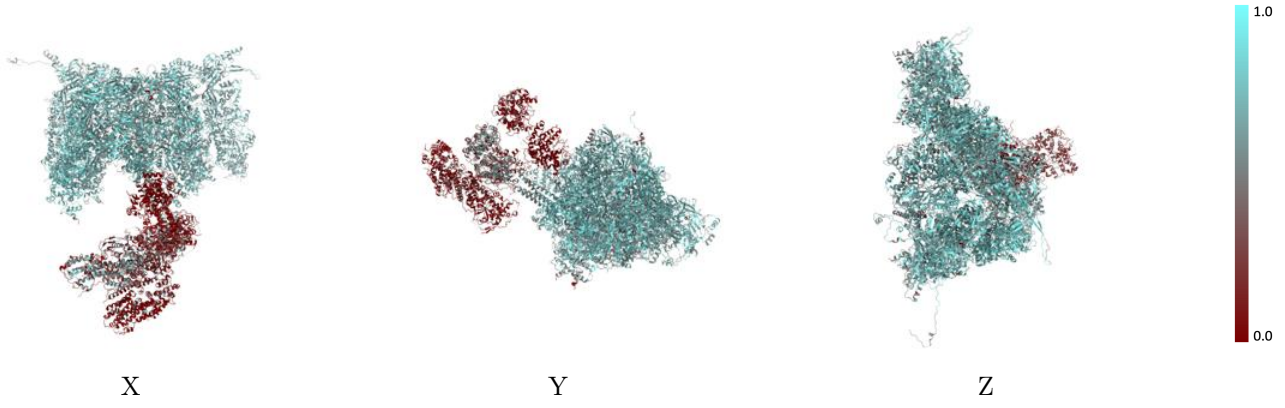
The images above show the 3D surface view of the map at the recommended contour level 0.005 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)



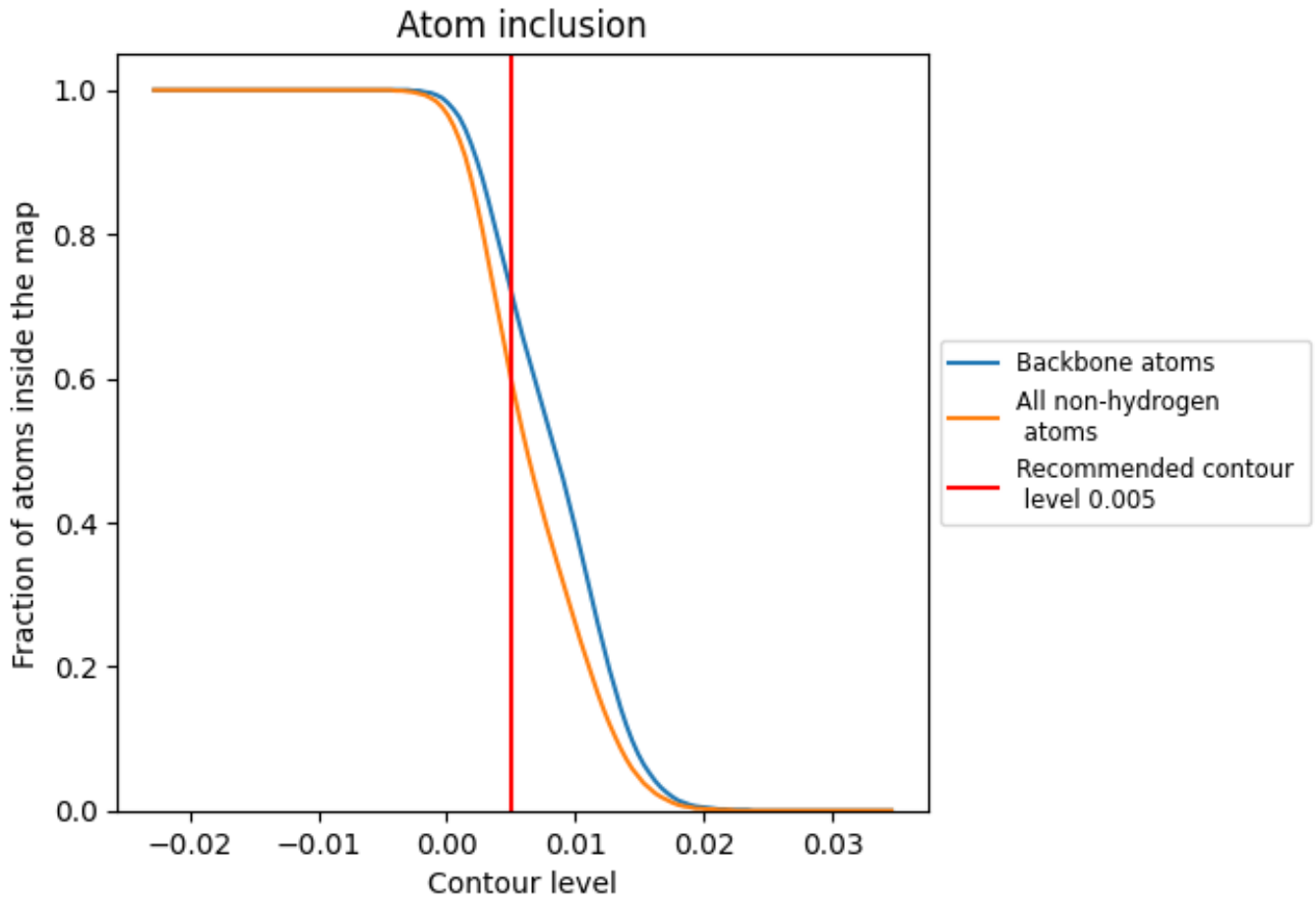
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.005).

9.4 Atom inclusion (i)



At the recommended contour level, 72% of all backbone atoms, 60% 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 (0.005) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5980	0.3740
A	0.3660	0.2590
B	0.3970	0.2380
C	0.1390	0.1570
D	0.1140	0.1200
E	0.2180	0.2180
F	0.1150	0.1960
G	0.7370	0.4310
H	0.7570	0.4380
I	0.7440	0.4340
J	0.6960	0.4280
K	0.7470	0.4340
L	0.7190	0.4320
M	0.6800	0.4260
N	0.6930	0.3750
O	0.7210	0.4110
P	0.5840	0.3640
Q	0.6730	0.3730
R	0.5940	0.3800
S	0.5120	0.3750
T	0.6480	0.4150
U	0.7190	0.4300
V	0.7250	0.4310
W	0.7210	0.4410
X	0.6620	0.4320
Y	0.6510	0.4240
Z	0.6320	0.4060