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hemoglobin_subunit_delta
hemoglobin_subunit_beta
hemoglobin_subunit_beta
hemoglobin_subunit_gamma-2
hemoglobin_subunit_gamma-2
hemoglobin_subunit_gamma-1
hemoglobin_subunit_epsilon
hemoglobin_subunit_epsilon
hemoglobin_subunit_alpha
hemoglobin_subunit_theta-1
hemoglobin_subunit_tzeta
hemoglobin_subunit_zeta
hemoglobin_subunit_zeta
hemoglobin_subunit_was
hemoglobin_subunit_was
hemoglobin_subunit_was
hemoglobin_subunit_was
hemoglobin_subunit_was
hemoglobin_subunit_was
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin_subunit_mu
hemoglobin
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                                                                                                                                                                                                                                                                                   29
                                                                                                                                                                                                                                                                                   27
                                                                                              GRLLVVYPWTORFFESFG.DLSSPDAVMGNPKVKAHGKKVLGAF
GRLLVVYPWTORFFESFG.DLSTPDAVMGNPKVKAHGKKVLGAF
GRLLVVYPWTORFFDSFG.NLSSASAIMGNPKVKAHGKKVLTSL
GRLLVVYPWTORFFDSFG.NLSSASAIMGNPKVKAHGKKVLTSL
hemoglobin_subunit_delta
                                                                                                                                                                                                                                                                                   72
hemoglobin_subunit_beta
                                                                                                                                                                                                                                                                                   72
hemoglobin_subunit_gamma-2
                                                                                                                                                                                                                                                                                   72
hemoglobin_subunit_gamma-1
                                                                                            LGRLLVYYPWTQRFFBSFG.N.SSASAIMGPRVKAHGKKYLISL
LGRLLVYYPWTQRFFBSFG.N.SSPSAILGNPKVKAHGKKYLISL
LERMFLSFPTKTYFPHF..DLSP....GSAQVKGHGKKYADAL
LERTFLAFPATKTYFSHL..DLSP....GSSQVRAHGQKVADAL
LERLFLSHPQTKTYFPHF..DLHP....GSAQLRAHGSKVVAAV
LRLFTMYPSTKVYFPHL..SACQ....DATQLSHGQRMLAAV
LVRFFVMFPSAKQYFSQFK.HMEDPLEMERSPQLRKHACRYMGAL
LIRLFKGHPETLEKFDKFK.HLKSEDEMKASEDLKKHGATVLTAL
FARLFALEPDLLPLFQYNCRQFSSPEDCLSSPEFLDHIRKVMLVI
hemoglobin_subunit_epsilon
                                                                                                                                                                                                                                                                                   72
hemoglobin_subunit_alpha
                                                                                                                                                                                                                                                                                   67
hemoglobin_subunit_theta-1
                                                                                                                                                                                                                                                                                   67
hemoglobin_subunit_zeta
                                                                                                                                                                                                                                                                                   67
hemoglobin_subunit_mu
                                                                                                                                                                                                                                                                                   66
cytoglobin
myoglobin
                                                                                                                                                                                                                                                                                   73
neuroglobin
                                                                                                                                                                                                                                                                                   72
                                                                                          SDGLAHLDN...LKGTFSQLSELHCDKLHVDPENFRLLGNVLVCV
SDGLAHLDN...LKGTFATLSELHCDKLHVDPENFRLLGNVLVCV
GDAIKHLDD...LKGTFAQLSELHCDKLHVDPENFKLLGNVLVTV
GDATKHLDD...LKGTFAQLSELHCDKLHVDPENFKLLGNVLVTV
GDATKMMDN...LKPAFAKLSELHCDKLHVDPENFKLLGNVLVTV
TNAVAHVDD...MPNALSALSDLHAHKLRVPPVNFKLLGNVMVII
TNAVAHVDD...LPHALSALSDLHAHKLRVPPVNFKLLGNUMVII
GDAVKSIDD...LPHALSALSHLHACQLRVPPASFQLLGHCLLVT
GAAVQHVDN...LRAALSPLADLHALVLRVDPANFPLLIQCFHVV
NTVVENLHDPDKVSSYLALVGKAHALKHKVEPVYFKILSGVILEV
GGILKKKGH...HEAEIKPLAQSHATKHKIPVKYLEFISECIIQV
DAAVTNVEDLSSLEEYLASLGRKHR.AVGVKLSSFSTVGESLLYM
hemoglobin_subunit_delta
                                                                                                                                                                                                                                                                                114
hemoglobin_subunit_beta
                                                                                                                                                                                                                                                                                114
hemoglobin_subunit_gamma-2
                                                                                                                                                                                                                                                                                114
hemoglobin_subunit_gamma-1
                                                                                                                                                                                                                                                                                114
hemoglobin_subunit_epsilon
                                                                                                                                                                                                                                                                                114
hemoglobin_subunit_alpha
hemoglobin_subunit_theta-1
                                                                                                                                                                                                                                                                                109
                                                                                                                                                                                                                                                                                109
hemoglobin_subunit_zeta
                                                                                                                                                                                                                                                                                109
hemoglobin_subunit_mu
                                                                                                                                                                                                                                                                                108
cytoglobin
                                                                                                                                                                                                                                                                                134
myoglobin
                                                                                                                                                                                                                                                                                115
neuroglobin
                                                                                                                                                                                                                                                                                 116
                                                                                          LARNFGKEFTPOMQAAYQKVVAGVANALAHKYH
LAHHFGKEFTPPVQAAYQKVVAGVANALAHKYH
LAIHFGKEFTPEVQASWQKMVTGVASALSSRYH
LAIHFGKEFTPEVQASWQKMVTGVASALSSRYH
LATHFGKEFTPEVQAAWQKLVSAVAIALAHKYH
LAHLPAEFTPAVHASLDKFLASVSTVLTSKYR
LAHLPAEFTPAVHASLDKFLASVSTVLTSKYR
LARHYPGDFSPALQASLDKFLSHVISALVSEYR
LARHYPGDFTAEAHAAWDKFLSVVSSVLTEKYR
LASHLQDEFTVQMQAAWDKFLTGVAVVLTEKYR
VAEEFASDFPPETQRAWAKLRGLIYSHVTAAYKEVGWVQQVPNAT
LQSKHPGDFGADAQGAMNKALELFRKDMASNYKELGFQG
LEKCLGPAFTPATRAAWSQLYGAVVQAMSRGWDGE
hemoglobin_subunit_delta
                                                                                                                                                                                                                                                                                147
hemoglobin_subunit_beta
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hemoglobin_subunit_gamma-2
hemoglobin_subunit_gamma-1
                                                                                                                                                                                                                                                                               147
hemoglobin_subunit_epsilon
                                                                                                                                                                                                                                                                               147
hemoglobin_subunit_alpha
                                                                                                                                                                                                                                                                               142
hemoglobin_subunit_theta-1
                                                                                                                                                                                                                                                                               142
hemoglobin subunit zeta
hemoglobin_subunit_mu
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cytoglobin
                                                                                                                                                                                                                                                                              179
                                                                                                                                                                                                                                                                              154
myoglobin
                                                                                                                                                                                                                                                                               151
neuroglobin
hemoglobin_subunit_delta .....hemoglobin_subunit_beta
                                                                                                                                             147
hemoglobin_subunit_gamma-2 .....hemoglobin_subunit_gamma-1 .....
                                                                                                                                             147
hemoglobin_subunit_epsilon ......
                                                                                                                                             147
                                                                                                                                           142
142
142
hemoglobin_subunit_alpha
hemoglobin_subunit_theta-1
hemoglobin_subunit_zeta
                                                                                          TPPATLPSSGP 190
154
hemoglobin_subunit_mu
cytoglobin
myoglobin
neuroglobin
                                                                                                  external
                                                                                                  ambivalent
                                                                                                       internal
            Figure 1: Protein MSA with Structural Similarity Highlighting
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