

hemoglobin_subunit_delta	.....MVLTPPEEKSAVTSLGKVN..VEDAGGEGALGRLLVVYPWTQRF	43
hemoglobin_subunit_beta	.....MVLTPPEEKSAVTSLGKVN..VEDAGGEGALGRLLVVYPWTQRF	43
hemoglobin_subunit_gamma-2	.....MGHFTEEDKATITSLGKVN..VEDAGGEGTLGRLLVVYPWTQRF	43
hemoglobin_subunit_gamma-1	.....MGHFTEEDKATITSLGKVN..VEDAGGEGTLGRLLVVYPWTQRF	43
hemoglobin_subunit_epsilon	.....MVHFTAEKAAVTSLSKMN..VEEAGGEGALGRLLVVYPWTQRF	43
hemoglobin_subunit_alpha	.....MVLSPADKTNKAAWGKVGAHAGEYGAALERMFLLSFPTTKTYF	44
hemoglobin_subunit_theta-1	.....MALSAEDRALVRAIKKLGSNVGVYTTALERTFLAFPATKTYF	44
hemoglobin_subunit_zeta	.....MSLTKTERTIIVSMAKIISTQADTIGTETLERLFLSHPTKTYF	44
hemoglobin_subunit_mu	.....MLSAQERAQIAQVVDLIAGHEAQFGAELLRLFTVYVPSIKVYF	43
cytoglobin	MEKVPGEMEIERRERSEELSEARKAQAAMARLYANCEDVGVAIVRFFVNFNPSAKQVF	60
myoglobin	.....MGLSDGEGWQLVNLNVGKVEADIPGHGQGVILIRLFKGFHPETLEKF	144
neuroglobin	.....MERPEPELIRQSRVAVSRSPLEHGTVLFAERLFALEPDLLPLF	42

hemoglobin_subunit_delta	ESFG.DLSSPDAYMGNPKVKAHGKKVLGAFSDGLAHLDDN...LKGFTSQLSELHCDKLVH	99
hemoglobin_subunit_beta	ESFG.DLSTPDAYMGNPKVKAHGKKVLGAFSDGLAHLDDN...LKGFTATLSELHCDKLVH	99
hemoglobin_subunit_gamma-2	DSFG.NLSSASAIMGNPKVKAHGKKVLTSLGDAIKHLDD...LKGTFQAQLSELHCDKLVH	99
hemoglobin_subunit_gamma-1	DSFG.NLSSASAIMGNPKVKAHGKKVLTSLGDATKHLDD...LKGTFQAQLSELHCDKLVH	99
hemoglobin_subunit_epsilon	DSFG.NLSSPAILGNPKVKAHGKKVLTSLGDAIKHMDN...LKPFAFALSELHCDKLVH	99
hemoglobin_subunit_alpha	PHF..DLSH....GSAQVKGHGKKVADALTNAAVHVD...MPNALSAESLHAHLRV	94
hemoglobin_subunit_theta-1	SHL..DLSP....GSSQVRAHGKQVADALSLAVERLDD...LPHALASLHLHACQLRV	94
hemoglobin_subunit_zeta	PHF..DLHP....GSAQLRAHGSKVVAAVGDAYKSIDD...IGGALSKLSELHAYILRV	94
hemoglobin_subunit_mu	PHL..SACQ....DATQLLSGQRMVAAVGAAVQHVDN...LRAALSPADLHALVLRV	93
cytoglobin	SQFK.HMEDPLEMERSPQLRKHACRVMGALNTVVENLHDPDKVSSVLALVGKAHALKHKV	119
myoglobin	DKFK.HLKSEDEMKASEDLKKGATVLTALGGILKKGKH...HEAEIKPLAQSHATKHKI	100
neuroglobin	QYNCRQFSPEPDLCSSEFELDDIRKVMVLVIDAAVTNVEDLSSLEEYLASLGRKHR.AVGV	101

hemoglobin_subunit_delta	DPENFRLLGNVLVCLVARNFGKEFTPPQMOAAVYQVVAGVANALAHKYH.....	147
hemoglobin_subunit_beta	DPENFRLLGNVLVCLVAHFFGKEFTPPVQAAVYQVVAGVANALAHKYH.....	147
hemoglobin_subunit_gamma-2	DPENFKLLGNVLVTVLAIHFGKEFTPEVQASWQKVMVTGVASALSSRYH.....	147
hemoglobin_subunit_gamma-1	DPENFKLLGNVLVTVLAIHFGKEFTPEVQASWQKVMVTAVASALSSRYH.....	147
hemoglobin_subunit_epsilon	DPENFKLLGNVMVILIAHFGKEFTPEVQAAWQKLVSAVAIALAHKYH.....	147
hemoglobin_subunit_alpha	DPVNFLLSHCLVLTAAHLPAEFTPAVHASLDFLASVSTVLSKYR.....	142
hemoglobin_subunit_theta-1	DPASFLLGNVHCLVLTARHYPGDFSPALQASLDKFLSHVISAIVSEYR.....	142
hemoglobin_subunit_zeta	DPVNFLLSHCLVLTAAAFPADFTAEEAHAAWDKFLSVSSVLTKEYR.....	142
hemoglobin_subunit_mu	DPANFPLLIQCFHVVLAASHLQDEFVQMOAAWQKFLTGAAVVLTEKYR.....	141
cytoglobin	EPVYFKILSGVILEVVAEEFASDFPPETORAWAKLRGLYSHVTAAYKEVGWVQVQPNAT	179
myoglobin	PVKYLEFISECITQVLQSKHPGDFGADAQGAAMKALELFRKDMASNWKELGFQG.....	154
neuroglobin	KLSSFTVQGESLLYMLEKCLGPAFTPATRAAWSQLYGAIVVQAMSRGWDE.....	151

hemoglobin_subunit_delta	.....	147
hemoglobin_subunit_beta	.....	147
hemoglobin_subunit_gamma-2	.....	147
hemoglobin_subunit_gamma-1	.....	147
hemoglobin_subunit_epsilon	.....	147
hemoglobin_subunit_alpha	.....	142
hemoglobin_subunit_theta-1	.....	142
hemoglobin_subunit_zeta	.....	142
hemoglobin_subunit_mu	.....	141
cytoglobin	TPPATLPSSGP	190
myoglobin	.....	154
neuroglobin	.....	151

 non conserved
 ≥ 50% conserved
 all match

Figure 1: Protein MSA with Chemical Similarity Highlighting