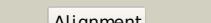
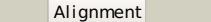
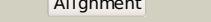
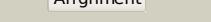
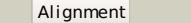
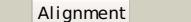
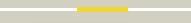
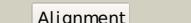
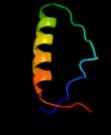
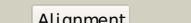
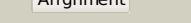
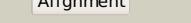
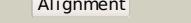
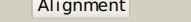
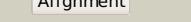
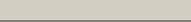
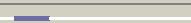
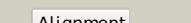


Phyre²

| | |
|---------------|-----------------------------|
| Email | I.a.kelley@imperial.ac.uk |
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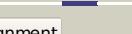
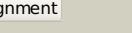
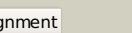
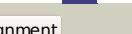
Detailed template information

| # | Template | Alignment Coverage | 3D Model | Confidence | % i.d. | Template Information |
|----|-------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | c1pemA |  Alignment |  | 100.0 | 90 | PDB header: oxidoreductase Chain: A: PDB Molecule: ribonucleoside-diphosphate reductase 2 alpha PDBTitle: ribonucleotide reductase protein r1e from salmonella2 typhimurium |
| 2 | c3r1rB |  Alignment |  | 100.0 | 23 | PDB header: complex (oxidoreductase/peptide) Chain: B: PDB Molecule: ribonucleotide reductase r1 protein; PDBTitle: ribonucleotide reductase r1 protein with amppnp occupying2 the activity site from escherichia coli |
| 3 | c2wghA |  Alignment |  | 100.0 | 26 | PDB header: oxidoreductase Chain: A: PDB Molecule: ribonucleoside-diphosphate reductase large PDBTitle: human ribonucleotide reductase r1 subunit (rrm1) in complex2 with dntp and mg. |
| 4 | c3hnfA |  Alignment |  | 100.0 | 28 | PDB header: oxidoreductase Chain: A: PDB Molecule: ribonucleoside-diphosphate reductase large subunit; PDBTitle: crystal structure of human ribonucleotide reductase 1 bound to the2 effectors ttp and dntp |
| 5 | c2cvuA |  Alignment |  | 100.0 | 27 | PDB header: oxidoreductase Chain: A: PDB Molecule: ribonucleoside-diphosphate reductase large chain PDBTitle: structures of yeast ribonucleotide reductase i |
| 6 | c1xjeA |  Alignment |  | 100.0 | 27 | PDB header: oxidoreductase Chain: A: PDB Molecule: ribonucleotide reductase, b12-dependent; PDBTitle: structural mechanism of allosteric substrate specificity in a2 ribonucleotide reductase: dtpp-gdp complex |
| 7 | d1rlra2 |  Alignment |  | 100.0 | 26 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: R1 subunit of ribonucleotide reductase, C-terminal domain |
| 8 | d1peqa2 |  Alignment |  | 100.0 | 91 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: R1 subunit of ribonucleotide reductase, C-terminal domain |
| 9 | d1l1la |  Alignment |  | 100.0 | 19 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: B12-dependent (class II) ribonucleotide reductase |
| 10 | d1peqa1 |  Alignment |  | 100.0 | 85 | Fold: R1 subunit of ribonucleotide reductase, N-terminal domain Superfamily: R1 subunit of ribonucleotide reductase, N-terminal domain Family: R1 subunit of ribonucleotide reductase, N-terminal domain |
| 11 | d1rlra1 |  Alignment |  | 100.0 | 14 | Fold: R1 subunit of ribonucleotide reductase, N-terminal domain Superfamily: R1 subunit of ribonucleotide reductase, N-terminal domain Family: R1 subunit of ribonucleotide reductase, N-terminal domain |

| | | | | | | |
|----|-------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12 | d1hk8a |  |  | 95.0 | 17 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: Class III anaerobic ribonucleotide reductase NRDD subunit |
| 13 | c1hk8A |  |  | 95.0 | 17 | PDB header: oxidoreductase Chain: A: PDB Molecule: anaerobic ribonucleotide-triphosphate reductase; PDBTitle: structural basis for allosteric substrate specificity2 regulation in class iii ribonucleotide reductases:3 nrdd in complex with dgtp |
| 14 | d1h16a |  |  | 76.3 | 14 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: PFL-like |
| 15 | c3pg6D |  |  | 53.3 | 25 | PDB header: ligase Chain: D: PDB Molecule: e3 ubiquitin-protein ligase dbx3l; PDBTitle: the carboxyl terminal domain of human deltex 3-like |
| 16 | d1qhma |  |  | 32.3 | 14 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: PFL-like |
| 17 | d2okqa1 |  |  | 29.1 | 19 | Fold: Ferredoxin-like Superfamily: Dimeric alpha+beta barrel Family: YbaA-like |
| 18 | d1geqa |  |  | 27.1 | 13 | Fold: TIM beta/alpha-barrel Superfamily: Ribulose-phosphate binding barrel Family: Tryptophan biosynthesis enzymes |
| 19 | d1h3ob |  |  | 22.9 | 13 | Fold: Histone-fold Superfamily: Histone-fold Family: TBP-associated factors, TAFs |
| 20 | d2ccqa1 |  |  | 22.4 | 16 | Fold: PUG domain-like Superfamily: PUG domain-like Family: PUG domain |
| 21 | c2okqB |  | Alignment not modelled | 20.1 | 19 | PDB header: structural genomics, unknown function Chain: B: PDB Molecule: hypothetical protein ybaa; PDBTitle: crystal structure of unknown conserved ybaa protein from 2 shigella flexneri |
| 22 | d1jlja |  | Alignment not modelled | 15.7 | 22 | Fold: 4-helical cytokines Superfamily: 4-helical cytokines Family: Short-chain cytokines |
| 23 | d1msza |  | Alignment not modelled | 13.8 | 17 | Fold: IF3-like Superfamily: R3H domain Family: R3H domain |
| 24 | c1mszA |  | Alignment not modelled | 13.8 | 17 | PDB header: dna binding protein Chain: A: PDB Molecule: dna-binding protein smubp-2; PDBTitle: solution structure of the r3h domain from human smubp-2 |
| 25 | d2b4va2 |  | Alignment not modelled | 12.7 | 44 | Fold: Nucleotidyltransferase Superfamily: Nucleotidyltransferase Family: RNA editing terminal uridyl transferase 2, RET2, catalytic domain |
| 26 | c3pe0B |  | Alignment not modelled | 12.7 | 24 | PDB header: structural protein Chain: B: PDB Molecule: plectin; PDBTitle: structure of the central region of the plakin domain of plectin |
| 27 | d1v93a |  | Alignment not modelled | 12.1 | 16 | Fold: TIM beta/alpha-barrel Superfamily: FAD-linked oxidoreductase Family: Methylenetetrahydrofolate reductase |
| 28 | c1pgjA |  | Alignment not modelled | 12.0 | 44 | PDB header: oxidoreductase Chain: A: PDB Molecule: 6-phosphogluconate dehydrogenase; PDBTitle: x-ray structure of 6-phosphogluconate dehydrogenase from the protozoan parasite t. brucei |
| | | | | | | Fold: Four-helical up-and-down bundle |

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|----|--------------------------|-----------|--------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 29 | d1v74b_ | Alignment | not modelled | 11.6 | 18 | Superfamily: Colicin D immunity protein Family: Colicin D immunity protein |
| 30 | d1vkna2 | Alignment | not modelled | 10.9 | 14 | Fold: FvdE/GAPDH domain-like Superfamily: Glyceraldehyde-3-phosphate dehydrogenase-like, C-terminal domain Family: GAPDH-like |
| 31 | c2iz1C_ | Alignment | not modelled | 10.9 | 28 | PDB header: oxidoreductase Chain: C: PDB Molecule: 6-phosphogluconate dehydrogenase, decarboxylating; PDBTitle: 6pdh complexed with pex inhibitor synchrotron data |
| 32 | d1ic8a2 | Alignment | not modelled | 10.8 | 16 | Fold: lambda repressor-like DNA-binding domains Superfamily: lambda repressor-like DNA-binding domains Family: POU-specific domain |
| 33 | c3rcqA_ | Alignment | not modelled | 10.6 | 17 | PDB header: oxidoreductase Chain: A: PDB Molecule: aspartyl/asparaginyl beta-hydroxylase; PDBTitle: crystal structure of human aspartate beta-hydroxylase isoform a |
| 34 | c2v3sB_ | Alignment | not modelled | 10.5 | 14 | PDB header: transferase Chain: B: PDB Molecule: serine/threonine-protein kinase osr1; PDBTitle: structural insights into the recognition of substrates and 2' activators by the osr1 kinase |
| 35 | d2uyoal1 | Alignment | not modelled | 10.3 | 14 | Fold: S-adenosyl-L-methionine-dependent methyltransferases Superfamily: S-adenosyl-L-methionine-dependent methyltransferases Family: ML2640-like |
| 36 | d1vmha_ | Alignment | not modelled | 10.2 | 10 | Fold: YjbQ-like Superfamily: YjbQ-like Family: YjbQ-like |
| 37 | c2f3oB_ | Alignment | not modelled | 10.1 | 18 | PDB header: unknown function Chain: B: PDB Molecule: pyruvate formate-lyase 2; PDBTitle: crystal structure of a glycyl radical enzyme from archaeoglobus2 fulgidus |
| 38 | d1vmfa_ | Alignment | not modelled | 9.7 | 10 | Fold: YjbQ-like Superfamily: YjbQ-like Family: YjbQ-like |
| 39 | c2p4qA_ | Alignment | not modelled | 9.5 | 44 | PDB header: oxidoreductase Chain: A: PDB Molecule: 6-phosphogluconate dehydrogenase, decarboxylating 1; PDBTitle: crystal structure analysis of gnd1 in saccharomyces cerevisiae |
| 40 | c3fwnB_ | Alignment | not modelled | 9.2 | 28 | PDB header: oxidoreductase Chain: B: PDB Molecule: 6-phosphogluconate dehydrogenase, decarboxylating; PDBTitle: dimeric 6-phosphogluconate dehydrogenase complexed with 6-2 phosphogluconate and 2'-monophosphoadenosine-5'-diphosphate |
| 41 | d1vmja_ | Alignment | not modelled | 9.2 | 20 | Fold: YjbQ-like Superfamily: YjbQ-like Family: YjbQ-like |
| 42 | d1j09a2 | Alignment | not modelled | 8.9 | 15 | Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Nucleotidyl transferase Family: Class I aminoacyl-tRNA synthetases (RS), catalytic domain |
| 43 | d2d5ua1 | Alignment | not modelled | 8.6 | 16 | Fold: PUG domain-like Superfamily: PUG domain-like Family: PUG domain |
| 44 | c2p6hb_ | Alignment | not modelled | 8.2 | 13 | PDB header: structural genomics, unknown function Chain: B: PDB Molecule: hypothetical protein; PDBTitle: crystal structure of hypothetical protein ape1520 from aeropyrum2 pernix k1 |
| 45 | d1r9da_ | Alignment | not modelled | 7.7 | 17 | Fold: PFL-like glycyl radical enzymes Superfamily: PFL-like glycyl radical enzymes Family: PFL-like |
| 46 | d1gv2a2 | Alignment | not modelled | 7.7 | 14 | Fold: DNA/RNA-binding 3-helical bundle Superfamily: Homeodomain-like Family: Myb/SANT domain |
| 47 | c1pggA_ | Alignment | not modelled | 7.6 | 39 | PDB header: oxidoreductase (choh(d)-nadp+(a)) Chain: A: PDB Molecule: 6-phosphogluconate dehydrogenase; PDBTitle: crystallographic study of coenzyme, coenzyme analogue and substrate2 binding in 6-phosphogluconate dehydrogenase: implications for nadp3 specificity and the enzyme mechanism |
| 48 | c1idzA_ | Alignment | not modelled | 7.3 | 21 | PDB header: dna-binding protein Chain: A: PDB Molecule: mouse c-myb dna-binding domain repeat 3; PDBTitle: structure of myb transforming protein, nmr, 20 structures |
| 49 | c2xrgA_ | Alignment | not modelled | 7.2 | 13 | PDB header: hydrolase Chain: A: PDB Molecule: ectonucleotide pyrophosphatase/phosphodiesterase family PDBTitle: crystal structure of autotaxin (enpp2) in complex with the2 ha155 boronic acid inhibitor |
| 50 | d1wiga2 | Alignment | not modelled | 7.2 | 33 | Fold: Glucocorticoid receptor-like (DNA-binding domain) Superfamily: Glucocorticoid receptor-like (DNA-binding domain) Family: LIM domain |
| 51 | d2d0ob1 | Alignment | not modelled | 7.1 | 16 | Fold: Anticodon-binding domain-like Superfamily: B12-dependent dehydratase associated subunit Family: Dehydratase-reactivating factor beta subunit |
| 52 | c2p6cb_ | Alignment | not modelled | 6.9 | 10 | PDB header: structural genomics, unknown function Chain: B: PDB Molecule: aq_2013 protein; PDBTitle: crystal structure of hypothetical protein aq_2013 from aquifex2 aeolicus vf5. |
| 53 | c3ng3A_ | Alignment | not modelled | 6.9 | 31 | PDB header: lyase Chain: A: PDB Molecule: deoxyribose-phosphate aldolase; PDBTitle: crystal structure of deoxyribose phosphate aldolase from mycobacterium2 avium 104 in a schiff base with an unknown aldehyde |
| | | | | | | Fold: SAM domain-like |

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|----|-------------------------|-----------|--------------|-----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 54 | d2csba2 | Alignment | not modelled | 6.8 | 42 | Superfamily: RuvA domain 2-like Family: Topoisomerase V repeat domain |
| 55 | c3hm6X_ | Alignment | not modelled | 6.8 | 16 | PDB header: signaling protein Chain: X: PDB Molecule: plexin-b1; PDBTitle: crystal structure of the cytoplasmic domain of human plexin b1 |
| 56 | d2b3wa1 | Alignment | not modelled | 6.6 | 20 | Fold: YbiA-like Superfamily: YbiA-like Family: YbiA-like |
| 57 | c2qlwA_ | Alignment | not modelled | 6.4 | 27 | PDB header: isomerase Chain: A: PDB Molecule: rhamnose mutarotase rhamnose mutarotase rhau of rhizobium2 leguminosarum PDBTitle: crystal structure of rhamnose mutarotase rhau of rhizobium2 leguminosarum |
| 58 | c2qlxA_ | Alignment | not modelled | 6.4 | 27 | PDB header: isomerase Chain: A: PDB Molecule: l-rhamnose mutarotase; PDBTitle: crystal structure of rhamnose mutarotase rhau of rhizobium2 leguminosarum in complex with l-rhamnose |
| 59 | d1vpha_ | Alignment | not modelled | 6.3 | 16 | Fold: YjbQ-like Superfamily: YjbQ-like Family: YjbQ-like |
| 60 | c2c1fA_ | Alignment | not modelled | 6.3 | 24 | PDB header: hydrolase Chain: A: PDB Molecule: bifunctional endo-1,4-beta-xylanase a; PDBTitle: the structure of the family 11 xylanase from neocalymastix2 patriciarum |
| 61 | d2g5ca2 | Alignment | not modelled | 6.2 | 28 | Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: 6-phosphogluconate dehydrogenase-like, N-terminal domain |
| 62 | c3dzba_ | Alignment | not modelled | 6.0 | 32 | PDB header: biosynthetic protein Chain: A: PDB Molecule: prephenate dehydrogenase; PDBTitle: crystal structure of prephenate dehydrogenase from streptococcus2 thermophilus |
| 63 | d1f0ya2 | Alignment | not modelled | 6.0 | 33 | Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: 6-phosphogluconate dehydrogenase-like, N-terminal domain |
| 64 | c3a9IB_ | Alignment | not modelled | 6.0 | 15 | PDB header: hydrolase Chain: B: PDB Molecule: poly-gamma-glutamate hydrolase; PDBTitle: structure of bacteriophage poly-gamma-glutamate hydrolase |
| 65 | c2is9A_ | Alignment | not modelled | 5.9 | 24 | PDB header: transcription Chain: A: PDB Molecule: defective in cullin neddylation protein 1; PDBTitle: structure of yeast dcn-1 |
| 66 | d1mbja_ | Alignment | not modelled | 5.8 | 18 | Fold: DNA/RNA-binding 3-helical bundle Superfamily: Homeodomain-like Family: Myb/SANT domain |
| 67 | c1mbjA_ | Alignment | not modelled | 5.8 | 18 | PDB header: dna binding protein Chain: A: PDB Molecule: myb proto-oncogene protein; PDBTitle: mouse c-myb dna-binding domain repeat 3 |
| 68 | c1obfO_ | Alignment | not modelled | 5.8 | 19 | PDB header: glycolytic pathway Chain: O: PDB Molecule: glyceraldehyde 3-phosphate dehydrogenase; PDBTitle: the crystal structure of glyceraldehyde 3-phosphate2 dehydrogenase from alcaligenes xylosoxidans at 1.73 resolution. |
| 69 | d1k3ta2 | Alignment | not modelled | 5.7 | 22 | Fold: FwdE/GAPDH domain-like Superfamily: Glyceraldehyde-3-phosphate dehydrogenase-like, C-terminal domain Family: GAPDH-like |
| 70 | d1jfla1 | Alignment | not modelled | 5.7 | 32 | Fold: ATC-like Superfamily: Aspartate/glutamate racemase Family: Aspartate/glutamate racemase |
| 71 | d1h4ga_ | Alignment | not modelled | 5.6 | 24 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 72 | d1f5ja_ | Alignment | not modelled | 5.6 | 29 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 73 | c2jr7A_ | Alignment | not modelled | 5.6 | 26 | PDB header: metal binding protein Chain: A: PDB Molecule: dph3 homolog; PDBTitle: solution structure of human desr1 |
| 74 | c3ivuB_ | Alignment | not modelled | 5.6 | 11 | PDB header: transferase Chain: B: PDB Molecule: homocitrate synthase, mitochondrial; PDBTitle: homocitrate synthase lys4 bound to 2-og |
| 75 | c3iymA_ | Alignment | not modelled | 5.6 | 20 | PDB header: virus Chain: A: PDB Molecule: capsid protein; PDBTitle: backbone trace of the capsid protein dimer of a fungal partitivirus2 from electron cryomicroscopy and homology modeling |
| 76 | d1x8da1 | Alignment | not modelled | 5.5 | 27 | Fold: Ferredoxin-like Superfamily: Dimeric alpha+beta barrel Family: YiIL-like |
| 77 | d1te1b_ | Alignment | not modelled | 5.4 | 29 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 78 | d1m4wa_ | Alignment | not modelled | 5.4 | 29 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 79 | d1wgea1 | Alignment | not modelled | 5.4 | 23 | Fold: Rubredoxin-like Superfamily: CSL zinc finger Family: CSL zinc finger |
| 80 | d2awia2 | Alignment | not modelled | 5.4 | 10 | Fold: alpha-alpha superhelix Superfamily: TPR-like Family: PrgX C-terminal domain-like |

| | | | | | | |
|----|-------------------------|---------------------------------------------------------------------------------------------|--------------|-----|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 81 | d1xyna_ |  Alignment | not modelled | 5.4 | 24 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 82 | c2dcjA_ |  Alignment | not modelled | 5.4 | 24 | PDB header: hydrolase Chain: A: PDB Molecule: xylanase j; PDBTitle: a two-domain structure of alkaliphilic xynj from bacillus sp. 41m-1 |
| 83 | c2g5cD_ |  Alignment | not modelled | 5.2 | 26 | PDB header: oxidoreductase Chain: D: PDB Molecule: prephenate dehydrogenase; PDBTitle: crystal structure of prephenate dehydrogenase from aquifex aeolicus |
| 84 | c2kzuA_ |  Alignment | not modelled | 5.2 | 31 | PDB header: apoptosis Chain: A: PDB Molecule: death-associated protein 6; PDBTitle: daxx helical bundle (dhb) domain / rassf1c complex |
| 85 | d1t6gc_ |  Alignment | not modelled | 5.1 | 18 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 86 | d1xi8a3 |  Alignment | not modelled | 5.1 | 28 | Fold: Molybdenum cofactor biosynthesis proteins Superfamily: Molybdenum cofactor biosynthesis proteins Family: MoeA central domain-like |
| 87 | d1at3a_ |  Alignment | not modelled | 5.1 | 40 | Fold: Herpes virus serine proteinase, assemblin Superfamily: Herpes virus serine proteinase, assemblin Family: Herpes virus serine proteinase, assemblin |
| 88 | d1ligo_ |  Alignment | not modelled | 5.1 | 18 | Fold: Concanavalin A-like lectins/glucanases Superfamily: Concanavalin A-like lectins/glucanases Family: Xylanase/endoglucanase 11/12 |
| 89 | c2p6uA_ |  Alignment | not modelled | 5.1 | 28 | PDB header: dna binding protein Chain: A: PDB Molecule: afuhel308 helicase; PDBTitle: apo structure of the hel308 superfamily 2 helicase |
| 90 | c2pv7B_ |  Alignment | not modelled | 5.0 | 28 | PDB header: isomerase, oxidoreductase Chain: B: PDB Molecule: t-protein [includes: chorismate mutase (ec 5.4.99.5) (cm) PDBTitle: crystal structure of chorismate mutase / prephenate dehydrogenase2 (tyra) (1574749) from haemophilus influenzae rd at 2.00 a resolution |