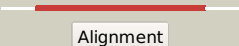



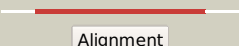





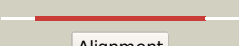













Phyre2

Email	mdejesus@rockefeller.edu
Description	RVBD2724c_(fadE20)_3036141_3037301
Date	Wed Aug 7 12:50:38 BST 2019
Unique Job ID	060a875c053439a2

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c6es9A_	 Alignment		100.0	32	PDB header: flavoprotein Chain: A: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: methylsuccinyl-coa dehydrogenase of paracoccus denitrificans with2 bound flavin adenine dinucleotide
2	c4irnF_	 Alignment		100.0	29	PDB header: oxidoreductase Chain: F: PDB Molecule: prolyl-acp dehydrogenase; PDBTitle: crystal structure of the prolyl acyl carrier protein oxidase anab
3	c5zw2A_	 Alignment		100.0	29	PDB header: biosynthetic protein Chain: A: PDB Molecule: l-prolyl-[peptidyl-carrier protein] dehydrogenase; PDBTitle: fad complex of piga
4	c4n5fA_	 Alignment		100.0	34	PDB header: oxidoreductase Chain: A: PDB Molecule: putative acyl-coa dehydrogenase; PDBTitle: crystal structure of a putative acyl-coa dehydrogenase with bound2 fadh2 from burkholderia cenocepacia j2315
5	c3r7kB_	 Alignment		100.0	38	PDB header: oxidoreductase Chain: B: PDB Molecule: probable acyl coa dehydrogenase; PDBTitle: crystal structure of a probable acyl coa dehydrogenase from2 mycobacterium abscessus atcc 19977 / dsm 44196
6	c2pg0B_	 Alignment		100.0	49	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of acyl-coa dehydrogenase from geobacillus2 kaustophilus
7	c2jifA_	 Alignment		100.0	32	PDB header: oxidoreductase Chain: A: PDB Molecule: short/branched chain specific acyl-coa dehydrogenase; PDBTitle: structure of human short-branched chain acyl-coa dehydrogenase2 (acadsb)
8	c2ix5A_	 Alignment		100.0	24	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coenzyme a oxidase 4, peroxisomal; PDBTitle: short chain specific acyl-coa oxidase from arabidopsis thaliana, acx42 in complex with acetoacetyl-coa
9	c3owaC_	 Alignment		100.0	33	PDB header: oxidoreductase Chain: C: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of acyl-coa dehydrogenase complexed with fad from2 bacillus anthracis
10	c5ol2F_	 Alignment		100.0	36	PDB header: flavoprotein Chain: F: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: the electron transferring flavoprotein/butyryl-coa dehydrogenase2 complex from clostridium difficile
11	c2a1tC_	 Alignment		100.0	29	PDB header: oxidoreductase/electron transport Chain: C: PDB Molecule: acyl-coa dehydrogenase, medium-chain specific, PDBTitle: structure of the human mcad:etf e165betaa complex

12	c1ivhD_	Alignment		100.0	34	PDB header: oxidoreductase Chain: D: PDB Molecule: isovaleryl-coa dehydrogenase; PDBTitle: structure of human isovaleryl-coa dehydrogenase at 2.62 angstroms resolution: structural basis for substrate specificity
13	c2z1qA_	Alignment		100.0	36	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of acyl coa dehydrogenase
14	c3oibB_	Alignment		100.0	38	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of a putative acyl-coa dehydrogenase from2 mycobacterium smegmatis, iodide soak
15	c1rx0B_	Alignment		100.0	32	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase family member 8, mitochondrial; PDBTitle: crystal structure of isobutyryl-coa dehydrogenase complexed with2 substrate/ligand.
16	c411fB_	Alignment		100.0	37	PDB header: electron transport Chain: B: PDB Molecule: acyl-coa dehydrogenase domain protein; PDBTitle: electron transferring flavoprotein of acidaminococcus fermentans:2 towards a mechanism of flavin-based electron bifurcation
17	c2uxwA_	Alignment		100.0	30	PDB header: oxidoreductase Chain: A: PDB Molecule: very-long-chain specific acyl-coa dehydrogenase; PDBTitle: crystal structure of human very long chain acyl-coa dehydrogenase2 (acadvl)
18	c2cx9C_	Alignment		100.0	36	PDB header: oxidoreductase Chain: C: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of acyl-coa dehydrogenase
19	c6fahD_	Alignment		100.0	34	PDB header: flavoprotein Chain: D: PDB Molecule: caffeyl-coa reductase-etf complex subunit carc; PDBTitle: molecular basis of the flavin-based electron-bifurcating caffeyl-coa2 reductase reaction
20	c2vigC_	Alignment		100.0	32	PDB header: oxidoreductase Chain: C: PDB Molecule: short-chain specific acyl-coa dehydrogenase,; PDBTitle: crystal structure of human short-chain acyl coa dehydrogenase
21	c1egcB_	Alignment	not modelled	100.0	30	PDB header: electron transfer Chain: B: PDB Molecule: medium chain acyl-coa dehydrogenase; PDBTitle: structure of t255e, e376g mutant of human medium chain acyl-2 coa dehydrogenase complexed with octanoyl-coa
22	c1lukwA_	Alignment	not modelled	100.0	36	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of medium-chain acyl-coa dehydrogenase2 from thermus thermophilus hb8
23	c2dvlB_	Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of project tt0160 from thermus thermophilus hb8
24	c4u83A_	Alignment	not modelled	100.0	38	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: structure of brucella abortus butyryl-coa dehydrogenase
25	c1siqA_	Alignment	not modelled	100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: glutaryl-coa dehydrogenase; PDBTitle: the crystal structure and mechanism of human glutaryl-coa2 dehydrogenase
26	c5ahsB_	Alignment	not modelled	100.0	27	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: 3-sulfino-propionyl-coenzyme a (3sp-coa) desulfinate from advenella2 mimgardefordensis dpn7t: holo crystal structure with the substrate3 analog succinyl-coa
27	c3swoA_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: glutaryl-coa dehydrogenase; PDBTitle: crystal structure of a glutaryl-coa dehydrogenase from mycobacterium2 smegmatis in complex with fadh2
28	c4iv6A_	Alignment	not modelled	100.0	34	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase fade3; PDBTitle: x-ray crystal structure of an isovaleryl-coa dehydrogenase from2 mycobacterium smegmatis
29	c3cf6A_	Alignment	not modelled	100.0	29	PDB header: oxidoreductase Chain: A: PDB Molecule: glutaryl-coa dehydrogenase;

29	c3s10A_	Alignment	not modelled	100.0	29	PDBTitle: crystal structure of glutaryl-coa dehydrogenase from mycobacterium2 smegmatis
30	c6cy8B_	Alignment	not modelled	100.0	27	PDB header: biosynthetic protein Chain: B: PDB Molecule: butyryl-coa dehydrogenase; PDBTitle: crystal structure of fad-dependent dehydrogenase
31	c1bucB_	Alignment	not modelled	100.0	34	PDB header: oxidoreductase Chain: B: PDB Molecule: butyryl-coa dehydrogenase; PDBTitle: three-dimensional structure of butyryl-coa dehydrogenase from2 megasphaera elsdenii
32	c3nf4B_	Alignment	not modelled	100.0	32	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of acyl-coa dehydrogenase from mycobacterium2 thermoresistibile bound to flavin adenine dinucleotide
33	c3eomD_	Alignment	not modelled	100.0	28	PDB header: oxidoreductase Chain: D: PDB Molecule: glutaryl-coa dehydrogenase; PDBTitle: 2.4 a crystal structure of native glutaryl-coa dehydrogenase from2 burkholderia pseudomallei
34	c2ebal_	Alignment	not modelled	100.0	29	PDB header: oxidoreductase Chain: I: PDB Molecule: putative glutaryl-coa dehydrogenase; PDBTitle: crystal structure of the putative glutaryl-coa dehydrogenase from2 thermus thermophilus
35	c3pfdB_	Alignment	not modelled	100.0	33	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of an acyl-coa dehydrogenase from mycobacterium2 thermoresistibile bound to reduced flavin adenine dinucleotide solved3 by combined iodide ion sad mr
36	c5iduB_	Alignment	not modelled	100.0	30	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase domain protein; PDBTitle: crystal structure of an acyl-coa dehydrogenase domain protein from2 burkholderia phymatum bound to fad
37	c3mpjG_	Alignment	not modelled	100.0	31	PDB header: oxidoreductase Chain: G: PDB Molecule: glutaryl-coa dehydrogenase; PDBTitle: structure of the glutaryl-coenzyme a dehydrogenase
38	c4ktoB_	Alignment	not modelled	100.0	33	PDB header: oxidoreductase Chain: B: PDB Molecule: isovaleryl-coa dehydrogenase; PDBTitle: crystal structure of a putative isovaleryl-coa dehydrogenase (psi-2 nysgrc-012251) from sinorhizobium meliloti 1021
39	c4hr3A_	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: putative acyl-coa dehydrogenase; PDBTitle: structure of a putative acyl-coa dehydrogenase from mycobacterium2 abscessus
40	c5lnxC_	Alignment	not modelled	100.0	40	PDB header: oxidoreductase Chain: C: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of mmgc, an acyl-coa dehydrogenase from bacillus2 subtilis.
41	c1r2jA_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: protein fkbi; PDBTitle: fkbi for biosynthesis of methoxymalonyl extender unit of fk5202 polyketide immunosuppressant
42	c6ijcA_	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase family protein; PDBTitle: structure of mmpa-coa dehydrogenase from roseovarius nubinhibens ism
43	c4w9uD_	Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: D: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of an acyl-coa dehydrogenase from brucella2 melitensis
44	c3mkhC_	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: C: PDB Molecule: nitroalkane oxidase; PDBTitle: podospira anserina nitroalkane oxidase
45	c4x28B_	Alignment	not modelled	100.0	28	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of the chse4-chse5 complex from mycobacterium2 tuberculosis
46	c4rm7A_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: the crystal structure of acyl-coa dehydrogenase from slackia2 heliotrinireducens dsm 20476
47	c2rehD_	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: D: PDB Molecule: nitroalkane oxidase; PDBTitle: mechanistic and structural analyses of the roles of arg4092 and asp402 in the reaction of the flavoprotein nitroalkane3 oxidase
48	c3m9vA_	Alignment	not modelled	100.0	17	PDB header: oxidoreductase Chain: A: PDB Molecule: fad-dependent oxidoreductase; PDBTitle: x-ray structure of a kjd3 in complex with dtdp
49	c4doyE_	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: E: PDB Molecule: dibenzothiophene desulfurization enzyme c; PDBTitle: crystal structure of dibenzothiophene desulfurization enzyme c
50	c2wbiB_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase family member 11; PDBTitle: crystal structure of human acyl-coa dehydrogenase 11
51	c4m6zB_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-[acyl-carrier-protein] dehydrogenase mbtn; PDBTitle: crystal structure of an acyl-acp dehydrogenase
52	c5gj7A_	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa dehydrogenase type 2 domain protein; PDBTitle: putative acyl-coa dehydrogenase
53	c5xdcB_	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: thermophilic dibenzothiophene desulfurization enzyme c; PDBTitle: crystal structure of indole-bound tdsc from paenibacillus sp. a11-2

54	c2jbtA	Alignment	not modelled	100.0	17	PDB header: oxidoreductase Chain: A: PDB Molecule: p-hydroxyphenylacetate hydroxylase c2\oxygenase PDBTitle: structure of the monooxygenase component of p-2 hydroxyphenylacetate hydroxylase from acinetobacter3 baumannii
55	c4x28D	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: D: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of the chse4-chse5 complex from mycobacterium2 tuberculosis
56	c5ez3B	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: B: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure acyl-coa dehydrogenase from brucella melitensis in2 complex with fad
57	c5mr6R	Alignment	not modelled	100.0	14	PDB header: oxidoreductase Chain: R: PDB Molecule: xiaf protein; PDBTitle: xiaf from streptomyces sp. in complex with fadh2 and glycerol
58	c2rfqA	Alignment	not modelled	100.0	15	PDB header: oxidoreductase Chain: A: PDB Molecule: 3-hsa hydroxylase, oxygenase; PDBTitle: crystal structure of 3-hsa hydroxylase from rhodococcus sp. rha1
59	c2or0B	Alignment	not modelled	100.0	15	PDB header: oxidoreductase Chain: B: PDB Molecule: hydroxylase; PDBTitle: structural genomics, the crystal structure of a putative hydroxylase2 from rhodococcus sp. rha1
60	c4zxB	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: B: PDB Molecule: dnmz; PDBTitle: streptomyces peucetius nitrososynthase dnmz in ligand-free state
61	c4y9lB	Alignment	not modelled	100.0	19	PDB header: oxidoreductase Chain: B: PDB Molecule: protein acdh-11, isoform b; PDBTitle: crystal structure of caenorhabditis elegans acdh-11
62	c3djlA	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: protein aidb; PDBTitle: crystal structure of alkylation response protein e. coli aidb
63	c2ddhA	Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa oxidase; PDBTitle: crystal structure of acyl-coa oxidase complexed with 3-oh-dodecanoate
64	c5k3jA	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coenzyme a oxidase; PDBTitle: crystals structure of acyl-coa oxidase-2 in caenorhabditis elegans2 bound with fad, ascaroside-coa, and atp
65	c1w07A	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coa oxidase; PDBTitle: arabidopsis thaliana acyl-coa oxidase 1
66	c2fonA	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: peroxisomal acyl-coa oxidase 1a; PDBTitle: x-ray crystal structure of leacx1, an acyl-coa oxidase from2 lycopersicon esculentum (tomato)
67	c5k3iH	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: H: PDB Molecule: acyl-coenzyme a oxidase; PDBTitle: crystal structure of acyl-coa oxidase-1 in caenorhabditis elegans2 complexed with fad and atp
68	c3mxlB	Alignment	not modelled	100.0	18	PDB header: oxidoreductase Chain: B: PDB Molecule: nitrososynthase; PDBTitle: crystal structure of nitrososynthase from micromonospora carbonacea2 var. africana
69	c5y9dA	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coenzyme a oxidase 1; PDBTitle: crystal structure of acyl-coa oxidase1 from yarrowia lipolytica
70	c5ys9A	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: acyl-coenzyme a oxidase 3; PDBTitle: crystal structure of acyl-coa oxidase3 from yarrowia lipolytica
71	d2d29a2	Alignment	not modelled	100.0	33	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
72	d1jqia2	Alignment	not modelled	100.0	32	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
73	d1rx0a2	Alignment	not modelled	100.0	32	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
74	d3mdea2	Alignment	not modelled	100.0	28	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
75	d1ukwa2	Alignment	not modelled	100.0	35	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
76	d1buca2	Alignment	not modelled	100.0	35	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
77	d1ivha2	Alignment	not modelled	100.0	36	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
78	d1legda2	Alignment	not modelled	100.0	29	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains
79	d2c12a2	Alignment	not modelled	100.0	21	Fold: Acyl-CoA dehydrogenase NM domain-like Superfamily: Acyl-CoA dehydrogenase NM domain-like Family: Medium chain acyl-CoA dehydrogenase, NM (N-terminal and middle) domains

104 [U100Vd1](#)

Alignment

not modelled

93.9

11

Family:Medium chain acyl-CoA dehydrogenase-like, C-terminal domain