

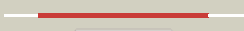












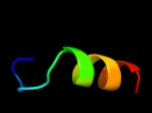
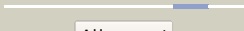
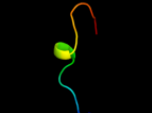

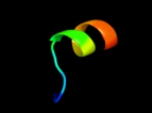

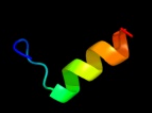
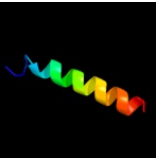
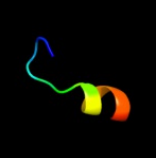

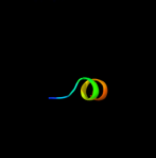
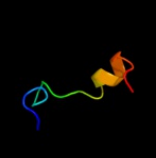


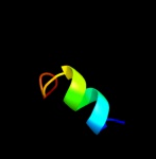



Phyre2

| | |
|---------------|-----------------------------|
| Email | l.a.kelley@imperial.ac.uk |
| Description | P31679 |
| Date | Thu Jan 5 11:48:36 GMT 2012 |
| Unique Job ID | d6ed72eed497b8c3 |

Detailed template information

| # | Template | Alignment Coverage | 3D Model | Confidence | % i.d. | Template Information |
|----|-------------------------|---|---|------------|--------|---|
| 1 | d1pw4a_ |  Alignment |  | 100.0 | 14 | Fold: MFS general substrate transporter Superfamily: MFS general substrate transporter Family: Glycerol-3-phosphate transporter |
| 2 | d1pv7a_ |  Alignment |  | 100.0 | 13 | Fold: MFS general substrate transporter Superfamily: MFS general substrate transporter Family: LacY-like proton/sugar symporter |
| 3 | c3o7pA_ |  Alignment |  | 99.9 | 11 | PDB header: transport protein Chain: A: PDB Molecule: l-fucose-proton symporter; PDBTitle: crystal structure of the e.coli fucose:proton symporter, fucp (n162a) |
| 4 | c2gfpA_ |  Alignment |  | 99.9 | 15 | PDB header: membrane protein Chain: A: PDB Molecule: multidrug resistance protein d; PDBTitle: structure of the multidrug transporter emrd from2 escherichia coli |
| 5 | c2xutC_ |  Alignment |  | 99.9 | 12 | PDB header: transport protein Chain: C: PDB Molecule: proton/peptide symporter family protein; PDBTitle: crystal structure of a proton dependent oligopeptide (pot)2 family transporter. |
| 6 | c3b9yA_ |  Alignment |  | 44.8 | 9 | PDB header: transport protein Chain: A: PDB Molecule: ammonium transporter family rh-like protein; PDBTitle: crystal structure of the nitrosomonas europaea rh protein |
| 7 | c3hd6A_ |  Alignment |  | 42.6 | 10 | PDB header: membrane protein, transport protein Chain: A: PDB Molecule: ammonium transporter rh type c; PDBTitle: crystal structure of the human rhesus glycoprotein rhcg |
| 8 | c3ff5B_ |  Alignment |  | 30.1 | 6 | PDB header: protein transport Chain: B: PDB Molecule: peroxisomal biogenesis factor 14; PDBTitle: crystal structure of the conserved n-terminal domain of the2 peroxisomal matrix-protein-import receptor, pex14p |
| 9 | c2f9jP_ |  Alignment |  | 27.0 | 22 | PDB header: rna binding protein Chain: P: PDB Molecule: splicing factor 3b subunit 1; PDBTitle: 3.0 angstrom resolution structure of a y22m mutant of the spliceosomal2 protein p14 bound to a region of sf3b155 |
| 10 | d1fs1b1 |  Alignment |  | 26.3 | 8 | Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like |
| 11 | c2w85A_ |  Alignment |  | 25.4 | 5 | PDB header: protein transport Chain: A: PDB Molecule: peroxisomal membrane anchor protein pex14; PDBTitle: structure of pex14 in complex with pex19 |

| | | | | | | |
|----|-------------------------|-----------|---|------|----|--|
| 12 | d2fx0a2 | Alignment |  | 24.8 | 17 | Fold: Tetracyclin repressor-like, C-terminal domain Superfamily: Tetracyclin repressor-like, C-terminal domain Family: Tetracyclin repressor-like, C-terminal domain |
| 13 | c3c9pA | Alignment |  | 21.1 | 15 | PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein sp1917; PDBTitle: crystal structure of uncharacterized protein sp1917 |
| 14 | c2wwaA | Alignment |  | 17.2 | 17 | PDB header: ribosome Chain: A: PDB Molecule: sec sixty-one protein homolog; PDBTitle: cryo-em structure of idle yeast ssh1 complex bound to the2 yeast 80s ribosome |
| 15 | d1fs2b1 | Alignment |  | 16.8 | 8 | Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like |
| 16 | c3mmyF | Alignment |  | 15.4 | 14 | PDB header: nuclear protein Chain: F: PDB Molecule: nuclear pore complex protein nup98; PDBTitle: structural and functional analysis of the interaction between the2 nucleoporin nup98 and the mrna export factor rae1 |
| 17 | d1miaa4 | Alignment |  | 15.0 | 19 | Fold: OB-fold Superfamily: Nucleic acid-binding proteins Family: Single strand DNA-binding domain, SSB |
| 18 | d1ofcx1 | Alignment |  | 12.9 | 8 | Fold: DNA/RNA-binding 3-helical bundle Superfamily: Homeodomain-like Family: Myb/SANT domain |
| 19 | c2g9pA | Alignment |  | 12.8 | 43 | PDB header: antimicrobial protein Chain: A: PDB Molecule: antimicrobial peptide laticin 2a; PDBTitle: nmr structure of a novel antimicrobial peptide, laticin 2a,2 from spider (lachesana tarabaevi) venom |
| 20 | d1nexa1 | Alignment |  | 12.6 | 25 | Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like |
| 21 | d1xeqa1 | Alignment | not modelled | 12.5 | 24 | Fold: S15/NS1 RNA-binding domain Superfamily: S15/NS1 RNA-binding domain Family: N-terminal, RNA-binding domain of nonstructural protein NS1 |
| 22 | c1by0A | Alignment | not modelled | 11.4 | 6 | PDB header: rna binding protein Chain: A: PDB Molecule: protein (hepatitis delta antigen); PDBTitle: n-terminal leucine-repeat region of hepatitis delta antigen |
| 23 | c3r66A | Alignment | not modelled | 11.4 | 24 | PDB header: viral protein/antiviral protein Chain: A: PDB Molecule: non-structural protein 1; PDBTitle: crystal structure of human isg15 in complex with ns1 n-terminal region2 from influenza virus b, northeast structural genomics consortium3 target ids hx6481, hr2873, and or2 |
| 24 | d2ovra1 | Alignment | not modelled | 11.2 | 8 | Fold: Skp1 dimerisation domain-like Superfamily: Skp1 dimerisation domain-like Family: Skp1 dimerisation domain-like |
| 25 | d2csba1 | Alignment | not modelled | 11.2 | 15 | Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Topoisomerase V repeat domain |
| 26 | d2j85a1 | Alignment | not modelled | 10.7 | 15 | Fold: STIV B116-like Superfamily: STIV B116-like Family: STIV B116-like |
| 27 | d1xjsa | Alignment | not modelled | 9.7 | 9 | Fold: SufE/NifU Superfamily: SufE/NifU Family: NifU/IscU domain |
| 28 | d1xpja | Alignment | not modelled | 9.2 | 17 | Fold: HAD-like Superfamily: HAD-like Family: Hypothetical protein VC0232 |
| | | | | | | Fold: Heme-binding four-helical bundle |

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|----|-------------------------|-----------|--------------|-----|----|--|
| 29 | d2bs2c1 | Alignment | not modelled | 9.0 | 19 | Superfamily: Fumarate reductase respiratory complex transmembrane subunits Family: Fumarate reductase respiratory complex cytochrome b subunit, FrdC |
| 30 | c3dinF | Alignment | not modelled | 8.6 | 15 | PDB header: membrane protein, protein transport Chain: F: PDB Molecule: preprotein translocase subunit secy; PDBTitle: crystal structure of the protein-translocation complex formed by the2 secy channel and the seca atpase |
| 31 | d1iyjb4 | Alignment | not modelled | 8.5 | 19 | Fold: OB-fold Superfamily: Nucleic acid-binding proteins Family: Single strand DNA-binding domain, SSB |
| 32 | c3qngD | Alignment | not modelled | 8.4 | 8 | PDB header: membrane protein, transport protein Chain: D: PDB Molecule: pts system, cellobiose-specific iic component; PDBTitle: crystal structure of the transporter chbc, the iic component from the2 n,n'-diacetylchitobiose-specific phosphotransferase system |
| 33 | d2a26a1 | Alignment | not modelled | 8.3 | 16 | Fold: Long alpha-hairpin Superfamily: Calcyclin-binding protein-like Family: Siah interacting protein N terminal domain-like |
| 34 | c2vpzG | Alignment | not modelled | 8.0 | 16 | PDB header: oxidoreductase Chain: G: PDB Molecule: hypothetical membrane spanning protein; PDBTitle: polysulfide reductase native structure |
| 35 | d1y7oa1 | Alignment | not modelled | 8.0 | 22 | Fold: ClpP/crotonase Superfamily: ClpP/crotonase Family: Clp protease, ClpP subunit |
| 36 | d1ee8a1 | Alignment | not modelled | 7.8 | 14 | Fold: S13-like H2TH domain Superfamily: S13-like H2TH domain Family: Middle domain of MutM-like DNA repair proteins |
| 37 | c2a7wF | Alignment | not modelled | 7.8 | 14 | PDB header: hydrolase Chain: F: PDB Molecule: phosphoribosyl-atp pyrophosphatase; PDBTitle: crystal structure of phosphoribosyl-atp pyrophosphatase2 from chromobacterium violaceum (atcc 12472). nesg target3 cvr7 |
| 38 | d2a7wa1 | Alignment | not modelled | 7.8 | 14 | Fold: all-alpha NTP pyrophosphatases Superfamily: all-alpha NTP pyrophosphatases Family: HisE-like (PRA-PH) |
| 39 | d1agxa | Alignment | not modelled | 7.4 | 20 | Fold: Glutaminase/Asparaginase Superfamily: Glutaminase/Asparaginase Family: Glutaminase/Asparaginase |
| 40 | c1egpA | Alignment | not modelled | 7.3 | 27 | PDB header: proteinase inhibitor Chain: A: PDB Molecule: eglin-c; PDBTitle: proteinase inhibitor eglin c with hydrolysed reactive center |
| 41 | c3ig4E | Alignment | not modelled | 7.3 | 0 | PDB header: hydrolase Chain: E: PDB Molecule: xaa-pro aminopeptidase; PDBTitle: structure of a putative aminopeptidase p from bacillus anthracis |
| 42 | c3nxkE | Alignment | not modelled | 7.1 | 0 | PDB header: hydrolase Chain: E: PDB Molecule: cytoplasmic l-asparaginase; PDBTitle: crystal structure of probable cytoplasmic l-asparaginase from2 campylobacter jejuni |
| 43 | d1gu7a2 | Alignment | not modelled | 7.1 | 21 | Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: Alcohol dehydrogenase-like, C-terminal domain |
| 44 | d1pyya2 | Alignment | not modelled | 7.0 | 11 | Fold: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Superfamily: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Family: Penicillin-binding protein 2x (pbp-2x), c-terminal domain |
| 45 | c2ht2B | Alignment | not modelled | 7.0 | 14 | PDB header: membrane protein Chain: B: PDB Molecule: h(+)/cl(-) exchange transporter clca; PDBTitle: structure of the escherichia coli clc chloride channel2 y445h mutant and fab complex |
| 46 | c2zqpY | Alignment | not modelled | 7.0 | 9 | PDB header: protein transport Chain: Y: PDB Molecule: preprotein translocase secy subunit; PDBTitle: crystal structure of secye translocon from thermus2 thermophilus |
| 47 | d1su0b | Alignment | not modelled | 7.0 | 12 | Fold: SufE/NifU Superfamily: SufE/NifU Family: NifU/IscU domain |
| 48 | c3m0zD | Alignment | not modelled | 6.9 | 5 | PDB header: lyase Chain: D: PDB Molecule: putative aldolase; PDBTitle: crystal structure of putative aldolase from klebsiella2 pneumoniae. |
| 49 | d1rp5a2 | Alignment | not modelled | 6.9 | 11 | Fold: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Superfamily: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Family: Penicillin-binding protein 2x (pbp-2x), c-terminal domain |
| 50 | c3pvpA | Alignment | not modelled | 6.8 | 22 | PDB header: dna binding protein/dna Chain: A: PDB Molecule: chromosomal replication initiator protein dnaa; PDBTitle: structure of mycobacterium tuberculosis dnaa-dbd in complex with box22 dna |
| 51 | d1ysma1 | Alignment | not modelled | 6.7 | 16 | Fold: Long alpha-hairpin Superfamily: Calcyclin-binding protein-like Family: Siah interacting protein N terminal domain-like |
| 52 | c1ysmA | Alignment | not modelled | 6.7 | 16 | PDB header: metal binding protein Chain: A: PDB Molecule: calcyclin-binding protein; PDBTitle: nmr structure of n-terminal domain (residues 1-77) of siah-2 interacting protein. |
| 53 | c2kdcC | Alignment | not modelled | 6.5 | 10 | PDB header: transferase Chain: C: PDB Molecule: diacylglycerol kinase; PDBTitle: nmr solution structure of e. coli diacylglycerol kinase2 (dagk) in dpc micelles |
| | | | | | | Fold: H-NS histone-like proteins |

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|----|-------------------------|--|--------------|-----|----|---|
| 54 | d1ov9a_ | <div><div>Alignment</div><div></div></div> | not modelled | 6.4 | 13 | Superfamily: H-NS histone-like proteins Family: H-NS histone-like proteins |
| 55 | d1k25a2 | <div><div>Alignment</div><div></div></div> | not modelled | 6.3 | 11 | Fold: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Superfamily: Penicillin-binding protein 2x (pbp-2x), c-terminal domain Family: Penicillin-binding protein 2x (pbp-2x), c-terminal domain |
| 56 | c3cvfA_ | <div><div>Alignment</div><div></div></div> | not modelled | 6.2 | 31 | PDB header: signaling protein Chain: A: PDB Molecule: homer protein homolog 3; PDBTitle: crystal structure of the carboxy terminus of homer3 |
| 57 | c1y7oE_ | <div><div>Alignment</div><div></div></div> | not modelled | 6.1 | 22 | PDB header: hydrolase Chain: E: PDB Molecule: atp-dependent clp protease proteolytic subunit; PDBTitle: the structure of streptococcus pneumoniae a153p clpp |
| 58 | d1tdza1 | <div><div>Alignment</div><div></div></div> | not modelled | 6.1 | 14 | Fold: S13-like H2TH domain Superfamily: S13-like H2TH domain Family: Middle domain of MutM-like DNA repair proteins |
| 59 | d1wfza_ | <div><div>Alignment</div><div></div></div> | not modelled | 6.1 | 8 | Fold: SufE/NifU Superfamily: SufE/NifU Family: NifU/IscU domain |
| 60 | c2yxhB_ | <div><div>Alignment</div><div></div></div> | not modelled | 6.1 | 13 | PDB header: structural genomics, unknown function Chain: B: PDB Molecule: mazg-related protein; PDBTitle: crystal structure of mazg-related protein from thermotoga maritima |
| 61 | d1ymga1 | <div><div>Alignment</div><div></div></div> | not modelled | 6.1 | 13 | Fold: Aquaporin-like Superfamily: Aquaporin-like Family: Aquaporin-like |
| 62 | c1ymgA_ | <div><div>Alignment</div><div></div></div> | not modelled | 6.1 | 13 | PDB header: membrane protein Chain: A: PDB Molecule: lens fiber major intrinsic protein; PDBTitle: the channel architecture of aquaporin o at 2.2 angstrom resolution |
| 63 | d1nh2d1 | <div><div>Alignment</div><div></div></div> | not modelled | 5.9 | 23 | Fold: Transcription factor IIA (TFIIA), alpha-helical domain Superfamily: Transcription factor IIA (TFIIA), alpha-helical domain Family: Transcription factor IIA (TFIIA), alpha-helical domain |
| 64 | c3bzjA_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.8 | 27 | PDB header: hydrolase Chain: A: PDB Molecule: uv endonuclease; PDBTitle: uvde k229l |
| 65 | c2p1nD_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.8 | 8 | PDB header: signaling protein Chain: D: PDB Molecule: skp1-like protein 1a; PDBTitle: mechanism of auxin perception by the tir1 ubiquitin ligase |
| 66 | d1ni8a_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.8 | 21 | Fold: H-NS histone-like proteins Superfamily: H-NS histone-like proteins Family: H-NS histone-like proteins |
| 67 | c2wltA_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.8 | 14 | PDB header: hydrolase Chain: A: PDB Molecule: l-asparaginase; PDBTitle: the crystal structure of helicobacter pylori l-asparaginase2 at 1.4 a resolution |
| 68 | c2zkrv_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.7 | 11 | PDB header: ribosomal protein/rna Chain: V: PDB Molecule: rna expansion segment es9 part2; PDBTitle: structure of a mammalian ribosomal 60s subunit within an2 80s complex obtained by docking homology models of the rna3 and proteins into an 8.7 a cryo-em map |
| 69 | c3q7hM_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.7 | 17 | PDB header: hydrolase Chain: M: PDB Molecule: atp-dependent clp protease proteolytic subunit; PDBTitle: structure of the clpp subunit of the atp-dependent clp protease from2 coxiella burneti |
| 70 | d1nvpd1 | <div><div>Alignment</div><div></div></div> | not modelled | 5.7 | 23 | Fold: Transcription factor IIA (TFIIA), alpha-helical domain Superfamily: Transcription factor IIA (TFIIA), alpha-helical domain Family: Transcription factor IIA (TFIIA), alpha-helical domain |
| 71 | c3hd7A_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.6 | 16 | PDB header: exocytosis Chain: A: PDB Molecule: vesicle-associated membrane protein 2; PDBTitle: helical extension of the neuronal snare complex into the membrane,2 spacegroup c 1 2 1 |
| 72 | c3cveC_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.4 | 32 | PDB header: signaling protein Chain: C: PDB Molecule: homer protein homolog 1; PDBTitle: crystal structure of the carboxy terminus of homer1 |
| 73 | c1yewC_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.4 | 14 | PDB header: oxidoreductase, membrane protein Chain: C: PDB Molecule: particulate methane monooxygenase subunit c2; PDBTitle: crystal structure of particulate methane monooxygenase |
| 74 | c3hm5A_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.3 | 7 | PDB header: transcription Chain: A: PDB Molecule: dna methyltransferase 1-associated protein 1; PDBTitle: sant domain of human dna methyltransferase 1 associated2 protein 1 |
| 75 | c3rkoK_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.3 | 14 | PDB header: oxidoreductase Chain: K: PDB Molecule: nadh-quinone oxidoreductase subunit k; PDBTitle: crystal structure of the membrane domain of respiratory complex i from2 e. coli at 3.0 angstrom resolution |
| 76 | d1v54i_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.2 | 15 | Fold: Single transmembrane helix Superfamily: Mitochondrial cytochrome c oxidase subunit VIc Family: Mitochondrial cytochrome c oxidase subunit VIc |
| 77 | d1vqov1 | <div><div>Alignment</div><div></div></div> | not modelled | 5.2 | 21 | Fold: Long alpha-hairpin Superfamily: Ribosomal protein L29 (L29p) Family: Ribosomal protein L29 (L29p) |
| 78 | d4pgaa_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.2 | 7 | Fold: Glutaminase/Asparaginase Superfamily: Glutaminase/Asparaginase Family: Glutaminase/Asparaginase |
| 79 | d1j1va_ | <div><div>Alignment</div><div></div></div> | not modelled | 5.2 | 24 | Fold: DNA/RNA-binding 3-helical bundle Superfamily: TrpR-like Family: Chromosomal replication initiation factor DnaA C-terminal domain IV |
| | | <div><div>Alignment</div><div></div></div> | | | | Fold: HAD-like |

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|----|-------------------------|-----------|--------------|-----|----|--|
| 80 | d1o08a_ | Alignment | not modelled | 5.2 | 19 | Superfamily: HAD-like Family: beta-Phosphoglucomutase-like |
| 81 | c3u4gA_ | Alignment | not modelled | 5.1 | 20 | PDB header: transferase Chain: A: PDB Molecule: namn:dmb phosphoribosyltransferase; PDBTitle: the structure of cobt from pyrococcus horikoshii |
| 82 | d1nnsa_ | Alignment | not modelled | 5.1 | 13 | Fold: Glutaminase/Asparaginase Superfamily: Glutaminase/Asparaginase Family: Glutaminase/Asparaginase |
| 83 | c3bboZ_ | Alignment | not modelled | 5.1 | 14 | PDB header: ribosome Chain: Z: PDB Molecule: ribosomal protein l29; PDBTitle: homology model for the spinach chloroplast 50s subunit2 fitted to 9.4a cryo-em map of the 70s chlororibosome |
| 84 | d2p8ta1 | Alignment | not modelled | 5.1 | 24 | Fold: DNA/RNA-binding 3-helical bundle Superfamily: "Winged helix" DNA-binding domain Family: PH0730 N-terminal domain-like |