Full wwPDB EM Validation Report ⓘ

Mar 20, 2024 – 04:04 PM JST

PDB ID	:	7DCO
EMDB ID	:	EMD-30637
Title	:	Cryo-EM structure of the activated spliceosome (Bact complex) at an atomic resolution of 2.5 angstrom
Authors	:	Bai, R.; Wan, R.; Yan, C.; Qi, J.; Zhang, P.; Lei, J.; Shi, Y.
Deposited on	:	2020-10-26
Resolution	:	2.50 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:

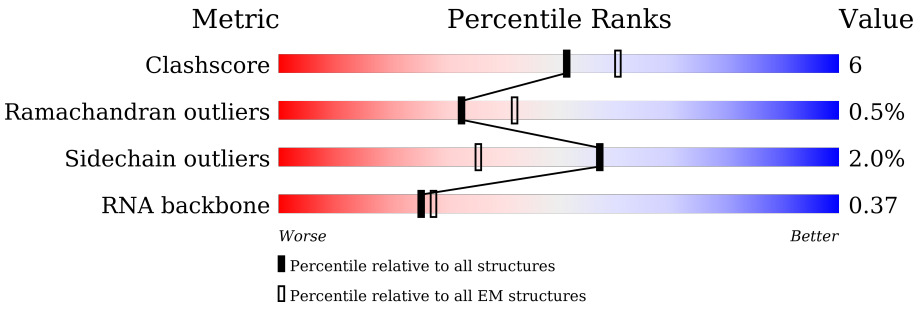
EMDB validation analysis	:	0.0.1.dev70
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance

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

The reported resolution of this entry is 2.50 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	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	2413	80% 11% 9%
2	B	214	43% 40% 32% 12% 16%
3	C	1008	14% 77% 13% 9%
4	D	2163	44% 74% 10% 15%
5	d	101	40% 78% 22%
6	a	196	18% 37% 63%
6	h	196	40% 40% 60%

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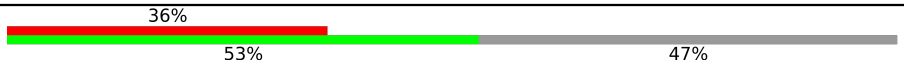
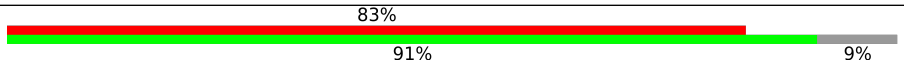
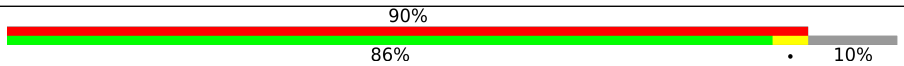
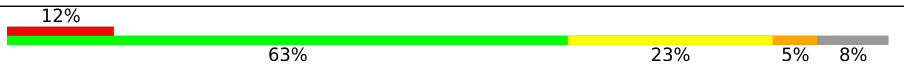
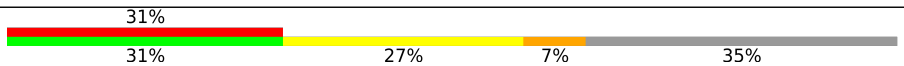
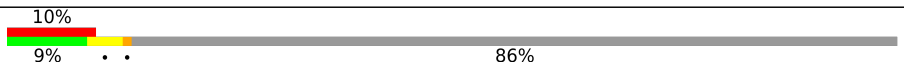
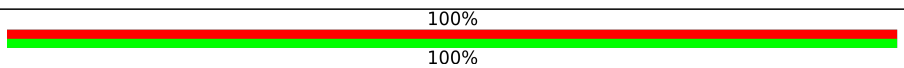
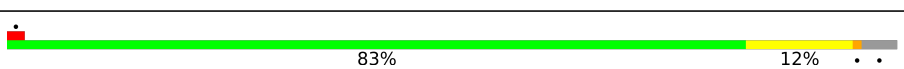
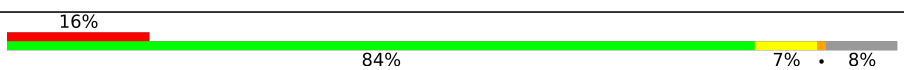
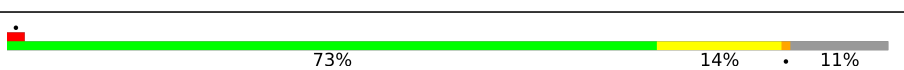
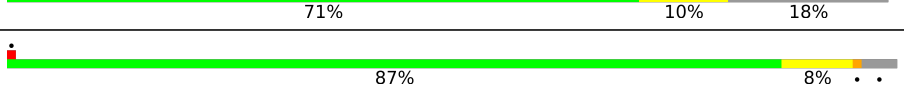
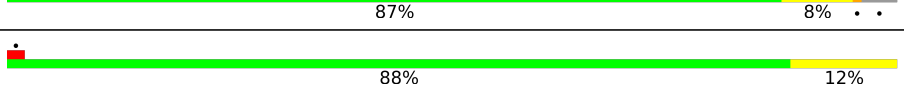
Mol	Chain	Length	Quality of chain
7	b	146	
7	m	146	
8	c	110	
8	n	110	
9	e	94	
9	i	94	
10	f	86	
10	j	86	
11	g	77	
11	k	77	
12	F	112	
13	G	162	
14	H	1175	
15	o	238	
16	p	111	
17	l	81	
18	u	530	
19	w	280	
20	v	266	
21	1	971	
22	2	238	
23	3	1361	
24	4	213	
25	5	107	
26	6	84	

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Mol	Chain	Length	Quality of chain
27	L	590	53% 65% 7% 26%
28	q	503	26% 25% 74%
28	r	503	25% 24% 75%
28	s	503	25% 24% 75%
28	t	503	25% 25% 75%
29	K	175	89% 82% 6% 11%
30	N	157	90% 10%
31	T	337	78% 20%
32	P	379	9% 55% 9% 35%
33	Q	364	34% 62% 18% 20%
34	R	261	8% 79% 19%
35	S	175	14% 30% 10% 59%
36	Y	204	20% 68% 17% 15%
37	X	128	85% 12%
38	Z	121	21% 88% 11%
39	W	455	95%
40	U	135	18% 80%
41	V	577	40% 67% 11% 22%
42	M	259	24% 58% 10% 32%
43	z	301	10% 48% 50%
44	y	185	30% 38% 61%
45	J	687	60% 71% 9% 19%
46	I	859	68% 59% 7% 32%
47	x	876	62% 73% 25%

2 Entry composition

There are 53 unique types of molecules in this entry. The entry contains 129875 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 PRP8 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2205	18135	11656	3091	3324	64	0	0

- Molecule 2 is a RNA chain called U5 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	B	179	3795	1699	660	1258	178	0	0

- Molecule 3 is a protein called SNU114 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	918	7328	4725	1218	1355	30	0	0

- Molecule 4 is a protein called BRR2 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	1828	14666	9388	2437	2784	57	0	0

- Molecule 5 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
5	d	79	316	158	79	79	0	0

- Molecule 6 is a protein called BJ4_G0014900.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	a	73	292	146	73	73	0	0

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Mol	Chain	Residues	Atoms	AltConf	Trace
6	h	78	Total C N O S 610 389 110 108 3	0	0

- Molecule 7 is a protein called SMD1 isoform 1.

Mol	Chain	Residues	Atoms	AltConf	Trace
7	b	77	Total C N O 308 154 77 77	0	0
7	m	82	Total C N O S 644 409 110 123 2	0	0

- Molecule 8 is a protein called BJ4_G0037700.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms	AltConf	Trace
8	c	90	Total C N O 360 180 90 90	0	0
8	n	65	Total C N O S 528 340 102 84 2	0	0

- Molecule 9 is a protein called Small nuclear ribonucleoprotein E.

Mol	Chain	Residues	Atoms	AltConf	Trace
9	e	72	Total C N O 288 144 72 72	0	0
9	i	75	Total C N O S 575 379 92 101 3	0	0

- Molecule 10 is a protein called Sm protein F.

Mol	Chain	Residues	Atoms	AltConf	Trace
10	f	70	Total C N O 280 140 70 70	0	0
10	j	70	Total C N O S 554 355 98 100 1	0	0

- Molecule 11 is a protein called Small nuclear ribonucleoprotein G.

Mol	Chain	Residues	Atoms	AltConf	Trace
11	g	70	Total C N O 280 140 70 70	0	0
11	k	69	Total C N O S 529 337 93 97 2	0	0

- Molecule 12 is a RNA chain called U6 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	F	103	Total	C	N	O	P	0	0
			2192	982	391	716	103		

- Molecule 13 is a RNA chain called pre-mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	G	105	Total	C	N	O	P	0	0
			2099	942	330	723	104		

- Molecule 14 is a RNA chain called U2 snRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	H	169	Total	C	N	O	P	0	0
			3566	1594	595	1208	169		

- Molecule 15 is a protein called HLJ1_G0053790.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms				AltConf	Trace
15	o	135	Total	C	N	O	0	0
			841	538	142	161		

- Molecule 16 is a protein called BJ4_G0027490.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms				AltConf	Trace
16	p	75	Total	C	N	O	0	0
			476	310	83	83		

- Molecule 17 is a protein called Small nuclear ribonucleoprotein Sm D3.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	l	81	Total	C	N	O	S	0	0
			611	390	106	113	2		

- Molecule 18 is a protein called PRP9 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	u	461	Total	C	N	O	S	0	0
			3899	2477	675	732	15		

- Molecule 19 is a protein called Pre-mRNA-splicing factor PRP21.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	w	127	Total	C	N	O	S	0	0
			1084	689	193	196	6		

- Molecule 20 is a protein called PRP11 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	v	207	Total	C	N	O	S	0	0
			1621	1014	281	319	7		

- Molecule 21 is a protein called HSH155 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	1	930	Total	C	N	O	S	0	0
			7376	4723	1262	1348	43		

- Molecule 22 is a protein called HLJ1_G0043010.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	2	220	Total	C	N	O	S	0	0
			1793	1158	311	314	10		

- Molecule 23 is a protein called RSE1 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	3	1207	Total	C	N	O	S	0	0
			9599	6134	1613	1801	51		

- Molecule 24 is a protein called HSH49 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	4	174	Total	C	N	O	S	0	0
			1433	932	240	259	2		

- Molecule 25 is a protein called BJ4_G0056610.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	5	103	Total	C	N	O	S	0	0
			814	503	154	143	14		

- Molecule 26 is a protein called RDS3 complex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	6	84	Total	C	N	O	S	0	0
			693	429	130	132	2		

- Molecule 27 is a protein called Pre-mRNA-splicing factor CEF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	L	435	Total	C	N	O	S	0	0
			2901	1799	538	557	7		

- Molecule 28 is a protein called Pre-mRNA-processing factor 19.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	s	124	Total	C	N	O	S	0	0
			819	518	132	167	2		
28	t	128	Total	C	N	O	S	0	0
			843	533	136	172	2		
28	q	129	Total	C	N	O	S	0	0
			850	537	137	174	2		
28	r	125	Total	C	N	O	S	0	0
			823	521	133	167	2		

- Molecule 29 is a protein called SNT309 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	K	155	Total	C	N	O	S	0	0
			920	581	159	179	1		

- Molecule 30 is a protein called BUD31 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	N	157	Total	C	N	O	S	0	0
			1291	808	240	232	11		

- Molecule 31 is a protein called HLJ1_G0054350.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	T	337	Total	C	N	O	S	0	0
			2646	1669	466	501	10		

- Molecule 32 is a protein called Pre-mRNA-processing protein 45.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	P	246	Total	C	N	O	S	0	0
			1978	1233	359	380	6		

- Molecule 33 is a protein called Pre-mRNA-splicing factor SLT11.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Q	292	Total	C	N	O	S	0	0
			2301	1461	399	426	15		

- Molecule 34 is a protein called Pre-mRNA-splicing factor CWC2.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	R	261	Total	C	N	O	S	0	0
			2089	1320	369	388	12		

- Molecule 35 is a protein called Pre-mRNA-splicing factor CWC15.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	S	71	Total	C	N	O	S	0	0
			578	361	117	99	1		

- Molecule 36 is a protein called Pre-mRNA leakage protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Y	174	Total	C	N	O	S	0	0
			1386	868	233	275	10		

- Molecule 37 is a protein called SX2_G0027210.mRNA.1.CDS.1.

Mol	Chain	Residues	Atoms				AltConf	Trace
37	X	128	Total	C	N	O	0	0
			1051	662	181	208		

- Molecule 38 is a protein called Pre-mRNA-splicing factor CWC26.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Z	121	Total	C	N	O	S	0	0
			920	575	161	182	2		

- Molecule 39 is a protein called CDC40 isoform 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	W	23	Total	C	N	O	0	0
			195	122	41	32		

- Molecule 40 is a protein called Pre-mRNA-splicing factor CWC21.

Mol	Chain	Residues	Atoms				AltConf	Trace
40	U	27	Total	C	N	O	0	0
			190	112	38	40		

- Molecule 41 is a protein called CWC22 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	V	450	Total	C	N	O	S	0	0
			3660	2346	605	691	18		

- Molecule 42 is a protein called Pre-mRNA-splicing factor CWC24.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	M	176	Total	C	N	O	S	0	0
			1360	852	235	260	13		

- Molecule 43 is a protein called CWC27 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	z	150	Total	C	N	O	S	0	0
			1224	789	206	223	6		

- Molecule 44 is a protein called Pre-mRNA-splicing factor SPP2.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	y	73	Total	C	N	O	S	0	0
			572	371	93	107	1		

- Molecule 45 is a protein called CLF1 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	J	554	Total	C	N	O	S	0	0
			3595	2231	680	676	8		

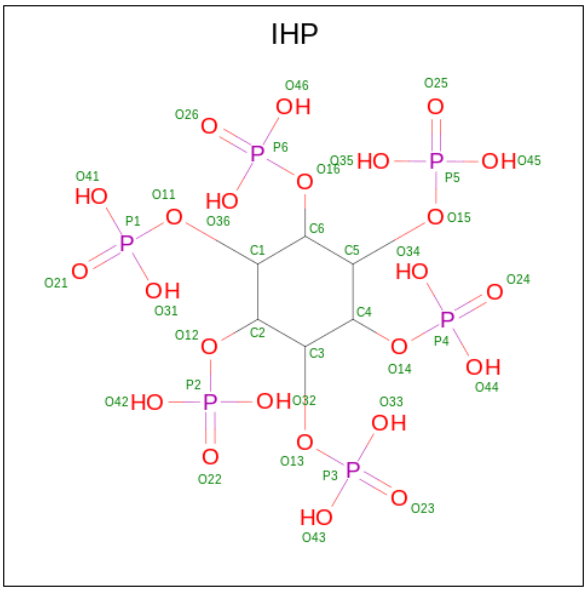
- Molecule 46 is a protein called SYF1 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	I	580	Total	C	N	O	S	0	0
			3101	1897	590	613	1		

- Molecule 47 is a protein called Pre-mRNA-splicing factor ATP-dependent RNA helicase-like protein PRP2.

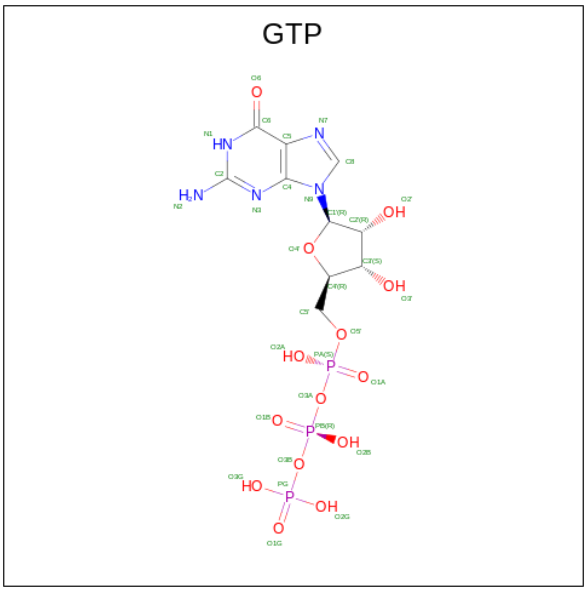
Mol	Chain	Residues	Atoms					AltConf	Trace
47	x	653	Total	C	N	O	S	0	0
			5193	3313	891	956	33		

- Molecule 48 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: $C_6H_{18}O_{24}P_6$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
48	A	1	Total	C	O	P	0
			36	6	24	6	

- Molecule 49 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
49	C	1	Total	C	N	O	P	0
			32	10	5	14	3	

- Molecule 50 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
50	C	1	Total	Mg	0
			1	1	
50	F	4	Total	Mg	0
			4	4	
50	3	1	Total	Mg	0
			1	1	

- Molecule 51 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
51	C	1	Total	Ca	0
			1	1	

- Molecule 52 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
52	u	2	Total	Zn	0
			2	2	

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Mol	Chain	Residues	Atoms	AltConf
52	v	1	Total Zn 1 1	0
52	5	3	Total Zn 3 3	0
52	N	3	Total Zn 3 3	0
52	Q	2	Total Zn 2 2	0
52	R	1	Total Zn 1 1	0
52	M	3	Total Zn 3 3	0

- Molecule 53 is water.

Mol	Chain	Residues	Atoms	AltConf
53	A	582	Total O 582 582	0
53	B	127	Total O 127 127	0
53	C	8	Total O 8 8	0
53	D	2	Total O 2 2	0
53	F	109	Total O 109 109	0
53	G	56	Total O 56 56	0
53	H	70	Total O 70 70	0
53	v	29	Total O 29 29	0
53	1	185	Total O 185 185	0
53	2	51	Total O 51 51	0
53	3	218	Total O 218 218	0
53	5	53	Total O 53 53	0
53	6	42	Total O 42 42	0

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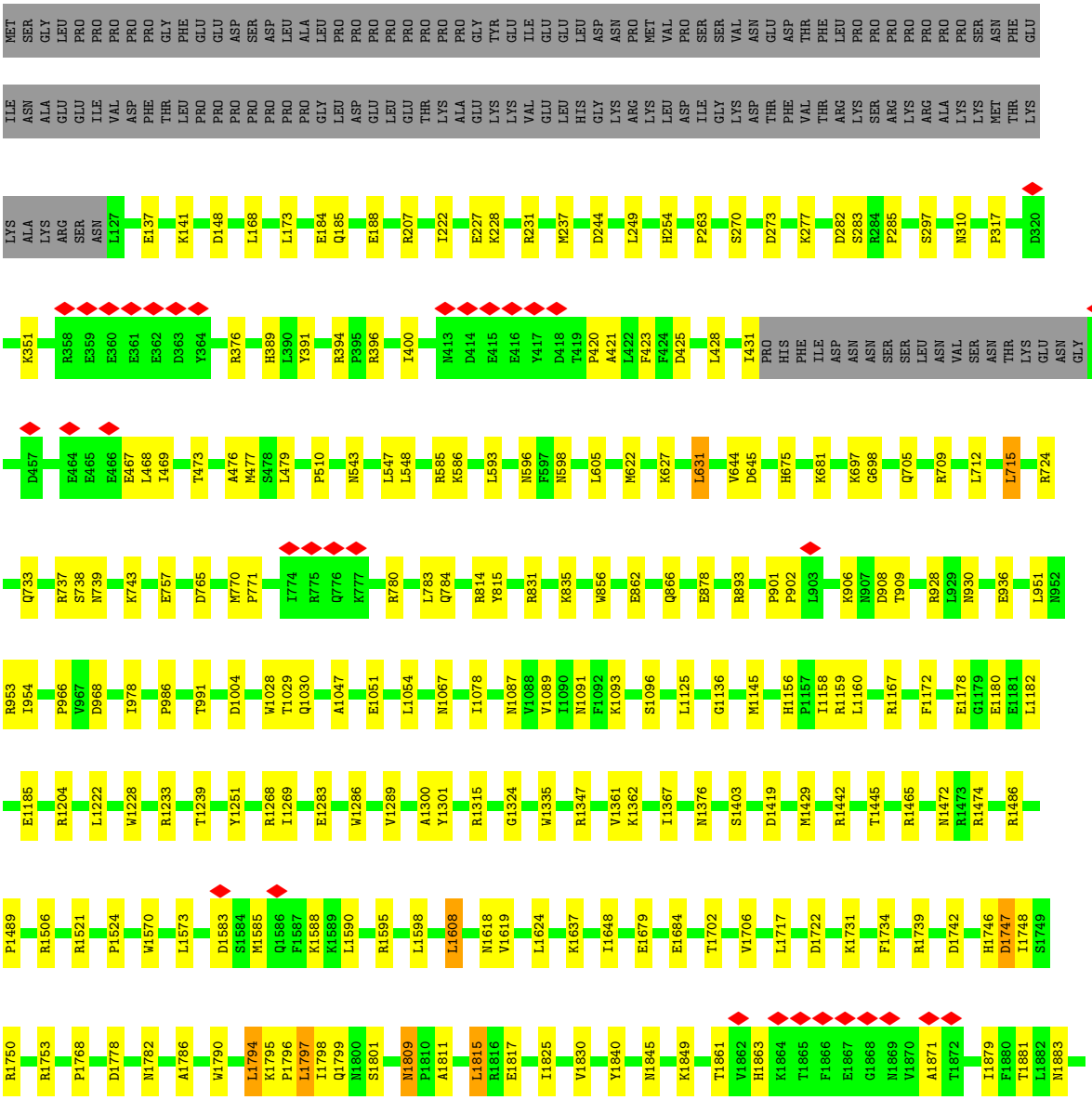
Mol	Chain	Residues	Atoms	AltConf
53	L	18	Total O 18 18	0
53	N	12	Total O 12 12	0
53	T	39	Total O 39 39	0
53	P	26	Total O 26 26	0
53	R	8	Total O 8 8	0
53	S	9	Total O 9 9	0
53	X	13	Total O 13 13	0
53	Z	9	Total O 9 9	0
53	U	6	Total O 6 6	0
53	V	21	Total O 21 21	0
53	M	21	Total O 21 21	0

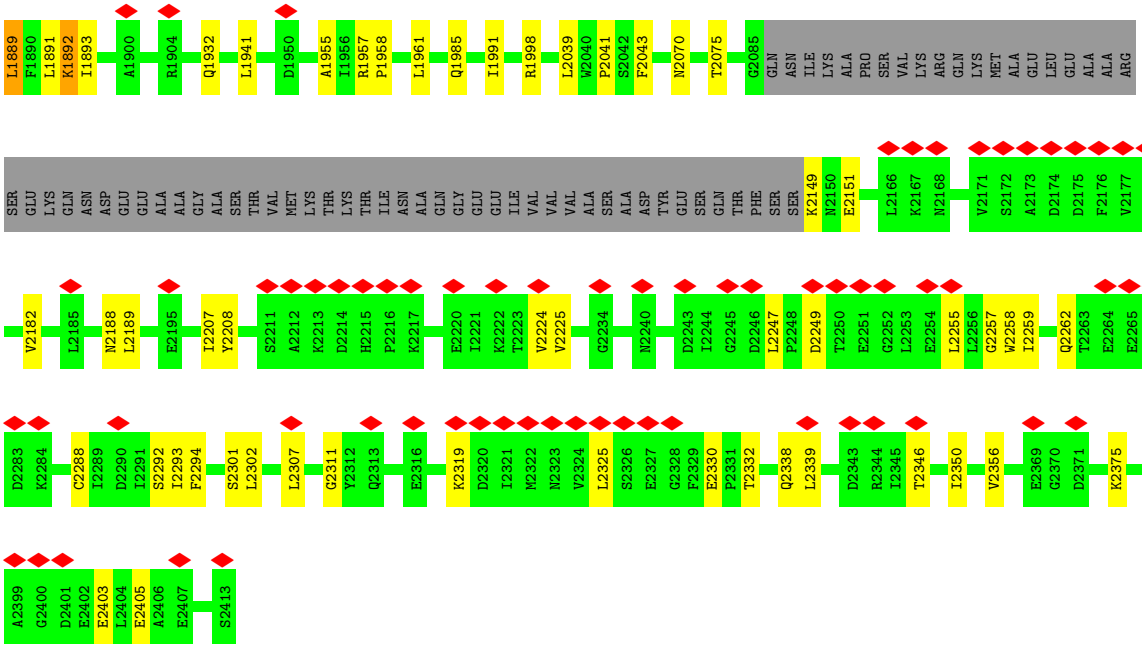
3 Residue-property plots (i)

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

- Molecule 1: PRP8 isoform 1

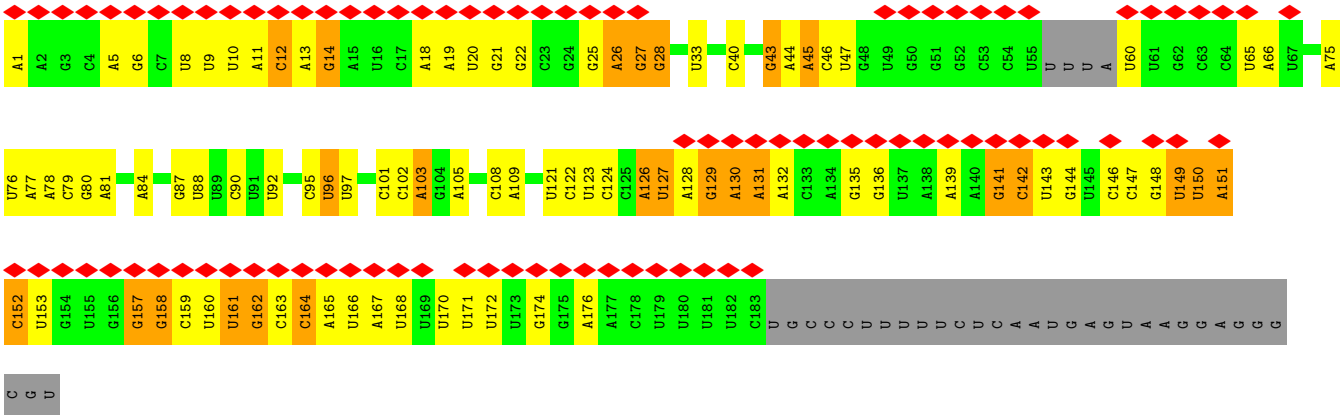
Chain A:





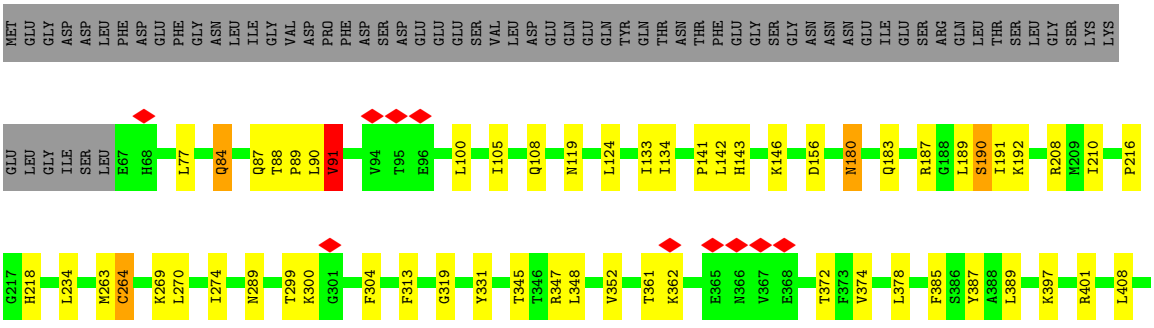
• Molecule 2: U5 snRNA

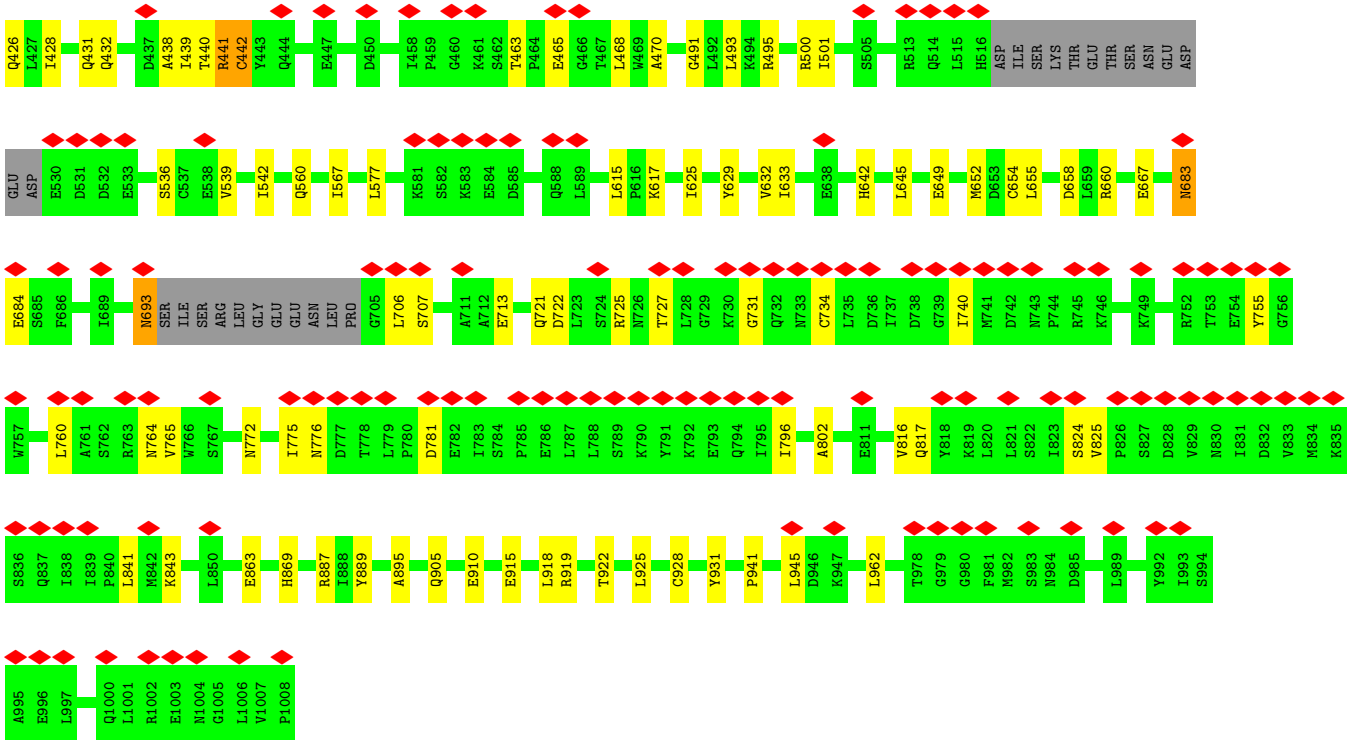
Chain B:



• Molecule 3: SNU114 isoform 1

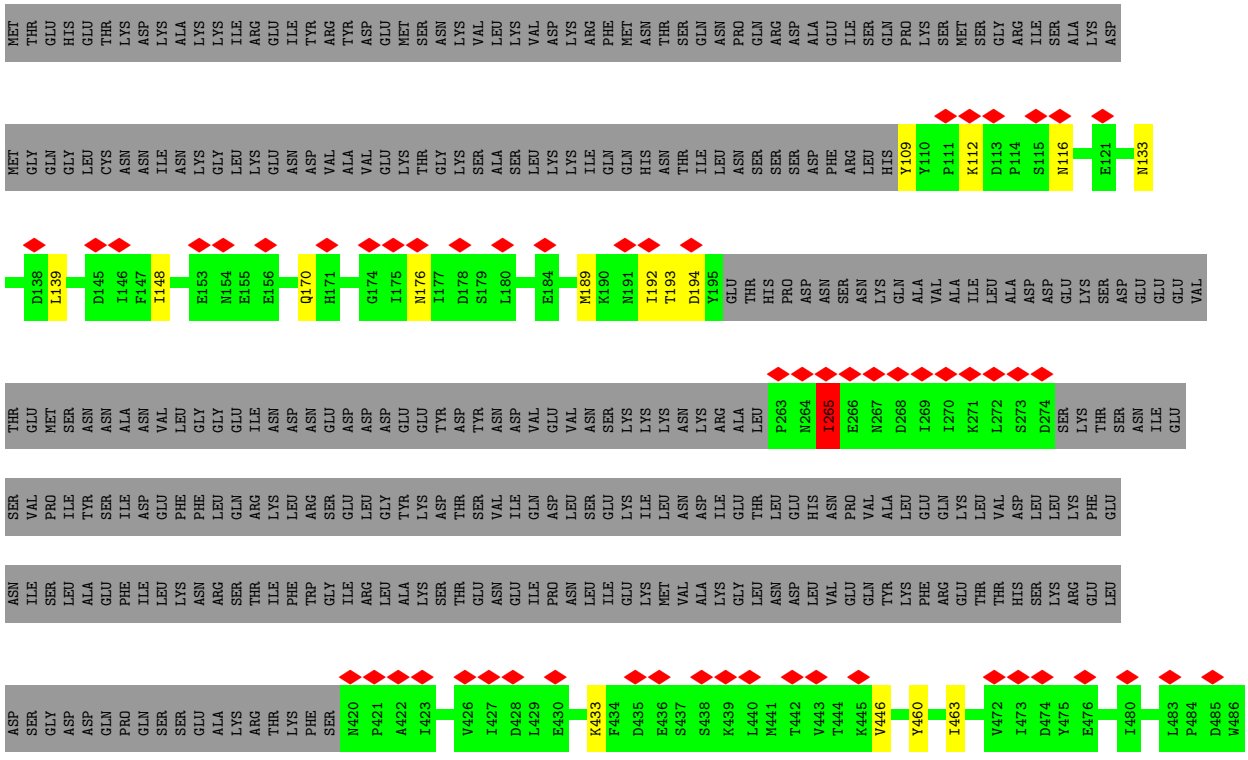
Chain C:

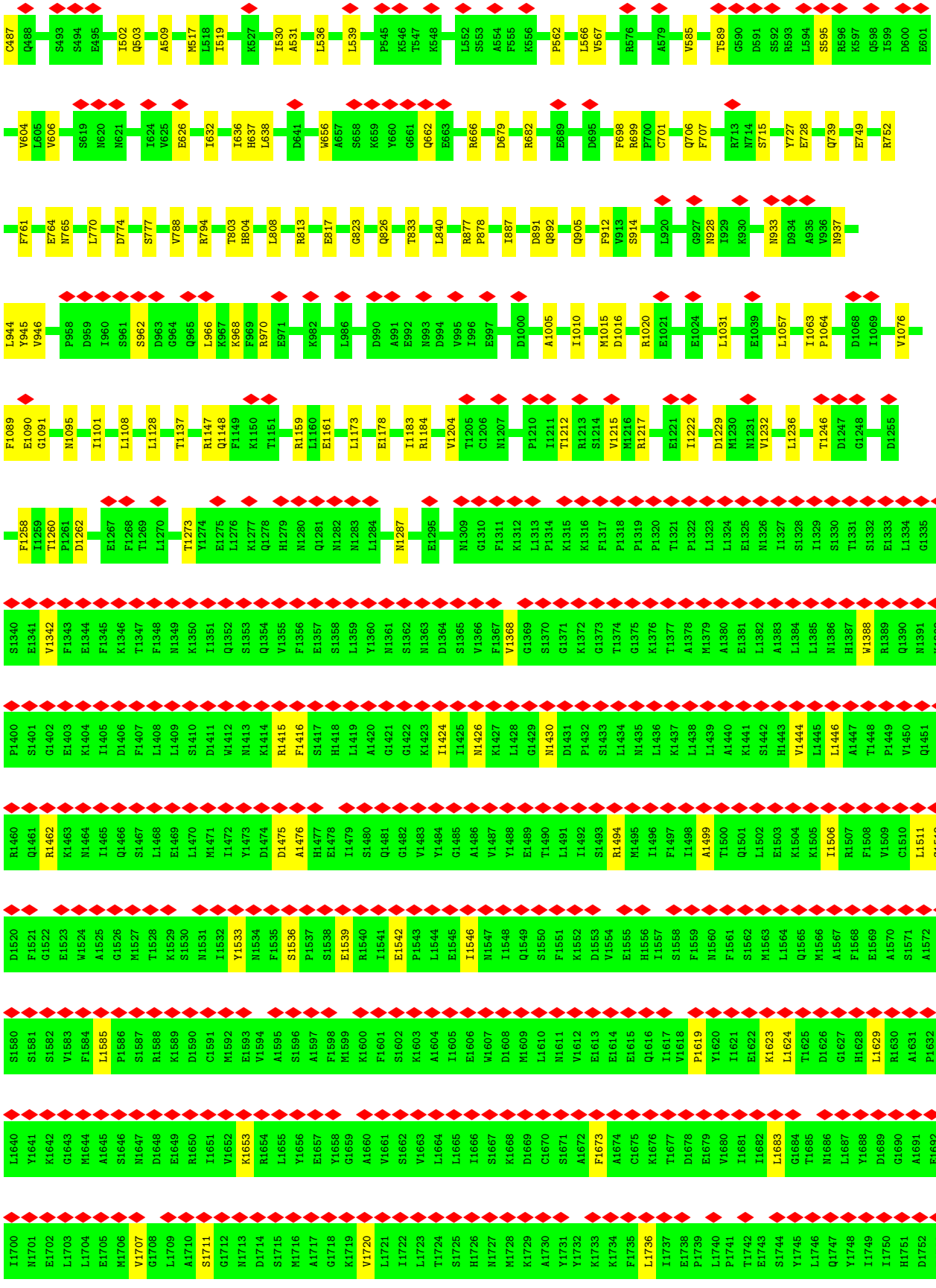




• Molecule 4: BRR2 isoform 1

Chain D:

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V604 L605 V606 S619 N620 N621 I624 V625 E626 I632 I636 H637 L638 D641 W656 A657 S658 K659 Y660 G661 Q662 E663 R666 D679 R682 E689 D695 F698 R699 P700 C701 Q706 F707 R713 N714 S715 Y727 E728 Q739 E749 R752
F761 E764 N765 L770 D774 S777 V788 R794 T803 H804 L808 R813 E817 G823 Q826 T833 L840 R877 P878 I887 D891 Q892 Q905 F912 V913 S914 L920 G927 N928 I929 K930 N933 D934 A935 V936 N937
L944 Y945 V946 P958 D959 I960 S961 S962 D963 G964 Q965 L966 K967 K968 F969 R970 E971 K982 L986 D990 A991 E992 N993 D994 V995 I996 E997 D1000 A1005 I1010 M1015 D1016 R1020 E1021 E1024 L1031 E1039 L1057 I1063 P1064 D1068 I1069 V1076
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P1400 S1401 G1402 E1403 K1404 I1405 D1406 F1407 L1408 L1409 S1410 D1411 W1412 N1413 K1414 R1415 F1416 S1417 H1418 L1419 A1420 G1421 G1422 K1423 I1424 I1425 N1426 K1427 L1428 G1429 N1430 D1431 P1432 S1433 L1434 N1435 L1436 K1437 L1438 L1439 A1440 K1441 S1442 H1443 V1444 L1445 L1446 A1447 T1448 P1449 V1450 Q1451 F1452 E1453 L1454 L1455 S1456 R1457 R1458 W1459
R1460 Q1461 R1462 K1463 N1464 I1465 Q1466 S1467 L1468 E1469 L1470 M1471 I1472 Y1473 D1474 D1475 A1476 H1477 E1478 I1479 S1480 Q1481 G1482 V1483 Y1484 G1485 A1486 V1487 Y1488 E1489 T1490 L1491 I1492 S1493 R1494 M1495 I1496 F1497 I1498 A1499 T1500 Q1501 L1502 E1503 K1504 K1505 I1506 R1507 F1508 V1509 C1510 L1511 S1512 N1513 C1514 L1515 A1516 N1517 A1518 R1519
D1520 F1521 G1522 E1523 W1524 A1525 G1526 M1527 T1528 K1529 S1530 N1531 I1532 Y1533 N1534 F1535 S1536 P1537 S1538 E1539 R1540 I1541 E1542 P1543 L1544 E1545 I1546 N1547 I1548 Q1549 S1550 F1551 K1552 D1553 V1554 E1555 H1556 I1557 S1558 F1559 N1560 F1561 S1562 M1563 L1564 Q1565 M1566 A1567 F1568 E1569 A1570 S1571 A1572 A1573 A1574 A1575 G1576 N1577 R1578 N1579
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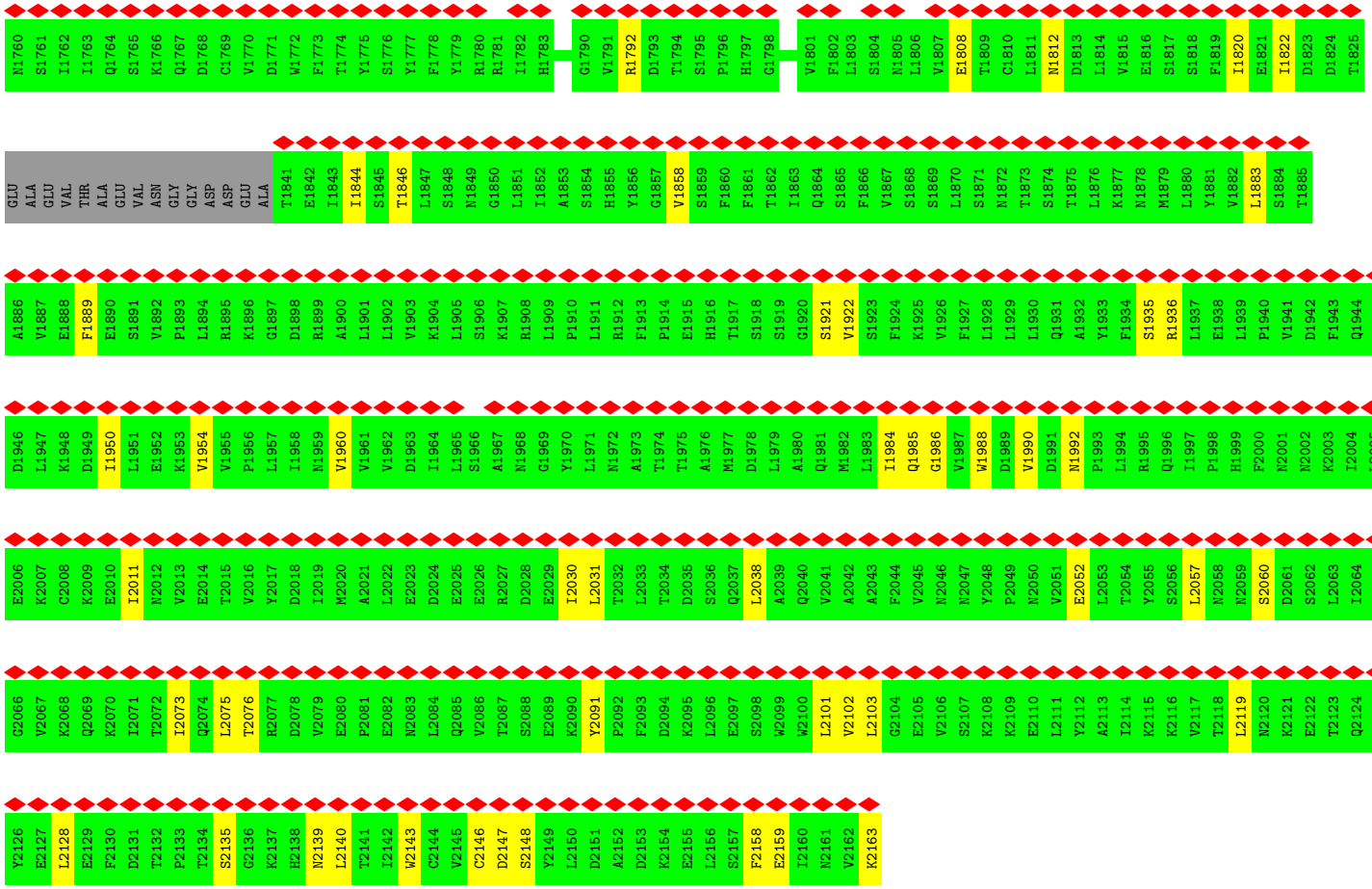
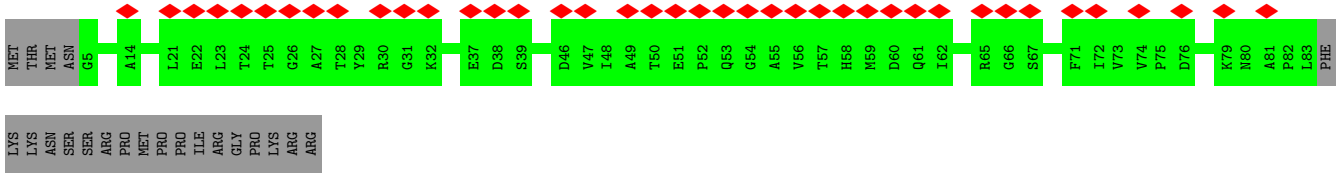
I1700 N1701 E1702 L1703 L1704 E1705 M1706 V1707 G1708 L1709 A1710 S1711 G1712 N1713 D1714 S1715 M1716 A1717 G1718 K1719 V1720 L1721 I1722 L1723 T1724 S1725 H1726 N1727 M1728 K1729 A1730 Y1731 Y1732 K1733 K1734 F1735 L1736 I1737 E1738 P1739 L1740 P1741 T1742 E1743 S1744 Y1745 L1746 Q1747 Y1748 I1749 I1750 H1751 D1752 T1753 L1754 N1755 N1756 E1757 I1758 A1759



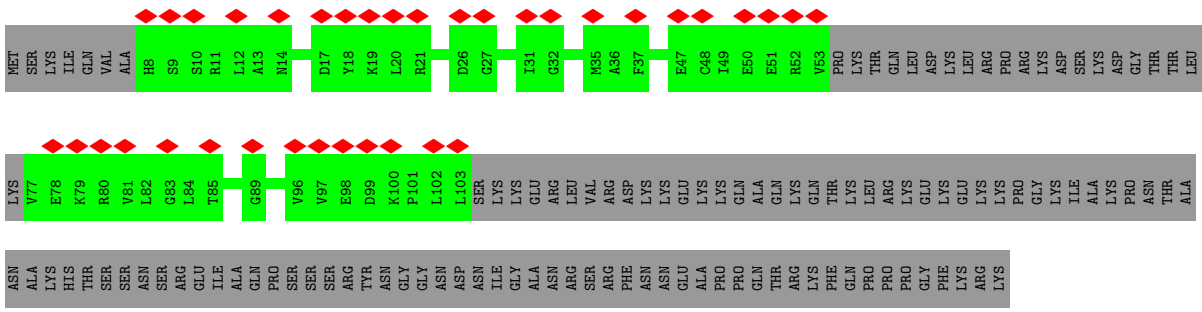
• Molecule 5: Small nuclear ribonucleoprotein Sm D3

Chain d:



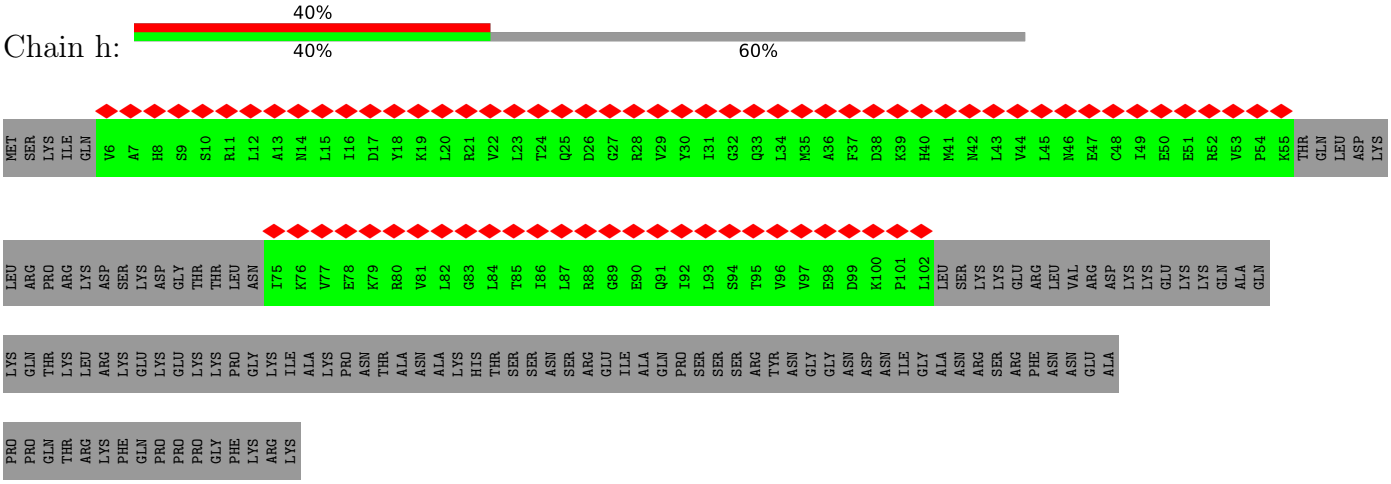
• Molecule 6: BJ4_G0014900.mRNA.1.CDS.1

Chain a:



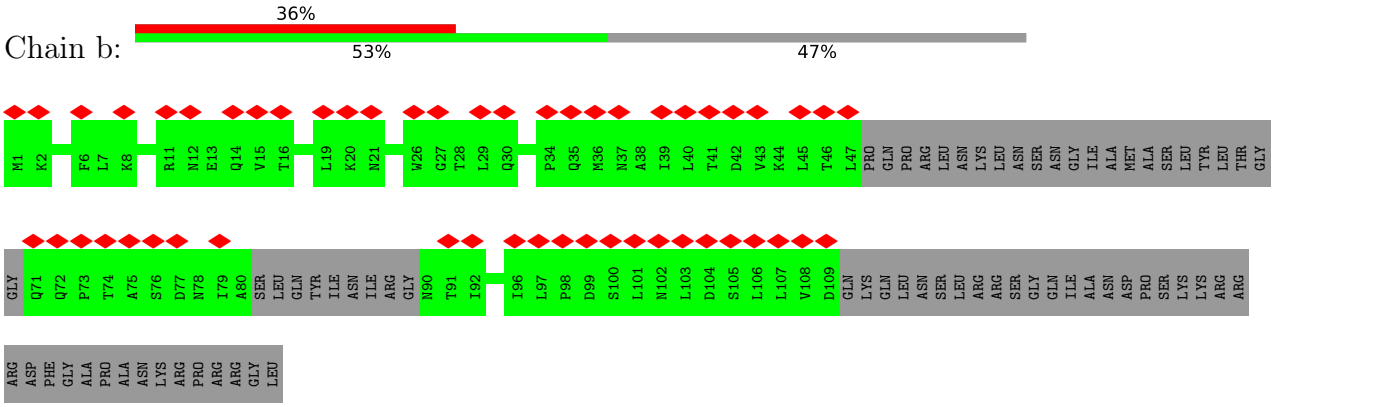
• Molecule 6: BJ4_G0014900.mRNA.1.CDS.1

Chain h:



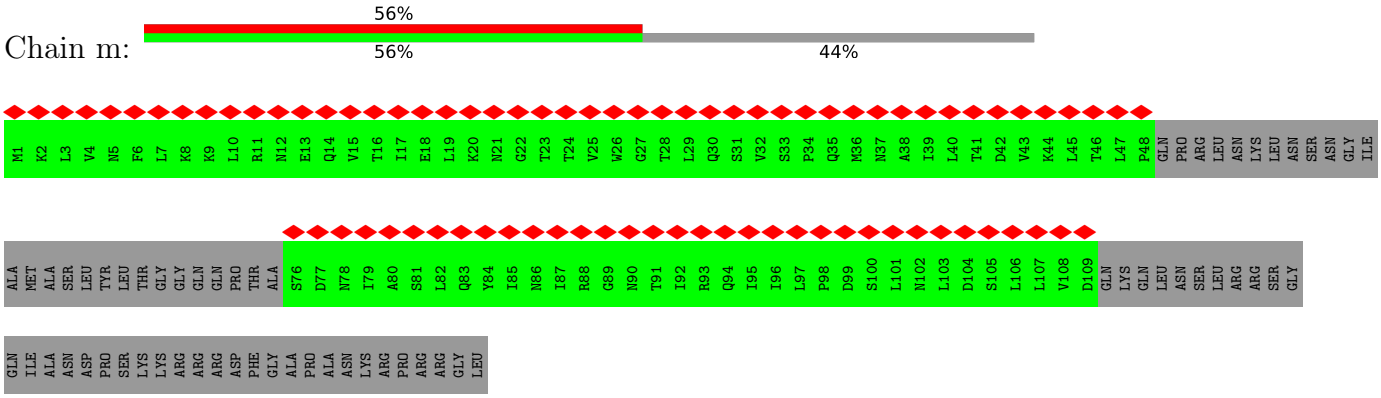
• Molecule 7: SMD1 isoform 1

Chain b:



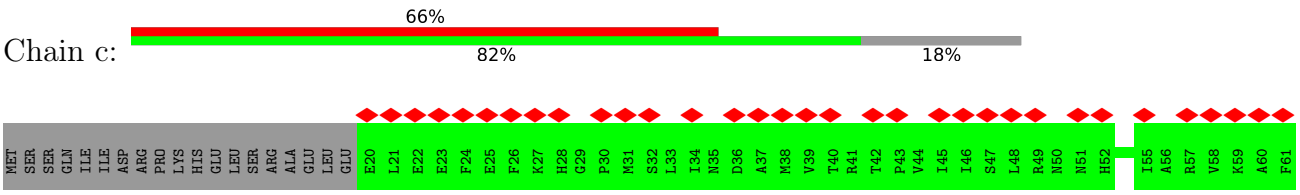
• Molecule 7: SMD1 isoform 1

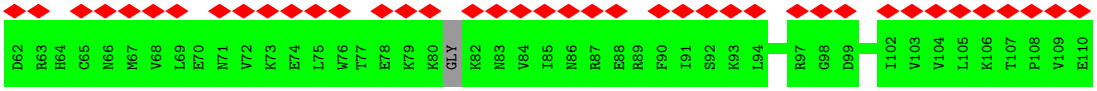
Chain m:



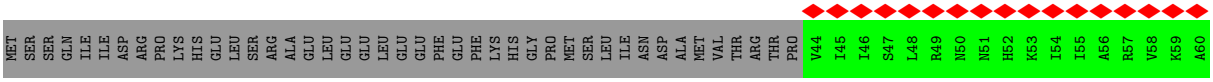
• Molecule 8: BJ4_G0037700.mRNA.1.CDS.1

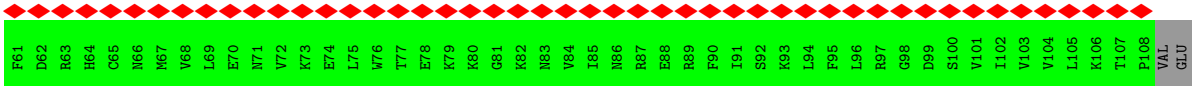
Chain c:



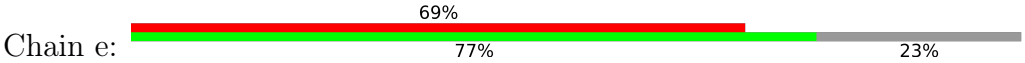


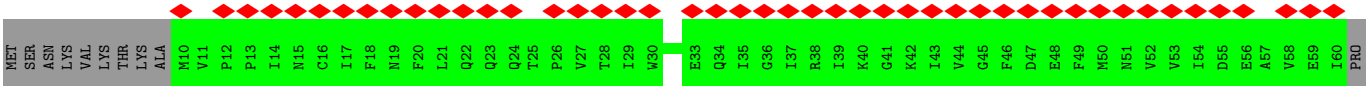
• Molecule 8: BJ4_G0037700.mRNA.1.CDS.1

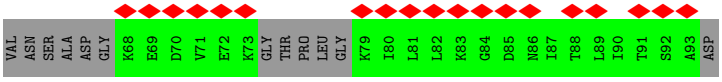




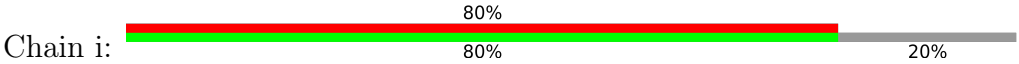
• Molecule 9: Small nuclear ribonucleoprotein E

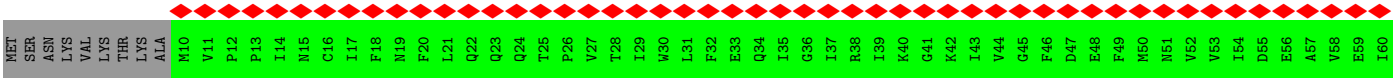


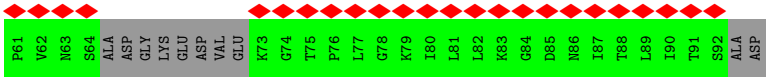




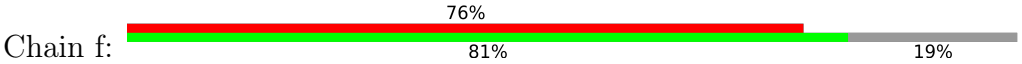
• Molecule 9: Small nuclear ribonucleoprotein E

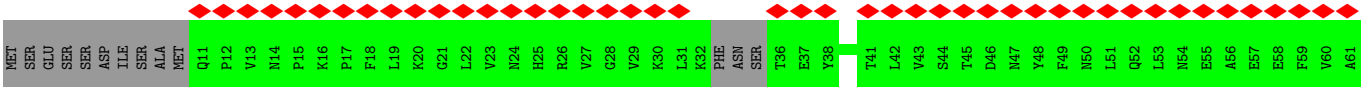


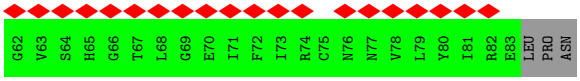




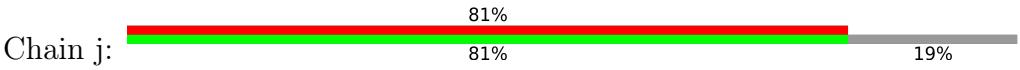
• Molecule 10: Sm protein F

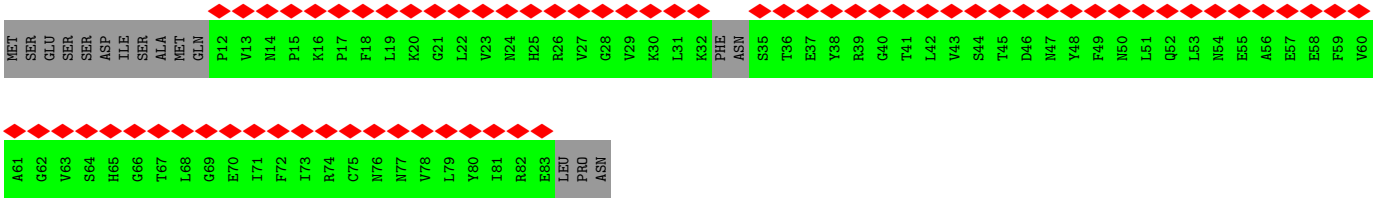




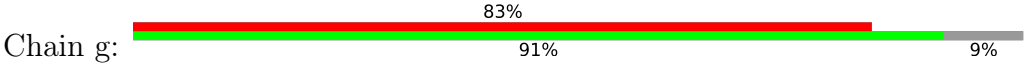


• Molecule 10: Sm protein F

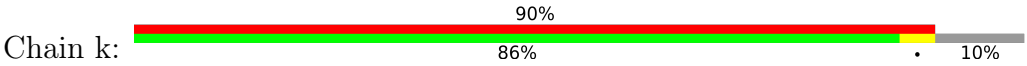




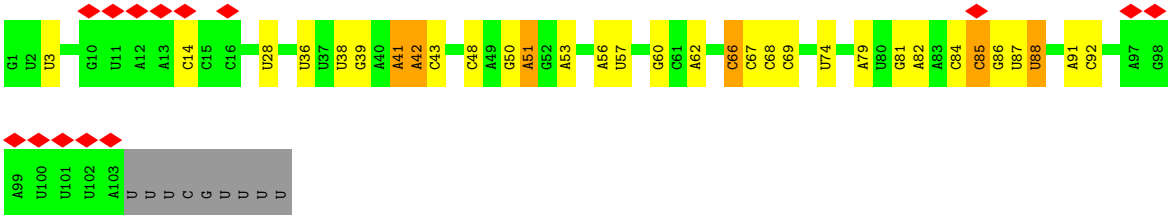
• Molecule 11: Small nuclear ribonucleoprotein G



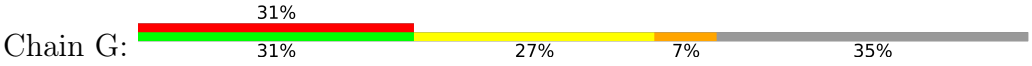
• Molecule 11: Small nuclear ribonucleoprotein G

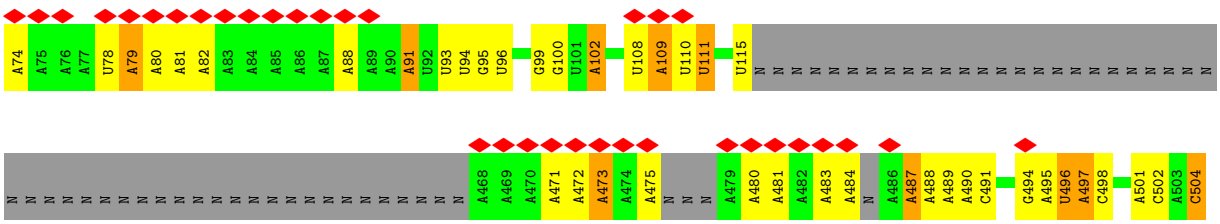


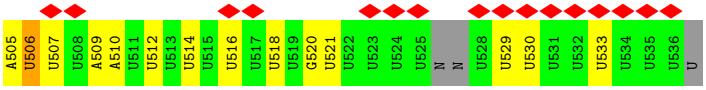
• Molecule 12: U6 snRNA



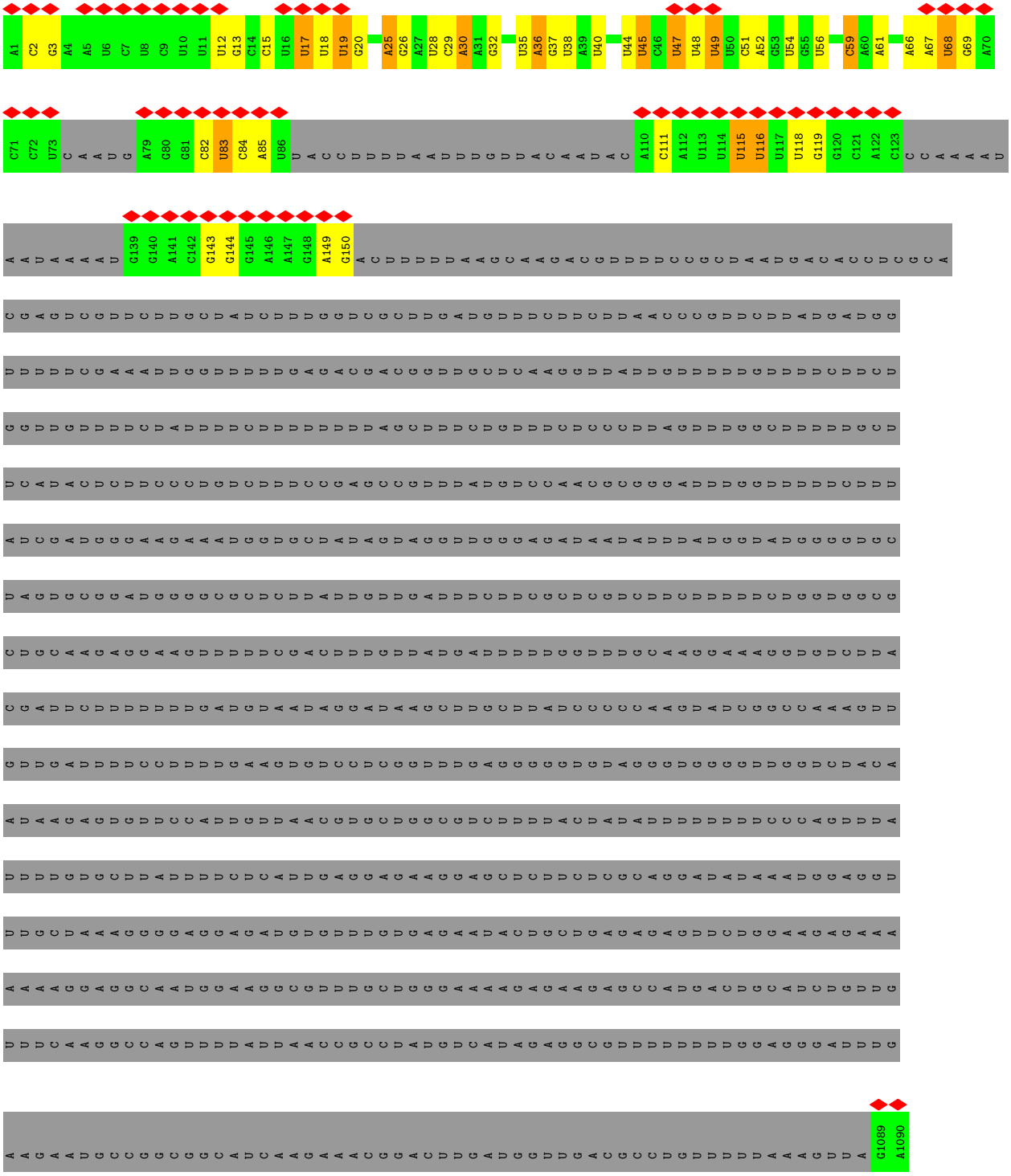
• Molecule 13: pre-mRNA

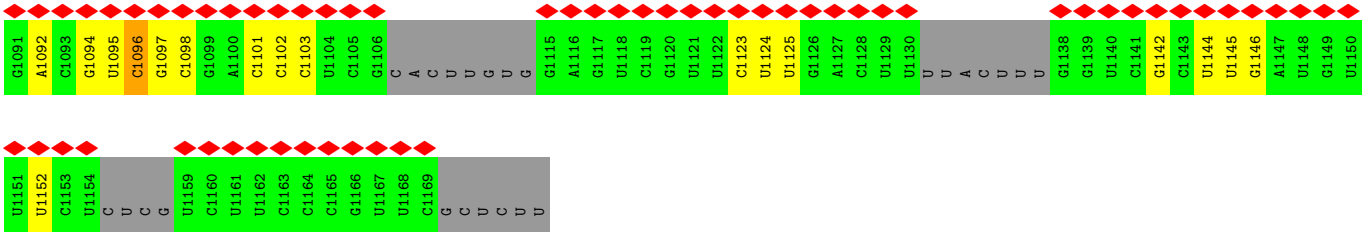




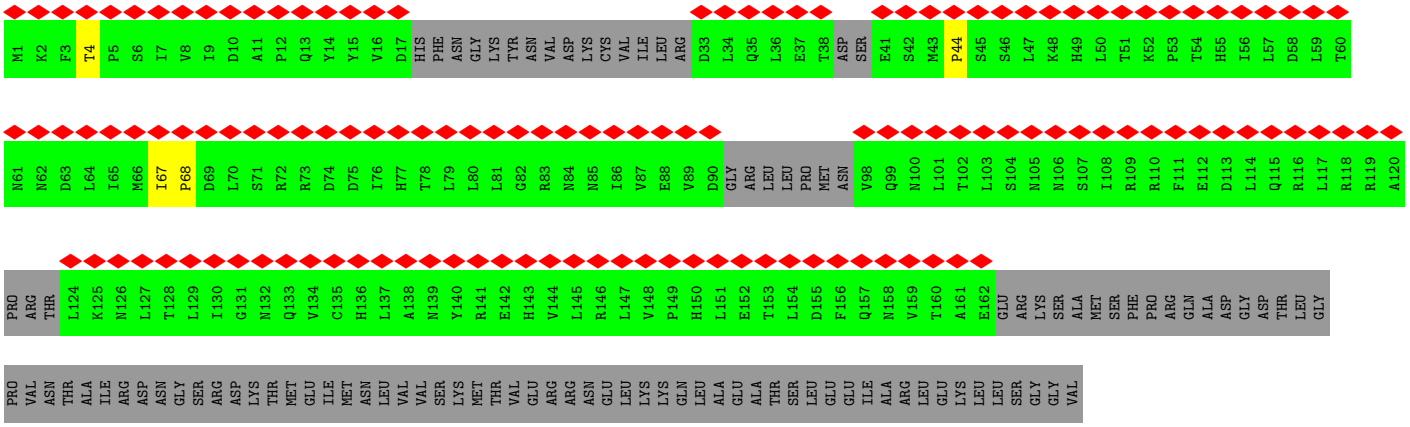


• Molecule 14: U2 snRNA



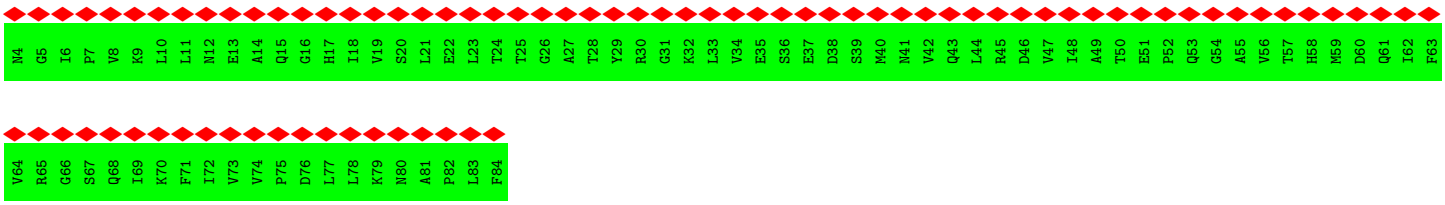


• Molecule 15: HLJ1_G0053790.mRNA.1.CDS.1

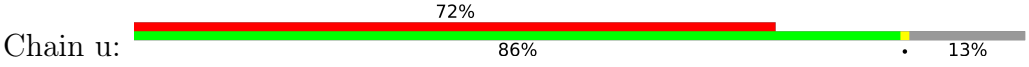


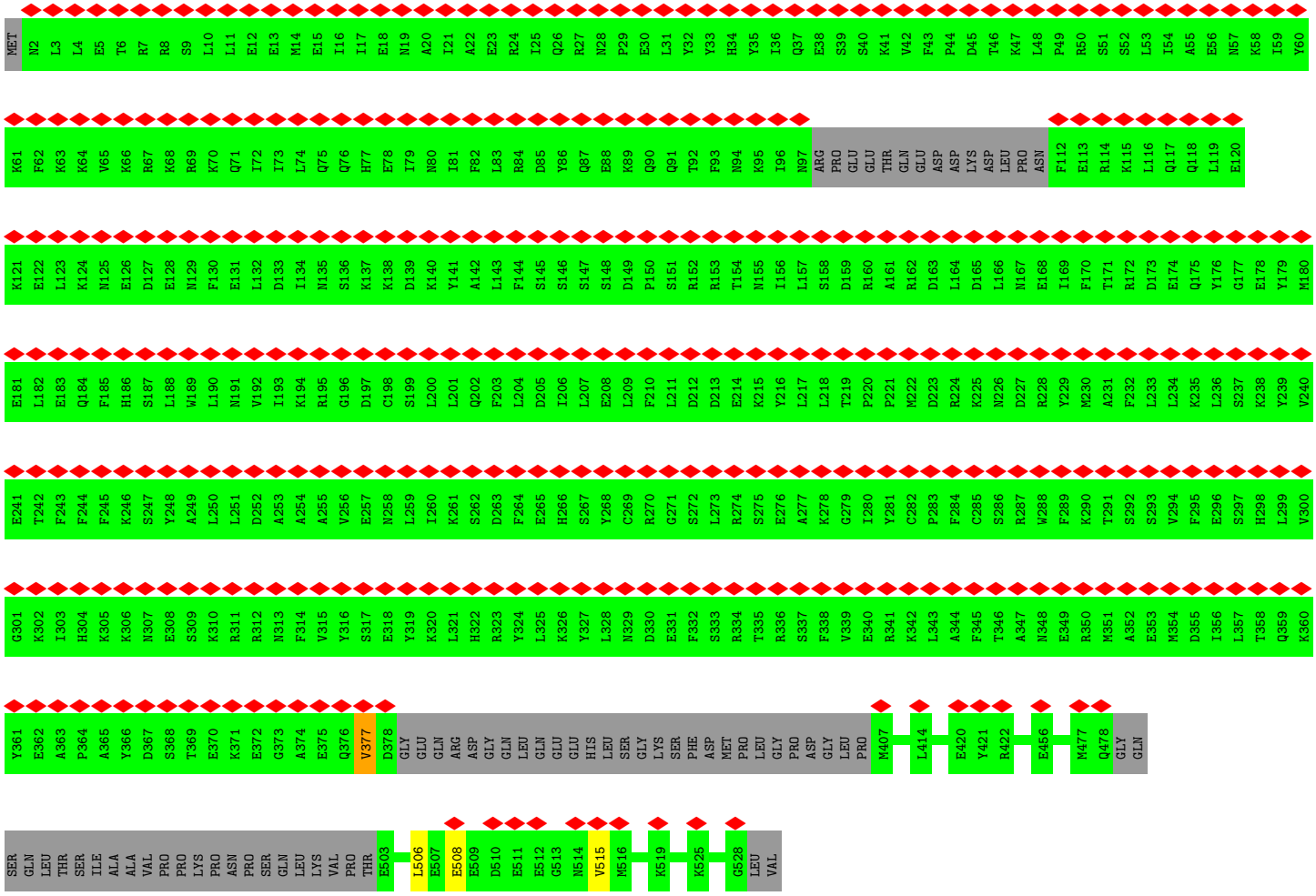
• Molecule 16: BJ4_G0027490.mRNA.1.CDS.1

• Molecule 17: Small nuclear ribonucleoprotein Sm D3

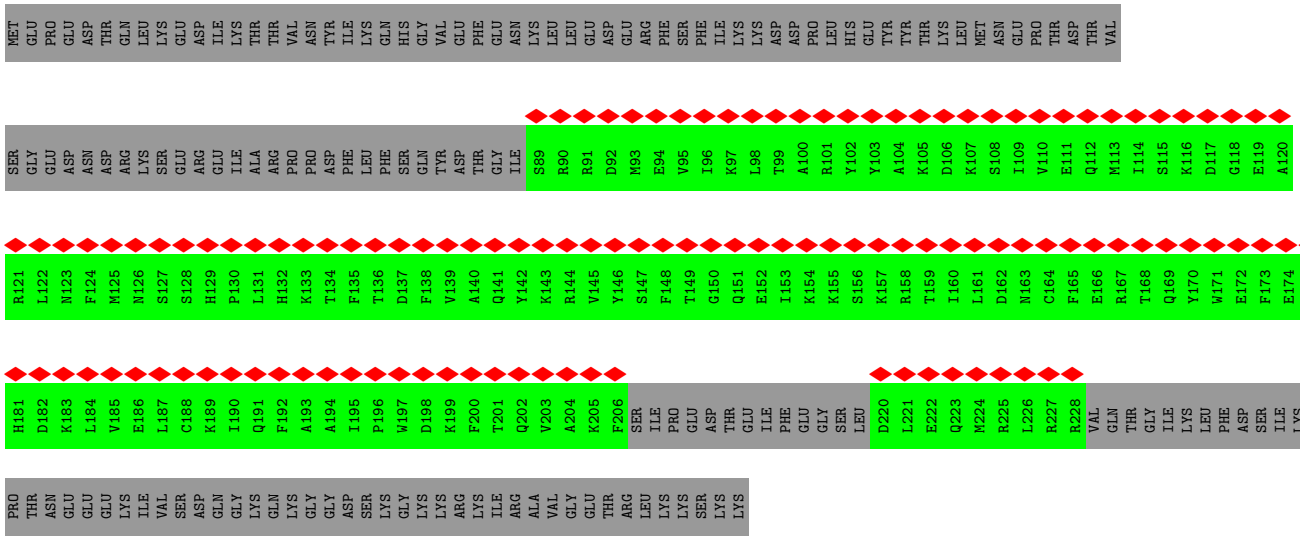


• Molecule 18: PRP9 isoform 1

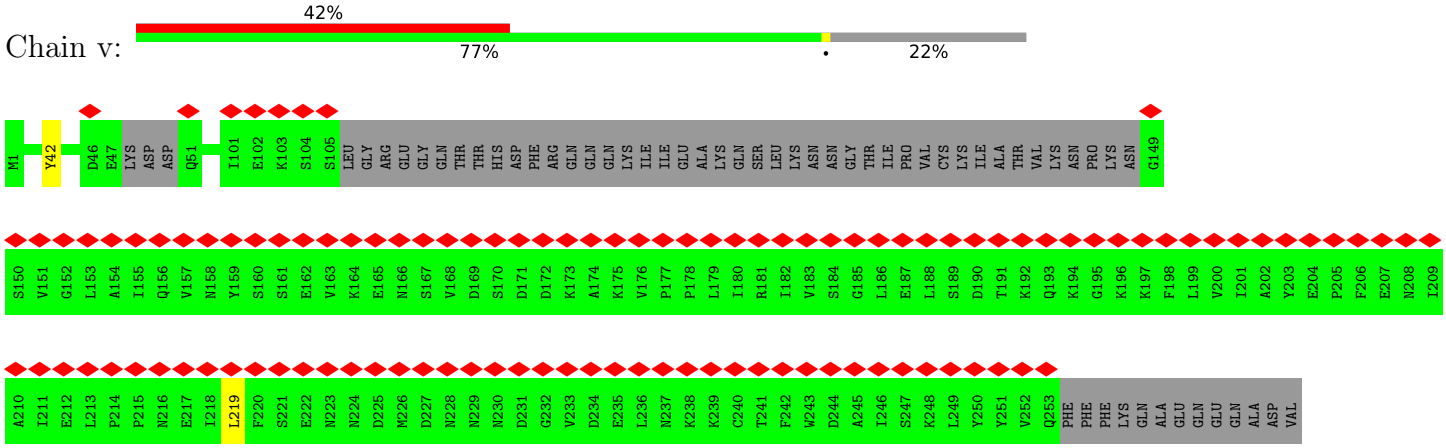




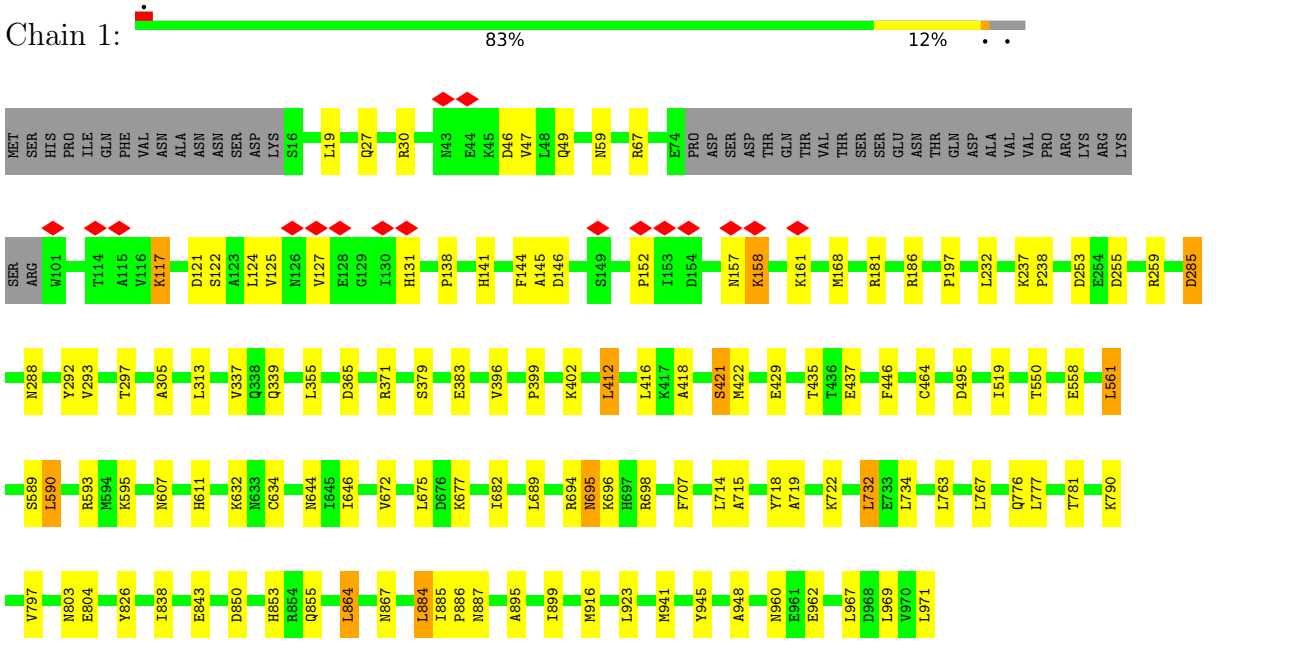
• Molecule 19: Pre-mRNA-splicing factor PRP21



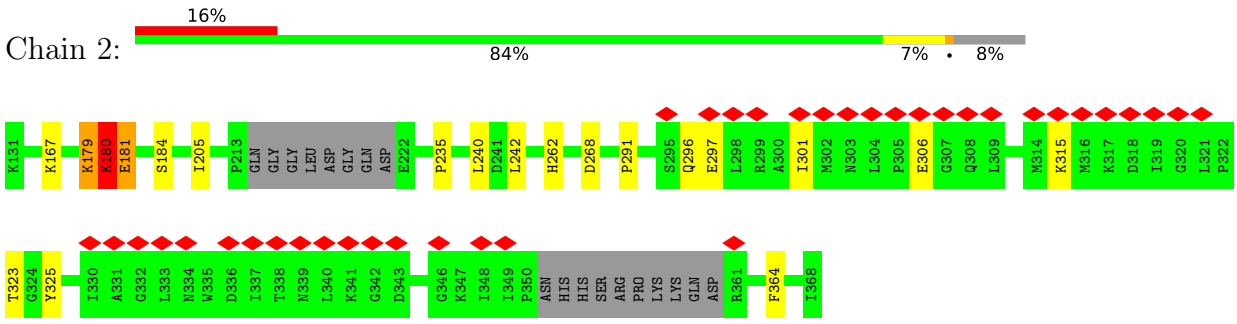
• Molecule 20: PRP11 isoform 1



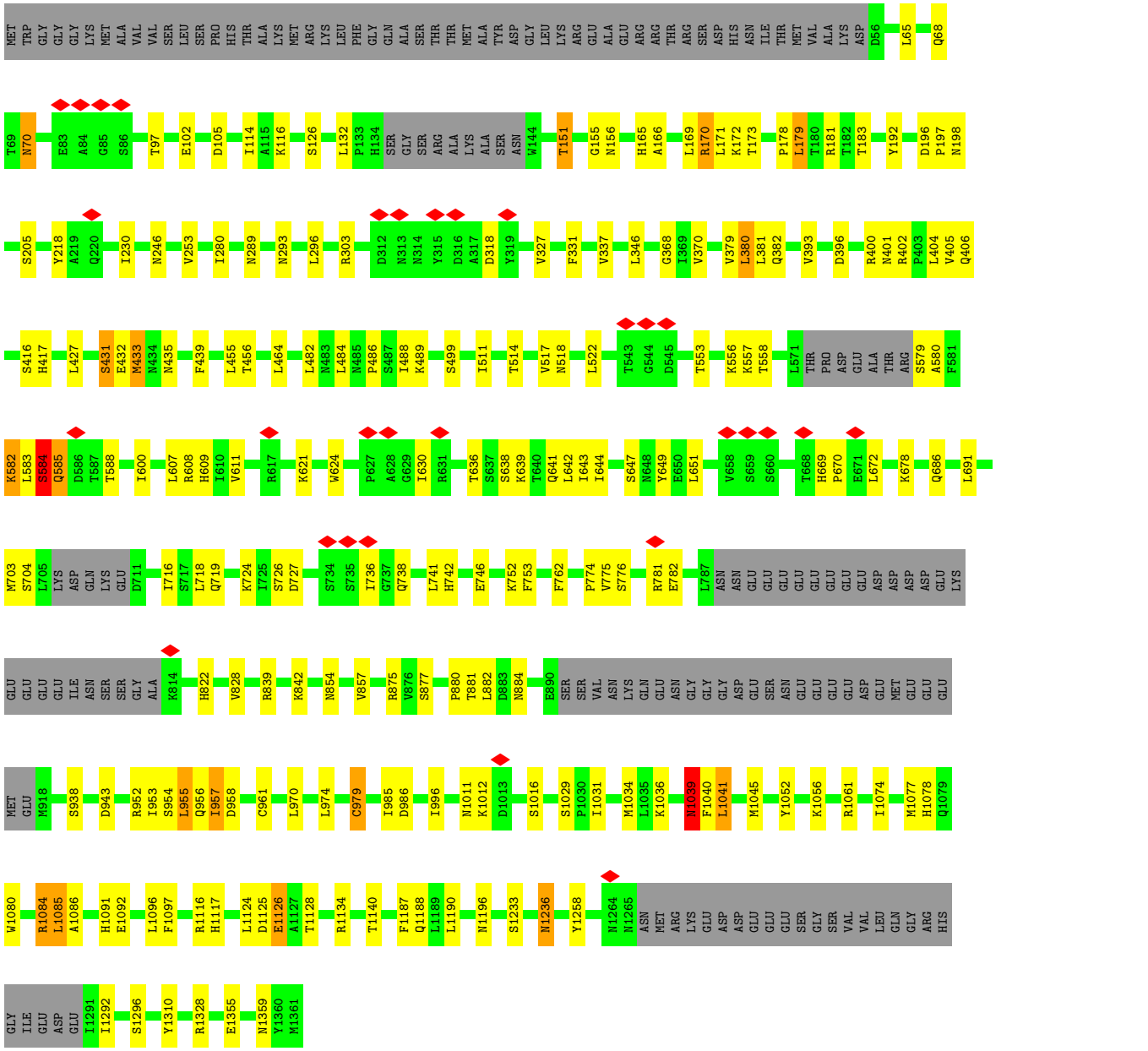
• Molecule 21: HSH155 isoform 1



• Molecule 22: HLJ1_G0043010.mRNA.1.CDS.1

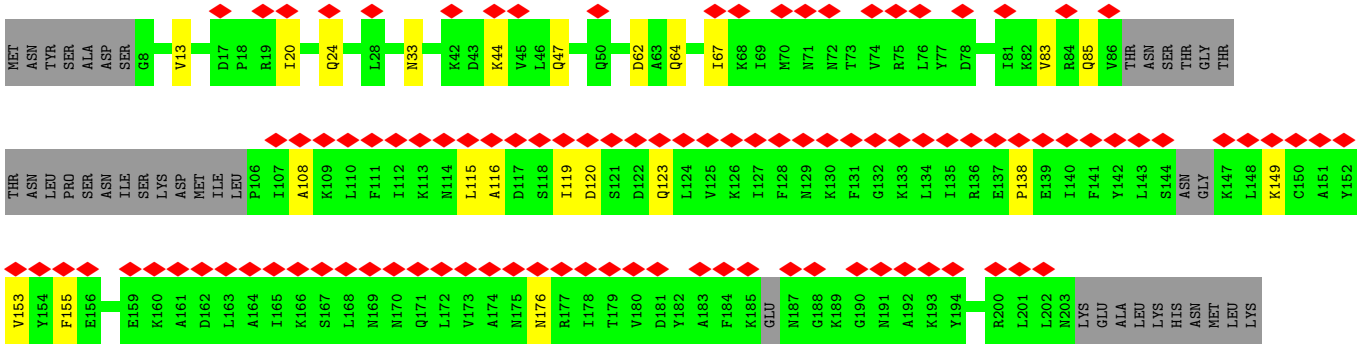


• Molecule 23: RSE1 isoform 1



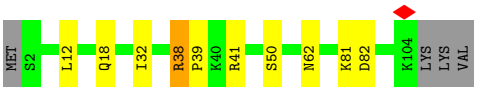
• Molecule 24: HSH49 isoform 1

Chain 4:



• Molecule 25: BJ4_G0056610.mRNA.1.CDS.1

Chain 5:

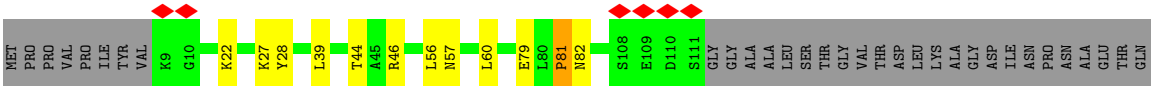


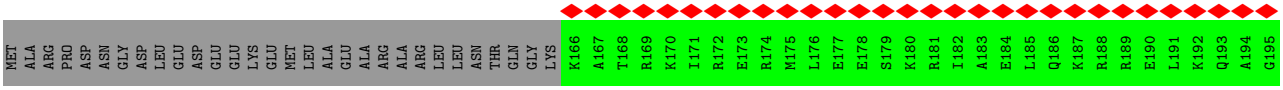
• Molecule 26: RDS3 complex subunit 10

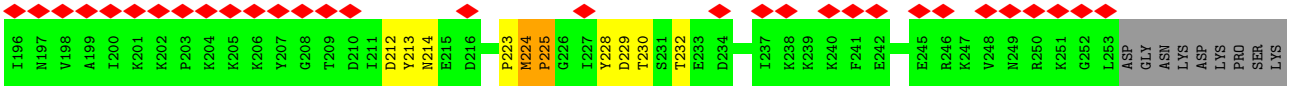
Chain 6:

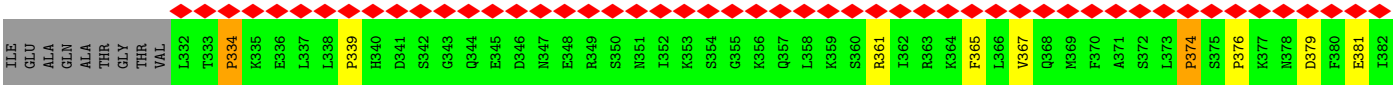
• Molecule 27: Pre-mRNA-splicing factor CEF1

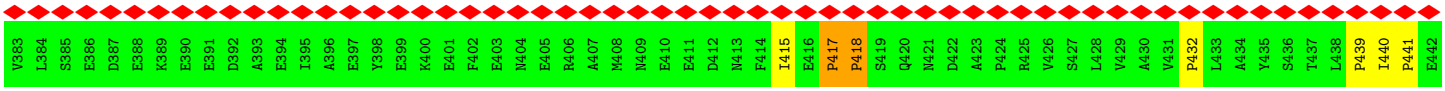
Chain L:

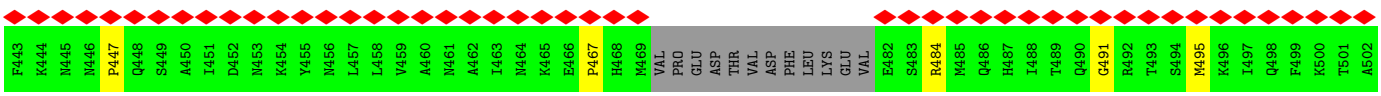


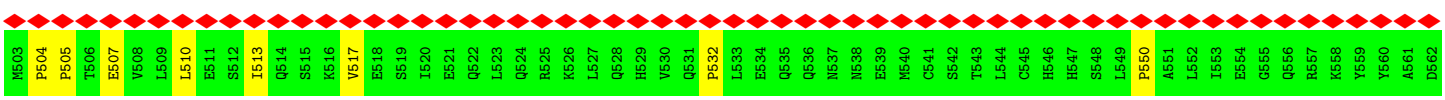


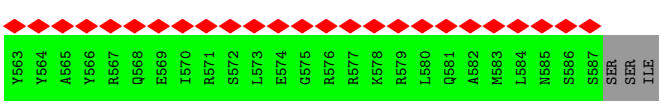






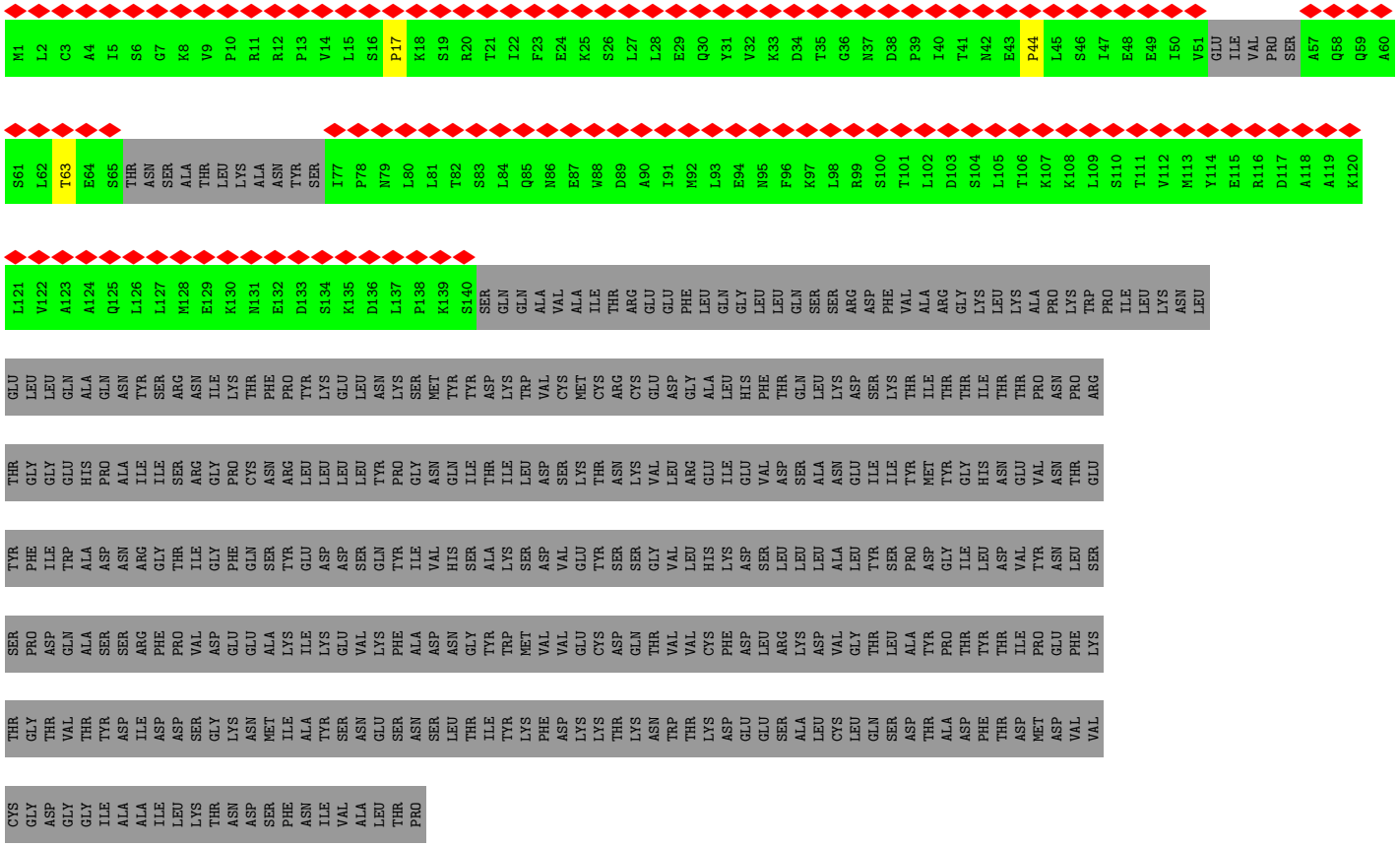






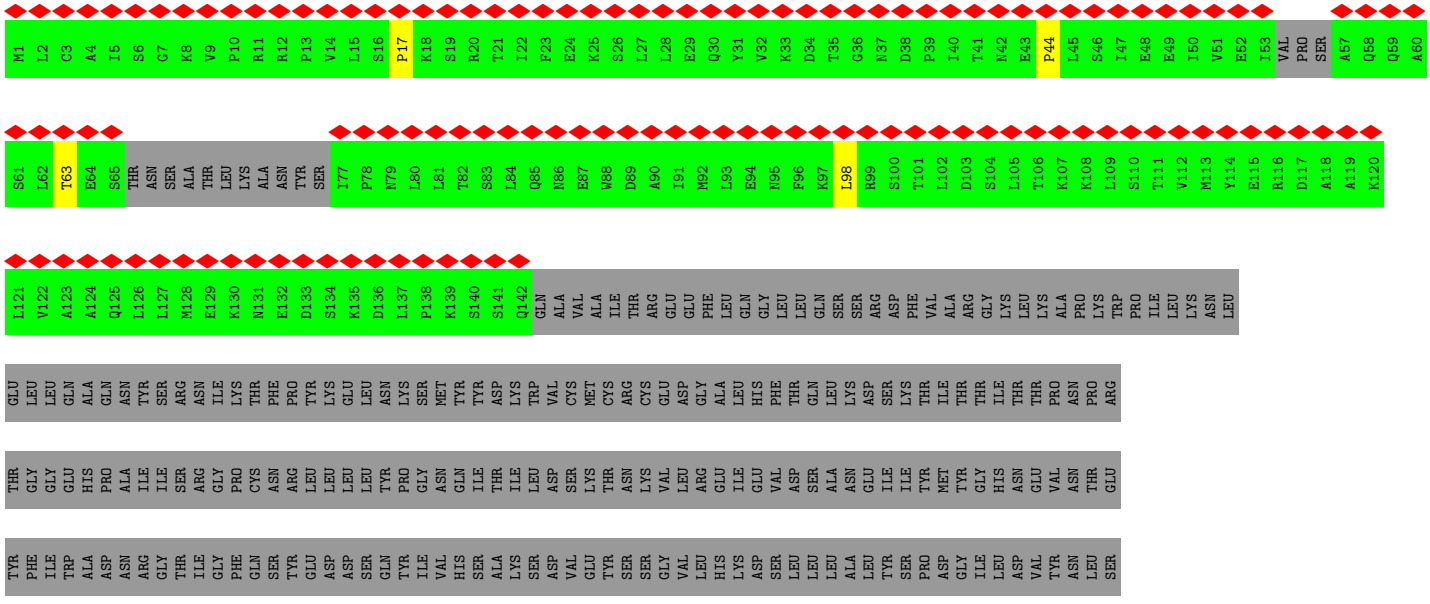
• Molecule 28: Pre-mRNA-processing factor 19

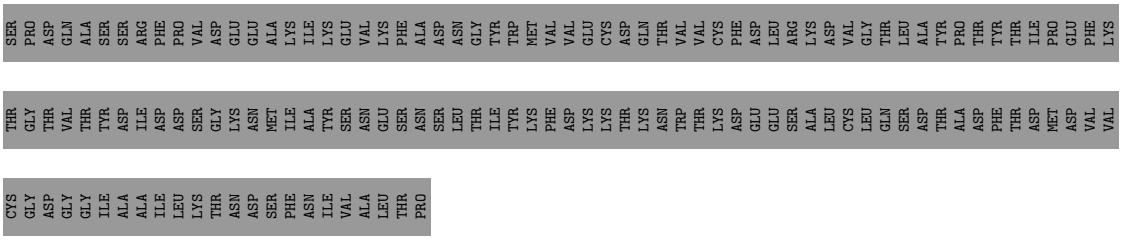
Chain s:



• Molecule 28: Pre-mRNA-processing factor 19

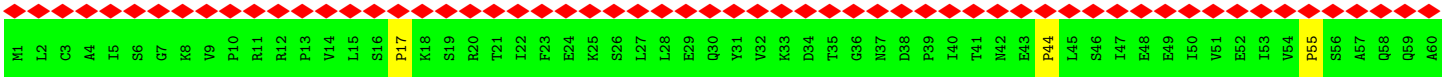
Chain t:

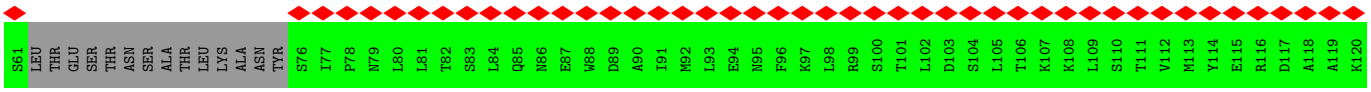


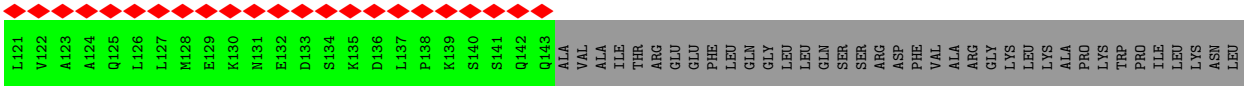


• Molecule 28: Pre-mRNA-processing factor 19

Chain q:

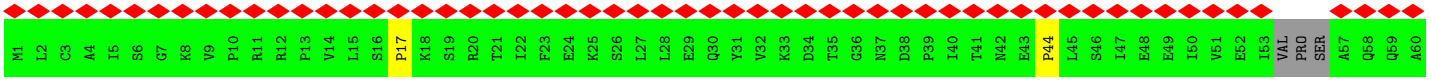


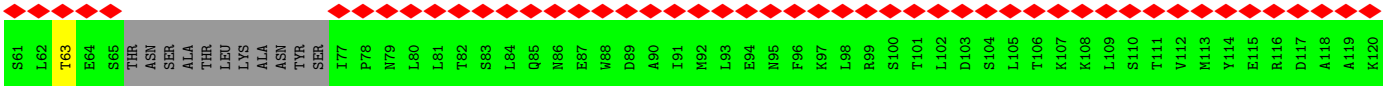


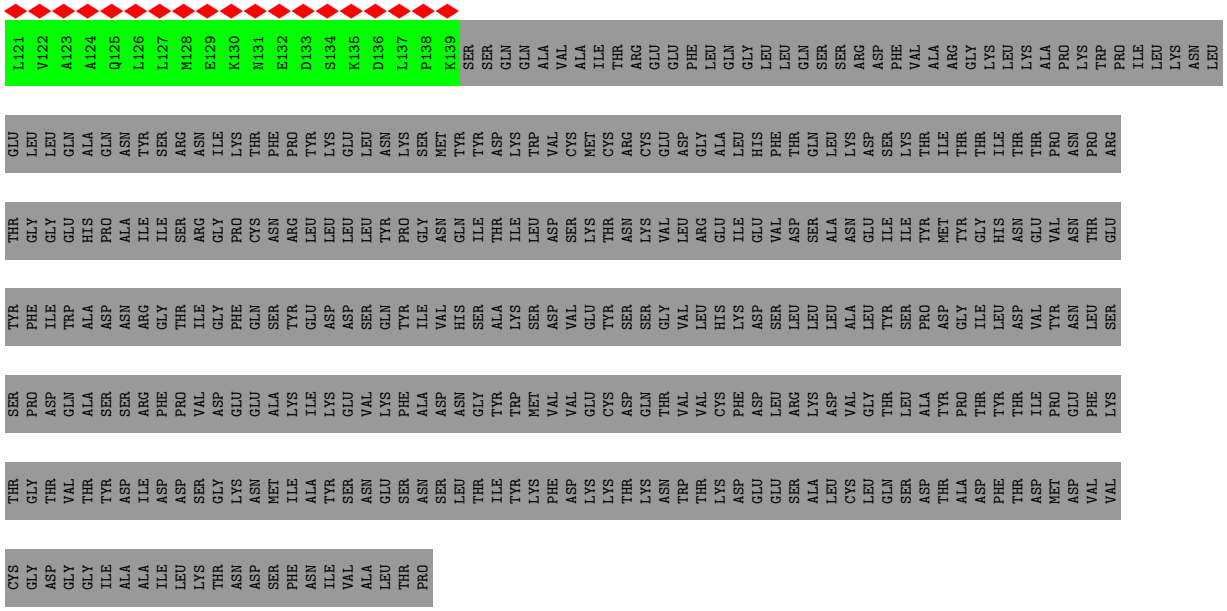


• Molecule 28: Pre-mRNA-processing factor 19

Chain r:

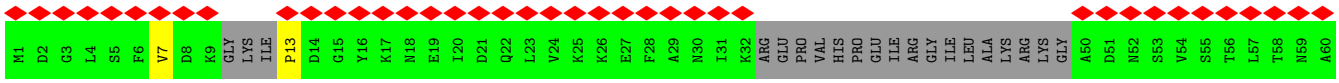


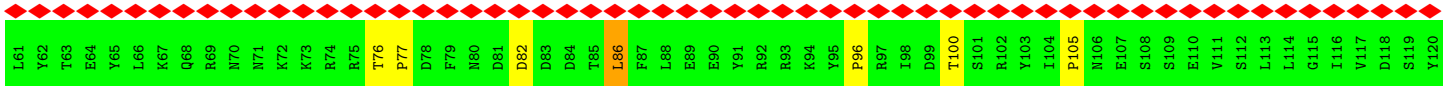


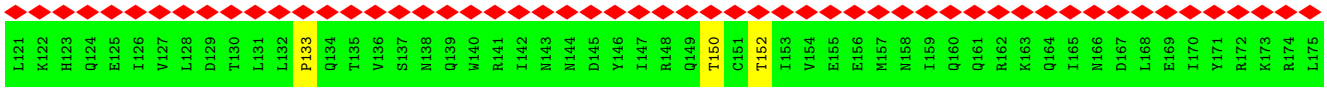


• Molecule 29: SNT309 isoform 1

Chain K:

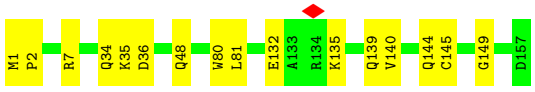






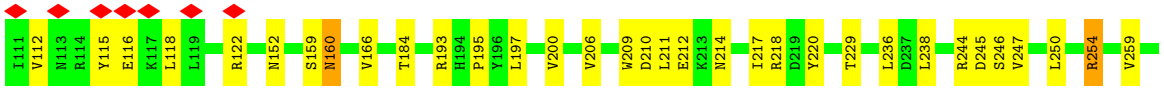
• Molecule 30: BUD31 isoform 1

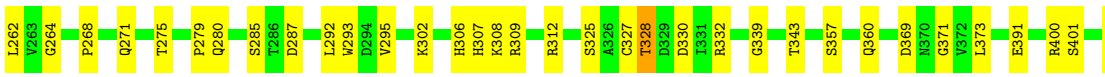
Chain N:

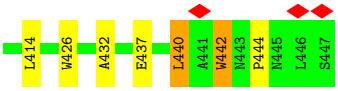


• Molecule 31: HLJ1_G0054350.mRNA.1.CDS.1

Chain T:

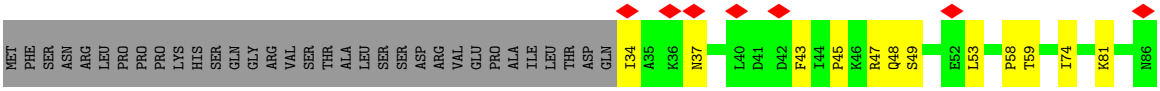


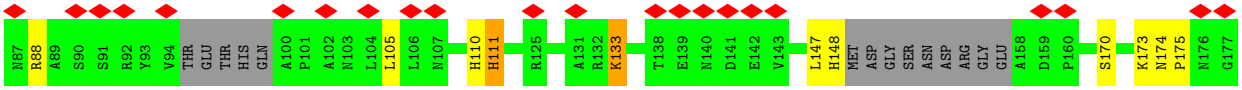


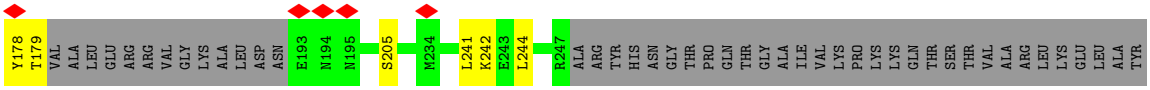


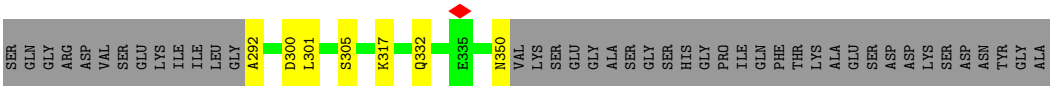
• Molecule 32: Pre-mRNA-processing protein 45

Chain P:



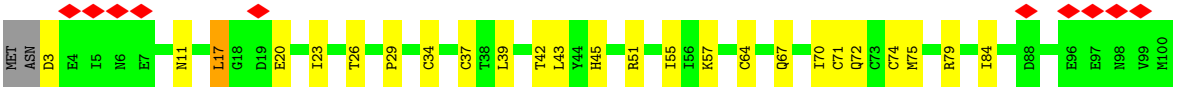


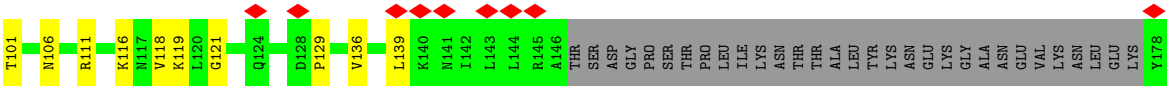


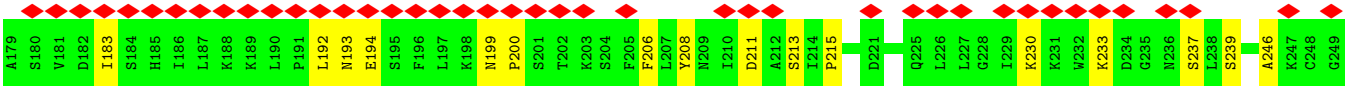


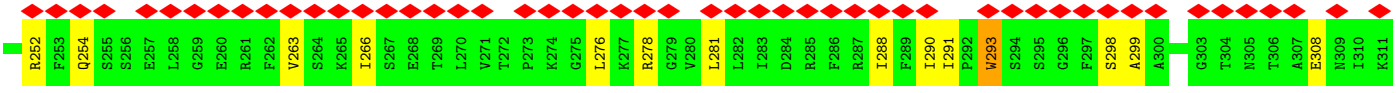
• Molecule 33: Pre-mRNA-splicing factor SLT11

Chain Q:



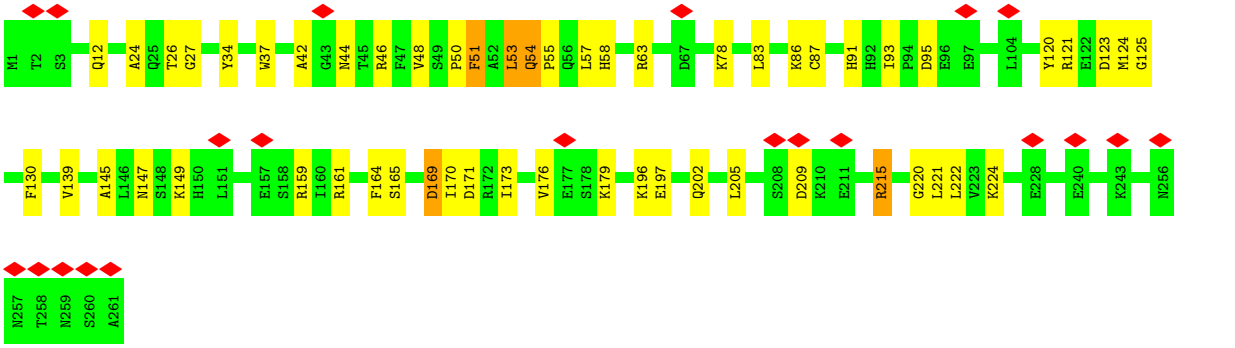




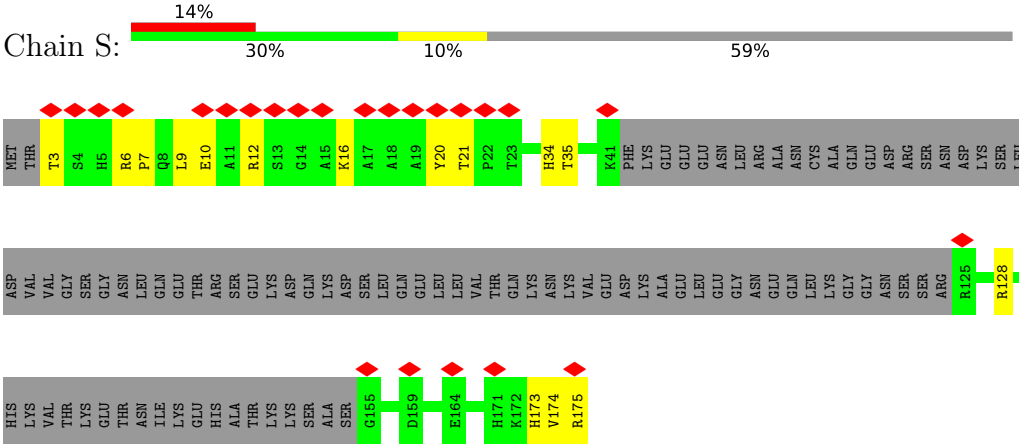


• Molecule 34: Pre-mRNA-splicing factor CWC2

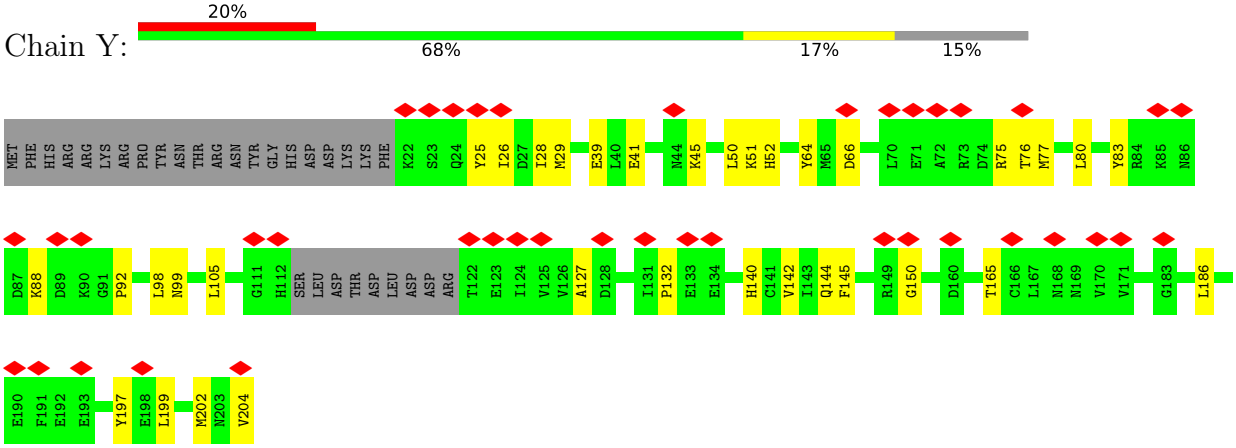
Chain R:



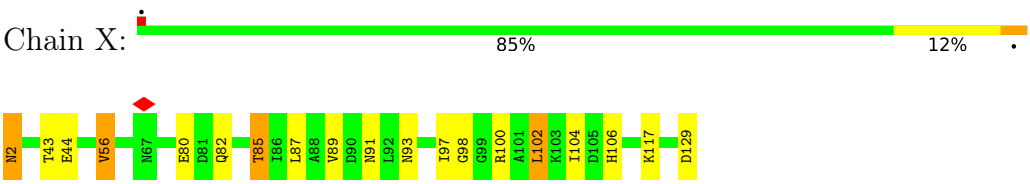
• Molecule 35: Pre-mRNA-splicing factor CWC15



• Molecule 36: Pre-mRNA leakage protein 1

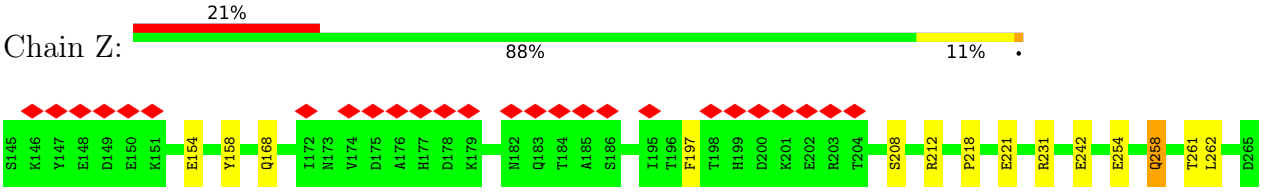


• Molecule 37: SX2_G0027210.mRNA.1.CDS.1



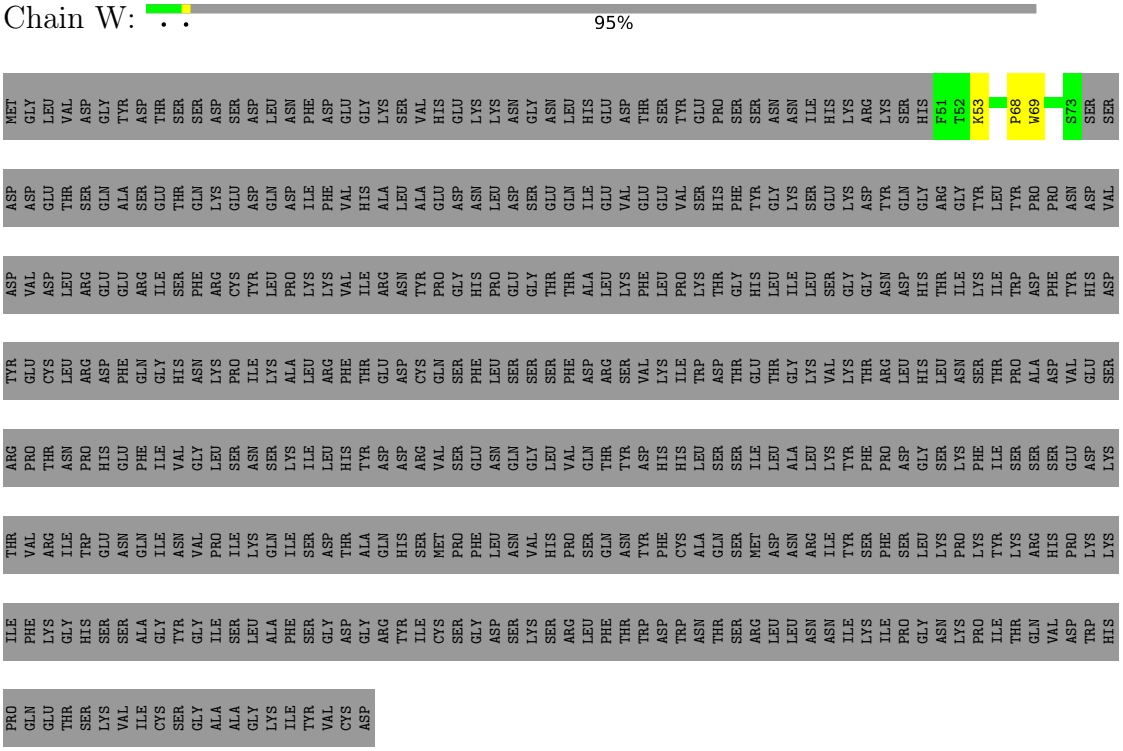
• Molecule 38: Pre-mRNA-splicing factor CWC26

Chain Z:



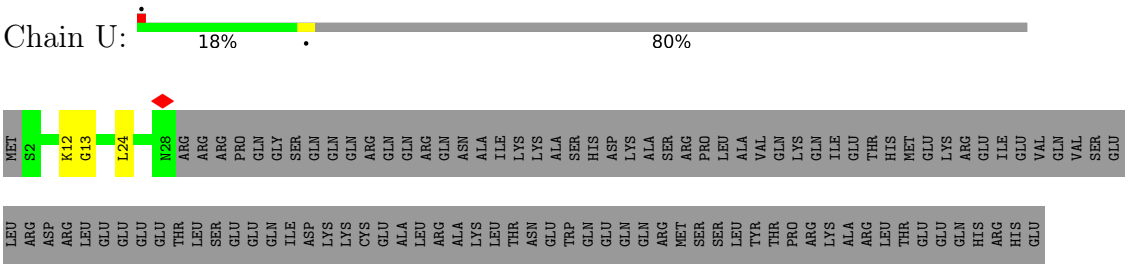
• Molecule 39: CDC40 isoform 1

Chain W:



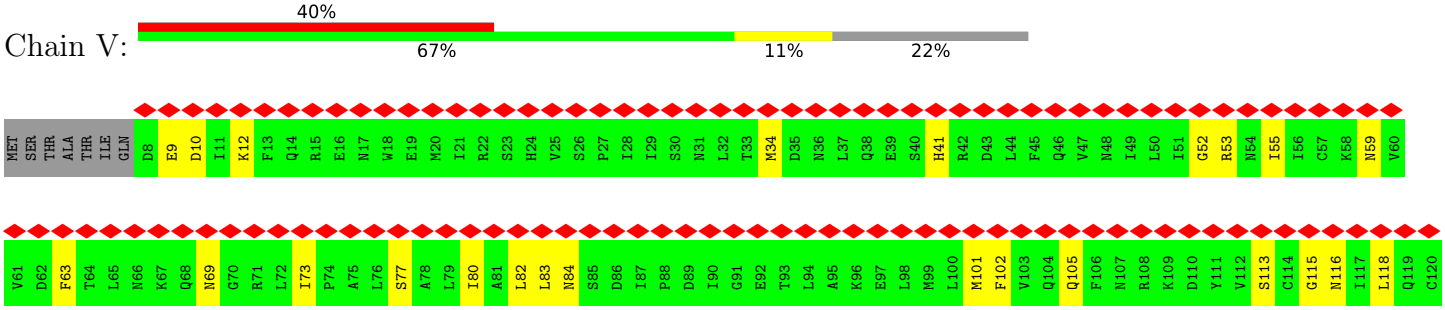
• Molecule 40: Pre-mRNA-splicing factor CWC21

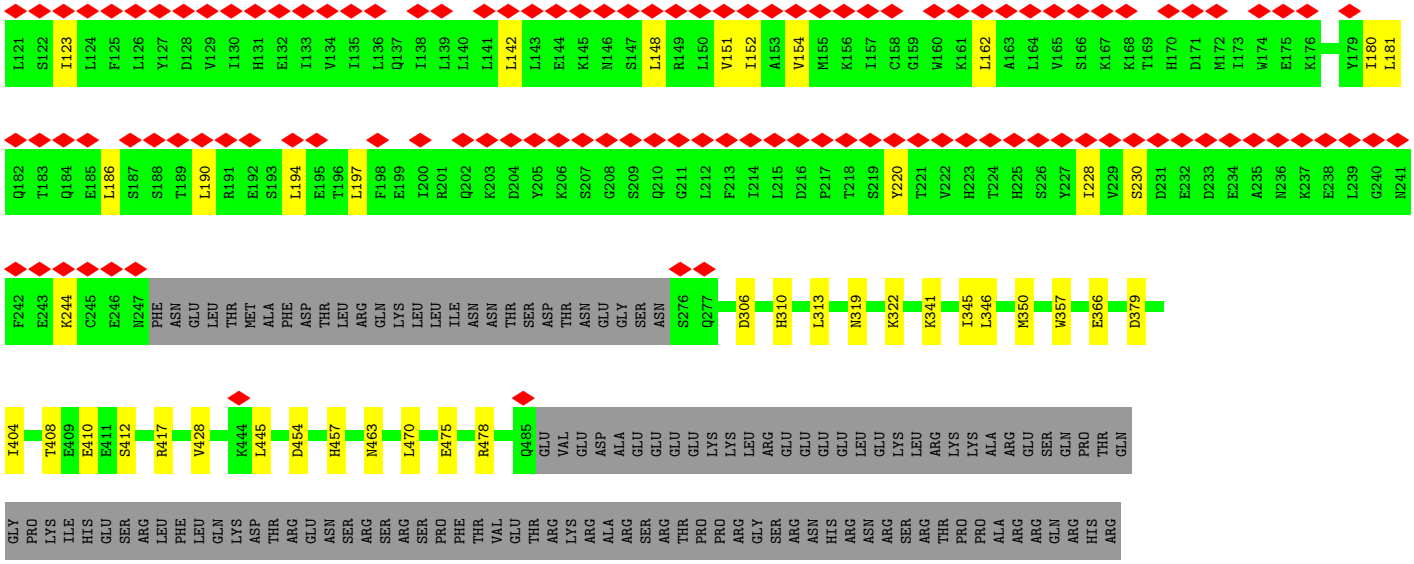
Chain U:



• Molecule 41: CWC22 isoform 1

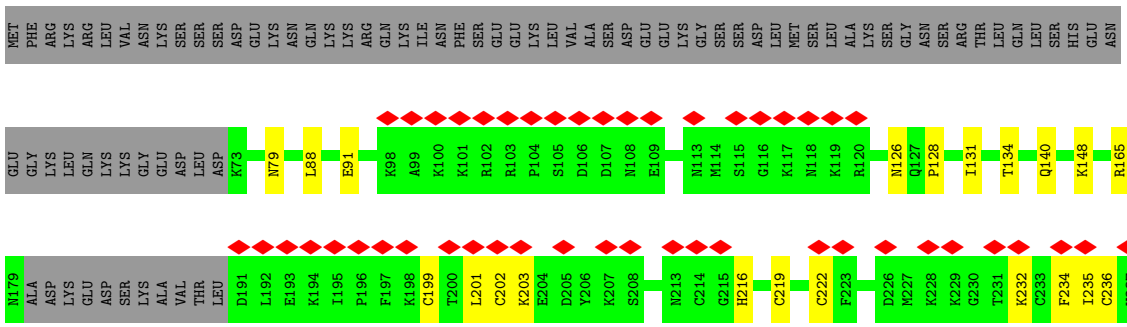
Chain V:





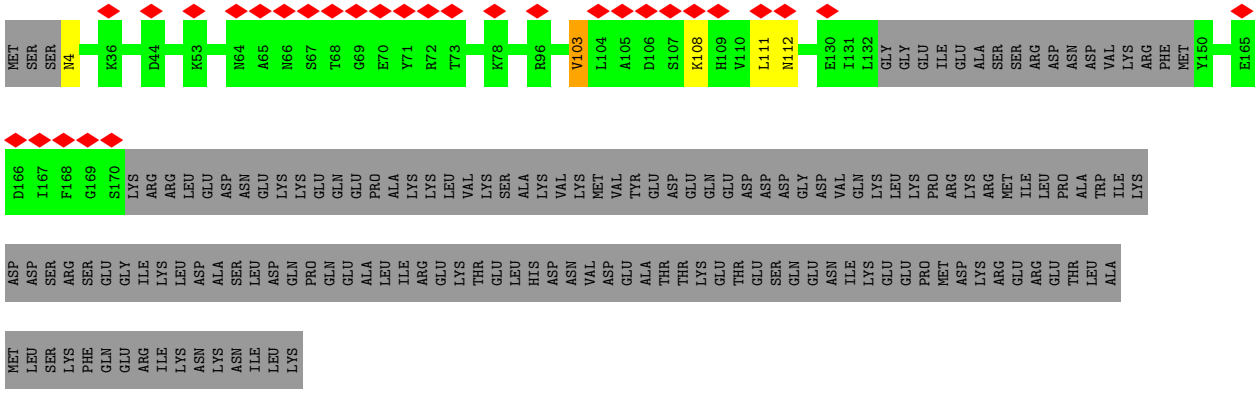
• Molecule 42: Pre-mRNA-splicing factor CWC24

Chain M:



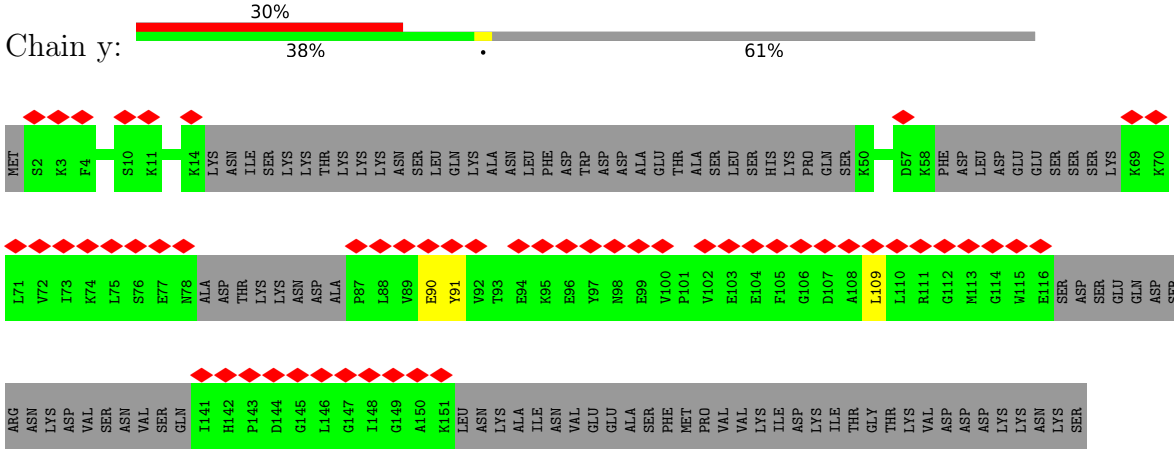
• Molecule 43: CWC27 isoform 1

Chain z:



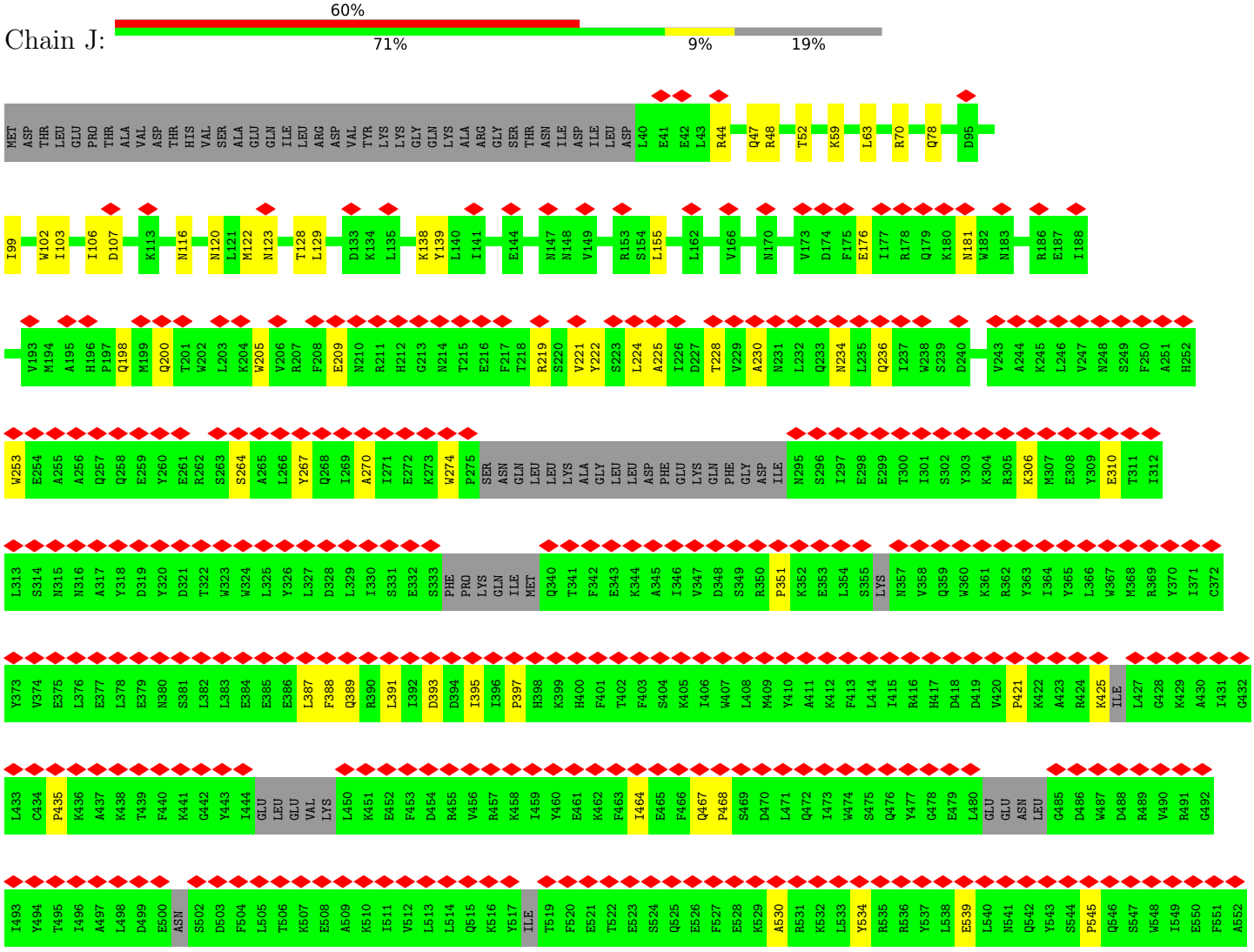
• Molecule 44: Pre-mRNA-splicing factor SPP2

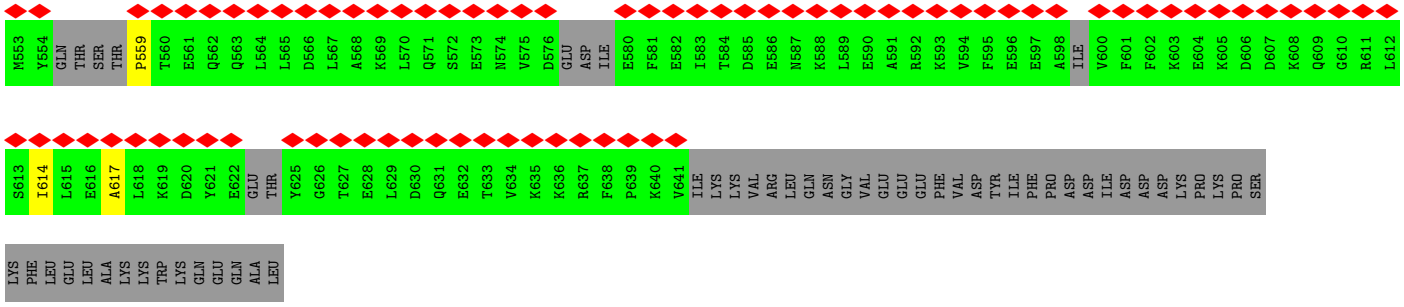
Chain y:



• Molecule 45: CLF1 isoform 1

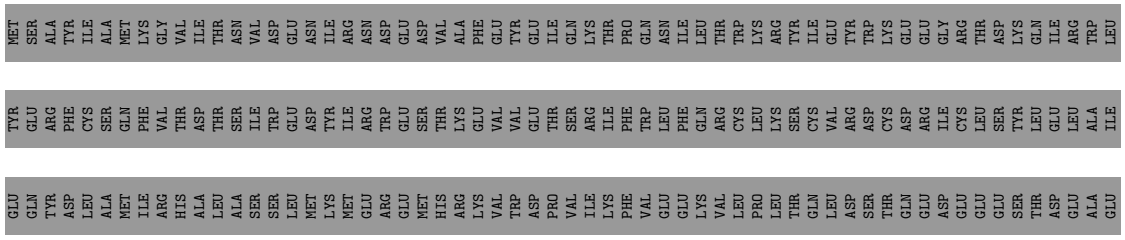
Chain J:

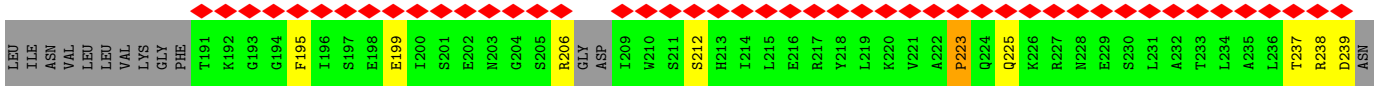


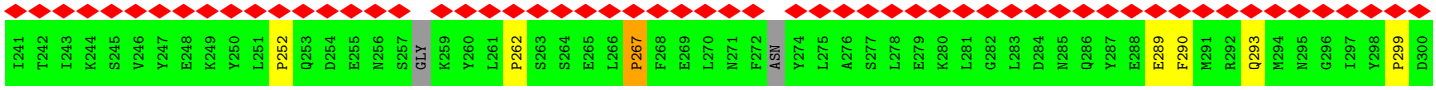


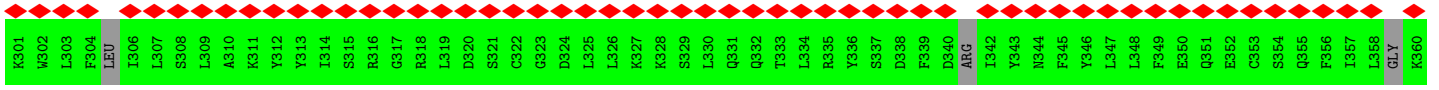
• Molecule 46: SYF1 isoform 1

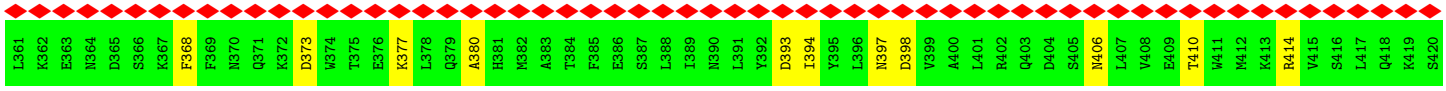
Chain I:

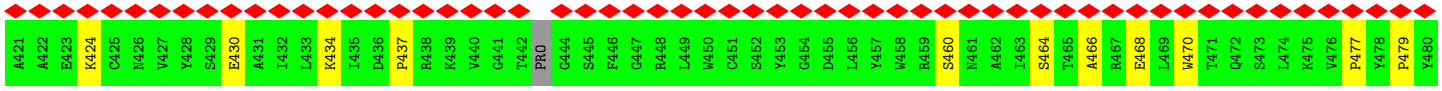


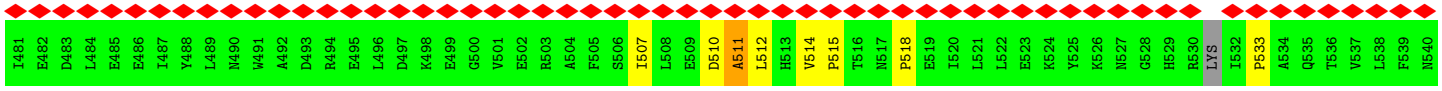


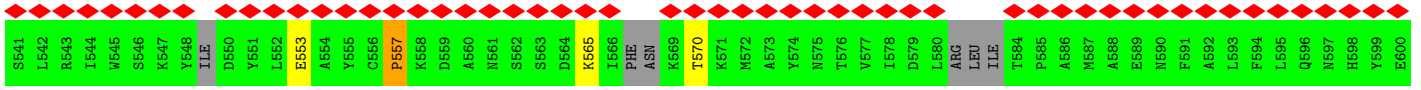


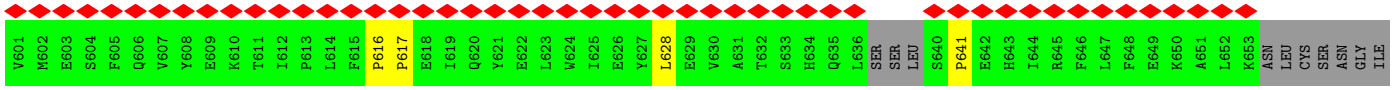


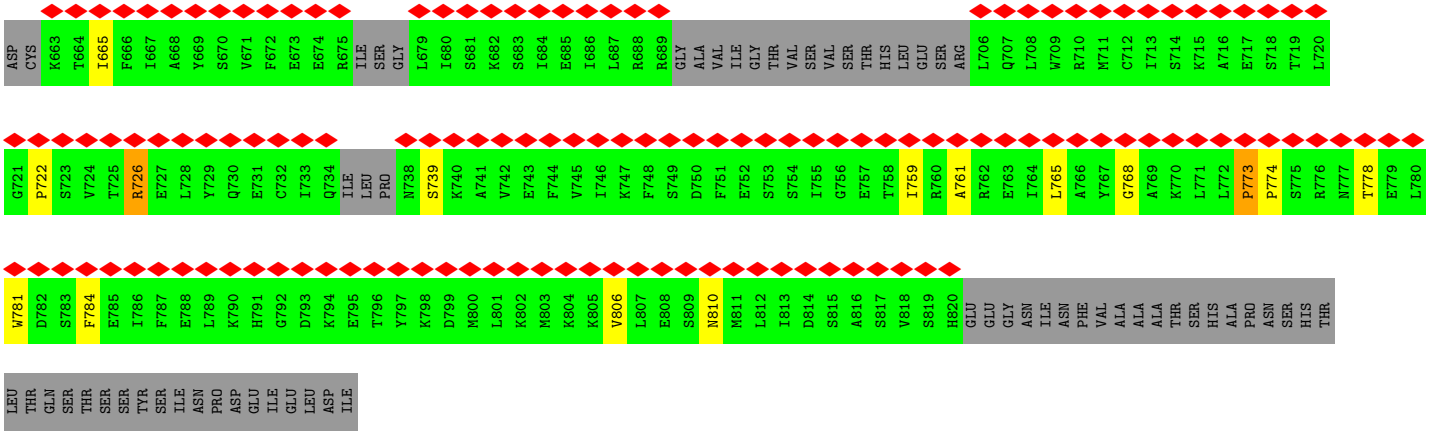






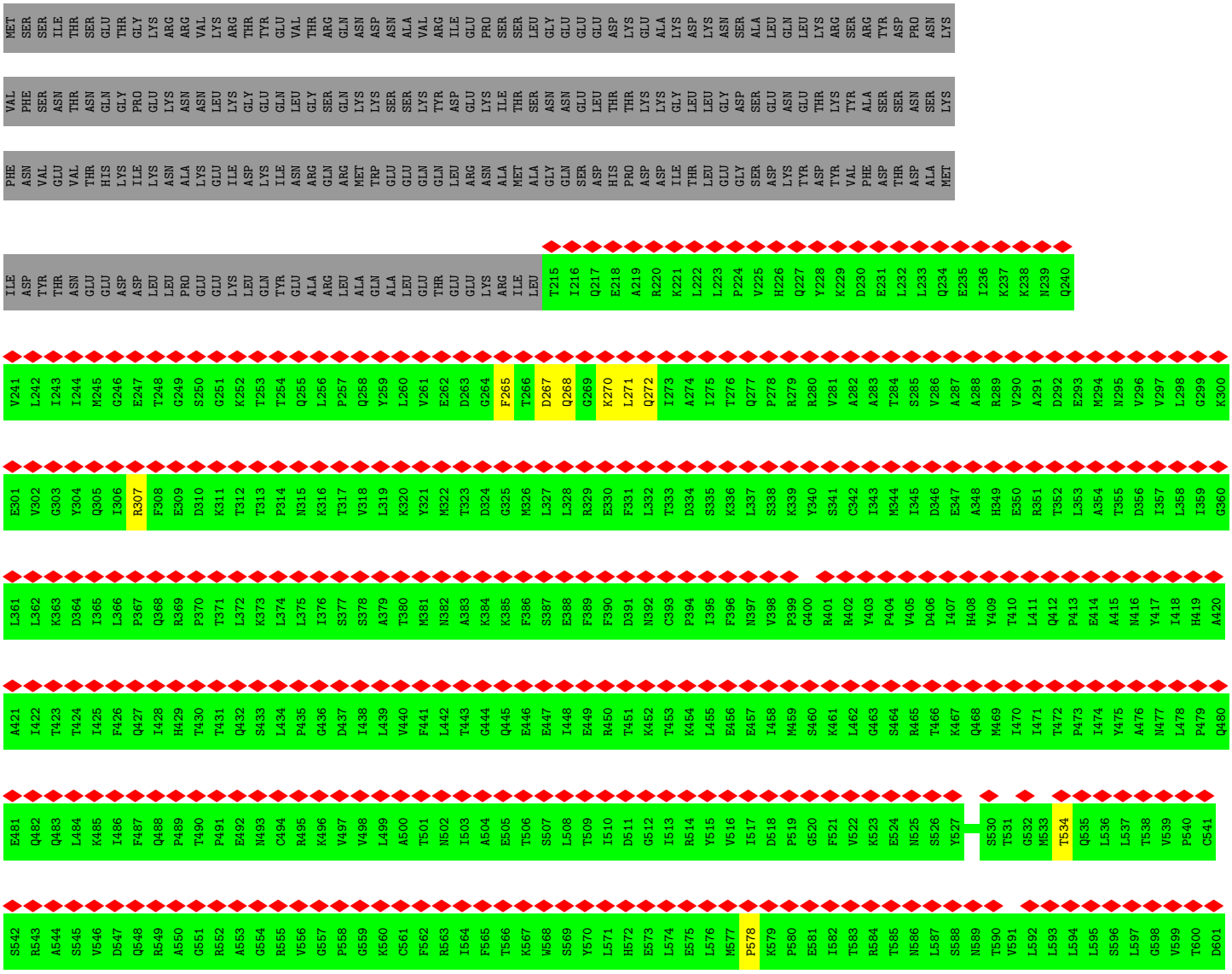


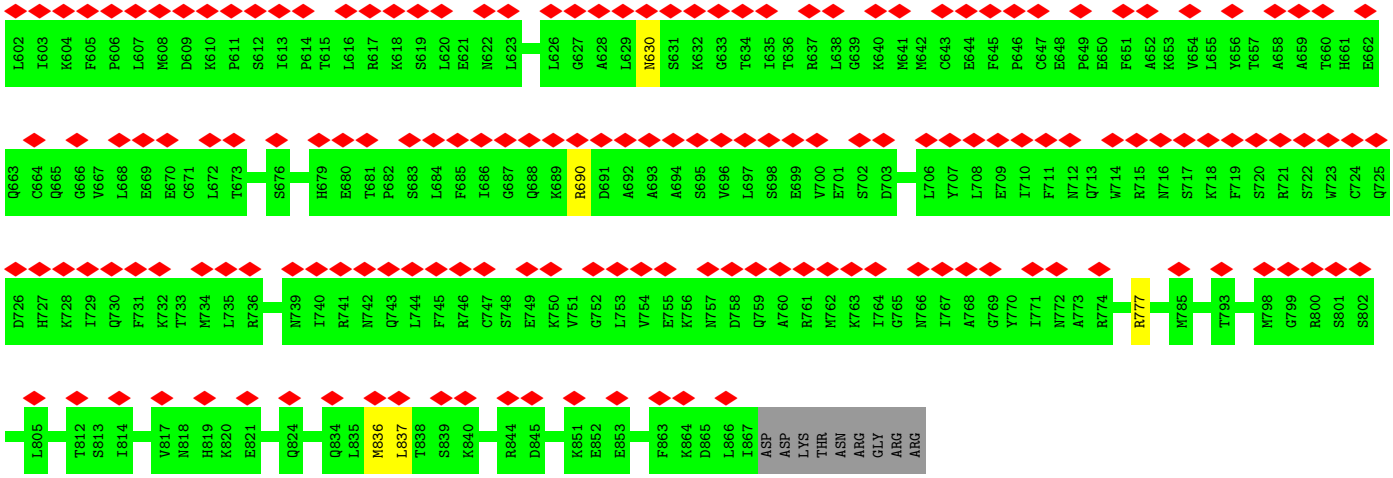




• Molecule 47: Pre-mRNA-splicing factor ATP-dependent RNA helicase-like protein PRP2

Chain x:




L602 I603 K604 F605 P606 L607 M608 D609 K610 P611 S612 I613 P614 T615 L616 R617 K618 S619 L620 E621 N622 L623
L626 G627 A628 L629 N630 S631 K632 G633 T634 I635 T636 R637 L638 G639 K640 M641 M642 C643 E644 F645 P646 C647 E648 P649 E650 F651 A652 K653 V654 L655 Y656 T657 A658 A659 T660 H661 E662
Q663 G664 Q665 G666 V667 L668 E669 E670 C671 L672 T673
S676
H679 E680 T681 P682 S683 L684 F685 I686 G687 Q688 K689 R690 D691 A692 A693 A694 S695 V696 L697 S698 E699 V700 E701 S702 D703
L706 Y707 L708 E709 I710 F711 N712 Q713 W714 R715 N716 S717 K718 F719 S720 R721 S722 W723 C724 Q725
D726 H727 K728 I729 Q730 F731 K732 T733 M734 L735 R736
N739 I740 R741 N742 Q743 L744 F745 R746 C747 S748 E749 K750 V751 G752 L753 V754 E755 K756 N757 D758 Q759 A760 R761 M762 K763 I764 G765 N766 I767 A768 G769 Y770 I771 N772 A773 R774
R777
M785
T793
M798 G799 R800 S801 S802
L805
T812 S813 I814
V817 N818 H819 K820 E821
Q824
Q834 L835 M836 L837 T838 S839 K840
R844 D845
K851 E852 E853
F863 K864 D865 L866 I867
ASP ASP LYS THR ASN ARG GLY ARG ARG

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	705371	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 ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.251	Depositor
Minimum map value	-0.119	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	423.99997, 423.99997, 423.99997	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.06, 1.06, 1.06	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: CA, MG, ZN, GTP, IHP

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	0.61	0/18595	0.69	0/25207
2	B	0.60	0/4239	0.90	0/6598
3	C	0.41	0/7484	0.64	0/10135
4	D	0.33	0/14978	0.54	0/20302
5	d	0.24	0/315	0.50	0/392
6	a	0.23	0/290	0.50	0/359
6	h	0.29	0/615	0.62	0/829
7	b	0.23	0/305	0.52	0/376
7	m	0.29	0/649	0.54	0/880
8	c	0.23	0/358	0.51	0/444
8	n	0.30	0/535	0.62	0/717
9	e	0.22	0/285	0.48	0/351
9	i	0.31	0/585	0.57	0/795
10	f	0.24	0/278	0.57	0/344
10	j	0.30	0/564	0.65	0/761
11	g	0.22	0/277	0.54	0/341
11	k	0.28	0/532	0.61	0/715
12	F	0.60	0/2452	0.89	0/3817
13	G	0.48	0/2338	0.85	0/3621
14	H	0.43	0/3969	0.89	0/6159
15	o	0.25	0/839	0.52	0/1127
16	p	0.27	0/478	0.49	0/640
17	l	0.31	0/620	0.57	0/841
18	u	0.34	0/3976	0.53	0/5327
19	w	0.29	0/1105	0.47	0/1475
20	v	0.51	0/1647	0.67	0/2213
21	1	0.60	0/7522	0.72	1/10203 (0.0%)
22	2	0.54	0/1840	0.65	0/2484
23	3	0.57	0/9789	0.73	0/13273
24	4	0.35	0/1457	0.57	0/1959
25	5	0.69	0/827	0.76	0/1105
26	6	0.70	0/702	0.79	0/939

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
27	L	0.39	0/2924	0.62	11/3954 (0.3%)
28	q	0.27	0/856	0.54	0/1155
28	r	0.26	0/828	0.50	0/1117
28	s	0.26	0/824	0.49	0/1111
28	t	0.26	0/848	0.51	0/1143
29	K	0.24	0/918	0.38	0/1236
30	N	0.55	0/1315	0.69	0/1759
31	T	0.56	0/2704	0.72	0/3676
32	P	0.47	0/2008	0.67	0/2703
33	Q	0.37	0/2339	0.69	0/3154
34	R	0.42	0/2135	0.61	0/2871
35	S	0.43	0/592	0.70	0/790
36	Y	0.35	0/1408	0.58	0/1900
37	X	0.58	0/1071	0.66	0/1445
38	Z	0.53	0/936	0.61	0/1264
39	W	0.40	0/200	0.62	0/264
40	U	0.46	0/191	0.72	0/254
41	V	0.44	0/3720	0.63	0/5016
42	M	0.56	0/1385	0.64	0/1862
43	z	0.42	0/1252	0.64	0/1692
44	y	0.37	0/577	0.64	0/765
45	J	0.33	0/3635	0.57	7/4962 (0.1%)
46	I	0.28	0/3095	0.57	14/4242 (0.3%)
47	x	0.53	0/5290	0.61	0/7155
All	All	0.48	0/131496	0.67	33/180219 (0.0%)

There are no bond length outliers.

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	L	417	PRO	N-CA-CB	6.75	111.40	103.30
27	L	418	PRO	N-CA-CB	6.61	111.23	103.30
46	I	557	PRO	N-CA-CB	6.23	110.77	103.30
27	L	334	PRO	N-CA-CB	6.16	110.69	103.30
46	I	773	PRO	N-CA-CB	6.08	110.60	103.30
27	L	432	PRO	N-CA-CB	6.04	110.55	103.30
45	J	559	PRO	N-CA-CB	6.01	110.52	103.30
45	J	351	PRO	N-CA-CB	6.00	110.50	103.30
46	I	774	PRO	N-CA-CB	5.97	110.47	103.30
45	J	545	PRO	N-CA-CB	5.97	110.46	103.30
46	I	477	PRO	N-CA-CB	5.97	110.46	103.30
46	I	267	PRO	N-CA-CB	5.95	110.44	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	L	376	PRO	N-CA-CB	5.93	110.41	103.30
27	L	441	PRO	N-CA-CB	5.91	110.39	103.30
27	L	447	PRO	N-CA-CB	5.90	110.38	103.30
46	I	479	PRO	N-CA-CB	5.88	110.36	103.30
27	L	467	PRO	N-CA-CB	5.86	110.33	103.30
27	L	439	PRO	N-CA-CB	5.86	110.33	103.30
46	I	299	PRO	N-CA-CB	5.84	110.31	103.30
45	J	435	PRO	N-CA-CB	5.83	110.30	103.30
27	L	374	PRO	N-CA-CB	5.80	110.26	103.30
46	I	223	PRO	N-CA-CB	5.79	110.25	103.30
46	I	515	PRO	N-CA-CB	5.75	110.20	103.30
27	L	339	PRO	N-CA-CB	5.74	110.19	103.30
46	I	437	PRO	N-CA-CB	5.67	110.11	103.30
46	I	533	PRO	N-CA-CB	5.67	110.11	103.30
45	J	421	PRO	N-CA-CB	5.67	110.10	103.30
46	I	262	PRO	N-CA-CB	5.66	110.09	103.30
21	1	152	PRO	N-CA-CB	5.59	110.00	103.30
46	I	252	PRO	N-CA-CB	5.56	109.98	103.30
45	J	397	PRO	N-CA-CB	5.56	109.98	103.30
45	J	468	PRO	N-CA-CB	5.46	109.85	103.30
46	I	518	PRO	N-CA-CB	5.33	109.70	103.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	18135	0	18054	191	0
2	B	3795	0	1919	66	0
3	C	7328	0	7505	104	0
4	D	14666	0	14661	120	0
5	d	316	0	86	0	0
6	a	292	0	78	0	0
6	h	610	0	640	0	0
7	b	308	0	78	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	m	644	0	686	0	0
8	c	360	0	89	0	0
8	n	528	0	573	0	0
9	e	288	0	74	0	0
9	i	575	0	597	0	0
10	f	280	0	77	0	0
10	j	554	0	556	0	0
11	g	280	0	79	0	0
11	k	529	0	557	0	0
12	F	2192	0	1106	20	0
13	G	2099	0	1055	34	0
14	H	3566	0	1809	51	0
15	o	841	0	614	0	0
16	p	476	0	378	0	0
17	l	611	0	627	0	0
18	u	3899	0	3826	0	0
19	w	1084	0	1081	0	0
20	v	1621	0	1596	0	0
21	1	7376	0	7521	80	0
22	2	1793	0	1827	16	0
23	3	9599	0	9679	142	0
24	4	1433	0	1461	14	0
25	5	814	0	809	5	0
26	6	693	0	705	11	0
27	L	2901	0	2325	27	0
28	q	850	0	682	0	0
28	r	823	0	654	0	0
28	s	819	0	657	0	0
28	t	843	0	672	0	0
29	K	920	0	603	4	0
30	N	1291	0	1312	8	0
31	T	2646	0	2639	53	0
32	P	1978	0	1981	37	0
33	Q	2301	0	2366	45	0
34	R	2089	0	2053	47	0
35	S	578	0	565	27	0
36	Y	1386	0	1353	27	0
37	X	1051	0	1015	23	0
38	Z	920	0	841	14	0
39	W	195	0	198	2	0
40	U	190	0	186	3	0
41	V	3660	0	3706	39	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	M	1360	0	1280	16	0
43	z	1224	0	1217	0	0
44	y	572	0	597	0	0
45	J	3595	0	2639	39	0
46	I	3101	0	1639	33	0
47	x	5193	0	5347	0	0
48	A	36	0	6	2	0
49	C	32	0	12	2	0
50	3	1	0	0	0	0
50	C	1	0	0	0	0
50	F	4	0	0	0	0
51	C	1	0	0	0	0
52	5	3	0	0	0	0
52	M	3	0	0	0	0
52	N	3	0	0	0	0
52	Q	2	0	0	0	0
52	R	1	0	0	0	0
52	u	2	0	0	0	0
52	v	1	0	0	0	0
53	1	185	0	0	4	0
53	2	51	0	0	1	0
53	3	218	0	0	7	0
53	5	53	0	0	0	0
53	6	42	0	0	1	0
53	A	582	0	0	9	0
53	B	127	0	0	2	0
53	C	8	0	0	0	0
53	D	2	0	0	0	0
53	F	109	0	0	2	0
53	G	56	0	0	1	0
53	H	70	0	0	0	0
53	L	18	0	0	0	0
53	M	21	0	0	0	0
53	N	12	0	0	0	0
53	P	26	0	0	2	0
53	R	8	0	0	0	0
53	S	9	0	0	0	0
53	T	39	0	0	0	0
53	U	6	0	0	0	0
53	V	21	0	0	1	0
53	X	13	0	0	1	0
53	Z	9	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	v	29	0	0	0	0
All	All	129875	0	116948	1119	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 6.

All (1119) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:784:GLN:HG2	14:H:19:U:C5	1.67	1.28
46:I:466:ALA:CB	46:I:470:TRP:CB	2.20	1.19
27:L:224:MET:SD	27:L:225:PRO:HD3	1.82	1.19
27:L:224:MET:SD	27:L:225:PRO:CD	2.33	1.17
46:I:466:ALA:HB3	46:I:470:TRP:CB	1.76	1.14
1:A:784:GLN:CG	14:H:19:U:C5	2.33	1.12
27:L:230:THR:CG2	45:J:116:ASN:HB2	1.80	1.11
27:L:230:THR:HG22	45:J:116:ASN:HB2	1.11	1.08
27:L:230:THR:HG22	45:J:116:ASN:CB	1.89	1.02
3:C:438:ALA:O	3:C:442:CYS:HB2	1.57	1.01
23:3:1011:ASN:ND2	23:3:1016:SER:HB3	1.75	1.01
13:G:504:C:H5"	13:G:504:C:H6	1.25	1.01
27:L:224:MET:SD	27:L:225:PRO:HD2	2.02	1.00
46:I:468:GLU:CB	46:I:511:ALA:CB	2.43	0.97
23:3:985:ILE:CD1	23:3:1041:LEU:HD23	1.96	0.96
1:A:784:GLN:HG2	14:H:19:U:H5	1.19	0.95
42:M:232:LYS:HB3	42:M:238:LYS:O	1.68	0.94
2:B:26:A:N6	2:B:141:G:H8	1.67	0.92
14:H:20:G:HO2'	35:S:3:THR:N	1.67	0.92
23:3:433:MET:CE	26:6:62:ILE:HD11	1.99	0.91
31:T:307:HIS:HE2	31:T:325:SER:HG	1.13	0.91
3:C:441:ARG:HG2	3:C:441:ARG:HH21	1.34	0.91
32:P:133:LYS:NZ	35:S:16:LYS:HE2	1.86	0.90
3:C:183:GLN:NE2	3:C:187:ARG:HH11	1.69	0.90
13:G:495:A:H62	14:H:40:U:H3	1.15	0.88
23:3:433:MET:HE1	26:6:62:ILE:HD11	1.53	0.88
37:X:85:THR:CG2	37:X:106:HIS:CE1	2.58	0.87
23:3:1011:ASN:HD22	23:3:1016:SER:HB3	1.36	0.87
34:R:165:SER:HA	34:R:170:ILE:HD12	1.57	0.86
2:B:26:A:C6	2:B:141:G:H8	1.94	0.85
34:R:54:GLN:HB2	34:R:58:HIS:CD2	2.11	0.85
37:X:85:THR:HG22	37:X:106:HIS:HE1	1.39	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:I:466:ALA:HB1	46:I:470:TRP:CB	2.06	0.85
1:A:1794:LEU:HD22	1:A:1798:ILE:HD12	1.57	0.84
37:X:85:THR:HG22	37:X:106:HIS:CE1	2.13	0.83
1:A:784:GLN:HG2	14:H:19:U:C6	2.13	0.83
13:G:490:A:H61	14:H:44:U:H3	1.23	0.83
13:G:495:A:N6	14:H:40:U:H3	1.77	0.83
31:T:206:VAL:HB	31:T:220:TYR:HB2	1.59	0.83
23:3:938:SER:HB3	23:3:957:ILE:CD1	2.09	0.82
46:I:468:GLU:CB	46:I:511:ALA:HB2	2.08	0.82
23:3:1096:LEU:HD13	23:3:1187:PHE:HZ	1.43	0.81
2:B:26:A:C5	2:B:141:G:C8	2.69	0.81
2:B:1:A:H61	2:B:164:C:N4	1.80	0.80
29:K:86:LEU:O	29:K:86:LEU:HD22	1.81	0.79
3:C:190:SER:HB2	49:C:1101:GTP:O1G	1.81	0.79
46:I:468:GLU:CB	46:I:511:ALA:HB1	2.12	0.79
13:G:497:A:H5"	13:G:497:A:H8	1.47	0.78
33:Q:11:ASN:H	33:Q:72:GLN:HE21	1.30	0.78
27:L:484:ARG:CG	29:K:86:LEU:HG	2.14	0.78
40:U:24:LEU:H	41:V:310:HIS:HD2	1.30	0.78
2:B:96:U:H3	13:G:99:G:H1	1.30	0.78
21:1:838:ILE:HD11	21:1:864:LEU:HD21	1.65	0.77
3:C:84:GLN:HE21	3:C:88:THR:HG21	1.49	0.76
23:3:1125:ASP:HB2	23:3:1128:THR:HG22	1.67	0.76
2:B:141:G:H3'	2:B:141:G:N3	2.01	0.75
45:J:391:LEU:CB	45:J:425:LYS:O	2.35	0.75
21:1:117:LYS:O	21:1:117:LYS:HD3	1.85	0.75
2:B:26:A:C6	2:B:141:G:C8	2.75	0.74
46:I:510:ASP:O	46:I:512:LEU:N	2.20	0.74
46:I:468:GLU:CA	46:I:511:ALA:HB1	2.16	0.74
23:3:781:ARG:HG3	23:3:782:GLU:HG2	1.69	0.73
2:B:151:A:N3	2:B:151:A:H2'	2.04	0.73
3:C:441:ARG:HG2	3:C:441:ARG:NH2	2.01	0.73
13:G:504:C:H5"	13:G:504:C:C6	2.18	0.73
34:R:165:SER:HA	34:R:170:ILE:CD1	2.18	0.73
1:A:1228:TRP:CH2	35:S:135:ARG:NH2	2.56	0.72
23:3:1084:ARG:HE	23:3:1126:GLU:HG3	1.52	0.72
23:3:433:MET:HG3	23:3:486:PRO:HD3	1.71	0.72
46:I:468:GLU:HA	46:I:511:ALA:HB1	1.72	0.71
1:A:784:GLN:CB	14:H:19:U:C5	2.74	0.71
23:3:102:GLU:OE2	23:3:116:LYS:HE2	1.91	0.71
2:B:26:A:N7	2:B:141:G:C8	2.59	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:183:GLN:HE21	3:C:187:ARG:HH11	1.35	0.70
46:I:468:GLU:CA	46:I:511:ALA:CB	2.70	0.70
23:3:938:SER:HB3	23:3:957:ILE:HD11	1.71	0.70
38:Z:258:GLN:HA	38:Z:261:THR:HG22	1.74	0.69
1:A:784:GLN:HB3	14:H:19:U:C4	2.27	0.69
21:1:117:LYS:HD3	21:1:117:LYS:C	2.12	0.69
2:B:26:A:N6	2:B:141:G:C8	2.57	0.69
3:C:208:ARG:NH1	3:C:440:THR:OG1	2.26	0.69
1:A:784:GLN:HB3	14:H:19:U:C5	2.29	0.68
4:D:638:LEU:O	4:D:638:LEU:HG	1.94	0.68
1:A:1051:GLU:HG2	1:A:1167:ARG:HH11	1.56	0.68
3:C:183:GLN:HE21	3:C:187:ARG:NH1	1.91	0.68
1:A:2188:ASN:HD21	1:A:2346:THR:HG23	1.58	0.68
21:1:435:THR:HG23	21:1:464:CYS:SG	2.34	0.68
36:Y:76:THR:HG23	36:Y:204:VAL:HG22	1.76	0.68
34:R:164:PHE:O	34:R:170:ILE:HD11	1.94	0.68
36:Y:26:ILE:HG22	36:Y:28:ILE:H	1.58	0.68
46:I:394:ILE:O	46:I:398:ASP:CB	2.42	0.68
1:A:1185:GLU:OE1	35:S:128:ARG:NH2	2.26	0.67
46:I:393:ASP:O	46:I:397:ASN:CB	2.42	0.67
1:A:733:GLN:NE2	53:A:3101:HOH:O	2.21	0.67
2:B:26:A:H62	2:B:141:G:H8	1.42	0.67
21:1:885:ILE:HG22	21:1:886:PRO:HD3	1.76	0.67
23:3:1040:PHE:HB3	23:3:1052:TYR:O	1.92	0.67
42:M:199:CYS:SG	42:M:202:CYS:HB2	2.34	0.67
34:R:46:ARG:HH22	34:R:222:LEU:HG	1.59	0.67
46:I:765:LEU:O	46:I:768:GLY:N	2.27	0.67
1:A:936:GLU:HG2	1:A:986:PRO:HB3	1.76	0.67
32:P:174:ASN:OD1	32:P:175:PRO:HD2	1.95	0.67
1:A:1028:TRP:CE3	1:A:1145:MET:HE3	2.30	0.66
42:M:219:CYS:HB2	42:M:222:CYS:SG	2.34	0.66
1:A:1845:ASN:OD1	1:A:1849:LYS:NZ	2.29	0.66
1:A:784:GLN:HE22	14:H:19:U:H5"	1.59	0.66
32:P:133:LYS:HZ1	35:S:16:LYS:HE2	1.58	0.66
23:3:155:GLY:O	23:3:179:LEU:HB2	1.96	0.66
46:I:460:SER:O	46:I:464:SER:CB	2.43	0.65
3:C:90:LEU:HD11	31:T:166:VAL:HG11	1.77	0.65
4:D:446:VAL:HG13	4:D:905:GLN:HG3	1.78	0.65
21:1:971:LEU:HD23	26:6:52:TYR:CD1	2.31	0.65
23:3:691:LEU:HB3	23:3:703:MET:HB2	1.77	0.65
23:3:938:SER:HB3	23:3:957:ILE:HD13	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:3:1039:ASN:ND2	53:3:1506:HOH:O	2.28	0.65
23:3:558:THR:HB	23:3:583:LEU:HA	1.77	0.65
33:Q:192:LEU:O	33:Q:278:ARG:NH2	2.30	0.65
33:Q:239:SER:HB3	33:Q:252:ARG:HB3	1.79	0.65
1:A:273:ASP:HA	1:A:310:ASN:HD21	1.61	0.65
4:D:509:ALA:O	4:D:666:ARG:NH2	2.30	0.65
34:R:46:ARG:HH12	34:R:222:LEU:HD11	1.60	0.65
14:H:36:A:H8	14:H:36:A:H5"	1.62	0.64
23:3:985:ILE:HD13	23:3:1041:LEU:HD23	1.77	0.64
27:L:230:THR:CG2	45:J:116:ASN:CB	2.60	0.64
13:G:504:C:H6	13:G:504:C:C5'	2.05	0.64
23:3:165:HIS:HB3	23:3:170:ARG:HD3	1.78	0.64
23:3:433:MET:HE3	26:6:62:ILE:HD11	1.76	0.64
41:V:408:THR:HG22	41:V:410:GLU:H	1.62	0.64
1:A:605:LEU:H	42:M:140:GLN:HE22	1.46	0.64
33:Q:194:GLU:O	33:Q:278:ARG:NH1	2.30	0.64
4:D:2052:GLU:HB3	4:D:2076:THR:HB	1.79	0.63
23:3:638:SER:HB3	23:3:641:GLN:HB3	1.79	0.63
3:C:361:THR:HG23	3:C:362:LYS:HG3	1.78	0.63
33:Q:215:PRO:HB3	34:R:171:ASP:OD2	1.97	0.63
1:A:1051:GLU:OE2	1:A:1204:ARG:NH2	2.29	0.63
23:3:985:ILE:HD11	23:3:1041:LEU:HD23	1.81	0.63
31:T:360:GLN:NE2	31:T:409:LYS:O	2.32	0.63
1:A:784:GLN:CD	14:H:19:U:C6	2.72	0.63
2:B:150:U:O5'	2:B:150:U:H6	1.81	0.63
2:B:147:C:H2'	2:B:148:G:H8	1.64	0.63
4:D:1204:VAL:HG12	4:D:1222:ILE:HG12	1.81	0.63
23:3:181:ARG:NH2	53:3:1518:HOH:O	2.32	0.63
1:A:784:GLN:CG	14:H:19:U:C6	2.79	0.63
27:L:228:TYR:HB2	45:J:120:ASN:HB3	1.81	0.62
37:X:97:ILE:O	37:X:97:ILE:HG22	2.00	0.62
14:H:54:U:H3	14:H:61:A:H61	1.46	0.62
4:D:1137:THR:HG21	4:D:1148:GLN:HE21	1.65	0.62
27:L:224:MET:CE	27:L:225:PRO:HD2	2.29	0.62
2:B:26:A:C5	2:B:141:G:H8	2.14	0.62
30:N:132:GLU:HA	30:N:135:LYS:HD3	1.82	0.62
1:A:263:PRO:HD2	30:N:7:ARG:HH11	1.64	0.62
2:B:1:A:H61	2:B:164:C:H42	1.48	0.62
1:A:2398:LEU:HA	4:D:1147:ARG:HH12	1.65	0.62
34:R:202:GLN:O	34:R:220:GLY:HA2	2.00	0.62
4:D:433:LYS:HE2	4:D:914:SER:HA	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:3:704:SER:HB3	23:3:716:ILE:HD11	1.80	0.62
1:A:543:ASN:ND2	53:A:3132:HOH:O	2.32	0.61
21:1:253:ASP:O	21:1:259:ARG:NH2	2.29	0.61
23:3:192:TYR:HB2	23:3:205:SER:HB3	1.82	0.61
14:H:38:U:OP2	21:1:186:ARG:NH1	2.33	0.61
23:3:600:ILE:HD11	23:3:607:LEU:HD23	1.82	0.61
2:B:149:U:H6	2:B:149:U:O5'	1.84	0.61
3:C:707:SER:HB3	3:C:824:SER:HB3	1.83	0.61
32:P:133:LYS:HZ2	35:S:16:LYS:HE2	1.62	0.60
2:B:43:G:H2'	2:B:45:A:H5'	1.82	0.60
3:C:183:GLN:HE22	3:C:654:CYS:HA	1.66	0.60
4:D:1455:LEU:O	4:D:1462:ARG:NH1	2.33	0.60
12:F:84:C:H5"	12:F:84:C:H6	1.66	0.60
31:T:197:LEU:HB3	31:T:209:TRP:HB2	1.83	0.60
32:P:34:ILE:HG13	45:J:123:ASN:HA	1.84	0.60
1:A:1486:ARG:NH2	41:V:379:ASP:OD2	2.35	0.60
1:A:2207:ILE:HG22	1:A:2224:VAL:HG22	1.84	0.60
12:F:50:G:O2'	12:F:51:A:N7	2.33	0.60
23:3:406:GLN:HG2	23:3:456:THR:HG22	1.83	0.60
34:R:123:ASP:O	34:R:224:LYS:HD2	2.02	0.60
36:Y:83:TYR:HB3	36:Y:88:LYS:HG2	1.84	0.60
21:1:855:GLN:NE2	53:1:1005:HOH:O	2.30	0.60
32:P:81:LYS:HG3	35:S:21:THR:HG22	1.83	0.60
1:A:586:LYS:NZ	53:F:304:HOH:O	2.34	0.60
2:B:8:U:H3	2:B:157:G:H1	1.48	0.59
23:3:1126:GLU:HG2	23:3:1126:GLU:O	2.01	0.59
23:3:435:ASN:N	23:3:435:ASN:HD22	2.00	0.59
31:T:115:TYR:HD1	31:T:118:LEU:HD12	1.67	0.59
1:A:207:ARG:NH1	1:A:297:SER:O	2.35	0.59
3:C:91:VAL:HG12	3:C:91:VAL:O	2.01	0.59
1:A:376:ARG:NH2	3:C:910:GLU:OE2	2.36	0.59
1:A:784:GLN:CD	14:H:19:U:C5	2.76	0.59
23:3:370:VAL:HG22	23:3:379:VAL:HG22	1.85	0.59
3:C:347:ARG:HD2	3:C:352:VAL:HG21	1.83	0.59
12:F:39:G:N1	34:R:120:TYR:O	2.36	0.59
23:3:337:VAL:HG22	23:3:346:LEU:HB2	1.83	0.59
33:Q:39:LEU:HD11	33:Q:111:ARG:HG3	1.83	0.59
3:C:90:LEU:HD23	3:C:90:LEU:O	2.03	0.59
21:1:962:GLU:O	26:6:36:ARG:NH2	2.36	0.59
32:P:305:SER:HB2	38:Z:221:GLU:HG2	1.85	0.59
1:A:389:HIS:HD2	3:C:660:ARG:HD2	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1156:HIS:HD2	1:A:1158:ILE:H	1.51	0.59
1:A:1861:THR:HG1	1:A:1863:HIS:HE2	1.49	0.59
33:Q:246:ALA:HB1	33:Q:312:LEU:HD22	1.85	0.59
1:A:1004:ASP:OD2	1:A:1506:ARG:NH2	2.34	0.58
4:D:2139:ASN:HA	4:D:2159:GLU:HA	1.85	0.58
23:3:985:ILE:CD1	23:3:1041:LEU:CD2	2.78	0.58
34:R:159:ARG:NH1	34:R:209:ASP:OD2	2.36	0.58
4:D:1822:ILE:HG12	4:D:1844:ILE:HG12	1.83	0.58
23:3:719:GLN:HG2	23:3:762:PHE:HD2	1.67	0.58
23:3:1134:ARG:NH1	53:3:1520:HOH:O	2.33	0.58
37:X:85:THR:CG2	37:X:106:HIS:ND1	2.66	0.58
1:A:425:ASP:HB3	1:A:428:LEU:HG	1.85	0.58
31:T:285:SER:OG	31:T:287:ASP:OD1	2.20	0.58
3:C:183:GLN:NE2	3:C:187:ARG:NH1	2.46	0.58
3:C:348:LEU:HD13	3:C:372:THR:HG22	1.86	0.58
1:A:1030:GLN:HE22	1:A:1289:VAL:H	1.50	0.58
3:C:143:HIS:CE1	3:C:189:LEU:HD12	2.39	0.58
4:D:699:ARG:NH1	4:D:701:CYS:O	2.37	0.58
1:A:1228:TRP:CH2	35:S:135:ARG:CZ	2.86	0.58
1:A:2294:PHE:HB3	1:A:2301:SER:HB2	1.84	0.58
23:3:517:VAL:HG21	23:3:828:VAL:HG21	1.86	0.58
23:3:651:LEU:HB3	23:3:670:PRO:HG2	1.85	0.58
31:T:275:THR:OG1	31:T:279:PRO:O	2.22	0.58
46:I:510:ASP:C	46:I:512:LEU:H	2.07	0.58
1:A:585:ARG:NH1	53:A:3101:HOH:O	2.32	0.58
1:A:1047:ALA:HB3	1:A:1251:TYR:HB3	1.84	0.58
1:A:2393:LEU:HD21	4:D:1161:GLU:HB3	1.86	0.58
3:C:501:ILE:HG12	3:C:567:ILE:HG23	1.86	0.58
31:T:229:THR:HG21	31:T:271:GLN:HA	1.85	0.58
45:J:391:LEU:CB	45:J:425:LYS:CB	2.82	0.58
1:A:1159:ARG:NH1	53:A:3156:HOH:O	2.37	0.58
1:A:1881:THR:O	1:A:1889:LEU:HD23	2.03	0.58
3:C:191:ILE:HG22	3:C:192:LYS:HG2	1.86	0.58
21:1:885:ILE:CG2	21:1:886:PRO:HD3	2.33	0.58
23:3:156:ASN:HD22	23:3:178:PRO:HA	1.68	0.57
38:Z:254:GLU:HG2	38:Z:258:GLN:HE22	1.67	0.57
41:V:101:MET:O	41:V:105:GLN:NE2	2.37	0.57
4:D:1159:ARG:NH1	4:D:1183:ILE:O	2.35	0.57
4:D:1494:ARG:NH2	4:D:1757:GLU:OE2	2.37	0.57
45:J:387:LEU:C	45:J:389:GLN:H	2.08	0.57
21:1:867:ASN:HD21	25:5:38:ARG:HH12	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:V:454:ASP:HB3	41:V:457:HIS:HD2	1.68	0.57
3:C:731:GLY:HA2	13:G:74:A:H1'	1.85	0.57
1:A:2403:GLU:OE1	4:D:813:ARG:NH2	2.35	0.57
12:F:85:C:N4	14:H:20:G:O6	2.38	0.57
34:R:161:ARG:HG2	34:R:173:ILE:HD13	1.85	0.57
1:A:954:ILE:HG23	1:A:991:THR:HG23	1.86	0.57
32:P:88:ARG:NH2	53:P:401:HOH:O	2.38	0.57
1:A:1747:ASP:OD1	1:A:1747:ASP:N	2.37	0.57
21:1:971:LEU:HB3	26:6:52:TYR:CZ	2.39	0.57
3:C:190:SER:O	3:C:216:PRO:HB3	2.05	0.56
34:R:26:THR:HB	34:R:37:TRP:HB2	1.87	0.56
3:C:438:ALA:O	3:C:442:CYS:CB	2.43	0.56
4:D:749:GLU:OE1	4:D:752:ARG:NH1	2.37	0.56
4:D:962:SER:O	4:D:968:LYS:NZ	2.36	0.56
22:2:296:GLN:NE2	22:2:306:GLU:OE2	2.39	0.56
32:P:133:LYS:NZ	35:S:16:LYS:CE	2.66	0.56
21:1:117:LYS:HE2	21:1:121:ASP:HB3	1.88	0.56
23:3:246:ASN:HD22	23:3:303:ARG:HH22	1.53	0.56
2:B:96:U:O2	13:G:99:G:N2	2.27	0.56
36:Y:132:PRO:HD2	36:Y:197:TYR:HE2	1.70	0.56
1:A:968:ASP:OD2	27:L:46:ARG:NH2	2.39	0.56
23:3:293:ASN:HB2	26:6:67:ILE:HD13	1.87	0.56
36:Y:41:GLU:OE2	37:X:98:GLY:N	2.38	0.56
1:A:420:PRO:HG2	1:A:423:PHE:HB2	1.88	0.56
2:B:152:C:H6	2:B:152:C:O5'	1.87	0.56
12:F:41:A:H1'	34:R:34:TYR:CZ	2.40	0.56
42:M:251:GLN:O	42:M:255:ASN:ND2	2.39	0.56
13:G:94:U:H2'	13:G:94:U:O2	2.04	0.56
21:1:767:LEU:HD22	21:1:804:GLU:HG2	1.86	0.56
34:R:54:GLN:HB2	34:R:58:HIS:HD2	1.65	0.56
1:A:978:ILE:HG13	35:S:174:VAL:HG13	1.88	0.56
3:C:156:ASP:OD2	3:C:432:GLN:NE2	2.34	0.55
13:G:497:A:H5"	13:G:497:A:C8	2.35	0.55
23:3:105:ASP:HB2	23:3:114:ILE:HD11	1.88	0.55
24:4:44:LYS:O	24:4:47:GLN:NE2	2.39	0.55
1:A:1442:ARG:NH2	53:A:3172:HOH:O	2.40	0.55
1:A:2225:VAL:HG22	1:A:2350:ILE:HB	1.88	0.55
23:3:579:SER:OG	23:3:580:ALA:N	2.39	0.55
23:3:611:VAL:HG21	23:3:621:LYS:HE2	1.87	0.55
32:P:110:HIS:O	32:P:111:HIS:ND1	2.39	0.55
1:A:244:ASP:OD1	1:A:596:ASN:ND2	2.31	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:X:82:GLN:H	38:Z:168:GLN:HE22	1.54	0.55
3:C:632:VAL:HG21	3:C:655:LEU:HD21	1.87	0.55
23:3:1011:ASN:ND2	23:3:1016:SER:CB	2.62	0.55
23:3:1080:TRP:CD1	23:3:1126:GLU:HB2	2.42	0.55
34:R:46:ARG:NH2	34:R:222:LEU:HG	2.22	0.55
36:Y:80:LEU:HD21	36:Y:199:LEU:HD23	1.88	0.55
1:A:1028:TRP:CE3	1:A:1145:MET:CE	2.89	0.55
1:A:1362:LYS:NZ	40:U:13:GLY:O	2.40	0.55
1:A:1595:ARG:NH1	53:A:3169:HOH:O	2.39	0.55
1:A:2070:ASN:OD1	32:P:350:ASN:ND2	2.34	0.55
4:D:679:ASP:OD1	4:D:682:ARG:NH1	2.39	0.55
4:D:2102:VAL:HB	4:D:2143:TRP:HB2	1.88	0.55
23:3:318:ASP:OD1	23:3:318:ASP:N	2.36	0.55
33:Q:281:LEU:HB2	33:Q:288:ILE:HB	1.89	0.55
34:R:83:LEU:HB2	34:R:87:CYS:HB2	1.88	0.55
45:J:198:GLN:OE1	45:J:200:GLN:NE2	2.39	0.55
4:D:2011:ILE:HD11	4:D:2030:ILE:HD11	1.89	0.55
23:3:736:ILE:HG23	23:3:738:GLN:H	1.71	0.55
45:J:176:GLU:OE1	45:J:181:ASN:ND2	2.31	0.55
25:5:18:GLN:OE1	25:5:50:SER:OG	2.24	0.55
45:J:103:ILE:HA	45:J:106:ILE:HD12	1.89	0.55
46:I:237:THR:C	46:I:239:ASP:H	2.11	0.55
1:A:1717:LEU:O	1:A:1799:GLN:NE2	2.36	0.55
2:B:10:U:O4	2:B:12:C:N4	2.40	0.55
4:D:788:VAL:O	4:D:794:ARG:NH2	2.37	0.54
12:F:84:C:H5”	12:F:84:C:C6	2.42	0.54
1:A:228:LYS:NZ	1:A:698:GLY:O	2.40	0.54
1:A:908:ASP:HB2	1:A:951:LEU:HD11	1.90	0.54
2:B:136:G:N2	2:B:142:C:C4	2.75	0.54
34:R:124:MET:O	34:R:224:LYS:HB3	2.07	0.54
1:A:188:GLU:HG3	30:N:2:PRO:HD2	1.88	0.54
3:C:941:PRO:HD2	3:C:962:LEU:HD23	1.90	0.54
23:3:68:GLN:HE21	23:3:97:THR:HB	1.72	0.54
3:C:463:THR:HG22	3:C:465:GLU:H	1.72	0.54
21:1:379:SER:HB3	21:1:418:ALA:HA	1.89	0.54
32:P:43:PHE:HE1	32:P:147:LEU:HD22	1.72	0.54
1:A:2257:GLY:HA2	1:A:2288:CYS:HB3	1.90	0.54
21:1:27:GLN:OE1	21:1:30:ARG:NH2	2.41	0.54
26:6:23:ASP:O	26:6:25:SER:N	2.33	0.54
41:V:475:GLU:OE2	41:V:478:ARG:NH1	2.40	0.54
45:J:230:ALA:O	45:J:234:ASN:ND2	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1499:ALA:HB2	4:D:1506:ILE:HD12	1.88	0.54
23:3:1355:GLU:HG3	23:3:1359:ASN:HD22	1.72	0.54
32:P:133:LYS:HZ2	35:S:16:LYS:CE	2.19	0.54
33:Q:199:ASN:HB3	33:Q:200:PRO:HD2	1.89	0.54
34:R:149:LYS:NZ	34:R:209:ASP:O	2.40	0.54
4:D:1173:LEU:HD22	4:D:1178:GLU:HG2	1.89	0.54
21:1:138:PRO:HA	21:1:141:HIS:HD2	1.72	0.54
32:P:170:SER:OG	32:P:173:LYS:O	2.25	0.54
1:A:1465:ARG:HG3	32:P:301:LEU:HD22	1.89	0.54
2:B:102:C:O2	40:U:12:LYS:NZ	2.39	0.54
3:C:264:CYS:HG	3:C:442:CYS:HB3	1.72	0.54
21:1:595:LYS:NZ	21:1:634:CYS:O	2.40	0.54
32:P:317:LYS:HE3	38:Z:262:LEU:HD11	1.88	0.54
1:A:467:GLU:O	3:C:387:TYR:OH	2.25	0.54
1:A:724:ARG:NH1	53:A:3157:HOH:O	2.37	0.54
31:T:432:ALA:HB1	31:T:437:GLU:HG3	1.89	0.54
41:V:10:ASP:OD2	41:V:244:LYS:NZ	2.41	0.54
45:J:270:ALA:O	45:J:274:TRP:N	2.36	0.54
4:D:765:ASN:HB2	23:3:166:ALA:HB2	1.90	0.54
23:3:607:LEU:HB2	23:3:624:TRP:HB3	1.89	0.54
46:I:237:THR:O	46:I:239:ASP:N	2.41	0.54
1:A:185:GLN:HE21	1:A:263:PRO:HD3	1.73	0.53
3:C:722:ASP:OD2	3:C:755:TYR:OH	2.26	0.53
34:R:63:ARG:HD3	34:R:86:LYS:HA	1.88	0.53
13:G:108:U:O5'	13:G:108:U:H6	1.92	0.53
23:3:639:LYS:HB3	23:3:686:GLN:HA	1.89	0.53
45:J:393:ASP:C	45:J:395:ILE:H	2.12	0.53
1:A:1315:ARG:HH12	1:A:1524:PRO:HB3	1.73	0.53
13:G:512:U:H2'	13:G:512:U:O2	2.06	0.53
23:3:522:LEU:HD21	23:3:875:ARG:HH11	1.73	0.53
3:C:468:LEU:HA	3:C:491:GLY:HA3	1.90	0.53
4:D:2140:LEU:N	4:D:2158:PHE:O	2.41	0.53
37:X:43:THR:OG1	37:X:44:GLU:N	2.40	0.53
46:I:206:ARG:CB	46:I:212:SER:CB	2.87	0.53
23:3:435:ASN:HD21	23:3:482:LEU:HD12	1.74	0.53
24:4:119:ILE:O	24:4:149:LYS:NZ	2.41	0.53
3:C:772:ASN:OD1	3:C:816:VAL:N	2.34	0.53
4:D:133:ASN:ND2	4:D:1090:GLU:O	2.42	0.53
36:Y:80:LEU:HB2	36:Y:98:LEU:HD11	1.91	0.53
37:X:91:ASN:ND2	38:Z:242:GLU:HB2	2.23	0.53
1:A:1472:ASN:HB3	38:Z:218:PRO:HD3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:25:G:N2	2:B:146:C:C2	2.74	0.53
4:D:1005:ALA:HB2	4:D:1015:MET:HG3	1.91	0.53
13:G:473:A:H61	22:2:315:LYS:HE3	1.73	0.53
23:3:649:TYR:HB3	23:3:672:LEU:HB2	1.91	0.53
41:V:84:ASN:ND2	41:V:220:TYR:OH	2.41	0.53
4:D:1057:LEU:HD21	4:D:1089:PHE:HE1	1.74	0.53
21:1:339:GLN:NE2	53:1:1027:HOH:O	2.42	0.53
23:3:518:ASN:HB3	23:3:877:SER:HB2	1.90	0.53
35:S:12:ARG:O	35:S:16:LYS:NZ	2.36	0.53
1:A:1286:TRP:HB2	1:A:1300:ALA:HB3	1.89	0.53
3:C:629:TYR:OH	3:C:658:ASP:OD2	2.27	0.53
23:3:556:LYS:O	23:3:584:SER:O	2.27	0.53
23:3:741:LEU:HB3	23:3:753:PHE:HB2	1.90	0.53
23:3:955:LEU:C	23:3:955:LEU:HD12	2.29	0.53
34:R:78:LYS:NZ	34:R:197:GLU:OE1	2.42	0.53
4:D:1476:ALA:HB3	4:D:1512:SER:HB2	1.91	0.52
21:1:675:LEU:HD13	21:1:715:ALA:HB2	1.90	0.52
24:4:64:GLN:HA	24:4:67:ILE:HD12	1.91	0.52
31:T:244:ARG:HG2	35:S:7:PRO:HG3	1.92	0.52
36:Y:66:ASP:OD1	36:Y:75:ARG:NH2	2.42	0.52
45:J:530:ALA:O	45:J:534:TYR:N	2.34	0.52
46:I:377:LYS:O	46:I:380:ALA:N	2.42	0.52
1:A:249:LEU:HB2	1:A:254:HIS:ND1	2.24	0.52
1:A:765:ASP:OD1	31:T:312:ARG:NH2	2.42	0.52
14:H:51:C:H2'	14:H:52:A:H8	1.74	0.52
21:1:412:LEU:HD22	21:1:412:LEU:O	2.09	0.52
23:3:746:GLU:HA	23:3:774:PRO:HB3	1.91	0.52
23:3:1328:ARG:NH2	53:3:1535:HOH:O	2.41	0.52
31:T:244:ARG:HA	31:T:268:PRO:HB3	1.92	0.52
34:R:46:ARG:NH1	34:R:222:LEU:HD11	2.24	0.52
23:3:979:CYS:HB2	23:3:996:ILE:HG23	1.91	0.52
34:R:139:VAL:HG13	34:R:221:LEU:HD13	1.92	0.52
1:A:141:LYS:NZ	30:N:35:LYS:O	2.41	0.52
2:B:90:C:H5"	2:B:90:C:H6	1.73	0.52
3:C:905:GLN:HE22	13:G:79:A:H1'	1.74	0.52
4:D:1653:LYS:NZ	4:D:1673:PHE:O	2.42	0.52
12:F:38:U:O2	34:R:196:LYS:NZ	2.40	0.52
35:S:6:ARG:HH21	45:J:63:LEU:HD21	1.74	0.52
45:J:219:ARG:HA	45:J:222:TYR:HD2	1.74	0.52
1:A:1679:GLU:HG2	1:A:1706:VAL:HA	1.92	0.52
23:3:183:THR:HB	23:3:1310:TYR:OH	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R:54:GLN:CB	34:R:58:HIS:CD2	2.91	0.52
4:D:1624:LEU:HD21	4:D:1629:LEU:HB2	1.92	0.52
23:3:986:ASP:OD1	23:3:1036:LYS:HE3	2.10	0.52
31:T:306:HIS:HB3	31:T:332:ARG:HH11	1.73	0.52
1:A:400:ILE:CG2	3:C:187:ARG:HG2	2.40	0.52
2:B:25:G:N2	2:B:146:C:O2	2.42	0.52
27:L:27:LYS:HE2	27:L:28:TYR:CZ	2.44	0.52
31:T:152:ASN:HD21	31:T:409:LYS:HB3	1.74	0.52
37:X:2:ASN:N	53:X:203:HOH:O	2.42	0.52
45:J:221:VAL:O	45:J:225:ALA:N	2.43	0.52
13:G:506:U:C5'	13:G:506:U:H6	2.23	0.52
1:A:1361:VAL:HG22	1:A:1403:SER:HB2	1.92	0.52
4:D:589:THR:HG21	4:D:595:SER:HB2	1.91	0.52
33:Q:67:GLN:NE2	33:Q:116:LYS:O	2.42	0.52
33:Q:206:PHE:N	33:Q:291:ILE:O	2.39	0.52
41:V:313:LEU:HG	41:V:350:MET:HE1	1.92	0.52
45:J:264:SER:HA	45:J:267:TYR:HD2	1.75	0.52
3:C:760:LEU:O	3:C:764:ASN:ND2	2.43	0.52
13:G:490:A:H2'	13:G:491:C:C6	2.45	0.52
23:3:776:SER:HB3	23:3:822:HIS:HB2	1.92	0.52
3:C:374:VAL:HA	3:C:378:LEU:HB2	1.92	0.51
21:1:197:PRO:HB3	21:1:232:LEU:HD22	1.92	0.51
24:4:116:ALA:HB2	24:4:176:ASN:HB2	1.92	0.51
36:Y:45:LYS:HB2	36:Y:50:LEU:HD23	1.91	0.51
2:B:22:G:H1	2:B:149:U:H3	1.57	0.51
3:C:134:ILE:HB	3:C:210:ILE:HG12	1.93	0.51
3:C:345:THR:HA	3:C:348:LEU:HD23	1.92	0.51
23:3:132:LEU:HD13	23:3:218:TYR:HB2	1.90	0.51
31:T:327:CYS:SG	31:T:328:THR:N	2.84	0.51
42:M:199:CYS:HB2	42:M:203:LYS:H	1.76	0.51
1:A:1684:GLU:OE2	1:A:1702:THR:OG1	2.28	0.51
2:B:161:U:H2'	2:B:162:G:H8	1.75	0.51
3:C:765:VAL:HG22	3:C:775:ILE:HG12	1.92	0.51
4:D:1236:LEU:HD11	4:D:1258:PHE:HB3	1.93	0.51
46:I:781:TRP:O	46:I:784:PHE:N	2.43	0.51
1:A:1028:TRP:HE3	1:A:1145:MET:HE3	1.72	0.51
2:B:109:A:N7	53:B:309:HOH:O	2.34	0.51
3:C:88:THR:O	31:T:214:ASN:ND2	2.40	0.51
4:D:536:LEU:HD23	4:D:539:LEU:HD12	1.93	0.51
30:N:144:GLN:HB3	30:N:149:GLY:HA2	1.92	0.51
23:3:417:HIS:CE1	23:3:432:GLU:HA	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:V:102:PHE:HZ	41:V:142:LEU:HD21	1.74	0.51
3:C:319:GLY:HA3	3:C:426:GLN:HE21	1.75	0.51
37:X:89:VAL:HG22	37:X:104:ILE:HG22	1.93	0.51
41:V:63:PHE:O	41:V:69:ASN:ND2	2.36	0.51
4:D:1536:SER:HB3	4:D:1539:GLU:HG2	1.92	0.51
2:B:14:G:H1	2:B:152:C:N4	2.09	0.51
4:D:1424:ILE:HG12	4:D:1444:VAL:HB	1.93	0.51
1:A:1840:TYR:HB3	1:A:1961:LEU:HD11	1.93	0.51
12:F:66:C:H2'	12:F:66:C:O2	2.09	0.51
23:3:432:GLU:HB3	26:6:62:ILE:HD12	1.93	0.51
23:3:585:GLN:OE1	23:3:585:GLN:HA	2.10	0.51
23:3:953:ILE:HD12	23:3:974:LEU:HD13	1.92	0.51
24:4:33:ASN:ND2	24:4:62:ASP:O	2.43	0.51
41:V:148:LEU:HB2	41:V:190:LEU:HD11	1.93	0.51
31:T:302:LYS:HE2	31:T:339:GLY:HA3	1.93	0.51
34:R:164:PHE:C	34:R:170:ILE:HD11	2.31	0.51
1:A:928:ARG:NH1	1:A:1583:ASP:OD2	2.43	0.50
1:A:1722:ASP:OD2	1:A:1795:LYS:NZ	2.40	0.50
1:A:1750:ARG:HH11	42:M:91:GLU:HB2	1.76	0.50
12:F:68:C:OP2	32:P:133:LYS:HD2	2.10	0.50
21:1:550:THR:OG1	21:1:590:LEU:HD23	2.11	0.50
23:3:514:THR:HG21	23:3:842:LYS:HD3	1.91	0.50
31:T:193:ARG:NH2	31:T:236:LEU:O	2.44	0.50
32:P:88:ARG:NH1	53:P:404:HOH:O	2.44	0.50
33:Q:75:MET:HE3	34:R:130:PHE:CE1	2.45	0.50
23:3:600:ILE:HD13	23:3:642:LEU:HD13	1.93	0.50
2:B:19:A:O5'	2:B:19:A:H8	1.94	0.50
21:1:412:LEU:HD22	21:1:412:LEU:C	2.31	0.50
26:6:66:ARG:NH2	53:6:104:HOH:O	2.44	0.50
1:A:421:ALA:HB3	1:A:469:ILE:HD12	1.93	0.50
2:B:141:G:N3	2:B:141:G:C3'	2.73	0.50
31:T:115:TYR:HA	31:T:118:LEU:HG	1.94	0.50
2:B:123:U:H2'	2:B:124:C:C6	2.47	0.50
3:C:331:TYR:OH	3:C:428:ILE:O	2.27	0.50
4:D:636:ILE:C	4:D:638:LEU:H	2.14	0.50
14:H:35:U:H2'	14:H:36:A:H5"	1.93	0.50
21:1:850:ASP:HB3	21:1:853:HIS:HD2	1.76	0.50
23:3:742:HIS:HD2	23:3:752:LYS:HG3	1.77	0.50
32:P:242:LYS:HZ1	36:Y:92:PRO:HG3	1.76	0.50
33:Q:67:GLN:HA	33:Q:119:LYS:HG2	1.92	0.50
33:Q:75:MET:CE	34:R:130:PHE:CE1	2.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1051:GLU:HG3	1:A:1167:ARG:HD2	1.94	0.50
2:B:14:G:H1	2:B:152:C:H42	1.60	0.50
21:1:495:ASP:OD1	21:1:495:ASP:N	2.41	0.50
23:3:1074:ILE:HG21	23:3:1077:MET:HE3	1.93	0.50
33:Q:194:GLU:HA	33:Q:276:LEU:HD22	1.93	0.50
1:A:173:LEU:HD13	1:A:715:LEU:HB3	1.94	0.50
2:B:65:U:H2'	2:B:66:A:H8	1.76	0.50
4:D:1990:VAL:HG12	4:D:1992:ASN:H	1.77	0.50
4:D:2103:LEU:HD11	4:D:2140:LEU:HD23	1.92	0.50
1:A:1403:SER:OG	1:A:1429:MET:SD	2.67	0.50
23:3:435:ASN:N	23:3:435:ASN:ND2	2.60	0.50
23:3:1140:THR:OG1	23:3:1190:LEU:HB3	2.12	0.50
33:Q:11:ASN:H	33:Q:72:GLN:NE2	2.02	0.50
4:D:2073:ILE:HD12	4:D:2128:LEU:HD13	1.93	0.49
31:T:246:SER:HB2	35:S:9:LEU:HG	1.94	0.49
1:A:1863:HIS:HB2	1:A:1871:ALA:HB3	1.95	0.49
2:B:143:U:H2'	2:B:144:G:H8	1.77	0.49
3:C:470:ALA:HB3	3:C:577:LEU:HD22	1.95	0.49
23:3:400:ARG:HB2	23:3:402:ARG:HG2	1.94	0.49
27:L:361:ARG:O	27:L:365:PHE:HA	2.12	0.49
32:P:105:LEU:HD11	33:Q:17:LEU:HD13	1.95	0.49
3:C:91:VAL:HG12	31:T:212:GLU:HG2	1.94	0.49
4:D:706:GLN:HB3	4:D:887:ILE:HG12	1.94	0.49
4:D:1619:PRO:O	4:D:1623:LYS:NZ	2.38	0.49
4:D:1936:ARG:NE	4:D:1986:GLY:O	2.45	0.49
21:1:843:GLU:OE2	22:2:262:HIS:NE2	2.34	0.49
37:X:102:LEU:HD13	37:X:104:ILE:HD11	1.94	0.49
1:A:282:ASP:HB2	1:A:285:PRO:HA	1.93	0.49
3:C:352:VAL:O	3:C:372:THR:OG1	2.22	0.49
4:D:1246:THR:OG1	4:D:1287:ASN:O	2.27	0.49
13:G:109:A:OP2	13:G:109:A:H2'	2.12	0.49
29:K:86:LEU:HD22	29:K:86:LEU:C	2.32	0.49
14:H:143:G:H2'	14:H:144:G:H8	1.77	0.49
34:R:48:VAL:HG12	34:R:220:GLY:N	2.28	0.49
38:Z:154:GLU:O	38:Z:158:TYR:N	2.43	0.49
41:V:118:LEU:HB3	41:V:154:VAL:HG22	1.93	0.49
46:I:628:LEU:HD11	46:I:665:ILE:HG23	1.94	0.49
3:C:105:ILE:O	3:C:180:ASN:ND2	2.40	0.49
12:F:67:C:OP1	45:J:59:LYS:HE2	2.12	0.49
21:1:288:ASN:HD22	21:1:293:VAL:HG11	1.78	0.49
21:1:695:ASN:HD22	21:1:696:LYS:N	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:3:126:SER:HB2	23:3:151:THR:OG1	2.11	0.49
1:A:953:ARG:NH2	53:A:3171:HOH:O	2.40	0.49
4:D:966:LEU:O	4:D:970:ARG:NE	2.35	0.49
3:C:264:CYS:HB3	3:C:442:CYS:HG	1.76	0.49
4:D:265:ILE:O	4:D:265:ILE:HG22	2.11	0.49
14:H:17:U:O2	14:H:17:U:H2'	2.12	0.49
21:1:181:ARG:NH1	53:1:1019:HOH:O	2.36	0.49
23:3:726:SER:OG	23:3:775:VAL:O	2.29	0.49
46:I:726:ARG:NH1	46:I:761:ALA:HB1	2.28	0.49
3:C:918:LEU:HD23	3:C:928:CYS:HB2	1.95	0.49
4:D:656:TRP:HE1	4:D:928:ASN:HB3	1.77	0.49
13:G:111:U:O4	34:R:44:ASN:ND2	2.45	0.49
23:3:557:LYS:HG3	23:3:584:SER:HA	1.95	0.49
1:A:784:GLN:HB3	14:H:19:U:O4	2.12	0.49
1:A:1228:TRP:CZ3	35:S:135:ARG:NH2	2.81	0.49
1:A:1570:TRP:HA	1:A:1573:LEU:HD13	1.94	0.49
3:C:889:TYR:OH	13:G:79:A:O2'	2.30	0.49
21:1:675:LEU:HD11	21:1:714:LEU:HB3	1.94	0.49
23:3:1258:TYR:HB2	23:3:1292:ILE:HD13	1.95	0.49
33:Q:211:ASP:OD1	33:Q:213:SER:OG	2.28	0.49
1:A:1028:TRP:HA	1:A:1145:MET:CE	2.43	0.48
1:A:1324:GLY:HA2	1:A:1598:LEU:HG	1.93	0.48
2:B:143:U:H2'	2:B:144:G:C8	2.48	0.48
3:C:713:GLU:HB2	3:C:817:GLN:HB3	1.95	0.48
4:D:2075:LEU:HD22	4:D:2119:LEU:HD21	1.93	0.48
23:3:1031:ILE:HG21	23:3:1034:MET:HE3	1.94	0.48
38:Z:197:PHE:CE2	41:V:463:ASN:HB3	2.48	0.48
41:V:77:SER:HA	41:V:80:ILE:HD12	1.95	0.48
2:B:87:G:H2'	2:B:88:U:C6	2.48	0.48
2:B:159:C:H5'	3:C:401:ARG:HH21	1.77	0.48
4:D:1076:VAL:HG13	4:D:1101:ILE:HD12	1.94	0.48
4:D:1430:ASN:ND2	4:D:2091:TYR:OH	2.46	0.48
4:D:1707:VAL:HG22	4:D:1720:VAL:HG11	1.95	0.48
13:G:504:C:OP2	53:G:601:HOH:O	2.20	0.48
21:1:237:LYS:HG3	21:1:238:PRO:HD3	1.94	0.48
21:1:682:ILE:HB	21:1:718:TYR:HD2	1.78	0.48
23:3:230:ILE:HD11	23:3:280:ILE:HG21	1.93	0.48
23:3:961:CYS:CB	23:3:970:LEU:HD23	2.43	0.48
34:R:55:PRO:HB3	34:R:93:ILE:HD11	1.95	0.48
41:V:115:GLY:HA2	41:V:118:LEU:HB2	1.94	0.48
1:A:1809:ASN:HD22	1:A:1811:ALA:H	1.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2259:ILE:HD11	1:A:2293:ILE:HD11	1.95	0.48
2:B:27:G:OP1	2:B:141:G:O5'	2.31	0.48
3:C:495:ARG:HH21	3:C:542:ILE:H	1.61	0.48
4:D:1217:ARG:HG2	4:D:1273:THR:HG22	1.95	0.48
31:T:115:TYR:OH	31:T:444:PRO:O	2.32	0.48
31:T:116:GLU:HG2	45:J:236:GLN:HB2	1.96	0.48
23:3:609:HIS:HD2	23:3:621:LYS:HB2	1.77	0.48
23:3:1080:TRP:NE1	23:3:1126:GLU:HB2	2.28	0.48
45:J:47:GLN:NE2	45:J:78:GLN:OE1	2.40	0.48
3:C:652:MET:HA	3:C:655:LEU:HD12	1.95	0.48
14:H:84:C:H2'	14:H:85:A:H8	1.77	0.48
12:F:56:A:H2'	12:F:57:U:C6	2.49	0.48
21:1:722:LYS:NZ	22:2:235:PRO:O	2.46	0.48
31:T:160:ASN:ND2	31:T:184:THR:OG1	2.47	0.48
2:B:5:A:C6	2:B:162:G:O6	2.67	0.48
21:1:337:VAL:HG13	21:1:355:LEU:HD22	1.96	0.48
23:3:553:THR:HG21	23:3:588:THR:HB	1.96	0.48
27:L:513:ILE:O	27:L:517:VAL:N	2.42	0.48
4:D:1707:VAL:HG13	4:D:1720:VAL:HG21	1.96	0.48
14:H:115:U:H5'	14:H:116:U:H5'	1.96	0.48
22:2:297:GLU:OE2	24:4:24:GLN:NE2	2.38	0.48
1:A:391:TYR:OH	3:C:649:GLU:OE2	2.29	0.48
1:A:1145:MET:HB3	21:1:19:LEU:HD23	1.96	0.48
1:A:1893:ILE:HD12	1:A:1985:GLN:HE21	1.79	0.48
4:D:1935:SER:OG	4:D:1988:TRP:NE1	2.39	0.48
13:G:487:A:H3'	13:G:487:A:C8	2.49	0.48
23:3:484:LEU:HD11	23:3:511:ILE:HG21	1.96	0.48
27:L:28:TYR:HE2	27:L:39:LEU:HD11	1.78	0.48
33:Q:281:LEU:HG	33:Q:290:ILE:HD11	1.95	0.48
4:D:1426:ASN:HB3	4:D:1446:LEU:HB2	1.95	0.47
21:1:694:ARG:NH2	53:1:1033:HOH:O	2.47	0.47
33:Q:37:CYS:HB3	33:Q:64:CYS:SG	2.53	0.47
41:V:366:GLU:HG2	41:V:404:ILE:HD13	1.96	0.47
21:1:945:TYR:HB3	21:1:948:ALA:HB3	1.96	0.47
23:3:881:THR:OG1	23:3:882:LEU:N	2.47	0.47
1:A:1091:ASN:OD1	1:A:1096:SER:OG	2.23	0.47
21:1:887:ASN:HB3	21:1:899:ILE:HD13	1.95	0.47
31:T:210:ASP:HB2	31:T:217:ILE:HD13	1.95	0.47
32:P:244:LEU:HB3	36:Y:202:MET:HE1	1.96	0.47
46:I:410:THR:O	46:I:414:ARG:N	2.47	0.47
1:A:431:ILE:HA	3:C:895:ALA:HB1	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2330:GLU:HB3	1:A:2332:THR:HG22	1.95	0.47
3:C:89:PRO:O	31:T:211:LEU:O	2.31	0.47
21:1:399:PRO:HA	21:1:402:LYS:HG2	1.96	0.47
34:R:27:GLY:H	34:R:37:TRP:HB3	1.77	0.47
46:I:430:GLU:O	46:I:434:LYS:N	2.39	0.47
1:A:473:THR:O	1:A:477:MET:HG3	2.14	0.47
3:C:727:THR:OG1	3:C:734:CYS:SG	2.64	0.47
4:D:1229:ASP:HB3	4:D:1232:VAL:HG12	1.94	0.47
23:3:416:SER:HA	23:3:431:SER:HA	1.96	0.47
23:3:580:ALA:O	23:3:608:ARG:NH2	2.39	0.47
36:Y:26:ILE:HG12	37:X:117:LYS:HB3	1.96	0.47
41:V:412:SER:O	41:V:417:ARG:NH1	2.48	0.47
1:A:1051:GLU:CG	1:A:1167:ARG:HD2	2.45	0.47
4:D:109:TYR:CZ	4:D:192:ILE:HD11	2.50	0.47
30:N:36:ASP:OD1	30:N:36:ASP:N	2.46	0.47
45:J:224:LEU:O	45:J:228:THR:N	2.37	0.47
1:A:681:LYS:NZ	48:A:3000:IHP:O33	2.47	0.47
2:B:27:G:OP1	2:B:141:G:H5"	2.15	0.47
4:D:817:GLU:HG2	4:D:840:LEU:HD22	1.97	0.47
4:D:933:ASN:O	4:D:937:ASN:ND2	2.47	0.47
4:D:945:TYR:HE1	4:D:966:LEU:HB2	1.80	0.47
4:D:1546:ILE:HD13	4:D:1736:LEU:HD13	1.97	0.47
4:D:1820:ILE:HG22	4:D:1846:THR:HG22	1.97	0.47
14:H:15:C:H6	14:H:15:C:O5'	1.97	0.47
21:1:632:LYS:HD2	21:1:672:VAL:HG13	1.96	0.47
24:4:120:ASP:H	24:4:123:GLN:HB2	1.80	0.47
25:5:41:ARG:NH1	25:5:82:ASP:OD2	2.42	0.47
29:K:86:LEU:C	29:K:86:LEU:HD13	2.35	0.47
33:Q:43:LEU:HD21	33:Q:57:LYS:HG3	1.95	0.47
33:Q:71:CYS:HB3	33:Q:74:CYS:HB2	1.97	0.47
34:R:170:ILE:HG21	34:R:173:ILE:HD11	1.96	0.47
45:J:614:ILE:HA	45:J:617:ALA:HB3	1.97	0.47
46:I:806:VAL:O	46:I:810:ASN:N	2.46	0.47
1:A:2189:LEU:HD13	1:A:2224:VAL:HG23	1.97	0.47
24:4:108:ALA:HB3	24:4:155:PHE:HB2	1.96	0.47
31:T:327:CYS:HB3	31:T:330:ASP:HB3	1.97	0.47
4:D:1368:VAL:HA	4:D:1533:TYR:HB2	1.97	0.47
14:H:36:A:H8	14:H:36:A:C5'	2.28	0.47
27:L:213:TYR:HD2	45:J:52:THR:HG22	1.79	0.47
33:Q:237:SER:O	33:Q:254:GLN:N	2.48	0.47
37:X:82:GLN:O	37:X:85:THR:HB	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:V:113:SER:HA	41:V:116:ASN:HD22	1.79	0.47
1:A:137:GLU:HG3	30:N:34:GLN:HE21	1.79	0.47
13:G:506:U:H5"	13:G:506:U:C6	2.50	0.47
21:1:67:ARG:HD2	21:1:292:TYR:HB2	1.97	0.47
23:3:198:ASN:ND2	53:3:1541:HOH:O	2.48	0.47
23:3:678:LYS:NZ	23:3:727:ASP:OD1	2.48	0.47
1:A:901:PRO:HD3	1:A:1078:ILE:HD11	1.97	0.46
1:A:1795:LYS:CB	1:A:1796:PRO:HD3	2.45	0.46
23:3:488:ILE:HD12	23:3:489:LYS:HB2	1.95	0.46
23:3:718:LEU:HB2	42:M:244:ALA:HB3	1.98	0.46
24:4:138:PRO:HB3	24:4:153:VAL:HG22	1.96	0.46
35:S:128:ARG:HH21	35:S:135:ARG:HH22	1.62	0.46
38:Z:208:SER:HB3	38:Z:212:ARG:H	1.80	0.46
1:A:1067:ASN:HD21	27:L:82:ASN:HD22	1.62	0.46
1:A:2182:VAL:HG23	1:A:2338:GLN:HB3	1.97	0.46
21:1:803:ASN:HD22	22:2:205:ILE:HG13	1.79	0.46
1:A:1748:ILE:HD13	1:A:1778:ASP:HB2	1.96	0.46
2:B:1:A:N6	2:B:164:C:H42	2.13	0.46
23:3:854:ASN:HB2	23:3:857:VAL:H	1.81	0.46
41:V:181:LEU:HB2	41:V:194:LEU:HD12	1.98	0.46
1:A:1941:LEU:HD21	1:A:1958:PRO:HD3	1.98	0.46
3:C:869:HIS:CD2	3:C:925:LEU:HD22	2.51	0.46
4:D:682:ARG:HD2	4:D:946:VAL:HG13	1.98	0.46
4:D:2075:LEU:HD11	4:D:2101:LEU:HD21	1.98	0.46
46:I:468:GLU:N	46:I:511:ALA:HB3	2.31	0.46
1:A:697:LYS:CG	48:A:3000:IHP:O46	2.63	0.46
1:A:856:TRP:CD1	35:S:174:VAL:HG11	2.50	0.46
1:A:2149:LYS:HE3	1:A:2151:GLU:HB3	1.96	0.46
2:B:25:G:H2'	2:B:26:A:H8	1.79	0.46
4:D:1585:LEU:HD21	4:D:1683:LEU:HD23	1.97	0.46
36:Y:144:GLN:NE2	36:Y:145:PHE:O	2.46	0.46
1:A:598:ASN:OD1	1:A:627:LYS:NZ	2.49	0.46
1:A:1156:HIS:CD2	1:A:1158:ILE:H	2.32	0.46
27:L:212:ASP:H	33:Q:106:ASN:ND2	2.14	0.46
41:V:55:ILE:O	41:V:59:ASN:ND2	2.48	0.46
46:I:393:ASP:O	46:I:397:ASN:N	2.45	0.46
1:A:1932:GLN:HG2	1:A:1955:ALA:HB3	1.98	0.46
3:C:143:HIS:CE1	3:C:189:LEU:CD1	2.98	0.46
31:T:245:ASP:HB3	35:S:10:GLU:HB2	1.98	0.46
37:X:104:ILE:N	37:X:104:ILE:HD12	2.30	0.46
41:V:180:ILE:HG22	41:V:186:LEU:HD11	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:468:LEU:HD12	1:A:469:ILE:HG12	1.98	0.46
1:A:1573:LEU:HG	1:A:1825:ILE:HD11	1.97	0.46
4:D:502:ILE:HD11	4:D:698:PHE:HB3	1.97	0.46
23:3:1061:ARG:NH2	53:3:1542:HOH:O	2.48	0.46
31:T:262:LEU:HD13	31:T:293:TRP:CD2	2.50	0.46
32:P:292:ALA:HB3	36:Y:39:GLU:HG2	1.98	0.46
3:C:208:ARG:HH12	3:C:440:THR:CG2	2.28	0.46
12:F:28:U:H1'	33:Q:51:ARG:HH21	1.81	0.46
14:H:83:U:H2'	14:H:84:C:C6	2.51	0.46
21:1:971:LEU:HB2	26:6:56:SER:HB3	1.98	0.46
23:3:881:THR:HG23	23:3:884:ASN:H	1.80	0.46
41:V:408:THR:HG23	41:V:457:HIS:HE1	1.80	0.46
1:A:780:ARG:HE	35:S:3:THR:HG21	1.80	0.46
1:A:862:GLU:OE2	1:A:866:GLN:NE2	2.49	0.46
2:B:121:U:H2'	2:B:122:C:C6	2.51	0.46
3:C:91:VAL:HG11	31:T:195:PRO:HB3	1.98	0.46
3:C:625:ILE:HG23	3:C:629:TYR:HD2	1.81	0.46
14:H:68:U:H2'	14:H:69:G:H8	1.81	0.46
33:Q:20:GLU:HB3	33:Q:23:ILE:HD11	1.98	0.46
1:A:1145:MET:HG2	1:A:1160:LEU:HD22	1.98	0.45
1:A:1794:LEU:HD23	1:A:1794:LEU:HA	1.84	0.45
2:B:60:U:H5"	2:B:60:U:O2	2.16	0.45
3:C:264:CYS:CB	3:C:442:CYS:HG	2.29	0.45
4:D:727:TYR:HE1	4:D:761:PHE:CE1	2.34	0.45
21:1:855:GLN:HG2	21:1:895:ALA:HA	1.97	0.45
23:3:427:LEU:HB3	23:3:439:PHE:HB2	1.98	0.45
31:T:440:LEU:HD22	31:T:440:LEU:HA	1.82	0.45
33:Q:101:THR:HG22	33:Q:121:GLY:HA3	1.98	0.45
42:M:216:HIS:CE1	42:M:235:ILE:HB	2.51	0.45
1:A:2247:LEU:HD21	1:A:2375:LYS:HA	1.98	0.45
4:D:2146:CYS:SG	4:D:2147:ASP:N	2.89	0.45
23:3:553:THR:HG22	23:3:558:THR:HG23	1.97	0.45
23:3:839:ARG:HG3	23:3:880:PRO:HG2	1.99	0.45
1:A:148:ASP:OD1	1:A:148:ASP:N	2.50	0.45
3:C:683:ASN:ND2	3:C:684:GLU:OE1	2.49	0.45
14:H:143:G:H2'	14:H:144:G:C8	2.51	0.45
4:D:803:THR:HG22	4:D:808:LEU:HD11	1.99	0.45
22:2:364:PHE:H	23:3:1125:ASP:CG	2.14	0.45
27:L:507:GLU:HA	27:L:510:LEU:HB2	1.98	0.45
33:Q:136:VAL:HA	33:Q:139:LEU:HD12	1.99	0.45
33:Q:263:VAL:HA	33:Q:266:ILE:HD12	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R:145:ALA:HB2	34:R:221:LEU:HB3	1.96	0.45
41:V:152:ILE:HG23	41:V:197:LEU:HB2	1.98	0.45
45:J:387:LEU:C	45:J:389:GLN:N	2.70	0.45
53:A:3134:HOH:O	32:P:332:GLN:NE2	2.42	0.45
2:B:147:C:H2'	2:B:148:G:C8	2.50	0.45
14:H:28:U:H2'	14:H:29:C:C6	2.51	0.45
33:Q:206:PHE:HB2	33:Q:293:TRP:CD1	2.52	0.45
45:J:122:MET:HG3	45:J:139:TYR:CD1	2.52	0.45
1:A:1347:ARG:NH1	1:A:1445:THR:O	2.43	0.45
4:D:116:ASN:HD21	4:D:193:THR:H	1.64	0.45
4:D:770:LEU:O	4:D:826:GLN:HG2	2.16	0.45
21:1:763:LEU:HD11	21:1:797:VAL:HG22	1.99	0.45
21:1:916:MET:SD	21:1:941:MET:HG2	2.56	0.45
23:3:1091:HIS:HD2	23:3:1117:HIS:CD2	2.34	0.45
33:Q:70:ILE:HG21	33:Q:84:ILE:HD11	1.97	0.45
36:Y:76:THR:HG23	36:Y:204:VAL:CG2	2.45	0.45
45:J:99:ILE:HA	45:J:102:TRP:HD1	1.81	0.45
1:A:814:ARG:HH11	1:A:815:TYR:HE2	1.65	0.45
4:D:626:GLU:O	4:D:662:GLN:NE2	2.50	0.45
13:G:495:A:C2'	13:G:496:U:H5'	2.46	0.45
21:1:383:GLU:HG3	21:1:421:SER:HB3	1.99	0.45
21:1:719:ALA:O	42:M:172:TRP:NE1	2.39	0.45
32:P:110:HIS:CD2	33:Q:17:LEU:HD22	2.52	0.45
1:A:394:ARG:NH1	3:C:667:GLU:OE1	2.49	0.45
1:A:757:GLU:HA	31:T:244:ARG:HH12	1.82	0.45
1:A:901:PRO:HA	1:A:902:PRO:HD3	1.70	0.45
1:A:1734:PHE:CZ	1:A:1798:ILE:HD11	2.52	0.45
2:B:27:G:OP1	2:B:141:G:C5'	2.65	0.45
2:B:28:G:N2	2:B:126:A:H1'	2.32	0.45
21:1:365:ASP:O	21:1:371:ARG:NH2	2.48	0.45
23:3:582:LYS:HE2	23:3:585:GLN:CB	2.46	0.45
41:V:313:LEU:HG	41:V:350:MET:CE	2.47	0.45
42:M:128:PRO:HB2	42:M:131:ILE:HG12	1.99	0.45
1:A:835:LYS:HD2	35:S:173:HIS:CE1	2.52	0.45
1:A:1817:GLU:OE1	21:1:646:ILE:HG23	2.16	0.45
4:D:139:LEU:HG	4:D:715:SER:HB2	1.98	0.45
14:H:44:U:H2'	14:H:45:U:H6	1.82	0.45
21:1:558:GLU:OE2	21:1:593:ARG:NH2	2.50	0.45
23:3:169:LEU:HD23	23:3:169:LEU:HA	1.85	0.45
23:3:499:SER:HB3	23:3:514:THR:HG23	1.98	0.45
23:3:943:ASP:HB2	23:3:952:ARG:HG2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Y:25:TYR:HB3	37:X:117:LYS:HG2	1.98	0.45
1:A:1585:MET:HG3	21:1:695:ASN:HA	1.98	0.45
46:I:237:THR:C	46:I:239:ASP:N	2.69	0.45
1:A:351:LYS:NZ	13:G:91:A:OP1	2.41	0.44
1:A:1054:LEU:HB3	1:A:1239:THR:HG21	1.99	0.44
14:H:56:U:H1'	14:H:59:C:H5	1.80	0.44
32:P:242:LYS:NZ	36:Y:92:PRO:HG3	2.33	0.44
34:R:205:LEU:HD11	34:R:215:ARG:HB3	1.98	0.44
1:A:1419:ASP:OD1	1:A:1419:ASP:N	2.43	0.44
4:D:531:ALA:HB1	4:D:632:ILE:HD13	1.99	0.44
4:D:891:ASP:OD1	4:D:892:GLN:N	2.50	0.44
4:D:1457:ARG:HG2	4:D:1756:ASN:HD21	1.82	0.44
12:F:68:C:H2'	12:F:69:C:C6	2.52	0.44
13:G:497:A:C8	13:G:497:A:C5'	3.00	0.44
21:1:412:LEU:C	21:1:412:LEU:CD2	2.85	0.44
23:3:1029:SER:HB3	23:3:1045:MET:HB2	2.00	0.44
31:T:112:VAL:O	31:T:116:GLU:N	2.46	0.44
33:Q:17:LEU:HD23	33:Q:23:ILE:HD12	2.00	0.44
33:Q:183:ILE:HG22	33:Q:308:GLU:HG3	1.99	0.44
33:Q:208:TYR:OH	33:Q:323:GLU:OE1	2.29	0.44
1:A:1233:ARG:HD3	35:S:131:THR:HG21	1.99	0.44
1:A:2262:GLN:OE1	1:A:2292:SER:OG	2.32	0.44
4:D:562:PRO:HD2	4:D:566:LEU:HD23	1.98	0.44
12:F:42:A:H3'	53:F:379:HOH:O	2.17	0.44
23:3:1077:MET:HA	23:3:1086:ALA:O	2.17	0.44
31:T:254:ARG:NE	35:S:35:THR:O	2.51	0.44
33:Q:75:MET:CE	34:R:130:PHE:CD1	3.01	0.44
1:A:1717:LEU:HB2	1:A:1786:ALA:HB3	2.00	0.44
2:B:151:A:N3	2:B:151:A:C2'	2.78	0.44
4:D:170:GLN:NE2	4:D:176:ASN:OD1	2.51	0.44
23:3:1084:ARG:HH21	23:3:1084:ARG:CG	2.29	0.44
27:L:379:ASP:C	27:L:381:GLU:H	2.20	0.44
33:Q:34:CYS:HB3	33:Q:37:CYS:SG	2.57	0.44
34:R:169:ASP:OD1	34:R:169:ASP:N	2.46	0.44
41:V:428:VAL:HG21	41:V:470:LEU:HD21	2.00	0.44
45:J:393:ASP:C	45:J:395:ILE:N	2.70	0.44
1:A:743:LYS:HZ3	12:F:62:A:H5'	1.83	0.44
4:D:112:LYS:NZ	4:D:194:ASP:OD2	2.37	0.44
23:3:642:LEU:HD21	23:3:644:ILE:HG23	1.99	0.44
34:R:12:GLN:HE21	34:R:58:HIS:HB3	1.81	0.44
1:A:1815:LEU:HD22	1:A:1815:LEU:O	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:142:C:H6	2:B:142:C:O5'	2.01	0.44
2:B:153:U:O2	2:B:153:U:H2'	2.17	0.44
3:C:141:PRO:O	3:C:146:LYS:NZ	2.51	0.44
21:1:790:LYS:HD2	21:1:826:TYR:HB3	2.00	0.44
21:1:885:ILE:N	21:1:886:PRO:CD	2.81	0.44
22:2:301:ILE:HG21	24:4:20:ILE:HD11	2.00	0.44
33:Q:11:ASN:HB3	33:Q:72:GLN:HG3	1.99	0.44
2:B:158:G:H2'	2:B:159:C:C6	2.52	0.44
3:C:156:ASP:HB3	3:C:431:GLN:HE22	1.83	0.44
4:D:637:HIS:O	4:D:637:HIS:CD2	2.70	0.44
21:1:884:LEU:O	21:1:884:LEU:HD22	2.18	0.44
31:T:292:LEU:HD12	31:T:302:LYS:HB3	2.00	0.44
31:T:442:TRP:O	31:T:442:TRP:CG	2.70	0.44
32:P:47:ARG:NH2	32:P:53:LEU:O	2.50	0.44
32:P:178:TYR:CD1	32:P:178:TYR:O	2.70	0.44
3:C:142:LEU:HD11	3:C:218:HIS:HD2	1.82	0.44
4:D:487:CYS:HB2	4:D:536:LEU:HD13	2.00	0.44
4:D:1512:SER:OG	4:D:1513:ASN:N	2.51	0.44
22:2:179:LYS:HE3	22:2:179:LYS:HB3	1.40	0.44
24:4:115:LEU:HD13	24:4:149:LYS:HE2	1.98	0.44
36:Y:51:LYS:HG3	36:Y:52:HIS:H	1.82	0.44
37:X:89:VAL:O	37:X:93:ASN:HB2	2.18	0.44
41:V:52:GLY:HA2	41:V:55:ILE:HD12	2.00	0.44
42:M:201:LEU:HD12	42:M:222:CYS:HB3	2.00	0.44
3:C:264:CYS:HG	3:C:442:CYS:CB	2.31	0.44
3:C:633:ILE:HB	3:C:645:LEU:HB2	2.00	0.44
12:F:85:C:C4	14:H:20:G:O6	2.71	0.44
21:1:689:LEU:HD21	21:1:707:PHE:CD2	2.53	0.44
1:A:930:ASN:HA	14:H:30:A:OP1	2.18	0.43
23:3:455:LEU:HD11	23:3:464:LEU:HB3	1.99	0.43
36:Y:105:LEU:HD23	36:Y:127:ALA:HA	2.01	0.43
2:B:127:U:O2	2:B:127:U:H2'	2.18	0.43
4:D:1260:THR:OG1	4:D:1262:ASP:OD1	2.26	0.43
23:3:956:GLN:HG2	23:3:956:GLN:O	2.18	0.43
25:5:32:ILE:HG21	25:5:81:LYS:HD3	1.99	0.43
33:Q:193:ASN:HA	33:Q:278:ARG:HH22	1.83	0.43
37:X:56:VAL:HG23	37:X:80:GLU:HB3	2.00	0.43
37:X:91:ASN:HD21	38:Z:242:GLU:HB2	1.82	0.43
1:A:705:GLN:O	1:A:709:ARG:HG3	2.18	0.43
3:C:299:THR:HG21	3:C:304:PHE:HE2	1.83	0.43
13:G:506:U:C5'	13:G:506:U:C6	3.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:1:158:LYS:O	21:1:161:LYS:N	2.51	0.43
23:3:957:ILE:HD13	23:3:957:ILE:HA	1.76	0.43
32:P:244:LEU:HD12	36:Y:202:MET:HE3	1.99	0.43
34:R:26:THR:HG23	34:R:42:ALA:HA	1.99	0.43
3:C:183:GLN:HE21	3:C:187:ARG:CZ	2.31	0.43
14:H:68:U:H2'	14:H:69:G:C8	2.53	0.43
21:1:305:ALA:HA	21:1:313:LEU:HD13	2.00	0.43
45:J:128:THR:HG22	45:J:129:LEU:HG	2.00	0.43
2:B:129:G:H4'	2:B:130:A:H3'	2.00	0.43
3:C:796:ILE:HD12	3:C:796:ILE:HA	1.87	0.43
4:D:1858:VAL:HG21	4:D:1960:VAL:HG21	2.00	0.43
14:H:2:C:H2'	14:H:3:G:C8	2.54	0.43
22:2:240:LEU:HB3	22:2:242:LEU:HD23	2.00	0.43
33:Q:45:HIS:HB3	33:Q:55:ILE:HD11	2.01	0.43
36:Y:186:LEU:HB2	36:Y:199:LEU:HB2	2.00	0.43
3:C:706:LEU:HD23	3:C:825:VAL:HA	2.01	0.43
3:C:922:THR:OG1	3:C:925:LEU:O	2.27	0.43
4:D:1808:GLU:O	4:D:1812:ASN:ND2	2.51	0.43
4:D:1936:ARG:NH2	4:D:1985:GLN:O	2.48	0.43
4:D:2057:LEU:HD23	4:D:2060:SER:HA	1.99	0.43
27:L:57:ASN:HB3	27:L:60:LEU:HG	2.00	0.43
37:X:82:GLN:H	38:Z:168:GLN:NE2	2.16	0.43
41:V:73:ILE:HG22	41:V:123:ILE:HD12	1.99	0.43
4:D:1212:THR:HB	4:D:1215:VAL:H	1.84	0.43
34:R:95:ASP:OD1	34:R:95:ASP:N	2.51	0.43
42:M:236:CYS:HB3	42:M:238:LYS:HG3	2.00	0.43
1:A:1093:LYS:O	14:H:25:A:C2	2.72	0.43
1:A:2307:LEU:HD11	1:A:2311:GLY:HA3	2.01	0.43
13:G:504:C:C6	13:G:504:C:C5'	2.91	0.43
23:3:433:MET:CG	23:3:486:PRO:HD3	2.44	0.43
23:3:938:SER:CB	23:3:957:ILE:HD13	2.46	0.43
34:R:176:VAL:HG12	34:R:179:LYS:H	1.84	0.43
41:V:41:HIS:CE1	41:V:82:LEU:HB3	2.54	0.43
41:V:228:ILE:HD12	41:V:230:SER:HB2	2.01	0.43
3:C:263:MET:HB3	3:C:263:MET:HE2	1.78	0.43
4:D:804:HIS:NE2	4:D:817:GLU:OE2	2.52	0.43
22:2:364:PHE:N	23:3:1125:ASP:OD2	2.33	0.43
34:R:121:ARG:HD3	34:R:125:GLY:H	1.84	0.43
1:A:715:LEU:HD12	1:A:715:LEU:HA	1.86	0.43
3:C:100:LEU:HD13	3:C:108:GLN:NE2	2.34	0.43
3:C:713:GLU:O	3:C:817:GLN:N	2.39	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:1883:LEU:HD21	4:D:1954:VAL:HG23	1.99	0.43
4:D:2031:LEU:HB3	4:D:2038:LEU:HD21	2.01	0.43
12:F:87:U:O2	45:J:70:ARG:NH1	2.47	0.43
14:H:51:C:H2'	14:H:52:A:C8	2.53	0.43
21:1:144:PHE:O	21:1:146:ASP:N	2.51	0.43
21:1:158:LYS:O	21:1:161:LYS:HB2	2.19	0.43
22:2:180:LYS:HB3	22:2:181:GLU:H	1.47	0.43
23:3:253:VAL:HG21	23:3:327:VAL:HG11	2.00	0.43
23:3:393:VAL:HG22	23:3:405:VAL:HG22	2.00	0.43
33:Q:79:ARG:HH12	33:Q:129:PRO:HA	1.83	0.43
14:H:49:U:H3'	14:H:49:U:H6	1.84	0.42
23:3:630:ILE:HG23	23:3:647:SER:HB2	2.00	0.42
27:L:22:LYS:HE3	27:L:56:LEU:HD22	2.00	0.42
27:L:79:GLU:OE1	32:P:205:SER:OG	2.36	0.42
36:Y:77:MET:SD	36:Y:99:ASN:ND2	2.92	0.42
42:M:199:CYS:HB2	42:M:203:LYS:N	2.34	0.42
1:A:270:SER:HA	1:A:277:LYS:HE2	2.02	0.42
1:A:1706:VAL:O	4:D:1184:ARG:NH2	2.52	0.42
1:A:1830:VAL:HG13	21:1:611:HIS:CD2	2.54	0.42
3:C:776:ASN:ND2	3:C:781:ASP:OD2	2.47	0.42
36:Y:105:LEU:HA	36:Y:142:VAL:HG12	2.01	0.42
42:M:148:LYS:O	42:M:165:ARG:NH1	2.52	0.42
1:A:1125:LEU:O	1:A:1233:ARG:NH1	2.51	0.42
1:A:1746:HIS:CD2	42:M:88:LEU:HB3	2.55	0.42
2:B:102:C:C2'	2:B:103:A:H5'	2.49	0.42
3:C:269:LYS:HG2	49:C:1101:GTP:C6	2.54	0.42
4:D:585:VAL:HG12	4:D:604:VAL:HB	2.01	0.42
21:1:46:ASP:OD1	21:1:47:VAL:N	2.52	0.42
21:1:117:LYS:HE2	21:1:121:ASP:CB	2.49	0.42
22:2:167:LYS:NZ	53:2:412:HOH:O	2.49	0.42
41:V:319:ASN:HA	41:V:322:LYS:HD3	2.02	0.42
1:A:184:GLU:OE1	1:A:283:SER:OG	2.30	0.42
23:3:1233:SER:HB2	23:3:1236:ASN:HB2	2.00	0.42
36:Y:140:HIS:NE2	36:Y:165:THR:OG1	2.43	0.42
4:D:148:ILE:HG23	4:D:189:MET:HE1	2.01	0.42
4:D:739:GLN:NE2	4:D:823:GLY:HA2	2.34	0.42
4:D:1016:ASP:OD2	4:D:1020:ARG:NH1	2.49	0.42
4:D:1031:LEU:HD22	4:D:1128:LEU:HD21	2.00	0.42
12:F:88:U:O4	14:H:17:U:H6	2.01	0.42
14:H:44:U:H2'	14:H:45:U:C6	2.55	0.42
21:1:732:LEU:HD12	21:1:732:LEU:HA	1.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:3:1084:ARG:HH21	23:3:1084:ARG:HG3	1.84	0.42
32:P:81:LYS:HE2	32:P:81:LYS:HB2	1.89	0.42
46:I:553:GLU:O	46:I:557:PRO:N	2.52	0.42
3:C:802:ALA:HB2	3:C:843:LYS:HA	2.02	0.42
4:D:463:ILE:HB	4:D:707:PHE:HB2	2.01	0.42
14:H:1096:C:H2'	14:H:1097:G:H8	1.85	0.42
23:3:380:LEU:HD12	23:3:380:LEU:HA	1.84	0.42
23:3:955:LEU:HD12	23:3:956:GLN:N	2.35	0.42
31:T:160:ASN:HA	31:T:184:THR:HG23	2.02	0.42
31:T:369:ASP:HA	31:T:401:SER:HB2	2.01	0.42
45:J:205:TRP:CE2	45:J:209:GLU:HG3	2.54	0.42
46:I:511:ALA:O	46:I:514:VAL:N	2.44	0.42
1:A:476:ALA:HB1	3:C:389:LEU:HB3	2.01	0.42
2:B:1:A:N6	2:B:164:C:N4	2.58	0.42
3:C:183:GLN:HE22	3:C:187:ARG:HH11	1.58	0.42
4:D:912:PHE:HB3	4:D:944:LEU:HD22	2.01	0.42
4:D:1342:VAL:O	4:D:1415:ARG:NH1	2.48	0.42
12:F:3:U:O4	39:W:53:LYS:NZ	2.53	0.42
21:1:519:ILE:HG21	21:1:561:LEU:HG	2.01	0.42
21:1:550:THR:CB	21:1:590:LEU:HD23	2.50	0.42
27:L:214:ASN:HD21	45:J:44:ARG:HD2	1.85	0.42
31:T:247:VAL:HG21	35:S:10:GLU:HG2	2.02	0.42
33:Q:3:ASP:N	35:S:20:TYR:HH	2.17	0.42
33:Q:29:PRO:HA	33:Q:42:THR:HG22	2.02	0.42
41:V:9:GLU:HA	41:V:12:LYS:HB3	2.02	0.42
41:V:408:THR:HG23	41:V:457:HIS:CE1	2.53	0.42
1:A:909:THR:HG21	21:1:49:GLN:HG3	2.00	0.42
4:D:1921:SER:OG	4:D:1922:VAL:N	2.52	0.42
13:G:504:C:H42	21:1:776:GLN:HE21	1.68	0.42
23:3:173:THR:CG2	23:3:1296:SER:HA	2.49	0.42
23:3:1096:LEU:HD13	23:3:1187:PHE:CZ	2.35	0.42
31:T:238:LEU:HD21	31:T:250:LEU:HD22	2.02	0.42
2:B:60:U:O2	2:B:60:U:H3'	2.19	0.42
2:B:105:A:N6	53:B:326:HOH:O	2.52	0.42
3:C:397:LYS:NZ	3:C:408:LEU:O	2.52	0.42
3:C:500:ARG:NE	3:C:536:SER:OG	2.53	0.42
3:C:617:LYS:HE2	3:C:617:LYS:HB2	1.83	0.42
21:1:371:ARG:HH11	21:1:371:ARG:HD2	1.72	0.42
32:P:241:LEU:CD1	36:Y:204:VAL:HG12	2.49	0.42
45:J:219:ARG:HG3	45:J:253:TRP:HE1	1.85	0.42
1:A:1790:TRP:HE3	1:A:1794:LEU:HB3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:190:SER:O	3:C:216:PRO:CB	2.68	0.42
14:H:47:U:H3'	14:H:47:U:O2	2.20	0.42
21:1:285:ASP:HB3	21:1:297:THR:HG21	2.01	0.42
23:3:368:GLY:HA2	23:3:380:LEU:O	2.20	0.42
23:3:1078:HIS:O	23:3:1085:LEU:HD23	2.19	0.42
31:T:218:ARG:NH2	35:S:34:HIS:O	2.53	0.42
31:T:302:LYS:HG2	31:T:339:GLY:HA3	2.02	0.42
31:T:373:LEU:HD11	31:T:426:TRP:CE2	2.55	0.42
46:I:510:ASP:C	46:I:512:LEU:N	2.70	0.42
1:A:1991:ILE:HA	1:A:2039:LEU:HD12	2.01	0.41
3:C:234:LEU:HD13	3:C:439:ILE:HG23	2.02	0.41
21:1:590:LEU:H	21:1:590:LEU:HG	1.74	0.41
31:T:159:SER:OG	31:T:160:ASN:N	2.52	0.41
33:Q:75:MET:SD	34:R:130:PHE:CD1	3.13	0.41
1:A:784:GLN:CG	14:H:19:U:H5	1.96	0.41
2:B:10:U:H2'	2:B:11:A:C8	2.55	0.41
3:C:274:ILE:HD13	3:C:385:PHE:HE2	1.85	0.41
4:D:1091:GLY:O	4:D:1095:ASN:ND2	2.53	0.41
4:D:1475:ASP:N	4:D:1511:LEU:O	2.54	0.41
13:G:487:A:C8	13:G:487:A:C3'	3.03	0.41
22:2:323:THR:OG1	24:4:62:ASP:OD1	2.38	0.41
23:3:196:ASP:HA	23:3:197:PRO:HD3	1.96	0.41
1:A:631:LEU:HD12	1:A:631:LEU:HA	1.94	0.41
1:A:675:HIS:NE2	2:B:102:C:OP1	2.52	0.41
1:A:893:ARG:NH2	1:A:1136:GLY:O	2.46	0.41
1:A:1486:ARG:NH2	53:V:602:HOH:O	2.54	0.41
4:D:460:TYR:OH	4:D:728:GLU:OE1	2.32	0.41
4:D:774:ASP:HB3	4:D:777:SER:HB3	2.02	0.41
21:1:969:LEU:O	23:3:1134:ARG:NH2	2.43	0.41
30:N:80:TRP:HE3	30:N:81:LEU:HD12	1.85	0.41
41:V:84:ASN:HB3	41:V:220:TYR:HE1	1.85	0.41
45:J:107:ASP:OD1	45:J:138:LYS:NZ	2.44	0.41
1:A:770:MET:O	31:T:309:ARG:NH1	2.53	0.41
1:A:784:GLN:NE2	14:H:19:U:H5"	2.33	0.41
1:A:1797:LEU:O	1:A:1797:LEU:HD22	2.20	0.41
4:D:517:MET:HE1	4:D:519:ILE:HD11	2.02	0.41
13:G:504:C:H42	21:1:776:GLN:NE2	2.17	0.41
21:1:777:LEU:O	21:1:781:THR:HG22	2.21	0.41
23:3:70:ASN:ND2	53:3:1553:HOH:O	2.54	0.41
24:4:13:VAL:HG22	24:4:83:VAL:HG22	2.01	0.41
1:A:966:PRO:HB3	1:A:1089:VAL:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:26:A:C6	2:B:141:G:H1'	2.56	0.41
2:B:131:A:H5"	2:B:132:A:N7	2.35	0.41
3:C:615:LEU:HD11	3:C:642:HIS:HE2	1.84	0.41
4:D:1388:TRP:HH2	4:D:1416:PHE:HB3	1.85	0.41
4:D:1889:PHE:HE1	4:D:1950:ILE:HG23	1.85	0.41
22:2:291:PRO:HG3	22:2:325:TYR:CZ	2.55	0.41
23:3:396:ASP:HB2	23:3:404:LEU:HB2	2.03	0.41
33:Q:26:THR:HB	33:Q:45:HIS:HB2	2.02	0.41
1:A:831:ARG:HD2	1:A:831:ARG:HA	1.68	0.41
1:A:878:GLU:HG2	35:S:133:PHE:HE1	1.85	0.41
1:A:1029:THR:HG23	1:A:1269:ILE:HD11	2.01	0.41
1:A:1731:LYS:HD3	1:A:1768:PRO:HB2	2.03	0.41
1:A:2208:TYR:HE1	1:A:2255:LEU:HD23	1.84	0.41
1:A:2356:VAL:HG13	1:A:2387:HIS:CD2	2.56	0.41
13:G:506:U:H4'	13:G:506:U:OP1	2.21	0.41
23:3:1056:LYS:HE3	23:3:1056:LYS:HB2	1.93	0.41
4:D:1542:GLU:OE1	4:D:1711:SER:OG	2.35	0.41
23:3:582:LYS:HE2	23:3:585:GLN:HB3	2.03	0.41
27:L:491:GLY:O	27:L:495:MET:N	2.45	0.41
46:I:195:PHE:O	46:I:199:GLU:N	2.52	0.41
1:A:168:LEU:HD23	1:A:622:MET:HE2	2.03	0.41
1:A:237:MET:HG2	1:A:644:VAL:HG11	2.02	0.41
1:A:1879:ILE:HB	1:A:1892:LYS:HB3	2.03	0.41
3:C:124:LEU:HD13	3:C:124:LEU:HA	1.86	0.41
3:C:270:LEU:HD11	3:C:313:PHE:HB3	2.03	0.41
3:C:915:GLU:OE2	3:C:919:ARG:NH2	2.50	0.41
23:3:724:LYS:HE3	23:3:746:GLU:OE1	2.21	0.41
23:3:742:HIS:HE2	23:3:752:LYS:HE2	1.85	0.41
25:5:38:ARG:HA	25:5:39:PRO:HD2	1.91	0.41
34:R:50:PRO:HG2	34:R:51:PHE:CZ	2.56	0.41
34:R:53:LEU:HD22	34:R:54:GLN:H	1.85	0.41
34:R:54:GLN:HB3	34:R:57:LEU:HB3	2.02	0.41
41:V:148:LEU:HA	41:V:151:VAL:HG12	2.03	0.41
41:V:345:ILE:HD13	41:V:345:ILE:HA	1.88	0.41
1:A:2249:ASP:OD1	4:D:1792:ARG:NH2	2.49	0.41
1:A:2405:GLU:OE1	4:D:833:THR:OG1	2.29	0.41
2:B:6:G:N2	2:B:161:U:C2	2.88	0.41
2:B:142:C:H2'	2:B:143:U:C6	2.56	0.41
3:C:721:GLN:HE21	3:C:725:ARG:HH12	1.68	0.41
4:D:503:GLN:HG2	4:D:530:ILE:HG13	2.03	0.41
4:D:1010:ILE:HD12	4:D:1108:LEU:HD23	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:F:79:A:OP2	13:G:102:A:O2'	2.38	0.41
14:H:149:A:H2'	14:H:150:G:H8	1.85	0.41
21:1:168:MET:HB3	21:1:168:MET:HE3	1.93	0.41
23:3:289:ASN:HB3	23:3:331:PHE:CE1	2.55	0.41
23:3:636:THR:HG22	23:3:643:ILE:HB	2.03	0.41
31:T:280:GLN:HG3	31:T:295:VAL:HG22	2.01	0.41
31:T:306:HIS:HB3	31:T:332:ARG:NH1	2.34	0.41
32:P:105:LEU:HD13	32:P:105:LEU:HA	1.91	0.41
37:X:80:GLU:OE2	38:Z:208:SER:OG	2.39	0.41
45:J:306:LYS:O	45:J:310:GLU:N	2.50	0.41
1:A:1335:TRP:HB2	1:A:1367:ILE:HD13	2.02	0.41
1:A:2258:TRP:HE1	1:A:2277:HIS:HD1	1.68	0.41
3:C:863:GLU:HB2	3:C:931:TYR:CE1	2.56	0.41
14:H:12:U:H2'	14:H:13:G:C8	2.56	0.41
36:Y:64:TYR:OH	36:Y:150:GLY:O	2.30	0.41
39:W:68:PRO:HG2	39:W:69:TRP:CE3	2.56	0.41
1:A:1283:GLU:HG3	41:V:341:LYS:HB2	2.02	0.40
1:A:2041:PRO:HG2	1:A:2043:PHE:CE2	2.56	0.40
2:B:21:G:H2'	2:B:22:G:C8	2.56	0.40
3:C:133:ILE:HD13	3:C:560:GLN:HB3	2.03	0.40
4:D:1063:ILE:HA	4:D:1064:PRO:HD3	1.92	0.40
31:T:118:LEU:HD21	32:P:49:SER:HA	2.03	0.40
31:T:259:VAL:HG11	32:P:74:ILE:HG23	2.03	0.40
1:A:548:LEU:HD23	1:A:548:LEU:HA	1.92	0.40
1:A:2302:LEU:HD23	1:A:2339:LEU:HD21	2.03	0.40
3:C:493:LEU:HD21	3:C:539:VAL:HG21	2.02	0.40
3:C:683:ASN:HD22	3:C:683:ASN:HA	1.66	0.40
4:D:877:ARG:HA	4:D:878:PRO:HD3	1.96	0.40
22:2:181:GLU:HB3	22:2:184:SER:OG	2.21	0.40
32:P:300:ASP:N	32:P:300:ASP:OD1	2.53	0.40
1:A:173:LEU:HD13	1:A:715:LEU:CB	2.51	0.40
1:A:222:ILE:HD11	1:A:317:PRO:HG3	2.04	0.40
1:A:1608:LEU:HD11	1:A:1648:ILE:HD11	2.02	0.40
3:C:740:ILE:HD12	3:C:740:ILE:HA	1.92	0.40
4:D:567:VAL:HG13	4:D:606:VAL:HG12	2.02	0.40
21:1:864:LEU:HD12	21:1:864:LEU:HA	1.91	0.40
23:3:651:LEU:O	23:3:669:HIS:HB2	2.21	0.40
31:T:371:GLY:HA3	31:T:400:ARG:HG2	2.03	0.40
31:T:414:LEU:HB3	31:T:426:TRP:HB2	2.02	0.40
1:A:227:GLU:OE2	1:A:231:ARG:NE	2.54	0.40
1:A:1067:ASN:HD22	27:L:81:PRO:HB2	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:693:ASN:HB2	3:C:841:LEU:HD13	2.03	0.40
4:D:2135:SER:OG	4:D:2163:LYS:OXT	2.34	0.40
23:3:1092:GLU:O	23:3:1116:ARG:N	2.37	0.40
24:4:67:ILE:HD13	24:4:85:GLN:HB3	2.03	0.40
27:L:214:ASN:HB2	45:J:48:ARG:HG3	2.02	0.40
31:T:308:LYS:HA	32:P:148:HIS:CE1	2.56	0.40
32:P:45:PRO:HG2	32:P:48:GLN:HB2	2.03	0.40
34:R:87:CYS:SG	34:R:91:HIS:HE1	2.45	0.40
37:X:129:ASP:OD2	38:Z:231:ARG:NH2	2.55	0.40
41:V:80:ILE:HA	41:V:83:LEU:HD12	2.04	0.40
1:A:1588:LYS:O	1:A:1590:LEU:N	2.55	0.40
1:A:2356:VAL:HG13	1:A:2387:HIS:HD2	1.87	0.40
4:D:1984:ILE:HG21	4:D:2148:SER:HB2	2.03	0.40
14:H:36:A:C5'	14:H:36:A:C8	3.04	0.40
14:H:47:U:O2	14:H:47:U:C3'	2.70	0.40
21:1:677:LYS:HA	21:1:677:LYS:HD2	1.92	0.40
23:3:961:CYS:HB3	23:3:970:LEU:HD23	2.02	0.40
36:Y:41:GLU:OE2	37:X:98:GLY:CA	2.70	0.40
41:V:322:LYS:HE3	41:V:357:TRP:CE2	2.57	0.40
45:J:155:LEU:HD23	45:J:155:LEU:HA	1.95	0.40
46:I:565:LYS:HA	46:I:570:THR:HG21	2.04	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	2199/2413 (91%)	2127 (97%)	68 (3%)	4 (0%)	47 68
3	C	912/1008 (90%)	877 (96%)	33 (4%)	2 (0%)	47 68
4	D	1820/2163 (84%)	1759 (97%)	60 (3%)	1 (0%)	51 73
5	d	77/101 (76%)	69 (90%)	8 (10%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	a	69/196 (35%)	64 (93%)	5 (7%)	0	100	100
6	h	74/196 (38%)	70 (95%)	4 (5%)	0	100	100
7	b	71/146 (49%)	69 (97%)	2 (3%)	0	100	100
7	m	78/146 (53%)	77 (99%)	1 (1%)	0	100	100
8	c	86/110 (78%)	79 (92%)	7 (8%)	0	100	100
8	n	63/110 (57%)	57 (90%)	6 (10%)	0	100	100
9	e	66/94 (70%)	63 (96%)	3 (4%)	0	100	100
9	i	71/94 (76%)	70 (99%)	1 (1%)	0	100	100
10	f	66/86 (77%)	59 (89%)	7 (11%)	0	100	100
10	j	66/86 (77%)	65 (98%)	1 (2%)	0	100	100
11	g	64/77 (83%)	61 (95%)	3 (5%)	0	100	100
11	k	65/77 (84%)	64 (98%)	1 (2%)	0	100	100
15	o	125/238 (52%)	115 (92%)	8 (6%)	2 (2%)	9	17
16	p	73/111 (66%)	73 (100%)	0	0	100	100
17	l	79/81 (98%)	73 (92%)	6 (8%)	0	100	100
18	u	453/530 (86%)	423 (93%)	29 (6%)	1 (0%)	47	68
19	w	123/280 (44%)	117 (95%)	6 (5%)	0	100	100
20	v	201/266 (76%)	185 (92%)	16 (8%)	0	100	100
21	1	926/971 (95%)	898 (97%)	23 (2%)	5 (0%)	29	48
22	2	214/238 (90%)	208 (97%)	4 (2%)	2 (1%)	17	31
23	3	1193/1361 (88%)	1124 (94%)	65 (5%)	4 (0%)	41	61
24	4	166/213 (78%)	161 (97%)	5 (3%)	0	100	100
25	5	101/107 (94%)	99 (98%)	2 (2%)	0	100	100
26	6	82/84 (98%)	81 (99%)	0	1 (1%)	13	24
27	L	427/590 (72%)	391 (92%)	26 (6%)	10 (2%)	6	10
28	q	125/503 (25%)	116 (93%)	9 (7%)	0	100	100
28	r	119/503 (24%)	114 (96%)	5 (4%)	0	100	100
28	s	118/503 (24%)	114 (97%)	4 (3%)	0	100	100
28	t	122/503 (24%)	118 (97%)	4 (3%)	0	100	100
29	K	149/175 (85%)	140 (94%)	7 (5%)	2 (1%)	12	21
30	N	155/157 (99%)	148 (96%)	6 (4%)	1 (1%)	25	43

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
31	T	335/337 (99%)	317 (95%)	14 (4%)	4 (1%)	13 24
32	P	236/379 (62%)	228 (97%)	5 (2%)	3 (1%)	12 21
33	Q	288/364 (79%)	265 (92%)	20 (7%)	3 (1%)	15 28
34	R	259/261 (99%)	241 (93%)	17 (7%)	1 (0%)	34 54
35	S	65/175 (37%)	61 (94%)	4 (6%)	0	100 100
36	Y	170/204 (83%)	163 (96%)	6 (4%)	1 (1%)	25 43
37	X	126/128 (98%)	122 (97%)	4 (3%)	0	100 100
38	Z	119/121 (98%)	117 (98%)	2 (2%)	0	100 100
39	W	21/455 (5%)	20 (95%)	1 (5%)	0	100 100
40	U	25/135 (18%)	24 (96%)	1 (4%)	0	100 100
41	V	446/577 (77%)	427 (96%)	19 (4%)	0	100 100
42	M	172/259 (66%)	163 (95%)	8 (5%)	1 (1%)	25 43
43	z	146/301 (48%)	126 (86%)	18 (12%)	2 (1%)	11 20
44	y	63/185 (34%)	57 (90%)	6 (10%)	0	100 100
45	J	528/687 (77%)	493 (93%)	31 (6%)	4 (1%)	19 35
46	I	544/859 (63%)	491 (90%)	36 (7%)	17 (3%)	4 5
47	x	651/876 (74%)	617 (95%)	33 (5%)	1 (0%)	47 68
All	All	14992/20820 (72%)	14260 (95%)	660 (4%)	72 (0%)	32 48

All (72) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	91	VAL
22	2	268	ASP
23	3	585	GLN
27	L	367	VAL
27	L	417	PRO
27	L	418	PRO
29	K	77	PRO
33	Q	118	VAL
33	Q	299	ALA
46	I	223	PRO
46	I	373	ASP
46	I	511	ALA
46	I	739	SER
15	o	68	PRO

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Mol	Chain	Res	Type
21	1	158	LYS
23	3	958	ASP
27	L	374	PRO
31	T	442	TRP
33	Q	298	SER
42	M	234	PHE
43	z	103	VAL
45	J	539	GLU
46	I	238	ARG
46	I	293	GLN
46	I	368	PHE
46	I	507	ILE
1	A	510	PRO
21	1	157	ASN
23	3	584	SER
46	I	225	GLN
46	I	759	ILE
46	I	778	THR
1	A	771	PRO
1	A	1489	PRO
3	C	87	GLN
21	1	125	VAL
22	2	180	LYS
23	3	1039	ASN
26	6	24	GLU
27	L	223	PRO
27	L	415	ILE
29	K	82	ASP
31	T	391	GLU
32	P	58	PRO
32	P	111	HIS
46	I	289	GLU
46	I	406	ASN
46	I	424	LYS
47	x	578	PRO
21	1	127	VAL
27	L	334	PRO
30	N	139	GLN
32	P	59	THR
34	R	24	ALA
43	z	112	ASN
45	J	388	PHE

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Mol	Chain	Res	Type
45	J	467	GLN
1	A	547	LEU
15	o	67	ILE
21	1	145	ALA
46	I	290	PHE
4	D	265	ILE
18	u	377	VAL
45	J	464	ILE
27	L	225	PRO
27	L	440	ILE
31	T	122	ARG
36	Y	29	MET
46	I	267	PRO
46	I	773	PRO
27	L	81	PRO
31	T	264	GLY

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	1997/2182 (92%)	1950 (98%)	47 (2%)	49 74
3	C	828/910 (91%)	813 (98%)	15 (2%)	59 81
4	D	1651/1955 (84%)	1649 (100%)	2 (0%)	93 98
6	h	67/176 (38%)	67 (100%)	0	100 100
7	m	77/129 (60%)	77 (100%)	0	100 100
8	n	59/103 (57%)	59 (100%)	0	100 100
9	i	65/83 (78%)	65 (100%)	0	100 100
10	j	61/77 (79%)	61 (100%)	0	100 100
11	k	58/66 (88%)	55 (95%)	3 (5%)	23 44
15	o	44/219 (20%)	42 (96%)	2 (4%)	27 51
16	p	23/100 (23%)	22 (96%)	1 (4%)	29 53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
17	l	67/70 (96%)	67 (100%)	0	100	100
18	u	426/492 (87%)	422 (99%)	4 (1%)	78	92
19	w	118/259 (46%)	118 (100%)	0	100	100
20	v	182/236 (77%)	180 (99%)	2 (1%)	73	89
21	1	817/867 (94%)	788 (96%)	29 (4%)	36	62
22	2	197/212 (93%)	194 (98%)	3 (2%)	65	85
23	3	1113/1244 (90%)	1082 (97%)	31 (3%)	43	70
24	4	154/189 (82%)	154 (100%)	0	100	100
25	5	93/97 (96%)	90 (97%)	3 (3%)	39	65
26	6	76/76 (100%)	75 (99%)	1 (1%)	69	87
27	L	195/525 (37%)	187 (96%)	8 (4%)	30	55
28	q	65/451 (14%)	62 (95%)	3 (5%)	27	50
28	r	59/451 (13%)	56 (95%)	3 (5%)	24	45
28	s	61/451 (14%)	58 (95%)	3 (5%)	25	47
28	t	62/451 (14%)	58 (94%)	4 (6%)	17	33
29	K	37/165 (22%)	27 (73%)	10 (27%)	0	0
30	N	141/141 (100%)	137 (97%)	4 (3%)	43	70
31	T	295/295 (100%)	288 (98%)	7 (2%)	49	74
32	P	218/328 (66%)	215 (99%)	3 (1%)	67	86
33	Q	265/332 (80%)	261 (98%)	4 (2%)	65	85
34	R	224/224 (100%)	218 (97%)	6 (3%)	44	71
35	S	58/151 (38%)	57 (98%)	1 (2%)	60	82
36	Y	156/186 (84%)	156 (100%)	0	100	100
37	X	114/114 (100%)	108 (95%)	6 (5%)	22	43
38	Z	88/107 (82%)	87 (99%)	1 (1%)	73	89
39	W	20/413 (5%)	20 (100%)	0	100	100
40	U	21/121 (17%)	21 (100%)	0	100	100
41	V	416/538 (77%)	410 (99%)	6 (1%)	67	86
42	M	145/237 (61%)	142 (98%)	3 (2%)	53	78
43	z	134/273 (49%)	130 (97%)	4 (3%)	41	68
44	y	63/167 (38%)	60 (95%)	3 (5%)	25	48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
45	J	215/633 (34%)	215 (100%)	0	100 100
46	I	58/786 (7%)	53 (91%)	5 (9%)	10 20
47	x	586/789 (74%)	573 (98%)	13 (2%)	52 77
All	All	11869/18071 (66%)	11629 (98%)	240 (2%)	57 79

All (240) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	396	ARG
1	A	479	LEU
1	A	593	LEU
1	A	631	LEU
1	A	645	ASP
1	A	712	LEU
1	A	715	LEU
1	A	737	ARG
1	A	738	SER
1	A	739	ASN
1	A	783	LEU
1	A	906	LYS
1	A	1087	ASN
1	A	1172	PHE
1	A	1178	GLU
1	A	1180	GLU
1	A	1182	LEU
1	A	1222	LEU
1	A	1268	ARG
1	A	1301	TYR
1	A	1376	ASN
1	A	1474	ARG
1	A	1521	ARG
1	A	1608	LEU
1	A	1618	ASN
1	A	1619	VAL
1	A	1624	LEU
1	A	1637	LYS
1	A	1739	ARG
1	A	1742	ASP
1	A	1747	ASP
1	A	1753	ARG
1	A	1782	ASN

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Mol	Chain	Res	Type
1	A	1794	LEU
1	A	1797	LEU
1	A	1801	SER
1	A	1809	ASN
1	A	1815	LEU
1	A	1883	ASN
1	A	1889	LEU
1	A	1891	LEU
1	A	1892	LYS
1	A	1957	ARG
1	A	1998	ARG
1	A	2075	THR
1	A	2319	LYS
1	A	2325	LEU
3	C	77	LEU
3	C	84	GLN
3	C	91	VAL
3	C	119	ASN
3	C	180	ASN
3	C	190	SER
3	C	264	CYS
3	C	289	ASN
3	C	300	LYS
3	C	441	ARG
3	C	442	CYS
3	C	683	ASN
3	C	693	ASN
3	C	887	ARG
3	C	945	LEU
4	D	265	ILE
4	D	764	GLU
15	o	4	THR
15	o	44	PRO
16	p	58	VAL
11	k	18	ASN
11	k	20	ASN
11	k	66	ASN
18	u	377	VAL
18	u	506	LEU
18	u	508	GLU
18	u	515	VAL
20	v	42	TYR

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Mol	Chain	Res	Type
20	v	219	LEU
21	1	59	ASN
21	1	117	LYS
21	1	122	SER
21	1	124	LEU
21	1	131	HIS
21	1	255	ASP
21	1	285	ASP
21	1	396	VAL
21	1	412	LEU
21	1	416	LEU
21	1	421	SER
21	1	422	MET
21	1	429	GLU
21	1	437	GLU
21	1	446	PHE
21	1	561	LEU
21	1	589	SER
21	1	590	LEU
21	1	607	ASN
21	1	644	ASN
21	1	695	ASN
21	1	698	ARG
21	1	732	LEU
21	1	734	LEU
21	1	864	LEU
21	1	884	LEU
21	1	923	LEU
21	1	960	ASN
21	1	967	LEU
22	2	179	LYS
22	2	180	LYS
22	2	181	GLU
23	3	65	LEU
23	3	70	ASN
23	3	151	THR
23	3	170	ARG
23	3	171	LEU
23	3	172	LYS
23	3	179	LEU
23	3	296	LEU
23	3	380	LEU

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Mol	Chain	Res	Type
23	3	381	LEU
23	3	382	GLN
23	3	401	ASN
23	3	431	SER
23	3	433	MET
23	3	582	LYS
23	3	584	SER
23	3	954	SER
23	3	955	LEU
23	3	957	ILE
23	3	979	CYS
23	3	1012	LYS
23	3	1039	ASN
23	3	1041	LEU
23	3	1084	ARG
23	3	1085	LEU
23	3	1097	PHE
23	3	1124	LEU
23	3	1126	GLU
23	3	1188	GLN
23	3	1196	ASN
23	3	1236	ASN
25	5	12	LEU
25	5	38	ARG
25	5	62	ASN
26	6	11	GLN
27	L	44	THR
27	L	224	MET
27	L	229	ASP
27	L	232	THR
27	L	504	PRO
27	L	505	PRO
27	L	532	PRO
27	L	550	PRO
28	s	17	PRO
28	s	44	PRO
28	s	63	THR
28	t	17	PRO
28	t	44	PRO
28	t	63	THR
28	t	98	LEU
28	q	17	PRO

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Mol	Chain	Res	Type
28	q	44	PRO
28	q	55	PRO
28	r	17	PRO
28	r	44	PRO
28	r	63	THR
29	K	7	VAL
29	K	13	PRO
29	K	76	THR
29	K	86	LEU
29	K	96	PRO
29	K	100	THR
29	K	105	PRO
29	K	133	PRO
29	K	150	THR
29	K	152	THR
30	N	1	MET
30	N	48	GLN
30	N	140	VAL
30	N	145	CYS
31	T	160	ASN
31	T	200	VAL
31	T	254	ARG
31	T	328	THR
31	T	343	THR
31	T	357	SER
31	T	440	LEU
32	P	37	ASN
32	P	133	LYS
32	P	179	THR
33	Q	17	LEU
33	Q	230	LYS
33	Q	233	LYS
33	Q	293	TRP
34	R	51	PHE
34	R	53	LEU
34	R	54	GLN
34	R	147	ASN
34	R	169	ASP
34	R	215	ARG
35	S	175	ARG
37	X	2	ASN
37	X	56	VAL

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Mol	Chain	Res	Type
37	X	85	THR
37	X	87	LEU
37	X	100	ARG
37	X	102	LEU
38	Z	258	GLN
41	V	34	MET
41	V	53	ARG
41	V	162	LEU
41	V	306	ASP
41	V	346	LEU
41	V	445	LEU
42	M	79	ASN
42	M	126	ASN
42	M	134	THR
43	z	4	ASN
43	z	103	VAL
43	z	108	LYS
43	z	111	LEU
44	y	90	GLU
44	y	91	TYR
44	y	109	LEU
46	I	616	PRO
46	I	617	PRO
46	I	641	PRO
46	I	722	PRO
46	I	726	ARG
47	x	265	PHE
47	x	267	ASP
47	x	268	GLN
47	x	270	LYS
47	x	271	LEU
47	x	272	GLN
47	x	307	ARG
47	x	534	THR
47	x	630	ASN
47	x	690	ARG
47	x	777	ARG
47	x	836	MET
47	x	837	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (170) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	138	HIS
1	A	185	GLN
1	A	310	ASN
1	A	343	ASN
1	A	429	ASN
1	A	543	ASN
1	A	636	HIS
1	A	776	GLN
1	A	784	GLN
1	A	839	HIS
1	A	848	ASN
1	A	868	GLN
1	A	1030	GLN
1	A	1087	ASN
1	A	1128	GLN
1	A	1156	HIS
1	A	1376	ASN
1	A	1424	HIS
1	A	1746	HIS
1	A	1782	ASN
1	A	1789	ASN
1	A	1809	ASN
1	A	1883	ASN
1	A	1895	HIS
1	A	1985	GLN
1	A	2018	ASN
3	C	84	GLN
3	C	103	HIS
3	C	119	ASN
3	C	158	HIS
3	C	183	GLN
3	C	251	GLN
3	C	259	ASN
3	C	289	ASN
3	C	426	GLN
3	C	431	GLN
3	C	560	GLN
3	C	608	GLN
3	C	683	ASN
3	C	693	ASN
3	C	721	GLN
3	C	794	GLN
3	C	905	GLN

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Mol	Chain	Res	Type
4	D	637	HIS
4	D	662	GLN
4	D	773	ASN
4	D	919	ASN
4	D	937	ASN
4	D	1086	GLN
4	D	1148	GLN
4	D	1266	HIS
4	D	1279	HIS
4	D	1283	ASN
4	D	1430	ASN
4	D	1531	ASN
4	D	1701	ASN
4	D	1812	ASN
4	D	1968	ASN
4	D	2161	ASN
6	h	42	ASN
11	k	18	ASN
11	k	20	ASN
11	k	66	ASN
7	m	30	GLN
8	n	52	HIS
18	u	75	GLN
18	u	90	GLN
18	u	167	ASN
18	u	186	HIS
18	u	440	HIS
18	u	446	HIS
19	w	123	ASN
21	1	65	HIS
21	1	141	HIS
21	1	219	HIS
21	1	339	GLN
21	1	607	ASN
21	1	644	ASN
21	1	695	ASN
21	1	853	HIS
21	1	867	ASN
21	1	873	HIS
21	1	882	ASN
21	1	894	HIS
21	1	960	ASN

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Mol	Chain	Res	Type
22	2	273	ASN
23	3	68	GLN
23	3	100	HIS
23	3	156	ASN
23	3	176	ASN
23	3	198	ASN
23	3	246	ASN
23	3	360	HIS
23	3	382	GLN
23	3	401	ASN
23	3	417	HIS
23	3	435	ASN
23	3	483	ASN
23	3	515	ASN
23	3	547	ASN
23	3	565	ASN
23	3	590	HIS
23	3	609	HIS
23	3	834	ASN
23	3	845	ASN
23	3	889	HIS
23	3	993	HIS
23	3	1011	ASN
23	3	1023	HIS
23	3	1039	ASN
23	3	1081	ASN
23	3	1091	HIS
23	3	1117	HIS
23	3	1196	ASN
23	3	1203	HIS
23	3	1236	ASN
23	3	1304	HIS
24	4	33	ASN
24	4	187	ASN
24	4	191	ASN
25	5	62	ASN
25	5	64	ASN
27	L	82	ASN
27	L	214	ASN
27	L	249	ASN
31	T	138	HIS
31	T	160	ASN

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Mol	Chain	Res	Type
31	T	181	HIS
32	P	37	ASN
32	P	148	HIS
32	P	246	GLN
32	P	331	GLN
32	P	332	GLN
33	Q	53	ASN
33	Q	72	GLN
33	Q	81	HIS
33	Q	106	ASN
34	R	25	GLN
34	R	54	GLN
34	R	91	HIS
34	R	147	ASN
34	R	248	ASN
34	R	255	ASN
35	S	34	HIS
35	S	173	HIS
37	X	2	ASN
38	Z	168	GLN
38	Z	258	GLN
40	U	19	HIS
41	V	84	ASN
41	V	116	ASN
41	V	223	HIS
41	V	310	HIS
41	V	354	HIS
41	V	429	ASN
41	V	457	HIS
42	M	79	ASN
42	M	126	ASN
42	M	140	GLN
42	M	176	GLN
42	M	179	ASN
42	M	255	ASN
43	z	4	ASN
43	z	97	ASN
43	z	115	ASN
44	y	98	ASN
47	x	268	GLN
47	x	419	HIS
47	x	502	ASN

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Mol	Chain	Res	Type
47	x	630	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
12	F	102/112 (91%)	18 (17%)	1 (0%)
13	G	99/162 (61%)	45 (45%)	4 (4%)
14	H	161/1175 (13%)	40 (24%)	1 (0%)
2	B	177/214 (82%)	58 (32%)	6 (3%)
All	All	539/1663 (32%)	161 (29%)	12 (2%)

All (161) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	B	9	U
2	B	12	C
2	B	13	A
2	B	14	G
2	B	18	A
2	B	20	U
2	B	26	A
2	B	27	G
2	B	28	G
2	B	33	U
2	B	40	C
2	B	43	G
2	B	45	A
2	B	46	C
2	B	47	U
2	B	75	A
2	B	76	U
2	B	77	A
2	B	79	C
2	B	80	G
2	B	81	A
2	B	84	A
2	B	92	U
2	B	95	C
2	B	96	U
2	B	97	U
2	B	101	C

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Mol	Chain	Res	Type
2	B	103	A
2	B	108	C
2	B	126	A
2	B	127	U
2	B	128	A
2	B	129	G
2	B	130	A
2	B	131	A
2	B	135	G
2	B	139	A
2	B	141	G
2	B	142	C
2	B	149	U
2	B	151	A
2	B	152	C
2	B	157	G
2	B	158	G
2	B	160	U
2	B	161	U
2	B	162	G
2	B	163	C
2	B	164	C
2	B	165	A
2	B	166	U
2	B	167	A
2	B	168	U
2	B	170	U
2	B	171	U
2	B	172	U
2	B	174	G
2	B	176	A
12	F	14	C
12	F	36	U
12	F	41	A
12	F	42	A
12	F	43	C
12	F	48	C
12	F	51	A
12	F	53	A
12	F	60	G
12	F	66	C
12	F	74	U

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Mol	Chain	Res	Type
12	F	81	G
12	F	82	A
12	F	85	C
12	F	86	G
12	F	88	U
12	F	91	A
12	F	92	C
13	G	78	U
13	G	79	A
13	G	80	A
13	G	81	A
13	G	82	A
13	G	88	A
13	G	91	A
13	G	93	U
13	G	95	G
13	G	96	U
13	G	100	G
13	G	102	A
13	G	109	A
13	G	110	U
13	G	111	U
13	G	115	U
13	G	471	A
13	G	473	A
13	G	475	A
13	G	481	A
13	G	483	A
13	G	484	A
13	G	487	A
13	G	488	A
13	G	489	A
13	G	494	G
13	G	496	U
13	G	497	A
13	G	498	C
13	G	501	A
13	G	502	C
13	G	504	C
13	G	505	A
13	G	506	U
13	G	507	U

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Mol	Chain	Res	Type
13	G	509	A
13	G	510	A
13	G	514	U
13	G	516	U
13	G	518	U
13	G	520	G
13	G	521	U
13	G	529	U
13	G	530	U
13	G	533	U
14	H	17	U
14	H	18	U
14	H	19	U
14	H	25	A
14	H	26	G
14	H	30	A
14	H	32	G
14	H	36	A
14	H	37	G
14	H	45	U
14	H	47	U
14	H	48	U
14	H	49	U
14	H	59	C
14	H	66	A
14	H	67	A
14	H	68	U
14	H	82	C
14	H	83	U
14	H	111	C
14	H	115	U
14	H	116	U
14	H	118	U
14	H	119	G
14	H	1092	A
14	H	1094	G
14	H	1095	U
14	H	1096	C
14	H	1098	C
14	H	1101	C
14	H	1102	C
14	H	1103	C

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Mol	Chain	Res	Type
14	H	1123	C
14	H	1124	U
14	H	1125	U
14	H	1142	G
14	H	1144	U
14	H	1145	U
14	H	1146	G
14	H	1152	U

All (12) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
2	B	27	G
2	B	44	A
2	B	78	A
2	B	130	A
2	B	150	U
2	B	166	U
12	F	53	A
13	G	109	A
13	G	472	A
13	G	480	A
13	G	488	A
14	H	36	A

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 monosaccharides in this entry.

5.6 Ligand geometry

Of 24 ligands modelled in this entry, 22 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
49	GTP	C	1101	50	26,34,34	1.29	2 (7%)	32,54,54	1.52	6 (18%)
48	IHP	A	3000	-	36,36,36	0.77	0	54,60,60	0.93	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
49	GTP	C	1101	50	-	6/18/38/38	0/3/3/3
48	IHP	A	3000	-	-	6/30/54/54	0/1/1/1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	C	1101	GTP	C5-C6	-4.34	1.38	1.47
49	C	1101	GTP	C5-C4	-2.05	1.37	1.43

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
49	C	1101	GTP	PB-O3B-PG	-4.06	118.88	132.83
49	C	1101	GTP	C5-C6-N1	2.99	119.22	113.95
49	C	1101	GTP	C8-N7-C5	2.92	108.56	102.99
49	C	1101	GTP	C2-N1-C6	-2.85	119.86	125.10
49	C	1101	GTP	PA-O3A-PB	-2.18	125.33	132.83
49	C	1101	GTP	O6-C6-C5	-2.05	120.36	124.37

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
48	A	3000	IHP	C2-O12-P2-O22
48	A	3000	IHP	C4-O14-P4-O24
48	A	3000	IHP	C6-O16-P6-O26
49	C	1101	GTP	C5'-O5'-PA-O3A
49	C	1101	GTP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
49	C	1101	GTP	O4'-C4'-C5'-O5'
49	C	1101	GTP	C3'-C4'-C5'-O5'
48	A	3000	IHP	C4-O14-P4-O44
48	A	3000	IHP	C6-O16-P6-O36
49	C	1101	GTP	C5'-O5'-PA-O1A
49	C	1101	GTP	PB-O3A-PA-O2A
48	A	3000	IHP	C1-O11-P1-O21

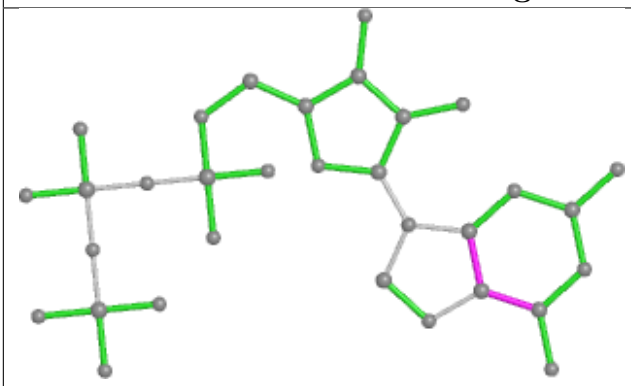
There are no ring outliers.

2 monomers are involved in 4 short contacts:

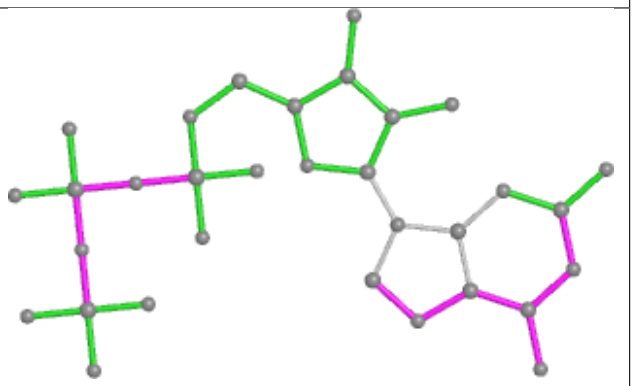
Mol	Chain	Res	Type	Clashes	Symm-Clashes
49	C	1101	GTP	2	0
48	A	3000	IHP	2	0

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

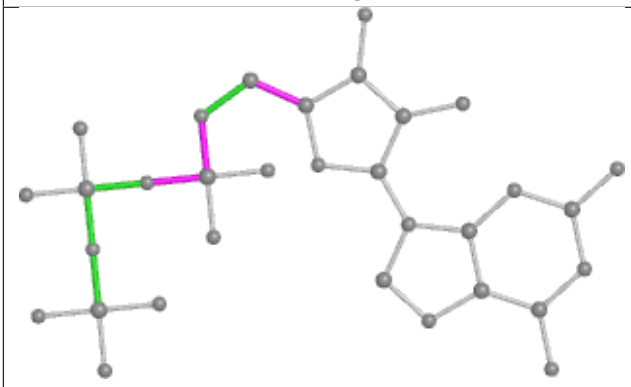
Ligand GTP C 1101



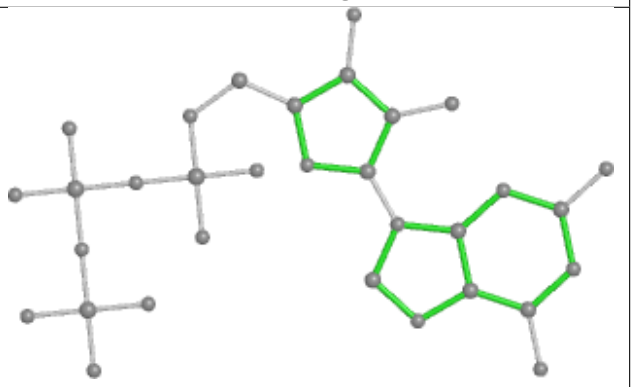
Bond lengths



Bond angles

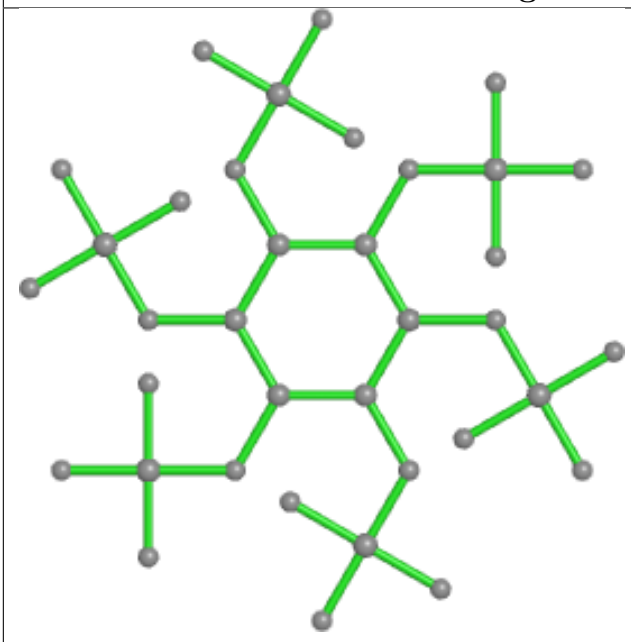


Torsions

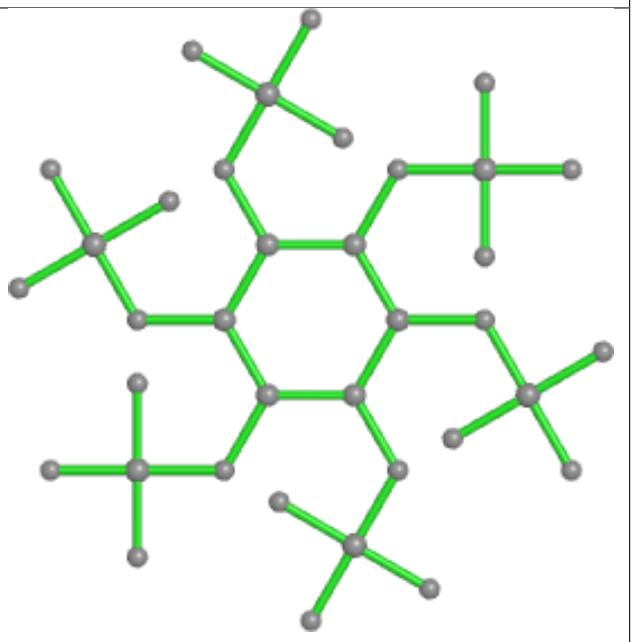


Rings

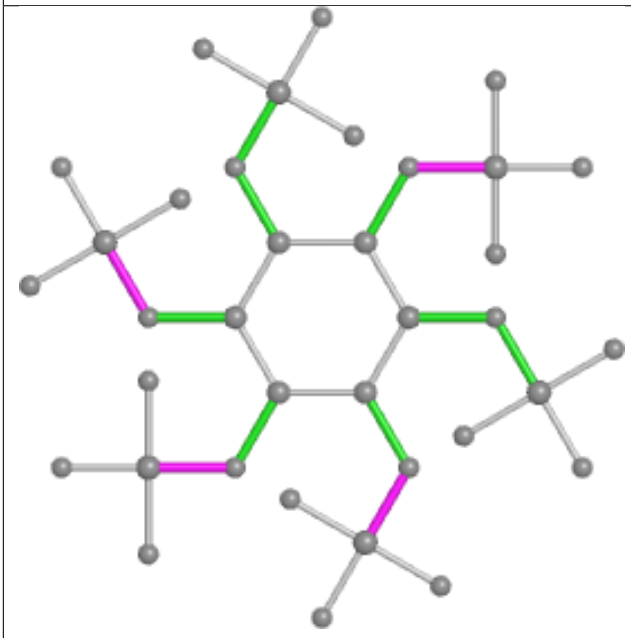
Ligand IHP A 3000



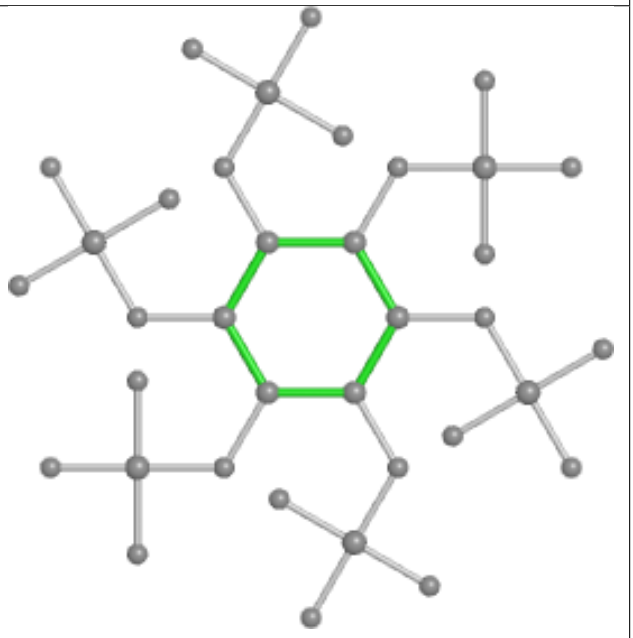
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

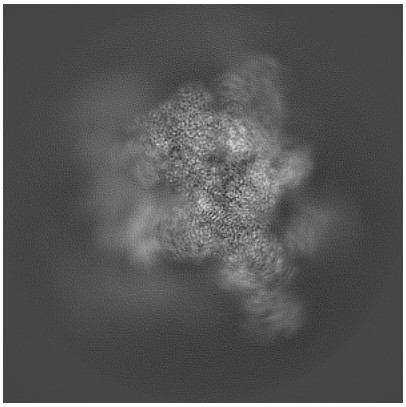
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-30637. These allow visual inspection of the internal detail of the map and identification of artifacts.

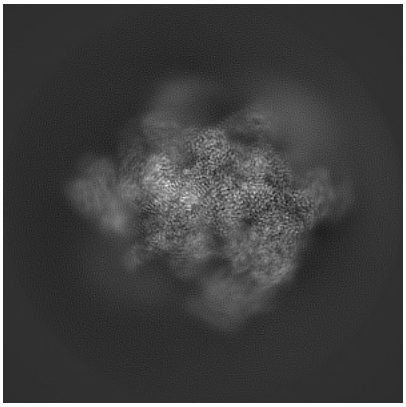
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

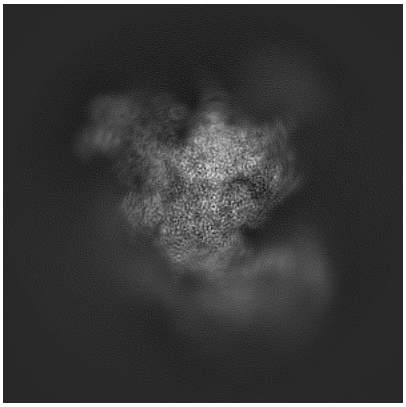
6.1.1 Primary map



X



Y

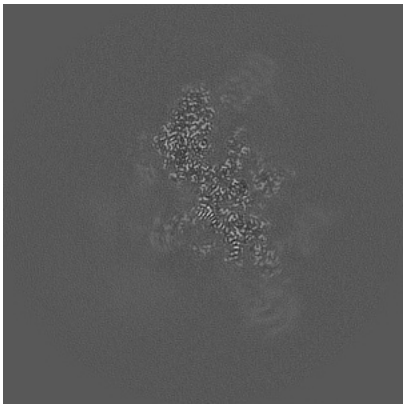


Z

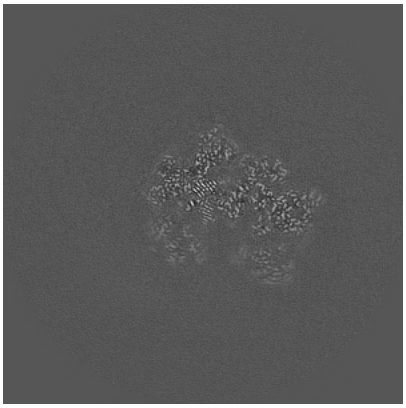
The images above show the map projected in three orthogonal directions.

6.2 Central slices

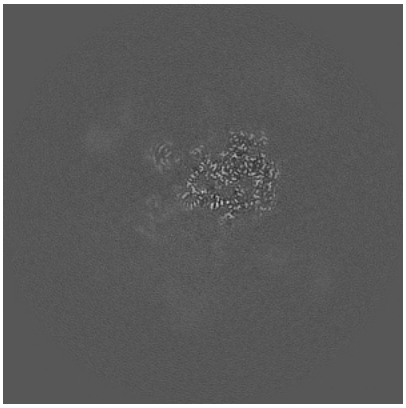
6.2.1 Primary map



X Index: 200



Y Index: 200

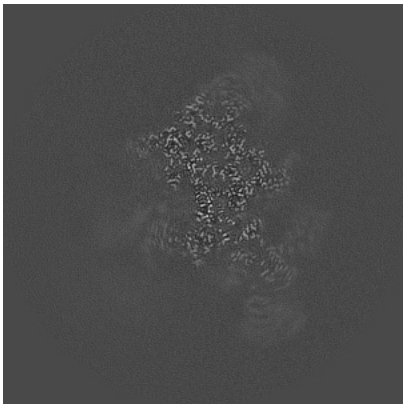


Z Index: 200

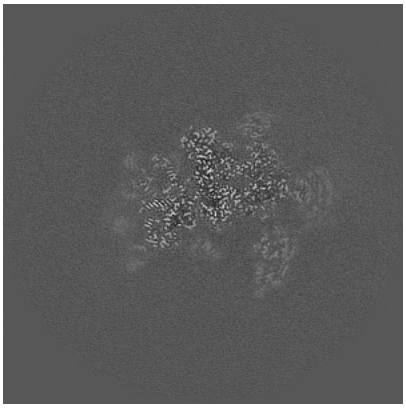
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

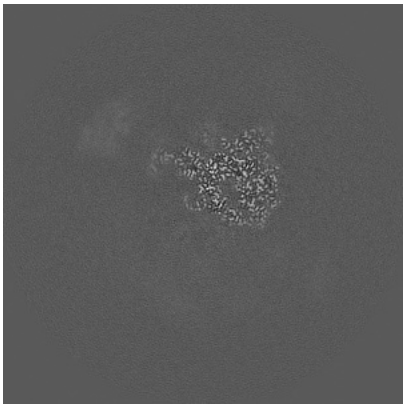
6.3.1 Primary map



X Index: 211



Y Index: 233

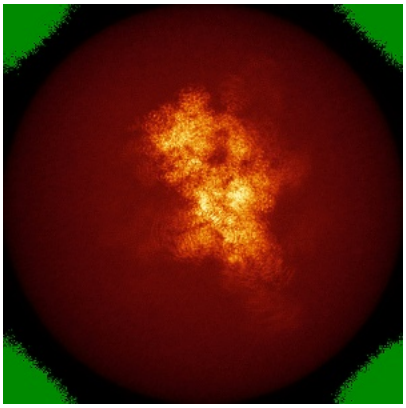


Z Index: 209

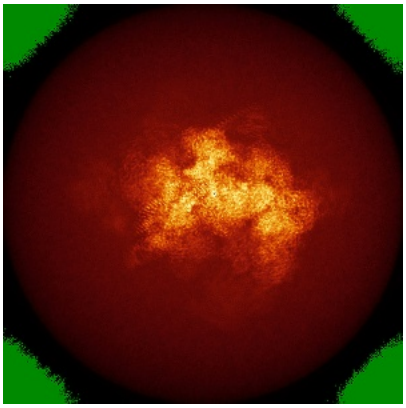
The images above show the largest variance slices of the map in three orthogonal directions.

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

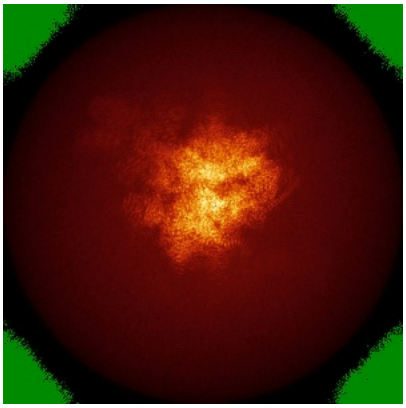
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.015. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

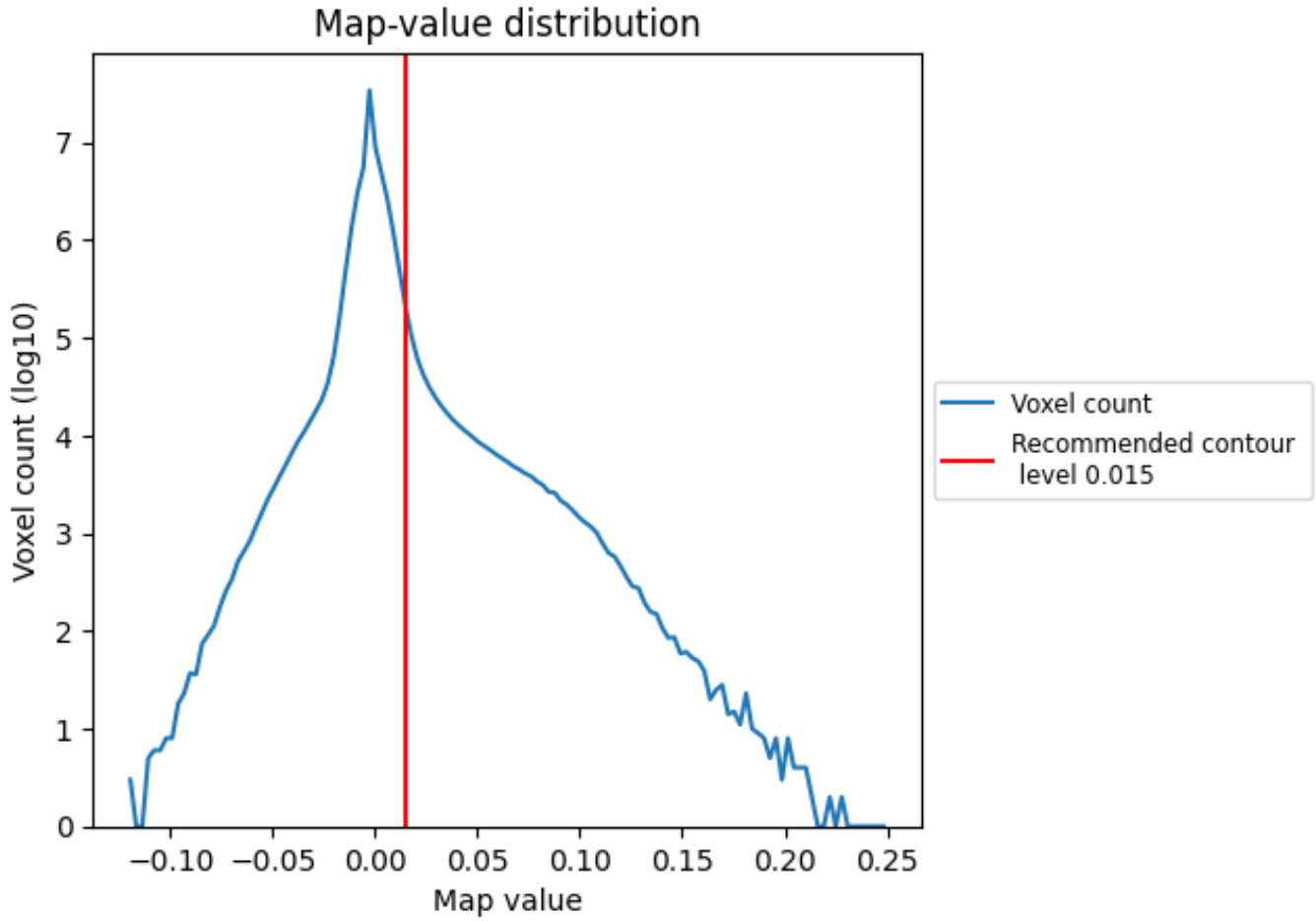
6.6 Mask visualisation (i)

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

7 Map analysis

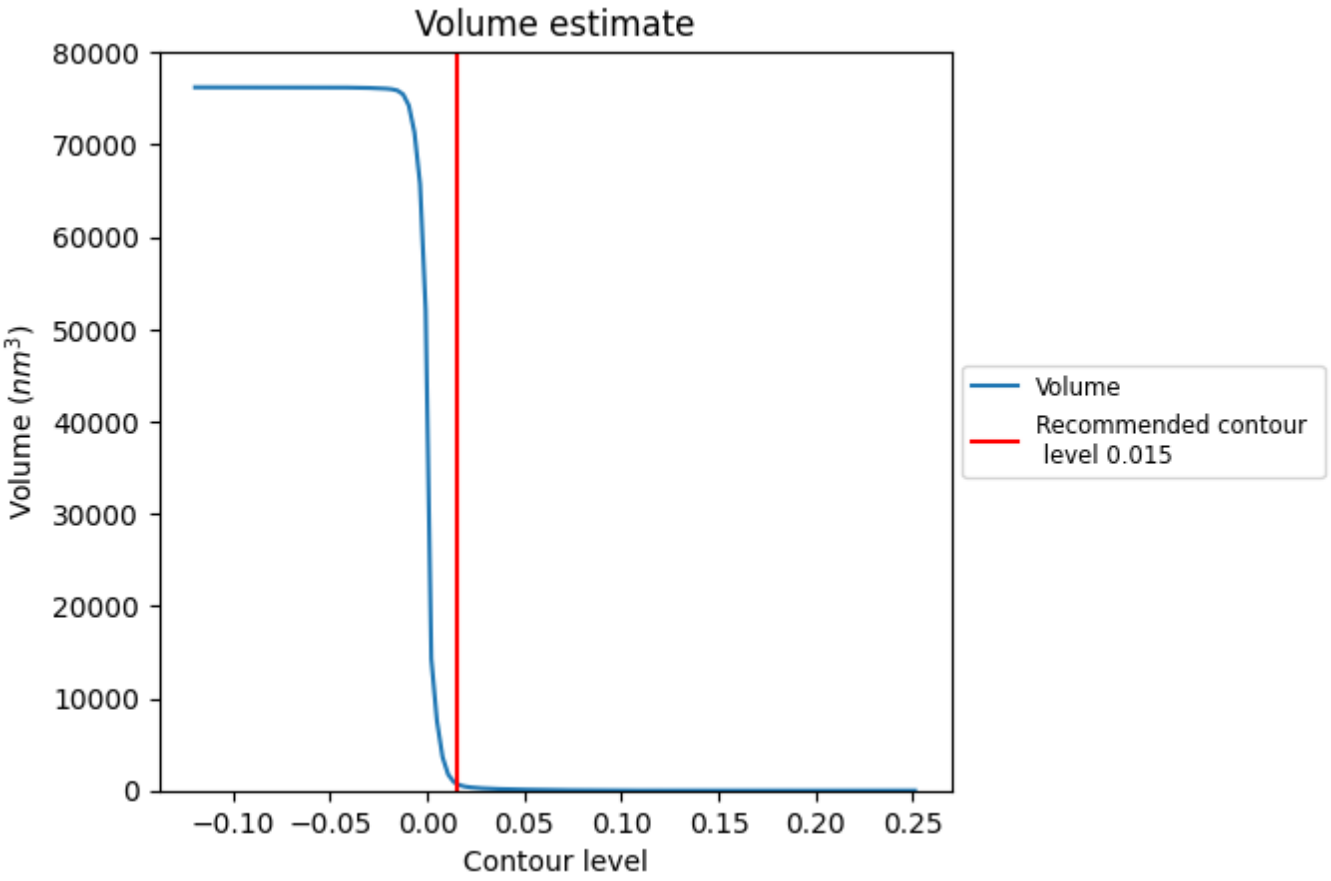
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

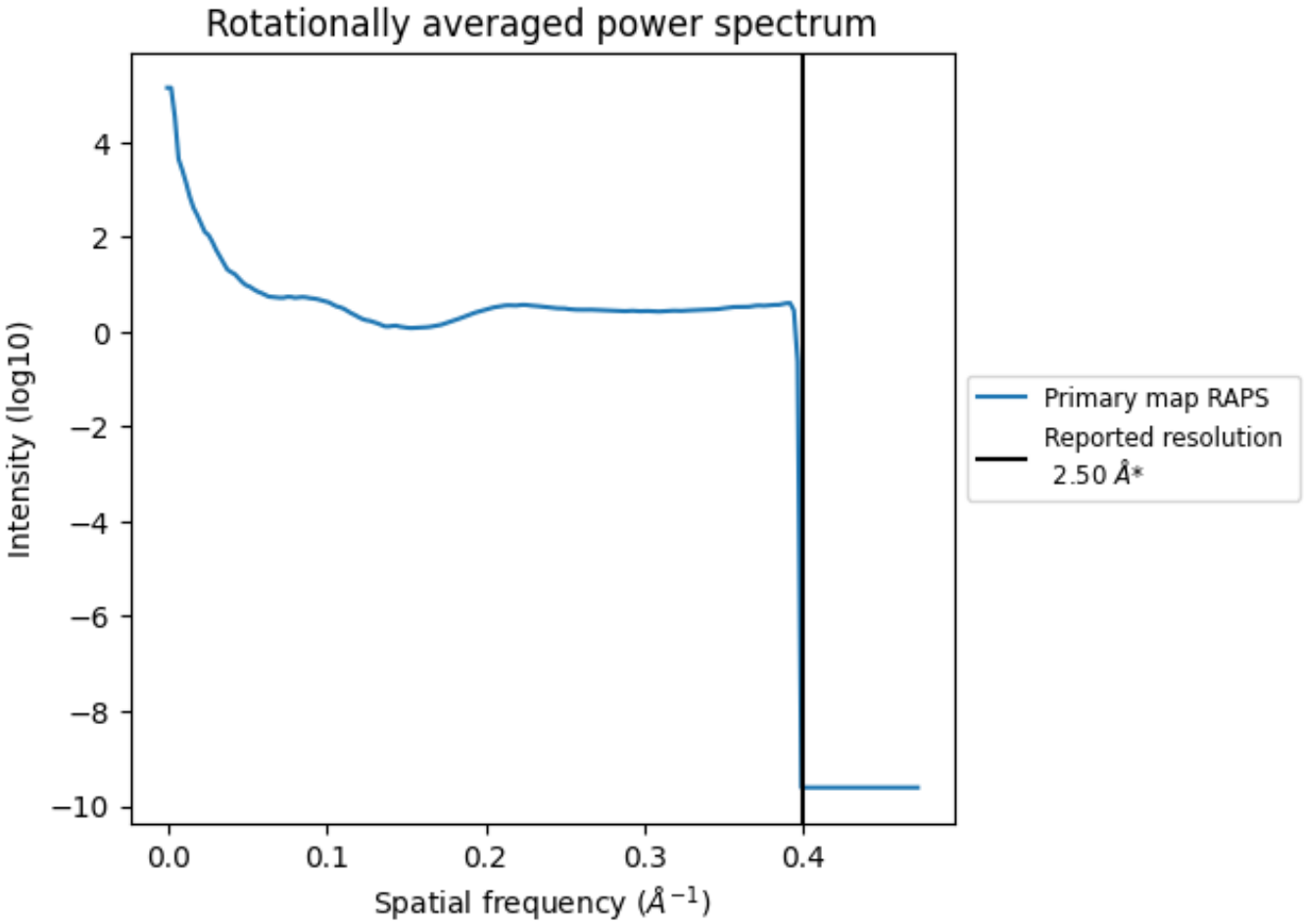
7.2 Volume estimate



The volume at the recommended contour level is 787 nm^3; this corresponds to an approximate mass of 711 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 0.400 Å^{-1}

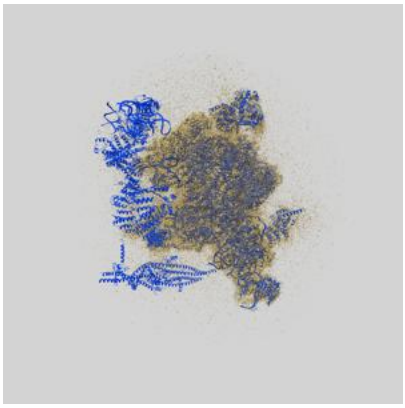
8 Fourier-Shell correlation

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

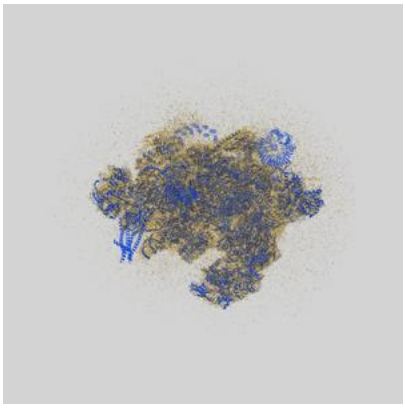
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-30637 and PDB model 7DCO. Per-residue inclusion information can be found in section 3 on page 16.

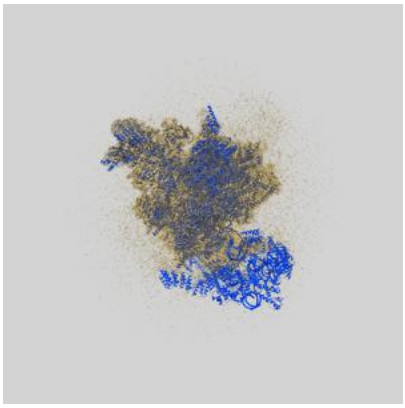
9.1 Map-model overlay



X



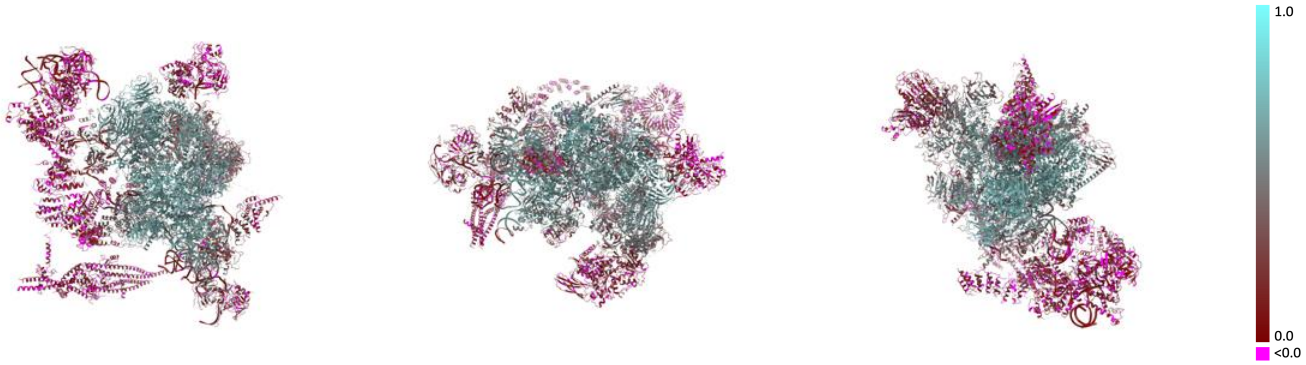
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.015 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.

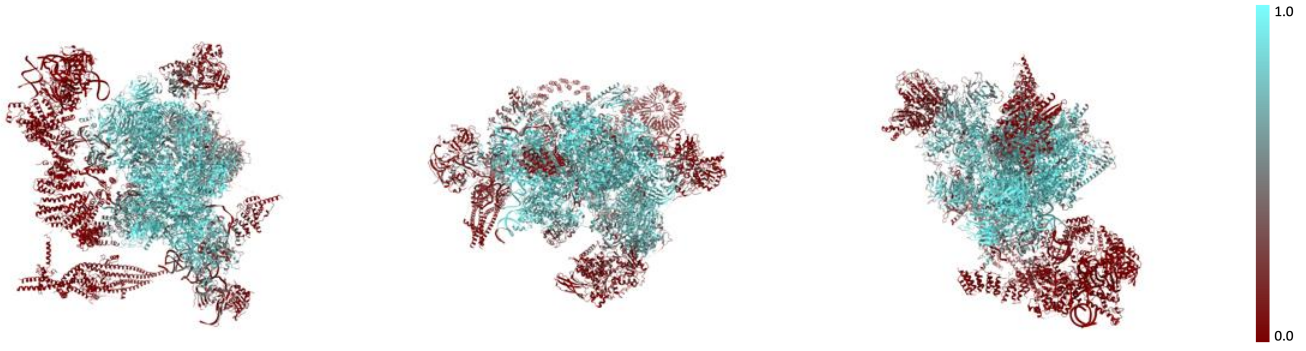
9.2 Q-score mapped to coordinate model



X Y Z

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.

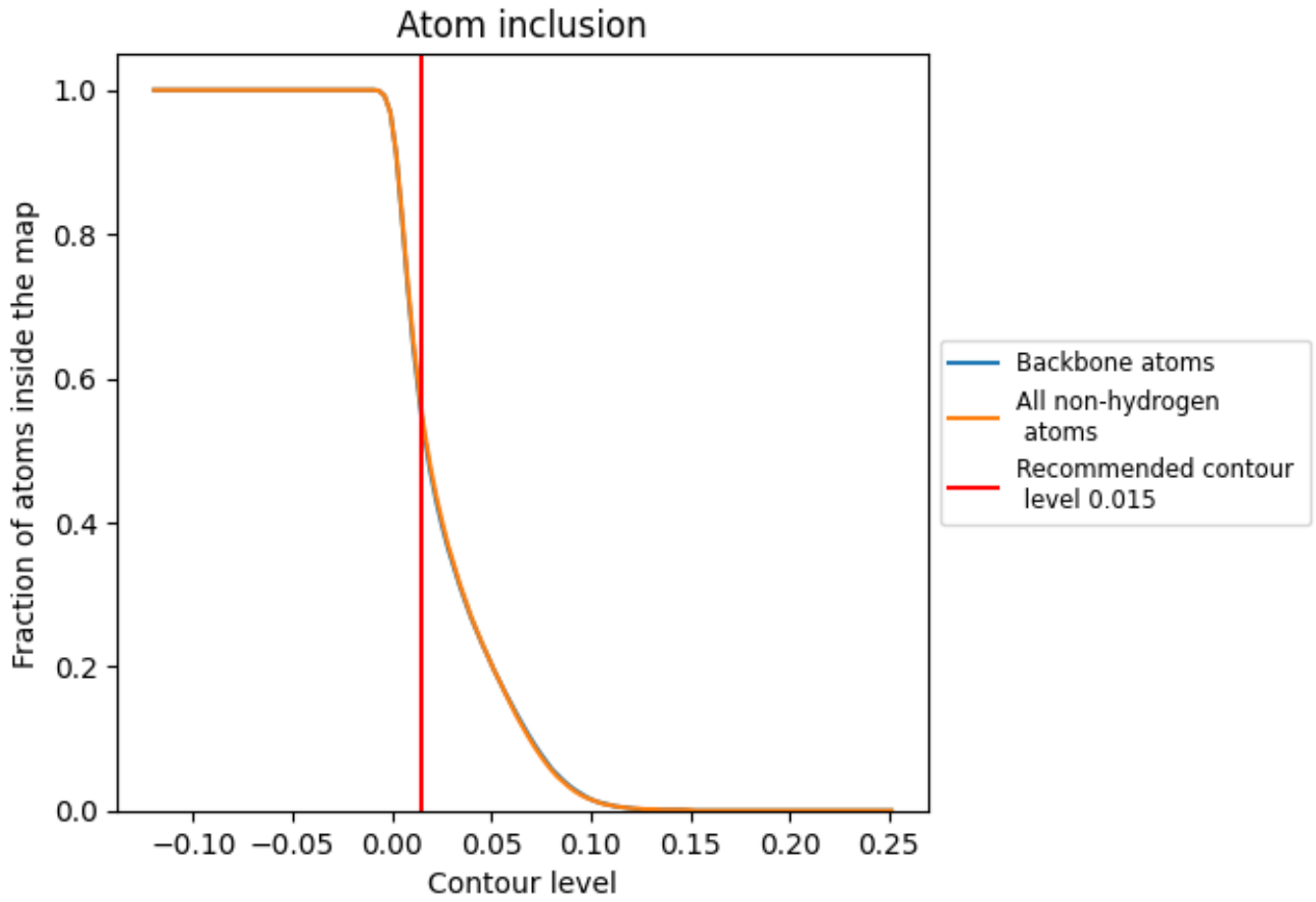
9.3 Atom inclusion mapped to coordinate model



X Y Z

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 (0.015).

9.4 Atom inclusion (i)



At the recommended contour level, 55% of all backbone atoms, 55% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5530	0.4080
1	0.9220	0.6380
2	0.7810	0.5440
3	0.8940	0.6140
4	0.3420	0.2650
5	0.9540	0.6630
6	0.9480	0.6510
A	0.8840	0.6170
B	0.5340	0.3560
C	0.7090	0.4860
D	0.4180	0.3250
F	0.8190	0.5270
G	0.5350	0.3840
H	0.2790	0.2360
I	0.0170	0.1150
J	0.2970	0.2660
K	0.0020	0.0860
L	0.3340	0.3050
M	0.6130	0.4670
N	0.8920	0.5960
P	0.7290	0.5100
Q	0.5000	0.3620
R	0.7500	0.5030
S	0.5910	0.4930
T	0.9080	0.6170
U	0.8660	0.6060
V	0.4750	0.3730
W	0.7890	0.4970
X	0.8940	0.6040
Y	0.6090	0.4020
Z	0.7450	0.5220
a	0.3660	0.2980
b	0.2730	0.2640
c	0.1780	0.2200
d	0.3990	0.2990

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Chain	Atom inclusion	Q-score
e	0.1290	0.2060
f	0.1210	0.1970
g	0.1110	0.1900
h	0.0020	0.1030
i	0.0040	0.0620
j	0.0020	0.1110
k	0.0020	0.0870
l	0.0050	0.1030
m	0.0020	0.0930
n	0.0040	0.0790
o	0.0040	0.1290
p	0.0110	0.1330
q	0.0040	0.1050
r	0.0020	0.1400
s	0.0050	0.1100
t	0.0020	0.1190
u	0.1370	0.1700
v	0.4320	0.3700
w	0.0030	0.0800
x	0.1680	0.0830
y	0.2280	0.1810
z	0.6640	0.4540