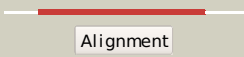

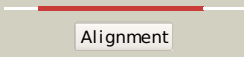

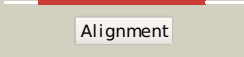

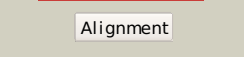

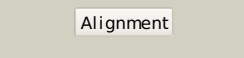
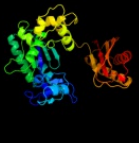
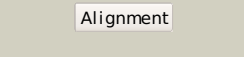

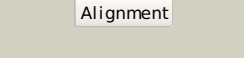

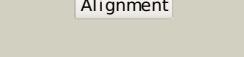

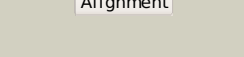
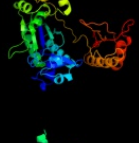
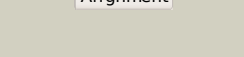

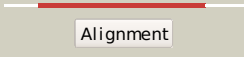












Phyre2




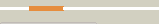

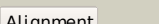
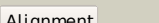
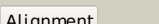
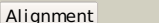
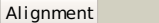

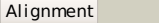
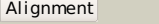
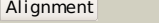
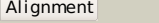



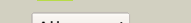
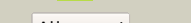
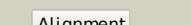
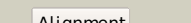




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






















Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c3gqcB_	 Alignment		100.0	23	PDB header: transferase/dna Chain: B: PDB Molecule: dna repair protein rev1; PDBTitle: structure of human rev1-dna-dntp ternary complex
2	c2oh2B_	 Alignment		100.0	24	PDB header: transferase/dna Chain: B: PDB Molecule: dna polymerase kappa; PDBTitle: ternary complex of human dna polymerase
3	c1s97D_	 Alignment		100.0	25	PDB header: transferase/dna Chain: D: PDB Molecule: dna polymerase iv; PDBTitle: dpo4 with gt mismatch
4	c1t94B_	 Alignment		100.0	25	PDB header: replication Chain: B: PDB Molecule: polymerase (dna directed) kappa; PDBTitle: crystal structure of the catalytic core of human dna2 polymerase kappa
5	c2aq4A_	 Alignment		100.0	19	PDB header: transferase Chain: A: PDB Molecule: dna repair protein rev1; PDBTitle: ternary complex of the catalytic core of rev1 with dna and dctp.
6	c1jihA_	 Alignment		100.0	21	PDB header: translation Chain: A: PDB Molecule: dna polymerase eta; PDBTitle: yeast dna polymerase eta
7	c2r8kB_	 Alignment		100.0	21	PDB header: replication, transferase/dna Chain: B: PDB Molecule: dna polymerase eta; PDBTitle: structure of the eukaryotic dna polymerase eta in complex with 1,2-2 d(gpg)-cisplatin containing dna
8	c3mr2A_	 Alignment		100.0	22	PDB header: transferase/dna Chain: A: PDB Molecule: dna polymerase eta; PDBTitle: human dna polymerase eta in complex with normal dna and incoming2 nucleotide (nrm)
9	c1t3nB_	 Alignment		100.0	24	PDB header: replication/dna Chain: B: PDB Molecule: polymerase (dna directed) iota; PDBTitle: structure of the catalytic core of dna polymerase iota in2 complex with dna and dttp
10	c2filA_	 Alignment		100.0	25	PDB header: replication/dna Chain: A: PDB Molecule: dna polymerase iota; PDBTitle: ternary complex of human dna polymerase iota with dna and dttp
11	c1k1qA_	 Alignment		100.0	23	PDB header: transcription Chain: A: PDB Molecule: dbb protein; PDBTitle: crystal structure of a dinb family error prone dna2 polymerase from sulfolobus solfataricus

12	dlt94a2	Alignment		100.0	29	Fold: DNA/RNA polymerases Superfamily: DNA/RNA polymerases Family: Lesion bypass DNA polymerase (Y-family), catalytic domain
13	dljx4a2	Alignment		100.0	32	Fold: DNA/RNA polymerases Superfamily: DNA/RNA polymerases Family: Lesion bypass DNA polymerase (Y-family), catalytic domain
14	dkl1sa2	Alignment		100.0	29	Fold: DNA/RNA polymerases Superfamily: DNA/RNA polymerases Family: Lesion bypass DNA polymerase (Y-family), catalytic domain
15	dljiha2	Alignment		100.0	25	Fold: DNA/RNA polymerases Superfamily: DNA/RNA polymerases Family: Lesion bypass DNA polymerase (Y-family), catalytic domain
16	dlzeta2	Alignment		100.0	31	Fold: DNA/RNA polymerases Superfamily: DNA/RNA polymerases Family: Lesion bypass DNA polymerase (Y-family), catalytic domain
17	dlim4a	Alignment		100.0	31	Fold: DNA/RNA polymerases Superfamily: DNA/RNA polymerases Family: Lesion bypass DNA polymerase (Y-family), catalytic domain
18	dlunnc	Alignment		99.6	16	Fold: Lesion bypass DNA polymerase (Y-family), little finger domain Superfamily: Lesion bypass DNA polymerase (Y-family), little finger domain Family: Lesion bypass DNA polymerase (Y-family), little finger domain
19	dlzeta1	Alignment		99.5	8	Fold: Lesion bypass DNA polymerase (Y-family), little finger domain Superfamily: Lesion bypass DNA polymerase (Y-family), little finger domain Family: Lesion bypass DNA polymerase (Y-family), little finger domain
20	dlt94a1	Alignment		99.3	16	Fold: Lesion bypass DNA polymerase (Y-family), little finger domain Superfamily: Lesion bypass DNA polymerase (Y-family), little finger domain Family: Lesion bypass DNA polymerase (Y-family), little finger domain
21	dljiha1	Alignment	not modelled	98.5	13	Fold: Lesion bypass DNA polymerase (Y-family), little finger domain Superfamily: Lesion bypass DNA polymerase (Y-family), little finger domain Family: Lesion bypass DNA polymerase (Y-family), little finger domain
22	dljx4a1	Alignment	not modelled	97.4	11	Fold: Lesion bypass DNA polymerase (Y-family), little finger domain Superfamily: Lesion bypass DNA polymerase (Y-family), little finger domain Family: Lesion bypass DNA polymerase (Y-family), little finger domain
23	dlspza1	Alignment	not modelled	97.0	21	Fold: SAM domain-like Superfamily: Rad51 N-terminal domain-like Family: DNA repair protein Rad51, N-terminal domain
24	dkl1sa1	Alignment	not modelled	96.6	11	Fold: Lesion bypass DNA polymerase (Y-family), little finger domain Superfamily: Lesion bypass DNA polymerase (Y-family), little finger domain Family: Lesion bypass DNA polymerase (Y-family), little finger domain
25	dlpzna1	Alignment	not modelled	96.6	18	Fold: SAM domain-like Superfamily: Rad51 N-terminal domain-like Family: DNA repair protein Rad51, N-terminal domain
26	dlgm5a2	Alignment	not modelled	96.4	36	Fold: OB-fold Superfamily: Nucleic acid-binding proteins Family: RecG "wedge" domain
27	d2ilqa1	Alignment	not modelled	96.2	16	Fold: SAM domain-like Superfamily: Rad51 N-terminal domain-like Family: DNA repair protein Rad51, N-terminal domain

28	c1b22A	Alignment	not modelled	95.7	21	PDB header: dna binding protein Chain: A: PDB Molecule: dna repair protein rad51; PDBTitle: rad51 (n-terminal domain)
29	d1b22a	Alignment	not modelled	95.7	21	Fold: SAM domain-like Superfamily: Rad51 N-terminal domain-like Family: DNA repair protein Rad51, N-terminal domain
30	c3bqsB	Alignment	not modelled	95.4	24	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of an uncharacterized protein from2 listeria monocytogenes, trigonal form
31	d2p6ra2	Alignment	not modelled	95.0	24	Fold: Sec63 N-terminal domain-like Superfamily: Sec63 N-terminal domain-like Family: Achaeal helicase C-terminal domain
32	d1doqa	Alignment	not modelled	94.9	25	Fold: SAM domain-like Superfamily: C-terminal domain of RNA polymerase alpha subunit Family: C-terminal domain of RNA polymerase alpha subunit
33	c1t4gA	Alignment	not modelled	94.9	14	PDB header: recombination Chain: A: PDB Molecule: dna repair and recombination protein rada; PDBTitle: atpase in complex with amp-pnp
34	d1z3eb1	Alignment	not modelled	94.9	24	Fold: SAM domain-like Superfamily: C-terminal domain of RNA polymerase alpha subunit Family: C-terminal domain of RNA polymerase alpha subunit
35	d1lb2b	Alignment	not modelled	94.7	28	Fold: SAM domain-like Superfamily: C-terminal domain of RNA polymerase alpha subunit Family: C-terminal domain of RNA polymerase alpha subunit
36	d1cooa	Alignment	not modelled	94.0	28	Fold: SAM domain-like Superfamily: C-terminal domain of RNA polymerase alpha subunit Family: C-terminal domain of RNA polymerase alpha subunit
37	c1gm5A	Alignment	not modelled	94.0	36	PDB header: helicase Chain: A: PDB Molecule: recg; PDBTitle: structure of recg bound to three-way dna junction
38	c1kdhA	Alignment	not modelled	93.7	13	PDB header: transferase/dna Chain: A: PDB Molecule: terminal deoxynucleotidyltransferase short PDBTitle: binary complex of murine terminal deoxynucleotidyl2 transferase with a primer single stranded dna
39	d1szpb1	Alignment	not modelled	93.6	24	Fold: SAM domain-like Superfamily: Rad51 N-terminal domain-like Family: DNA repair protein Rad51, N-terminal domain
40	d1qw2a	Alignment	not modelled	93.5	29	Fold: Hypothetical protein Ta1206 Superfamily: Hypothetical protein Ta1206 Family: Hypothetical protein Ta1206
41	c2ihmA	Alignment	not modelled	93.2	21	PDB header: transferase/dna Chain: A: PDB Molecule: dna polymerase mu; PDBTitle: polymerase mu in ternary complex with gapped 11mer dna2 duplex and bound incoming nucleotide
42	d1jmsa3	Alignment	not modelled	93.1	25	Fold: SAM domain-like Superfamily: PsbU/PolX domain-like Family: DNA polymerase beta-like, second domain
43	d2vana1	Alignment	not modelled	93.1	43	Fold: SAM domain-like Superfamily: PsbU/PolX domain-like Family: DNA polymerase beta-like, second domain
44	d2aq0a1	Alignment	not modelled	92.9	11	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Hef domain-like
45	d2bcqa2	Alignment	not modelled	92.8	18	Fold: SAM domain-like Superfamily: PsbU/PolX domain-like Family: DNA polymerase beta-like, second domain
46	d2fmpa2	Alignment	not modelled	92.8	39	Fold: SAM domain-like Superfamily: PsbU/PolX domain-like Family: DNA polymerase beta-like, second domain
47	c2bcuA	Alignment	not modelled	92.6	12	PDB header: transferase, lyase/dna Chain: A: PDB Molecule: dna polymerase lambda; PDBTitle: dna polymerase lambda in complex with a dna duplex2 containing an unpaired damp and a tt mismatch
48	d2q0zx1	Alignment	not modelled	92.4	10	Fold: Sec63 N-terminal domain-like Superfamily: Sec63 N-terminal domain-like Family: Sec63 N-terminal domain
49	c1nomA	Alignment	not modelled	92.2	43	PDB header: nucleotidyltransferase Chain: A: PDB Molecule: dna polymerase beta; PDBTitle: dna polymerase beta (pol b) (e.c.2.7.7.7), 31-kd domain; soaked in the2 presence of mncl2 (5 millimolar)
50	c2va8A	Alignment	not modelled	92.1	24	PDB header: hydrolase Chain: A: PDB Molecule: ski2-type helicase; PDBTitle: dna repair helicase hel308
51	c8icZA	Alignment	not modelled	92.0	39	PDB header: transferase/dna Chain: A: PDB Molecule: protein (dna polymerase beta (e.c.2.7.7.7)); PDBTitle: dna polymerase beta (pol b) (e.c.2.7.7.7) complexed with2 seven base pairs of dna; soaked in the presence of datp3 (1 millimolar), mncl2 (5 millimolar), and lithium sulfate4 (75 millimolar)
52	c3im2A	Alignment	not modelled	91.9	14	PDB header: hydrolase Chain: A: PDB Molecule: pre-mrna-splicing helicase brr2; PDBTitle: structure of the c-terminal sec63 unit of yeast brr2, p41212 form
53	d1kfta	Alignment	not modelled	91.5	16	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Excinuclease UvrC C-terminal domain

54	c1kftA	 Alignment	not modelled	91.5	16	PDB header: dna binding protein Chain: A: PDB Molecule: excinuclease abc subunit c; PDBTitle: solution structure of the c-terminal domain of uvrc from e-2 coli
55	c2w9mB	 Alignment	not modelled	91.4	25	PDB header: dna replication Chain: B: PDB Molecule: polymerase x; PDBTitle: structure of family x dna polymerase from deinococcus2 radiodurans
56	c2dflA	 Alignment	not modelled	91.3	21	PDB header: recombination Chain: A: PDB Molecule: dna repair and recombination protein rada; PDBTitle: crystal structure of left-handed rada filament
57	c2kz3A	 Alignment	not modelled	89.8	24	PDB header: unknown function Chain: A: PDB Molecule: putative uncharacterized protein rad51l3; PDBTitle: backbone 1h, 13c, and 15n chemical shift assignments for human rad51d2 from 1 to 83
58	c2p6uA	 Alignment	not modelled	88.5	24	PDB header: dna binding protein Chain: A: PDB Molecule: afuhel308 helicase; PDBTitle: apo structure of the hel308 superfamily 2 helicase
59	d2a1ja1	 Alignment	not modelled	88.0	11	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Hef domain-like
60	c1wcnA	 Alignment	not modelled	85.7	26	PDB header: rna-binding protein Chain: A: PDB Molecule: transcription elongation protein nusa; PDBTitle: nmr structure of the carboxyterminal domains of escherichia2 coli nusa
61	d1ci4a	 Alignment	not modelled	84.3	28	Fold: SAM domain-like Superfamily: Barrier-to-autointegration factor, BAF Family: Barrier-to-autointegration factor, BAF
62	c3ldaA	 Alignment	not modelled	83.9	19	PDB header: dna binding protein Chain: A: PDB Molecule: dna repair protein rad51; PDBTitle: yeast rad51 h352y filament interface mutant
63	d1x2ia1	 Alignment	not modelled	81.4	9	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Hef domain-like
64	c2q0zX	 Alignment	not modelled	80.8	11	PDB header: protein transport Chain: X: PDB Molecule: protein pro2281; PDBTitle: crystal structure of q9p172/sec63 from homo sapiens.2 northeast structural genomics target hr1979.
65	d2bgwa1	 Alignment	not modelled	79.8	18	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Hef domain-like
66	c1szpC	 Alignment	not modelled	76.8	24	PDB header: dna binding protein Chain: C: PDB Molecule: dna repair protein rad51; PDBTitle: a crystal structure of the rad51 filament
67	c2nrzB	 Alignment	not modelled	76.0	22	PDB header: hydrolase Chain: B: PDB Molecule: uvrc system protein c; PDBTitle: crystal structure of the c-terminal half of uvrc bound to2 its catalytic divalent cation
68	d2a1jb1	 Alignment	not modelled	70.5	12	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: Hef domain-like
69	c3ezuA	 Alignment	not modelled	68.1	21	PDB header: signaling protein Chain: A: PDB Molecule: ggdef domain protein; PDBTitle: crystal structure of multidomain protein of unknown function with2 ggdef-domain (np_951600.1) from geobacter sulfurreducens at 1.95 a3 resolution
70	c1w25B	 Alignment	not modelled	66.6	15	PDB header: signaling protein Chain: B: PDB Molecule: stalked-cell differentiation controlling protein; PDBTitle: response regulator pled in complex with c-digmp
71	d1bvsa2	 Alignment	not modelled	64.0	31	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: DNA helicase RuvA subunit, middle domain
72	c2h5xA	 Alignment	not modelled	63.8	29	PDB header: dna binding protein Chain: A: PDB Molecule: holliday junction atp-dependent dna helicase ruva; PDBTitle: ruva from mycobacterium tuberculosis
73	d1dgsa1	 Alignment	not modelled	62.2	22	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: NAD+-dependent DNA ligase, domain 3
74	c1ixrA	 Alignment	not modelled	59.8	25	PDB header: hydrolase Chain: A: PDB Molecule: holliday junction dna helicase ruva; PDBTitle: ruva-ruvb complex
75	c1dgsB	 Alignment	not modelled	58.1	19	PDB header: ligase Chain: B: PDB Molecule: dna ligase; PDBTitle: crystal structure of nad+-dependent dna ligase from t.2 filiformis
76	c1d8lA	 Alignment	not modelled	57.8	24	PDB header: gene regulation Chain: A: PDB Molecule: protein (holliday junction dna helicase ruva); PDBTitle: e. coli holliday junction binding protein ruva nh2 region2 lacking domain iii
77	c1vddC	 Alignment	not modelled	52.6	25	PDB header: recombination Chain: C: PDB Molecule: recombination protein recr; PDBTitle: crystal structure of recombinational repair protein recr
78	c1wwuA	 Alignment	not modelled	52.2	21	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: hypothetical protein flj21935; PDBTitle: solution structure of the sam_pnt domain of human protein2 flj21935
79	c3i5aA	 Alignment	not modelled	51.2	18	PDB header: signaling protein Chain: A: PDB Molecule: response regulator/ggdef domain protein; PDBTitle: crystal structure of full-length wpsr from pseudomonas syringae

80	c2csdB	 Alignment	not modelled	50.0	32	PDB header: isomerase Chain: B: PDB Molecule: topoisomerase v; PDBTitle: crystal structure of topoisomerase v (61 kda fragment)
81	c2owoA	 Alignment	not modelled	49.9	23	PDB header: ligase/dna Chain: A: PDB Molecule: dna ligase; PDBTitle: last stop on the road to repair: structure of e.coli dna ligase bound2 to nicked dna-adenylate
82	d1vdda	 Alignment	not modelled	49.7	25	Fold: Recombination protein RecR Superfamily: Recombination protein RecR Family: Recombination protein RecR
83	c3cmwA	 Alignment	not modelled	47.7	11	PDB header: recombination/dna Chain: A: PDB Molecule: protein reca; PDBTitle: mechanism of homologous recombination from the reca-2 ssdna/dsdna structures
84	c3breA	 Alignment	not modelled	44.5	25	PDB header: signaling protein Chain: A: PDB Molecule: probable two-component response regulator; PDBTitle: crystal structure of p.aeruginosa pa3702
85	d1ixra1	 Alignment	not modelled	41.3	24	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: DNA helicase RuvA subunit, middle domain
86	c1s5lu	 Alignment	not modelled	37.7	13	PDB header: photosynthesis Chain: U: PDB Molecule: photosystem ii 12 kda extrinsic protein; PDBTitle: architecture of the photosynthetic oxygen evolving center
87	d2axtu1	 Alignment	not modelled	37.5	13	Fold: SAM domain-like Superfamily: PsbU/PolX domain-like Family: PsbU-like
88	d2edua1	 Alignment	not modelled	37.4	17	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: ComEA-like
89	d2akja2	 Alignment	not modelled	36.2	22	Fold: Ferredoxin-like Superfamily: Nitrite/Sulfite reductase N-terminal domain-like Family: Duplicated SiR/NiR-like domains 1 and 3
90	d1rqpa1	 Alignment	not modelled	32.0	34	Fold: Bacterial fluorinating enzyme, C-terminal domain Superfamily: Bacterial fluorinating enzyme, C-terminal domain Family: Bacterial fluorinating enzyme, C-terminal domain
91	d2bcqa1	 Alignment	not modelled	31.7	28	Fold: SAM domain-like Superfamily: DNA polymerase beta, N-terminal domain-like Family: DNA polymerase beta, N-terminal domain-like
92	d2fmpa1	 Alignment	not modelled	29.1	28	Fold: SAM domain-like Superfamily: DNA polymerase beta, N-terminal domain-like Family: DNA polymerase beta, N-terminal domain-like
93	c2rp5A	 Alignment	not modelled	27.3	26	PDB header: transcription Chain: A: PDB Molecule: putative uncharacterized protein cep-1; PDBTitle: solution structure of the oligomerization domain in cep-1
94	c1hjpa	 Alignment	not modelled	27.0	27	PDB header: dna recombination Chain: A: PDB Molecule: ruva; PDBTitle: holliday junction binding protein ruva from e. coli
95	d1cuka2	 Alignment	not modelled	26.5	16	Fold: SAM domain-like Superfamily: RuvA domain 2-like Family: DNA helicase RuvA subunit, middle domain
96	d1zj8a2	 Alignment	not modelled	26.5	24	Fold: Ferredoxin-like Superfamily: Nitrite/Sulfite reductase N-terminal domain-like Family: Duplicated SiR/NiR-like domains 1 and 3
97	c1v9pB	 Alignment	not modelled	25.1	22	PDB header: ligase Chain: B: PDB Molecule: dna ligase; PDBTitle: crystal structure of nad+-dependent dna ligase
98	d1jmsa1	 Alignment	not modelled	24.9	6	Fold: SAM domain-like Superfamily: DNA polymerase beta, N-terminal domain-like Family: DNA polymerase beta, N-terminal domain-like
99	d1mo6a1	 Alignment	not modelled	23.2	14	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: RecA protein-like (ATPase-domain)
100	d1nzpa	 Alignment	not modelled	22.8	28	Fold: SAM domain-like Superfamily: DNA polymerase beta, N-terminal domain-like Family: DNA polymerase beta, N-terminal domain-like
101	d2noha1	 Alignment	not modelled	22.3	21	Fold: DNA-glycosylase Superfamily: DNA-glycosylase Family: DNA repair glycosylase, 2 C-terminal domains
102	d1ykga1	 Alignment	not modelled	21.3	16	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: Cytochrome p450 reductase N-terminal domain-like
103	d1dk2a	 Alignment	not modelled	21.1	28	Fold: SAM domain-like Superfamily: DNA polymerase beta, N-terminal domain-like Family: DNA polymerase beta, N-terminal domain-like