Genetic trees branch length data

Ampd3

(asalmon\_ENSGMOG00000001940\_ENSGMOG00000001940.2\_ENSGMOT00000040789\_ENSGMOT00000040789.1\_AMPD3:0.3147155284,((catfish\_ENSIPUG00015015578\_ENSIPUG00015015578.1\_ENSIPUT00015038273\_ENSIPUT00015038273.1\_AMPD3:0.1266752256,goldfish\_ENSCARG00000028752\_ENSCARG00000028752.1\_ENSCART00000072592\_ENSCART00000072592.1\_AMPD3:0.2014479677)89:0.0272528043,(((((cow\_ENSBTAG00000015821\_ENSBTAG00000015821.7\_ENSBTAT00000021018\_ENSBTAT00000021018.7\_AMPD3:0.0031934886,sheep\_ENSOARG00020016234\_ENSOARG00020016234.2\_ENSOART00020025291\_ENSOART00020025291.2\_AMPD3:0.0127031692)100:0.0293485341,rabbit\_ENSOCUG00000002805\_ENSOCUG00000002805.4\_ENSOCUT00000002802\_ENSOCUT00000002802.4\_AMPD3:0.0215495636)77:0.0120630483,(((Human\_ENSG00000133805\_ENSG00000133805.16\_ENST00000396553\_ENST00000396553.7\_AMPD3:0.0142581311,macaque\_ENSMMUG00000015785\_ENSMMUG00000015785.4\_ENSMMUT00000022170\_ENSMMUT00000022170.4\_AMPD3:0.00500846416)99:0.0187369448,(mouse\_ENSMUSG00000005686\_ENSMUSG00000005686.18\_ENSMUST00000213373\_ENSMUST00000213373.2\_Ampd3:0.0001841790,rat\_ENSRNOG00000018262\_ENSRNOG00000018262.7\_ENSRNOT00000024933\_ENSRNOT00000024933.6\_Ampd3:0.0450726436)100:0.0592347547)43:0.0033409493,pig\_ENSSSCG00000022492\_ENSSSCG00000022492.4\_ENSSSCT00000045384\_ENSSSCT00000045384.2\_AMPD3:0.0089775967)31:0.0022553829)99:0.0423345196,((opossum\_ENSMODG00000008171\_ENSMODG00000008171.4\_ENSMODT00000010355\_ENSMODT00000010355.3\_AMPD3:0.0246567060,wallaby\_ENSMEUG00000014541\_ENSMEUG00000014541.1\_ENSMEUT00000014585\_ENSMEUT00000014585.1\_AMPD3:0.0186123095)99:0.0400829422,platypus\_ENSOANG00000006069\_ENSOANG00000006069.3\_ENSOANT00000009675\_ENSOANT00000009675.3\_AMPD3:0.0991088290)72:0.0169835589)100:0.4363039303,((platyfish\_ENSXMAG00000012734\_ENSXMAG00000012734.2\_ENSXMAT00000035729\_ENSXMAT00000035729.1\_AMPD3:0.1479684233,sfightfish\_ENSBSLG00000018559\_ENSBSLG00000018559.1\_ENSBSLT00000043794\_ENSBSLT00000043794.1\_AMPD3:0.3415666887)99:0.0824222418,psolderfish\_ENSMMDG00005016737\_ENSMMDG00005016737.1\_ENSMMDT00005036664\_ENSMMDT00005036664.1\_AMPD3:0.0778627024)98:0.0524717612)98:0.0547692682)86:0.0383667248,(((imedaka\_ENSOMEG00000001500\_ENSOMEG00000001500.1\_ENSOMET00000015553\_ENSOMET00000015553.1\_AMPD3:0.1534971393,(mplatyfish\_ENSXCOG00000011259\_ENSXCOG00000011259.1\_ENSXCOT00000015043\_ENSXCOT00000015043.1\_AMPD3:0.0019947158,platyfish\_ENSXMAG00000009317\_ENSXMAG00000009317.2\_ENSXMAT00000009365\_ENSXMAT00000009365.2\_AMPD3:0.0033699690)100:0.2347020793)86:0.0322235402,sfightfish\_ENSBSLG00000007964\_ENSBSLG00000007964.1\_ENSBSLT00000017484\_ENSBSLT00000017484.1\_AMPD3:0.2329132280)99:0.0539953857,psolderfish\_ENSMMDG00005018802\_ENSMMDG00005018802.1\_ENSMMDT00005041469\_ENSMMDT00005041469.1\_AMPD3:0.0574678871)69:0.0323895354)

Asb4

(catfish\_ENSIPUG00015016668\_ENSIPUG00015016668.1\_ENSIPUT00015039253\_ENSIPUT00015039253.1\_ASB4:0.1931788056,catfish\_ENSIPUG00015035858\_ENSIPUG00015035858.1\_ENSIPUT00015093135\_ENSIPUT00015093135.1\_ASB4:0.0581727292,(((((((cow\_ENSBTAG00000018185\_ENSBTAG00000018185.7\_ENSBTAT00000110946\_ENSBTAT00000110946.1\_ASB4:0.1891554181,sheep\_ENSOARG00020021059\_ENSOARG00020021059.2\_ENSOART00020050011\_ENSOART00020050011.1\_ASB4:0.0044757454)22:0.0108236820,(((Human\_ENSG00000005981\_ENSG00000005981.13\_ENST00000325885\_ENST00000325885.6\_ASB4:0.0000020219,macaque\_ENSMMUG00000008016\_ENSMMUG00000008016.4\_ENSMMUT00000011211\_ENSMMUT00000011211.4\_ASB4:0.0106557828)96:0.0147787501,(rabbit\_ENSOCUG00000017113\_ENSOCUG00000017113.4\_ENSOCUT00000017111\_ENSOCUT00000017111.4\_ASB4:0.0288790655,(mouse\_ENSMUSG00000042607\_ENSMUSG00000042607.16\_ENSMUST00000043294\_ENSMUST00000043294.12\_Asb4:0.0047532053,rat\_ENSRNOG00000009197\_ENSRNOG00000009197.5\_ENSRNOT00000012657\_ENSRNOT00000012657.5\_Asb4:0.0195811270)100:0.0614191007)79:0.0111421253)94:0.0113999449,pig\_ENSSSCG00000015333\_ENSSSCG00000015333.5\_ENSSSCT00000082235\_ENSSSCT00000082235.2\_ASB4:0.0969453176)51:0.0148121672)59:0.0146211701,dog\_ENSCAFG00845020937\_ENSCAFG00845020937.1\_ENSCAFT00845036940\_ENSCAFT00845036940.1\_ASB4:0.0000020196)100:0.2741812149,hagfish\_ENSEBUG00000011358\_ENSEBUG00000011358.1\_ENSEBUT00000018761\_ENSEBUT00000018761.1\_asb4:1.2656155942)74:0.1424045906,reedfish\_ENSECRG00000013117\_ENSECRG00000013117.1\_ENSECRT00000020013\_ENSECRT00000020013.1\_asb4:0.1748062969)99:0.2449794800,(asalmon\_ENSGMOG00000013559\_ENSGMOG00000013559.2\_ENSGMOT00000014867\_ENSGMOT00000014867.2\_asb4:0.2777902469,((((imedaka\_ENSOMEG00000017453\_ENSOMEG00000017453.1\_ENSOMET00000024111\_ENSOMET00000024111.1\_asb4:0.0311058711,jricefish\_ENSOJAG00000007949\_ENSOJAG00000007949.1\_ENSOJAT00000016097\_ENSOJAT00000016097.1\_asb4:0.0270914320)100:0.1225114049,(mplatyfish\_ENSXCOG00000000485\_ENSXCOG00000000485.1\_ENSXCOT00000000569\_ENSXCOT00000000569.1\_asb4:0.0060975198,platyfish\_ENSXMAG00000000714\_ENSXMAG00000000714.2\_ENSXMAT00000000717\_ENSXMAT00000000717.2\_asb4:0.0116564547)100:0.1585798832)78:0.0299192828,sfightfish\_ENSBSLG00000004720\_ENSBSLG00000004720.1\_ENSBSLT00000010755\_ENSBSLT00000010755.1\_asb4:0.1861661242)99:0.0704690930,psolderfish\_ENSMMDG00005015480\_ENSMMDG00005015480.1\_ENSMMDT00005033632\_ENSMMDT00005033632.1\_asb4:0.1611768520)96:0.0455925178)98:0.0778787834)98:0.1193993875,goldfish\_ENSCARG00000034152\_ENSCARG00000034152.1\_ENSCART00000079477\_ENSCART00000079477.1\_asb4:0.2334015204)100:0.3632388744);

Ascl2

(cow\_ENSBTAG00000026769\_ENSBTAG00000026769.5\_ENSBTAT00000038236\_ENSBTAT00000038236.5\_ASCL2:0.0051102290,((dog\_ENSCAFG00845011417\_ENSCAFG00845011417.1\_ENSCAFT00845020231\_ENSCAFT00845020231.1\_ASCL2:0.0200226956,(mouse\_ENSMUSG00000009248\_ENSMUSG00000009248.7\_ENSMUST00000009392\_ENSMUST00000009392.6\_Ascl2:0.0342312546,rat\_ENSRNOG00000020434\_ENSRNOG00000020434.5\_ENSRNOT00000027688\_ENSRNOT00000027688.5\_Ascl2:0.0775635881)100:0.2579982591)53:0.0164964933,((Human\_ENSG00000183734\_ENSG00000183734.5\_ENST00000331289\_ENST00000331289.5\_ASCL2:0.0052534000,wallaby\_ENSMEUG00000010370\_ENSMEUG00000010370.1\_ENSMEUT00000010409\_ENSMEUT00000010409.1\_ASCL2:0.3947622722)75:0.0252875257,macaque\_ENSMMUG00000001322\_ENSMMUG00000001322.3\_ENSMMUT00000001867\_ENSMMUT00000001867.3\_ASCL2:0.0123083594)94:0.0855196665)100:0.0717204001,sheep\_ENSOARG00020007290\_ENSOARG00020007290.2\_ENSOART00020011109\_ENSOART00020011109.2\_ASCL2:0.0217058550);

(No sequence of pig)

Casd1

(catfish\_ENSIPUG00015035708\_ENSIPUG00015035708.1\_ENSIPUT00015092809\_ENSIPUT00015092809.1\_CASD1:0.1851348947,((((cow\_ENSBTAG00000009109\_ENSBTAG00000009109.7\_ENSBTAT00000072123\_ENSBTAT00000072123.2\_CASD1:0.0027514162,(((dog\_ENSCAFG00845018361\_ENSCAFG00845018361.1\_ENSCAFT00845032488\_ENSCAFT00845032488.1\_CASD1:0.0217043375,(((Human\_ENSG00000127995\_ENSG00000127995.17\_ENST00000297273\_ENST00000297273.9\_CASD1:0.0045166718,macaque\_ENSMMUG00000016393\_ENSMMUG00000016393.4\_ENSMMUT00000095567\_ENSMMUT00000095567.1\_CASD1:0.0052817374)99:0.0146646938,rabbit\_ENSOCUG00000012292\_ENSOCUG00000012292.4\_ENSOCUT00000012300\_ENSOCUT00000012300.4\_CASD1:0.0614995118)37:0.0012528387,(mouse\_ENSMUSG00000015189\_ENSMUSG00000015189.13\_ENSMUST00000015333\_ENSMUST00000015333.12\_Casd1:0.0170436567,rat\_ENSRNOG00000047453\_ENSRNOG00000047453.3\_ENSRNOT00000073687\_ENSRNOT00000073687.3\_Casd1:0.0387399820)100:0.0539241982)51:0.0032334452)63:0.0051408104,pig\_ENSSSCG00000015327\_ENSSSCG00000015327.5\_ENSSSCT00000062946\_ENSSSCT00000062946.3\_CASD1:0.0106050912)70:0.0130415456,sheep\_ENSOARG00020018433\_ENSOARG00020018433.2\_ENSOART00020028340\_ENSOART00020028340.2\_CASD1:0.0077293180)61:0.0060361420)100:0.1036497749,(platypus\_ENSOANG00000004261\_ENSOANG00000004261.4\_ENSOANT00000006770\_ENSOANT00000006770.3\_CASD1:0.2055969372,wallaby\_ENSMEUG00000015878\_ENSMEUG00000015878.1\_ENSMEUT00000015932\_ENSMEUT00000015932.1\_CASD1:0.1566068830)62:0.0357501585)100:0.2990199119,reedfish\_ENSECRG00000013375\_ENSECRG00000013375.1\_ENSECRT00000020351\_ENSECRT00000020351.1\_casd1:0.2609305303)100:0.1710561027,(asalmon\_ENSGMOG00000013501\_ENSGMOG00000013501.2\_ENSGMOT00000014816\_ENSGMOT00000014816.2\_casd1:0.2822536152,((((imedaka\_ENSOMEG00000017161\_ENSOMEG00000017161.1\_ENSOMET00000023679\_ENSOMET00000023679.1\_casd1:0.0082360888,jricefish\_ENSOJAG00000009202\_ENSOJAG00000009202.1\_ENSOJAT00000018914\_ENSOJAT00000018914.1\_casd1:0.0165311607)100:0.1223174818,(mplatyfish\_ENSXCOG00000000418\_ENSXCOG00000000418.1\_ENSXCOT00000000502\_ENSXCOT00000000502.1\_casd1:0.0235498393,platyfish\_ENSXMAG00000000704\_ENSXMAG00000000704.2\_ENSXMAT00000000707\_ENSXMAT00000000707.2\_casd1:0.0093565654)100:0.1538250576)76:0.0263805445,sfightfish\_ENSBSLG00000005949\_ENSBSLG00000005949.1\_ENSBSLT00000012805\_ENSBSLT00000012805.1\_casd1:0.1007548002)89:0.0297192310,psolderfish\_ENSMMDG00005013566\_ENSMMDG00005013566.1\_ENSMMDT00005029016\_ENSMMDT00005029016.1\_casd1:0.1082811389)62:0.0335753687)100:0.1804728347)81:0.0447539412,(goldfish\_ENSCARG00000033265\_ENSCARG00000033265.1\_ENSCART00000077952\_ENSCART00000077952.1\_casd1:0.0689539943,goldfish\_ENSCARG00000050967\_ENSCARG00000050967.1\_ENSCART00000112161\_ENSCART00000112161.1\_casd1:0.0547851827)100:0.1521341103);

Cd81

(catfish\_ENSIPUG00015016039\_ENSIPUG00015016039.1\_ENSIPUT00015037325\_ENSIPUT00015037325.1\_CD81:1.0043826488,(Human\_ENSG00000110651\_ENSG00000110651.13\_ENST00000263645\_ENST00000263645.10\_CD81:0.0335098917,(((macaque\_ENSMMUG00000002043\_ENSMMUG00000002043.4\_ENSMMUT00000107724\_ENSMMUT00000107724.1\_CD81:0.1470924144,(wallaby\_ENSMEUG00000000522\_ENSMEUG00000000522.1\_ENSMEUT00000000523\_ENSMEUT00000000523.1\_CD81:0.2558775643,rat\_ENSRNOG00000020451\_ENSRNOG00000020451.8\_ENSRNOT00000027760\_ENSRNOT00000027760.8\_Cd81:0.0546522027)49:0.0977641462)33:0.0549923776,pig\_ENSSSCG00000039243\_ENSSSCG00000039243.3\_ENSSSCT00000052819\_ENSSSCT00000052819.3\_CD81:0.0738912833)38:0.1506072920,sheep\_ENSOARG00020007240\_ENSOARG00020007240.2\_ENSOART00020063744\_ENSOART00020063744.1\_CD81:0.0716510339)30:0.0182319055)51:0.0785228176,mouse\_ENSMUSG00000037706\_ENSMUSG00000037706.18\_ENSMUST00000037941\_ENSMUST00000037941.10\_Cd81:0.0000020899);

Cdh15

(catfish\_ENSIPUG00015022991\_ENSIPUG00015022991.1\_ENSIPUT00015057371\_ENSIPUT00015057371.1\_CDH15:0.2509165334,((((((((cow\_ENSBTAG00000011530\_ENSBTAG00000011530.7\_ENSBTAT00000075672\_ENSBTAT00000075672.2\_CDH15:0.0132993050,sheep\_ENSOARG00020015069\_ENSOARG00020015069.2\_ENSOART00020025004\_ENSOART00020025004.2\_CDH15:0.0081423864)100:0.0342062772,pig\_ENSSSCG00000002642\_ENSSSCG00000002642.5\_ENSSSCT00000037606\_ENSSSCT00000037606.3\_CDH15:0.0640112484)98:0.0324648483,dog\_ENSCAFG00845002672\_ENSCAFG00845002672.1\_ENSCAFT00845004744\_ENSCAFT00845004744.1\_CDH15:0.0900800282)99:0.0323915515,((Human\_ENSG00000129910\_ENSG00000129910.8\_ENST00000289746\_ENST00000289746.3\_CDH15:0.0149816539,macaque\_ENSMMUG00000012100\_ENSMMUG00000012100.4\_ENSMMUT00000016943\_ENSMMUT00000016943.4\_CDH15:0.0490007644)100:0.0634067570,(mouse\_ENSMUSG00000031962\_ENSMUSG00000031962.7\_ENSMUST00000034443\_ENSMUST00000034443.7\_Cdh15:0.0116991378,rat\_ENSRNOG00000027954\_ENSRNOG00000027954.6\_ENSRNOT00000109297\_ENSRNOT00000109297.1\_Cdh15:0.0325165102)100:0.1128150990)90:0.0202618136)100:0.1770788941,(opossum\_ENSMODG00000003842\_ENSMODG00000003842.5\_ENSMODT00000061272\_ENSMODT00000061272.1\_CDH15:0.1769727597,wallaby\_ENSMEUG00000000813\_ENSMEUG00000000813.1\_ENSMEUT00000000818\_ENSMEUT00000000818.1\_CDH15:0.0350557658)100:0.0752041486)100:0.1036963641,platypus\_ENSOANG00000006734\_ENSOANG00000006734.4\_ENSOANT00000010747\_ENSOANT00000010747.3\_CDH15:0.1588057565)100:0.6559990121,reedfish\_ENSECRG00000012049\_ENSECRG00000012049.1\_ENSECRT00000018394\_ENSECRT00000018394.1\_cdh15:0.5735342695)100:0.5528612871,(asalmon\_ENSGMOG00000001534\_ENSGMOG00000001534.2\_ENSGMOT00000001680\_ENSGMOT00000001680.2\_cdh15:0.3012832373,((((imedaka\_ENSOMEG00000018091\_ENSOMEG00000018091.1\_ENSOMET00000024928\_ENSOMET00000024928.1\_cdh15:0.0174192612,jricefish\_ENSOJAG00000008744\_ENSOJAG00000008744.1\_ENSOJAT00000018474\_ENSOJAT00000018474.1\_cdh15:0.0275995115)100:0.1845287969,(mplatyfish\_ENSXCOG00000003270\_ENSXCOG00000003270.1\_ENSXCOT00000004200\_ENSXCOT00000004200.1\_cdh15:0.0450252652,platyfish\_ENSXMAG00000018416\_ENSXMAG00000018416.2\_ENSXMAT00000018505\_ENSXMAT00000018505.2\_cdh15:0.0142077159)100:0.2638253060)71:0.0454336075,sfightfish\_ENSBSLG00000024197\_ENSBSLG00000024197.1\_ENSBSLT00000055890\_ENSBSLT00000055890.1\_cdh15:0.1602431030)99:0.0904078173,psolderfish\_ENSMMDG00005005445\_ENSMMDG00005005445.1\_ENSMMDT00005010372\_ENSMMDT00005010372.1\_cdh15:0.1215879011)60:0.0229584560)99:0.1688009942)96:0.0923265813,(goldfish\_ENSCARG00000034014\_ENSCARG00000034014.1\_ENSCART00000079350\_ENSCART00000079350.1\_cdh15:0.0540397302,goldfish\_ENSCARG00000034194\_ENSCARG00000034194.1\_ENSCART00000079933\_ENSCART00000079933.1\_cdh15:0.0394150713)100:0.1565015780);

Cdkn1c: Robinson-Foulds distance between ML tree and consensus tree: 2

(cow\_ENSBTAG00000031184\_ENSBTAG00000031184.4\_ENSBTAT00000078789\_ENSBTAT00000078789.2\_CDKN1C:0.1938272646,((((Human\_ENSG00000129757\_ENSG00000129757.15\_ENST00000440480\_ENST00000440480.8\_CDKN1C:0.0000027572,Human\_ENSG00000273707\_ENSG00000273707.4\_ENST00000616138\_ENST00000616138.2\_CDKN1C:0.0096730514)50:0.0000024457,macaque\_ENSMMUG00000037980\_ENSMMUG00000037980.2\_ENSMMUT00000055626\_ENSMMUT00000055626.2\_CDKN1C:0.0550106566)98:0.1673617014,(mouse\_ENSMUSG00000037664\_ENSMUSG00000037664.14\_ENSMUST00000167912\_ENSMUST00000167912.9\_Cdkn1c:0.0489681178,rat\_ENSRNOG00000059500\_ENSRNOG00000059500.2\_ENSRNOT00000078944\_ENSRNOT00000078944.2\_Cdkn1c:0.0000026236)100:0.4681005057)100:0.2268336500,pig\_ENSSSCG00000040461\_ENSSSCG00000040461.3\_ENSSSCT00000039444\_ENSSSCT00000039444.2\_CDKN1C:0.0620250762)92:0.0553298076,sheep\_ENSOARG00020021520\_ENSOARG00020021520.2\_ENSOART00020033316\_ENSOART00020033316.2\_CDKN1C:0.0072706210);

Commd1: Robinson-Foulds distance between ML tree and consensus tree: 2

(catfish\_ENSIPUG00015025420\_ENSIPUG00015025420.1\_ENSIPUT00015064048\_ENSIPUT00015064048.1\_COMMD1:0.1434924344,(((((((((cow\_ENSBTAG00000019867\_ENSBTAG00000019867.7\_ENSBTAT00000026470\_ENSBTAT00000026470.6\_COMMD1:0.0064036340,sheep\_ENSOARG00020001461\_ENSOARG00020001461.2\_ENSOART00020050894\_ENSOART00020050894.1\_COMMD1:0.2008323328)78:0.0584250558,(dog\_ENSCAFG00845016604\_ENSCAFG00845016604.1\_ENSCAFT00845029453\_ENSCAFT00845029453.1\_COMMD1:0.1231680578,rat\_ENSRNOG00000009281\_ENSRNOG00000009281.8\_ENSRNOT00000120021\_ENSRNOT00000120021.1\_Commd1:0.2766745967)85:0.1582033110)74:0.0191883646,pig\_ENSSSCG00000008376\_ENSSSCG00000008376.5\_ENSSSCT00000009171\_ENSSSCT00000009171.5\_COMMD1:0.0168850978)70:0.0255666006,(Human\_ENSG00000173163\_ENSG00000173163.11\_ENST00000311832\_ENST00000311832.6\_COMMD1:0.0057133563,macaque\_ENSMMUG00000030824\_ENSMMUG00000030824.3\_ENSMMUT00000043530\_ENSMMUT00000043530.3\_COMMD1:0.0054737796)98:0.0628381314)40:0.0168295209,mouse\_ENSMUSG00000051355\_ENSMUSG00000051355.19\_ENSMUST00000057843\_ENSMUST00000057843.12\_Commd1:0.5669575617)51:0.0051179175,rabbit\_ENSOCUG00000001093\_ENSOCUG00000001093.4\_ENSOCUT00000001093\_ENSOCUT00000001093.4\_COMMD1:0.0346017916)96:0.0784082692,((opossum\_ENSMODG00000002887\_ENSMODG00000002887.3\_ENSMODT00000075846\_ENSMODT00000075846.1\_COMMD1:0.0838978760,wallaby\_ENSMEUG00000003781\_ENSMEUG00000003781.1\_ENSMEUT00000003788\_ENSMEUT00000003788.1\_COMMD1:0.0655284066)88:0.0392689938,platypus\_ENSOANG00000012420\_ENSOANG00000012420.3\_ENSOANT00000019657\_ENSOANT00000019657.2\_COMMD1:0.1449379160)82:0.0450857332)100:0.2848485043,reedfish\_ENSECRG00000019553\_ENSECRG00000019553.1\_ENSECRT00000029480\_ENSECRT00000029480.1\_commd1:0.2490364677)100:0.2895896096,((((imedaka\_ENSOMEG00000019278\_ENSOMEG00000019278.1\_ENSOMET00000026368\_ENSOMET00000026368.1\_commd1:0.0076581834,jricefish\_ENSOJAG00000011177\_ENSOJAG00000011177.1\_ENSOJAT00000023134\_ENSOJAT00000023134.1\_commd1:0.0090180629)100:0.1380089226,(mplatyfish\_ENSXCOG00000012151\_ENSXCOG00000012151.1\_ENSXCOT00000016287\_ENSXCOT00000016287.1\_commd1:0.0054457508,platyfish\_ENSXMAG00000027888\_ENSXMAG00000027888.1\_ENSXMAT00000033814\_ENSXMAT00000033814.1\_commd1:0.0000023046)100:0.1854868488)46:0.0113973048,psolderfish\_ENSMMDG00005010733\_ENSMMDG00005010733.1\_ENSMMDT00005022555\_ENSMMDT00005022555.1\_commd1:0.0812101115)55:0.0303893465,sfightfish\_ENSBSLG00000011953\_ENSBSLG00000011953.1\_ENSBSLT00000026235\_ENSBSLT00000026235.1\_commd1:0.1504127491)84:0.0706183421)95:0.0868608199,(goldfish\_ENSCARG00000001677\_ENSCARG00000001677.1\_ENSCART00000003846\_ENSCART00000003846.1\_commd1:0.0356161656,(goldfish\_ENSCARG00000059847\_ENSCARG00000059847.1\_ENSCART00000129459\_ENSCART00000129459.1\_commd1:0.1716286224,goldfish\_ENSCARG00000066157\_ENSCARG00000066157.1\_ENSCART00000142342\_ENSCART00000142342.1\_commd1:0.1388049333)100:0.2483372108)100:0.1752271657);

Dcn

(cow\_ENSBTAG00000003505\_ENSBTAG00000003505.7\_ENSBTAT00000004562\_ENSBTAT00000004562.3\_DCN:0.0152487971,((dog\_ENSCAFG00845019761\_ENSCAFG00845019761.1\_ENSCAFT00845035000\_ENSCAFT00845035000.1\_DCN:0.0521972698,(((Human\_ENSG00000011465\_ENSG00000011465.18\_ENST00000052754\_ENST00000052754.10\_DCN:0.0233298584,macaque\_ENSMMUG00000016997\_ENSMMUG00000016997.4\_ENSMMUT00000023886\_ENSMMUT00000023886.4\_DCN:0.0334490431)100:0.1058842825,rabbit\_ENSOCUG00000006969\_ENSOCUG00000006969.4\_ENSOCUT00000006967\_ENSOCUT00000006967.4\_DCN:0.1570637106)46:0.0169853790,((opossum\_ENSMODG00000009654\_ENSMODG00000009654.4\_ENSMODT00000012294\_ENSMODT00000012294.4\_DCN:0.2086109322,wallaby\_ENSMEUG00000006546\_ENSMEUG00000006546.1\_ENSMEUT00000006563\_ENSMEUT00000006563.1\_DCN:0.1364125380)98:0.1780306282,(platypus\_ENSOANG00000006630\_ENSOANG00000006630.3\_ENSOANT00000010572\_ENSOANT00000010572.3\_DCN:0.1382093485,(((asalmon\_ENSGMOG00000012684\_ENSGMOG00000012684.2\_ENSGMOT00000013927\_ENSGMOT00000013927.2\_dcn:0.5986987478,((((imedaka\_ENSOMEG00000006148\_ENSOMEG00000006148.1\_ENSOMET00000007941\_ENSOMET00000007941.1\_dcn:0.1726030041,jricefish\_ENSOJAG00000009156\_ENSOJAG00000009156.1\_ENSOJAT00000018753\_ENSOJAT00000018753.1\_dcn:0.2116401333)100:0.2680560086,psolderfish\_ENSMMDG00005015950\_ENSMMDG00005015950.1\_ENSMMDT00005034646\_ENSMMDT00005034646.1\_dcn:0.2220391274)43:0.0453124581,(mplatyfish\_ENSXCOG00000013662\_ENSXCOG00000013662.1\_ENSXCOT00000018353\_ENSXCOT00000018353.1\_dcn:0.0000010830,platyfish\_ENSXMAG00000027036\_ENSXMAG00000027036.1\_ENSXMAT00000040947\_ENSXMAT00000040947.1\_dcn:0.0000010830)100:0.2186828998)60:0.0718292141,sfightfish\_ENSBSLG00000010636\_ENSBSLG00000010636.1\_ENSBSLT00000023249\_ENSBSLT00000023249.1\_dcn:0.5879259668)54:0.0313355477)70:0.0939277572,(catfish\_ENSIPUG00015017571\_ENSIPUG00015017571.1\_ENSIPUT00015041583\_ENSIPUT00015041583.1\_dcn:0.3957401854,((goldfish\_ENSCARG00000004461\_ENSCARG00000004461.1\_ENSCART00000010083\_ENSCART00000010083.1\_dcn:0.0080024618,goldfish\_ENSCARG00000023030\_ENSCARG00000023030.1\_ENSCART00000055855\_ENSCART00000055855.1\_dcn:0.0184104625)99:0.0865403192,(goldfish\_ENSCARG00000010056\_ENSCARG00000010056.1\_ENSCART00000023319\_ENSCART00000023319.1\_dcn:0.0000010830,goldfish\_ENSCARG00000018507\_ENSCARG00000018507.1\_ENSCART00000044658\_ENSCART00000044658.1\_dcn:0.0056724237)99:0.0689548674)100:0.4461353864)95:0.1883416413)99:0.2848925105,reedfish\_ENSECRG00000010845\_ENSECRG00000010845.1\_ENSECRT00000016532\_ENSECRT00000016532.1\_dcn:0.3987936391)100:1.0128601700)91:0.0945192602)100:0.1402203664)54:0.0177695364)99:0.0914127879,pig\_ENSSSCG00000000915\_ENSSSCG00000000915.5\_ENSSSCT00000089888\_ENSSSCT00000089888.1\_DCN:0.0425973991)100:0.0794970195,sheep\_ENSOARG00020009720\_ENSOARG00020009720.2\_ENSOART00020015129\_ENSOART00020015129.2\_DCN:0.0076538467);

Dhcr7: Robinson-Foulds distance between ML tree and consensus tree: 2

(catfish\_ENSIPUG00015010141\_ENSIPUG00015010141.1\_ENSIPUT00015020722\_ENSIPUT00015020722.1\_DHCR7:0.1969023973,((((((cow\_ENSBTAG00000016465\_ENSBTAG00000016465.7\_ENSBTAT00000021892\_ENSBTAT00000021892.6\_DHCR7:0.0318870644,sheep\_ENSOARG00020020761\_ENSOARG00020020761.2\_ENSOART00020032050\_ENSOART00020032050.2\_DHCR7:0.0195957703)99:0.0410325131,((dog\_ENSCAFG00845013203\_ENSCAFG00845013203.1\_ENSCAFT00845023549\_ENSCAFT00845023549.1\_DHCR7:0.0794013637,(Human\_ENSG00000172893\_ENSG00000172893.18\_ENST00000355527\_ENST00000355527.8\_DHCR7:0.0154399837,macaque\_ENSMMUG00000011976\_ENSMMUG00000011976.4\_ENSMMUT00000094341\_ENSMMUT00000094341.1\_DHCR7:0.0190447704)100:0.0548197162)78:0.0214889193,pig\_ENSSSCG00000021181\_ENSSSCG00000021181.4\_ENSSSCT00000029497\_ENSSSCT00000029497.4\_DHCR7:0.0553330437)70:0.0342290319)56:0.0235889782,(mouse\_ENSMUSG00000058454\_ENSMUSG00000058454.16\_ENSMUST00000207143\_ENSMUST00000207143.2\_Dhcr7:0.0169642277,rat\_ENSRNOG00000020776\_ENSRNOG00000020776.6\_ENSRNOT00000078979\_ENSRNOT00000078979.2\_Dhcr7:0.0376949159)100:0.0624816831)97:0.0759898088,wallaby\_ENSMEUG00000002549\_ENSMEUG00000002549.1\_ENSMEUT00000002556\_ENSMEUT00000002556.1\_DHCR7:0.1634785768)100:0.2284466277,(hagfish\_ENSEBUG00000015137\_ENSEBUG00000015137.1\_ENSEBUT00000025112\_ENSEBUT00000025112.1\_dhcr7:0.5590368037,reedfish\_ENSECRG00000013424\_ENSECRG00000013424.1\_ENSECRT00000020419\_ENSECRT00000020419.1\_dhcr7:0.1810968476)67:0.0606523932)86:0.0897416048,((((imedaka\_ENSOMEG00000020649\_ENSOMEG00000020649.1\_ENSOMET00000035446\_ENSOMET00000035446.1\_dhcr7:0.0000028547,jricefish\_ENSOJAG00000007829\_ENSOJAG00000007829.1\_ENSOJAT00000015816\_ENSOJAT00000015816.1\_dhcr7:0.2214952488)100:0.0949424040,platyfish\_ENSXMAG00000028573\_ENSXMAG00000028573.1\_ENSXMAT00000024204\_ENSXMAT00000024204.1\_dhcr7:0.1830180714)52:0.0113080568,sfightfish\_ENSBSLG00000000719\_ENSBSLG00000000719.1\_ENSBSLT00000001228\_ENSBSLT00000001228.1\_dhcr7:0.1458193336)96:0.0375018801,psolderfish\_ENSMMDG00005024817\_ENSMMDG00005024817.1\_ENSMMDT00005056528\_ENSMMDT00005056528.1\_dhcr7:0.0634282189)99:0.0630082520)95:0.0755711025,(goldfish\_ENSCARG00000016168\_ENSCARG00000016168.1\_ENSCART00000039017\_ENSCART00000039017.1\_dhcr7:0.0591565570,goldfish\_ENSCARG00000068365\_ENSCARG00000068365.1\_ENSCART00000147499\_ENSCART00000147499.1\_dhcr7:0.0975854895)100:0.0965278632);

Dio3: Robinson-Foulds distance between ML tree and consensus tree: 2

(cow\_ENSBTAG00000043578\_ENSBTAG00000043578.3\_ENSBTAT00000060550\_ENSBTAT00000060550.3\_DIO3:0.0140382600,((((((((goldfish\_ENSCARG00000023164\_ENSCARG00000023164.1\_ENSCART00000056162\_ENSCART00000056162.1\_DIO3:0.0000000000,goldfish\_ENSCARG00000053677\_ENSCARG00000053677.1\_ENSCART00000117035\_ENSCART00000117035.1\_DIO3:0.0000000000):0.0000023513,goldfish\_ENSCARG00000032165\_ENSCARG00000032165.1\_ENSCART00000075620\_ENSCART00000075620.1\_DIO3:0.0000023513)77:0.0073987095,goldfish\_ENSCARG00000058157\_ENSCARG00000058157.1\_ENSCART00000126160\_ENSCART00000126160.1\_DIO3:0.0000020148)75:0.0000022102,((goldfish\_ENSCARG00000035449\_ENSCARG00000035449.1\_ENSCART00000082058\_ENSCART00000082058.1\_DIO3:0.0000023513,goldfish\_ENSCARG00000060390\_ENSCARG00000060390.1\_ENSCART00000130398\_ENSCART00000130398.1\_DIO3:0.0000023513)87:0.0166736659,goldfish\_ENSCARG00000043038\_ENSCARG00000043038.1\_ENSCART00000096710\_ENSCART00000096710.1\_DIO3:0.0152778019)84:0.0889459754)43:0.1366802125,((imedaka\_ENSOMEG00000010433\_ENSOMEG00000010433.1\_ENSOMET00000001117\_ENSOMET00000001117.1\_DIO3:0.1207853984,psolderfish\_ENSMMDG00005022874\_ENSMMDG00005022874.1\_ENSMMDT00005051398\_ENSMMDT00005051398.1\_DIO3:0.0600380674)100:0.1905210855,imedaka\_ENSOMEG00000004848\_ENSOMEG00000004848.1\_ENSOMET00000010024\_ENSOMET00000010024.1\_DIO3:0.2655185674)63:0.1086922157)100:0.2670356535,wallaby\_ENSMEUG00000003626\_ENSMEUG00000003626.1\_ENSMEUT00000003632\_ENSMEUT00000003632.1\_DIO3:0.2557983962)100:0.3273316837,(Human\_ENSG00000197406\_ENSG00000197406.8\_ENST00000510508\_ENST00000510508.5\_DIO3:0.0036133745,(rabbit\_ENSOCUG00000026395\_ENSOCUG00000026395.2\_ENSOCUT00000029076\_ENSOCUT00000029076.2\_DIO3:0.7455425898,(mouse\_ENSMUSG00000075707\_ENSMUSG00000075707.7\_ENSMUST00000173014\_ENSMUST00000173014.3\_Dio3:0.0068906397,rat\_ENSRNOG00000052017\_ENSRNOG00000052017.2\_ENSRNOT00000078113\_ENSRNOT00000078113.2\_Dio3:0.0000023513)100:0.0488567195)45:0.0008751058)55:0.0317800855)86:0.0254758198,pig\_ENSSSCG00000036990\_ENSSSCG00000036990.3\_ENSSSCT00000053125\_ENSSSCT00000053125.3\_DIO3:0.0351084795)94:0.0124678155,sheep\_ENSOARG00020034395\_ENSOARG00020034395.1\_ENSOART00020052205\_ENSOART00020052205.1\_DIO3:0.0000023513);

Dlk1

(asalmon\_ENSGMOG00000031334\_ENSGMOG00000031334.1\_ENSGMOT00000040555\_ENSGMOT00000040555.1\_DLK1:0.4057310239,((catfish\_ENSIPUG00015029267\_ENSIPUG00015029267.1\_ENSIPUT00015075581\_ENSIPUT00015075581.1\_DLK1:0.3826195137,(goldfish\_ENSCARG00000023167\_ENSCARG00000023167.1\_ENSCART00000056182\_ENSCART00000056182.1\_DLK1:0.0402946619,goldfish\_ENSCARG00000058111\_ENSCARG00000058111.1\_ENSCART00000126109\_ENSCART00000126109.1\_DLK1:0.0710395819)100:0.5460827641)80:0.0684282413,((((((cow\_ENSBTAG00000037899\_ENSBTAG00000037899.4\_ENSBTAT00000056239\_ENSBTAT00000056239.4\_DLK1:0.0184243643,sheep\_ENSOARG00020018436\_ENSOARG00020018436.2\_ENSOART00020064223\_ENSOART00020064223.1\_DLK1:0.0234691899)100:0.0886855381,pig\_ENSSSCG00000035805\_ENSSSCG00000035805.2\_ENSSSCT00000060263\_ENSSSCT00000060263.2\_DLK1:0.1176038598)93:0.0680757349,dog\_ENSCAFG00845004428\_ENSCAFG00845004428.1\_ENSCAFT00845007951\_ENSCAFT00845007951.1\_DLK1:0.0444382782)51:0.0441136376,((Human\_ENSG00000185559\_ENSG00000185559.16\_ENST00000341267\_ENST00000341267.9\_DLK1:0.0275059345,macaque\_ENSMMUG00000020038\_ENSMMUG00000020038.4\_ENSMMUT00000028170\_ENSMMUT00000028170.4\_DLK1:0.0621860475)98:0.0463684450,(rabbit\_ENSOCUG00000026936\_ENSOCUG00000026936.3\_ENSOCUT00000056111\_ENSOCUT00000056111.1\_DLK1:0.1782185569,(mouse\_ENSMUSG00000040856\_ENSMUSG00000040856.18\_ENSMUST00000056110\_ENSMUST00000056110.15\_Dlk1:0.0312280948,rat\_ENSRNOG00000019584\_ENSRNOG00000019584.7\_ENSRNOT00000085933\_ENSRNOT00000085933.2\_Dlk1:0.0241757726)100:0.0947837861)61:0.0137259661)78:0.0594659257)100:0.4328214275,opossum\_ENSMODG00000013169\_ENSMODG00000013169.4\_ENSMODT00000016785\_ENSMODT00000016785.4\_DLK1:0.3931132548)100:0.4519657348,reedfish\_ENSECRG00000019535\_ENSECRG00000019535.1\_ENSECRT00000029454\_ENSECRT00000029454.1\_DLK1:0.5348869800)100:0.2608281943)100:0.2331197702,((((imedaka\_ENSOMEG00000010452\_ENSOMEG00000010452.1\_ENSOMET00000001090\_ENSOMET00000001090.1\_DLK1:0.0182727458,jricefish\_ENSOJAG00000021826\_ENSOJAG00000021826.1\_ENSOJAT00000047492\_ENSOJAT00000047492.1\_DLK1:0.0109113360)100:0.1172719331,(mplatyfish\_ENSXCOG00000004839\_ENSXCOG00000004839.1\_ENSXCOT00000006334\_ENSXCOT00000006334.1\_DLK1:0.3020223949,platyfish\_ENSXMAG00000007730\_ENSXMAG00000007730.2\_ENSXMAT00000041442\_ENSXMAT00000041442.1\_DLK1:0.0000028229)100:0.1198943858)84:0.0407557687,sfightfish\_ENSBSLG00000018193\_ENSBSLG00000018193.1\_ENSBSLT00000041183\_ENSBSLT00000041183.1\_DLK1:0.1198581614)70:0.0272426701,psolderfish\_ENSMMDG00005022869\_ENSMMDG00005022869.1\_ENSMMDT00005051392\_ENSMMDT00005051392.1\_DLK1:0.1501241519)72:0.0490246352);

Dlx5: Robinson-Foulds distance between ML tree and consensus tree: 4

(cow\_ENSBTAG00000018645\_ENSBTAG00000018645.4\_ENSBTAT00000024811\_ENSBTAT00000024811.4\_DLX5:0.0000023732,(((((dog\_ENSCAFG00845022026\_ENSCAFG00845022026.1\_ENSCAFT00845038840\_ENSCAFT00845038840.1\_DLX5:0.0069602623,pig\_ENSSSCG00000038838\_ENSSSCG00000038838.3\_ENSSSCT00000065765\_ENSSSCT00000065765.3\_DLX5:0.0104846260)45:0.0000023732,(hagfish\_ENSEBUG00000014206\_ENSEBUG00000014206.1\_ENSEBUT00000023628\_ENSEBUT00000023628.1\_DLX5:0.9348232823,(opossum\_ENSMODG00000016468\_ENSMODG00000016468.5\_ENSMODT00000020929\_ENSMODT00000020929.5\_DLX5:0.0355983414,wallaby\_ENSMEUG00000012817\_ENSMEUG00000012817.1\_ENSMEUT00000012849\_ENSMEUT00000012849.1\_DLX5:0.0427534505)53:0.0504080723)84:0.0762824847)38:0.0035005161,(Human\_ENSG00000105880\_ENSG00000105880.7\_ENST00000648378\_ENST00000648378.1\_DLX5:0.0033832821,macaque\_ENSMMUG00000054481\_ENSMMUG00000054481.1\_ENSMMUT00000109599\_ENSMMUT00000109599.1\_DLX5:0.0069798239)89:0.0105419623)32:0.0000020381,(mouse\_ENSMUSG00000029755\_ENSMUSG00000029755.11\_ENSMUST00000052609\_ENSMUST00000052609.9\_Dlx5:0.0000023732,rat\_ENSRNOG00000010905\_ENSRNOG00000010905.4\_ENSRNOT00000014946\_ENSRNOT00000014946.4\_Dlx5:0.0104613447)98:0.0210337977)57:0.0036976784,rabbit\_ENSOCUG00000008599\_ENSOCUG00000008599.3\_ENSOCUT00000062749\_ENSOCUT00000062749.1\_DLX5:0.4645074289)82:0.0068438417,sheep\_ENSOARG00020021833\_ENSOARG00020021833.2\_ENSOART00020033808\_ENSOART00020033808.2\_DLX5:0.0000023732);

Dscam

(cow\_ENSBTAG00000004754\_ENSBTAG00000004754.8\_ENSBTAT00000006240\_ENSBTAT00000006240.7\_DSCAM:0.0000010079,((dog\_ENSCAFG00845029877\_ENSCAFG00845029877.1\_ENSCAFT00845053030\_ENSCAFT00845053030.1\_DSCAM:0.0044170449,(((((goldfish\_ENSCARG00000026561\_ENSCARG00000026561.1\_ENSCART00000065835\_ENSCART00000065835.1\_DSCAM:0.0114301393,goldfish\_ENSCARG00000048654\_ENSCARG00000048654.1\_ENSCART00000109763\_ENSCART00000109763.1\_DSCAM:0.0096477861)100:0.1416077757,((((imedaka\_ENSOMEG00000005263\_ENSOMEG00000005263.1\_ENSOMET00000009423\_ENSOMET00000009423.1\_DSCAM:0.0127407911,jricefish\_ENSOJAG00000004963\_ENSOJAG00000004963.1\_ENSOJAT00000009983\_ENSOJAT00000009983.1\_DSCAM:0.0098147807)100:0.0225351393,platyfish\_ENSXMAG00000016834\_ENSXMAG00000016834.2\_ENSXMAT00000026438\_ENSXMAT00000026438.1\_DSCAM:0.0249369016)91:0.0057815471,sfightfish\_ENSBSLG00000024564\_ENSBSLG00000024564.1\_ENSBSLT00000056985\_ENSBSLT00000056985.1\_DSCAM:0.0158660176)99:0.0122028696,psolderfish\_ENSMMDG00005012058\_ENSMMDG00005012058.1\_ENSMMDT00005025724\_ENSMMDT00005025724.1\_DSCAM:0.0149145804)100:0.1045647424)100:0.1443724521,opossum\_ENSMODG00000020965\_ENSMODG00000020965.4\_ENSMODT00000026689\_ENSMODT00000026689.4\_DSCAM:0.0269899974)98:0.0127678844,((Human\_ENSG00000171587\_ENSG00000171587.15\_ENST00000400454\_ENST00000400454.6\_DSCAM:0.0000010079,Human\_ENSG00000291561\_ENSG00000291561.1\_ENST00000708009\_ENST00000708009.1\_DSCAM:0.0000010079)89:0.0009793997,macaque\_ENSMMUG00000005174\_ENSMMUG00000005174.4\_ENSMMUT00000094744\_ENSMMUT00000094744.1\_DSCAM:0.0005101618)99:0.0039342412)70:0.0011063253,(mouse\_ENSMUSG00000050272\_ENSMUSG00000050272.11\_ENSMUST00000056102\_ENSMUST00000056102.9\_Dscam:0.0000010079,rat\_ENSRNOG00000027992\_ENSRNOG00000027992.7\_ENSRNOT00000109924\_ENSRNOT00000109924.1\_Dscam:0.0004977071)100:0.0110980136)99:0.0042155839)97:0.0025429771,pig\_ENSSSCG00000012072\_ENSSSCG00000012072.5\_ENSSSCT00000013204\_ENSSSCT00000013204.5\_DSCAM:0.0065725829)100:0.0060440238,sheep\_ENSOARG00020002425\_ENSOARG00020002425.2\_ENSOART00020003844\_ENSOART00020003844.2\_DSCAM:0.0014862782);

Gab1: Robinson-Foulds distance between ML tree and consensus tree: 2

(catfish\_ENSIPUG00015006846\_ENSIPUG00015006846.1\_ENSIPUT00015014639\_ENSIPUT00015014639.1\_GAB1:0.1872110972,(((((((((cow\_ENSBTAG00000002813\_ENSBTAG00000002813.6\_ENSBTAT00000075190\_ENSBTAT00000075190.2\_GAB1:0.0042481795,sheep\_ENSOARG00020010619\_ENSOARG00020010619.2\_ENSOART00020059975\_ENSOART00020059975.1\_GAB1:0.0041316295)100:0.0190060321,pig\_ENSSSCG00000009048\_ENSSSCG00000009048.6\_ENSSSCT00000035764\_ENSSSCT00000035764.4\_GAB1:0.0379862532)31:0.0001385415,dog\_ENSCAFG00845018786\_ENSCAFG00845018786.1\_ENSCAFT00845033313\_ENSCAFT00845033313.1\_GAB1:0.0217405804)54:0.0074423071,(rabbit\_ENSOCUG00000003271\_ENSOCUG00000003271.4\_ENSOCUT00000003271\_ENSOCUT00000003271.4\_GAB1:0.0435208401,(mouse\_ENSMUSG00000031714\_ENSMUSG00000031714.11\_ENSMUST00000210676\_ENSMUST00000210676.2\_Gab1:0.0379426528,rat\_ENSRNOG00000017879\_ENSRNOG00000017879.6\_ENSRNOT00000024390\_ENSRNOT00000024390.6\_Gab1:0.0537176696)100:0.0546659630)46:0.0019183200)54:0.0061848410,(Human\_ENSG00000109458\_ENSG00000109458.10\_ENST00000262994\_ENST00000262994.9\_GAB1:0.0058519801,macaque\_ENSMMUG00000000828\_ENSMMUG00000000828.4\_ENSMMUT00000041738\_ENSMMUT00000041738.3\_GAB1:0.0050837760)92:0.0084304575)100:0.0317398308,(opossum\_ENSMODG00000000336\_ENSMODG00000000336.4\_ENSMODT00000084764\_ENSMODT00000084764.1\_GAB1:0.0381628339,wallaby\_ENSMEUG00000004113\_ENSMEUG00000004113.1\_ENSMEUT00000004127\_ENSMEUT00000004127.1\_GAB1:0.0203924264)100:0.0277094300)96:0.0198425075,platypus\_ENSOANG00000013925\_ENSOANG00000013925.4\_ENSOANT00000021954\_ENSOANT00000021954.3\_GAB1:0.0256492203)100:0.3459275542,reedfish\_ENSECRG00000001874\_ENSECRG00000001874.1\_ENSECRT00000002800\_ENSECRT00000002800.1\_gab1:0.2533123599)100:0.1126582422,((((imedaka\_ENSOMEG00000003917\_ENSOMEG00000003917.1\_ENSOMET00000011579\_ENSOMET00000011579.1\_gab1:0.0034330709,jricefish\_ENSOJAG00000000768\_ENSOJAG00000000768.1\_ENSOJAT00000001407\_ENSOJAT00000001407.1\_gab1:0.0337640006)100:0.1388527495,platyfish\_ENSXMAG00000009734\_ENSXMAG00000009734.2\_ENSXMAT00000029048\_ENSXMAT00000029048.1\_gab1:0.1296191896)87:0.0402003560,sfightfish\_ENSBSLG00000001928\_ENSBSLG00000001928.1\_ENSBSLT00000004020\_ENSBSLT00000004020.1\_gab1:0.0508342445)100:0.0612009300,psolderfish\_ENSMMDG00005008802\_ENSMMDG00005008802.1\_ENSMMDT00005017974\_ENSMMDT00005017974.1\_gab1:0.0432779283)100:0.0475691018)92:0.0395735722,(goldfish\_ENSCARG00000002694\_ENSCARG00000002694.1\_ENSCART00000006043\_ENSCART00000006043.1\_gab1:0.0732887035,goldfish\_ENSCARG00000022869\_ENSCARG00000022869.1\_ENSCART00000055486\_ENSCART00000055486.1\_gab1:0.0361420839)100:0.1140357524)

Gatm:

(catfish\_ENSIPUG00015008391\_ENSIPUG00015008391.1\_ENSIPUT00015017632\_ENSIPUT00015017632.1\_GATM:0.0116263328,((catfish\_ENSIPUG00015008226\_ENSIPUG00015008226.1\_ENSIPUT00015017249\_ENSIPUT00015017249.1\_GATM:0.0000010172,(((((((cow\_ENSBTAG00000005586\_ENSBTAG00000005586.6\_ENSBTAT00000007338\_ENSBTAT00000007338.6\_GATM:0.0162133489,sheep\_ENSOARG00020009432\_ENSOARG00020009432.2\_ENSOART00020014425\_ENSOART00020014425.2\_GATM:0.0158547634)99:0.0252947924,((dog\_ENSCAFG00845030751\_ENSCAFG00845030751.1\_ENSCAFT00845054621\_ENSCAFT00845054621.1\_GATM:0.0149086526,opossum\_ENSMODG00000017640\_ENSMODG00000017640.3\_ENSMODT00000022384\_ENSMODT00000022384.3\_GATM:0.0368823341)60:0.0031652904,(Human\_ENSG00000171766\_ENSG00000171766.17\_ENST00000396659\_ENST00000396659.8\_GATM:0.0088509362,macaque\_ENSMMUG00000005856\_ENSMMUG00000005856.4\_ENSMMUT00000083760\_ENSMMUT00000083760.1\_GATM:0.0171503419)99:0.0240788799)71:0.0076997631)67:0.0179063526,rabbit\_ENSOCUG00000014352\_ENSOCUG00000014352.4\_ENSOCUT00000050214\_ENSOCUT00000050214.1\_GATM:0.0488938241)100:0.1563028093,reedfish\_ENSECRG00000021172\_ENSECRG00000021172.1\_ENSECRT00000031899\_ENSECRT00000031899.1\_gatm:0.1130818122)93:0.0396207847,((goldfish\_ENSCARG00000002711\_ENSCARG00000002711.1\_ENSCART00000006091\_ENSCART00000006091.1\_gatm:0.0046721519,goldfish\_ENSCARG00000056905\_ENSCARG00000056905.1\_ENSCART00000123794\_ENSCART00000123794.1\_gatm:0.0000010172)91:0.0270533444,goldfish\_ENSCARG00000003508\_ENSCARG00000003508.1\_ENSCART00000008038\_ENSCART00000008038.1\_gatm:0.0937337570)100:0.1156970505)74:0.0353884818,(((imedaka\_ENSOMEG00000011167\_ENSOMEG00000011167.1\_ENSOMET00000000018\_ENSOMET00000000018.1\_gatm:0.0061363519,jricefish\_ENSOJAG00000000821\_ENSOJAG00000000821.1\_ENSOJAT00000001532\_ENSOJAT00000001532.1\_gatm:0.0599774593)99:0.0405986711,(mplatyfish\_ENSXCOG00000018486\_ENSXCOG00000018486.1\_ENSXCOT00000025045\_ENSXCOT00000025045.1\_gatm:0.0000010172,platyfish\_ENSXMAG00000002105\_ENSXMAG00000002105.2\_ENSXMAT00000002113\_ENSXMAT00000002113.2\_gatm:0.0000010172)100:0.0486254708)57:0.0211171787,sfightfish\_ENSBSLG00000003189\_ENSBSLG00000003189.1\_ENSBSLT00000007010\_ENSBSLT00000007010.1\_gatm:0.1142939837)42:0.0124060251)45:0.0245127517,psolderfish\_ENSMMDG00005002819\_ENSMMDG00005002819.1\_ENSMMDT00005005213\_ENSMMDT00005005213.1\_gatm:0.0508423918)100:0.1422855543)80:0.0000010172,catfish\_ENSIPUG00015023921\_ENSIPUG00015023921.1\_ENSIPUT00015059690\_ENSIPUT00015059690.1\_GATM:0.0000010172)95:0.0044402338,catfish\_ENSIPUG00015024137\_ENSIPUG00015024137.1\_ENSIPUT00015060355\_ENSIPUT00015060355.1\_GATM:0.0044562039);

Glis3

(catfish\_ENSIPUG00015035468\_ENSIPUG00015035468.1\_ENSIPUT00015092268\_ENSIPUT00015092268.1\_GLIS3:0.3535785593,((((((cow\_ENSBTAG00000052736\_ENSBTAG00000052736.2\_ENSBTAT00000085374\_ENSBTAT00000085374.2\_GLIS3:0.0100974211,sheep\_ENSOARG00020007233\_ENSOARG00020007233.2\_ENSOART00020011122\_ENSOART00020011122.2\_GLIS3:0.0094605835)100:0.0329338245,pig\_ENSSSCG00000005224\_ENSSSCG00000005224.5\_ENSSSCT00000005757\_ENSSSCT00000005757.5\_GLIS3:0.0370199285)97:0.0103679727,dog\_ENSCAFG00845002759\_ENSCAFG00845002759.1\_ENSCAFT00845004896\_ENSCAFT00845004896.1\_GLIS3:0.0514208913)92:0.0085084061,((Human\_ENSG00000107249\_ENSG00000107249.24\_ENST00000381971\_ENST00000381971.8\_GLIS3:0.0329289929,macaque\_ENSMMUG00000057568\_ENSMMUG00000057568.1\_ENSMMUT00000109597\_ENSMMUT00000109597.1\_GLIS3:0.0090276525)100:0.0257929952,(rabbit\_ENSOCUG00000023004\_ENSOCUG00000023004.3\_ENSOCUT00000020994\_ENSOCUT00000020994.3\_GLIS3:0.0404214959,(mouse\_ENSMUSG00000052942\_ENSMUSG00000052942.14\_ENSMUST00000162022\_ENSMUST00000162022.8\_Glis3:0.0210653072,rat\_ENSRNOG00000014768\_ENSRNOG00000014768.9\_ENSRNOT00000097425\_ENSRNOT00000097425.1\_Glis3:0.0274262935)100:0.0958816540)62:0.0103510122)90:0.0110232267)100:0.0772209833,((opossum\_ENSMODG00000015403\_ENSMODG00000015403.5\_ENSMODT00000019578\_ENSMODT00000019578.5\_GLIS3:0.0138939529,wallaby\_ENSMEUG00000005102\_ENSMEUG00000005102.1\_ENSMEUT00000005110\_ENSMEUT00000005110.1\_GLIS3:0.0284853682)100:0.0477625510,platypus\_ENSOANG00000014997\_ENSOANG00000014997.4\_ENSOANT00000023607\_ENSOANT00000023607.4\_GLIS3:0.0798407329)83:0.0323131318)100:0.6286086511,((((imedaka\_ENSOMEG00000002935\_ENSOMEG00000002935.1\_ENSOMET00000013237\_ENSOMET00000013237.1\_glis3:0.0139139455,jricefish\_ENSOJAG00000004227\_ENSOJAG00000004227.1\_ENSOJAT00000008611\_ENSOJAT00000008611.1\_glis3:0.0383598213)100:0.2764785567,(mplatyfish\_ENSXCOG00000003059\_ENSXCOG00000003059.1\_ENSXCOT00000003935\_ENSXCOT00000003935.1\_glis3:0.0704298497,platyfish\_ENSXMAG00000005013\_ENSXMAG00000005013.2\_ENSXMAT00000005017\_ENSXMAT00000005017.2\_glis3:0.0078575163)100:0.2875804371)100:0.1182320270,sfightfish\_ENSBSLG00000009272\_ENSBSLG00000009272.1\_ENSBSLT00000019838\_ENSBSLT00000019838.1\_glis3:0.3130425228)100:0.1349124310,psolderfish\_ENSMMDG00005016661\_ENSMMDG00005016661.1\_ENSMMDT00005036221\_ENSMMDT00005036221.1\_glis3:0.1804415493)100:0.4736632483)100:0.3054819650,(goldfish\_ENSCARG00000043075\_ENSCARG00000043075.1\_ENSCART00000096777\_ENSCART00000096777.1\_glis3:0.0025676831,goldfish\_ENSCARG00000040610\_ENSCARG00000040610.1\_ENSCART00000091961\_ENSCART00000091961.1\_glis3:0.0085933001)100:0.3150648630);

Grb10

(cow\_ENSBTAG00000017086\_ENSBTAG00000017086.7\_ENSBTAT00000119089\_ENSBTAT00000119089.1\_GRB10:0.0097308884,((dog\_ENSCAFG00845010745\_ENSCAFG00845010745.1\_ENSCAFT00845018948\_ENSCAFT00845018948.1\_GRB10:0.0699152432,((((goldfish\_ENSCARG00000012870\_ENSCARG00000012870.1\_ENSCART00000033024\_ENSCART00000033024.1\_GRB10:0.0921884775,((((imedaka\_ENSOMEG00000014643\_ENSOMEG00000014643.1\_ENSOMET00000020748\_ENSOMET00000020748.1\_GRB10:0.0784976876,jricefish\_ENSOJAG00000021551\_ENSOJAG00000021551.1\_ENSOJAT00000047806\_ENSOJAT00000047806.1\_GRB10:0.0136011283)100:0.0809711629,platyfish\_ENSXMAG00000000791\_ENSXMAG00000000791.2\_ENSXMAT00000000806\_ENSXMAT00000000806.2\_GRB10:0.1085984878)96:0.0276019117,sfightfish\_ENSBSLG00000021356\_ENSBSLG00000021356.1\_ENSBSLT00000050876\_ENSBSLT00000050876.1\_GRB10:0.0595480677)81:0.0168363489,psolderfish\_ENSMMDG00005023522\_ENSMMDG00005023522.1\_ENSMMDT00005054153\_ENSMMDT00005054153.1\_GRB10:0.0228720876)100:0.0891394992)64:0.0553428399,hagfish\_ENSEBUG00000014223\_ENSEBUG00000014223.1\_ENSEBUT00000023679\_ENSEBUT00000023679.1\_GRB10:1.0950071459)100:0.1685488517,(opossum\_ENSMODG00000009212\_ENSMODG00000009212.4\_ENSMODT00000011718\_ENSMODT00000011718.4\_GRB10:0.0163622940,wallaby\_ENSMEUG00000009415\_ENSMEUG00000009415.1\_ENSMEUT00000009454\_ENSMEUT00000009454.1\_GRB10:0.0202290764)99:0.0454921903)100:0.0667030008,(Human\_ENSG00000106070\_ENSG00000106070.20\_ENST00000401949\_ENST00000401949.6\_GRB10:0.0042553214,(macaque\_ENSMMUG00000019992\_ENSMMUG00000019992.4\_ENSMMUT00000028098\_ENSMMUT00000028098.4\_GRB10:0.0569503444,(rabbit\_ENSOCUG00000014985\_ENSOCUG00000014985.4\_ENSOCUT00000014985\_ENSOCUT00000014985.4\_GRB10:0.1021281608,(mouse\_ENSMUSG00000020176\_ENSMUSG00000020176.18\_ENSMUST00000093321\_ENSMUST00000093321.12\_Grb10:0.0227580550,rat\_ENSRNOG00000004290\_ENSRNOG00000004290.8\_ENSRNOT00000085175\_ENSRNOT00000085175.2\_Grb10:0.0293922435)100:0.2055629058)61:0.0388896538)35:0.0395258566)42:0.0218011676)87:0.0206103649)95:0.0263686442,pig\_ENSSSCG00000015631\_ENSSSCG00000015631.5\_ENSSSCT00000060494\_ENSSSCT00000060494.2\_GRB10:0.0505513568)100:0.0465278191,sheep\_ENSOARG00020008137\_ENSOARG00020008137.2\_ENSOART00020012692\_ENSOART00020012692.2\_GRB10:0.0188727870);

H13: No sequences

Htr2a

(cow\_ENSBTAG00000013498\_ENSBTAG00000013498.4\_ENSBTAT00000017943\_ENSBTAT00000017943.4\_HTR2A:0.0071940736,(((dog\_ENSCAFG00845007028\_ENSCAFG00845007028.1\_ENSCAFT00845012480\_ENSCAFT00845012480.1\_HTR2A:0.0301051387,opossum\_ENSMODG00000011274\_ENSMODG00000011274.4\_ENSMODT00000014367\_ENSMODT00000014367.4\_HTR2A:0.2632995537)49:0.0169239819,(((((((goldfish\_ENSCARG00000003093\_ENSCARG00000003093.1\_ENSCART00000007078\_ENSCART00000007078.1\_HTR2A:0.0326559751,goldfish\_ENSCARG00000028716\_ENSCARG00000028716.1\_ENSCART00000068367\_ENSCART00000068367.1\_HTR2A:0.1235121393)100:0.5056138548,(goldfish\_ENSCARG00000006400\_ENSCARG00000006400.1\_ENSCART00000014474\_ENSCART00000014474.1\_HTR2A:0.0380213620,(goldfish\_ENSCARG00000059609\_ENSCARG00000059609.1\_ENSCART00000128978\_ENSCART00000128978.1\_HTR2A:0.0042245463,goldfish\_ENSCARG00000069378\_ENSCARG00000069378.1\_ENSCART00000149904\_ENSCART00000149904.1\_HTR2A:0.1312696812)88:0.0206405066)100:0.3577515052)80:0.0860075191,((((imedaka\_ENSOMEG00000006748\_ENSOMEG00000006748.1\_ENSOMET00000006974\_ENSOMET00000006974.1\_HTR2A:0.1362131867,jricefish\_ENSOJAG00000012816\_ENSOJAG00000012816.1\_ENSOJAT00000026803\_ENSOJAT00000026803.1\_HTR2A:0.0034831404)100:0.1031177248,platyfish\_ENSXMAG00000009303\_ENSXMAG00000009303.2\_ENSXMAT00000009332\_ENSXMAT00000009332.2\_HTR2A:0.2167364877)89:0.0374549874,sfightfish\_ENSBSLG00000015230\_ENSBSLG00000015230.1\_ENSBSLT00000034253\_ENSBSLT00000034253.1\_HTR2A:0.2292252639)63:0.0364902278,psolderfish\_ENSMMDG00005007992\_ENSMMDG00005007992.1\_ENSMMDT00005016171\_ENSMMDT00005016171.1\_HTR2A:0.0882849903)100:0.1857641825)100:0.6671460033,Human\_ENSG00000102468\_ENSG00000102468.11\_ENST00000542664\_ENST00000542664.4\_HTR2A:0.0000025144)45:0.0018523140,macaque\_ENSMMUG00000004210\_ENSMMUG00000004210.4\_ENSMMUT00000043322\_ENSMMUT00000043322.3\_HTR2A:0.0076212171)46:0.0122922394,(mouse\_ENSMUSG00000034997\_ENSMUSG00000034997.6\_ENSMUST00000036653\_ENSMUST00000036653.5\_Htr2a:0.0096377885,rat\_ENSRNOG00000010063\_ENSRNOG00000010063.7\_ENSRNOT00000013408\_ENSRNOT00000013408.7\_Htr2a:0.0204047070)99:0.0880856855)28:0.0074710965,rabbit\_ENSOCUG00000009976\_ENSOCUG00000009976.3\_ENSOCUT00000009972\_ENSOCUT00000009972.3\_HTR2A:0.0508567287)18:0.0048446922)59:0.0088445613,pig\_ENSSSCG00000037452\_ENSSSCG00000037452.3\_ENSSSCT00000062914\_ENSSSCT00000062914.3\_HTR2A:0.0285034451)98:0.0323587347,sheep\_ENSOARG00020009408\_ENSOARG00020009408.2\_ENSOART00020014384\_ENSOART00020014384.2\_HTR2A:0.0247523659);

Igf2

(catfish\_ENSIPUG00015004105\_ENSIPUG00015004105.1\_ENSIPUT00015008699\_ENSIPUT00015008699.1\_IGF2:5.2499771172,cow\_ENSBTAG00000013066\_ENSBTAG00000013066.7\_ENSBTAT00000084689\_ENSBTAT00000084689.2\_IGF2:0.0000023631,((dog\_ENSCAFG00845011017\_ENSCAFG00845011017.1\_ENSCAFT00845019533\_ENSCAFT00845019533.1\_IGF2:0.2501200858,((Human\_ENSG00000167244\_ENSG00000167244.22\_ENST00000416167\_ENST00000416167.7\_IGF2:0.0653180309,(macaque\_ENSMMUG00000047449\_ENSMMUG00000047449.2\_ENSMMUT00000106459\_ENSMMUT00000106459.1\_IGF2:0.0000022539,wallaby\_ENSMEUG00000015987\_ENSMEUG00000015987.1\_ENSMEUT00000016031\_ENSMEUT00000016031.1\_IGF2:1.0064636886)47:0.1483013164)24:0.0000022599,(mouse\_ENSMUSG00000048583\_ENSMUSG00000048583.18\_ENSMUST00000121128\_ENSMUST00000121128.8\_Igf2:0.0493037101,rat\_ENSRNOG00000020369\_ENSRNOG00000020369.8\_ENSRNOT00000080246\_ENSRNOT00000080246.2\_Igf2:0.0289216618)100:0.7372340906)54:0.1591970643)97:0.6512067819,sheep\_ENSOARG00020007754\_ENSOARG00020007754.2\_ENSOART00020056927\_ENSOART00020056927.1\_IGF2:0.0729959662)75:0.0796196977);

Igf2r

(catfish\_ENSIPUG00015016724\_ENSIPUG00015016724.1\_ENSIPUT00015041802\_ENSIPUT00015041802.1\_IGF2R:0.2908769061,((((((((cow\_ENSBTAG00000002402\_ENSBTAG00000002402.7\_ENSBTAT00000037678\_ENSBTAT00000037678.4\_IGF2R:0.0236149481,sheep\_ENSOARG00020007810\_ENSOARG00020007810.2\_ENSOART00020040502\_ENSOART00020040502.2\_IGF2R:0.0281474810)100:0.0867384893,pig\_ENSSSCG00000004044\_ENSSSCG00000004044.6\_ENSSSCT00000004472\_ENSSSCT00000004472.4\_IGF2R:0.0864078277)100:0.0429177442,dog\_ENSCAFG00845002089\_ENSCAFG00845002089.1\_ENSCAFT00845003644\_ENSCAFT00845003644.1\_IGF2R:0.0776954217)100:0.0219538932,((Human\_ENSG00000197081\_ENSG00000197081.16\_ENST00000356956\_ENST00000356956.6\_IGF2R:0.0217273885,macaque\_ENSMMUG00000015658\_ENSMMUG00000015658.4\_ENSMMUT00000021965\_ENSMMUT00000021965.4\_IGF2R:0.0300121360)100:0.0579565800,(rabbit\_ENSOCUG00000008785\_ENSOCUG00000008785.4\_ENSOCUT00000046715\_ENSOCUT00000046715.1\_IGF2R:0.2009358115,(mouse\_ENSMUSG00000023830\_ENSMUSG00000023830.15\_ENSMUST00000024599\_ENSMUST00000024599.14\_Igf2r:0.0328980534,rat\_ENSRNOG00000014997\_ENSRNOG00000014997.5\_ENSRNOT00000021840\_ENSRNOT00000021840.5\_Igf2r:0.0408796312)100:0.1233921313)72:0.0171507297)80:0.0159714435)100:0.1619168604,opossum\_ENSMODG00000007100\_ENSMODG00000007100.4\_ENSMODT00000030813\_ENSMODT00000030813.3\_IGF2R:0.1759768633)100:0.0851118992,platypus\_ENSOANG00000007296\_ENSOANG00000007296.3\_ENSOANT00000011619\_ENSOANT00000011619.3\_IGF2R:0.2009510702)100:0.3700903037,reedfish\_ENSECRG00000013268\_ENSECRG00000013268.1\_ENSECRT00000020235\_ENSECRT00000020235.1\_igf2r:0.4308277537)100:0.2224684996,(asalmon\_ENSGMOG00000000965\_ENSGMOG00000000965.2\_ENSGMOT00000054520\_ENSGMOT00000054520.1\_igf2r:0.3209193880,((((imedaka\_ENSOMEG00000020250\_ENSOMEG00000020250.1\_ENSOMET00000027515\_ENSOMET00000027515.1\_igf2r:0.0503666143,jricefish\_ENSOJAG00000022202\_ENSOJAG00000022202.1\_ENSOJAT00000048440\_ENSOJAT00000048440.1\_igf2r:0.0402080160)100:0.2539441038,platyfish\_ENSXMAG00000005516\_ENSXMAG00000005516.2\_ENSXMAT00000005565\_ENSXMAT00000005565.2\_igf2r:0.2429290927)84:0.0431806279,sfightfish\_ENSBSLG00000023510\_ENSBSLG00000023510.1\_ENSBSLT00000055034\_ENSBSLT00000055034.1\_igf2r:0.2083643943)100:0.0658293973,psolderfish\_ENSMMDG00005017075\_ENSMMDG00005017075.1\_ENSMMDT00005039109\_ENSMMDT00005039109.1\_igf2r:0.1700630678)86:0.0416550346)100:0.1427468474)100:0.0921192961,(goldfish\_ENSCARG00000049418\_ENSCARG00000049418.1\_ENSCART00000112975\_ENSCART00000112975.1\_igf2r:0.1217247684,goldfish\_ENSCARG00000056672\_ENSCARG00000056672.1\_ENSCART00000123588\_ENSCART00000123588.1\_igf2r:0.0936552527)100:0.1590099194);

Impact

(catfish\_ENSIPUG00015014013\_ENSIPUG00015014013.1\_ENSIPUT00015031747\_ENSIPUT00015031747.1\_IMPACT:0.3645343694,((((((((cow\_ENSBTAG00000003035\_ENSBTAG00000003035.7\_ENSBTAT00000117248\_ENSBTAT00000117248.1\_IMPACT:0.0673480048,(dog\_ENSCAFG00845013207\_ENSCAFG00845013207.1\_ENSCAFT00845023564\_ENSCAFT00845023564.1\_IMPACT:0.0455625425,pig\_ENSSSCG00000003713\_ENSSSCG00000003713.5\_ENSSSCT00000078752\_ENSSSCT00000078752.1\_IMPACT:0.0544064007)97:0.0388719931)89:0.0655066763,Human\_ENSG00000154059\_ENSG00000154059.11\_ENST00000284202\_ENST00000284202.9\_IMPACT:0.0040610938)43:0.0165684923,macaque\_ENSMMUG00000004664\_ENSMMUG00000004664.4\_ENSMMUT00000006591\_ENSMMUT00000006591.4\_IMPACT:0.0000019972)35:0.0695358324,rabbit\_ENSOCUG00000013901\_ENSOCUG00000013901.4\_ENSOCUT00000013903\_ENSOCUT00000013903.4\_IMPACT:0.2821983197)76:0.0545587500,(mouse\_ENSMUSG00000024423\_ENSMUSG00000024423.7\_ENSMUST00000025290\_ENSMUST00000025290.7\_Impact:0.1092647689,rat\_ENSRNOG00000045844\_ENSRNOG00000045844.3\_ENSRNOT00000116602\_ENSRNOT00000116602.1\_Impact:0.1001771118)100:0.1107662488)100:0.3111874276,opossum\_ENSMODG00000040981\_ENSMODG00000040981.1\_ENSMODT00000074419\_ENSMODT00000074419.1\_IMPACT:0.1447400460)100:0.3946330668,reedfish\_ENSECRG00000004821\_ENSECRG00000004821.1\_ENSECRT00000007337\_ENSECRT00000007337.1\_impact:0.4472904332)97:0.2413545369,((((imedaka\_ENSOMEG00000013500\_ENSOMEG00000013500.1\_ENSOMET00000019273\_ENSOMET00000019273.1\_impact:0.2440556192,jricefish\_ENSOJAG00000012230\_ENSOJAG00000012230.1\_ENSOJAT00000025585\_ENSOJAT00000025585.1\_impact:0.1359002442)100:0.2834065084,platyfish\_ENSXMAG00000011007\_ENSXMAG00000011007.2\_ENSXMAT00000011051\_ENSXMAT00000011051.2\_impact:0.1586463997)83:0.0384210398,sfightfish\_ENSBSLG00000019432\_ENSBSLG00000019432.1\_ENSBSLT00000044329\_ENSBSLT00000044329.1\_impact:0.1700433487)93:0.0844480239,psolderfish\_ENSMMDG00005021118\_ENSMMDG00005021118.1\_ENSMMDT00005047065\_ENSMMDT00005047065.1\_impact:0.0841683299)99:0.2091925484)90:0.1069607797,(goldfish\_ENSCARG00000043400\_ENSCARG00000043400.1\_ENSCART00000097331\_ENSCART00000097331.1\_impact:0.0166098663,goldfish\_ENSCARG00000058377\_ENSCARG00000058377.1\_ENSCART00000126786\_ENSCART00000126786.1\_impact:0.0089697999)100:0.2327394605);

lin28b

(catfish\_ENSIPUG00015008915\_ENSIPUG00015008915.1\_ENSIPUT00015018416\_ENSIPUT00015018416.1\_LIN28B:0.2099123774,((catfish\_ENSIPUG00015013591\_ENSIPUG00015013591.1\_ENSIPUT00015030530\_ENSIPUT00015030530.1\_LIN28B:0.5742520224,(((((cow\_ENSBTAG00000043973\_ENSBTAG00000043973.4\_ENSBTAT00000061356\_ENSBTAT00000061356.4\_LIN28B:0.0988597469,(pig\_ENSSSCG00000037612\_ENSSSCG00000037612.3\_ENSSSCT00000043008\_ENSSSCT00000043008.3\_LIN28B:0.0047952992,sheep\_ENSOARG00020003103\_ENSOARG00020003103.2\_ENSOART00020004851\_ENSOART00020004851.2\_LIN28B:0.8534256275)45:0.0088837720)57:0.0148875804,dog\_ENSCAFG00845007472\_ENSCAFG00845007472.1\_ENSCAFT00845013165\_ENSCAFT00845013165.1\_LIN28B:0.1058963644)29:0.0080975884,(((Human\_ENSG00000187772\_ENSG00000187772.8\_ENST00000345080\_ENST00000345080.5\_LIN28B:0.0022102646,(mouse\_ENSMUSG00000063804\_ENSMUSG00000063804.9\_ENSMUST00000079390\_ENSMUST00000079390.7\_Lin28b:0.0284116869,rat\_ENSRNOG00000025938\_ENSRNOG00000025938.8\_ENSRNOT00000034485\_ENSRNOT00000034485.7\_Lin28b:0.0414143863)100:0.1907433751)84:0.0138594260,macaque\_ENSMMUG00000064609\_ENSMMUG00000064609.1\_ENSMMUT00000107587\_ENSMMUT00000107587.1\_LIN28B:0.0305357474)93:0.0946252634,rabbit\_ENSOCUG00000017850\_ENSOCUG00000017850.4\_ENSOCUT00000017849\_ENSOCUT00000017849.4\_LIN28B:0.0660834331)52:0.0171303038)60:0.0667619429,(opossum\_ENSMODG00000018035\_ENSMODG00000018035.4\_ENSMODT00000022879\_ENSMODT00000022879.3\_LIN28B:0.0097311564,wallaby\_ENSMEUG00000003066\_ENSMEUG00000003066.1\_ENSMEUT00000003073\_ENSMEUT00000003073.1\_LIN28B:0.0954293807)97:0.0968927962)72:0.0734564837,reedfish\_ENSECRG00000001972\_ENSECRG00000001972.1\_ENSECRT00000002938\_ENSECRT00000002938.1\_lin28b:0.4970692898)95:0.1749766545)100:0.3389015367,(((imedaka\_ENSOMEG00000006425\_ENSOMEG00000006425.1\_ENSOMET00000007535\_ENSOMET00000007535.1\_lin28b:0.0395855195,jricefish\_ENSOJAG00000023134\_ENSOJAG00000023134.1\_ENSOJAT00000050806\_ENSOJAT00000050806.1\_lin28b:0.0360508139)100:0.1131974845,platyfish\_ENSXMAG00000003450\_ENSXMAG00000003450.2\_ENSXMAT00000003457\_ENSXMAT00000003457.2\_lin28b:0.0514808765)55:0.0244150562,(psolderfish\_ENSMMDG00005022386\_ENSMMDG00005022386.1\_ENSMMDT00005050210\_ENSMMDT00005050210.1\_lin28b:0.0529380138,sfightfish\_ENSBSLG00000010592\_ENSBSLG00000010592.1\_ENSBSLT00000023205\_ENSBSLT00000023205.1\_lin28b:0.0492276856)38:0.0000022650)52:0.0502020725)100:0.2101886036,((goldfish\_ENSCARG00000006722\_ENSCARG00000006722.1\_ENSCART00000015174\_ENSCART00000015174.1\_lin28b:0.0078481891,goldfish\_ENSCARG00000036589\_ENSCARG00000036589.1\_ENSCART00000084353\_ENSCART00000084353.1\_lin28b:0.0065363268)97:0.0285015940,(goldfish\_ENSCARG00000025002\_ENSCARG00000025002.1\_ENSCART00000060415\_ENSCART00000060415.1\_lin28b:0.0144290125,goldfish\_ENSCARG00000041847\_ENSCARG00000041847.1\_ENSCART00000094426\_ENSCART00000094426.1\_lin28b:0.0114238039)98:0.0313412926)96:0.0706272146);

Lrrtm1: Robinson-Foulds distance between ML tree and consensus tree: 2

(catfish\_ENSIPUG00015018956\_ENSIPUG00015018956.1\_ENSIPUT00015045360\_ENSIPUT00015045360.1\_LRRTM1:0.0737786785,((((((((cow\_ENSBTAG00000054157\_ENSBTAG00000054157.2\_ENSBTAT00000105250\_ENSBTAT00000105250.1\_LRRTM1:0.0021673003,sheep\_ENSOARG00020002530\_ENSOARG00020002530.2\_ENSOART00020079343\_ENSOART00020079343.1\_LRRTM1:0.0000025938)86:0.0111630962,pig\_ENSSSCG00000023859\_ENSSSCG00000023859.4\_ENSSSCT00000025495\_ENSSSCT00000025495.4\_LRRTM1:0.0063561514)54:0.0082586910,(((Human\_ENSG00000162951\_ENSG00000162951.11\_ENST00000295057\_ENST00000295057.4\_LRRTM1:0.0021678522,macaque\_ENSMMUG00000000291\_ENSMMUG00000000291.4\_ENSMMUT00000000424\_ENSMMUT00000000424.4\_LRRTM1:0.0021720593)83:0.0022126054,(rat\_ENSRNOG00000006093\_ENSRNOG00000006093.6\_ENSRNOT00000007993\_ENSRNOT00000007993.6\_LRRTM1:0.0115169572,mouse\_ENSMUSG00000060780\_ENSMUSG00000060780.3\_ENSMUST00000159616\_ENSMUST00000159616.2\_Lrrtm1:0.0042691969)100:0.0275734597)86:0.0051360400,rabbit\_ENSOCUG00000005244\_ENSOCUG00000005244.3\_ENSOCUT00000054605\_ENSOCUT00000054605.1\_LRRTM1:0.0822475890)38:0.0045419915)36:0.0028902388,dog\_ENSCAFG00845015691\_ENSCAFG00845015691.1\_ENSCAFT00845027971\_ENSCAFT00845027971.1\_LRRTM1:0.0125564962)100:0.1128004304,opossum\_ENSMODG00000023036\_ENSMODG00000023036.1\_ENSMODT00000029560\_ENSMODT00000029560.1\_LRRTM1:0.0459871771)98:0.0535439447,platypus\_ENSOANG00000002561\_ENSOANG00000002561.2\_ENSOANT00000004056\_ENSOANT00000004056.2\_LRRTM1:0.0824201214)100:0.3055776541,reedfish\_ENSECRG00000017150\_ENSECRG00000017150.1\_ENSECRT00000025966\_ENSECRT00000025966.1\_LRRTM1:0.0891323712)100:0.2171923767,(((imedaka\_ENSOMEG00000008738\_ENSOMEG00000008738.1\_ENSOMET00000003791\_ENSOMET00000003791.1\_LRRTM1:0.0076169050,jricefish\_ENSOJAG00000005833\_ENSOJAG00000005833.1\_ENSOJAT00000011711\_ENSOJAT00000011711.1\_LRRTM1:0.0010838226)100:0.0245119836,platyfish\_ENSXMAG00000020008\_ENSXMAG00000020008.2\_ENSXMAT00000020083\_ENSXMAT00000020083.2\_LRRTM1:0.0422891854)96:0.0160071292,psolderfish\_ENSMMDG00005000996\_ENSMMDG00005000996.1\_ENSMMDT00005001906\_ENSMMDT00005001906.1\_LRRTM1:0.0242981219)100:0.1003720463)97:0.0578347803,(goldfish\_ENSCARG00000012719\_ENSCARG00000012719.1\_ENSCART00000030005\_ENSCART00000030005.1\_LRRTM1:0.0205629284,goldfish\_ENSCARG00000044787\_ENSCARG00000044787.1\_ENSCART00000099881\_ENSCART00000099881.1\_LRRTM1:0.0141519619)100:0.0556835146);

Naa60: Robinson-Foulds distance between ML tree and consensus tree: 2

(cow\_ENSBTAG00000004875\_ENSBTAG00000004875.6\_ENSBTAT00000006410\_ENSBTAT00000006410.5\_NAA60:0.0000020286,(((dog\_ENSCAFG00845002379\_ENSCAFG00845002379.1\_ENSCAFT00845004216\_ENSCAFT00845004216.1\_NAA60:0.1536512310,(Human\_ENSG00000122390\_ENSG00000122390.19\_ENST00000407558\_ENST00000407558.9\_NAA60:0.0203021797,(pig\_ENSSSCG00000021065\_ENSSSCG00000021065.4\_ENSSSCT00000027346\_ENSSSCT00000027346.4\_NAA60:0.0044994776,rabbit\_ENSOCUG00000014517\_ENSOCUG00000014517.3\_ENSOCUT00000014515\_ENSOCUT00000014515.3\_NAA60:0.0078637490)31:0.0041301750)32:0.0045094547)19:0.0000020286,mouse\_ENSMUSG00000005982\_ENSMUSG00000005982.15\_ENSMUST00000186375\_ENSMUST00000186375.8\_Naa60:0.0041069618)35:0.0041366382,((macaque\_ENSMMUG00000018711\_ENSMMUG00000018711.4\_ENSMMUT00000080157\_ENSMMUT00000080157.1\_NAA60:0.7456022334,rat\_ENSRNOG00000007280\_ENSRNOG00000007280.8\_ENSRNOT00000102976\_ENSRNOT00000102976.1\_Naa60:0.1040223800)97:0.0713003626,opossum\_ENSMODG00000016422\_ENSMODG00000016422.4\_ENSMODT00000020877\_ENSMODT00000020877.4\_NAA60:0.0479091230)58:0.0217586774)87:0.0123633944,sheep\_ENSOARG00020026447\_ENSOARG00020026447.2\_ENSOART00020041613\_ENSOART00020041613.2\_NAA60:0.0082257527);

Osbpl5

(catfish\_ENSIPUG00015011937\_ENSIPUG00015011937.1\_ENSIPUT00015026851\_ENSIPUT00015026851.1\_OSBPL5:0.1458124884,(((((((cow\_ENSBTAG00000001077\_ENSBTAG00000001077.7\_ENSBTAT00000044244\_ENSBTAT00000044244.5\_OSBPL5:0.0057729919,sheep\_ENSOARG00020028308\_ENSOARG00020028308.1\_ENSOART00020078525\_ENSOART00020078525.1\_OSBPL5:0.0168204792)100:0.0391522954,pig\_ENSSSCG00000012862\_ENSSSCG00000012862.5\_ENSSSCT00000041411\_ENSSSCT00000041411.3\_OSBPL5:0.0388053212)98:0.0185348448,dog\_ENSCAFG00845012537\_ENSCAFG00845012537.1\_ENSCAFT00845022364\_ENSCAFT00845022364.1\_OSBPL5:0.0591310361)95:0.0140932502,((Human\_ENSG00000021762\_ENSG00000021762.20\_ENST00000263650\_ENST00000263650.12\_OSBPL5:0.0076157521,macaque\_ENSMMUG00000000513\_ENSMMUG00000000513.4\_ENSMMUT00000056215\_ENSMMUT00000056215.2\_OSBPL5:0.0206628626)100:0.0557524232,(mouse\_ENSMUSG00000037606\_ENSMUSG00000037606.19\_ENSMUST00000020411\_ENSMUST00000020411.14\_Osbpl5:0.0180450198,rat\_ENSRNOG00000020713\_ENSRNOG00000020713.8\_ENSRNOT00000028119\_ENSRNOT00000028119.6\_Osbpl5:0.0161956445)100:0.1124668998)65:0.0122478587)100:0.2172465098,(opossum\_ENSMODG00000007169\_ENSMODG00000007169.5\_ENSMODT00000063283\_ENSMODT00000063283.1\_OSBPL5:0.0585569429,wallaby\_ENSMEUG00000001930\_ENSMEUG00000001930.1\_ENSMEUT00000001951\_ENSMEUT00000001951.1\_OSBPL5:0.0599842536)100:0.1319429244)100:0.3395435797,reedfish\_ENSECRG00000022795\_ENSECRG00000022795.1\_ENSECRT00000034559\_ENSECRT00000034559.1\_OSBPL5:0.4413103892)100:0.1623972671,((((imedaka\_ENSOMEG00000023888\_ENSOMEG00000023888.1\_ENSOMET00000016354\_ENSOMET00000016354.1\_OSBPL5:0.0205741695,jricefish\_ENSOJAG00000000563\_ENSOJAG00000000563.1\_ENSOJAT00000001435\_ENSOJAT00000001435.1\_OSBPL5:0.0152159753)100:0.1264653296,platyfish\_ENSXMAG00000018609\_ENSXMAG00000018609.2\_ENSXMAT00000018696\_ENSXMAT00000018696.2\_OSBPL5:0.1029129909)84:0.0241638168,sfightfish\_ENSBSLG00000006847\_ENSBSLG00000006847.1\_ENSBSLT00000016437\_ENSBSLT00000016437.1\_OSBPL5:0.0582269026)65:0.0132764764,psolderfish\_ENSMMDG00005005614\_ENSMMDG00005005614.1\_ENSMMDT00005013031\_ENSMMDT00005013031.1\_OSBPL5:0.1816927301)100:0.1020202428)98:0.0464349222,(goldfish\_ENSCARG00000012856\_ENSCARG00000012856.1\_ENSCART00000030624\_ENSCART00000030624.1\_OSBPL5:0.0348310027,goldfish\_ENSCARG00000048773\_ENSCARG00000048773.1\_ENSCART00000108859\_ENSCART00000108859.1\_OSBPL5:0.0786396244)100:0.0713375281);

Plagl1 (not eligible, no non-imprinted)

(cow\_ENSBTAG00000026523\_ENSBTAG00000026523.6\_ENSBTAT00000108635\_ENSBTAT00000108635.1\_PLAGL1:0.0194626249,((dog\_ENSCAFG00845012757\_ENSCAFG00845012757.1\_ENSCAFT00845022678\_ENSCAFT00845022678.1\_PLAGL1:0.0191125805,((hagfish\_ENSEBUG00000013956\_ENSEBUG00000013956.1\_ENSEBUT00000023235\_ENSEBUT00000023235.1\_PLAGL1:1.1371154170,opossum\_ENSMODG00000017250\_ENSMODG00000017250.2\_ENSMODT00000021904\_ENSMODT00000021904.2\_PLAGL1:0.2021487465)59:0.2031103031,((Human\_ENSG00000118495\_ENSG00000118495.21\_ENST00000674357\_ENST00000674357.1\_PLAGL1:0.0000029958,macaque\_ENSMMUG00000003750\_ENSMMUG00000003750.4\_ENSMMUT00000097021\_ENSMMUT00000097021.1\_PLAGL1:0.0110204225)70:0.0252231967,(rabbit\_ENSOCUG00000009505\_ENSOCUG00000009505.4\_ENSOCUT00000009503\_ENSOCUT00000009503.4\_PLAGL1:0.0618356602,(mouse\_ENSMUSG00000019817\_ENSMUSG00000019817.19\_ENSMUST00000121646\_ENSMUST00000121646.8\_Plagl1:0.0950481189,rat\_ENSRNOG00000025587\_ENSRNOG00000025587.5\_ENSRNOT00000030329\_ENSRNOT00000030329.4\_Plagl1:0.0879394191)96:0.2664118018)78:0.0840174110)44:0.0212589488)91:0.0362566218)65:0.0077891707,pig\_ENSSSCG00000004127\_ENSSSCG00000004127.4\_ENSSSCT00000058859\_ENSSSCT00000058859.3\_PLAGL1:0.0068137620)99:0.1423250288,sheep\_ENSOARG00020027132\_ENSOARG00020027132.1\_ENSOART00020062409\_ENSOART00020062409.1\_PLAGL1:0.0383106375);

Pon2

(cow\_ENSBTAG00000008361\_ENSBTAG00000008361.6\_ENSBTAT00000070111\_ENSBTAT00000070111.2\_PON2:0.0055585162,(dog\_ENSCAFG00845020811\_ENSCAFG00845020811.1\_ENSCAFT00845036845\_ENSCAFT00845036845.1\_PON2:0.1605448571,((((Human\_ENSG00000105854\_ENSG00000105854.13\_ENST00000222572\_ENST00000222572.8\_PON2:0.0092445340,macaque\_ENSMMUG00000008014\_ENSMMUG00000008014.4\_ENSMMUT00000097180\_ENSMMUT00000097180.1\_PON2:0.0132764349)98:0.0327624966,((opossum\_ENSMODG00000046426\_ENSMODG00000046426.1\_ENSMODT00000065523\_ENSMODT00000065523.1\_PON2:0.2413293314,wallaby\_ENSMEUG00000010848\_ENSMEUG00000010848.1\_ENSMEUT00000010871\_ENSMEUT00000010871.1\_PON2:0.0697122226)100:0.2135857673,rabbit\_ENSOCUG00000002014\_ENSOCUG00000002014.4\_ENSOCUT00000034879\_ENSOCUT00000034879.1\_PON2:0.0372865997)41:0.0147605966)43:0.0084272232,(mouse\_ENSMUSG00000032667\_ENSMUSG00000032667.18\_ENSMUST00000057792\_ENSMUST00000057792.9\_Pon2:0.0323480216,rat\_ENSRNOG00000009112\_ENSRNOG00000009112.5\_ENSRNOT00000036460\_ENSRNOT00000036460.4\_Pon2:0.0149859150)100:0.1092633967)85:0.0224481056,pig\_ENSSSCG00000015331\_ENSSSCG00000015331.4\_ENSSSCT00000016704\_ENSSSCT00000016704.4\_PON2:0.0190708493)53:0.0030739052)98:0.0176592385,sheep\_ENSOARG00020020867\_ENSOARG00020020867.2\_ENSOART00020032386\_ENSOART00020032386.2\_PON2:0.0143350995);

Pon3

(cow\_ENSBTAG00000034645\_ENSBTAG00000034645.5\_ENSBTAT00000100220\_ENSBTAT00000100220.1\_PON3:0.0797574974,((((Human\_ENSG00000105852\_ENSG00000105852.11\_ENST00000265627\_ENST00000265627.10\_PON3:0.0177860978,macaque\_ENSMMUG00000008013\_ENSMMUG00000008013.3\_ENSMMUT00000011208\_ENSMMUT00000011208.3\_PON3:0.0176633739)99:0.0563792089,rabbit\_ENSOCUG00000033613\_ENSOCUG00000033613.1\_ENSOCUT00000045549\_ENSOCUT00000045549.1\_PON3:0.1974271084)70:0.0297975180,(mouse\_ENSMUSG00000029759\_ENSMUSG00000029759.10\_ENSMUST00000031773\_ENSMUST00000031773.9\_Pon3:0.0465122882,rat\_ENSRNOG00000009096\_ENSRNOG00000009096.5\_ENSRNOT00000012050\_ENSRNOT00000012050.5\_Pon3:0.1177570492)100:0.0982673083)96:0.0633757769,pig\_ENSSSCG00000029515\_ENSSSCG00000029515.4\_ENSSSCT00000040872\_ENSSSCT00000040872.1\_PON3:0.1023570242)100:0.0719692697,sheep\_ENSOARG00020020726\_ENSOARG00020020726.2\_ENSOART00020055839\_ENSOART00020055839.1\_PON3:0.0258231285)

Rb1

(catfish\_ENSIPUG00015036606\_ENSIPUG00015036606.1\_ENSIPUT00015095353\_ENSIPUT00015095353.1\_RB1:0.2055812757,(((((((cow\_ENSBTAG00000006640\_ENSBTAG00000006640.6\_ENSBTAT00000008728\_ENSBTAT00000008728.5\_RB1:0.0081434574,sheep\_ENSOARG00020009781\_ENSOARG00020009781.2\_ENSOART00020015811\_ENSOART00020015811.2\_RB1:0.0021595416)100:0.0179277713,(dog\_ENSCAFG00845025645\_ENSCAFG00845025645.1\_ENSCAFT00845046821\_ENSCAFT00845046821.1\_RB1:0.0332168073,pig\_ENSSSCG00000009401\_ENSSSCG00000009401.5\_ENSSSCT00000010300\_ENSSSCT00000010300.5\_RB1:0.0196866621)81:0.0027035700)93:0.0103327957,((Human\_ENSG00000139687\_ENSG00000139687.17\_ENST00000267163\_ENST00000267163.6\_RB1:0.0066102568,macaque\_ENSMMUG00000007891\_ENSMMUG00000007891.4\_ENSMMUT00000055616\_ENSMMUT00000055616.2\_RB1:0.0000027648)100:0.0255008305,(rabbit\_ENSOCUG00000016404\_ENSOCUG00000016404.4\_ENSOCUT00000047878\_ENSOCUT00000047878.1\_RB1:0.0297671795,(mouse\_ENSMUSG00000022105\_ENSMUSG00000022105.7\_ENSMUST00000022701\_ENSMUST00000022701.7\_Rb1:0.0186874015,rat\_ENSRNOG00000016029\_ENSRNOG00000016029.6\_ENSRNOT00000021752\_ENSRNOT00000021752.6\_Rb1:0.0324412708)100:0.0540635706)54:0.0026603203)78:0.0062397356)100:0.0940815971,platypus\_ENSOANG00000015555\_ENSOANG00000015555.4\_ENSOANT00000024509\_ENSOANT00000024509.4\_RB1:0.1023786286)50:0.0310005980,(opossum\_ENSMODG00000011168\_ENSMODG00000011168.4\_ENSMODT00000014231\_ENSMODT00000014231.4\_RB1:0.0521032423,wallaby\_ENSMEUG00000000905\_ENSMEUG00000000905.1\_ENSMEUT00000000914\_ENSMEUT00000000914.1\_RB1:0.0305978487)75:0.0104340812)100:0.4172596004,reedfish\_ENSECRG00000006025\_ENSECRG00000006025.1\_ENSECRT00000009128\_ENSECRT00000009128.1\_RB1:0.3856571933)100:0.3403596756,((((imedaka\_ENSOMEG00000003485\_ENSOMEG00000003485.1\_ENSOMET00000012421\_ENSOMET00000012421.1\_rb1:0.0213174560,jricefish\_ENSOJAG00000023889\_ENSOJAG00000023889.1\_ENSOJAT00000052679\_ENSOJAT00000052679.1\_rb1:0.0170554119)100:0.1362031613,platyfish\_ENSXMAG00000015729\_ENSXMAG00000015729.2\_ENSXMAT00000036253\_ENSXMAT00000036253.1\_rb1:0.1354484982)99:0.0563191874,sfightfish\_ENSBSLG00000002904\_ENSBSLG00000002904.1\_ENSBSLT00000006821\_ENSBSLT00000006821.1\_rb1:0.1206411549)100:0.0606074772,psolderfish\_ENSMMDG00005022361\_ENSMMDG00005022361.1\_ENSMMDT00005051939\_ENSMMDT00005051939.1\_rb1:0.1489856306)100:0.1817470934)100:0.1349766734,(goldfish\_ENSCARG00000034503\_ENSCARG00000034503.1\_ENSCART00000080224\_ENSCART00000080224.1\_rb1:0.0751267468,goldfish\_ENSCARG00000069995\_ENSCARG00000069995.1\_ENSCART00000151917\_ENSCART00000151917.1\_rb1:0.0240459072)100:0.1802880267)

Sfmbt2

(asalmon\_ENSGMOG00000000993\_ENSGMOG00000000993.2\_ENSGMOT00000037398\_ENSGMOT00000037398.1\_SFMBT2:0.3893371610,((catfish\_ENSIPUG00015032055\_ENSIPUG00015032055.1\_ENSIPUT00015083828\_ENSIPUT00015083828.1\_SFMBT2:0.2038967584,(goldfish\_ENSCARG00000001445\_ENSCARG00000001445.1\_ENSCART00000003358\_ENSCART00000003358.1\_SFMBT2:0.0488864476,goldfish\_ENSCARG00000015126\_ENSCARG00000015126.1\_ENSCART00000036642\_ENSCART00000036642.1\_SFMBT2:0.0268946144)100:0.2117317755)100:0.1385798859,(((((((cow\_ENSBTAG00000005915\_ENSBTAG00000005915.7\_ENSBTAT00000007770\_ENSBTAT00000007770.7\_SFMBT2:0.0015119353,sheep\_ENSOARG00020004270\_ENSOARG00020004270.2\_ENSOART00020006516\_ENSOART00020006516.2\_SFMBT2:0.0147962157)100:0.0329377933,pig\_ENSSSCG00000024480\_ENSSSCG00000024480.4\_ENSSSCT00000026286\_ENSSSCT00000026286.4\_SFMBT2:0.0634928125)100:0.0193779238,dog\_ENSCAFG00845001504\_ENSCAFG00845001504.1\_ENSCAFT00845002613\_ENSCAFT00845002613.1\_SFMBT2:0.0430449771)95:0.0183977553,((Human\_ENSG00000198879\_ENSG00000198879.13\_ENST00000397167\_ENST00000397167.6\_SFMBT2:0.0091752679,macaque\_ENSMMUG00000019194\_ENSMMUG00000019194.4\_ENSMMUT00000026967\_ENSMMUT00000026967.4\_SFMBT2:0.0142262131)100:0.0240003229,(rabbit\_ENSOCUG00000013281\_ENSOCUG00000013281.4\_ENSOCUT00000013282\_ENSOCUT00000013282.4\_SFMBT2:0.0250512057,(mouse\_ENSMUSG00000061186\_ENSMUSG00000061186.16\_ENSMUST00000041105\_ENSMUST00000041105.7\_Sfmbt2:0.1195188937,rat\_ENSRNOG00000029235\_ENSRNOG00000029235.5\_ENSRNOT00000117032\_ENSRNOT00000117032.1\_Sfmbt2:0.1190891183)100:0.2329328723)71:0.0055106355)83:0.0137622996)100:0.0799600605,opossum\_ENSMODG00000016677\_ENSMODG00000016677.4\_ENSMODT00000021183\_ENSMODT00000021183.4\_SFMBT2:0.0611817190)51:0.0146000695,platypus\_ENSOANG00000015449\_ENSOANG00000015449.3\_ENSOANT00000024314\_ENSOANT00000024314.3\_SFMBT2:0.0423816106)100:0.2619603462,reedfish\_ENSECRG00000010151\_ENSECRG00000010151.1\_ENSECRT00000015482\_ENSECRT00000015482.1\_SFMBT2:0.1418717385)100:0.2791632349)100:0.1621208740,((((imedaka\_ENSOMEG00000023721\_ENSOMEG00000023721.1\_ENSOMET00000031524\_ENSOMET00000031524.1\_SFMBT2:0.0149312441,jricefish\_ENSOJAG00000021102\_ENSOJAG00000021102.1\_ENSOJAT00000045996\_ENSOJAT00000045996.1\_SFMBT2:0.0295483094)100:0.1110923350,(mplatyfish\_ENSXCOG00000011927\_ENSXCOG00000011927.1\_ENSXCOT00000015981\_ENSXCOT00000015981.1\_SFMBT2:0.1616777144,platyfish\_ENSXMAG00000002967\_ENSXMAG00000002967.2\_ENSXMAT00000002983\_ENSXMAT00000002983.2\_SFMBT2:0.0000024080)100:0.2300085547)57:0.0278064350,sfightfish\_ENSBSLG00000022028\_ENSBSLG00000022028.1\_ENSBSLT00000050889\_ENSBSLT00000050889.1\_SFMBT2:0.1093360667)51:0.0159484903,psolderfish\_ENSMMDG00005017192\_ENSMMDG00005017192.1\_ENSMMDT00005037716\_ENSMMDT00005037716.1\_SFMBT2:0.1054227938)70:0.0475715898);

Slc38a4

(catfish\_ENSIPUG00015021027\_ENSIPUG00015021027.1\_ENSIPUT00015052656\_ENSIPUT00015052656.1\_SLC38A4:0.1192941451,((((((((cow\_ENSBTAG00000014197\_ENSBTAG00000014197.7\_ENSBTAT00000070473\_ENSBTAT00000070473.2\_SLC38A4:0.0069283680,sheep\_ENSOARG00020003294\_ENSOARG00020003294.2\_ENSOART00020005131\_ENSOART00020005131.2\_SLC38A4:0.0164346867)100:0.0242103544,(dog\_ENSCAFG00845026984\_ENSCAFG00845026984.1\_ENSCAFT00845047999\_ENSCAFT00845047999.1\_SLC38A4:0.0753295420,pig\_ENSSSCG00000026597\_ENSSSCG00000026597.4\_ENSSSCT00000029189\_ENSSSCT00000029189.4\_SLC38A4:0.0529297067)89:0.0177718884)87:0.0078764475,(Human\_ENSG00000139209\_ENSG00000139209.16\_ENST00000266579\_ENST00000266579.9\_SLC38A4:0.0190784196,macaque\_ENSMMUG00000012331\_ENSMMUG00000012331.4\_ENSMMUT00000017281\_ENSMMUT00000017281.4\_SLC38A4:0.0115024123)100:0.0233414502)79:0.0131603161,(mouse\_ENSMUSG00000022464\_ENSMUSG00000022464.15\_ENSMUST00000023101\_ENSMUST00000023101.10\_Slc38a4:0.0588143047,rat\_ENSRNOG00000006653\_ENSRNOG00000006653.6\_ENSRNOT00000009187\_ENSRNOT00000009187.6\_Slc38a4:0.0439372516)100:0.0556306338)56:0.0075419410,rabbit\_ENSOCUG00000027198\_ENSOCUG00000027198.3\_ENSOCUT00000026469\_ENSOCUT00000026469.3\_SLC38A4:0.2304188869)87:0.0374615075,opossum\_ENSMODG00000018519\_ENSMODG00000018519.4\_ENSMODT00000079045\_ENSMODT00000079045.1\_SLC38A4:0.0937383792)100:0.3347716581,reedfish\_ENSECRG00000011053\_ENSECRG00000011053.1\_ENSECRT00000016894\_ENSECRT00000016894.1\_slc38a4:0.1607310087)100:0.1786764609,((((imedaka\_ENSOMEG00000022958\_ENSOMEG00000022958.1\_ENSOMET00000036419\_ENSOMET00000036419.1\_slc38a4:0.0222129042,jricefish\_ENSOJAG00000019017\_ENSOJAG00000019017.1\_ENSOJAT00000042888\_ENSOJAT00000042888.1\_slc38a4:0.0188338567)100:0.1660908449,platyfish\_ENSXMAG00000006133\_ENSXMAG00000006133.2\_ENSXMAT00000006151\_ENSXMAT00000006151.2\_slc38a4:0.1495928077)79:0.0320425861,psolderfish\_ENSMMDG00005023776\_ENSMMDG00005023776.1\_ENSMMDT00005053797\_ENSMMDT00005053797.1\_slc38a4:0.1035944995)49:0.0052430210,sfightfish\_ENSBSLG00000012424\_ENSBSLG00000012424.1\_ENSBSLT00000027899\_ENSBSLT00000027899.1\_slc38a4:0.0995584317)83:0.0452583191)82:0.0413057782,((goldfish\_ENSCARG00000013654\_ENSCARG00000013654.1\_ENSCART00000032453\_ENSCART00000032453.1\_slc38a4:0.0000010158,goldfish\_ENSCARG00000018446\_ENSCARG00000018446.1\_ENSCART00000045973\_ENSCART00000045973.1\_slc38a4:0.0042735032)100:0.0423937345,(goldfish\_ENSCARG00000028502\_ENSCARG00000028502.1\_ENSCART00000069040\_ENSCART00000069040.1\_slc38a4:0.0043250523,goldfish\_ENSCARG00000053856\_ENSCARG00000053856.1\_ENSCART00000121891\_ENSCART00000121891.1\_slc38a4:0.0044021198)100:0.1090795387)100:0.1175083847);

Tssc4

(catfish\_ENSIPUG00015015867\_ENSIPUG00015015867.1\_ENSIPUT00015036872\_ENSIPUT00015036872.1\_TSSC4:0.2412293671,(((((((cow\_ENSBTAG00000047793\_ENSBTAG00000047793.3\_ENSBTAT00000124360\_ENSBTAT00000124360.1\_TSSC4:0.0650635270,sheep\_ENSOARG00020007200\_ENSOARG00020007200.2\_ENSOART00020070469\_ENSOART00020070469.1\_TSSC4:0.0531560164)100:0.1381454616,pig\_ENSSSCG00000036015\_ENSSSCG00000036015.3\_ENSSSCT00000066358\_ENSSSCT00000066358.3\_TSSC4:0.3414039653)74:0.0782810616,dog\_ENSCAFG00845011479\_ENSCAFG00845011479.1\_ENSCAFT00845020359\_ENSCAFT00845020359.1\_TSSC4:0.1929408882)74:0.0754892661,(Human\_ENSG00000184281\_ENSG00000184281.15\_ENST00000333256\_ENST00000333256.11\_TSSC4:0.0039909191,macaque\_ENSMMUG00000013772\_ENSMMUG00000013772.4\_ENSMMUT00000019338\_ENSMMUT00000019338.4\_TSSC4:0.0298890041)100:0.1534526340)77:0.1462192561,(mouse\_ENSMUSG00000045752\_ENSMUSG00000045752.14\_ENSMUST00000060433\_ENSMUST00000060433.10\_Tssc4:0.0552319188,rat\_ENSRNOG00000032677\_ENSRNOG00000032677.4\_ENSRNOT00000112618\_ENSRNOT00000112618.1\_Tssc4:0.0402110501)83:0.1523307288)100:1.0418187830,reedfish\_ENSECRG00000020443\_ENSECRG00000020443.1\_ENSECRT00000030752\_ENSECRT00000030752.1\_tssc4:0.7353518874)81:0.3419047879,asalmon\_ENSGMOG00000029139\_ENSGMOG00000029139.1\_ENSGMOT00000025105\_ENSGMOT00000025105.1\_tssc4:0.9254881734)98:0.4401387106,goldfish\_ENSCARG00000070343\_ENSCARG00000070343.1\_ENSCART00000152687\_ENSCART00000152687.1\_tssc4:0.5227650953);

Zc3h12c

(cow\_ENSBTAG00000008732\_ENSBTAG00000008732.7\_ENSBTAT00000011504\_ENSBTAT00000011504.7\_ZC3H12C:0.0093644817,(dog\_ENSCAFG00845003069\_ENSCAFG00845003069.1\_ENSCAFT00845005415\_ENSCAFT00845005415.1\_ZC3H12C:0.0770295289,((((Human\_ENSG00000149289\_ENSG00000149289.11\_ENST00000278590\_ENST00000278590.8\_ZC3H12C:0.0122680133,macaque\_ENSMMUG00000048435\_ENSMMUG00000048435.2\_ENSMMUT00000054896\_ENSMMUT00000054896.2\_ZC3H12C:0.0172141740)99:0.0214684457,(rabbit\_ENSOCUG00000005283\_ENSOCUG00000005283.4\_ENSOCUT00000053309\_ENSOCUT00000053309.1\_ZC3H12C:0.0377101396,(mouse\_ENSMUSG00000035164\_ENSMUSG00000035164.9\_ENSMUST00000165519\_ENSMUST00000165519.2\_Zc3h12c:0.0188618148,rat\_ENSRNOG00000012470\_ENSRNOG00000012470.8\_ENSRNOT00000080043\_ENSRNOT00000080043.2\_Zc3h12c:0.0162480470)100:0.0385164231)87:0.0074330490)84:0.0090764766,((opossum\_ENSMODG00000014555\_ENSMODG00000014555.4\_ENSMODT00000084476\_ENSMODT00000084476.1\_ZC3H12C:0.0228034250,wallaby\_ENSMEUG00000015398\_ENSMEUG00000015398.1\_ENSMEUT00000015443\_ENSMEUT00000015443.1\_ZC3H12C:0.0292569244)99:0.0337665901,(platypus\_ENSOANG00000006242\_ENSOANG00000006242.3\_ENSOANT00000009992\_ENSOANT00000009992.3\_ZC3H12C:0.1484013199,reedfish\_ENSECRG00000004663\_ENSECRG00000004663.1\_ENSECRT00000007096\_ENSECRT00000007096.1\_ZC3H12C:0.5536163764)66:0.0264621475)93:0.0545741135)90:0.0142197236,pig\_ENSSSCG00000015014\_ENSSSCG00000015014.5\_ENSSSCT00000045349\_ENSSSCT00000045349.3\_ZC3H12C:0.0241887663)88:0.0120272900)100:0.0360811945,sheep\_ENSOARG00020012692\_ENSOARG00020012692.2\_ENSOART00020071724\_ENSOART00020071724.1\_ZC3H12C:0.0063339392);

Zfat

(catfish\_ENSIPUG00015014551\_ENSIPUG00015014551.1\_ENSIPUT00015033290\_ENSIPUT00015033290.1\_ZFAT:0.3021483855,(((catfish\_ENSIPUG00015016975\_ENSIPUG00015016975.1\_ENSIPUT00015040126\_ENSIPUT00015040126.1\_ZFAT:9.9999988669,((((cow\_ENSBTAG00000017731\_ENSBTAG00000017731.5\_ENSBTAT00000067661\_ENSBTAT00000067661.2\_ZFAT:0.0085967938,sheep\_ENSOARG00020005657\_ENSOARG00020005657.2\_ENSOART00020008782\_ENSOART00020008782.2\_ZFAT:0.0240774901)95:0.0773151931,pig\_ENSSSCG00000030947\_ENSSSCG00000030947.4\_ENSSSCT00000050325\_ENSSSCT00000050325.3\_ZFAT:0.0540641387)92:0.0553947806,dog\_ENSCAFG00845010442\_ENSCAFG00845010442.1\_ENSCAFT00845018498\_ENSCAFT00845018498.1\_ZFAT:0.0900411568)80:0.0302018995,((Human\_ENSG00000066827\_ENSG00000066827.16\_ENST00000377838\_ENST00000377838.8\_ZFAT:0.0082355482,macaque\_ENSMMUG00000004918\_ENSMMUG00000004918.4\_ENSMMUT00000038839\_ENSMMUT00000038839.3\_ZFAT:0.0216130280)100:0.0595533247,(rabbit\_ENSOCUG00000017015\_ENSOCUG00000017015.4\_ENSOCUT00000017015\_ENSOCUT00000017015.4\_ZFAT:0.1848942958,(mouse\_ENSMUSG00000022335\_ENSMUSG00000022335.18\_ENSMUST00000160248\_ENSMUST00000160248.8\_Zfat:0.0192151115,rat\_ENSRNOG00000025140\_ENSRNOG00000025140.7\_ENSRNOT00000068291\_ENSRNOT00000068291.3\_Zfat:0.0185209272)96:0.0681151332)82:0.0114410217)83:0.0188444424)74:0.1304475946)46:0.0000769954,(opossum\_ENSMODG00000001068\_ENSMODG00000001068.4\_ENSMODT00000001297\_ENSMODT00000001297.4\_ZFAT:0.0632621309,wallaby\_ENSMEUG00000002357\_ENSMEUG00000002357.1\_ENSMEUT00000002370\_ENSMEUT00000002370.1\_ZFAT:0.0354126886)99:0.1329026904)95:0.3882372869,reedfish\_ENSECRG00000013533\_ENSECRG00000013533.1\_ENSECRT00000020621\_ENSECRT00000020621.1\_ZFAT:0.3890100043)100:0.3983117338,((goldfish\_ENSCARG00000015776\_ENSCARG00000015776.1\_ENSCART00000040280\_ENSCART00000040280.1\_ZFAT:0.0016577287,goldfish\_ENSCARG00000052301\_ENSCARG00000052301.1\_ENSCART00000114423\_ENSCART00000114423.1\_ZFAT:0.0803823496)100:0.0518043810,goldfish\_ENSCARG00000054821\_ENSCARG00000054821.1\_ENSCART00000119798\_ENSCART00000119798.1\_ZFAT:0.0670357840)100:0.2103597120);

Znf597

(cow\_ENSBTAG00000000728\_ENSBTAG00000000728.7\_ENSBTAT00000131040\_ENSBTAT00000131040.1\_ZNF597:0.3889007220,dog\_ENSCAFG00845002433\_ENSCAFG00845002433.1\_ENSCAFT00845004285\_ENSCAFT00845004285.1\_ZNF597:0.1635983387,((Human\_ENSG00000167981\_ENSG00000167981.7\_ENST00000301744\_ENST00000301744.7\_ZNF597:0.0307547632,macaque\_ENSMMUG00000054288\_ENSMMUG00000054288.1\_ENSMMUT00000087460\_ENSMMUT00000087460.1\_ZNF597:0.0315059287)100:0.1461293402,rabbit\_ENSOCUG00000026633\_ENSOCUG00000026633.2\_ENSOCUT00000031650\_ENSOCUT00000031650.2\_ZNF597:0.2078778802)100:0.1240607469);