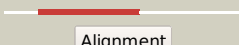




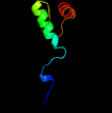


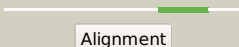
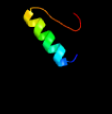
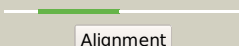

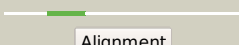
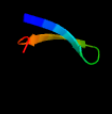
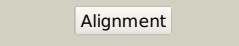

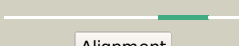

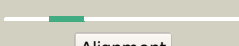
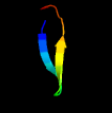

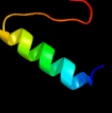



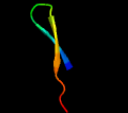
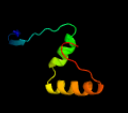
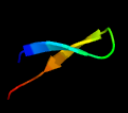
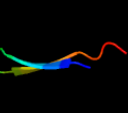
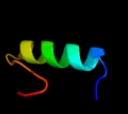
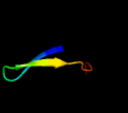


Phyre2

Email	mdejesus@rockefeller.edu
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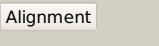
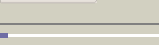
Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	c4e1rA_	 Alignment		99.9	100	PDB header: dna binding protein Chain: A: PDB Molecule: protein lsr2; PDBTitle: crystal structure of the dimerization domain of lsr2 from2 mycobacterium tuberculosis in the p 31 2 1 space group
2	c4e1pA_	 Alignment		99.9	100	PDB header: dna binding protein Chain: A: PDB Molecule: protein lsr2; PDBTitle: crystal structure of the dimerization domain of lsr2 from2 mycobacterium tuberculosis in the p 1 21 1 space group
3	c2kngA_	 Alignment		99.6	100	PDB header: dna binding protein Chain: A: PDB Molecule: protein lsr2; PDBTitle: solution structure of c-domain of lsr2
4	d2bcqa3	 Alignment		61.4	16	Fold: Nucleotidyltransferase Superfamily: Nucleotidyltransferase Family: DNA polymerase beta-like
5	c2bcuA_	 Alignment		55.1	16	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
6	d1boba_	 Alignment		54.2	15	Fold: Acyl-CoA N-acyltransferases (Nat) Superfamily: Acyl-CoA N-acyltransferases (Nat) Family: N-acetyl transferase, NAT
7	d1dgja2	 Alignment		53.4	21	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
8	d2fmpa3	 Alignment		50.8	12	Fold: Nucleotidyltransferase Superfamily: Nucleotidyltransferase Family: DNA polymerase beta-like
9	c8iczA_	 Alignment		46.2	12	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 of datp3 (1 millimolar), mncl2 (5 millimolar), and lithium sulfate4 (75 millimolar)
10	d1t3qa2	 Alignment		45.3	6	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
11	c1nomA_	 Alignment		44.9	12	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)

12	c2eq9C_	Alignment		44.0	34	PDB header: oxidoreductase Chain: C: PDB Molecule: pyruvate dehydrogenase complex, dihydrolipoamide PDBTitle: crystal structure of lipoamide dehydrogenase from thermus thermophilus2 hb8 with psbdb
13	d2vana2	Alignment		42.9	12	Fold: Nucleotidyltransferase Superfamily: Nucleotidyltransferase Family: DNA polymerase beta-like
14	c3qd7X_	Alignment		41.9	14	PDB header: hydrolase Chain: X: PDB Molecule: uncharacterized protein ydal; PDBTitle: crystal structure of ydal, a stand-alone small muts-related protein2 from escherichia coli
15	c6miwA_	Alignment		41.6	19	PDB header: ligase Chain: A: PDB Molecule: e3 ubiquitin-protein ligase huwe1; PDBTitle: wwe domain of human huwe1
16	d1jqra_	Alignment		40.9	31	Fold: Nucleotidyltransferase Superfamily: Nucleotidyltransferase Family: DNA polymerase beta-like
17	c1x4rA_	Alignment		40.6	19	PDB header: apoptosis Chain: A: PDB Molecule: parp14 protein; PDBTitle: solution structure of wwe domain in parp14 protein
18	c2dk6A_	Alignment		40.2	25	PDB header: signaling protein Chain: A: PDB Molecule: parp11 protein; PDBTitle: solution structure of wwe domain in poly (adp-ribose)2 polymerase family, member 11 (parp 11)
19	d1jmsa4	Alignment		39.0	12	Fold: Nucleotidyltransferase Superfamily: Nucleotidyltransferase Family: DNA polymerase beta-like
20	d1n62a2	Alignment		38.5	18	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
21	c4xlgB_	Alignment	not modelled	36.5	42	PDB header: hydrolase Chain: B: PDB Molecule: structure-specific endonuclease subunit slx4; PDBTitle: c. glabrata slx1 in complex with slx4ccd.
22	c3auoB_	Alignment	not modelled	36.5	24	PDB header: transferase/dna Chain: B: PDB Molecule: dna polymerase beta family (x family); PDBTitle: dna polymerase x from thermus thermophilus hb8 ternary complex with 1-2 nt gapped dna and ddgtp
23	c4p4oA_	Alignment	not modelled	35.7	16	PDB header: transferase/dna Chain: A: PDB Molecule: dna polymerase beta; PDBTitle: crystal structure of leishmania infantum polymerase beta: ternary gap2 complex
24	d1rm6c2	Alignment	not modelled	35.6	19	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
25	d1ffva2	Alignment	not modelled	35.3	11	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
26	d1vlba2	Alignment	not modelled	35.3	6	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
27	c1tleA_	Alignment	not modelled	34.3	14	PDB header: hydrolase Chain: A: PDB Molecule: kumamolisin; PDBTitle: high resolution crystal structure of the intact pro-2 kumamolisin, a sedolisin type proteinase (previously3 called kumamolysin or kscp)
28	d1ujra_	Alignment	not modelled	34.2	31	Fold: WWE domain Superfamily: WWE domain Family: WWE domain
29	c2z9aA_	Alignment	not modelled	33.9	24	PDB header: dna binding protein Chain: A: PDB Molecule: muts2 protein;

29	c2zqaA	Alignment	not modelled	33.9	24	PDBTitle: crystal structure of the smr domain of thermus thermophilus muts2
30	d1au7a2	Alignment	not modelled	33.6	41	Fold: lambda repressor-like DNA-binding domains Superfamily: lambda repressor-like DNA-binding domains Family: POU-specific domain
31	d1e3oc2	Alignment	not modelled	32.9	36	Fold: lambda repressor-like DNA-binding domains Superfamily: lambda repressor-like DNA-binding domains Family: POU-specific domain
32	c6iwyaA	Alignment	not modelled	32.0	11	PDB header: structural protein Chain: A: PDB Molecule: flagellar hook-associated protein 2; PDBTitle: crystal structure of the flagellar cap protein flid from helicobacter2 pylori
33	c2eq8C	Alignment	not modelled	31.6	30	PDB header: oxidoreductase Chain: C: PDB Molecule: pyruvate dehydrogenase complex, dihydrolipoamide PDBTitle: crystal structure of lipoamide dehydrogenase from thermus thermophilus2 hb8 with psbdp
34	c2w9mB	Alignment	not modelled	30.6	12	PDB header: dna replication Chain: B: PDB Molecule: polymerase x; PDBTitle: structure of family x dna polymerase from deinococcus2 radiodurans
35	c5g5gA	Alignment	not modelled	29.9	14	PDB header: oxidoreductase Chain: A: PDB Molecule: putative xanthine dehydrogenase yagt iron-sulfur-binding PDBTitle: escherichia coli periplasmic aldehyde oxidase
36	c2m0kB	Alignment	not modelled	29.7	63	PDB header: metal binding protein/metal transport Chain: B: PDB Molecule: peptide from cyclic nucleotide-gated olfactory channel; PDBTitle: 3d structure of calmodulin and calmodulin binding domain of rat2 olfactory cyclic nucleotide-gated ion channel
37	c5u4uA	Alignment	not modelled	29.2	38	PDB header: hydrolase Chain: A: PDB Molecule: mgc81300 protein; PDBTitle: pseudogtpase domain (pg1) of p190rhogap-a
38	c2m0jB	Alignment	not modelled	28.5	63	PDB header: metal binding protein/metal transport Chain: B: PDB Molecule: peptide from cyclic nucleotide-gated olfactory channel; PDBTitle: 3d structure of calmodulin and calmodulin binding domain of olfactory2 cyclic nucleotide-gated ion channel complex
39	c1y56A	Alignment	not modelled	27.5	19	PDB header: oxidoreductase Chain: A: PDB Molecule: hypothetical protein ph1363; PDBTitle: crystal structure of l-proline dehydrogenase from p.horikoshii
40	c1rm6F	Alignment	not modelled	27.3	19	PDB header: oxidoreductase Chain: F: PDB Molecule: 4-hydroxybenzoyl-coa reductase gamma subunit; PDBTitle: structure of 4-hydroxybenzoyl-coa reductase from thauera2 aromatica
41	c5y6qA	Alignment	not modelled	26.7	11	PDB header: oxidoreductase Chain: A: PDB Molecule: aldehyde oxidase small subunit; PDBTitle: crystal structure of an aldehyde oxidase from methylobacillus sp.2 ky4400
42	d2d9ia1	Alignment	not modelled	26.0	13	Fold: IF3-like Superfamily: SMR domain-like Family: Smr domain
43	c4w9uD	Alignment	not modelled	25.7	11	PDB header: oxidoreductase Chain: D: PDB Molecule: acyl-coa dehydrogenase; PDBTitle: crystal structure of an acyl-coa dehydrogenase from brucella2 melitensis
44	c2ihmA	Alignment	not modelled	25.3	16	PDB header: transferase/dna Chain: A: PDB Molecule: dna polymerase mu; PDBTitle: polymerase mu in ternary complex with gapped 11mer dna duplex and2 bound incoming nucleotide
45	c3utkA	Alignment	not modelled	24.5	17	PDB header: protein transport Chain: A: PDB Molecule: lipoprotein outs; PDBTitle: structure of the pilotin of the type ii secretion system
46	d2cyua1	Alignment	not modelled	24.5	19	Fold: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Superfamily: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Family: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex
47	c1w3dA	Alignment	not modelled	23.9	37	PDB header: transferase Chain: A: PDB Molecule: dihydrolipoyllysine-residue acetyltransferase component of PDBTitle: nmr structure of the peripheral-subunit binding domain of bacillus2 stearothermophilus e2p
48	c6gwjB	Alignment	not modelled	23.3	9	PDB header: rna binding protein Chain: B: PDB Molecule: ekc/keops complex subunit lage3; PDBTitle: protein complex
49	c4a56A	Alignment	not modelled	22.8	13	PDB header: protein transport Chain: A: PDB Molecule: pullulanase secretion protein puls; PDBTitle: crystal structure of the type 2 secretion system pilotin2 from klebsiella oxytoca
50	c1kdhA	Alignment	not modelled	22.8	12	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
51	c4qoyE	Alignment	not modelled	22.0	44	PDB header: oxidoreductase Chain: E: PDB Molecule: pyruvate dehydrogenase (dihydrolipoyl)transacetylase PDBTitle: novel binding motif and new flexibility revealed by structural2 analysis of a pyruvate dehydrogenase-dihydrolipoyl acetyltransferase3 sub-complex from the escherichia coli pyruvate dehydrogenase multi-4 enzyme complex
52	d1w85i	Alignment	not modelled	21.7	38	Fold: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Superfamily: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex

						Family: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex
53	c3hrdH_	Alignment	not modelled	21.6	25	PDB header: oxidoreductase Chain: H: PDB Molecule: nicotinate dehydrogenase small fes subunit; PDBTitle: crystal structure of nicotinate dehydrogenase
54	d1r7ma2	Alignment	not modelled	21.6	8	Fold: Homing endonuclease-like Superfamily: Homing endonucleases Family: Group I mobile intron endonuclease
55	c1t3qD_	Alignment	not modelled	21.2	6	PDB header: oxidoreductase Chain: D: PDB Molecule: quinoline 2-oxidoreductase small subunit; PDBTitle: crystal structure of quinoline 2-oxidoreductase from <i>pseudomonas2 putida</i> 86
56	d1t1ea2	Alignment	not modelled	20.2	24	Fold: Ferredoxin-like Superfamily: Protease propeptides/inhibitors Family: Subtilase propeptides/inhibitors
57	c2jvfA_	Alignment	not modelled	19.9	29	PDB header: de novo protein Chain: A: PDB Molecule: de novo protein m7; PDBTitle: solution structure of m7, a computationally-designed2 artificial protein
58	d1dcja_	Alignment	not modelled	19.3	16	Fold: IF3-like Superfamily: SirA-like Family: SirA-like
59	d1v97a2	Alignment	not modelled	19.3	11	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins
60	c1n60D_	Alignment	not modelled	19.1	17	PDB header: oxidoreductase Chain: D: PDB Molecule: carbon monoxide dehydrogenase small chain; PDBTitle: crystal structure of the cu,mo-co dehydrogenase (codh); cyanide-2 inactivated form
61	c3v3lA_	Alignment	not modelled	19.0	31	PDB header: ligase Chain: A: PDB Molecule: e3 ubiquitin-protein ligase rnf146; PDBTitle: crystal structure of human rnf146 wwe domain in complex with iso-2 adprbose
62	c4wx8A_	Alignment	not modelled	18.7	9	PDB header: cell cycle Chain: A: PDB Molecule: ekc/keops complex subunit pcc1; PDBTitle: crystal structure of binary complex gon7-pcc1
63	c1au7B_	Alignment	not modelled	18.5	42	PDB header: transcription/dna Chain: B: PDB Molecule: protein pit-1; PDBTitle: pit-1 mutant/dna complex
64	c1zvwA_	Alignment	not modelled	18.4	33	PDB header: transferase Chain: A: PDB Molecule: lipamide acyltransferase component of branched- PDBTitle: solution structure of the subunit binding domain (hbsbd) of2 the human mitochondrial branched-chain alpha-ketoacid3 dehydrogenase
65	c6dgbA_	Alignment	not modelled	18.3	31	PDB header: hydrolase Chain: A: PDB Molecule: is607 family transposase is1535; PDBTitle: crystal structure of the c-terminal catalytic domain of is1535 tnpa,2 an is607-like serine recombinase
66	d1je3a_	Alignment	not modelled	18.1	26	Fold: IF3-like Superfamily: SirA-like Family: SirA-like
67	c4ochA_	Alignment	not modelled	17.9	13	PDB header: hydrolase Chain: A: PDB Molecule: endonuclease muts2; PDBTitle: apo structure of smr domain of muts2 from <i>deinococcus radiodurans</i>
68	c1stzB_	Alignment	not modelled	17.7	21	PDB header: transcription Chain: B: PDB Molecule: heat-inducible transcription repressor hrca homolog; PDBTitle: crystal structure of a hypothetical protein at 2.2 a resolution
69	d1pava_	Alignment	not modelled	17.3	14	Fold: IF3-like Superfamily: SirA-like Family: SirA-like
70	c1ffuA_	Alignment	not modelled	16.7	13	PDB header: hydrolase Chain: A: PDB Molecule: cuts, iron-sulfur protein of carbon monoxide PDBTitle: carbon monoxide dehydrogenase from <i>hydrogenophaga2 pseudoflava</i> which lacks the mo-pyranopterin moiety of the3 molybdenum cofactor
71	d1w4ha1	Alignment	not modelled	16.4	24	Fold: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Superfamily: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Family: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex
72	c1r7mA_	Alignment	not modelled	15.9	8	PDB header: hydrolase/dna Chain: A: PDB Molecule: intron-encoded endonuclease i-scei; PDBTitle: the homing endonuclease i-scei bound to its dna recognition2 region
73	c2gzqA_	Alignment	not modelled	15.8	8	PDB header: lipid binding protein Chain: A: PDB Molecule: phosphatidylethanolamine-binding protein; PDBTitle: phosphatidylethanolamine-binding protein from <i>plasmodium vivax</i>
74	c6hlwB_	Alignment	not modelled	15.6	21	PDB header: viral protein Chain: B: PDB Molecule: genome polyprotein; PDBTitle: crystal structure of human acbd3 gold domain in complex with 3a2 protein of enterovirus-a71 (fusion protein)
75	c4zohC_	Alignment	not modelled	15.5	13	PDB header: oxidoreductase Chain: C: PDB Molecule: putative oxidoreductase iron-sulfur subunit; PDBTitle: crystal structure of glyceraldehyde oxidoreductase
76	d1jroa2	Alignment	not modelled	15.5	29	Fold: beta-Grasp (ubiquitin-like) Superfamily: 2Fe-2S ferredoxin-like Family: 2Fe-2S ferredoxin domains from multidomain proteins

77	c2cooA	 Alignment	not modelled	15.5	34	PDB header: transferase Chain: A: PDB Molecule: lipoamide acyltransferase component of branched- PDBTitle: solution structure of the e3_binding domain of 2 dihydrolipoamide branched chaintransacylase
78	c4je5C	 Alignment	not modelled	15.4	15	PDB header: transferase Chain: C: PDB Molecule: aromatic/aminoadipate aminotransferase 1; PDBTitle: crystal structure of the aromatic aminotransferase aro8, a putative 2 alpha-aminoadipate aminotransferase in saccharomyces cerevisiae
79	d2ezha	 Alignment	not modelled	15.4	19	Fold: DNA/RNA-binding 3-helical bundle Superfamily: Homeodomain-like Family: Recombinase DNA-binding domain
80	c3dv0L	 Alignment	not modelled	15.3	38	PDB header: oxidoreductase/transferase Chain: I: PDB Molecule: dihydropolypyllysine-residue acetyltransferase PDBTitle: snapshots of catalysis in the e1 subunit of the pyruvate 2 dehydrogenase multi-enzyme complex
81	d1vl2a1	 Alignment	not modelled	14.6	15	Fold: Adenine nucleotide alpha hydrolase-like Superfamily: Adenine nucleotide alpha hydrolases-like Family: N-type ATP pyrophosphatases
82	c4es2A	 Alignment	not modelled	14.6	14	PDB header: hydrolase Chain: A: PDB Molecule: bh0342 protein; PDBTitle: double-stranded endonuclease activity in b. halodurans clustered 2 regularly interspaced short palindromic repeats (crispr)-associated 3 cas2 protein
83	d1m0da	 Alignment	not modelled	13.7	30	Fold: Restriction endonuclease-like Superfamily: Restriction endonuclease-like Family: Endonuclease I (Holliday junction resolvase)
84	c4g29A	 Alignment	not modelled	13.5	20	PDB header: protein binding Chain: A: PDB Molecule: secreted effector protein ssei; PDBTitle: structure of the catalytic domain of the salmonella virulence factor 2 ssei
85	c3edyA	 Alignment	not modelled	13.5	11	PDB header: hydrolase Chain: A: PDB Molecule: tripeptidyl-peptidase 1; PDBTitle: crystal structure of the precursor form of human tripeptidyl-peptidase 2 1
86	d1zpxw1	 Alignment	not modelled	13.3	14	Fold: Ferredoxin-like Superfamily: TTP0101/SSO1404-like Family: TTP0101/SSO1404-like
87	d1bala	 Alignment	not modelled	13.1	20	Fold: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Superfamily: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex Family: Peripheral subunit-binding domain of 2-oxo acid dehydrogenase complex
88	c3lhkA	 Alignment	not modelled	13.0	31	PDB header: dna binding protein Chain: A: PDB Molecule: putative dna binding protein mj0014; PDBTitle: crystal structure of putative dna binding protein from 2 methanocaldococcus jannaschii.
89	c2hlsB	 Alignment	not modelled	12.9	39	PDB header: oxidoreductase Chain: B: PDB Molecule: protein disulfide oxidoreductase; PDBTitle: the crystal structure of a protein disulfide oxidoreductase from 2 aeropyrum pernix k1
90	d1jdqa	 Alignment	not modelled	12.9	26	Fold: IF3-like Superfamily: SirA-like Family: SirA-like
91	c2fuvB	 Alignment	not modelled	12.9	18	PDB header: isomerase Chain: B: PDB Molecule: phosphoglucomutase; PDBTitle: phosphoglucomutase from salmonella typhimurium.
92	c6iw6A	 Alignment	not modelled	12.8	21	PDB header: transferase Chain: A: PDB Molecule: terminal uridylyltransferase 4, terminal uridylyltransferase PDBTitle: crystal structure of the lin28-interacting module of human tut4
93	c2p0wB	 Alignment	not modelled	12.5	14	PDB header: transferase Chain: B: PDB Molecule: histone acetyltransferase type b catalytic subunit; PDBTitle: human histone acetyltransferase 1 (hat1)
94	d2ezia	 Alignment	not modelled	12.3	24	Fold: DNA/RNA-binding 3-helical bundle Superfamily: Homeodomain-like Family: Recombinase DNA-binding domain
95	d1bf4a	 Alignment	not modelled	12.3	44	Fold: SH3-like barrel Superfamily: Chromo domain-like Family: "Histone-like" proteins from archaea
96	c2eq7C	 Alignment	not modelled	12.0	19	PDB header: oxidoreductase Chain: C: PDB Molecule: 2-oxoglutarate dehydrogenase e2 component; PDBTitle: crystal structure of lipoamide dehydrogenase from thermus thermophilus 2 hb8 with psbdo
97	c1w4kA	 Alignment	not modelled	12.0	28	PDB header: transferase Chain: A: PDB Molecule: pyruvate dehydrogenase e2; PDBTitle: peripheral-subunit binding domains from mesophilic, 2 thermophilic, and hyperthermophilic bacteria fold by 3 ultrafast, apparently two-state transitions
98	c5h1pB	 Alignment	not modelled	11.9	21	PDB header: hydrolase Chain: B: PDB Molecule: crispr-associated endonuclease cas2; PDBTitle: crispr-associated protein
99	c6hltD	 Alignment	not modelled	11.9	19	PDB header: viral protein Chain: D: PDB Molecule: genome polyprotein; PDBTitle: crystal structure of human acbd3 gold domain in complex with 3a2 protein of rhinovirus-14 (hrv14)