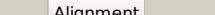
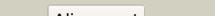
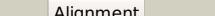
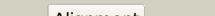
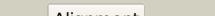


Phyre²

Email	mdejesus@rockefeller.edu
Description	RVBD3192_(-)_3559560_3560021
Date	Thu Aug 8 16:20:38 BST 2019
Unique Job ID	575d3451283a2e15

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	d1lucb			100.0	13	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: Bacterial luciferase (alkanal monooxygenase)
2	c6friD			100.0	13	PDB header: oxidoreductase Chain: D: PDB Molecule: alkanal monooxygenase beta chain; PDBTitle: structure of luxb from photobacterium leiognathi
3	c2b81D			100.0	14	PDB header: oxidoreductase Chain: D: PDB Molecule: luciferase-like monooxygenase; PDBTitle: crystal structure of the luciferase-like monooxygenase from bacillus2 cereus
4	c3raoB			100.0	18	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: putative luciferase-like monooxygenase; PDBTitle: crystal structure of the luciferase-like monooxygenase from bacillus2 cereus atcc 10987.
5	d1nqka			100.0	17	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: Ssd-like monooxygenases
6	d1luca			100.0	15	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: Bacterial luciferase (alkanal monooxygenase)
7	c2i7gA			100.0	11	PDB header: oxidoreductase Chain: A: PDB Molecule: monooxygenase; PDBTitle: crystal structure of monooxygenase from agrobacterium tumefaciens
8	c3sdoB			100.0	14	PDB header: oxidoreductase Chain: B: PDB Molecule: nitrilotriacetate monooxygenase; PDBTitle: structure of a nitrilotriacetate monooxygenase from burkholderia2 pseudomallei
9	d1ezwa			100.0	15	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: F420 dependent oxidoreductases
10	c1z69D			100.0	17	PDB header: oxidoreductase Chain: D: PDB Molecule: coenzyme f420-dependent n(5),n(10)- PDBTitle: crystal structure of methylenetetrahydromethanopterin reductase (mer) in complex with coenzyme f420
11	c5tlcA			100.0	15	PDB header: oxidoreductase Chain: A: PDB Molecule: dibenzothiophene desulfurization enzyme a; PDBTitle: crystal structure of bdsA from bacillus subtilis wu-s2b

12	c5dqpA			100.0	13	PDB header: oxidoreductase Chain: A: PDB Molecule: edta monooxygenase; PDBTitle: edta monooxygenase (emoa) from chelativorans sp. bnc1
13	c2wgkA			100.0	11	PDB header: oxidoreductase Chain: A: PDB Molecule: 3,6-diketocamphane 1,6 monooxygenase; PDBTitle: type ii baeyer-villiger monooxygenase oxygenating2 constituent of 3,6-diketocamphane 1,6 monooxygenase from3 pseudomonas putida
14	c1tvIA			100.0	9	PDB header: oxidoreductase Chain: A: PDB Molecule: protein ytnj; PDBTitle: structure of ytnj from bacillus subtilis
15	d1tvla			100.0	9	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: Ssd-like monooxygenases
16	d1rhca			100.0	18	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: F420 dependent oxidoreductases
17	c5wanA			100.0	17	PDB header: oxidoreductase Chain: A: PDB Molecule: pyrimidine monooxygenase ruta; PDBTitle: crystal structure of a flavoenzyme ruta in the pyrimidine catabolic2 pathway
18	d1f07a			100.0	16	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: F420 dependent oxidoreductases
19	c3b9nB			100.0	12	PDB header: oxidoreductase Chain: B: PDB Molecule: alkane monooxygenase; PDBTitle: crystal structure of long-chain alkane monooxygenase (lada)
20	c3c8nB			100.0	21	PDB header: oxidoreductase Chain: B: PDB Molecule: probable f420-dependent glucose-6-phosphate dehydrogenase PDBTitle: crystal structure of apo-fgd1 from mycobacterium tuberculosis
21	c5w4zA		not modelled	100.0	11	PDB header: flavoprotein Chain: A: PDB Molecule: riboflavin lyase; PDBTitle: crystal structure of riboflavin lyase (rcae) with modified fmn and 2 substrate riboflavin
22	c6ak1B		not modelled	100.0	12	PDB header: oxidoreductase Chain: B: PDB Molecule: dimethyl-sulfide monooxygenase; PDBTitle: crystal structure of dmoa from hyphomicrobium sulfonivorans
23	d1nfpa		not modelled	93.6	15	Fold: TIM beta/alpha-barrel Superfamily: Bacterial luciferase-like Family: Non-fluorescent flavoprotein (luxF, FP390)
24	c5i4rA		not modelled	40.1	19	PDB header: toxin/antitoxin Chain: A: PDB Molecule: contact-dependent inhibitor a; PDBTitle: contact-dependent inhibition system from escherichia coli nc101 -2 termcdia/cdiif-tu complex (trypsin-modified)
25	d1oyaa		not modelled	39.6	8	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
26	c4tmcB		not modelled	38.8	9	PDB header: flavoprotein Chain: B: PDB Molecule: old yellow enzyme; PDBTitle: crystal structure of old yellow enzyme from candida macedoniensis2 aku4588 complexed with p-hydroxybenzaldehyde
27	c3fa4D		not modelled	37.1	18	PDB header: lyase Chain: D: PDB Molecule: 2,3-dimethylmalate lyase; PDBTitle: crystal structure of 2,3-dimethylmalate lyase, a pep mutase/isocitrate2 lyase superfamily member, triclinic crystal form
28	c4ot7A		not modelled	37.1	10	PDB header: oxidoreductase Chain: A: PDB Molecule: nadh:flavin oxidoreductase/nadh oxidase; PDBTitle: x-structure of a variant of ncr from zymomonas mobilis
						PDB header: oxidoreductase

29	c3gr7A	Alignment	not modelled	36.2	18	Chain: A: PDB Molecule: nadph dehydrogenase; PDBTitle: structure of oye from geobacillus kaustophilus, hexagonal crystal form PDB header: oxidoreductase
30	c4jicB	Alignment	not modelled	35.1	15	Chain: B: PDB Molecule: gtn reductase; PDBTitle: glycerol trinitrate reductase nera from agrobacterium radiobacter PDB header: hydrolase
31	c2yb1A	Alignment	not modelled	33.5	16	Chain: A: PDB Molecule: amidohydrolase; PDBTitle: structure of an amidohydrolase from chromobacterium violaceum (efi2 target efi-500202) with bound mn, amp and phosphate.
32	d1icpa	Alignment	not modelled	32.9	14	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
33	c4lsbA	Alignment	not modelled	32.6	20	PDB header: lyase Chain: A: PDB Molecule: lyase/mutase; PDBTitle: crystal structure of a putative lyase/mutase from burkholderia2 cenocepacia j2315 PDB header: oxidoreductase
34	c5dxxA	Alignment	not modelled	32.5	10	Chain: A: PDB Molecule: artemisinic aldehyde delta(11(13)) reductase; PDBTitle: crystal structure of dbr2 PDB header: oxidoreductase
35	c2gq8A	Alignment	not modelled	31.2	14	Chain: A: PDB Molecule: oxidoreductase, fmn-binding; PDBTitle: structure of sye1, an oye homologue from s. ondeidensis, in complex2 with p-hydroxyacetophenone PDB header: lyase
36	c1zlpA	Alignment	not modelled	29.9	23	Chain: A: PDB Molecule: petal death protein; PDBTitle: petal death protein psr132 with cysteine-linked glutaraldehyde forming2 a thiohemiacetal adduct PDB header: oxidoreductase
37	c4a3uB	Alignment	not modelled	29.7	9	Chain: B: PDB Molecule: nadh;flavin oxidoreductase/nadh oxidase; PDBTitle: x-structure of the old yellow enzyme homologue from zymomonas mobilis2 (ncr)
38	d1vija	Alignment	not modelled	29.5	14	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
39	c3ih1A	Alignment	not modelled	29.4	27	PDB header: lyase Chain: A: PDB Molecule: methylisocitrate lyase; PDBTitle: crystal structure of carboxyvinyl-carboxyphosphonate phosphorylmutase2 from bacillus anthracis
40	c2h90A	Alignment	not modelled	29.4	20	PDB header: oxidoreductase Chain: A: PDB Molecule: xenobiotic reductase a; PDBTitle: xenobiotic reductase a in complex with coumarin
41	d1z41a1	Alignment	not modelled	28.8	25	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
42	c2ze3A	Alignment	not modelled	28.5	11	PDB header: isomerase Chain: A: PDB Molecule: dfa0005; PDBTitle: crystal structure of dfa0005 complexed with alpha-ketoglutarate: a2 novel member of the icl/pepm superfamily from alkali-tolerant3 deinococcus fusicus
43	d1s2wa	Alignment	not modelled	27.1	5	Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Phosphoenolpyruvate mutase/Iscitrate lyase-like
44	d1dqja1	Alignment	not modelled	26.5	14	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
45	c4df2A	Alignment	not modelled	26.4	9	PDB header: oxidoreductase Chain: A: PDB Molecule: nadph dehydrogenase; PDBTitle: p. stipitis oye2.6 complexed with p-chlorophenol
46	c2vwta	Alignment	not modelled	26.1	15	PDB header: lyase Chain: A: PDB Molecule: yfau, 2-keto-3-deoxy sugar aldolase; PDBTitle: crystal structure of yfau, a metal ion dependent class ii2 aldolase from escherichia coli k12 - mg-pyruvate product3 complex
47	c4b5nA	Alignment	not modelled	25.4	5	PDB header: oxidoreductase Chain: A: PDB Molecule: oxidoreductase, fmn-binding; PDBTitle: crystal structure of oxidized shewanella yellow enzyme 4 (sye4)
48	d1vyra	Alignment	not modelled	25.3	23	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
49	d1gwja	Alignment	not modelled	24.5	20	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
50	d1q45a	Alignment	not modelled	24.5	15	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
51	d1oy0a	Alignment	not modelled	23.9	18	Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Ketopantoate hydroxymethyltransferase PanB
52	d1uiqa	Alignment	not modelled	23.7	21	Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Phosphoenolpyruvate mutase/Iscitrate lyase-like
53	c4qnwA	Alignment	not modelled	23.5	14	PDB header: oxidoreductase Chain: A: PDB Molecule: chanoclavine-i aldehyde reductase; PDBTitle: crystal structure of easa, an old yellow enzyme from aspergillus2 fumigatus PDB header: hydrolase
54	c3qy6A	Alignment	not modelled	23.5	17	Chain: A: PDB Molecule: tyrosine-protein phosphatase ywqe; PDBTitle: crystal structures of ywqe from bacillus subtilis and cpsb from streptococcus pneumoniae, unique metal-dependent tyrosine3 phosphatases PDB header: oxidoreductase

55	c3kruC	Alignment	not modelled	21.6	15	Chain: C: PDB Molecule: nadh:flavin oxidoreductase/nadh oxidase; PDBTitle: crystal structure of the thermostable old yellow enzyme from2 thermoanaerobacter pseudethanolicus e39
56	d1muma	Alignment	not modelled	20.9	21	Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Phosphoenolpyruvate mutase/Iscocitrate lyase-like
57	c3lyeA	Alignment	not modelled	20.5	25	PDB header: hydrolase Chain: A: PDB Molecule: oxaloacetate acetyl hydrolase; PDBTitle: crystal structure of oxaloacetate acetylhydrolase
58	c3l5aA	Alignment	not modelled	20.4	18	PDB header: oxidoreductase Chain: A: PDB Molecule: nadh/flavin oxidoreductase/nadh oxidase; PDBTitle: crystal structure of a probable nadh-dependent flavin oxidoreductase2 from staphylococcus aureus
59	c6mywA	Alignment	not modelled	20.2	15	PDB header: oxidoreductase Chain: A: PDB Molecule: n-ethylmaleimide reductase; PDBTitle: gluconobacter ene-reductase (gluer) mutant - t36a
60	c4tv6A	Alignment	not modelled	20.1	9	PDB header: lyase Chain: A: PDB Molecule: 2-dehydro-3-deoxyglucarate aldolase; PDBTitle: crystal structure of citrate synthase variant sbng e151q
61	c4mg4G	Alignment	not modelled	19.7	15	PDB header: unknown function Chain: G: PDB Molecule: phosphonomutase; PDBTitle: crystal structure of a putative phosphonomutase from burkholderia2 cenocepacia j2315
62	c4rnvD	Alignment	not modelled	19.6	10	PDB header: oxidoreductase/inhibitor Chain: D: PDB Molecule: nadph dehydrogenase 1; PDBTitle: g303 circular permutation of old yellow enzyme with the inhibitor p-2 hydroxybenzaldehyde
63	c2i6dA	Alignment	not modelled	19.1	17	PDB header: transferase Chain: A: PDB Molecule: rna methyltransferase, trmh family; PDBTitle: the structure of a putative rna methyltransferase of the trmh family2 from porphyromonas gingivalis.
64	c5uncB	Alignment	not modelled	18.8	20	PDB header: isomerase Chain: B: PDB Molecule: phosphoenolpyruvate phosphomutase; PDBTitle: the crystal structure of phosphoenolpyruvate phosphomutase from2 streptomyces platensis subsp. rosaceus
65	c2gqiwA	Alignment	not modelled	18.6	16	PDB header: transferase Chain: A: PDB Molecule: pep phosphonomutase; PDBTitle: crystal structure of a putative phosphoenolpyruvate phosphonomutase2 (ncgl1015, cgl1060) from corynebacterium glutamicum atcc 13032 at3 1.80 a resolution
66	c6dvhF	Alignment	not modelled	18.6	12	PDB header: oxidoreductase Chain: F: PDB Molecule: lactate 2-monoxygenase; PDBTitle: lactate monoxygenase from mycobacterium smegmatis - c203a mutant
67	c2hjpA	Alignment	not modelled	17.6	20	PDB header: hydrolase Chain: A: PDB Molecule: phosphonopyruvate hydrolase; PDBTitle: crystal structure of phosphonopyruvate hydrolase complex with2 phosphonopyruvate and mg++
68	c1x7pB	Alignment	not modelled	17.2	21	PDB header: transferase Chain: B: PDB Molecule: rrna methyltransferase; PDBTitle: crystal structure of the spou methyltransferase avirb from2 streptomyces viridochromogenes in complex with the cofactor admet
69	d1qk1a2	Alignment	not modelled	17.1	12	Fold: Glutamine synthetase/guanido kinase Superfamily: Glutamine synthetase/guanido kinase Family: Guanido kinase catalytic domain
70	c6ahuj	Alignment	not modelled	16.9	21	PDB header: hydrolase/rna Chain: J: PDB Molecule: ribonuclease p protein subunit p30; PDBTitle: cryo-em structure of human ribonuclease p with mature trna
71	c3i4eA	Alignment	not modelled	16.7	7	PDB header: lyase Chain: A: PDB Molecule: isocitrate lyase; PDBTitle: crystal structure of isocitrate lyase from burkholderia2 pseudomallei
72	c3hf3A	Alignment	not modelled	16.3	28	PDB header: oxidoreductase Chain: A: PDB Molecule: chromate reductase; PDBTitle: old yellow enzyme from thermus scotoductus sa-01
73	c3gkaB	Alignment	not modelled	16.3	15	PDB header: oxidoreductase Chain: B: PDB Molecule: n-ethylmaleimide reductase; PDBTitle: crystal structure of n-ethylmaleimide reductase from2 burkholderia pseudomallei
74	d1ps9a1	Alignment	not modelled	16.3	20	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
75	c4rnxA	Alignment	not modelled	16.2	10	PDB header: oxidoreductase Chain: A: PDB Molecule: nadph dehydrogenase 1; PDBTitle: k154 circular permutation of old yellow enzyme
76	c5epdA	Alignment	not modelled	16.1	5	PDB header: oxidorectase Chain: A: PDB Molecule: glycerol trinitrate reductase; PDBTitle: crystal structure of glycerol trinitrate reductase xdpb from2 agrobacterium sp. r89-1 (apo form)
77	c3bh1A	Alignment	not modelled	15.9	20	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: upf0371 protein dip2346; PDBTitle: crystal structure of protein dip2346 from corynebacterium diphtheriae
78	c4mf4F	Alignment	not modelled	15.5	13	PDB header: lyase Chain: F: PDB Molecule: hpch/hpai aldolase/citrate lyase family protein; PDBTitle: crystal structure of a hpch/hpal aldolase/citrate lyase family protein2 from burkholderia cenocepacia j2315
79	c5ocsB	Alignment	not modelled	15.5	17	PDB header: flavoprotein Chain: B: PDB Molecule: putative nadh-dependent flavin oxidoreductase; PDBTitle: ene-reductase (er/oye) from ralstonia (cupriavidus) metallidurans
80	d3c7bb2	Alignment	not modelled	15.4	17	Fold: Ferrodoxin-like Superfamily: Nitrite/Sulfite reductase N-terminal domain-like

						Family: DsrA/DsrB N-terminal-domain-like
81	c6ei9A_	Alignment	not modelled	15.4	11	PDB header: flavoprotein Chain: A: PDB Molecule: tRNA-dihydrouridine synthase b; PDBTitle: crystal structure of e. coli tRNA-dihydrouridine synthase b (dusb)
82	c5kzka_	Alignment	not modelled	15.4	18	PDB header: RNA binding protein Chain: A: PDB Molecule: probable RNA methyltransferase, TrmH family; PDBTitle: crystal structure of rRNA methyltransferase from sinorhizobium2 meliloti
83	c3ffsC_	Alignment	not modelled	15.2	16	PDB header: oxidoreductase Chain: C: PDB Molecule: inosine-5-monophosphate dehydrogenase; PDBTitle: the crystal structure of cryptosporidium parvum inosine-5'-2 monophosphate dehydrogenase
84	c6de6B_	Alignment	not modelled	15.1	10	PDB header: oxidoreductase Chain: B: PDB Molecule: histamine dehydrogenase; PDBTitle: 2.1 a resolution structure of histamine dehydrogenase from rhizobium2 sp. 4-9
85	c3e5bB_	Alignment	not modelled	15.0	13	PDB header: lyase Chain: B: PDB Molecule: isocitrate lyase; PDBTitle: 2.4 a crystal structure of isocitrate lyase from brucella melitensis
86	c2v5jB_	Alignment	not modelled	14.6	11	PDB header: lyase Chain: B: PDB Molecule: 2,4-dihydroxyhept-2-ene-1,7-dioic acid aldolase; PDBTitle: apo class II aldolase hpch
87	c1izcA_	Alignment	not modelled	14.3	10	PDB header: lyase Chain: A: PDB Molecule: macrophomate synthase intermolecular diels-alderase; PDBTitle: crystal structure analysis of macrophomate synthase
88	d1izca_	Alignment	not modelled	14.3	10	Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: HpcH/Hpal aldolase
89	c3qz6A_	Alignment	not modelled	14.2	11	PDB header: lyase Chain: A: PDB Molecule: hpch/hpai aldolase; PDBTitle: the crystal structure of hpch/hpai aldolase from desulfitobacterium2 hafniense dcb-2
90	c2wjeA_	Alignment	not modelled	14.1	21	PDB header: hydrolase Chain: A: PDB Molecule: tyrosine-protein phosphatase CpsB; PDBTitle: crystal structure of the tyrosine phosphatase Cps4B from2 stenotrophomonas pneumoniae tigr4.
91	c6daqA_	Alignment	not modelled	14.1	23	PDB header: lyase Chain: A: PDB Molecule: phdj; PDBTitle: phdj bound to substrate intermediate
92	c3dcpB_	Alignment	not modelled	13.4	9	PDB header: hydrolase Chain: B: PDB Molecule: histidinol-phosphatase; PDBTitle: crystal structure of the putative histidinol phosphatase hisK from2 listeria monocytogenes. northeast structural genomics consortium3 target lmr141.
93	c2a7nA_	Alignment	not modelled	13.1	11	PDB header: oxidoreductase Chain: A: PDB Molecule: (+)-mandelate dehydrogenase; PDBTitle: crystal structure of the g81a mutant of the active chimera of (S)-2 mandelate dehydrogenase
94	d1p4ca_	Alignment	not modelled	13.0	11	Fold: TIM beta/alpha-barrel Superfamily: FMN-linked oxidoreductases Family: FMN-linked oxidoreductases
95	d1igwa_	Alignment	not modelled	13.0	7	Fold: TIM beta/alpha-barrel Superfamily: Phosphoenolpyruvate/pyruvate domain Family: Phosphoenolpyruvate mutase/isocitrate lyase-like
96	d1crka2	Alignment	not modelled	12.5	10	Fold: Glutamine synthetase/guanido kinase Superfamily: Glutamine synthetase/guanido kinase Family: Guanido kinase catalytic domain
97	c4e38A_	Alignment	not modelled	12.5	13	PDB header: lyase Chain: A: PDB Molecule: keto-hydroxyglutarate-aldolase/keto-deoxy-phosphogluconate PDBTitle: crystal structure of probable keto-hydroxyglutarate-aldolase from2 vibrionales bacterium swat-3 (target efi-502156)
98	d1zj8a1	Alignment	not modelled	12.4	21	Fold: Ferredoxin-like Superfamily: Nitrite/Sulfite reductase N-terminal domain-like Family: Duplicated Sir/Nir-like domains 1 and 3
99	c1apyA_	Alignment	not modelled	12.2	10	PDB header: hydrolase Chain: A: PDB Molecule: aspartylglucosaminidase; PDBTitle: human aspartylglucosaminidase