



















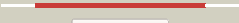



Phyre2

Email	mdejesus@rockefeller.edu
Description	RVBD2276_(cyp121)_2547759_2548949
Date	Mon Aug 5 13:25:41 BST 2019
Unique Job ID	9dd95d486c5ceb5a

Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	d1n40a_	 Alignment		100.0	100	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
2	c5foiB_	 Alignment		100.0	26	PDB header: oxidoreductase Chain: B: PDB Molecule: mycinamicin viii c21 methyl hydroxylase; PDBTitle: crystal structure of mycinamicin viii c21 methyl hydroxylase mycci2 from micromonospora griseorubida bound to mycinamicin viii
3	c4xe3B_	 Alignment		100.0	29	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p-450; PDBTitle: olep, the cytochrome p450 epoxidase from streptomyces antibioticus2 involved in oleandomycin biosynthesis: functional analysis and3 crystallographic structure in complex with clotrimazole.
4	c6b11B_	 Alignment		100.0	27	PDB header: oxidoreductase Chain: B: PDB Molecule: 20-oxo-5-o-mycaminosyltylactone 23-monoxygenase; PDBTitle: tylhi in complex with native substrate 23-deoxy-5-o-mycaminosyl-2 tytonolide (23-dmtl)
5	c3e5kA_	 Alignment		100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 (cytochrome p450 hydroxylase); PDBTitle: crystal structure of cyp105p1 wild-type 4-phenylimidazole complex
6	c4z5pB_	 Alignment		100.0	30	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450 hydroxylase; PDBTitle: crystal structure of the lma cytochrome p450 hydroxylase from the2 leinamycin biosynthetic pathway of streptomyces atroolivaceus s-1403 at 1.9 a resolution
7	c2z36A_	 Alignment		100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 type compactin 3",4"- PDBTitle: crystal structure of cytochrome p450 moxa from nonomuraea2 recticataena (cyp105)
8	d1qwia_	 Alignment		100.0	25	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
9	c4mm0B_	 Alignment		100.0	26	PDB header: oxidoreductase Chain: B: PDB Molecule: p450-like monooxygenase; PDBTitle: crystal structure analysis of the putative thioether synthase sgvp2 involved in the tailoring step of griseoviridin
10	c2xbkA_	 Alignment		100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: pimd protein; PDBTitle: x-ray structure of the substrate-bound cytochrome p450 pimd - a2 polyene macrolide antibiotic pimaricin epoxidase
11	c3wvsA_	 Alignment		100.0	30	PDB header: oxidoreductase Chain: A: PDB Molecule: putative monooxygenase; PDBTitle: crystal structure of cytochrome p450revi

12	c5y1iA_	Alignment		100.0	24	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: the crystal structure of gfsf
13	d1jfba_	Alignment		100.0	23	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
14	c2zbxA_	Alignment		100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450-su1; PDBTitle: crystal structure of vitamin d hydroxylase cytochrome p4502 105a1 (wild type) with imidazole bound
15	c2y46B_	Alignment		100.0	31	PDB header: oxidoreductase Chain: B: PDB Molecule: p-450-like protein; PDBTitle: structure of the mixed-function p450 mycg in complex with mycinamicin2 iv in c 2 2 21 space group
16	c4l0eA_	Alignment		100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: p450 monooxygenase; PDBTitle: structure of p450sky (cyp163b3), a cytochrome p450 from skyllamycin2 biosynthesis (heme-coordinated expression tag)
17	c3tywC_	Alignment		100.0	26	PDB header: oxidoreductase Chain: C: PDB Molecule: putative cytochrome p450; PDBTitle: crystal structure of cyp105n1 from streptomyces coelicolor a3(2)
18	d1s1fa_	Alignment		100.0	26	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
19	c5l1sA_	Alignment		100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: pentalenolactone synthase; PDBTitle: x-ray structure of f232l mutant of cytochrome p450 pntrn with2 pentalenolactone f
20	c6f0bA_	Alignment		100.0	29	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 monooxygenase; PDBTitle: cytochrome p450 txtc employs substrate conformational switching for2 sequential aliphatic and aromatic thaxtomin hydroxylation
21	c3abbA_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 hydroxylase; PDBTitle: crystal structure of cyp105d6
22	d1lfka_	Alignment	not modelled	100.0	22	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
23	c6gk5A_	Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 cyp267b1 protein; PDBTitle: crystal structure of cytochrome p450 cyp267b1 from sorangium2 cellulosum so ce56
24	c5fyfA_	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: structure of cyp153a from marinobacter aquaeolei
25	c2dkkA_	Alignment	not modelled	100.0	27	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: structure/function studies of cytochrome p450 158a1 from streptomyces2 coelicolor a3(2)
26	c4ubsA_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: pentalenic acid synthase; PDBTitle: the crystal structure of cytochrome p450 105d7 from streptomyces2 avermitilis in complex with diclofenac
27	c5hh3C_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: C: PDB Molecule: oxya protein; PDBTitle: oxa from actinoplanes teichomyceticus
28	d1cpta_	Alignment	not modelled	100.0	22	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
29	c2hka_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450;

29	c3kva_	Alignment	not modelled	100.0	22	PDBTitle: crystal structure of cyp108d1 from novosphingobium aromaticivorans2 dsm12444
30	d1ueda_	Alignment	not modelled	100.0	24	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
31	c4wpzA_	Alignment	not modelled	100.0	29	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: crystal structure of cytochrome p450 cyp107w1 from streptomyces2 avermitilis
32	c3a4hA_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: vitamin d hydroxylase; PDBTitle: structure of cytochrome p450 vdh from pseudonocardia autotrophica2 (orthorhombic crystal form)
33	c4jbtB_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase/substrate Chain: B: PDB Molecule: cytochrome p450 monooxygenase; PDBTitle: the 2.2 a crystal structure of cyp154c5 from nocardia farcinica in2 complex with androstenedione
34	c6hqdB_	Alignment	not modelled	100.0	17	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450; PDBTitle: cytochrome p450-153 from pseudomonas sp. 19-rlim
35	c2fr7A_	Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: A: PDB Molecule: putative cytochrome p450; PDBTitle: crystal structure of cytochrome p450 cyp199a2
36	c6bldA_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 268a2 cyp268a2; PDBTitle: mycobacterium marinum cytochrome p450 cyp268a2 in complex with2 pseudoionone
37	c4yzaA_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: polyketide biosynthesis cytochrome p450 pkss; PDBTitle: bacillus subtilis 168 bacillaene polyketide synthase (pks) cytochrome2 p450 pkss
38	c6hqwA_	Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: cytochrome p450-153 from novosphingobium aromaticivorans
39	c2z3tD_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: D: PDB Molecule: cytochrome p450; PDBTitle: crystal structure of substrate free cytochrome p450 stap2 (cyp245a1)
40	c6m7IA_	Alignment	not modelled	100.0	26	PDB header: biosynthetic protein Chain: A: PDB Molecule: putative cytochrome p450 hydroxylase; PDBTitle: complex of oxa with the x-domain from gpa biosynthesis
41	c2uvnB_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450 130; PDBTitle: crystal structure of econazole-bound cyp130 from mycobacterium2 tuberculosis
42	c4l36B_	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: B: PDB Molecule: putative p450-like protein; PDBTitle: crystal structure of the cytochrome p450 enzyme txtc
43	c3p3oA_	Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: crystal structure of the cytochrome p450 monooxygenase aurh (ntermii)2 from streptomyces thioluteus
44	c5gweB_	Alignment	not modelled	100.0	23	PDB header: electron transport Chain: B: PDB Molecule: cytochrome p450; PDBTitle: cytochrome p450 crej
45	c2c6hB_	Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450 monooxygenase; PDBTitle: crystal structure of yc-17-bound cytochrome p450 pikc2 (cyp107l1)
46	c4tvfA_	Alignment	not modelled	100.0	26	PDB header: oxidoreductase Chain: A: PDB Molecule: oxyb; PDBTitle: oxyb from actinoplanes teichomyceticus
47	c5li8A_	Alignment	not modelled	100.0	24	PDB header: oxidoreductase Chain: A: PDB Molecule: putative cytochrome p450 126; PDBTitle: crystal structure of mycobacterium tuberculosis cyp126a1 in complex2 with ketoconazole
48	c3bujA_	Alignment	not modelled	100.0	24	PDB header: metal binding protein Chain: A: PDB Molecule: calo2; PDBTitle: crystal structure of calo2
49	c5h1za_	Alignment	not modelled	100.0	22	PDB header: hydrolase Chain: A: PDB Molecule: putative cyp alkane hydroxylase cyp153d17; PDBTitle: cyp153d17 from sphingomonas sp. pamc 26605
50	d1q5da_	Alignment	not modelled	100.0	22	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
51	c2wivA_	Alignment	not modelled	100.0	22	PDB header: electron transport Chain: A: PDB Molecule: cytochrome p450-like protein xpla; PDBTitle: cytochrome-p450 xpla heme domain p21
52	d1z8oa1	Alignment	not modelled	100.0	24	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
53	c4oqrA_	Alignment	not modelled	100.0	24	PDB header: oxidoreductase/oxidoreductase inhibitor Chain: A: PDB Molecule: cyp105as1; PDBTitle: structure of a cyp105as1 mutant in complex with compactin
54	c2wm5A_	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: putative cytochrome p450 124; PDBTitle: x-ray structure of the substrate-free mycobacterium tuberculosis2 cytochrome p450 cyp124
55	c3rwlA_	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 alkane hydroxylase 1 cyp153a7;

					PDBTitle: structure of p450pyr hydroxylase PDB header: oxidoreductase Chain: A: PDB Molecule: oxy protein; PDBTitle: structure of oxye (cyp165d3), a cytochrome p450 involved in2 teicoplanin biosynthesis
56	c3o1aA_	Alignment	not modelled	100.0	24
57	d1odoa_	Alignment	not modelled	100.0	25
58	c4e2pA_	Alignment	not modelled	100.0	24
59	c6giiA_	Alignment	not modelled	100.0	25
60	c3lxiB_	Alignment	not modelled	100.0	18
61	d1re9a_	Alignment	not modelled	100.0	22
62	c3nv6A_	Alignment	not modelled	100.0	19
63	c5ncbA_	Alignment	not modelled	100.0	20
64	c2xkrA_	Alignment	not modelled	100.0	22
65	c2jjoA_	Alignment	not modelled	100.0	24
66	c5hdiA_	Alignment	not modelled	100.0	24
67	c5kyoD_	Alignment	not modelled	100.0	17
68	c4dxyA_	Alignment	not modelled	100.0	19
69	c3oo3A_	Alignment	not modelled	100.0	24
70	c3mgxB_	Alignment	not modelled	100.0	22
71	c1t2bA_	Alignment	not modelled	100.0	22
72	c5livC_	Alignment	not modelled	100.0	21
73	c6dcdA_	Alignment	not modelled	100.0	25
74	c5nwsA_	Alignment	not modelled	100.0	22
75	c5j90B_	Alignment	not modelled	100.0	24
76	c3ejdD_	Alignment	not modelled	100.0	28
77	c5ysmA_	Alignment	not modelled	100.0	29
78	c6g71A_	Alignment	not modelled	100.0	21
79	c3r9cA_	Alignment	not modelled	100.0	23
80	c5cjeA_	Alignment	not modelled	100.0	26
81	c5z9jA_	Alignment	not modelled	100.0	20

						metablism
82	c4yt3B	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450(meg); PDBTitle: cyp106a2
83	c3wecA	Alignment	not modelled	100.0	24	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: structure of p450 raua (cyp1050a1) complexed with a biosynthetic2 intermediate of aurachin re
84	c6hqgB	Alignment	not modelled	100.0	24	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450; PDBTitle: cytochrome p450-153 from phenylobacterium zucineum
85	c3ofuE	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: E: PDB Molecule: cytochrome p450; PDBTitle: crystal structure of cytochrome p450 cyp101c1
86	c3nc7A	Alignment	not modelled	100.0	22	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 cypx; PDBTitle: cyp134a1 2-phenylimidazole bound structure
87	c3ivyA	Alignment	not modelled	100.0	20	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 cyp125; PDBTitle: crystal structure of mycobacterium tuberculosis cytochrome p4502 cyp125, p212121 crystal form
88	c4z5qA	Alignment	not modelled	100.0	28	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 hydroxylase; PDBTitle: crystal structure of the lnmz cytochrome p450 hydroxylase from the2 leinamycin biosynthetic pathway of streptomyces atroolivaceus s-1403 at 1.8 a resolution
89	c5ofqD	Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: D: PDB Molecule: cytochrome p450; PDBTitle: crystal structure of substrate-free cyp109a2 from bacillus megaterium
90	c6gmfA	Alignment	not modelled	100.0	25	PDB header: oxidoreductase Chain: A: PDB Molecule: putative cytochrome p450 hydroxylase; PDBTitle: structure of cytochrome p450 cyp109q5 from chondromyces apiculatus
91	c4ggvA	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 superfamily protein; PDBTitle: crystal structure of hmtt involved in himastatin biosynthesis
92	c6g5qA	Alignment	not modelled	100.0	16	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: the structure of a carbohydrate active p450
93	d1io7a	Alignment	not modelled	100.0	24	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
94	c4rm4A	Alignment	not modelled	100.0	23	PDB header: electron transport Chain: A: PDB Molecule: cytochrome p450; PDBTitle: the crystal structure of the versatile cytochrome p450 enzyme cyp109b12 from bacillus subtilis
95	c5hiwA	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 cyp260b1; PDBTitle: sorangium cellulosum so ce56 cytochrome p450 260b1
96	c5vwsA	Alignment	not modelled	100.0	23	PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450; PDBTitle: ligand free structure of cytochrome p450 tbtj1
97	c6hqwb	Alignment	not modelled	100.0	28	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450; PDBTitle: cytochrome p450-153 from novosphingobium aromaticivorans
98	c4l54A	Alignment	not modelled	100.0	11	PDB header: oxidoreductase Chain: A: PDB Molecule: terminal olefin-forming fatty acid decarboxylase; PDBTitle: structure of cytochrome p450 olet, ligand-free
99	d1ue8a	Alignment	not modelled	100.0	23	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
100	c3awmA	Alignment	not modelled	100.0	14	PDB header: oxidoreductase Chain: A: PDB Molecule: fatty acid alpha-hydroxylase; PDBTitle: cytochrome p450sp alpha (cyp152b1) wild-type with palmitic acid
101	c6fyjA	Alignment	not modelled	100.0	15	PDB header: oxidoreductase Chain: A: PDB Molecule: fatty-acid peroxygenase; PDBTitle: cytochrome p450 peroxygenase cyp152k6 in complex with myristic acid
102	c2x2nB	Alignment	not modelled	100.0	14	PDB header: oxidoreductase Chain: B: PDB Molecule: lanosterol 14-alpha-demethylase; PDBTitle: x-ray structure of cyp51 from trypanosoma brucei in complex2 with posaconazole in two different conformations
103	d1izoa	Alignment	not modelled	100.0	16	Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
104	c2rfcB	Alignment	not modelled	100.0	21	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450; PDBTitle: ligand bound (4-phenylimidazole) crystal structure of a2 cytochrome p450 from the thermoacidophilic archaeon3 picophilus torridus
105	c5yhjB	Alignment	not modelled	100.0	14	PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450; PDBTitle: cytochrome p450ex alpha (cyp152n1) wild-type with myristic acid
106	c2rchA	Alignment	not modelled	100.0	13	PDB header: lyase Chain: A: PDB Molecule: cytochrome p450 74a; PDBTitle: crystal structure of arabidopsis thaliana allene oxide synthase (aos,2 cytochrome p450 74a, cyp74a) complexed with 13(s)-hod at 1.85 a3 resolution
107	c2iagA	Alianment	not modelled	100.0	15	PDB header: isomerase Chain: A: PDB Molecule: prostacyclin synthase;

					PDBTitle: crystal structure of human prostacyclin synthase
108	c3e4eA_	Alignment	not modelled	100.0	17 PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 2e1; PDBTitle: human cytochrome p450 2e1 in complex with the inhibitor 4-2 methylpyrazole
109	c3hf2A_	Alignment	not modelled	100.0	15 PDB header: oxidoreductase Chain: A: PDB Molecule: bifunctional p-450/nadph-p450 reductase; PDBTitle: crystal structure of the i401p mutant of cytochrome p450 bm3
110	c3na0B_	Alignment	not modelled	100.0	15 PDB header: oxidoreductase, electron transport Chain: B: PDB Molecule: cholesterol side-chain cleavage enzyme, mitochondrial; PDBTitle: crystal structure of human cyp11a1 in complex with 20,22-2 dihydroxycholesterol
111	d1r9oa_	Alignment	not modelled	100.0	17 Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
112	c3juvA_	Alignment	not modelled	100.0	13 PDB header: oxidoreductase Chain: A: PDB Molecule: lanosterol 14-alpha demethylase; PDBTitle: crystal structure of human lanosterol 14alpha-demethylase (cyp51)
113	c3danA_	Alignment	not modelled	100.0	12 PDB header: lyase Chain: A: PDB Molecule: cytochrome p450 74a2; PDBTitle: crystal structure of allene oxide synthase
114	d1po5a_	Alignment	not modelled	100.0	15 Fold: Cytochrome P450 Superfamily: Cytochrome P450 Family: Cytochrome P450
115	c6a18A_	Alignment	not modelled	100.0	14 PDB header: oxidoreductase Chain: A: PDB Molecule: cytochrome p450 90b1; PDBTitle: crystal structure of cyp90b1 in complex with 1,6-hexandiol
116	c3g1qC_	Alignment	not modelled	100.0	16 PDB header: oxidoreductase Chain: C: PDB Molecule: sterol 14-alpha-demethylase; PDBTitle: crystal structure of sterol 14-alpha demethylase (cyp51) from2 trypanosoma brucei in ligand free state
117	c4r21B_	Alignment	not modelled	100.0	20 PDB header: oxidoreductase Chain: B: PDB Molecule: cytochrome p450 family 17 polypeptide 2; PDBTitle: zebra fish cytochrome p450 17a2 with progesterone
118	c3k9vB_	Alignment	not modelled	100.0	15 PDB header: oxidoreductase Chain: B: PDB Molecule: 1,25-dihydroxyvitamin d(3) 24-hydroxylase, mitochondrial; PDBTitle: crystal structure of rat mitochondrial p450 24a1 s57d in complex with2 chaps
119	c5fsaA_	Alignment	not modelled	100.0	16 PDB header: oxidoreductase Chain: A: PDB Molecule: cyp51 variant1; PDBTitle: crystal structure of sterol 14-alpha demethylase (cyp51) from a2 pathogenic yeast candida albicans in complex with the antifungal drug3 posaconazole
120	c4lxjA_	Alignment	not modelled	100.0	16 PDB header: oxidoreductase Chain: A: PDB Molecule: lanosterol 14-alpha demethylase; PDBTitle: saccharomyces cerevisiae lanosterol 14-alpha demethylase with2 lanosterol bound