

CLUSTAL X (1.83) MULTIPLE SEQUENCE ALIGNMENT

File: C:\Documents and Settings\4103092My Documents\Semester 1BIOL3004 group project\Monads15114_09212010.qmod.ps

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Multiple sequence alignment output showing species names (e.g., Ricinus communis_sau72, Populus trichocarpa_hyp) and their corresponding amino acid sequences aligned in columns. The alignment is visualized with vertical bars at the bottom indicating gaps and conserved regions.



CLUSTAL X (1.83) MULTIPLE SEQUENCE ALIGNMENT

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      * : * : * : * :
Ricinus Communis_sau72 -----HVLNR-SVLVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----WEDSIDELITAFET-KHRRKLLVSVSFF 193
Populus_trichocarpa_hyp -----HVLK-L-SVLVNLVLEKVNHEEAAGGQQLLELCOCKIHAVS-S-----WEDSIDELITAFEA-KHRRKLLVSVSFF 193
Vitis_vinifera_hyp -----HVLK-L-SVLVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----WEDSIDELITAFET-KHRRKLLVSVSFF 193
Arabidopsis_thaliana_sau72 -----QSLTK-TLLVNLVLEKVNHEEAAGARLALDLCQETEAAS-T-----WEDTIDIVAGFEK-KHRRKLLVSVSFF 193
Picea_sitchensis_produ -----LILMR-SVLVNLVLEKVNHEEAAGARLALDLCQLEAAS-S-----WEDSIDIVMRFER-KHRRKLLVSVSFF 193
1Physococcotrella_patens_hyp -----TNLMK-LALINLMDKVNHEEAAGARLALDLCQLEAAS-A-----WEDSIDIVSRFEK-KHRRKLLVSVSFF 193
Zeaxanthin_hyp -----FELMK-CVLTINLMDKVNHEEAAGARLALDLCQLEAAS-D-----WEDTIDIVAFEK-KHRRKLLVSVSFF 198
Oryza_sativa_produ -----ORMLK-NALINLMDKVNHEEAAGARLALDLCQLEAAS-D-----WEDTIDIVAFEK-KHRRKLLVSVSFF 200
Chlamydomonas_reinhardtii_hyp -----QVTLQ-FLLVNLVLEKVNHEEAANAAPLILKLCQMLQGG-E-----WEDCVDEIVGPG-ETGRRLVITICVF 199
Microcomas_pusilla_hyp -----GGGGE-FLLVNLVLEKVNHEEAALKAAPRALKCALDDEED-----WECCEIDIMDFEA-EGRRPFLVICVF 181
Microcomas_hyp -----GGGGE-FLLVNLVLEKVNHEEAALKAAPRALKCALDDEED-----WECCEIDIMDFEA-EGRRPFLVICVF 183
Ostreococcus_lucimarinus_hyp -----GGARE-GVLVNLVDRSHDSVDAAPRALKCALDDEED-----WESVDEINNAFEE-AGEMRFLVICVF 199
Ostreococcus_tauri_produ -----GGARD-AALVNLVDRSHDSVDAAPRALKCALDDEED-----WEGSIDIVDFEER-EGRLRALVCVF 194
Dactyloctenium_aegyptium_hyp -----SSLLQ-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----WEEKLIDLEDFYK-ITRSGFLHLMVF 196
Caenorhabditis_elegans_hyp -----SKSGN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----WESIDITIDLEENAKRNLHLCVF 197
Caenorhabditis_briggsae_hyp -----TSGSN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----WESIDITIDLEENAKRNLHLCVF 197
Brugia_malayensis_sau72 -----TNEGD-SVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 194
Ciconia_intestinalis_hyp -----SETME-AVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 192
Nematostella_vectensis_hyp -----AGSTK-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----WEDINDVAFER-KHRRKLLVSVSFF 193
Hydra_magnipapillata_hyp_cut -----FQVFR-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 190
Trichoplax_adhaerens_hyp -----NNVNT-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 192
Aedes_aegypti_produ -----FTYNL-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 197
Culex_quinquefasciatus_sau72 -----FTYNL-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 197
Anopheles_gambiae_sau72 -----FTYNL-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 197
Bombyx_mori_sau72 -----FVYNG-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 192
Tribolium_castaneum_hyp -----FVDNS-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Pediculus_humanus_corporis_sau -----STENT-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Acyrthosiphon_pisum_hyp -----SPBR-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 194
Apis_mellifera_hyp -----QDQSQ-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_sechellia_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_simulans_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_melanogaster_sau72 -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_yakuba_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_erecta_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_ananassae_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_willistonii_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_virilis_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_grimshawi_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Drosophila_mojavensis_produ -----SVDRN-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 195
Caligus_rogersi_sau72 -----BADQ-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 203
Ixodes_scapularis_produ -----TCDNS-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LNNIDELVLEFQNSNRNLHLCVF 193
1Pan_troglodytes_hyp -----QTFQC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MEDNLELLIMES-KAGSFLHVCVF 194
Homo_sapiens_hyp -----QTFQC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MEDNLELLIMES-KAGSFLHVCVF 194
Macaca_mullata_sau72 -----QTFQC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MEDNLELLIMES-KAGSFLHVCVF 194
2Equus caballus_hyp -----QTFQC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----VEDSLAKLLAVES-KRGSFLHVCVF 194
4Bos_taurus_hyp -----QTFQC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LEDVNLVLAAS-KTGSFLHVCVF 194
4Canis_familiaris_hyp_cut -----QATFC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MEDSGLQILAAES-KTGSFLHVCVF 194
Xenopus_tropicalis_hyp -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Xenopus_laevis_hyp -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Salmo_salar_sau72 -----QETFT-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
Esoc_lucius_sau72 -----QETFT-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Braniolella_rerio_hyp -----QESFC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
Tetraodon_nigroviridis_produ -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
Rattus_norvegicus_sau72 -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Mus_musculus_sau72 -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Canis_familiaris_hyp -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Homo_sapiens_sau72 -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Monodelphis_domestica_hyp -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
Gallus_gallus_sau72 -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
13Pan_troglodytes_hyp -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MENIDELVLEFQNSNRNLHLCVF 194
1Bos_taurus_hyp_cut -----QETCC-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----MEDSGLQILAAES-KTGSFLHVCVF 194
Branchiostoma_floridae_hyp -----SBADA-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LENMDEILQAFEE-KNRRFLHVCVF 196
Strongylocentrotus_purpuratus -----ETQI-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LDEIDELVLEFQNSNRNLHLCVF 191
Schizosaccharomyces_japonicus -----EKQNY-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LEKFTDINTWTKYKPLVLFHVF 197
Schizosaccharomyces_pombe_hyp -----FLLNR-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LELIFPDMADTGNKPLVLFHVF 197
Yarrowia_lipolytica_produ -----EKLGR-FVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LDAQIMSDSWSHHPKPLHVAVF 193
Saccharomyces_cerevisiae_produ -----SKLNK-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----QCKKDIFFEDCMIDITWSSHSQPLFLVAPVF 206
Candida_glabrata_produ -----SKLNK-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----ECKNDFEFDCIDILITWBAHPQLCLVAPVF 204
Ashbya_gossypii_produ -----GOLK-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----ECKNDFEFDCIDILITWBAHPQLCLVAPVF 204
Kluyveromyces_lactis_produ -----GOLN-IAHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----ECKNDFEFDCIDILITWBAHPQLCLVAPVF 207
Vanderwaltozyma_polyspora_hyp -----GKQNK-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----ENNSN-ILLEDHILNILENWSYVNLCLVAPVF 202
Pichia_stiptitidis_hyp -----SEN-D-ESVDVQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----AVEDSDVLEEDQMSILTEWKRHTLPLVSVVF 217
Pichia_guilliermondii_hyp -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----KWSFEDSDVLEEDQMSILTEWKRHTLPLVSVVF 223
Candida_yamamotoi_hyp -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LHDLEDSDVLEEDQMSILTEWKRHTLPLVSVVF 226
Candida_dubliniensis_sau72 -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LHDLEDSDVLEEDQMSILTEWKRHTLPLVSVVF 226
Candida_albicans_produ -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LHDLEDSDVLEEDQMSILTEWKRHTLPLVSVVF 226
Cesatosporium_sau72 -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LHDLEDSDVLEEDQMSILTEWKRHTLPLVSVVF 226
Lodderomyces_reisseri_sau72 -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LHDLEDSDVLEEDQMSILTEWKRHTLPLVSVVF 226
Pichia_pastoris_produ -----VND-QADTEIQ-IVHVNLVLEKVNHEEAAGARLALDLCQETEAAS-S-----LHDLEDSDVLEEDQMSILTEWKRHTLPLVSVVF 231
ruler -----160-----170-----180-----190-----200-----210-----220-----230-----240-----250

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