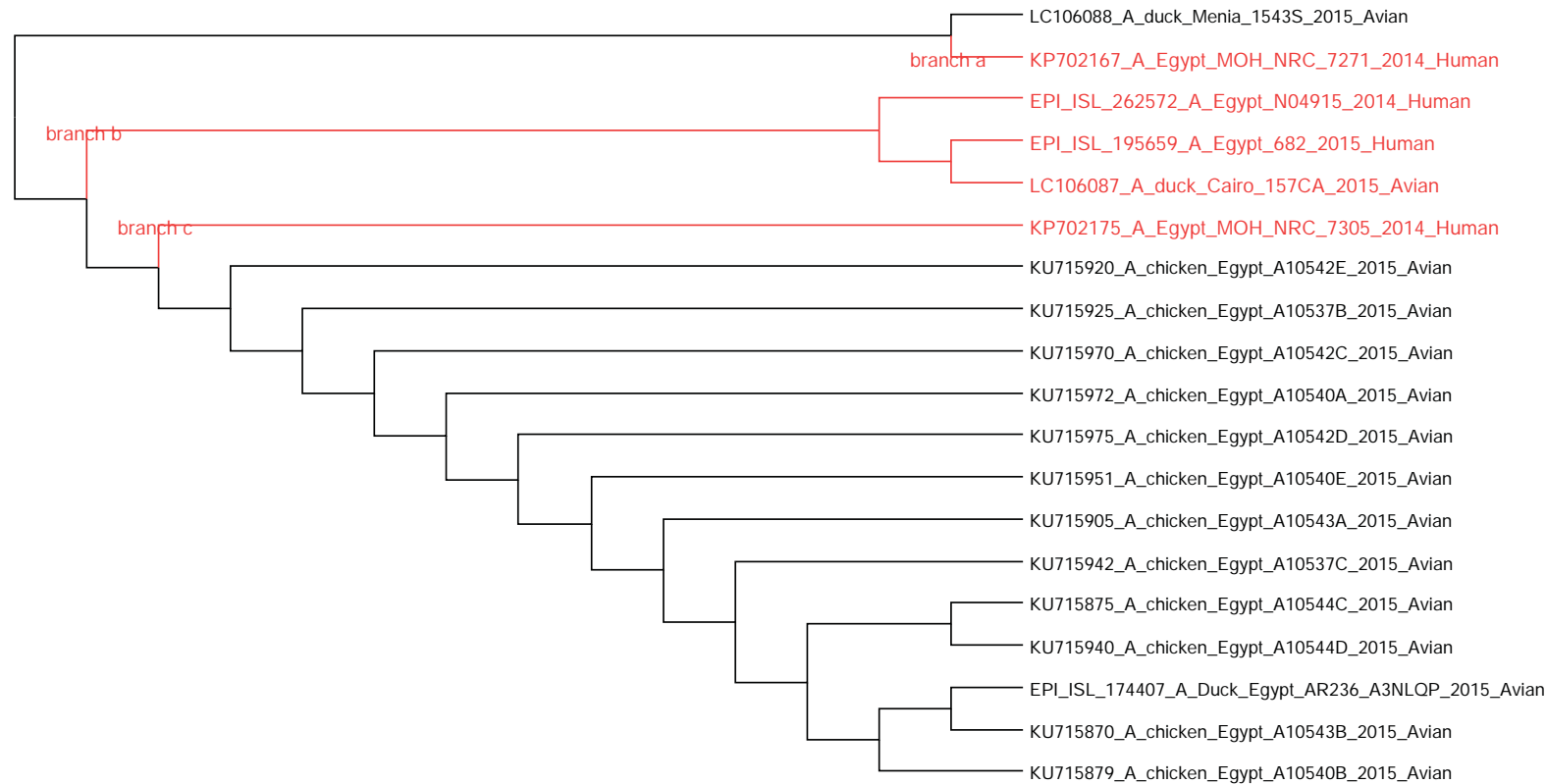
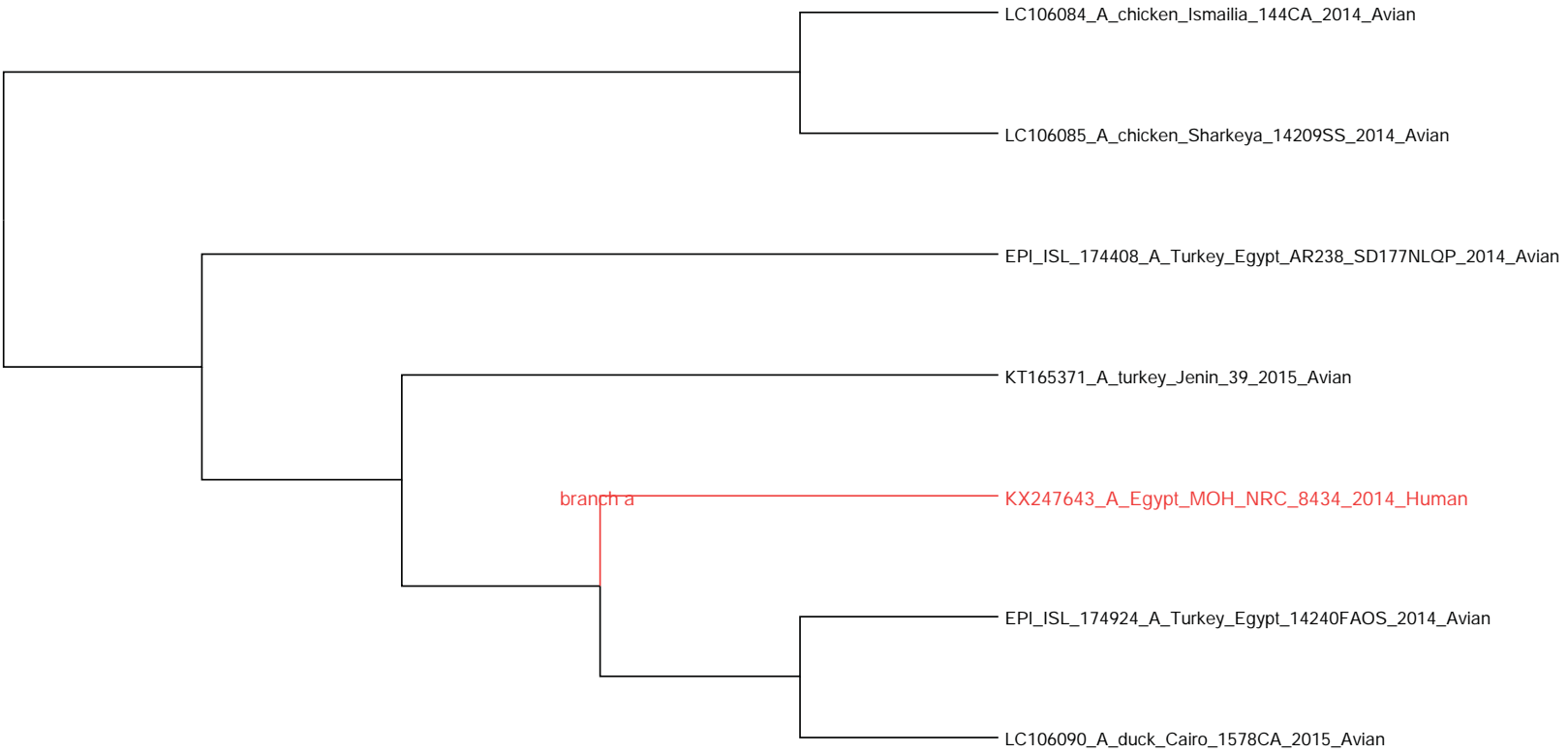


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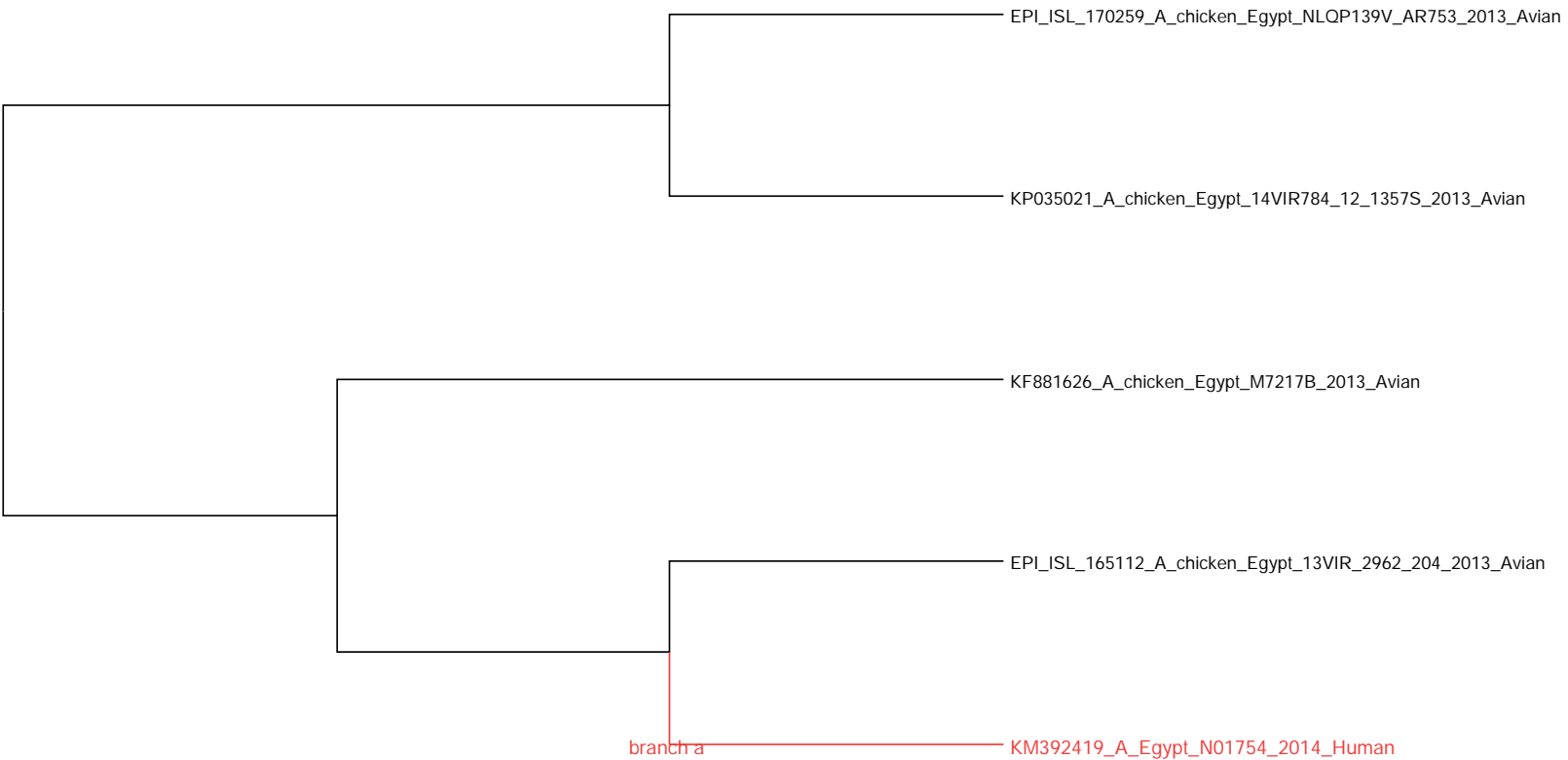
Supplementary Figure 4. 114 phylogenetic trees of NA used for the adaptive evolution analyses. Human strains are marked in red. Branches which have significant signals of positive selection are marked with *.



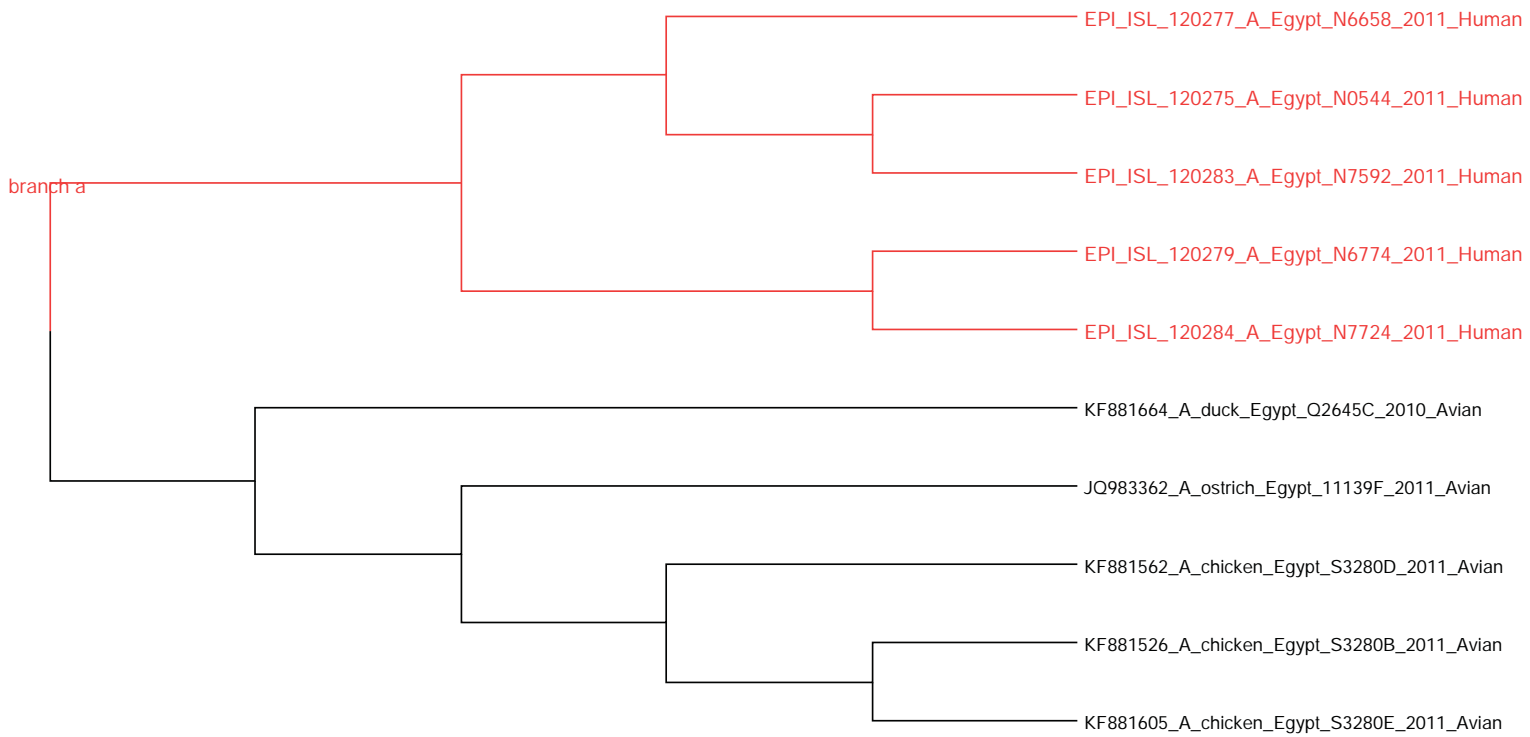
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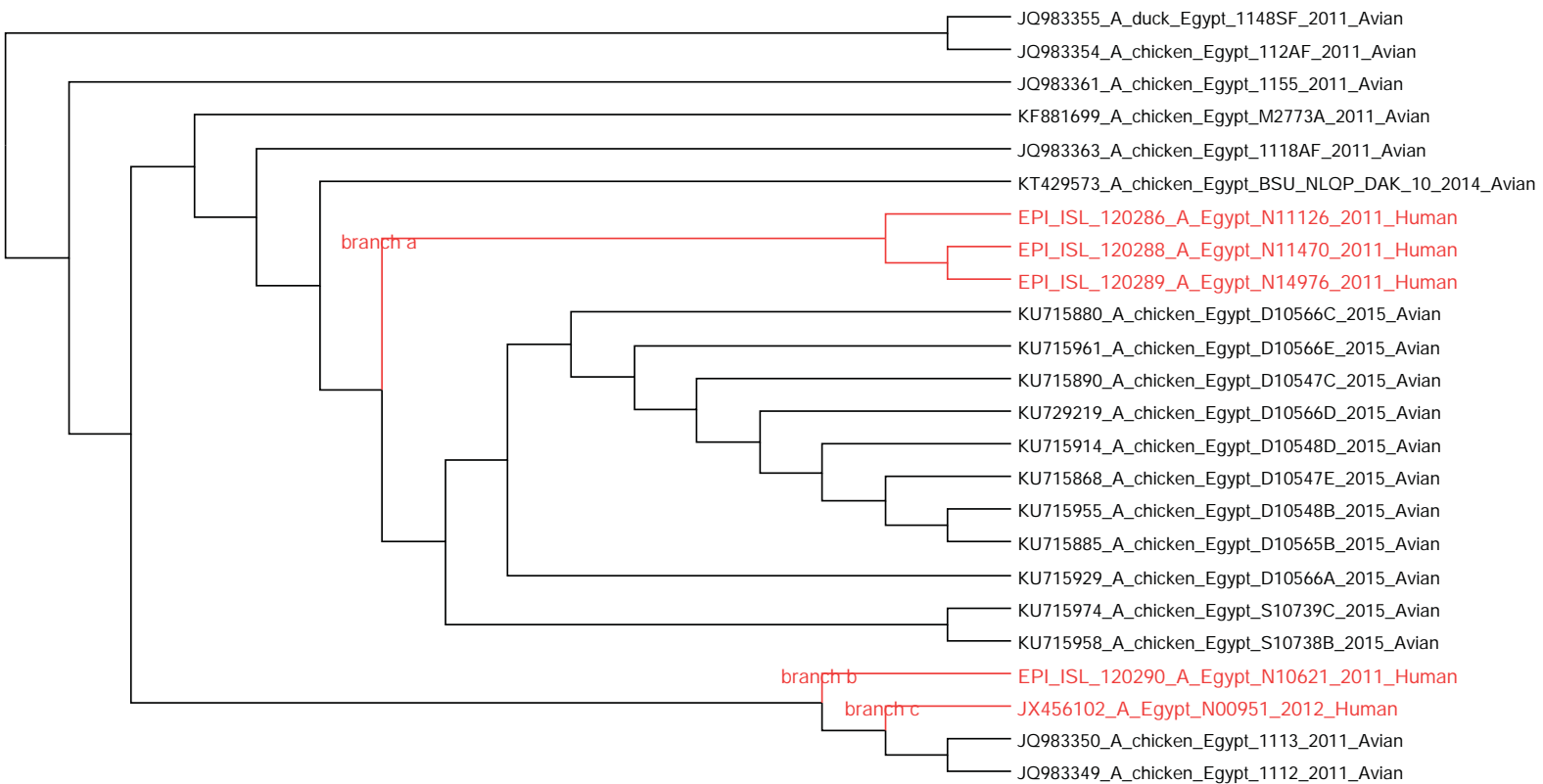
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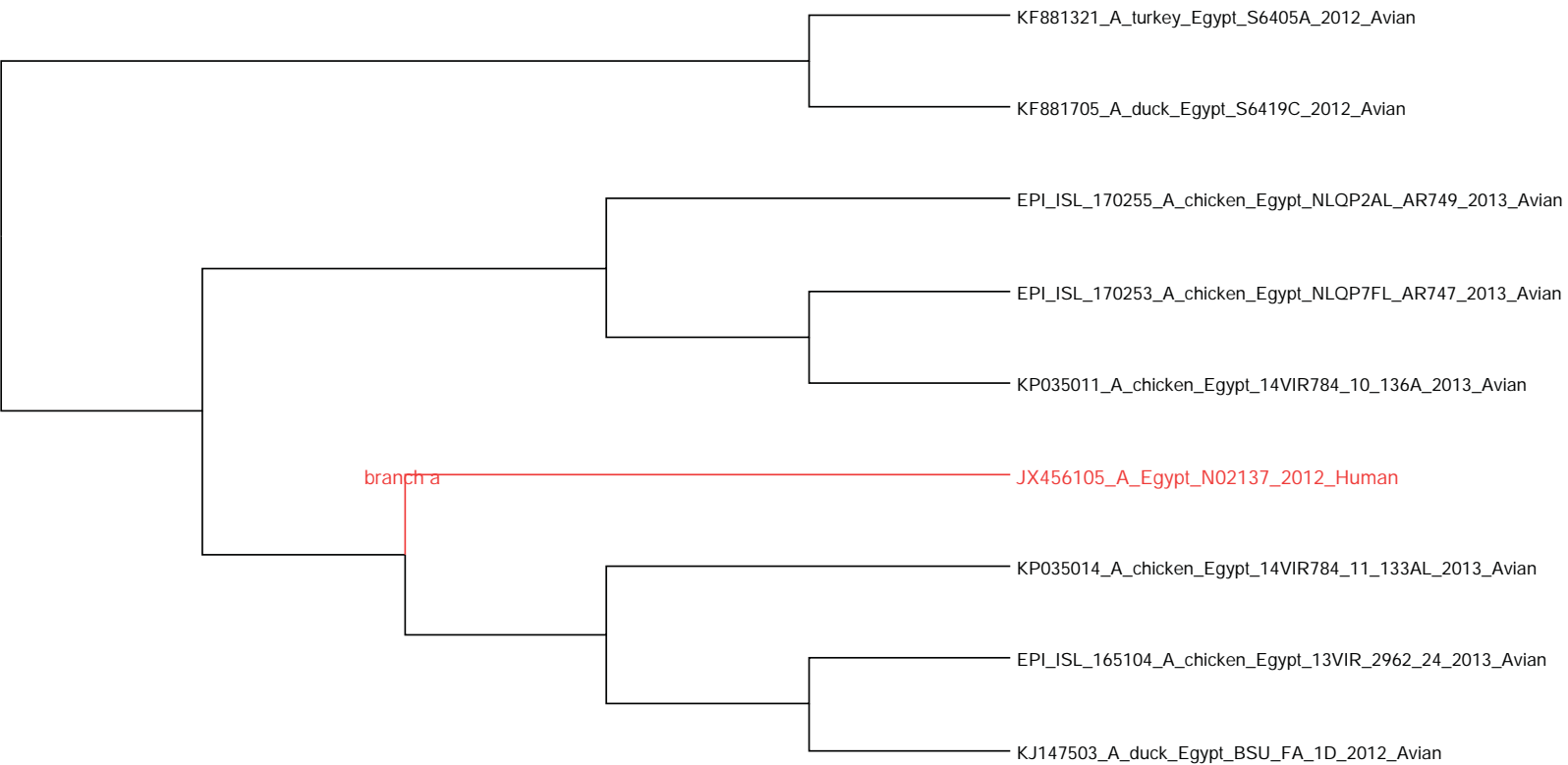
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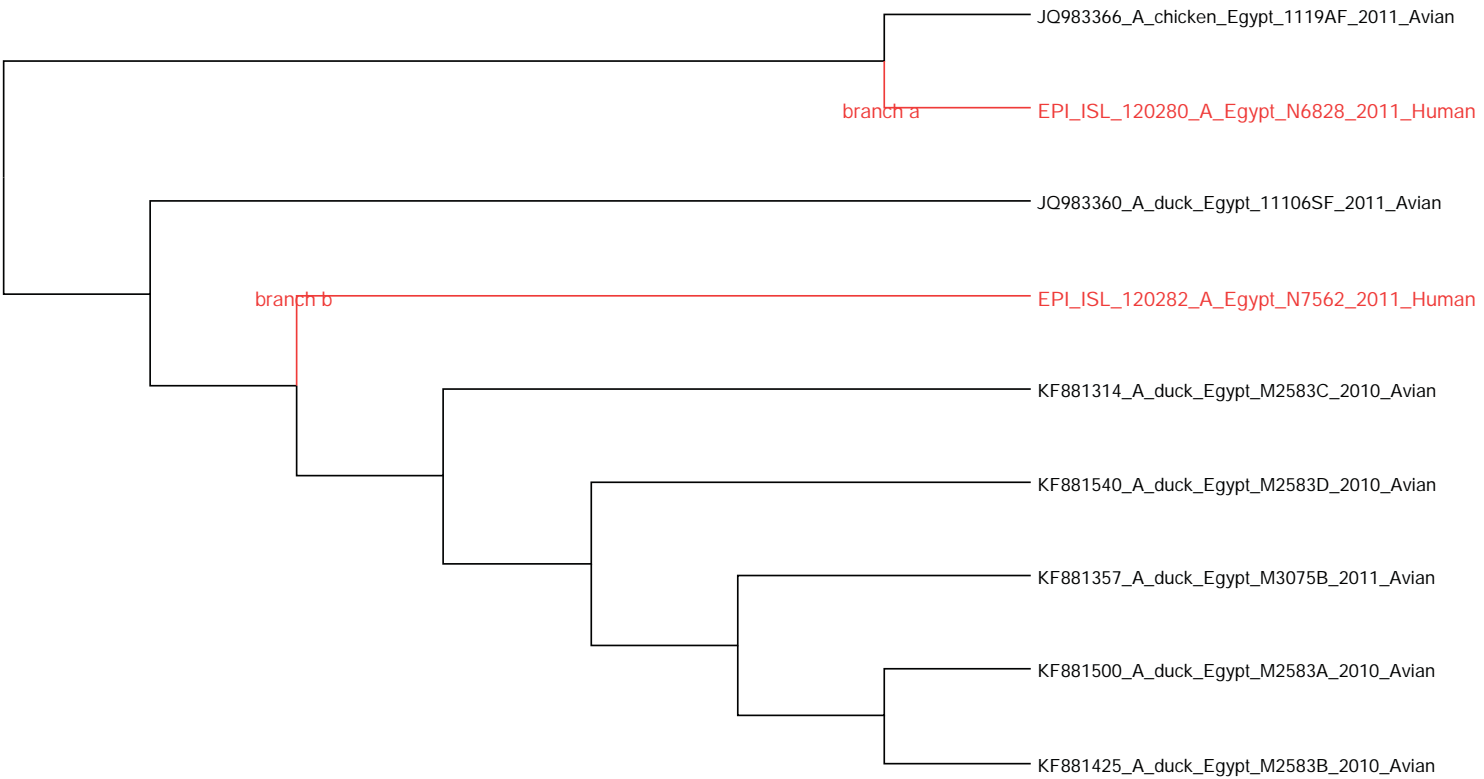
NA1-Groups



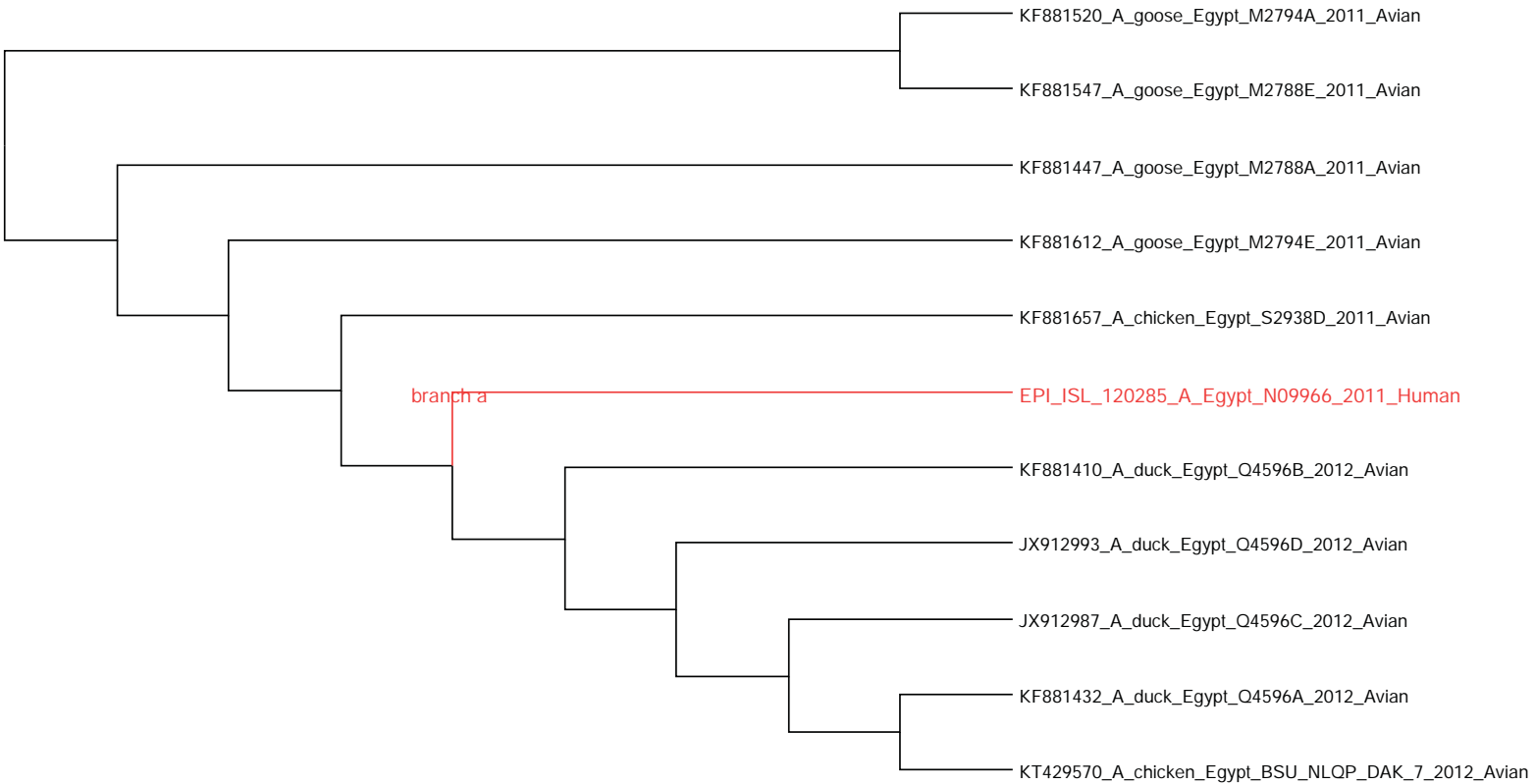
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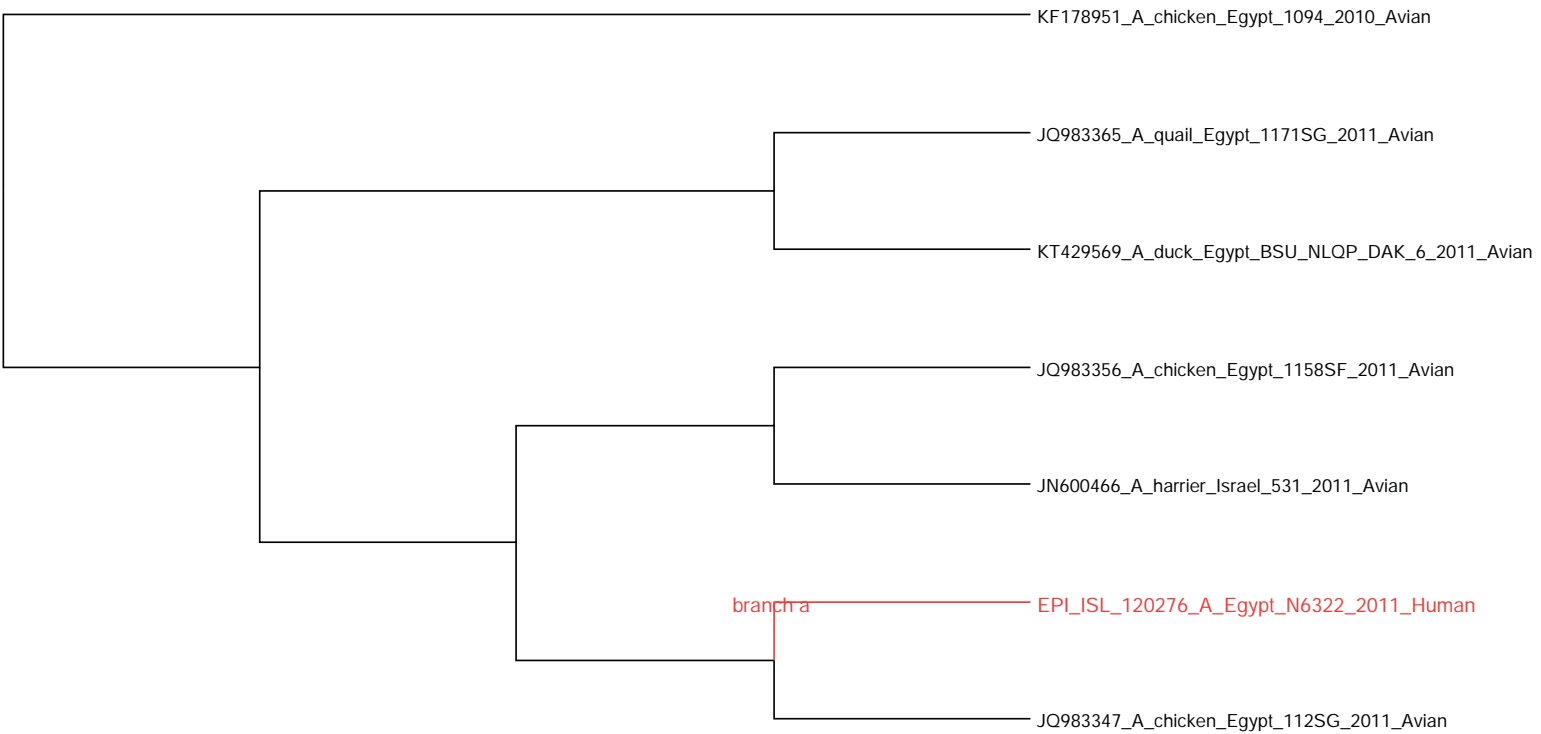
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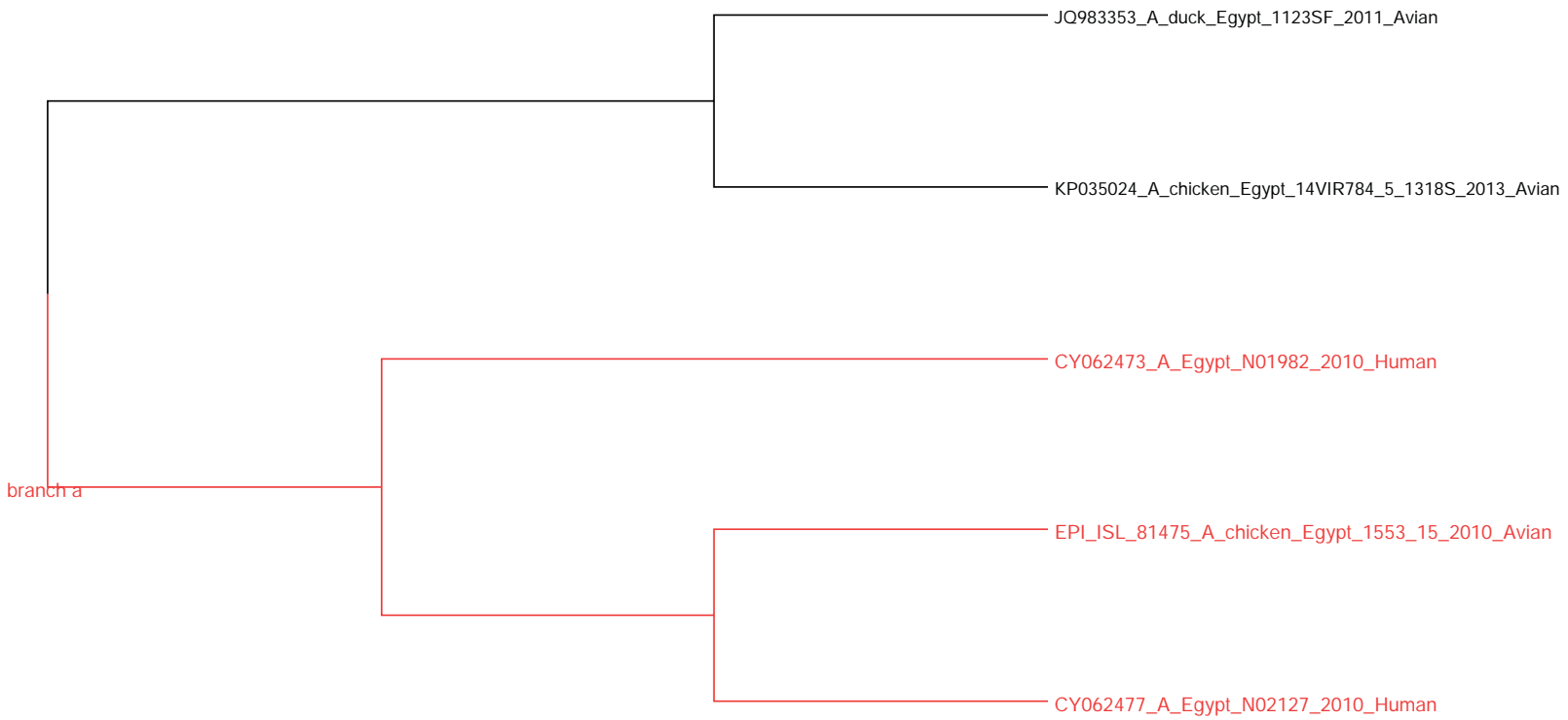
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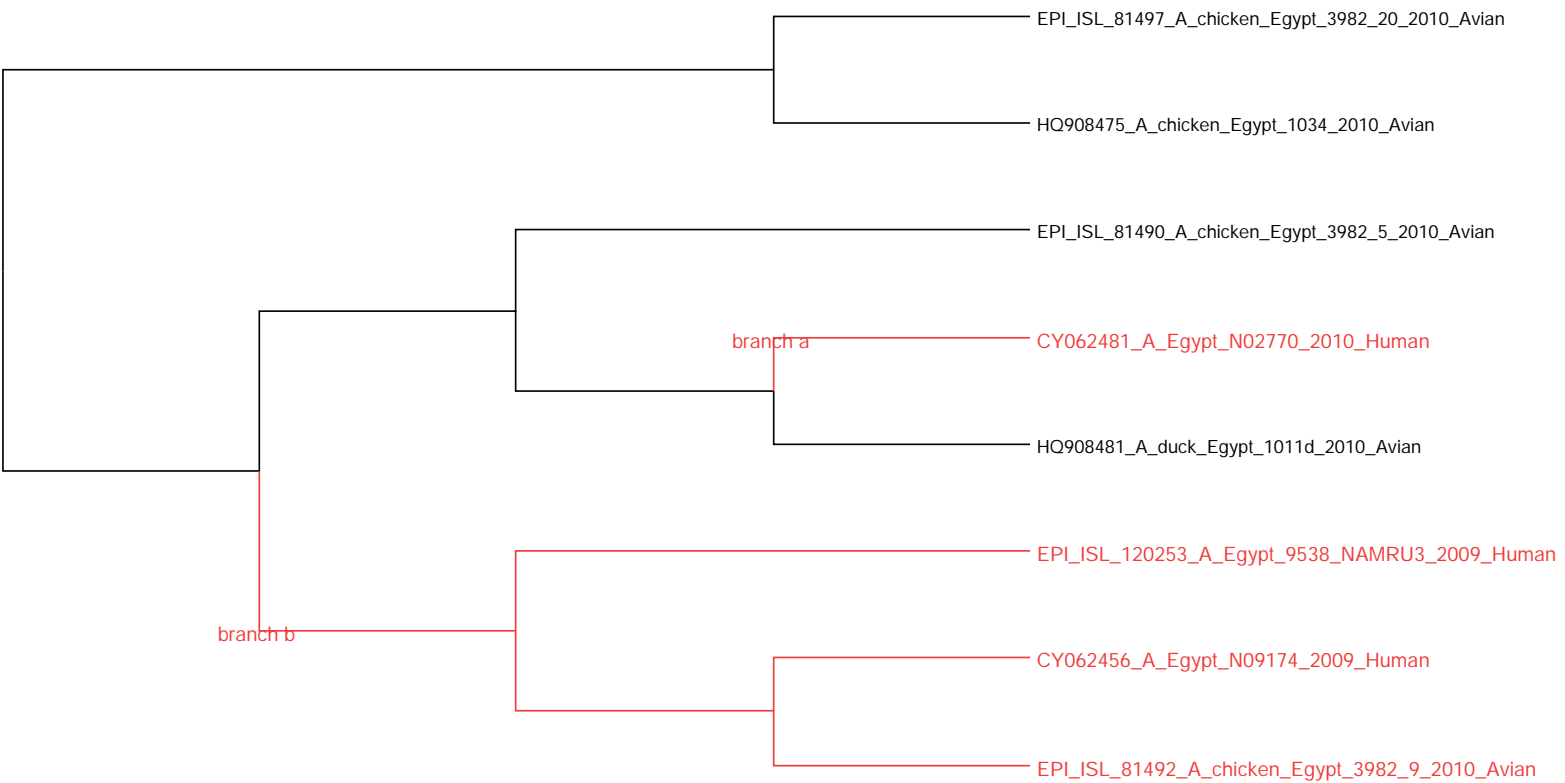
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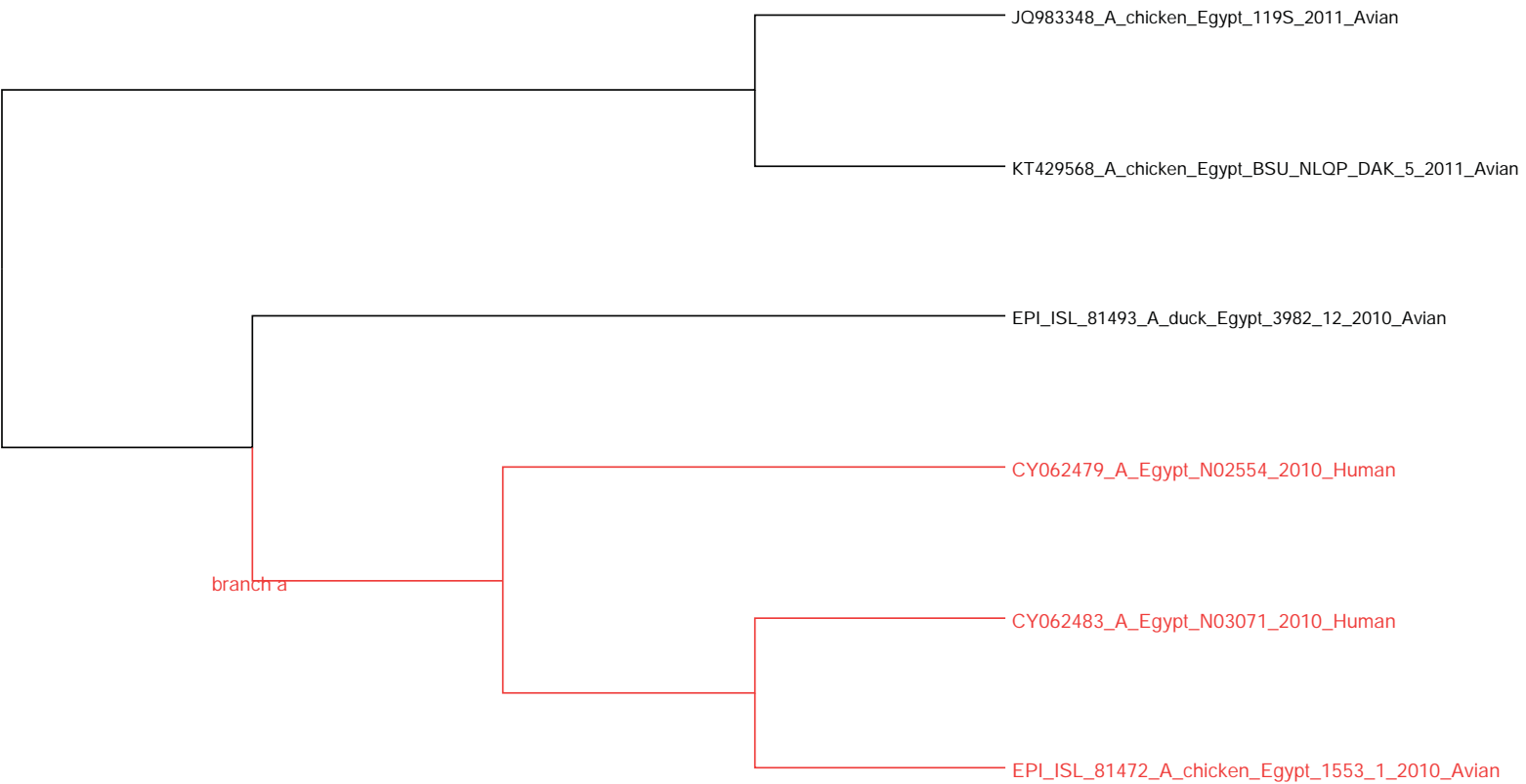
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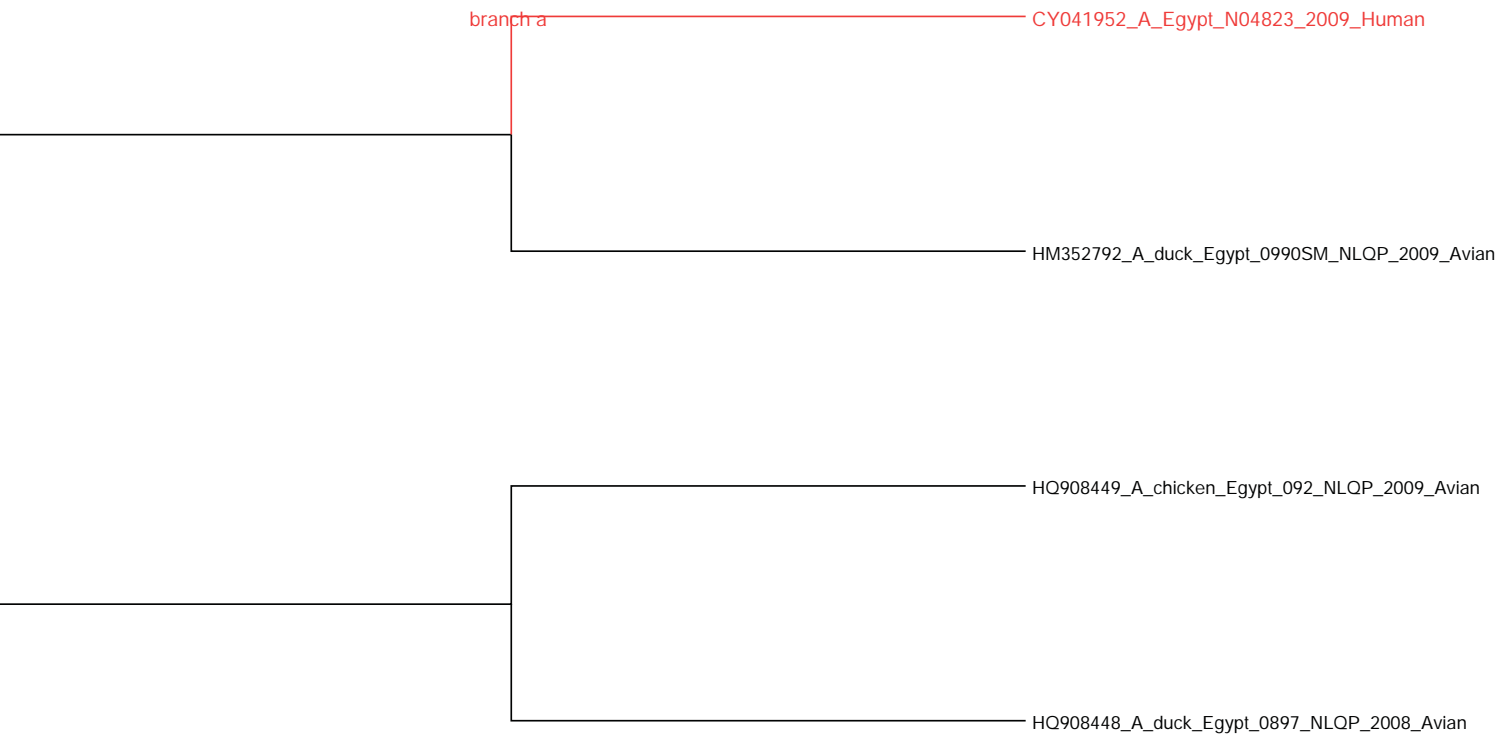
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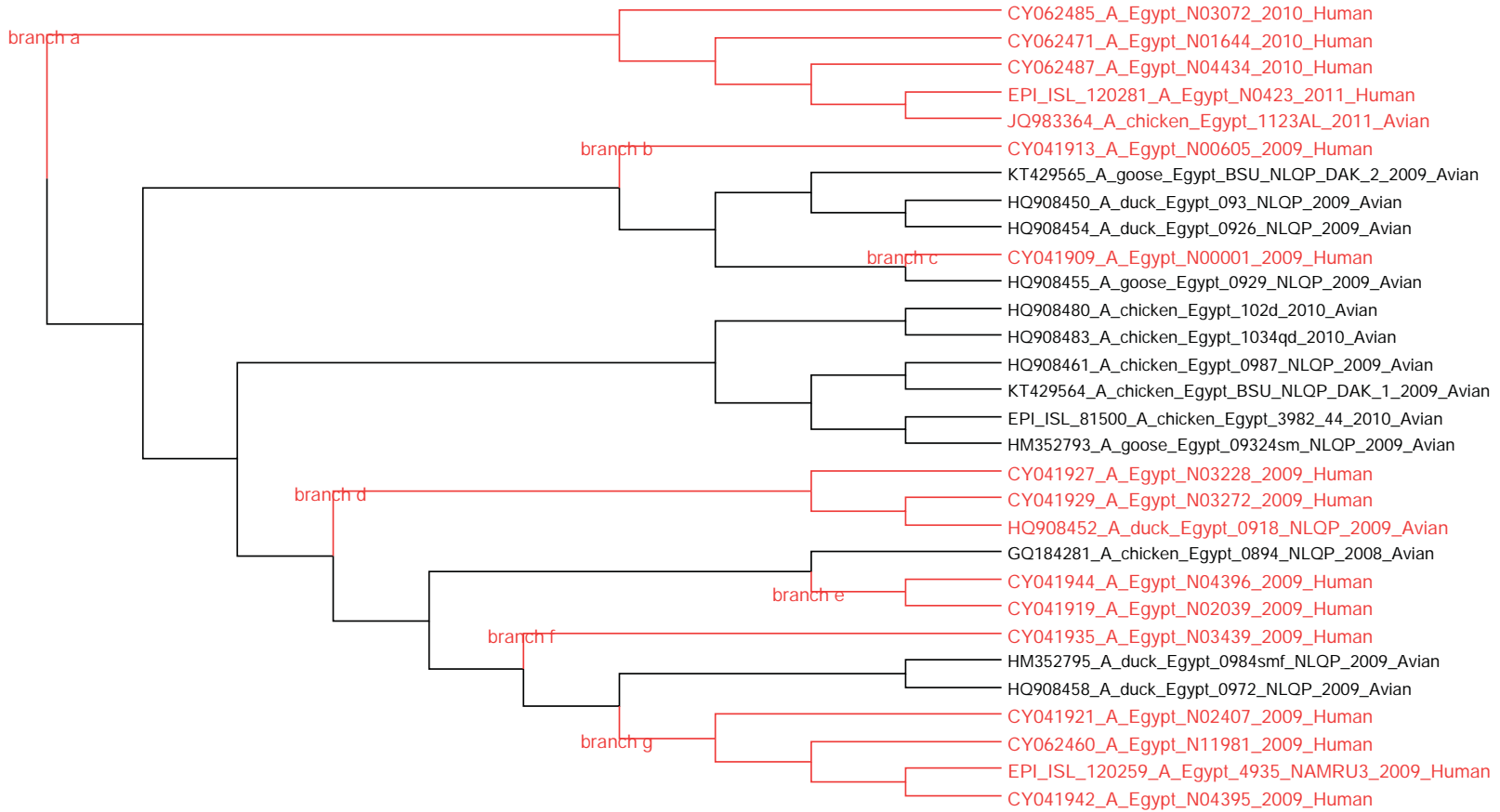
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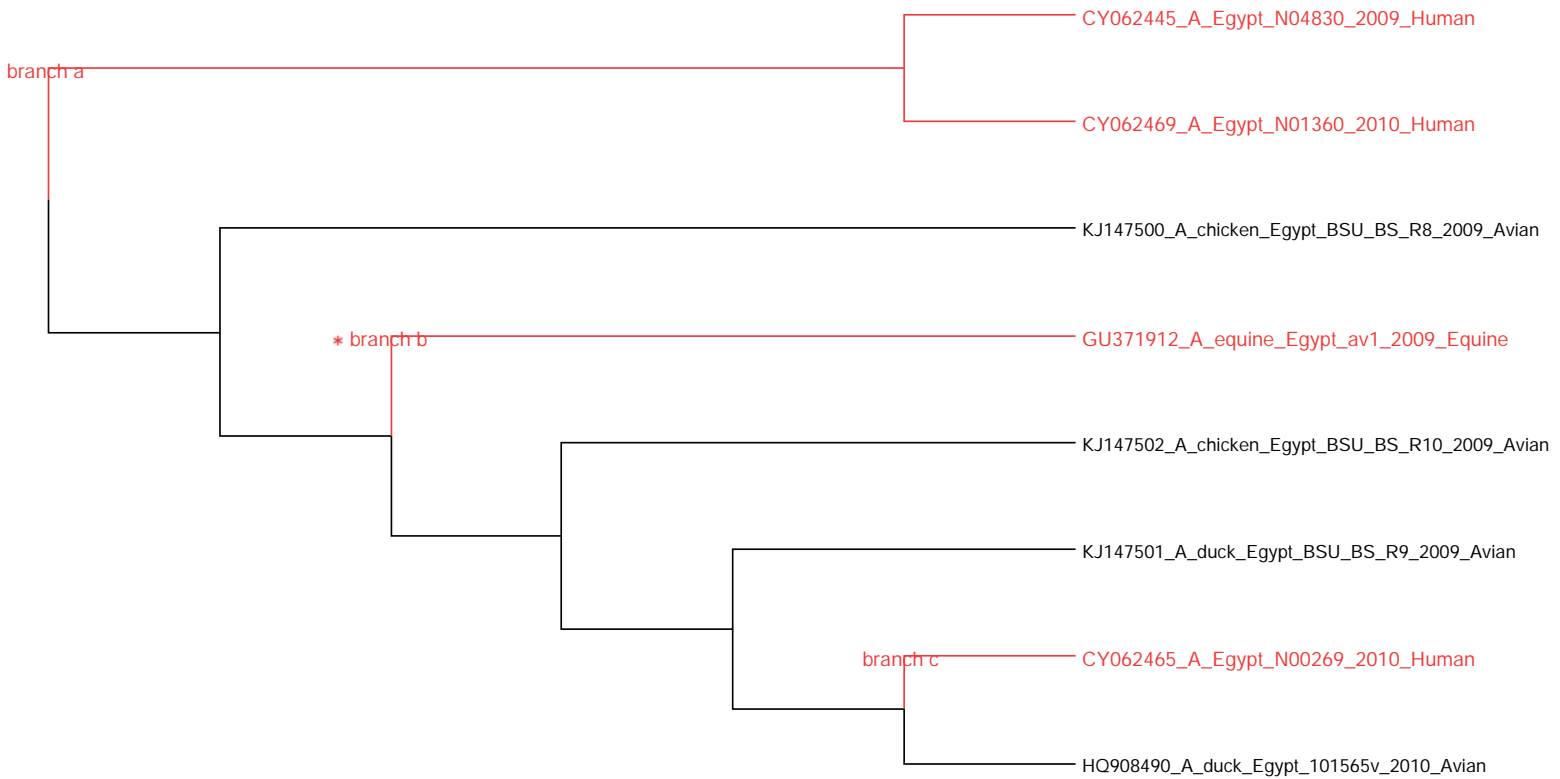
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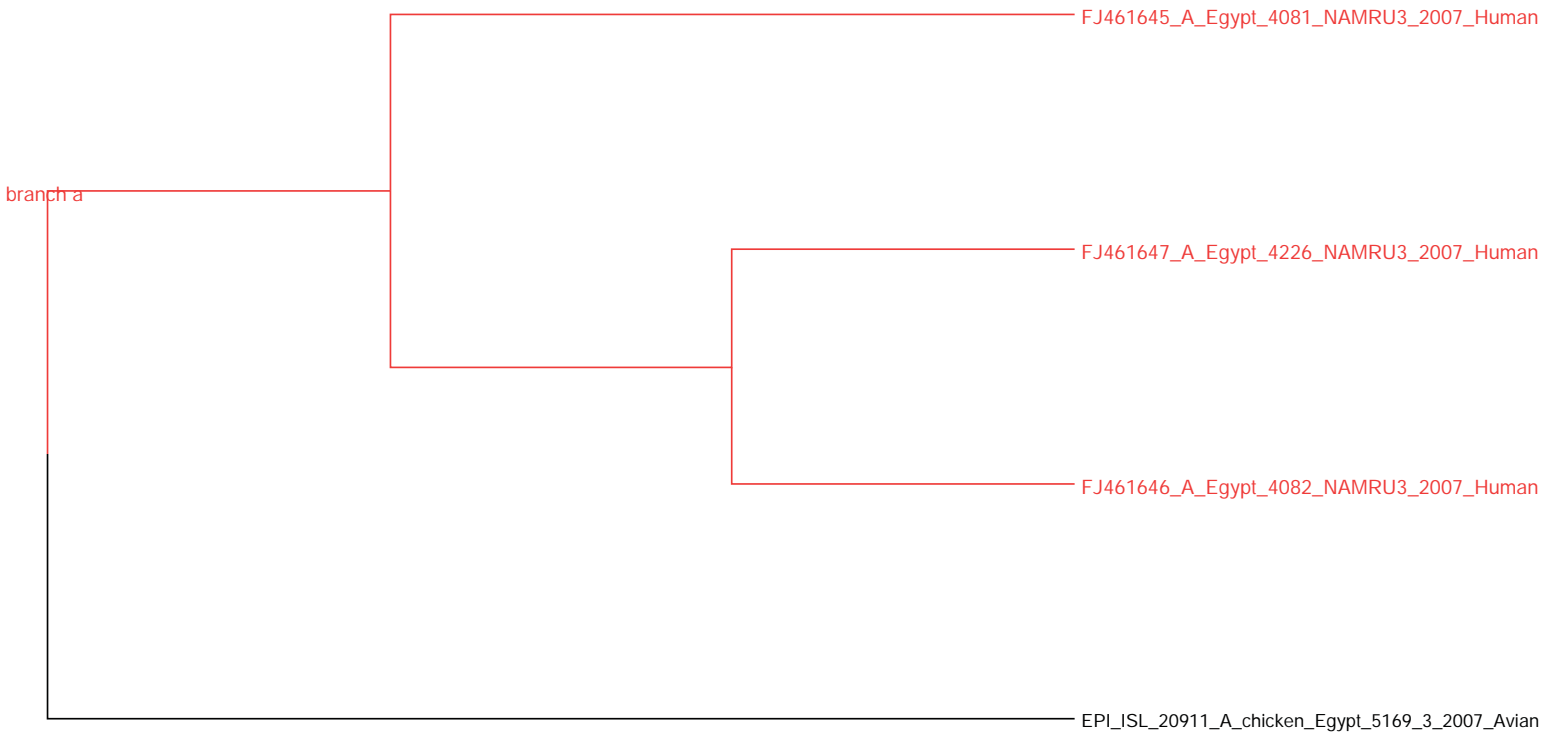
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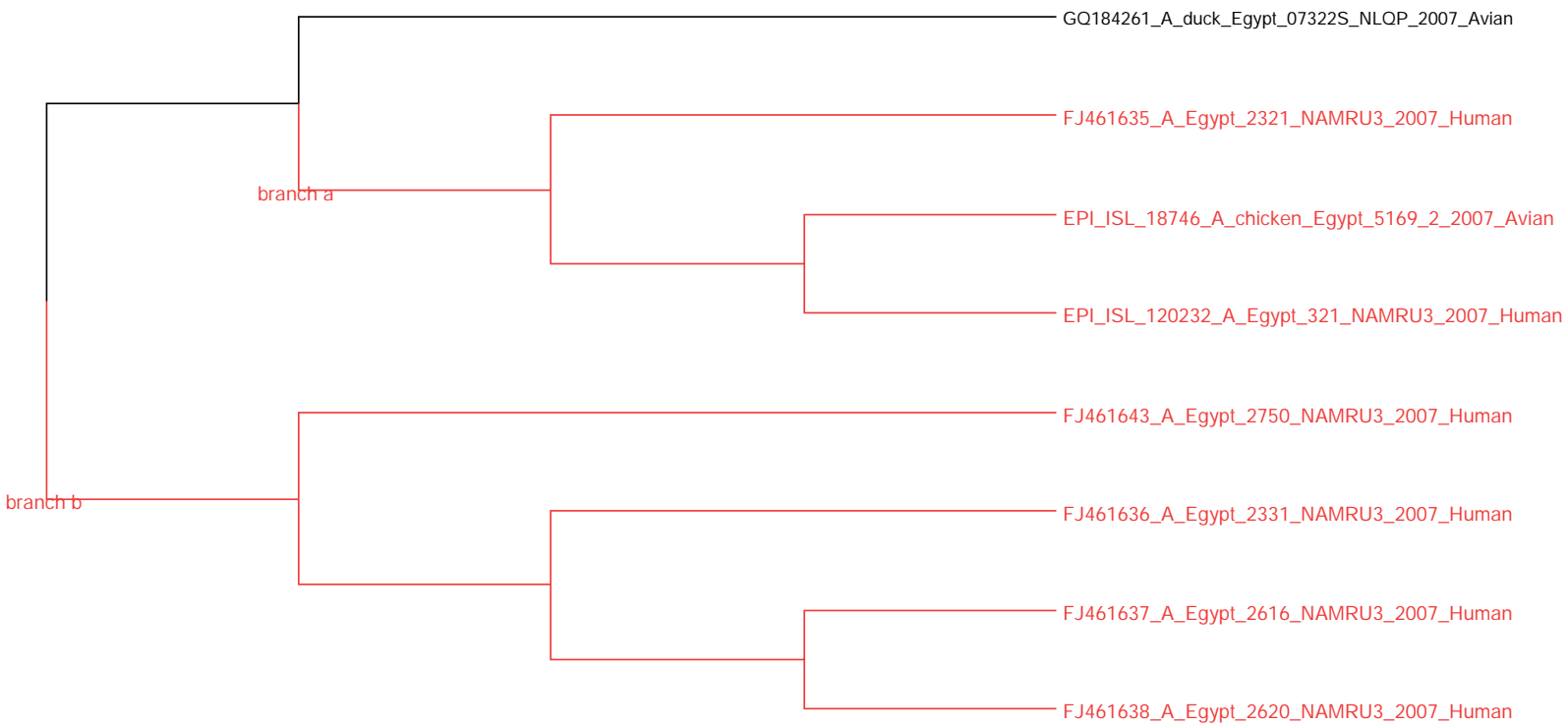
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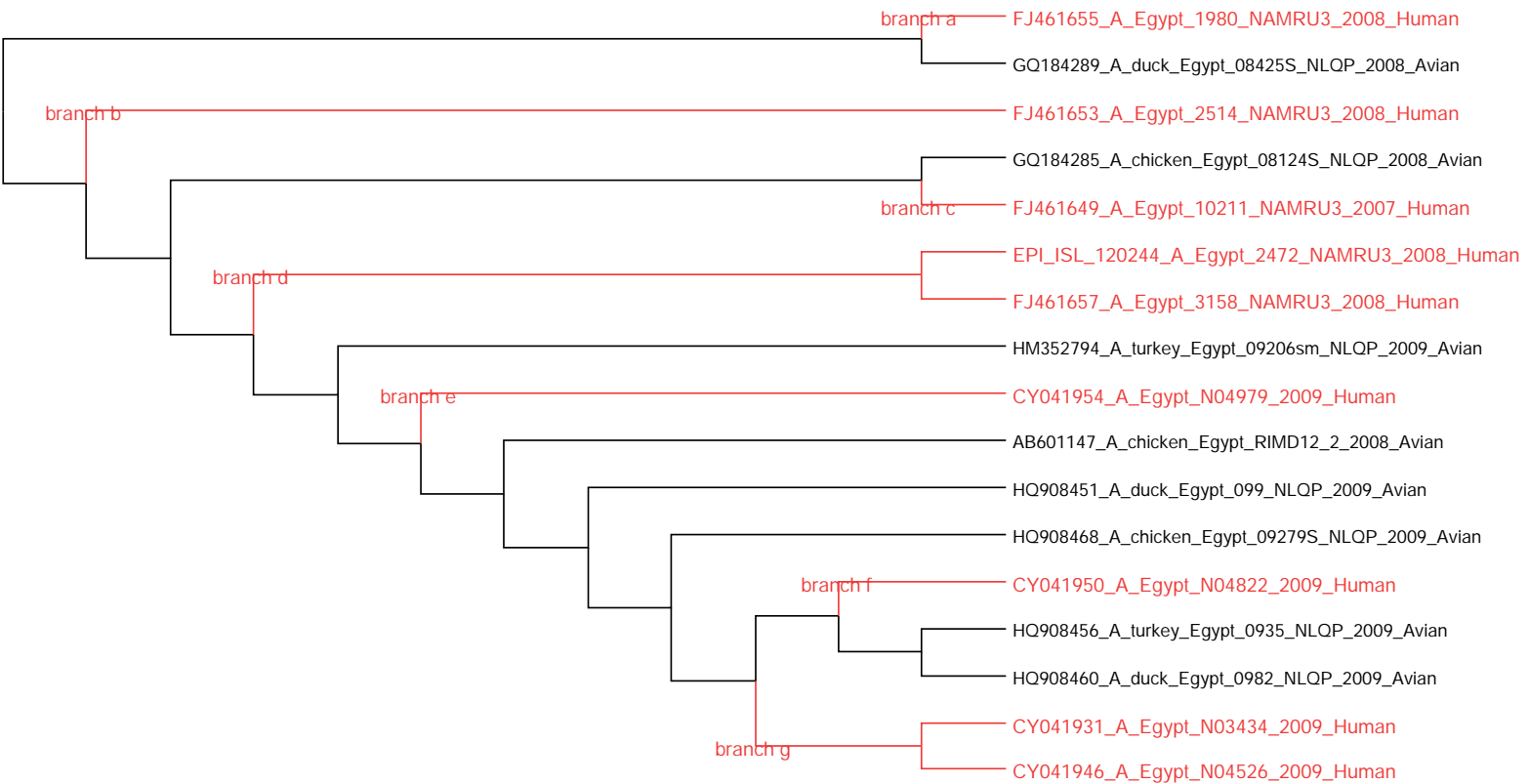
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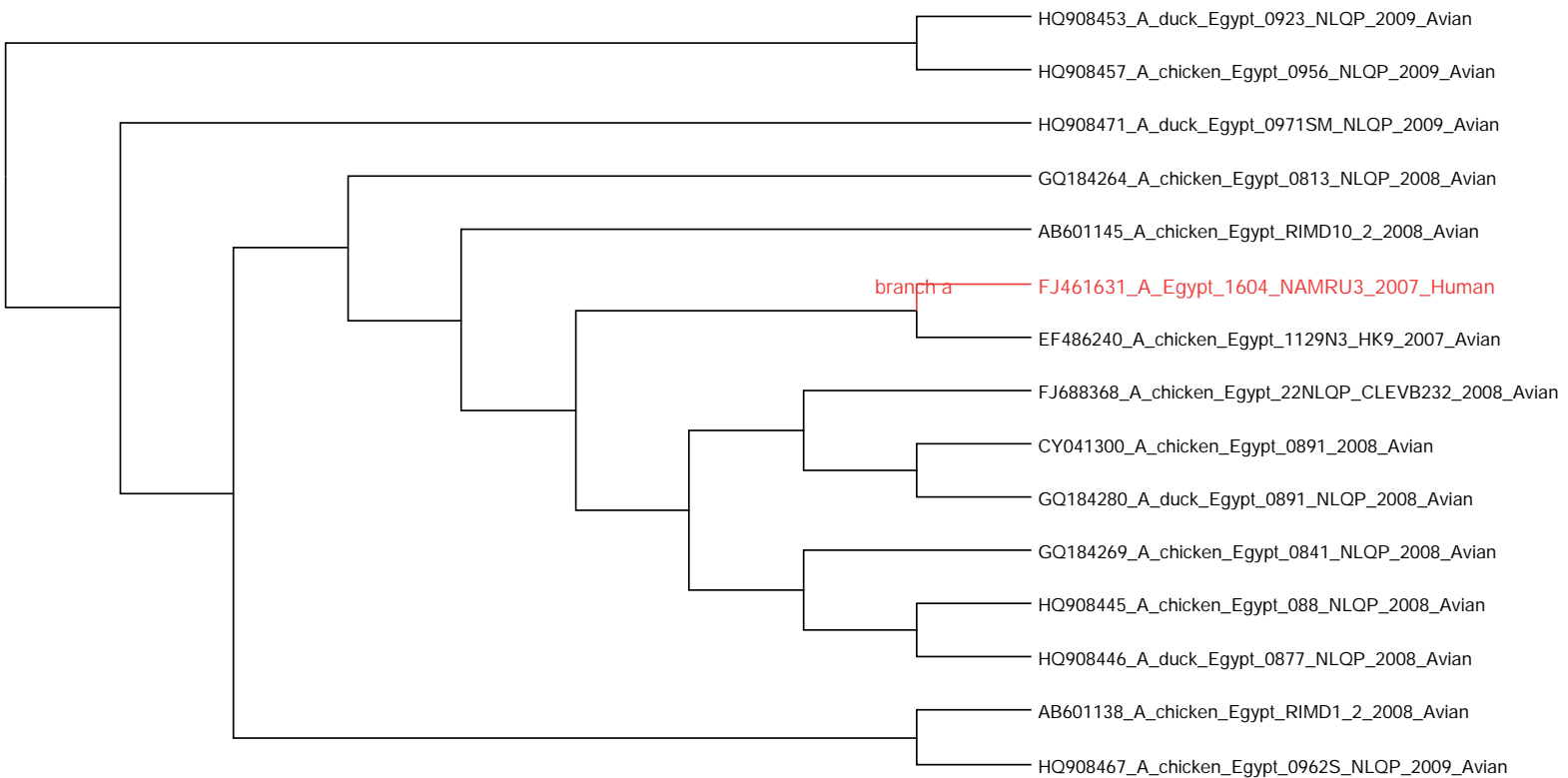
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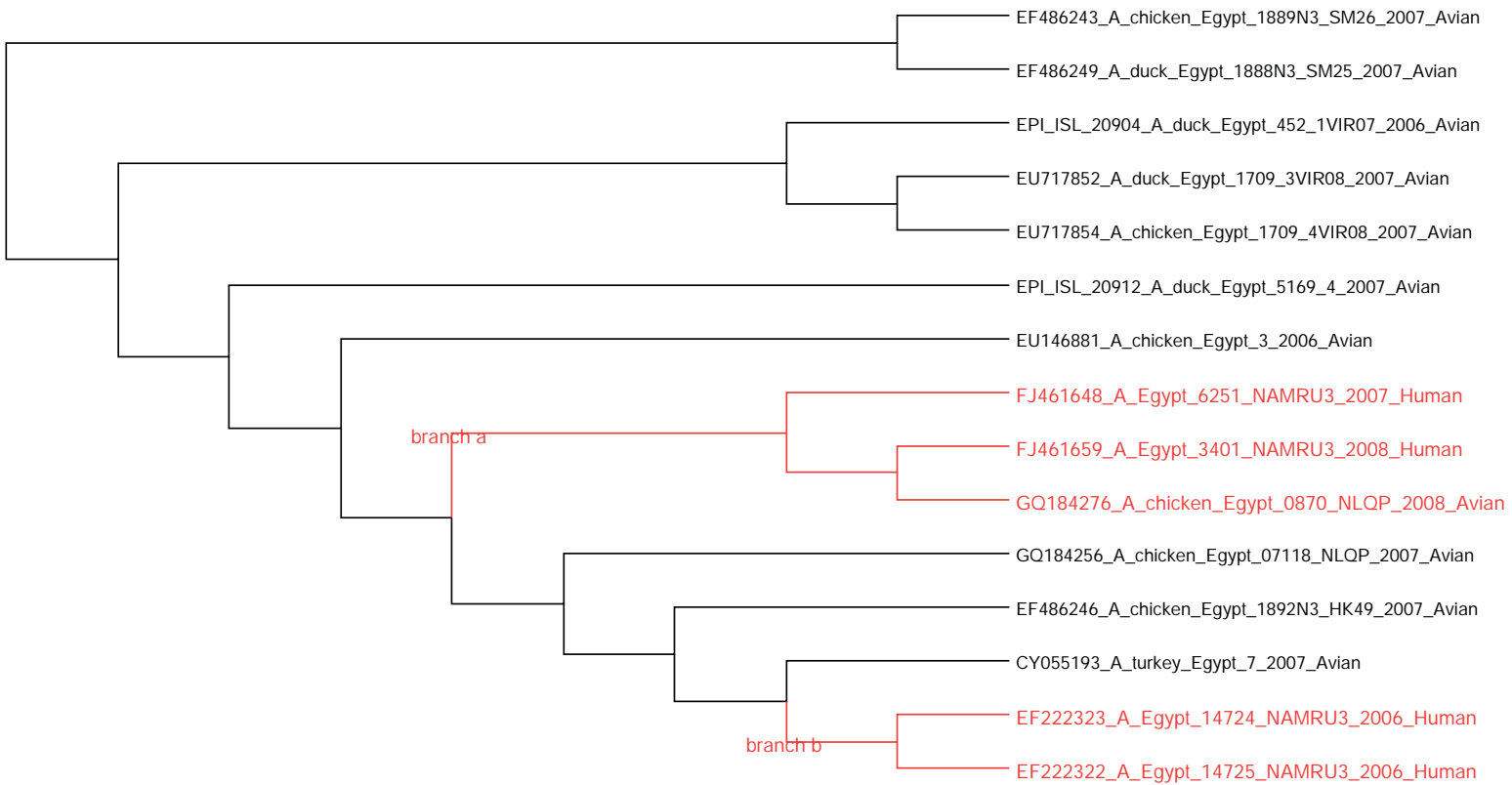
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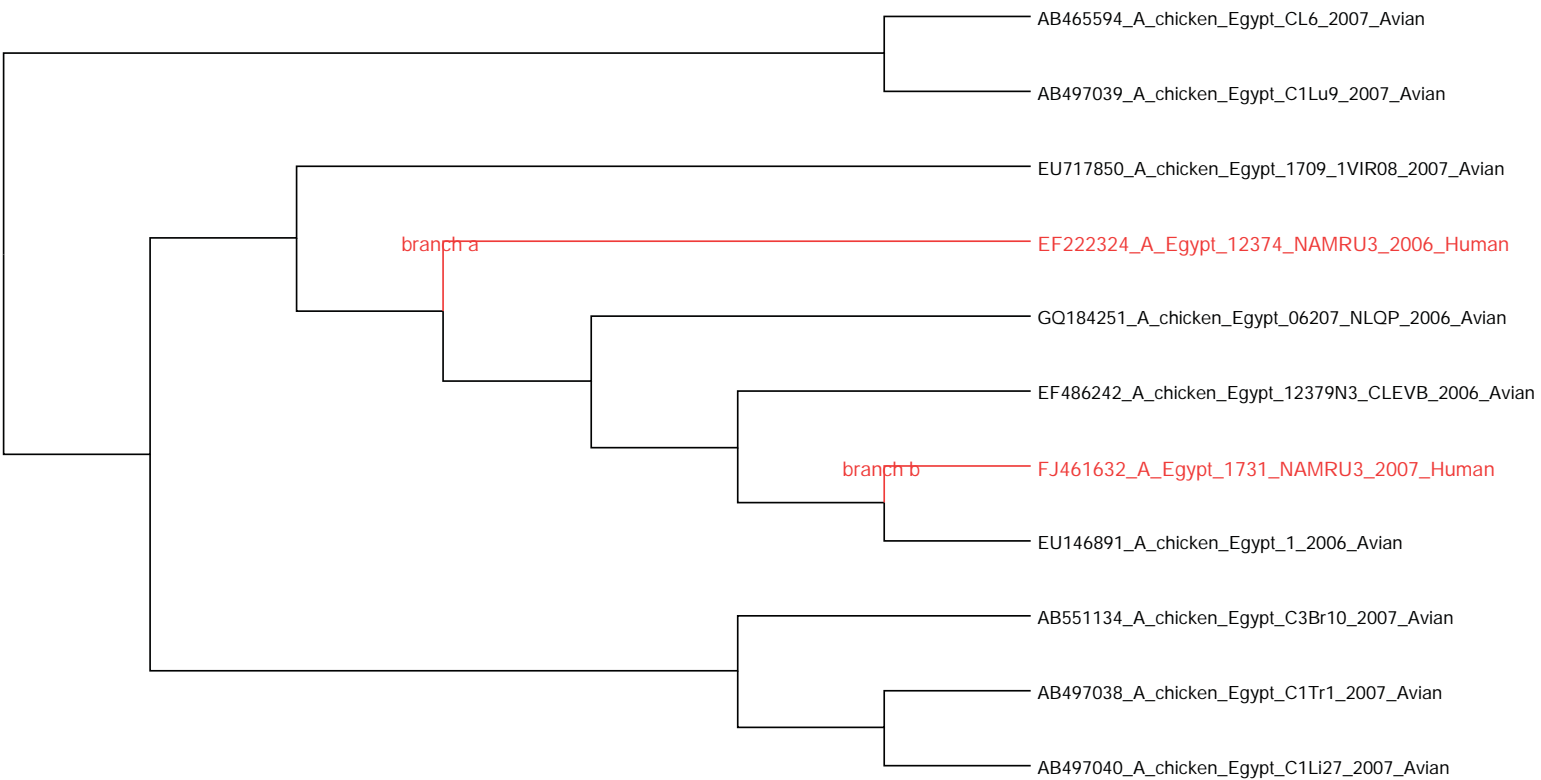
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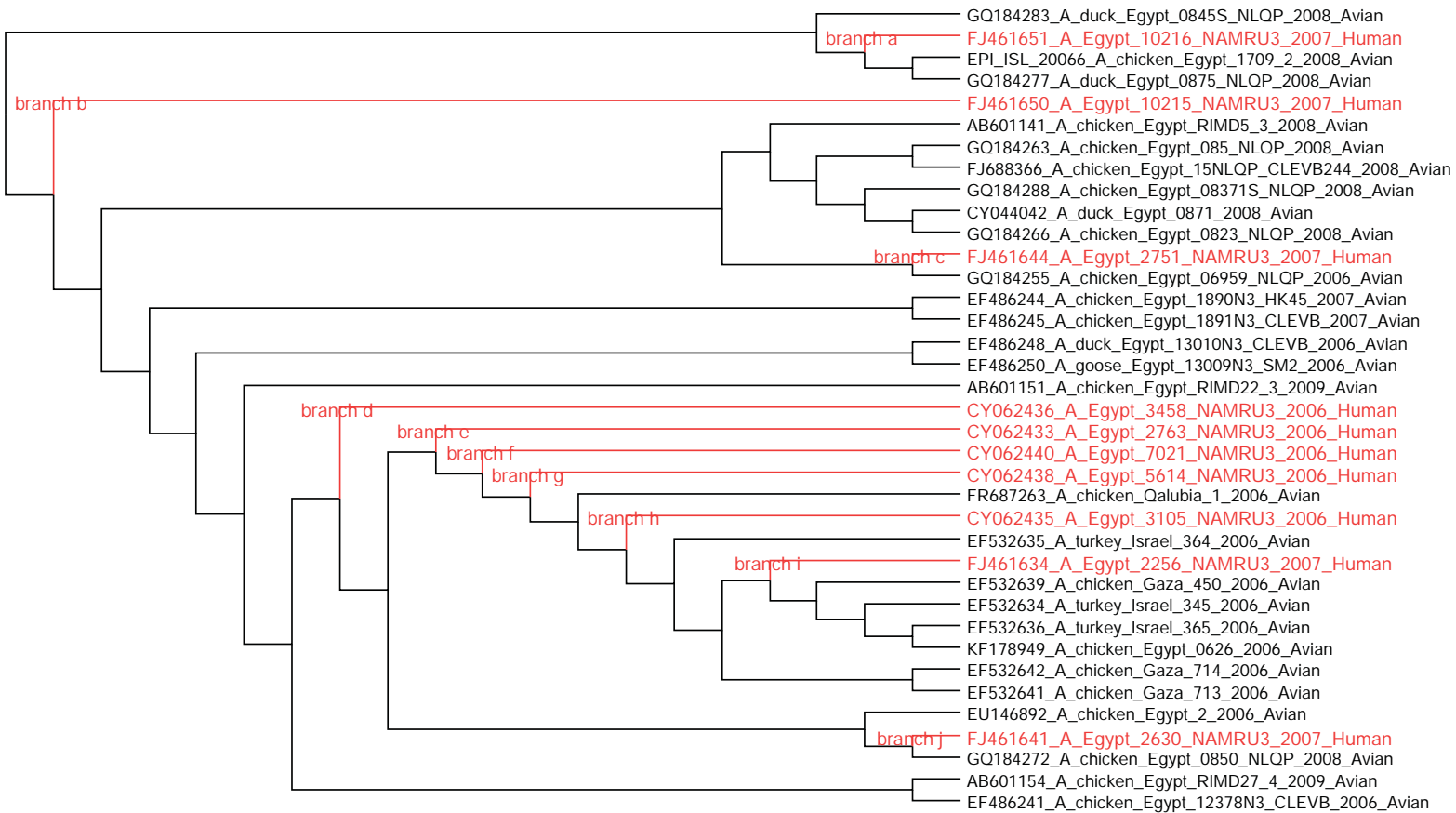
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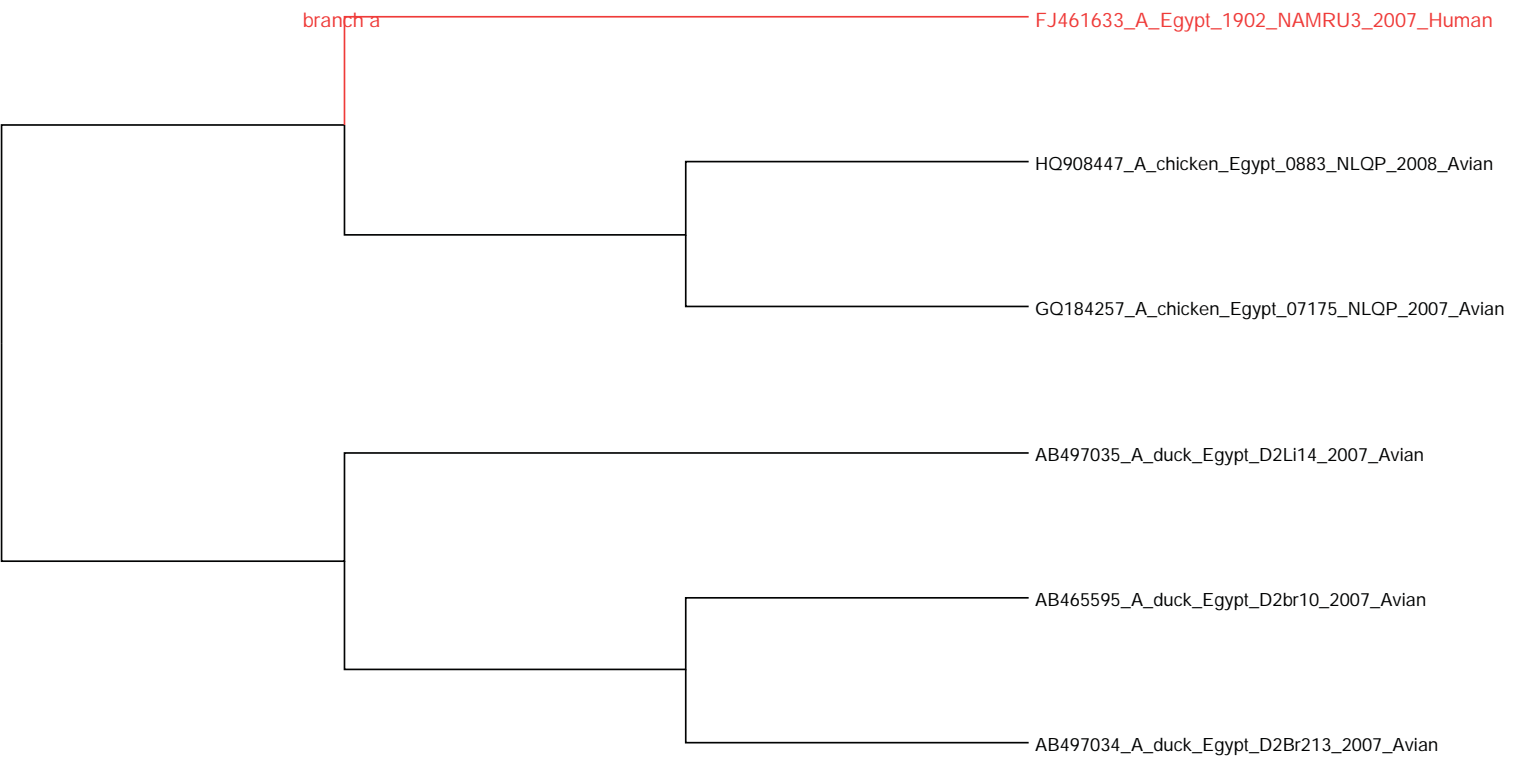
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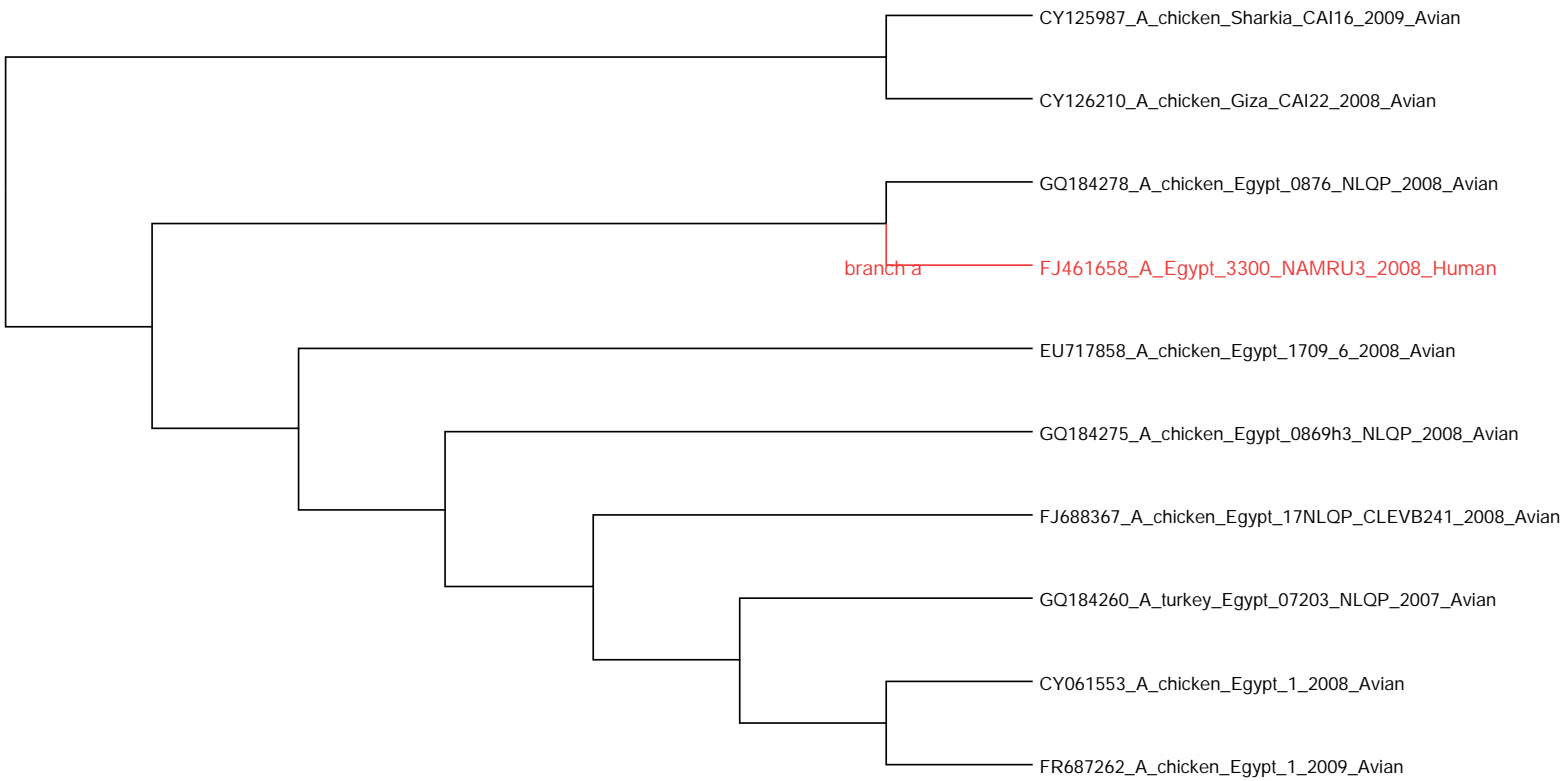
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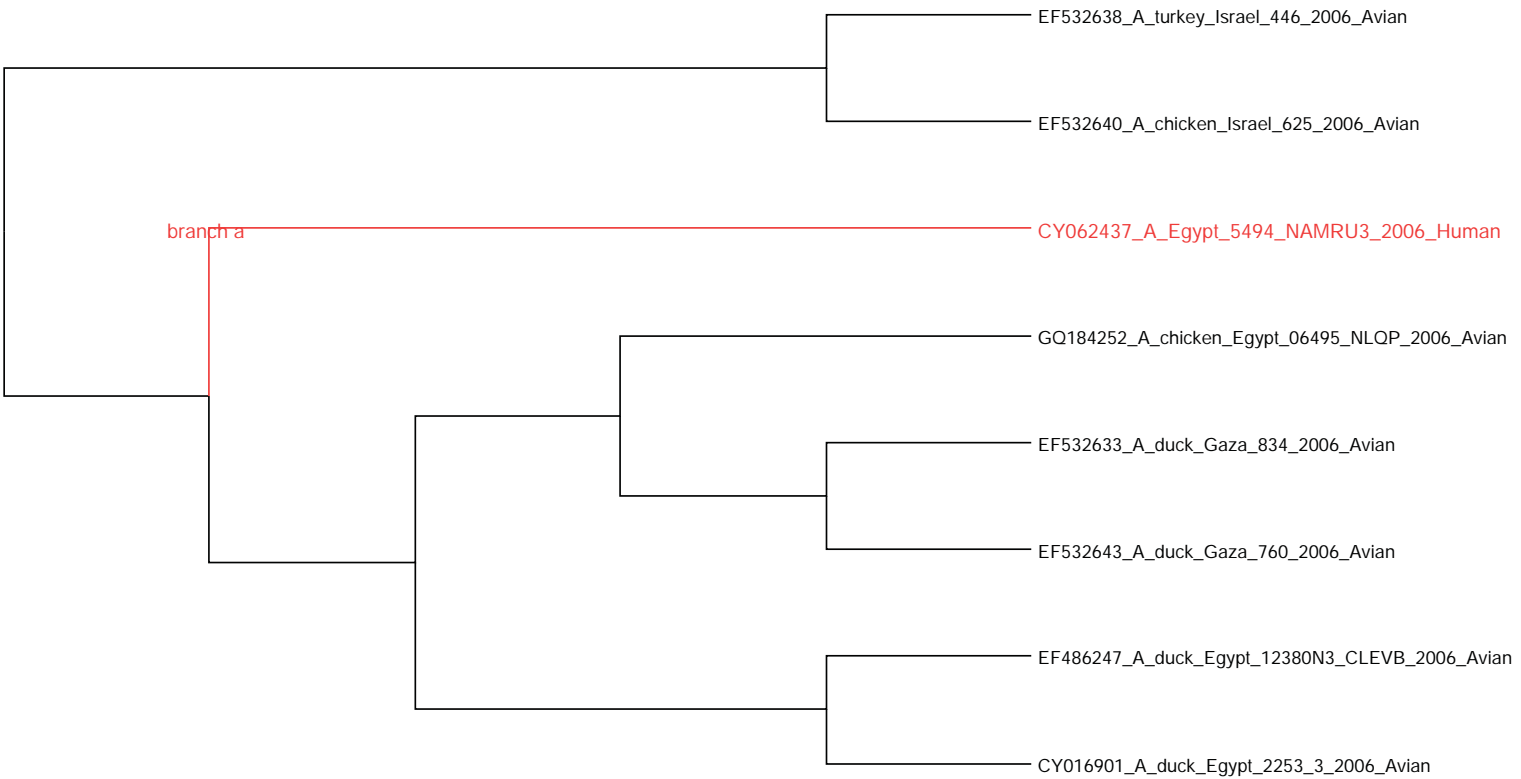
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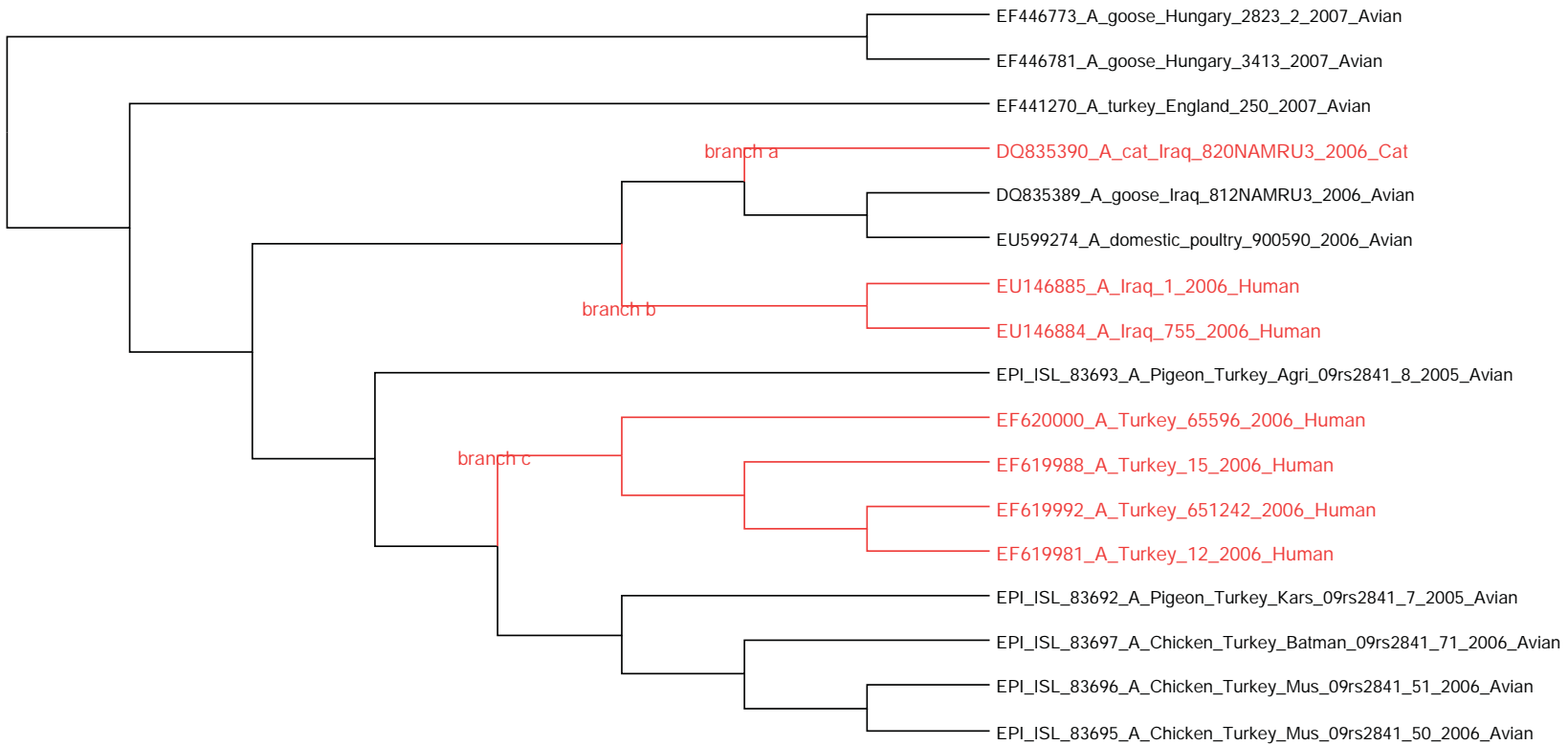
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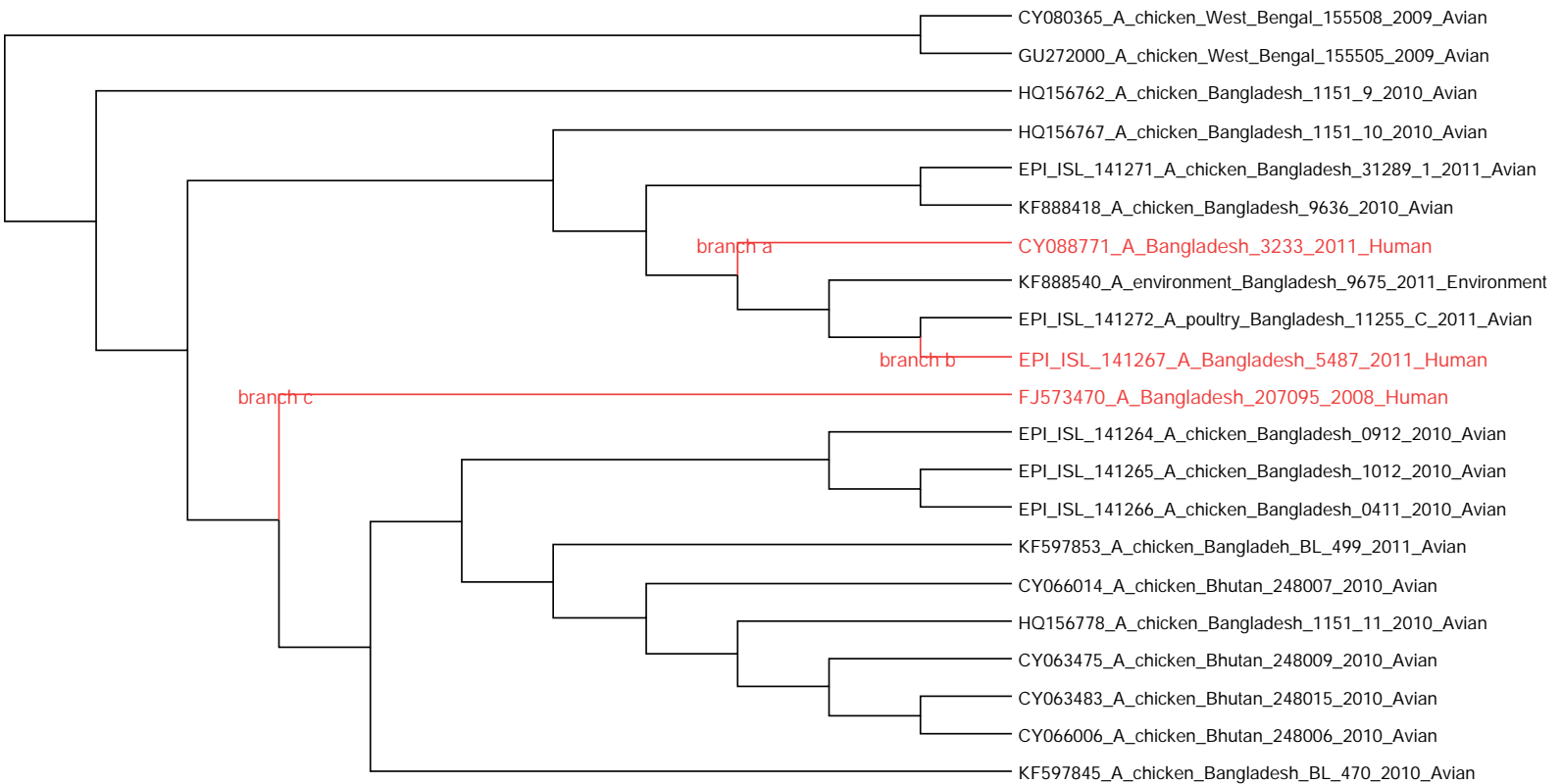
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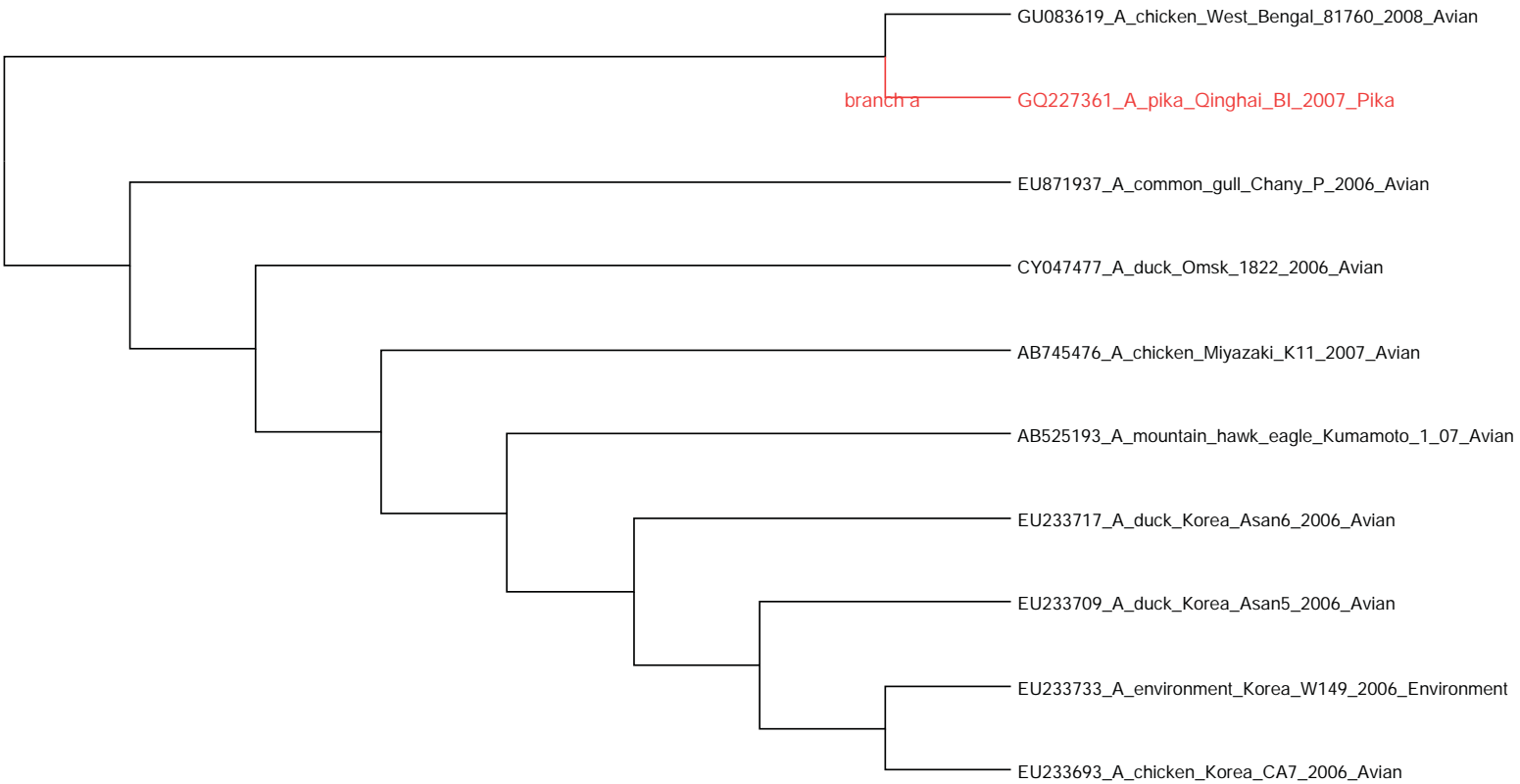
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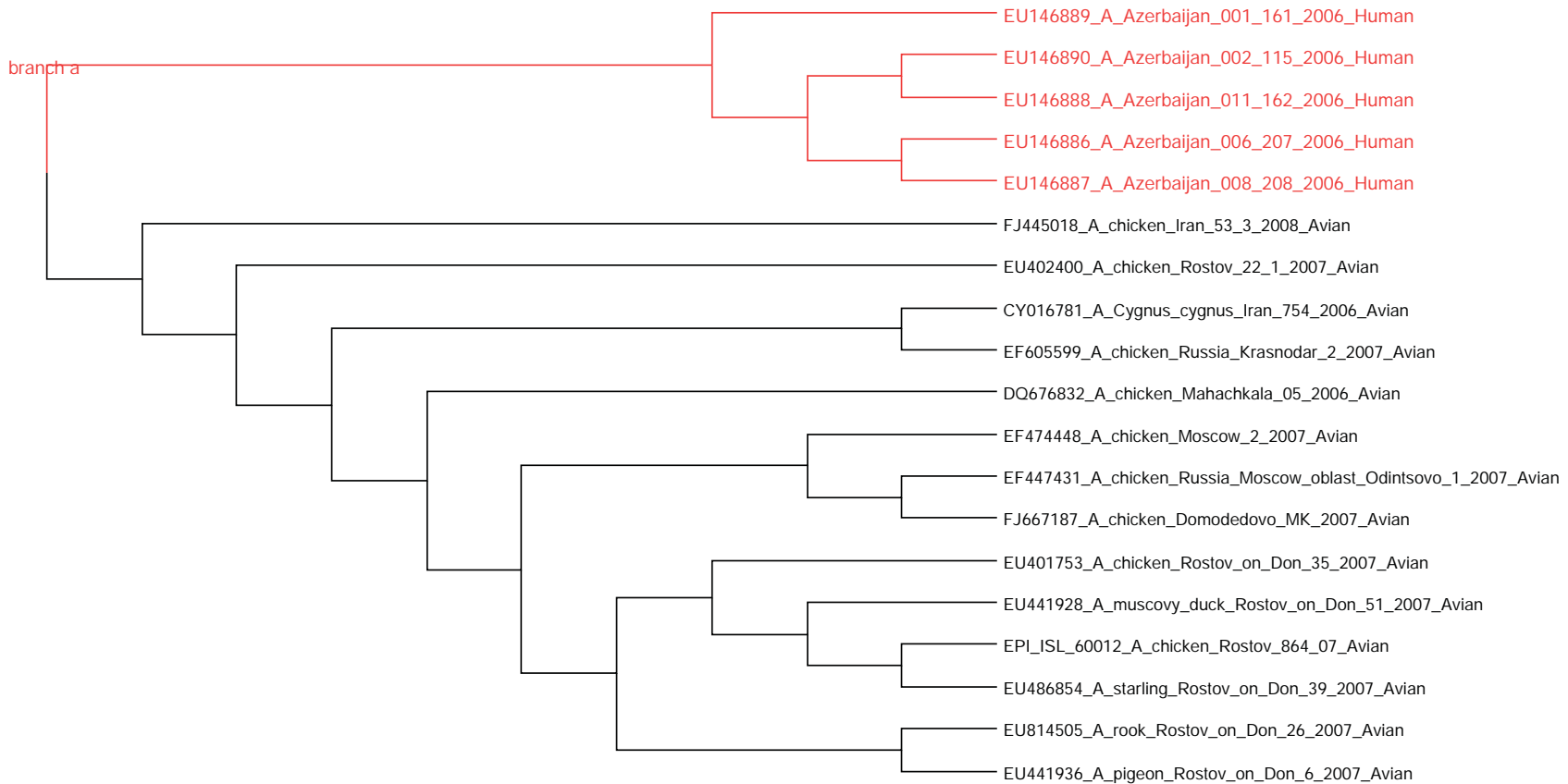
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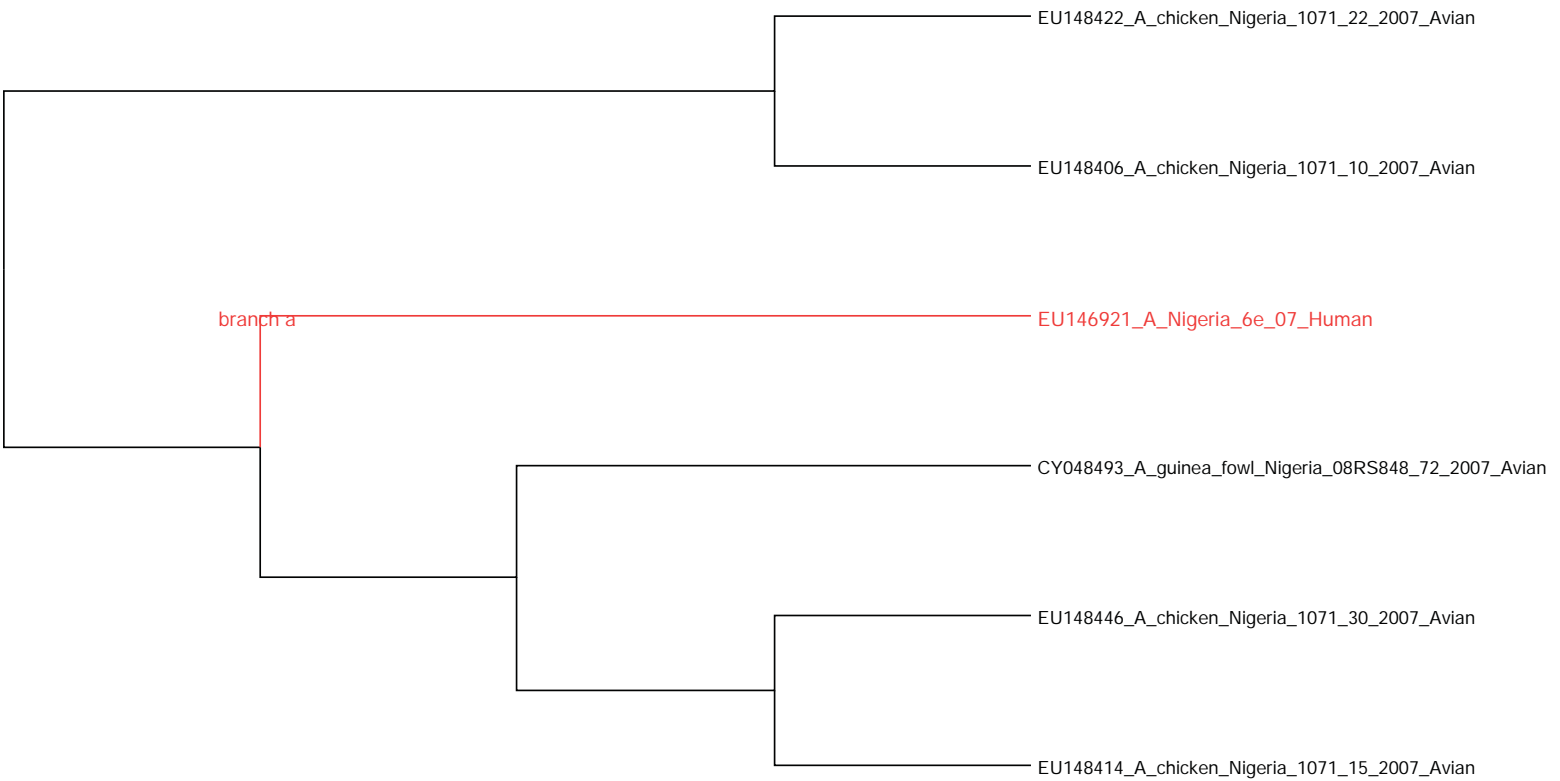
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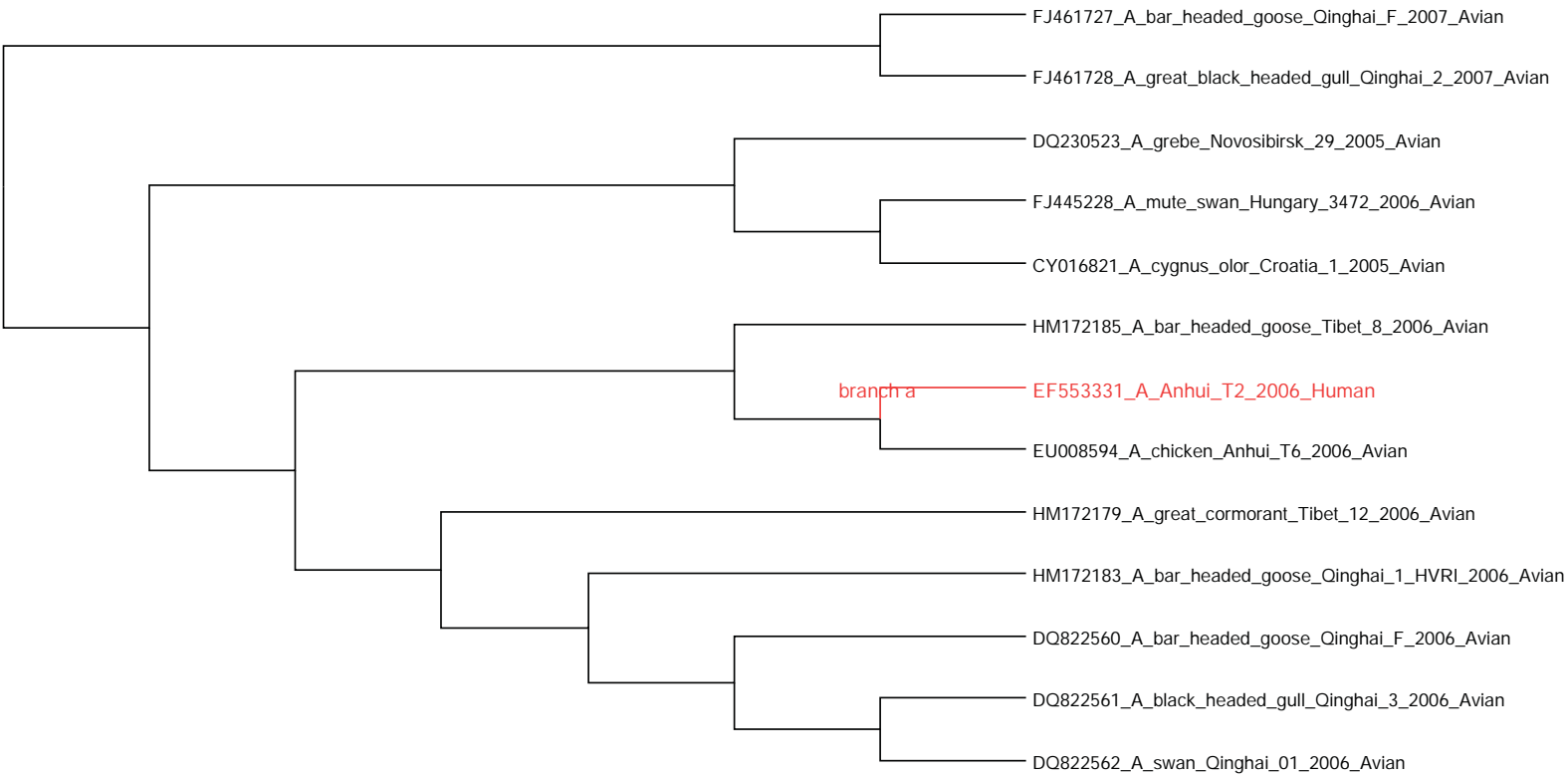
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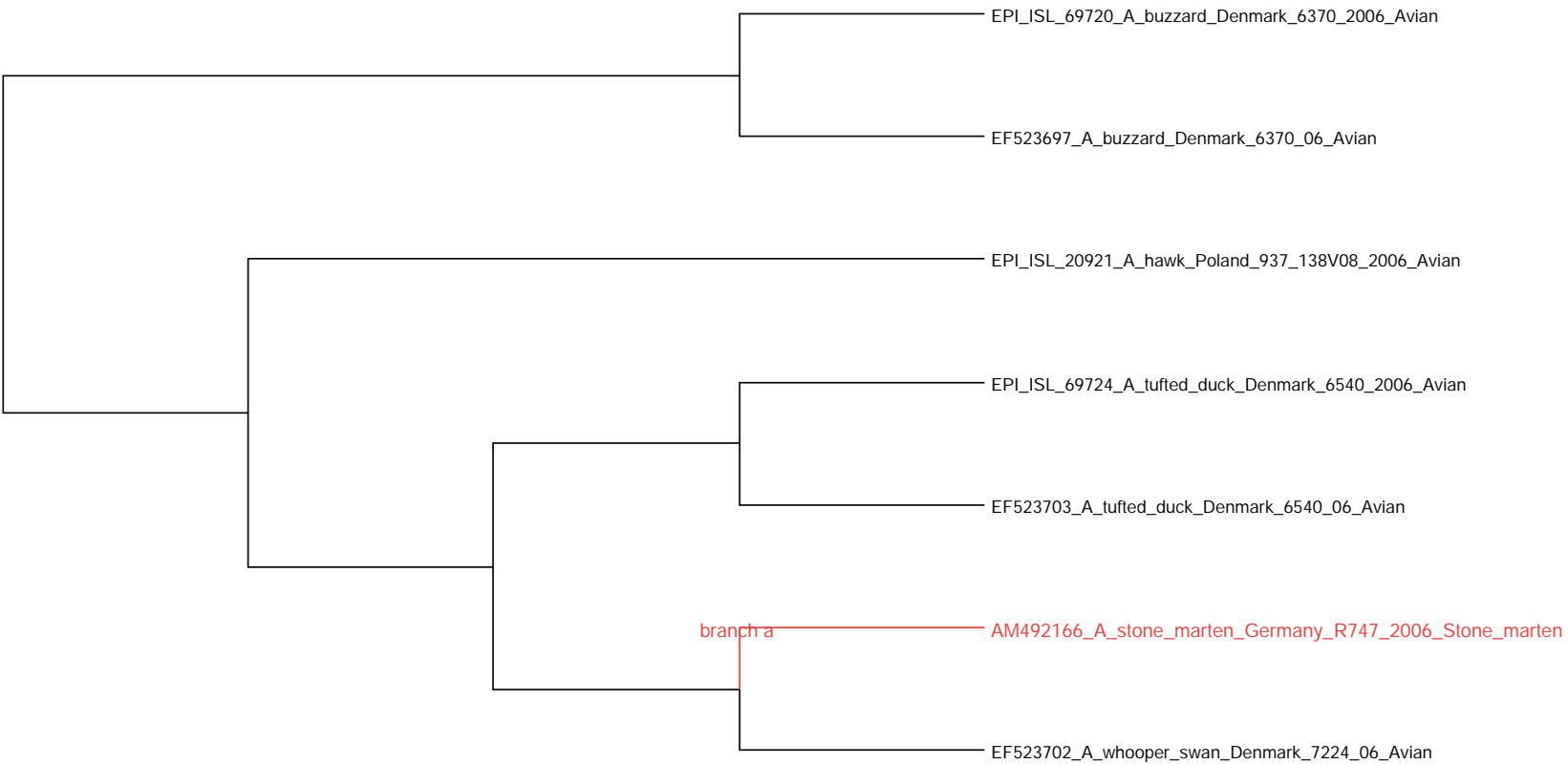
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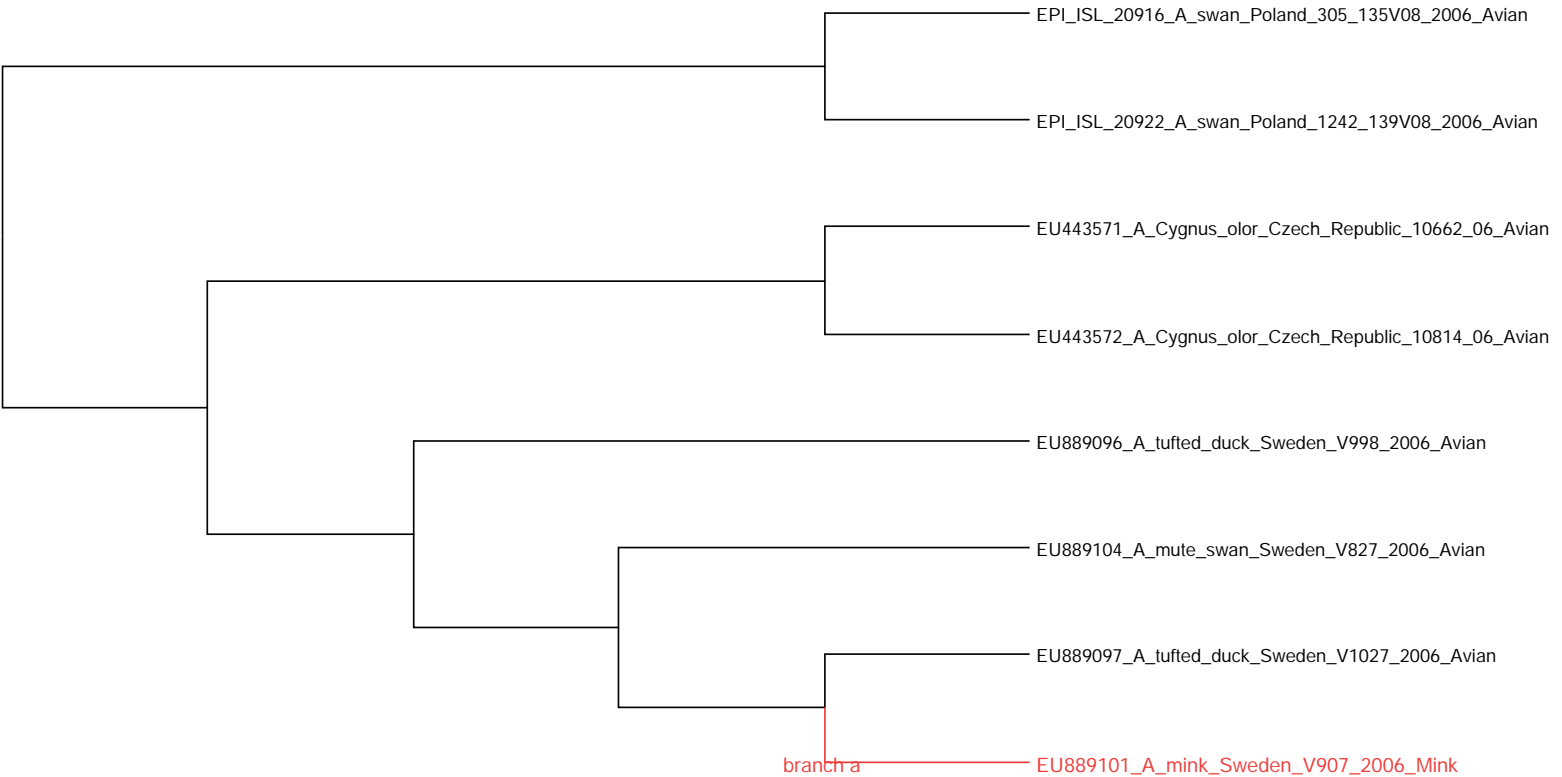
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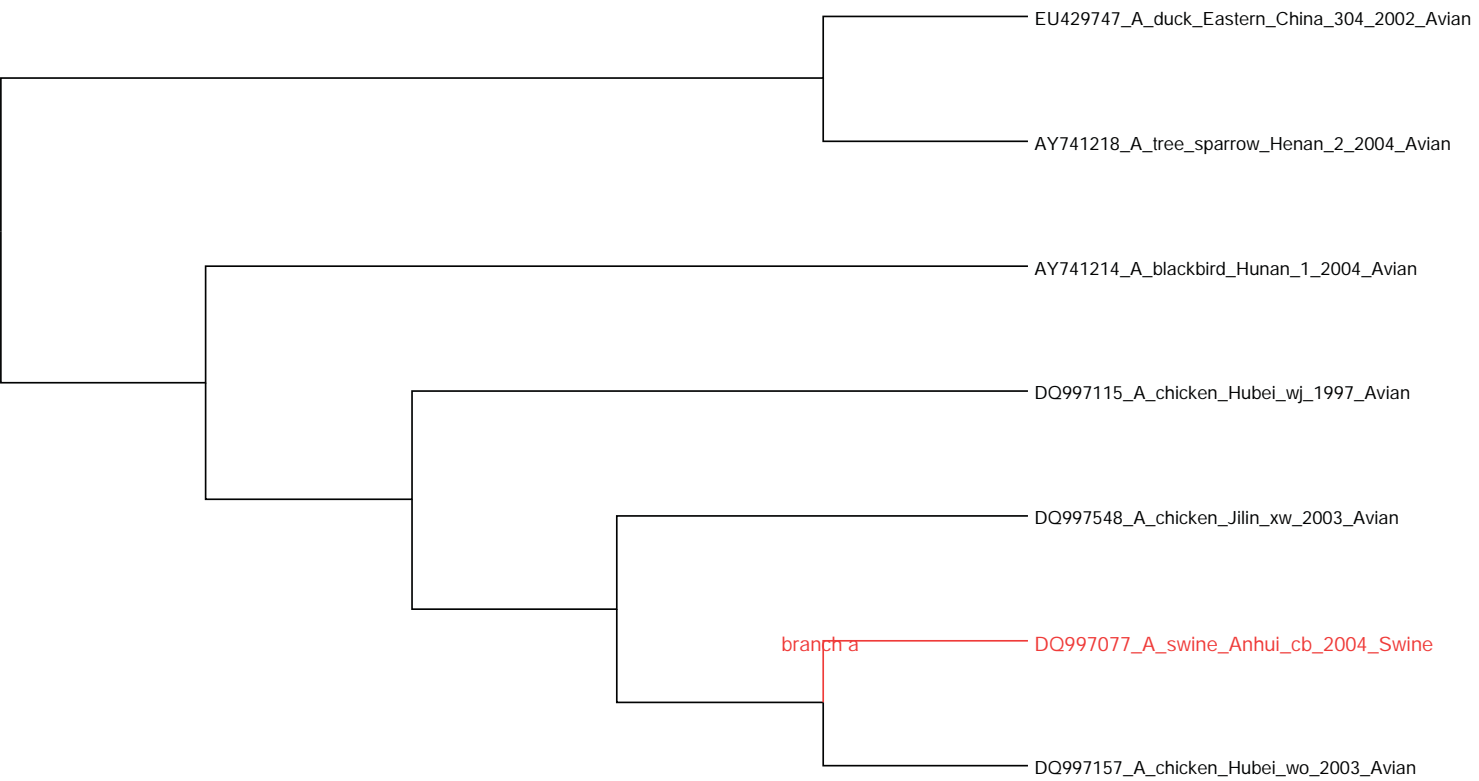
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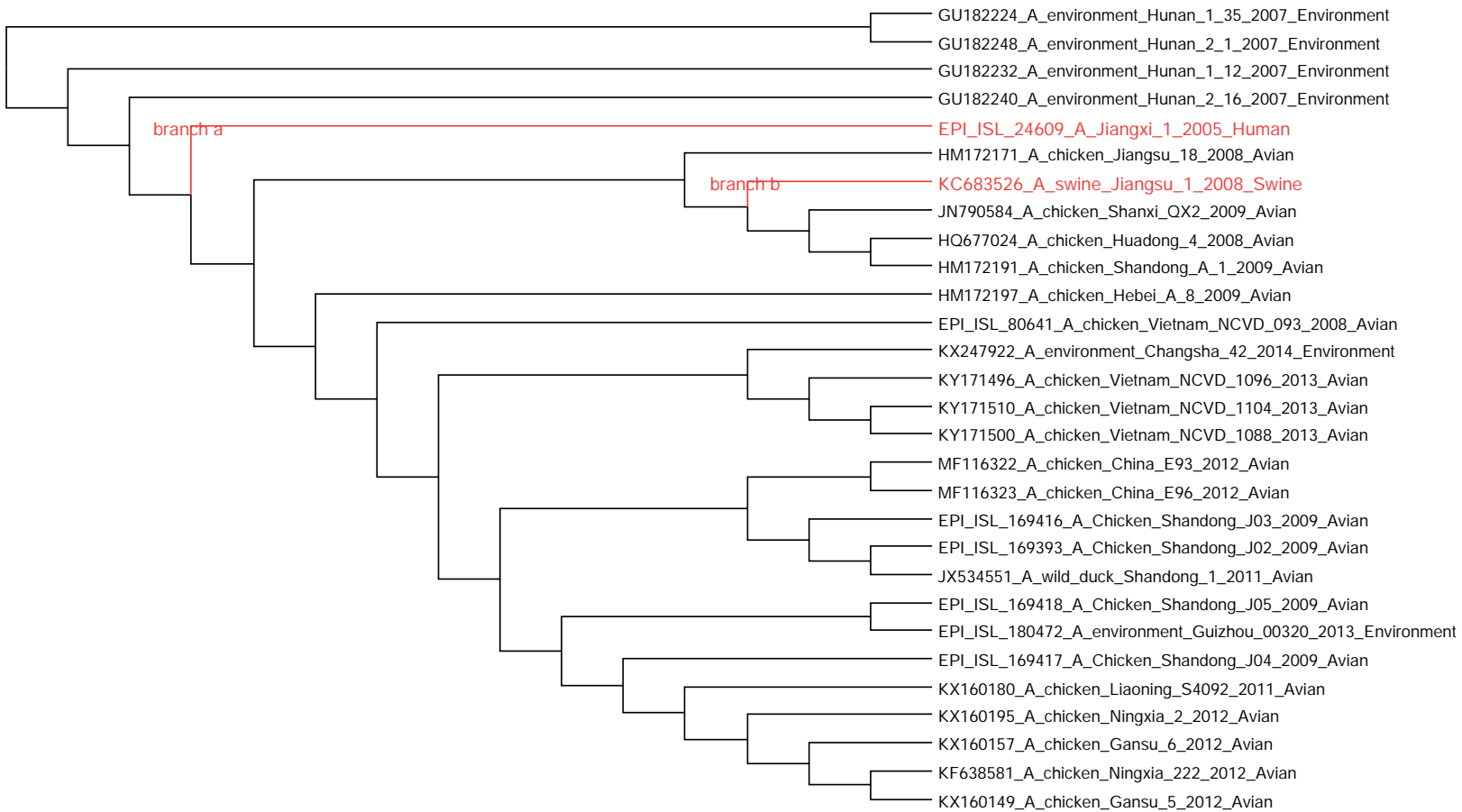
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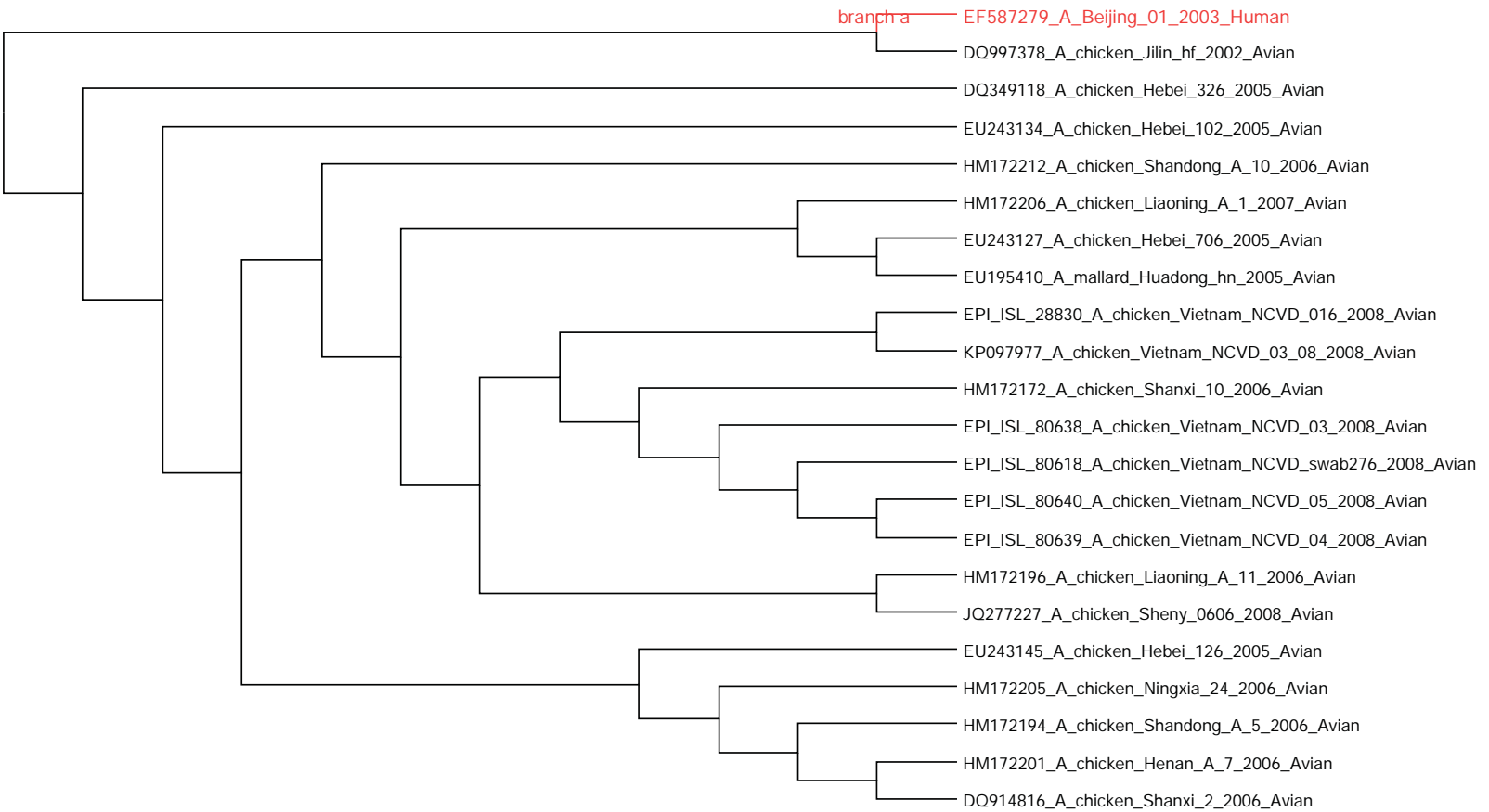
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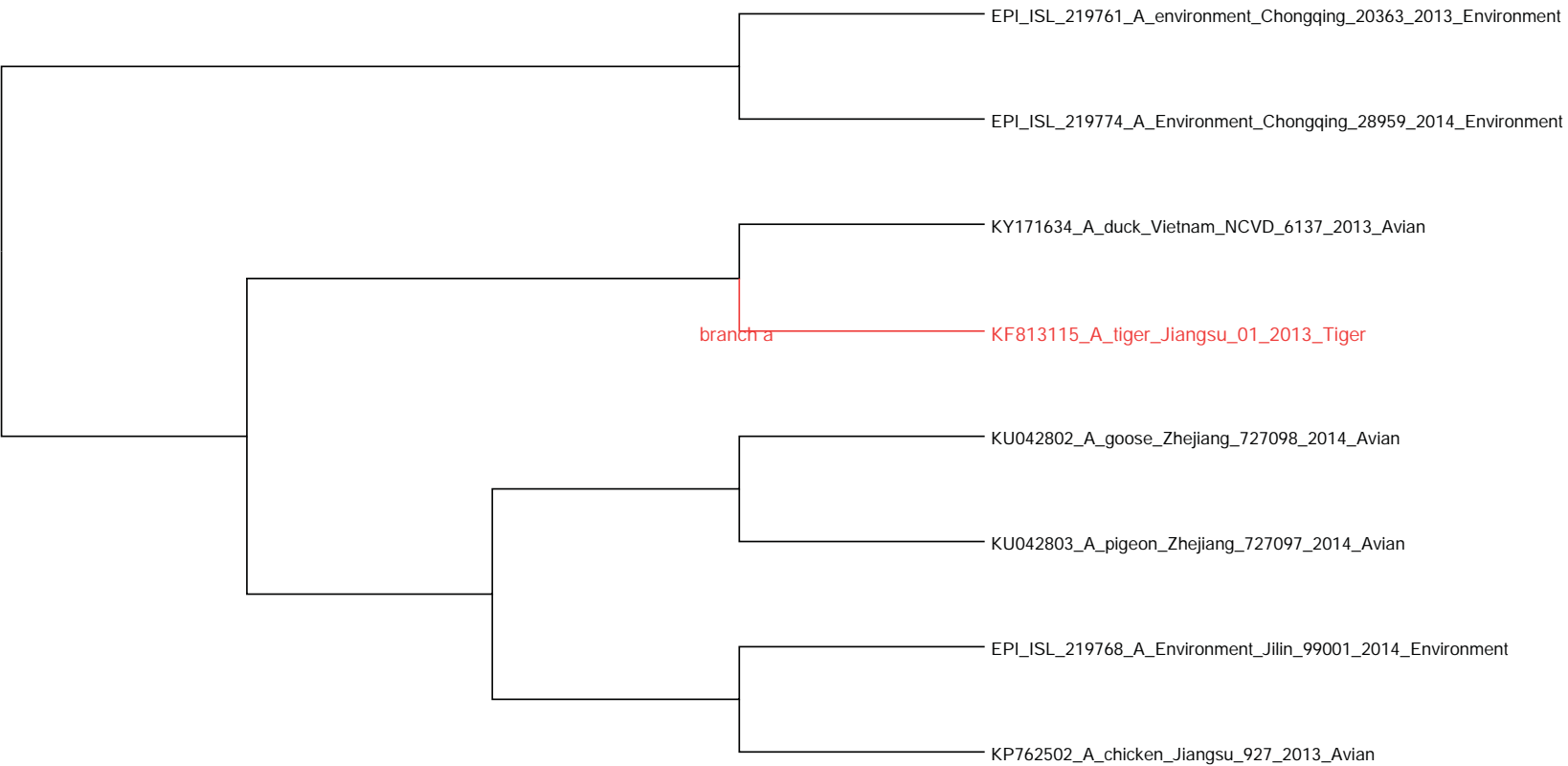
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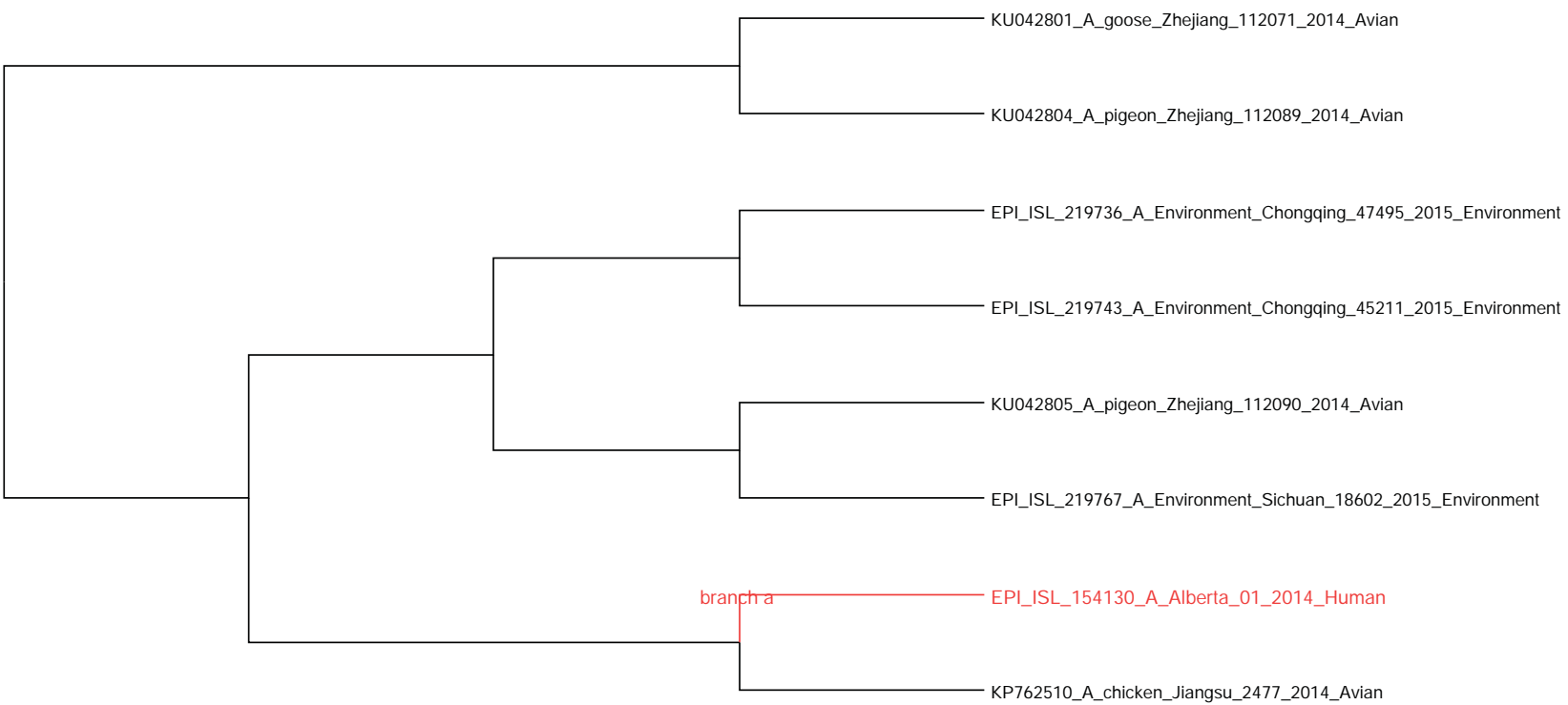
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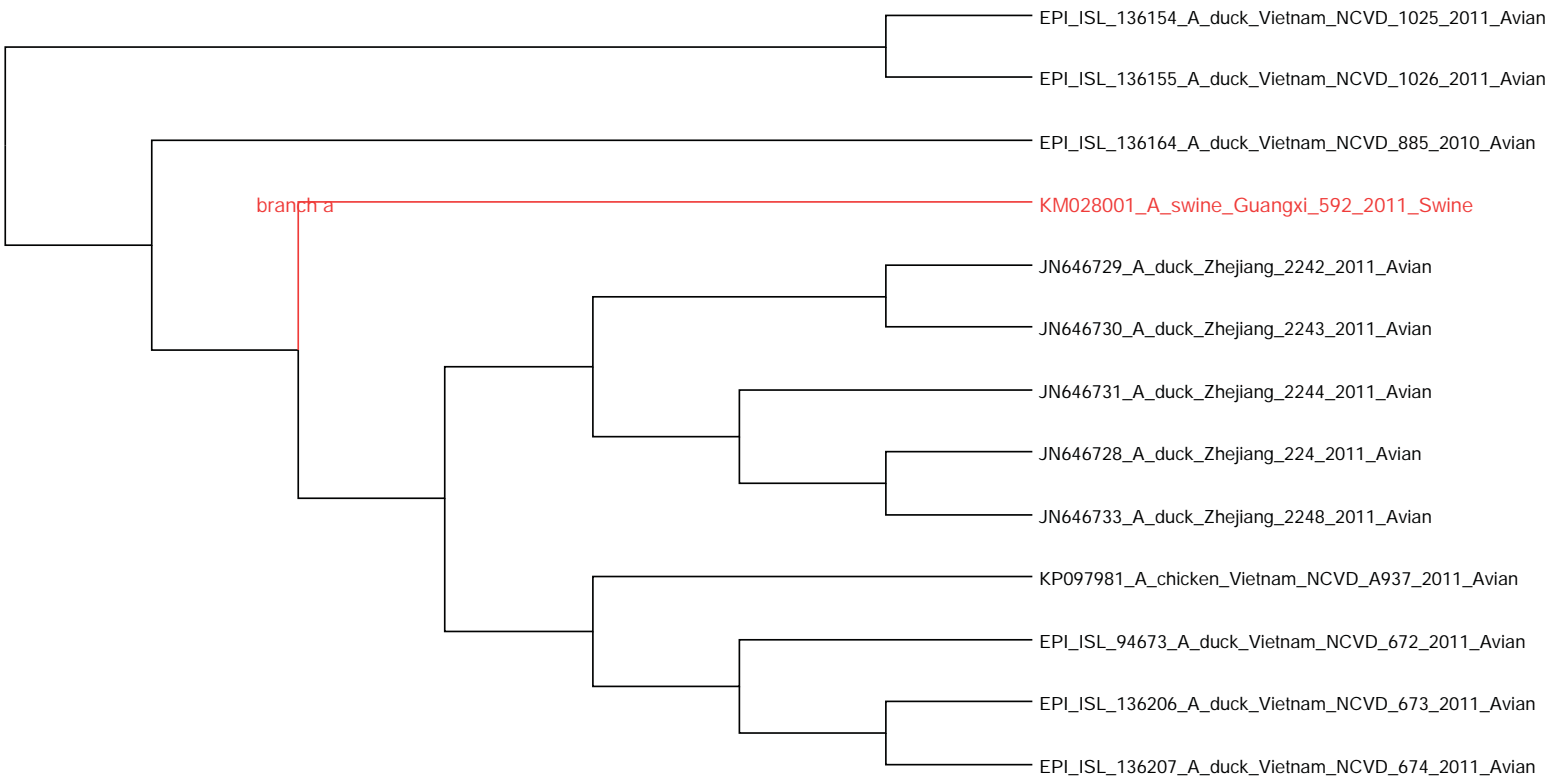
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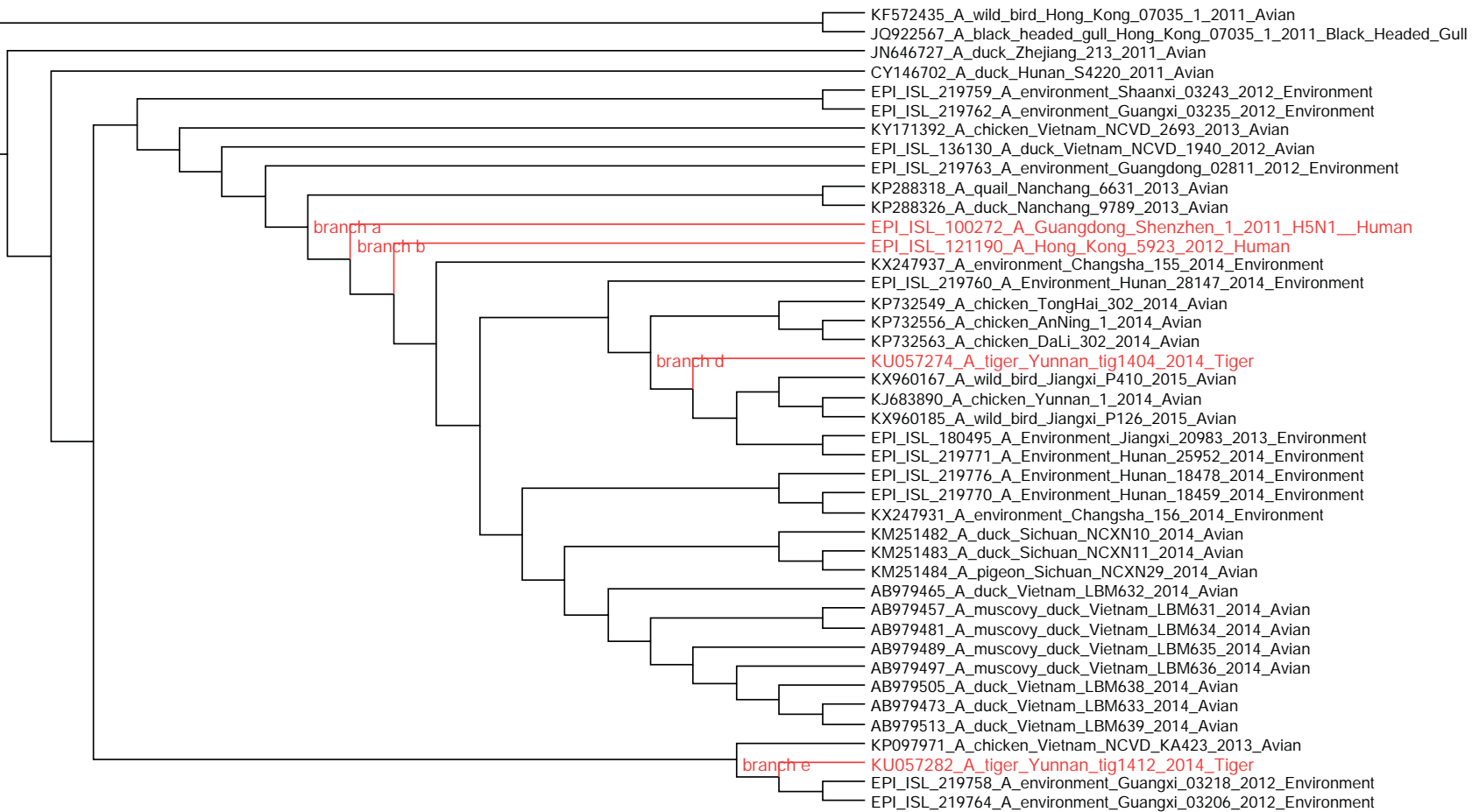
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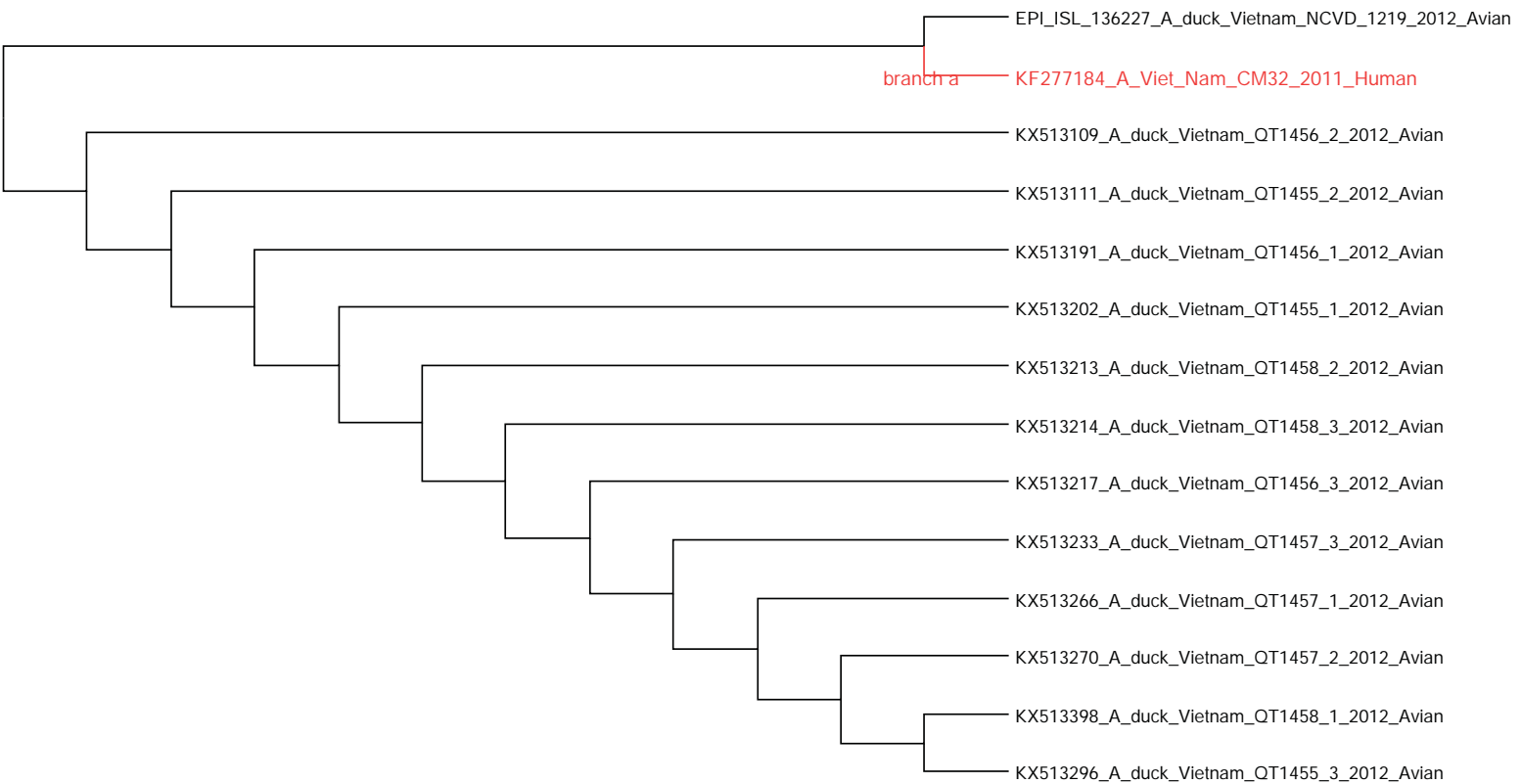
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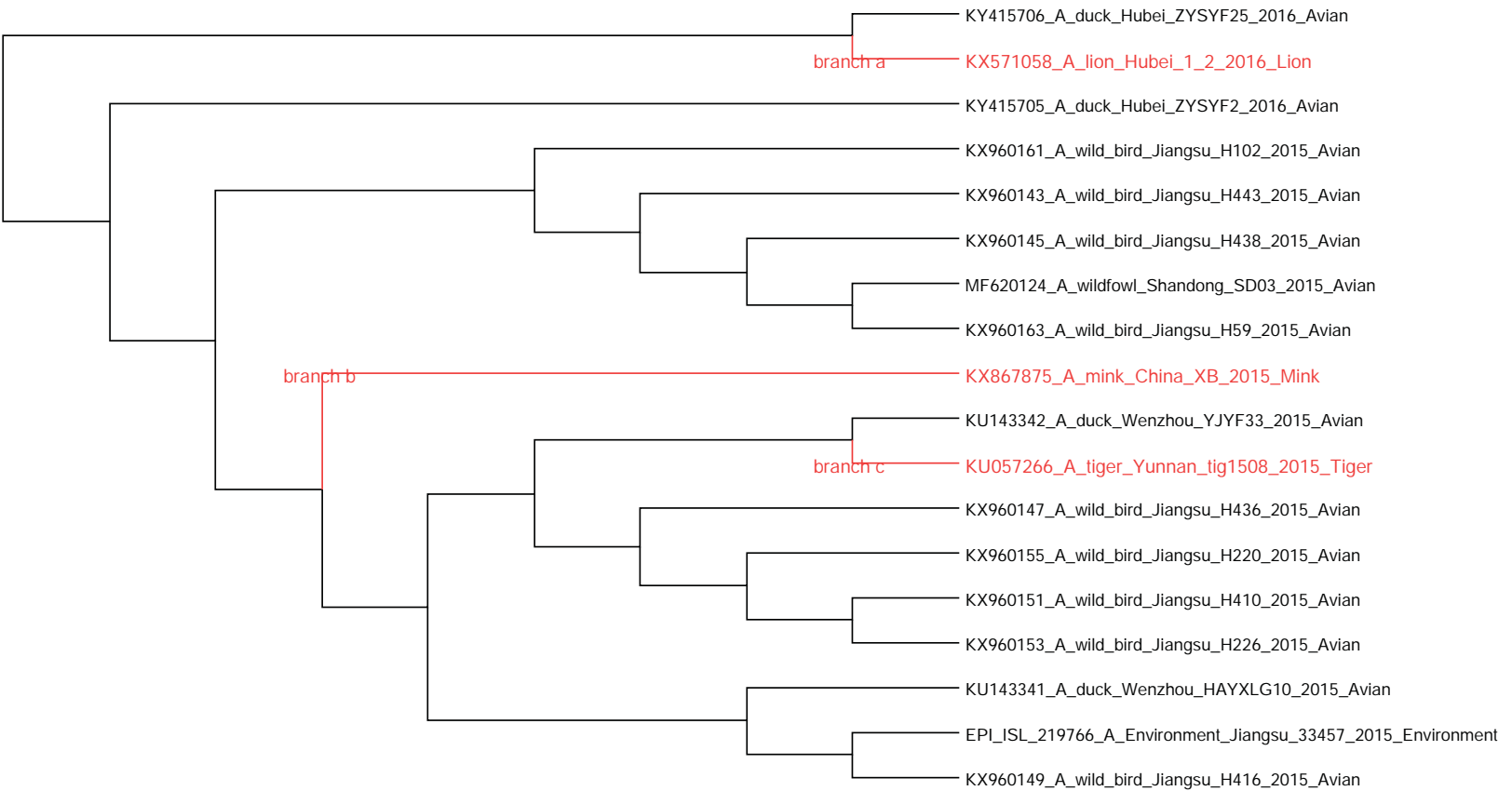
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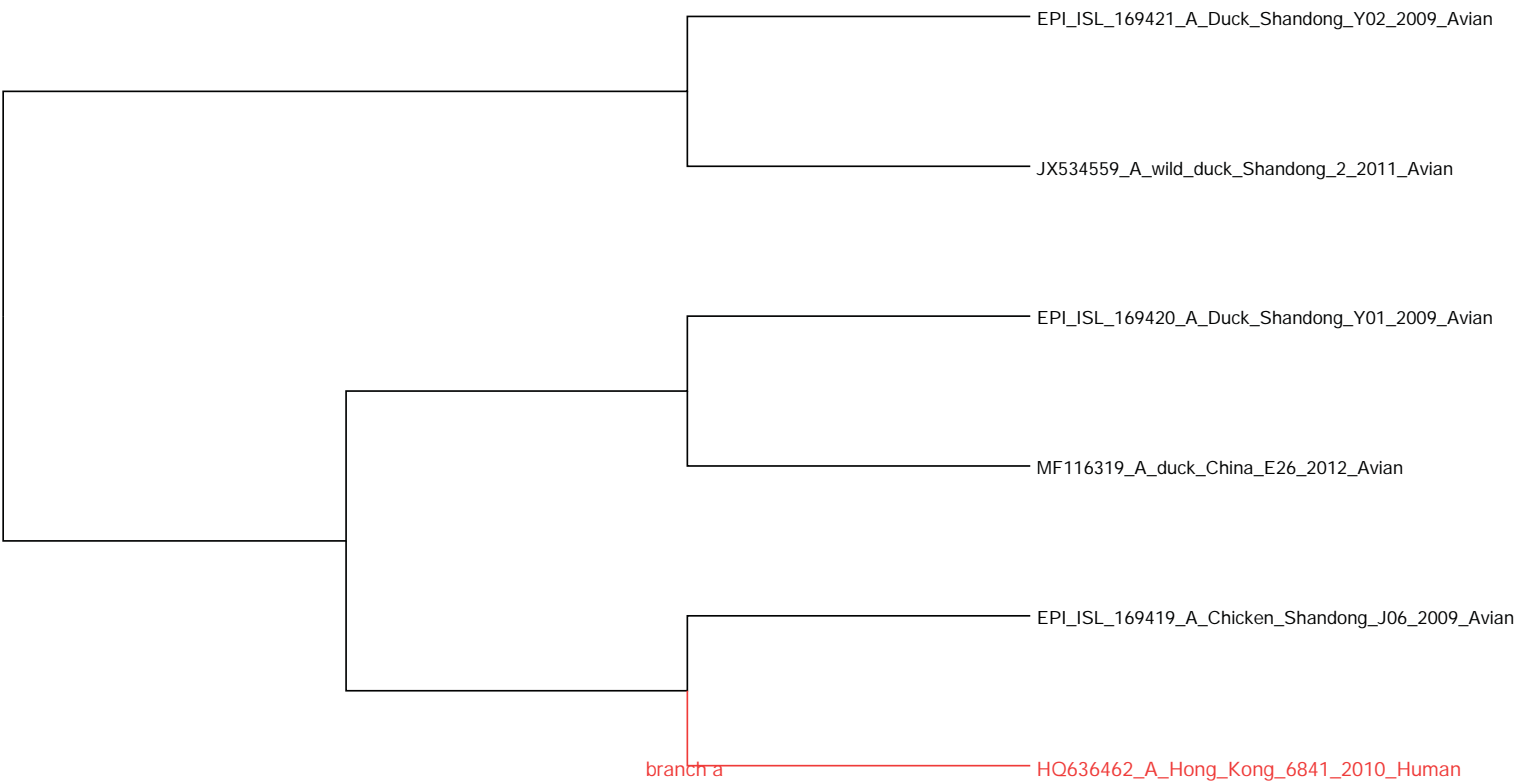
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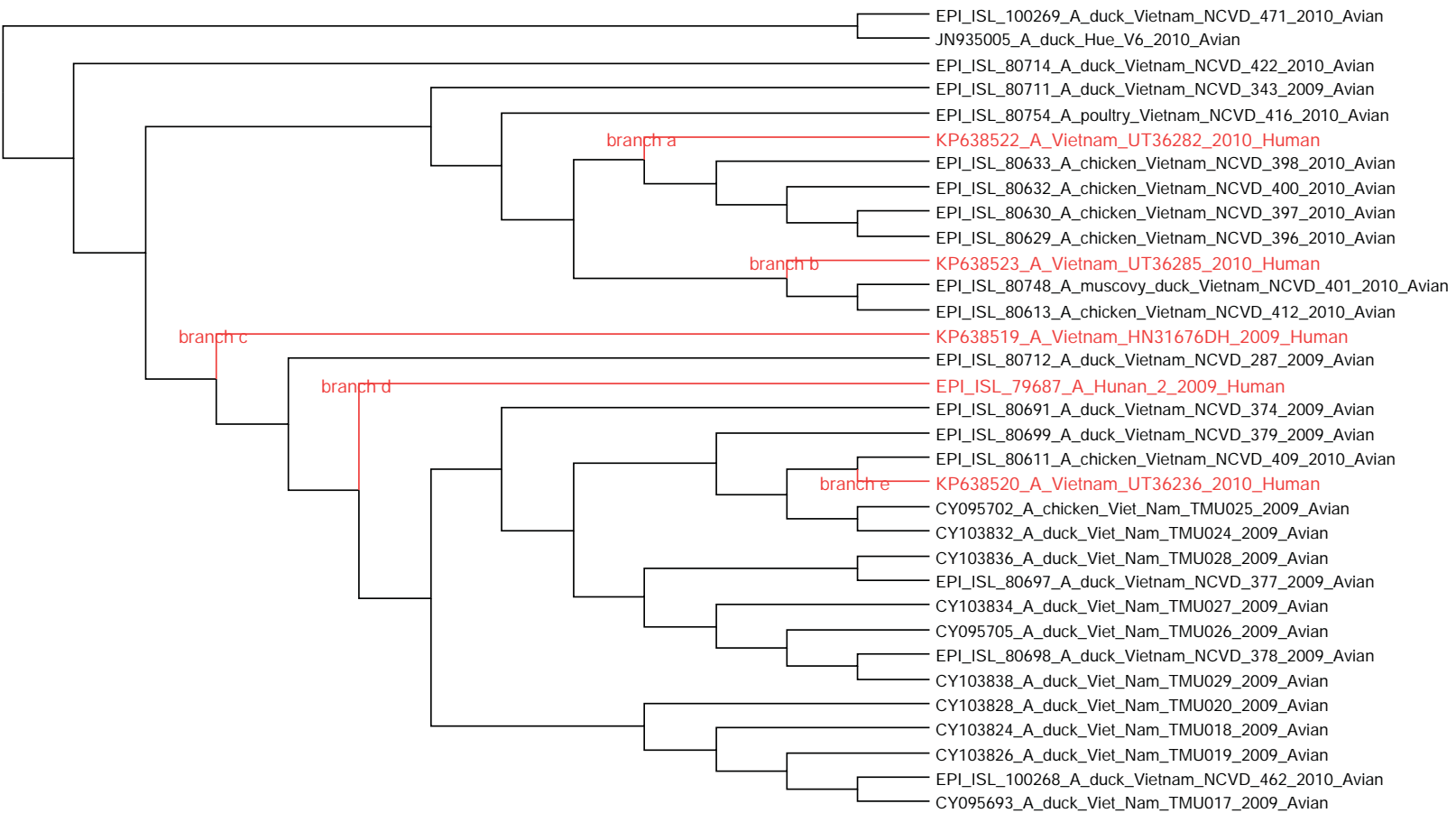
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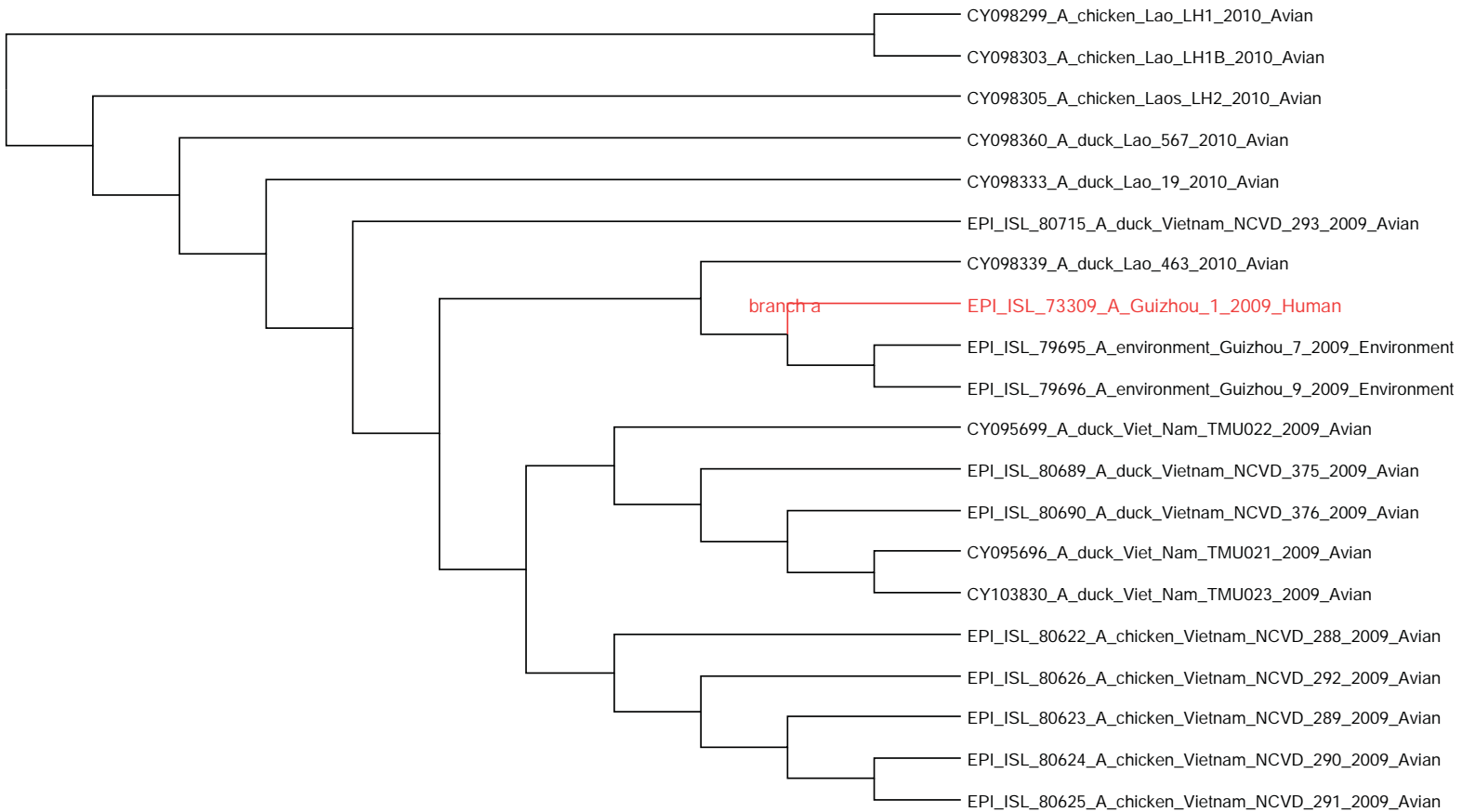
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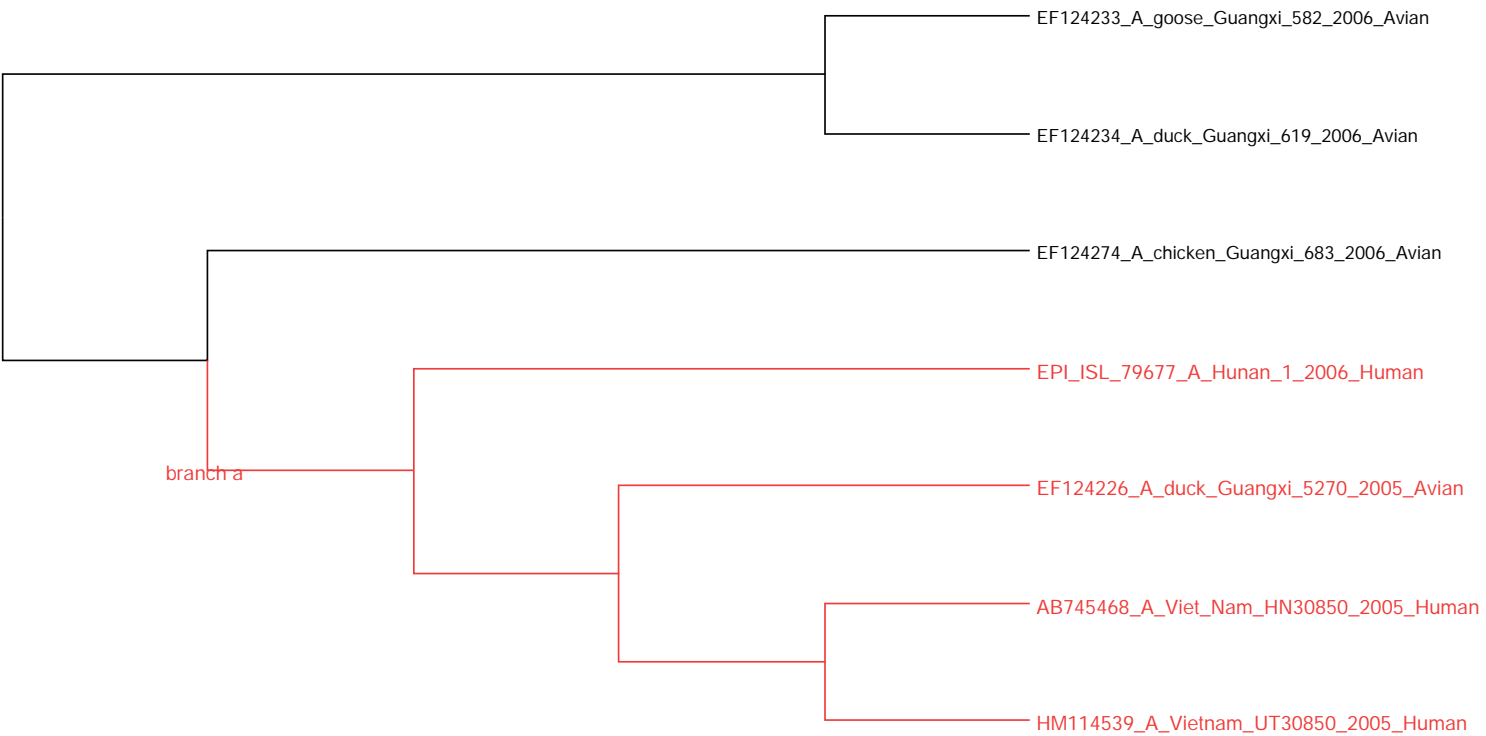
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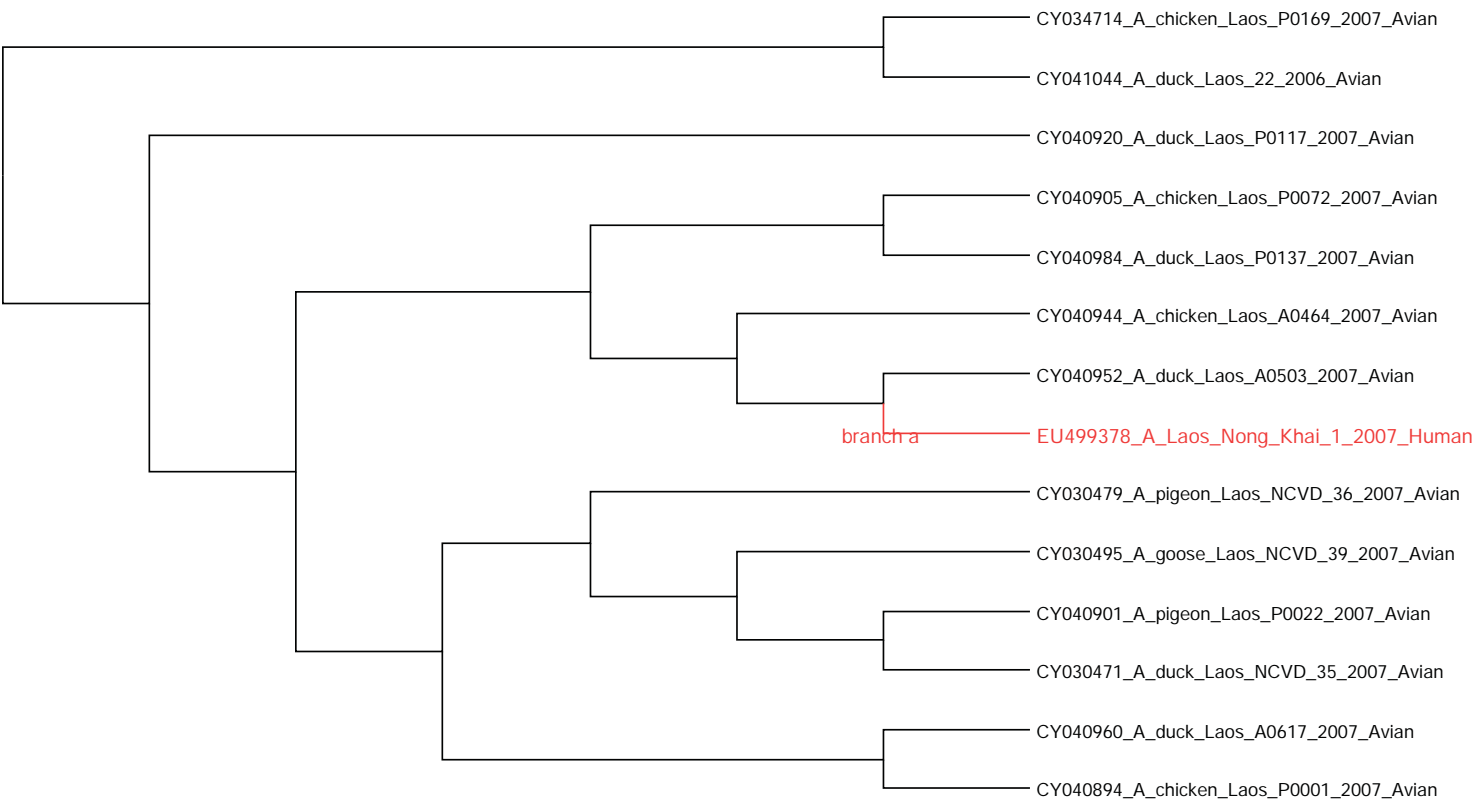
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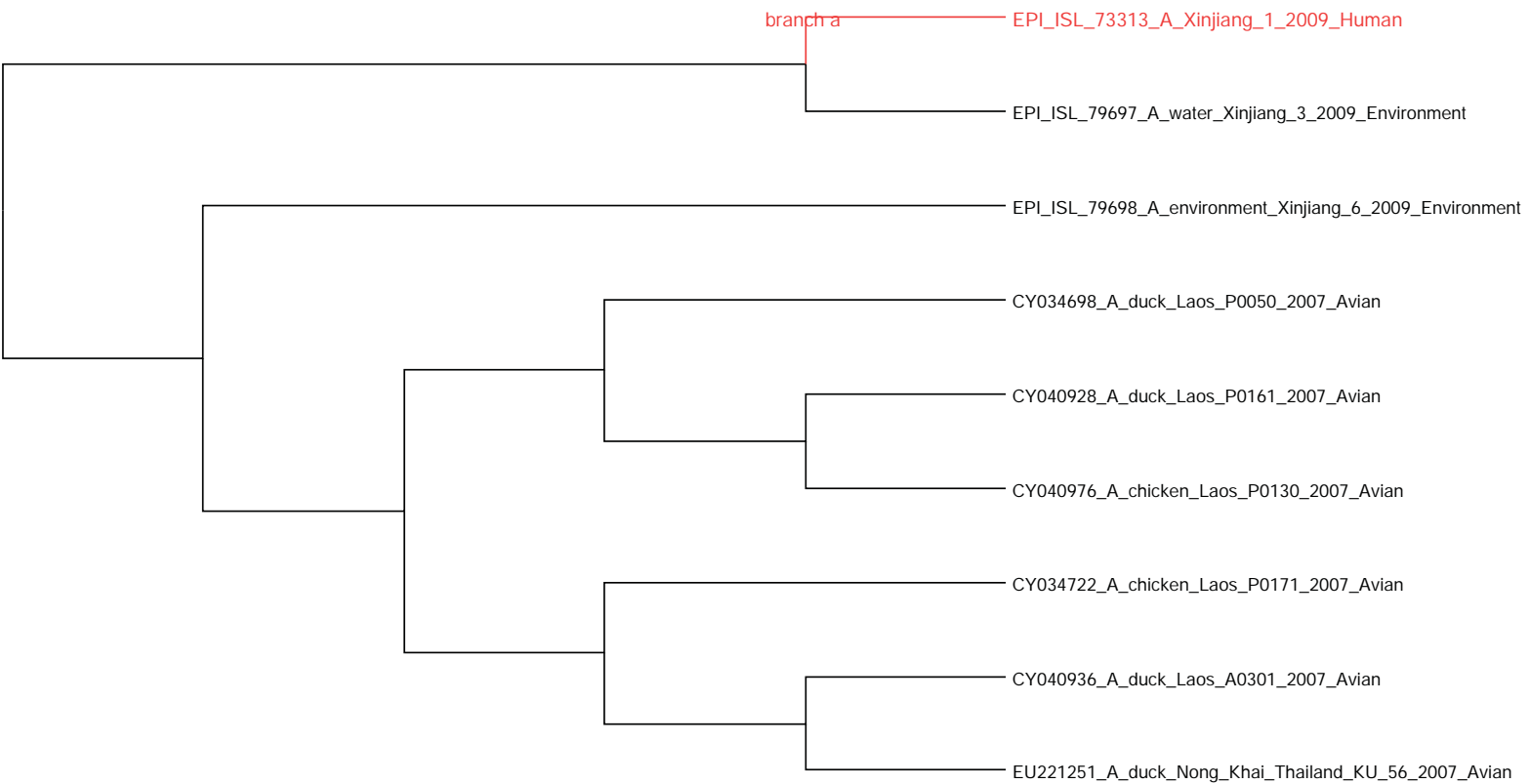
NA1-Group46



NA1-Group47



NA1-Group48



Phylogenetic tree showing relationships between 100 samples, color-coded by branch. The tree is rooted on the left and branches out to the right. The samples are listed on the right, with their accession numbers and names. The branches are labeled 'branch a' through 'branch i' in red. The samples are grouped into several clusters, with some clusters being more closely related than others. The tree is a maximum likelihood tree, and the bootstrap values are shown at the nodes.

branch a

branch c

branch b

branch d

branch e

branch f

branch g

branch h

branch i

EPI_ISL_79699_A, water, Hunan, 3_2009, Environment

HM17195_A, chicken, Hunan, 1_2009, Avian

HM370127_A, duck, Eastern, China, Y122_2008, Avian

GO202209_A, tree_sparrow, Jiangsu, 1_2008, Avian

HO185381_A, chicken, Eastern, China, XH222_2008, Avian

EPI_ISL_79683_A, Jiangsu, 1_2007, Human

EPI_ISL_79684_A, Jiangsu, 2_2007, Human

EPI_ISL_80722_A, duck, Vietnam, NCVD_013_2008, Avian

KC683527_A, swine, Jiangsu, 2_2009, Swine

EPI_ISL_73306_A, Guangdong, 1_2008, Human

FJ784762_A, chicken, Anhui, 1089_2007, Avian

EU429719_A, duck, Eastern, China, 48_2006, Avian

EU429778_A, duck, Eastern, China, 37_2006, Avian

EU429785_A, duck, Eastern, China, 89_2006, Avian

CY040992_A, chicken, Laos, 13_2008, Avian

AB435523_A, chicken, Laos, 1_2008, Avian

CY041008_A, chicken, Laos, 17_2008, Avian

CY041016_A, chicken, Laos, 33_2008, Avian

GU127619_A, duck, Eastern, China, 909_2009, Avian

GU596986_A, duck, Shandong, 009_2008, Avian

EPI_ISL_79685_A, Beijing, 1_2009, Human

EPI_ISL_79691_A, water, Hebei, 3_2009, Environment

EPI_ISL_79689_A, water, Hebei, 1_2009, Environment

EPI_ISL_79692_A, duck, feces, Hebei, 5_2009, Environment

EPI_ISL_79690_A, water, Hebei, 2_2009, Environment

CY041024_A, chicken, Laos, 35_2008, Avian

CY041032_A, chicken, Laos, 37_2008, Avian

FJ784763_A, chicken, Henan, 1362_2006, Avian

FJ784771_A, chicken, Hubei, 2856_2007, Avian

KC436121_A, goose, Guangdong, 1051_2008, Avian

EF124271_A, duck, Fujian, 720_2006, Avian

EF124269_A, duck, Fujian, 668_2006, Avian

EF124270_A, duck, Fujian, 671_2006, Avian

EU594351_A, duck, Hubei, Hangmei01_2006, Avian

FJ169865_A, duck, Laos, 3295_2006, Avian

EF124302_A, duck, Guiyang, 3834_2005, Avian

EF124303_A, duck, Guiyang, 3996_2005, Avian

EF124314_A, goose, Guiyang, 4030_2005, Avian

EF124237_A, chicken, Guiyang, 3721_2005, Avian

EF124240_A, duck, Guiyang, 293_2006, Avian

EF124238_A, chicken, Guiyang, 4059_2005, Avian

EF124241_A, duck, Guiyang, 497_2006, Avian

EF124313_A, chicken, Guiyang, 3923_2005, Avian

EF124242_A, goose, Guiyang, 538_2006, Avian

HM171266_A, duck, Hubei, 49_2005, Avian

KP638524_A, wildbird, Anhui, 82_2005, Avian

EPI_ISL_24606_A, Anhui, 2_2005, Human

HM171282_A, duck, Anhui, 1_06, Avian

EPI_ISL_24603_A, Anhui, 1_2005, Human

EPI_ISL_73302_A, Anhui, 1_2007, Human

GU182276_A, environment, Hunan, 1_8_2007, Environment

CY036159_A, long_tailed_shrike, Hong_Kong, 2762_2007, Avian

CY036135_A, scaly_breasted_munia, Hong_Kong, 2433_2007, Avian

CY036143_A, chestnut_munia, Hong_Kong, 2442_2007, Avian

DO643810_A, Zhejiang, 16_2006, Human

HM172168_A, goose, Hubei, 65_2005, Avian

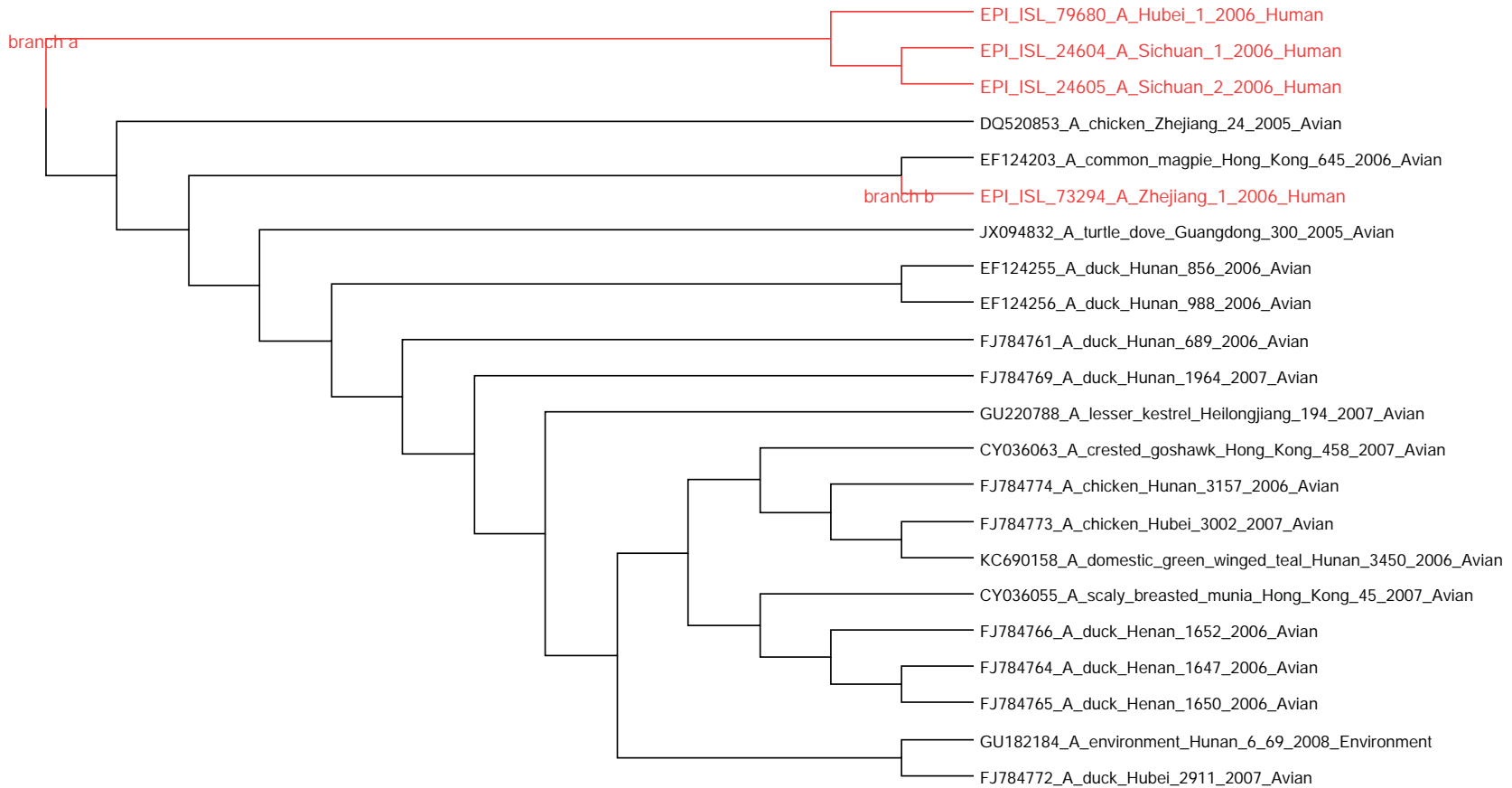
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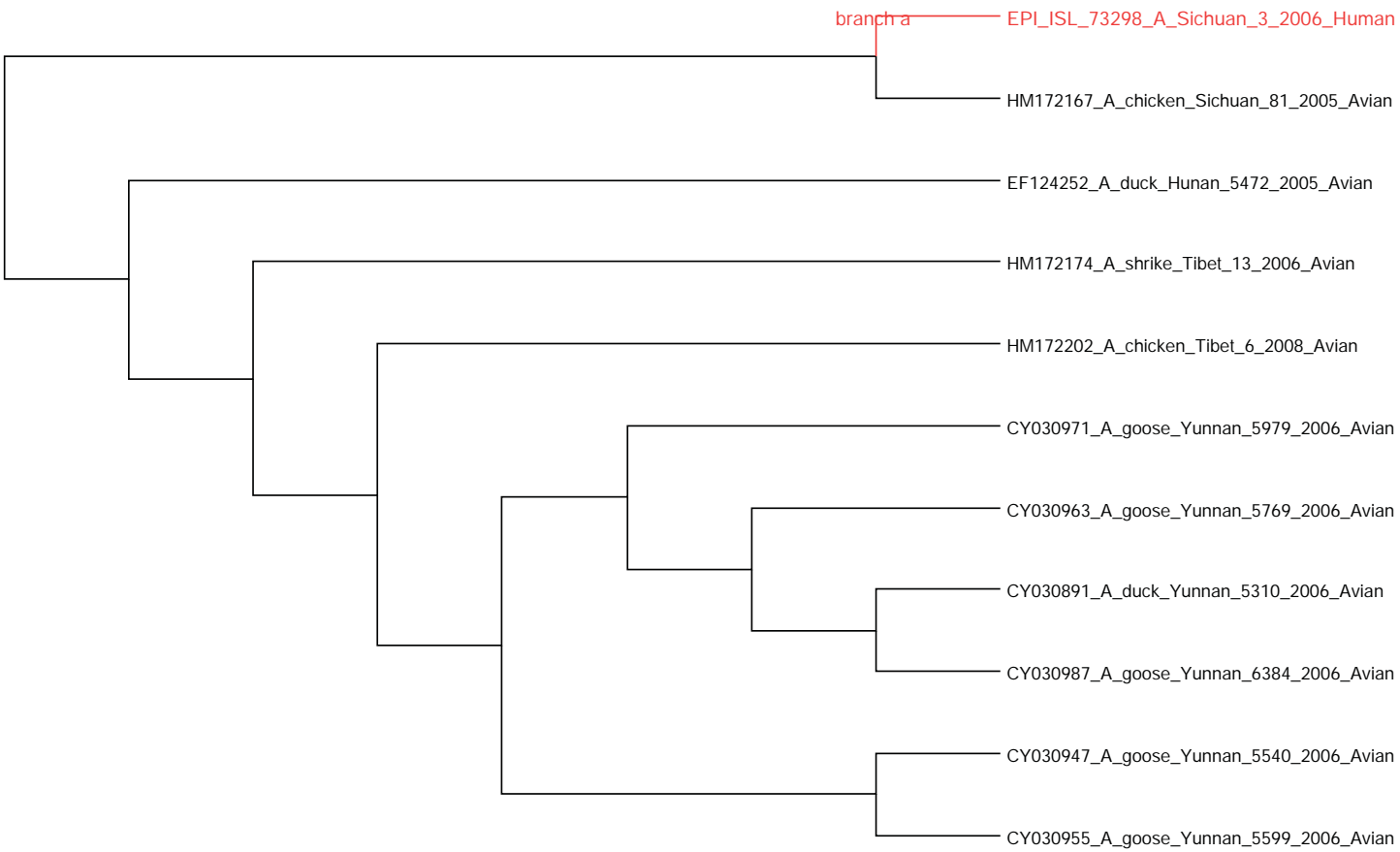
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N/A1-Group49

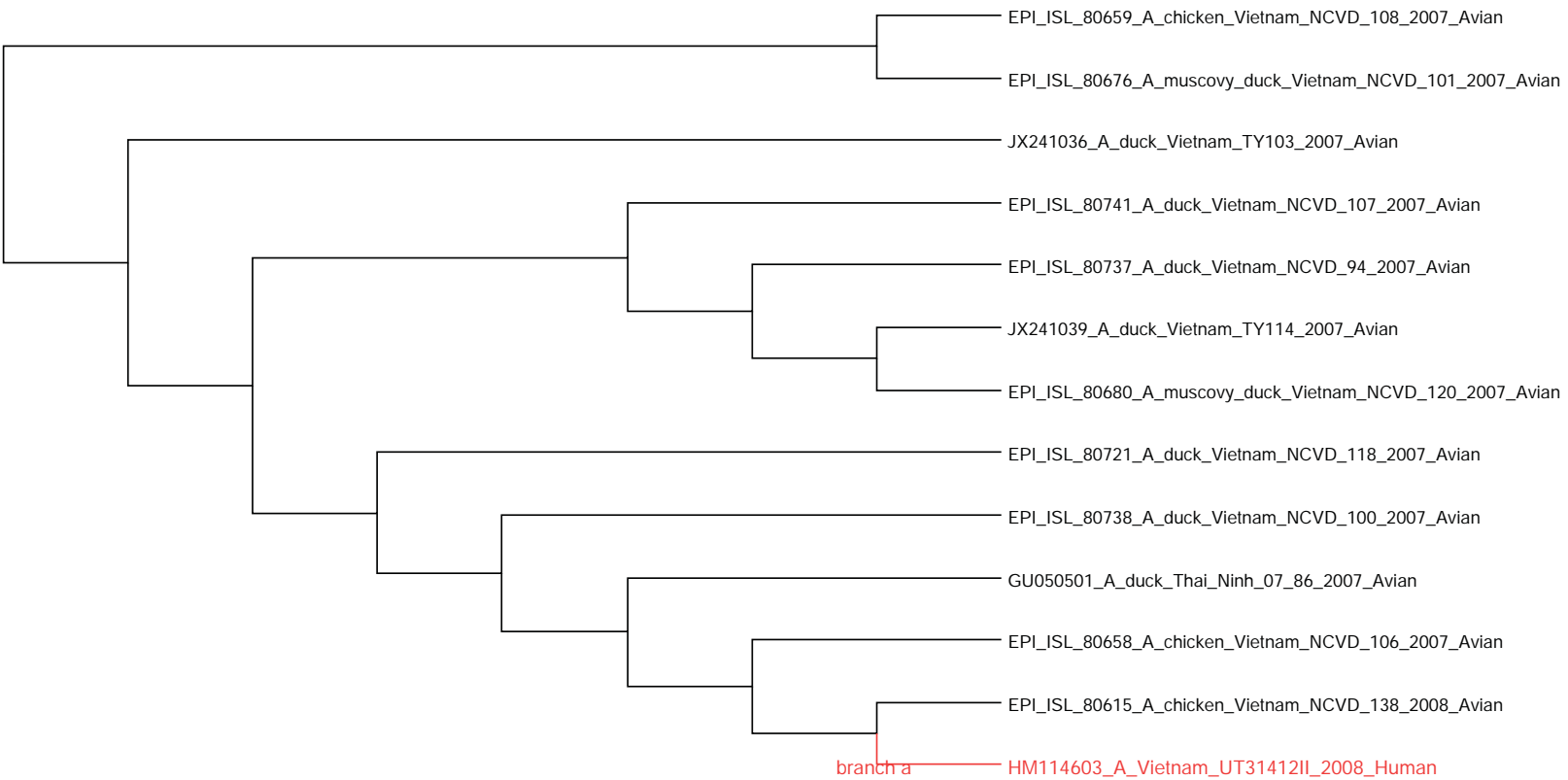
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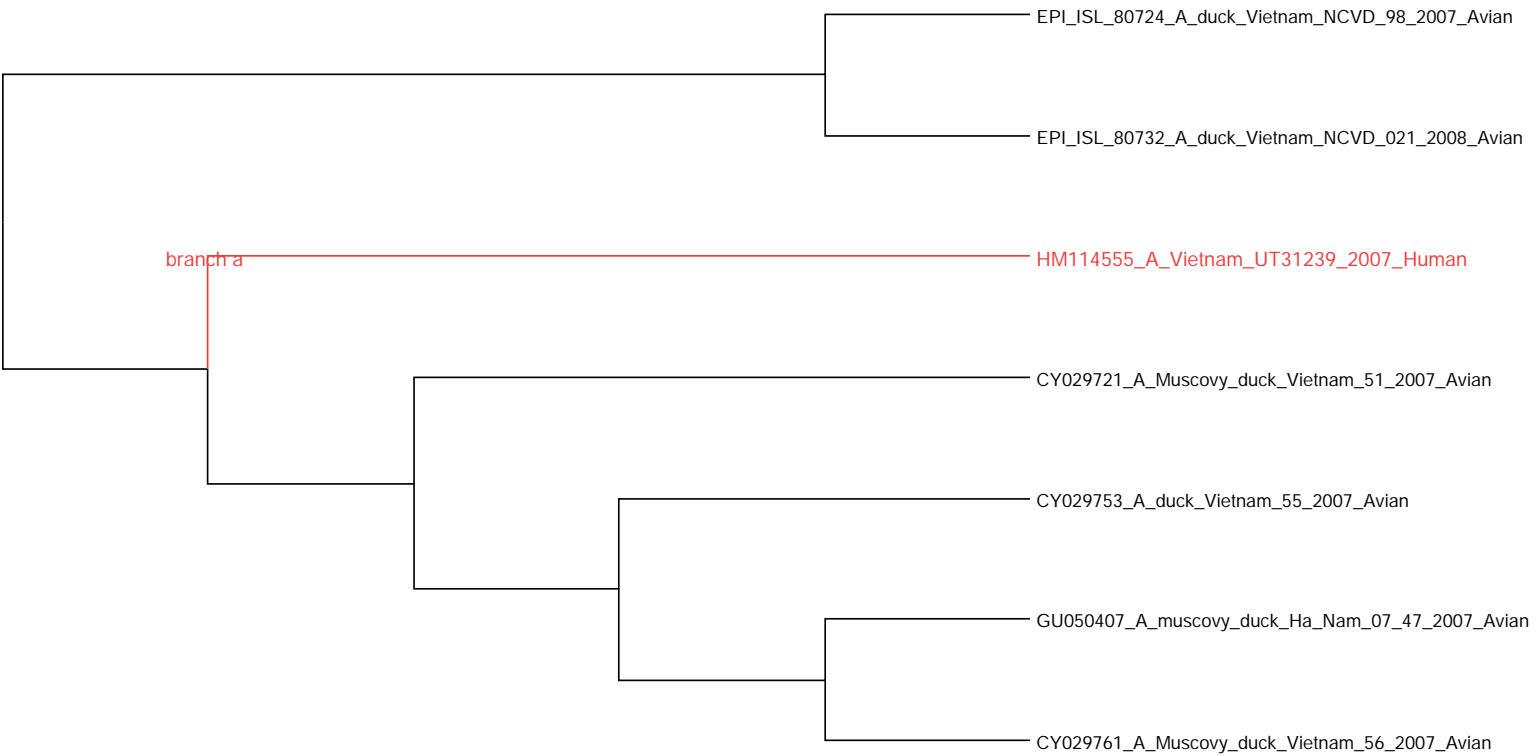
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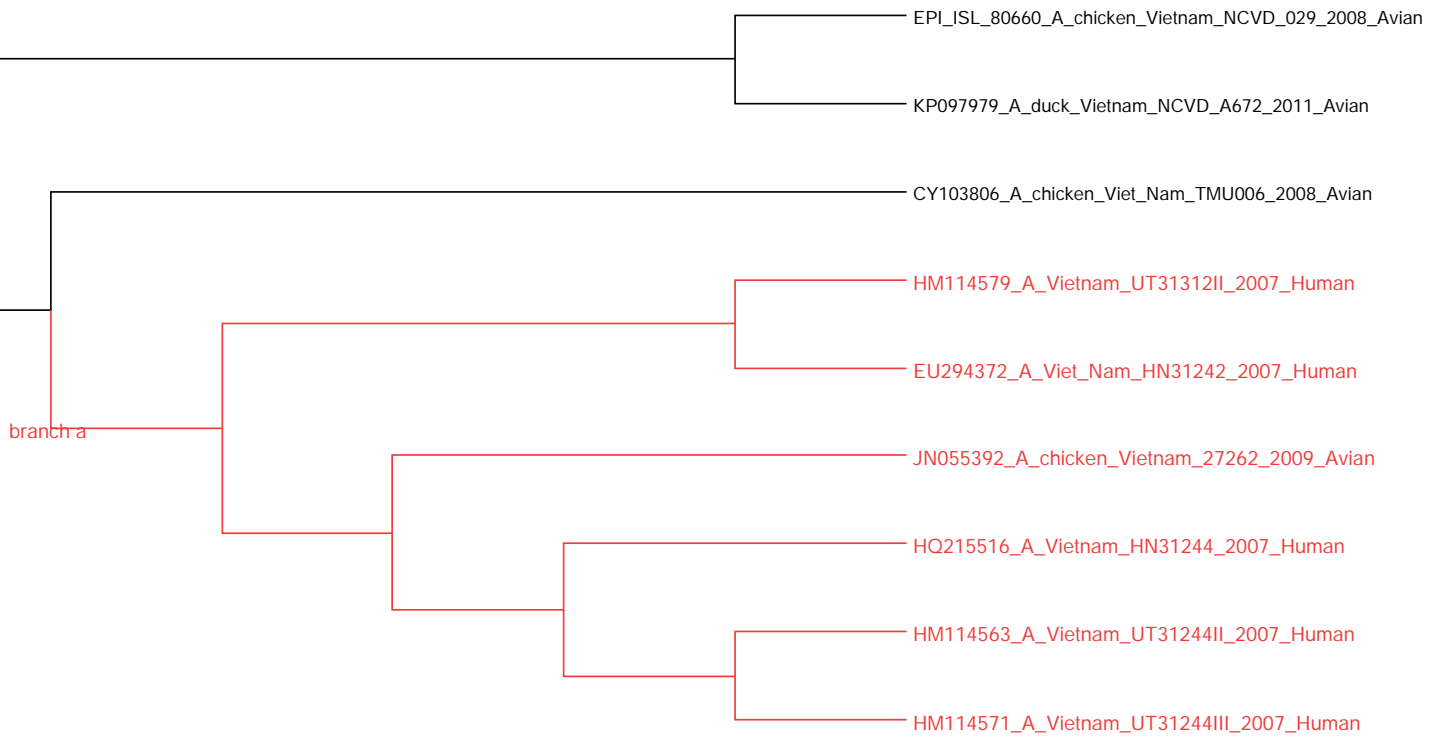
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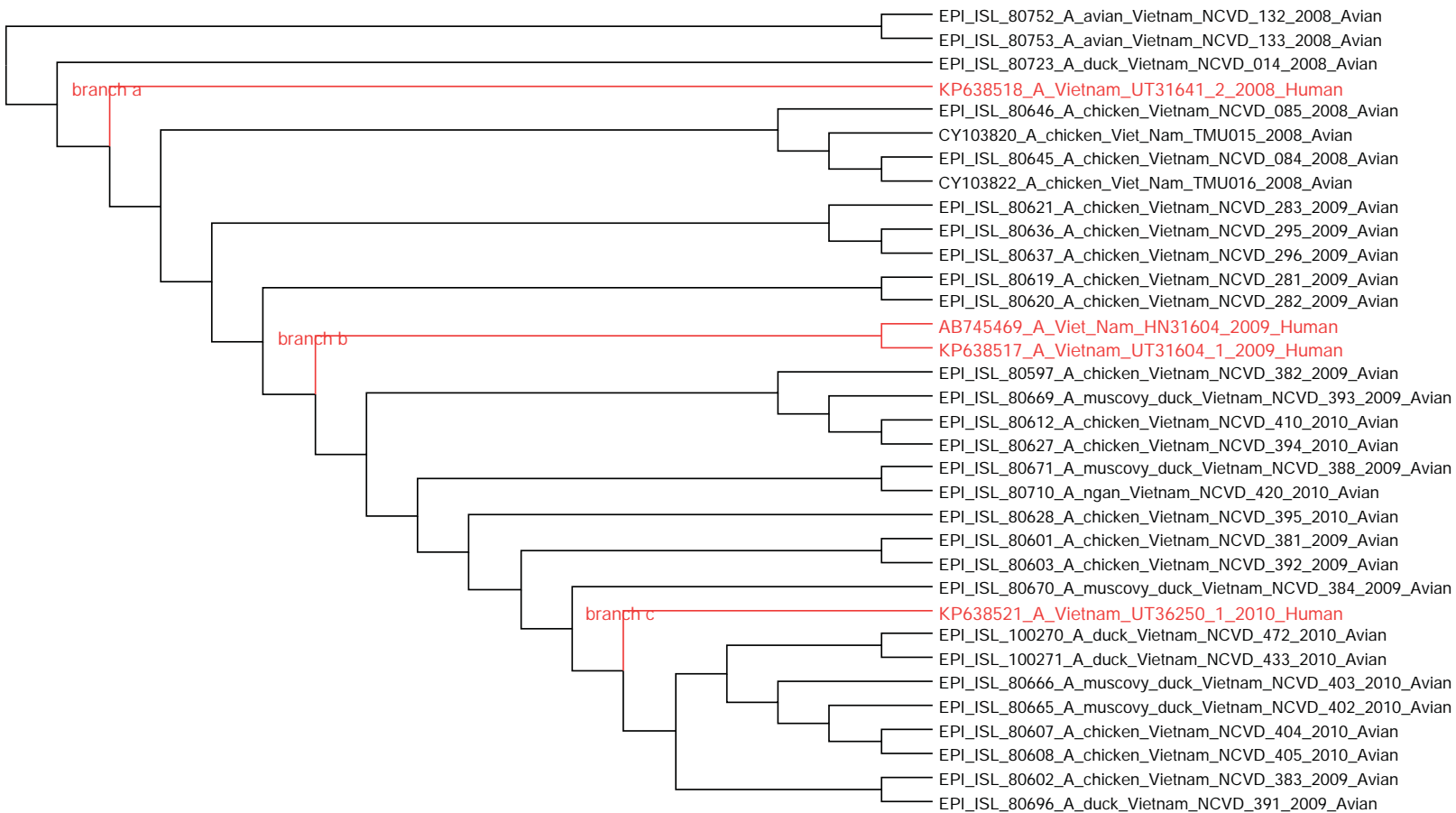
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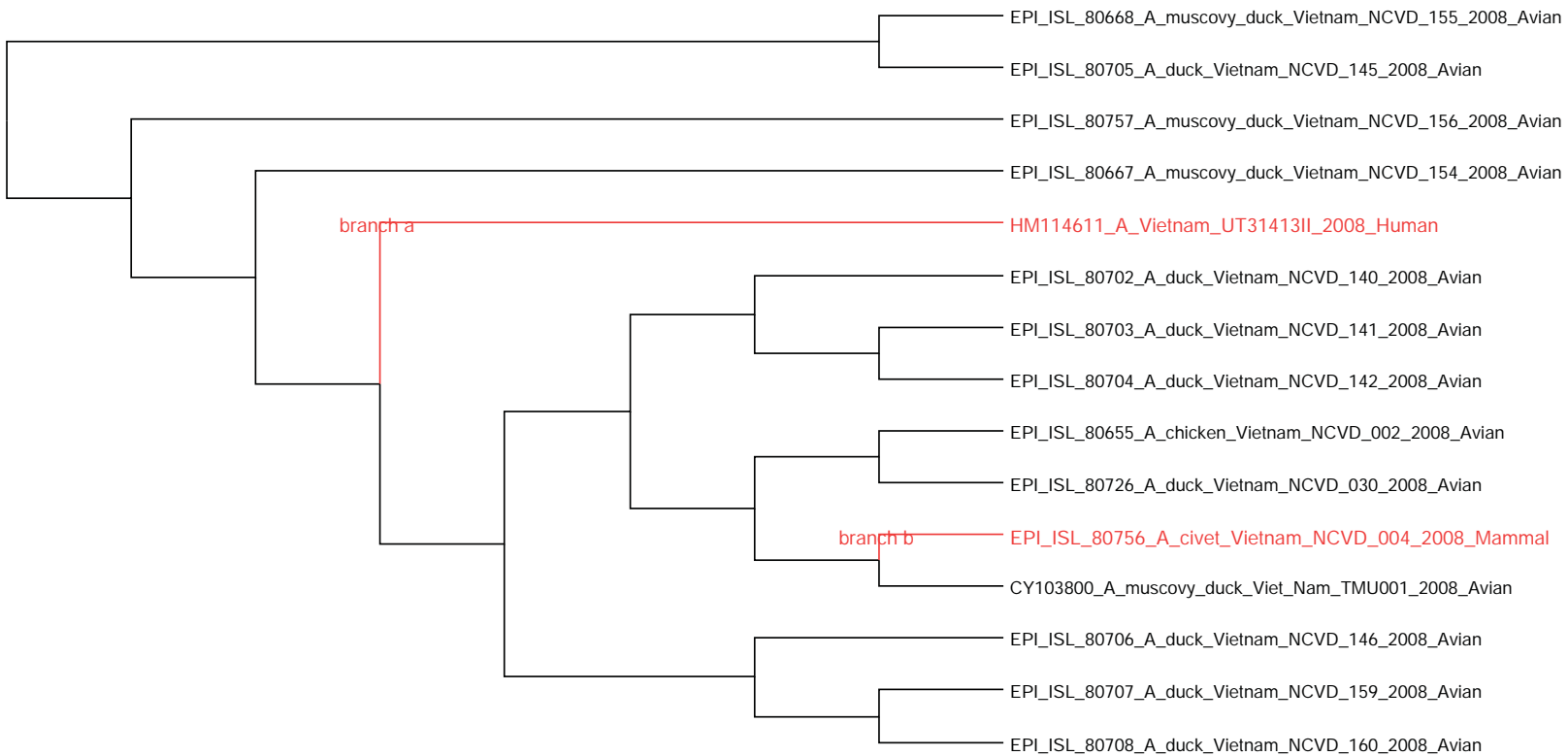
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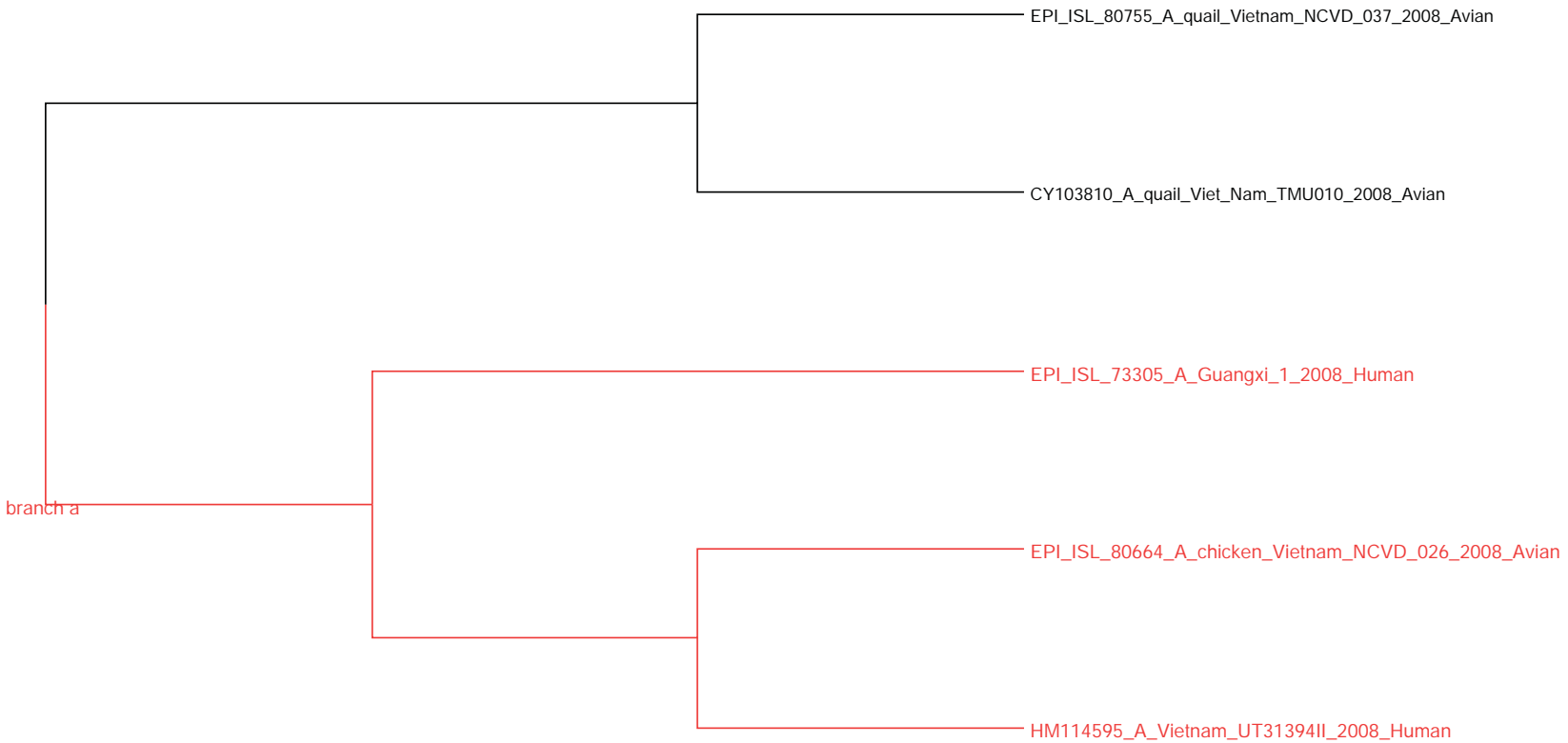
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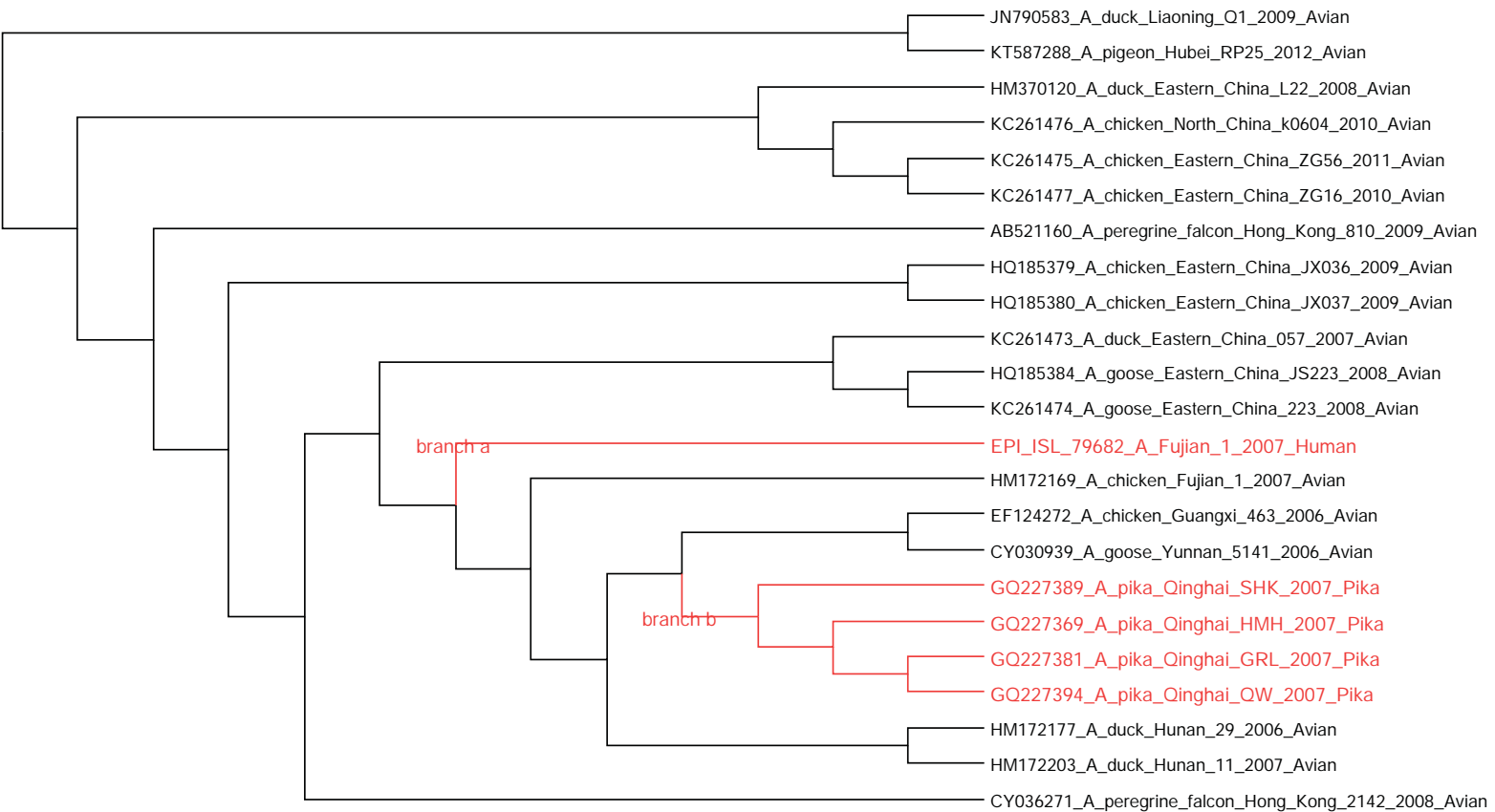
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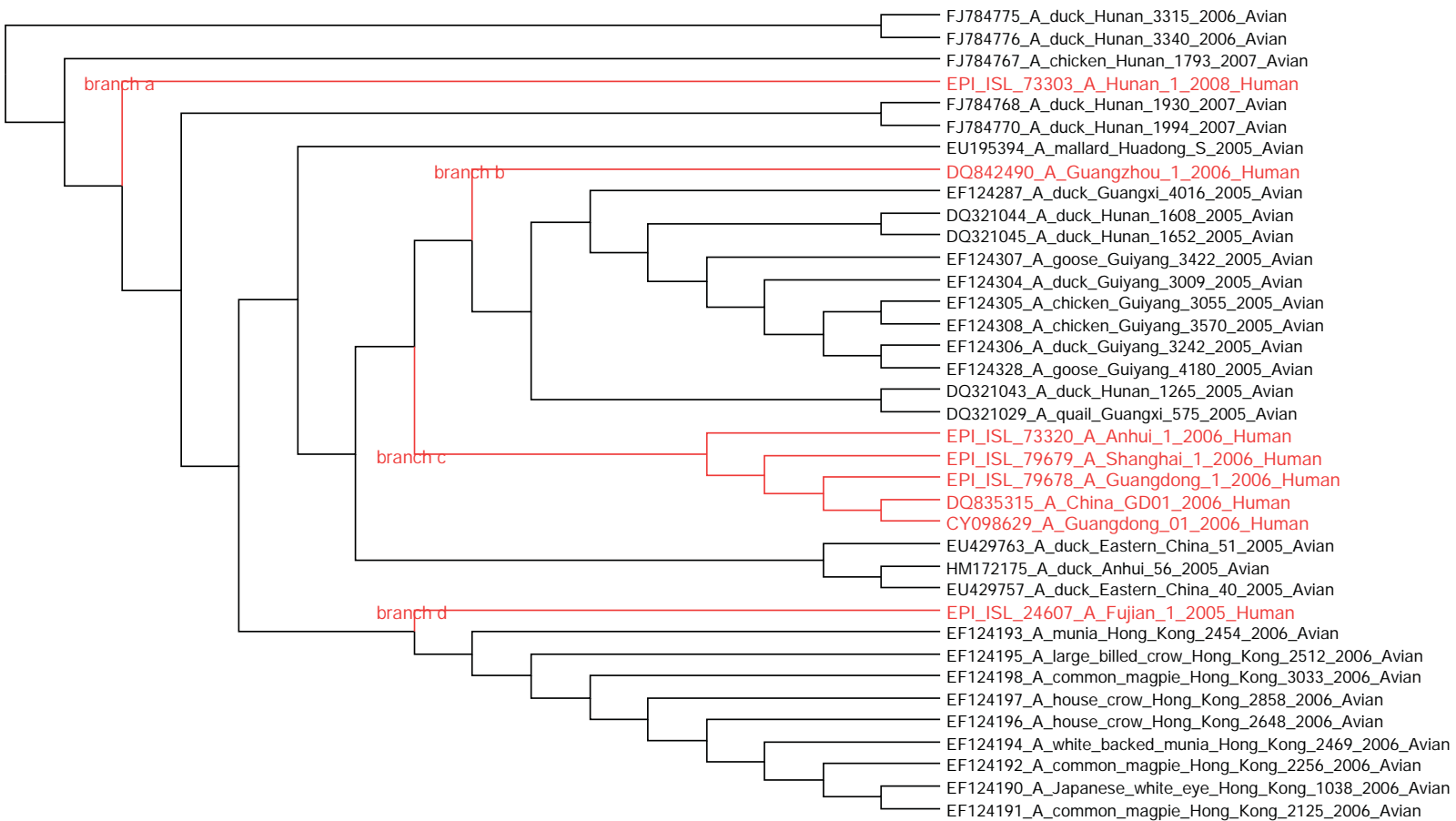
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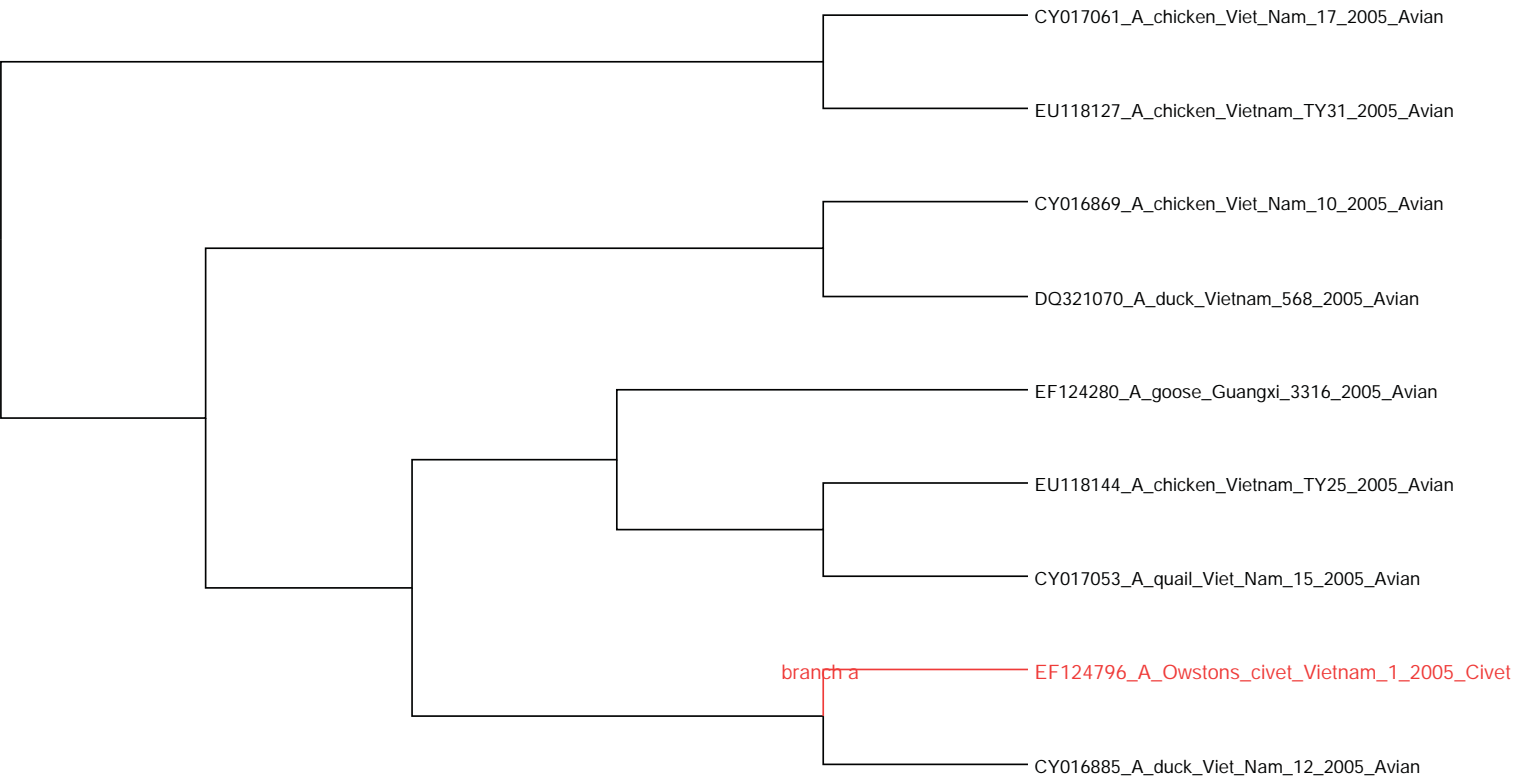
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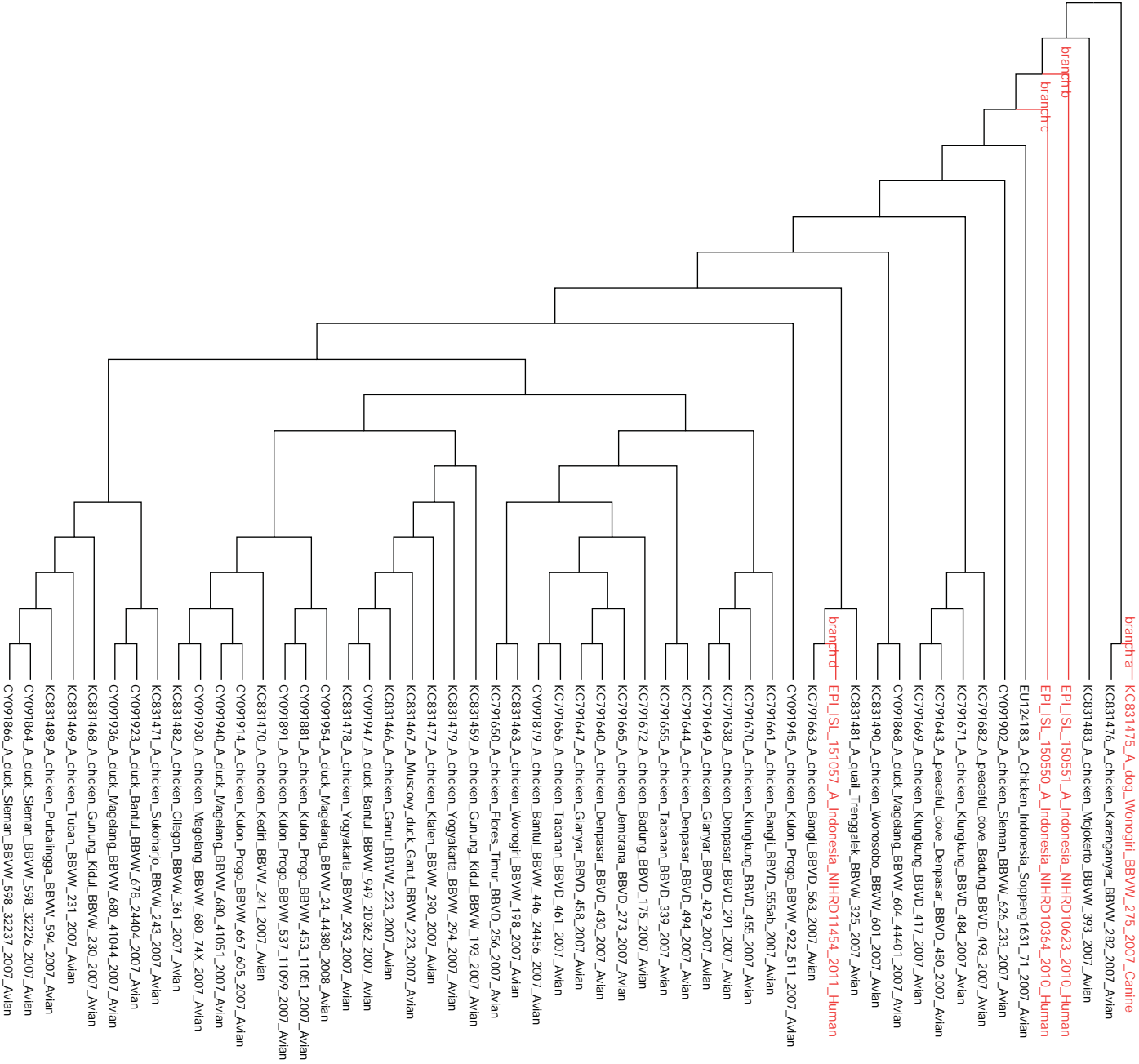


NA1-Group59



NA1-Group60

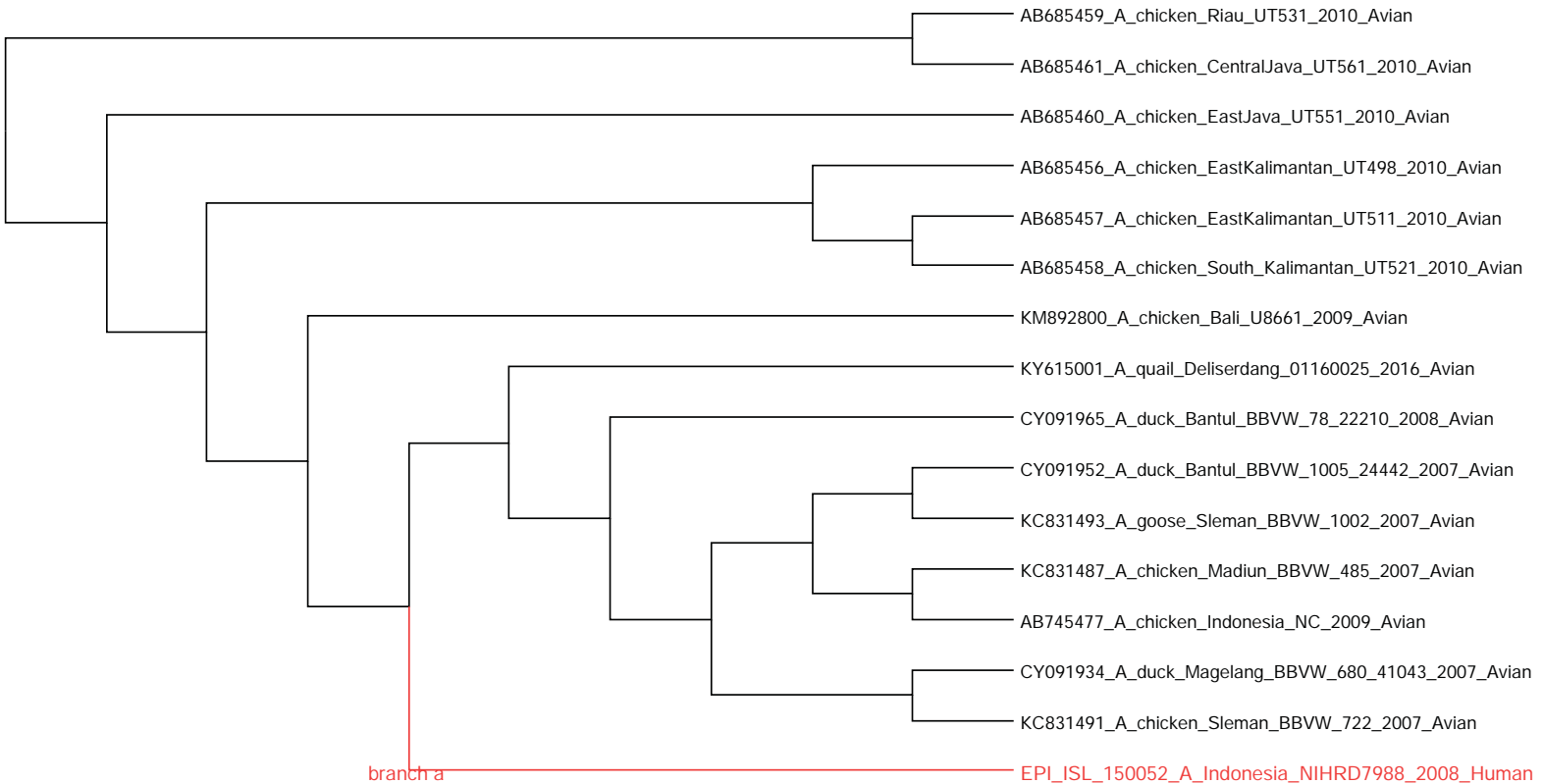


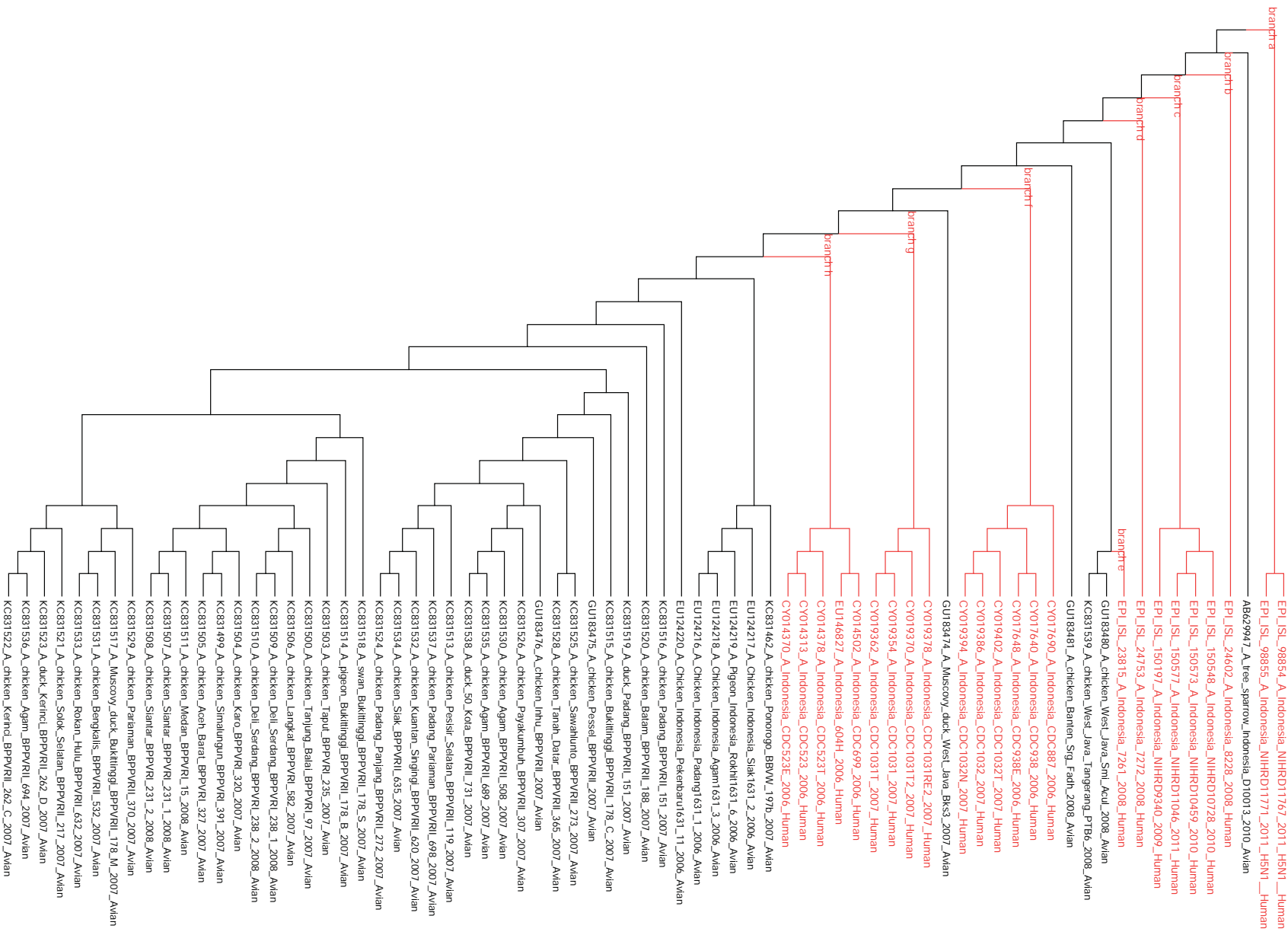


NA1-Group61

NA1-Group61

NA1-Group62

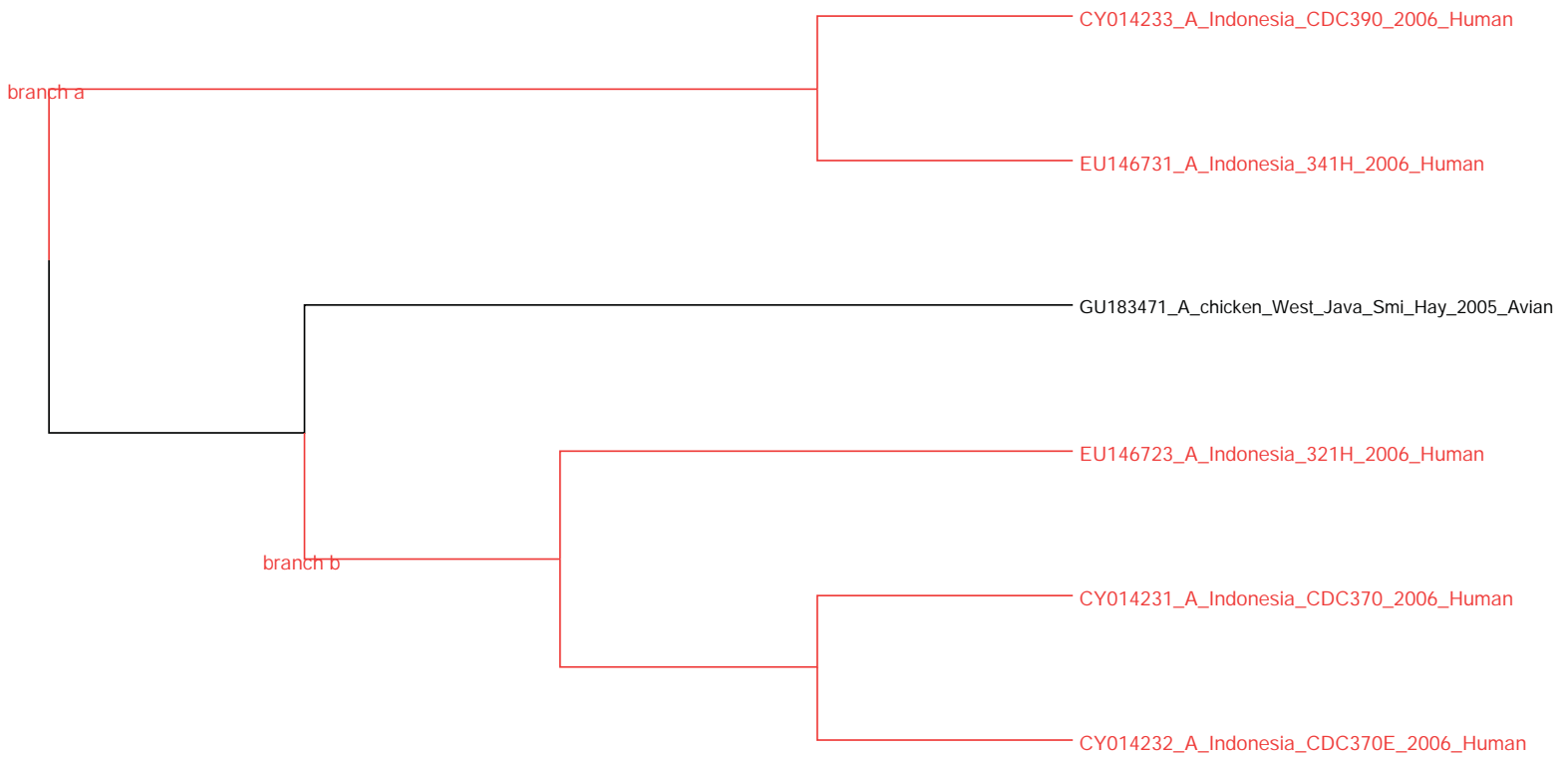


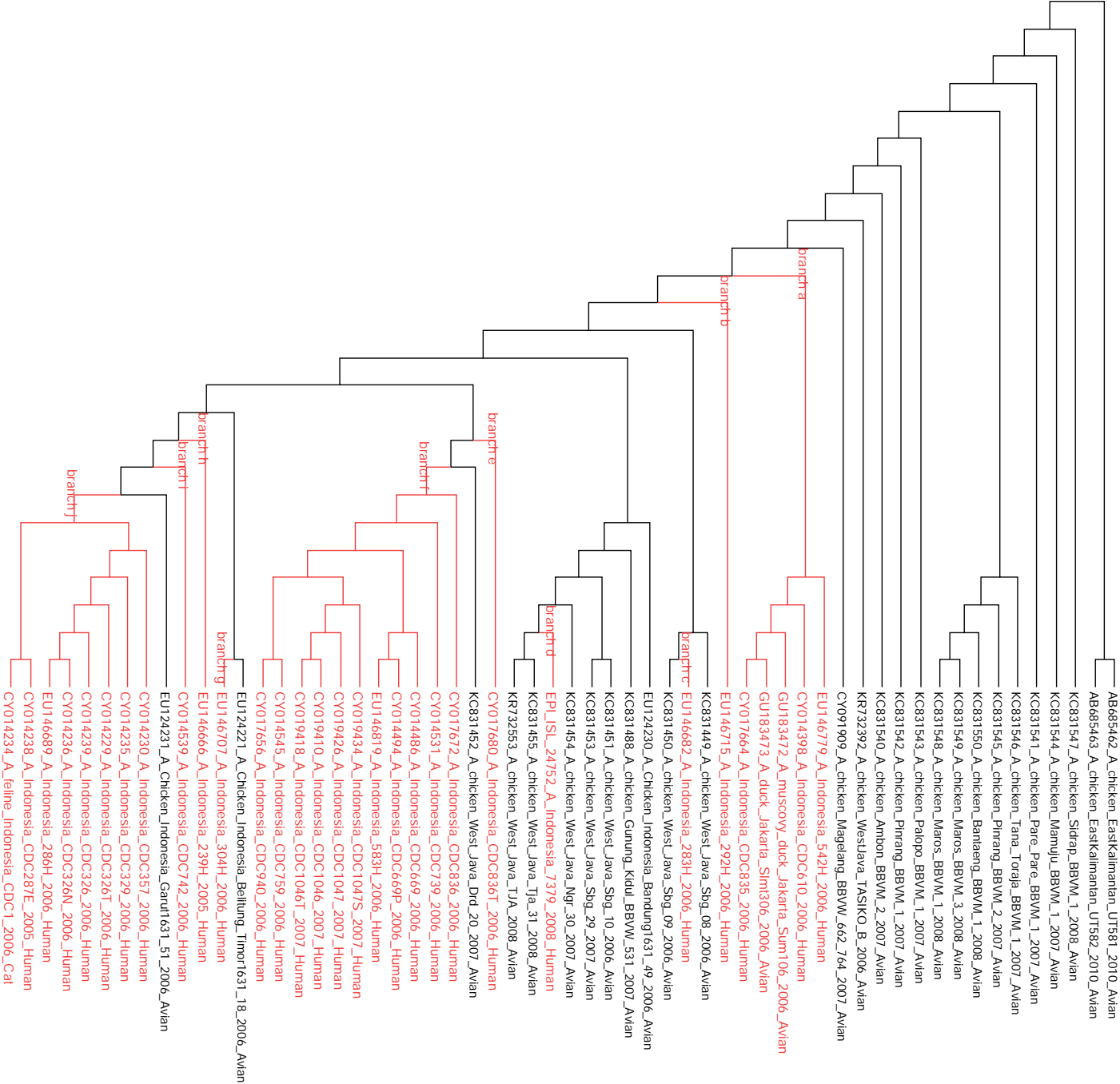


NA1-Group63

NA1-Group63

NA1-Group64

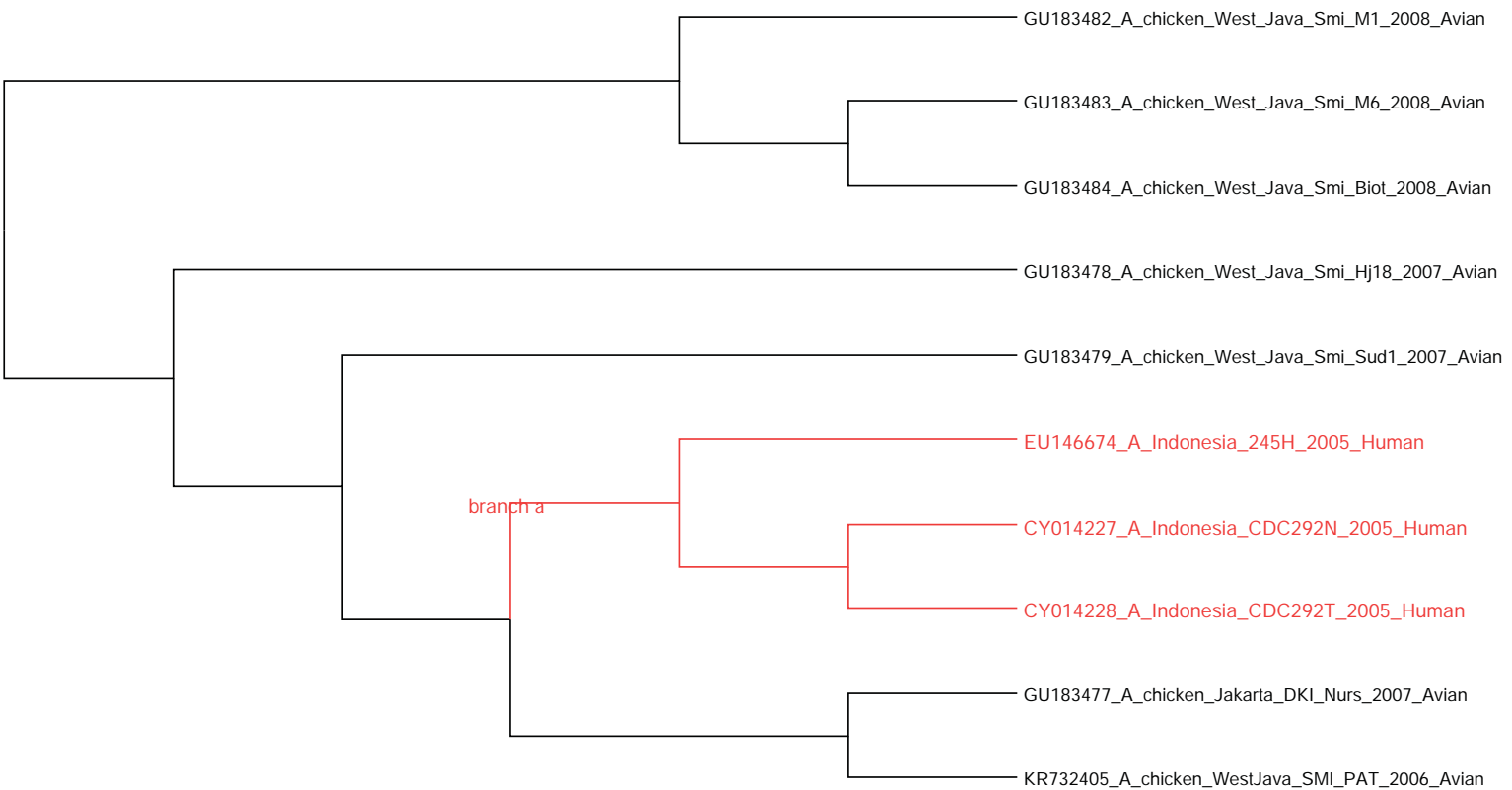




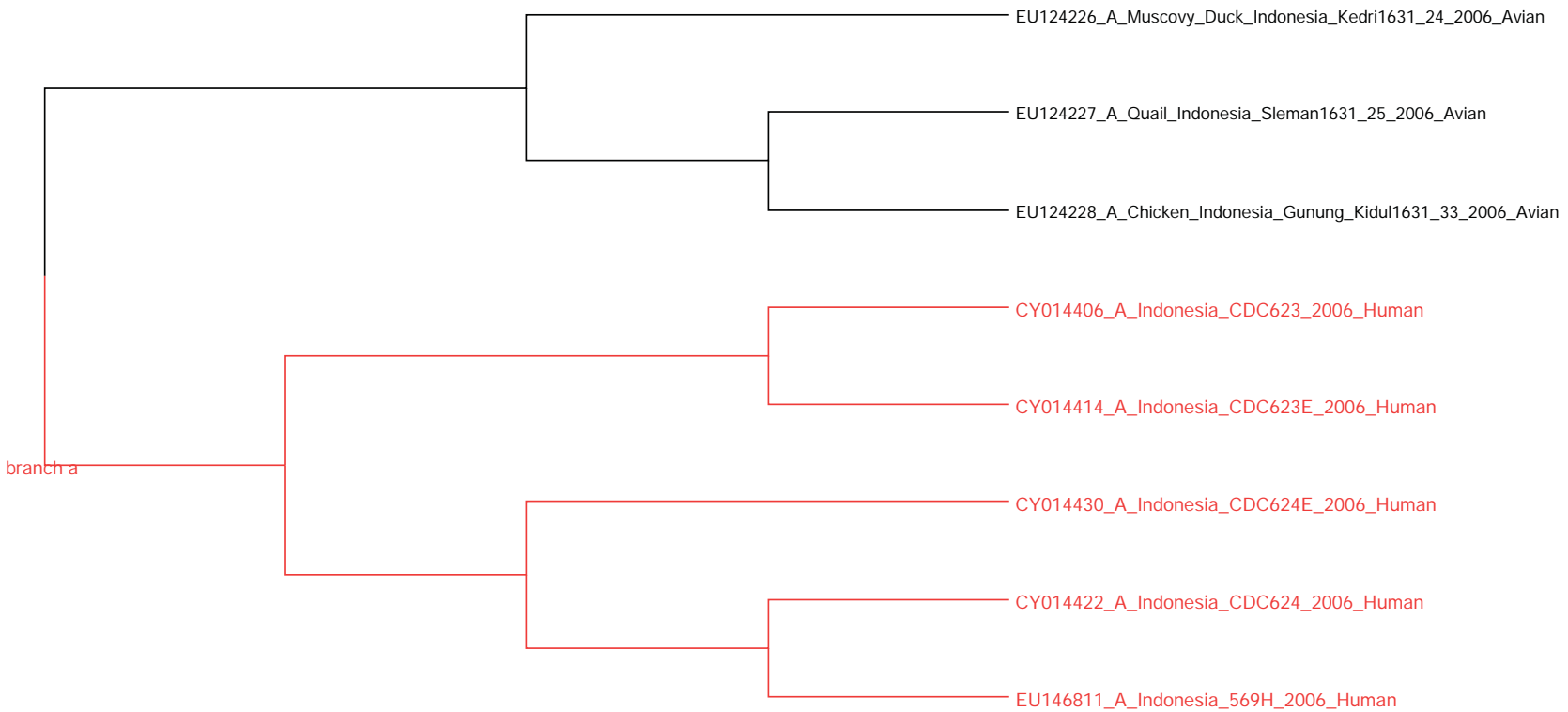
NA1-Group65

NA1-Group65

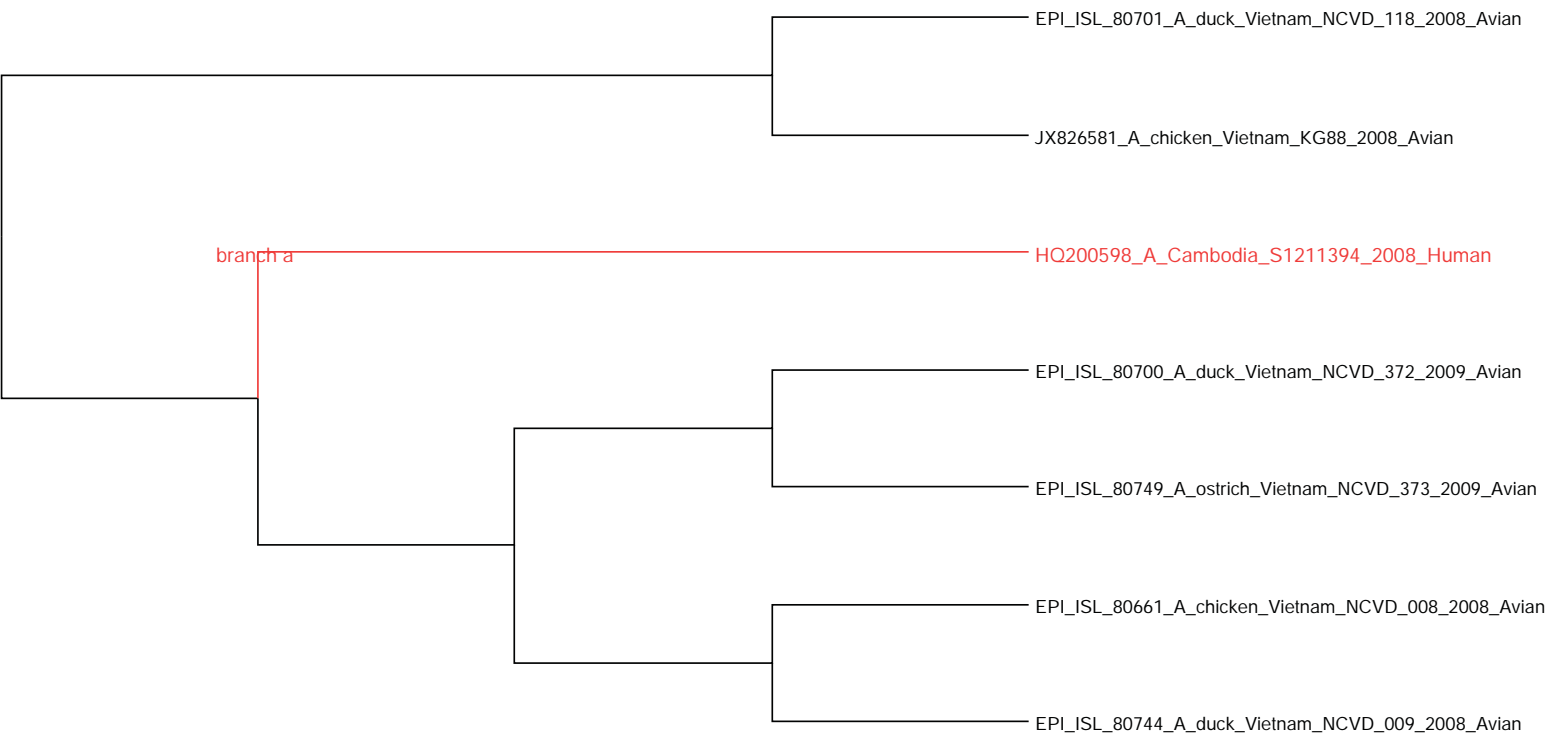
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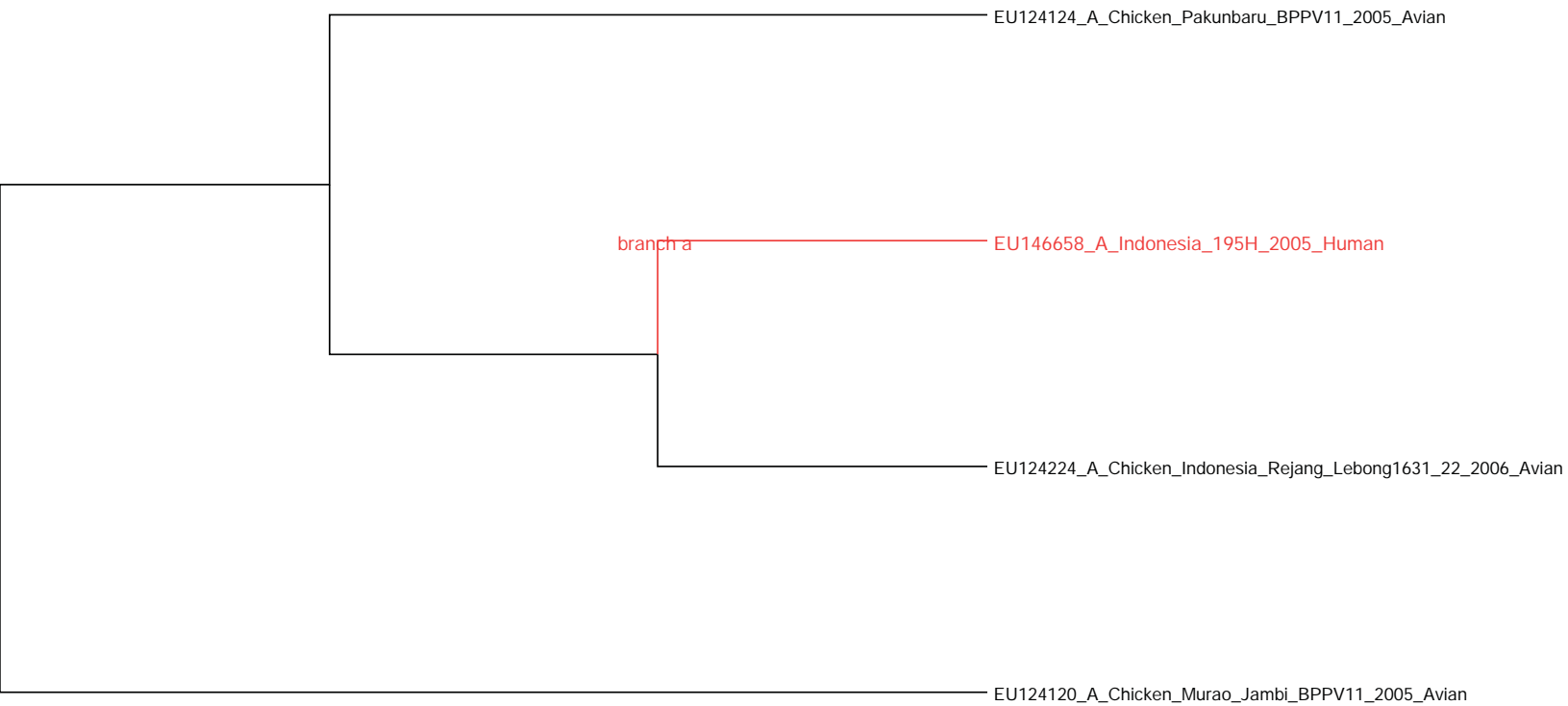
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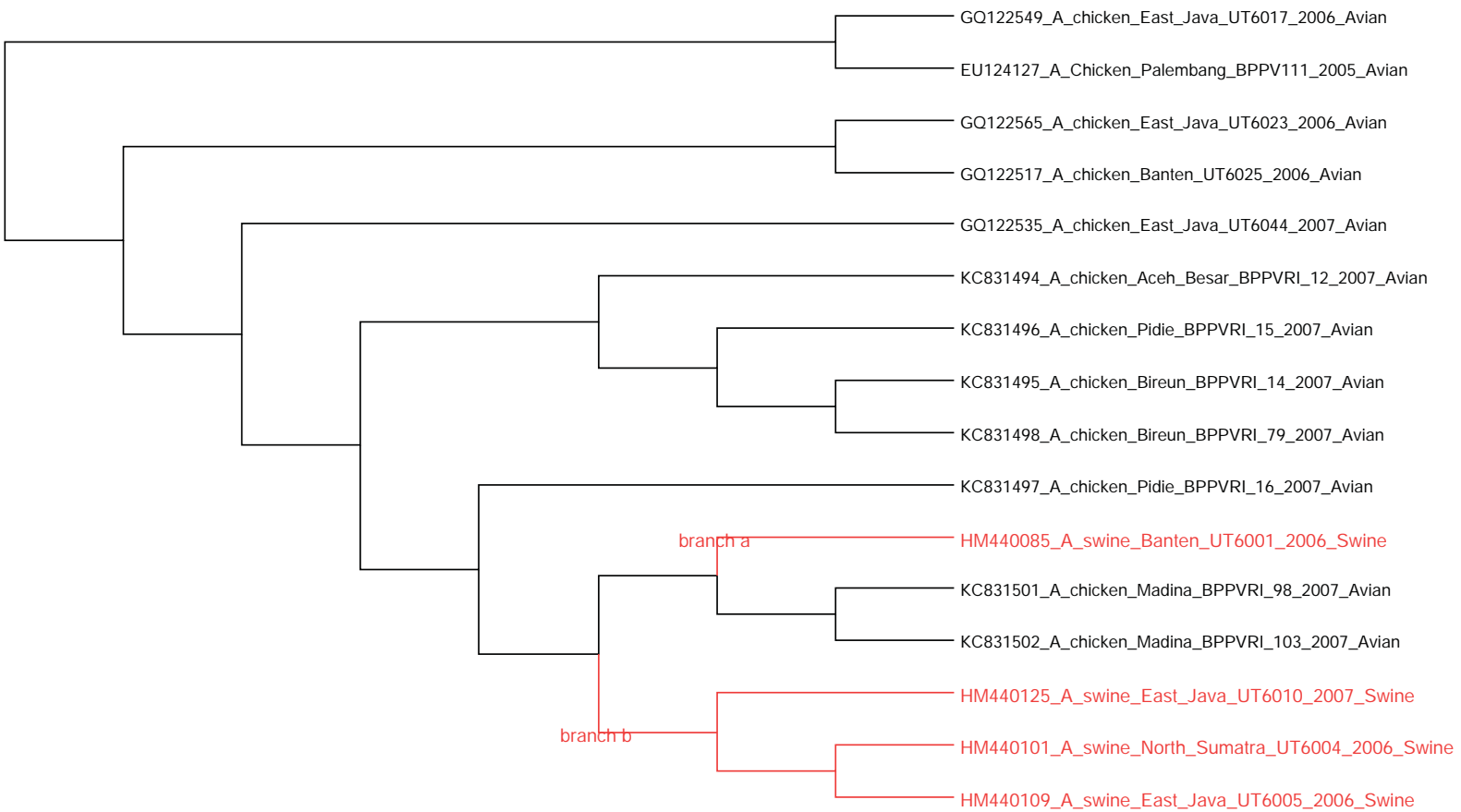
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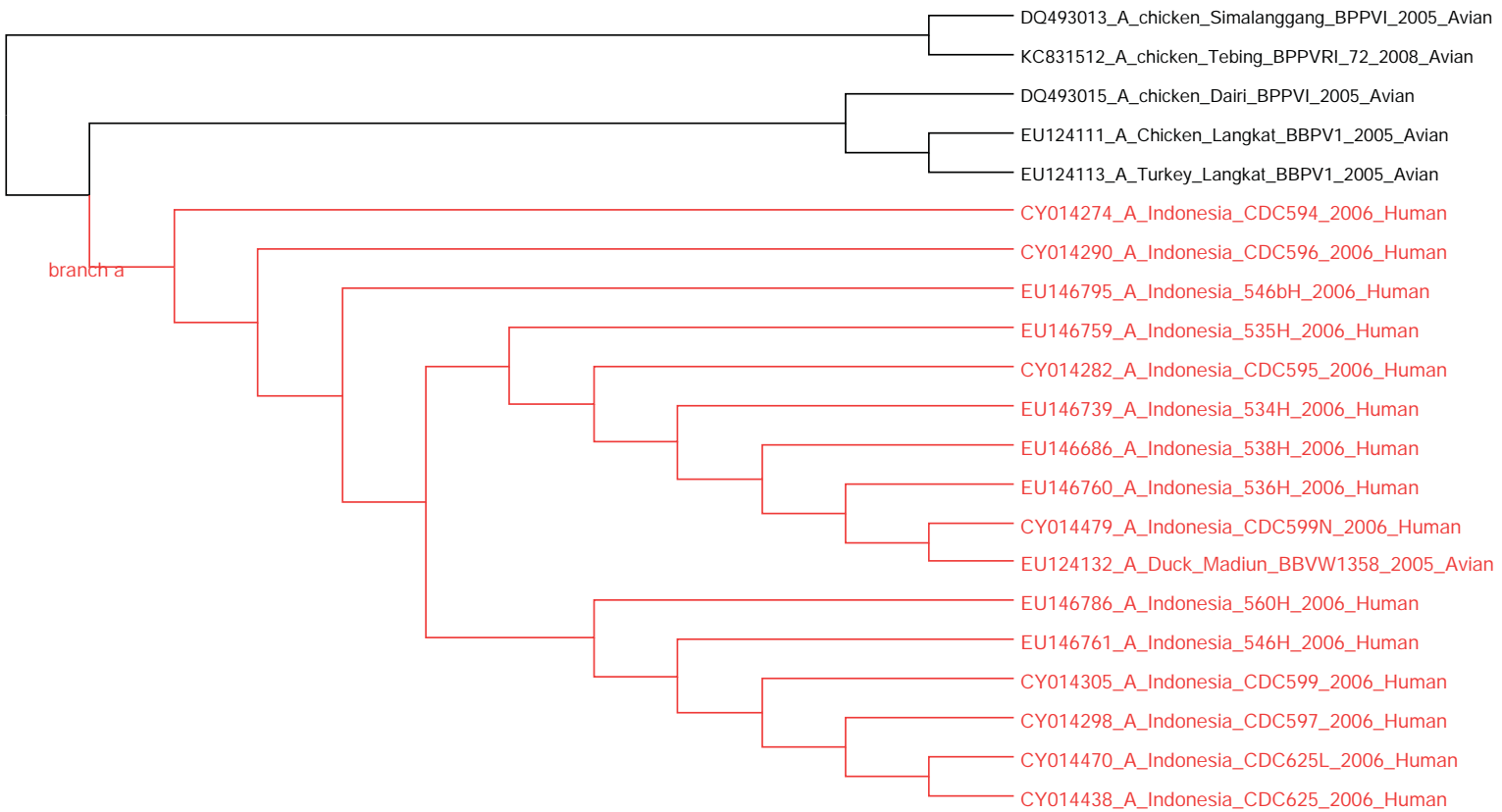
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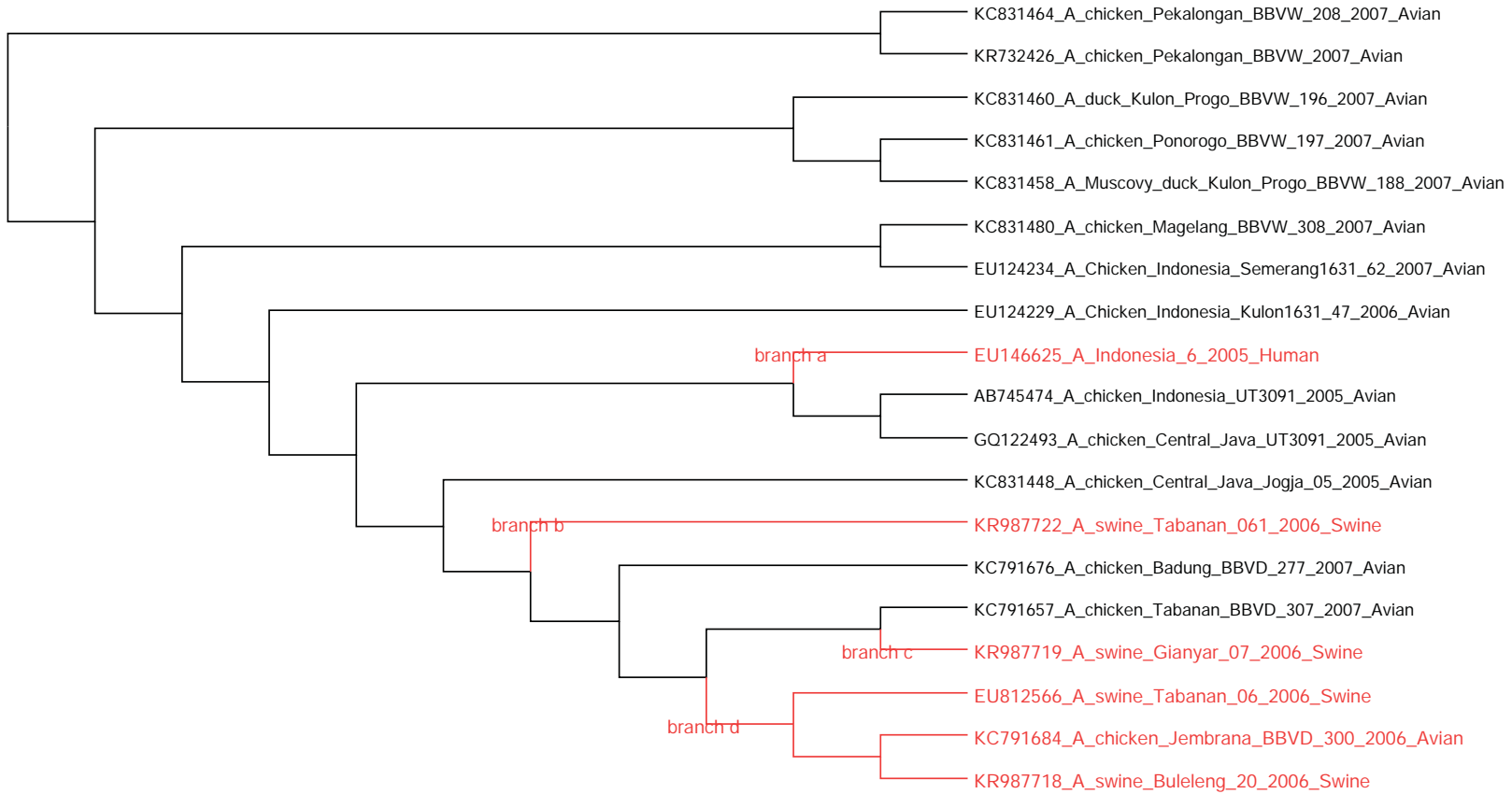
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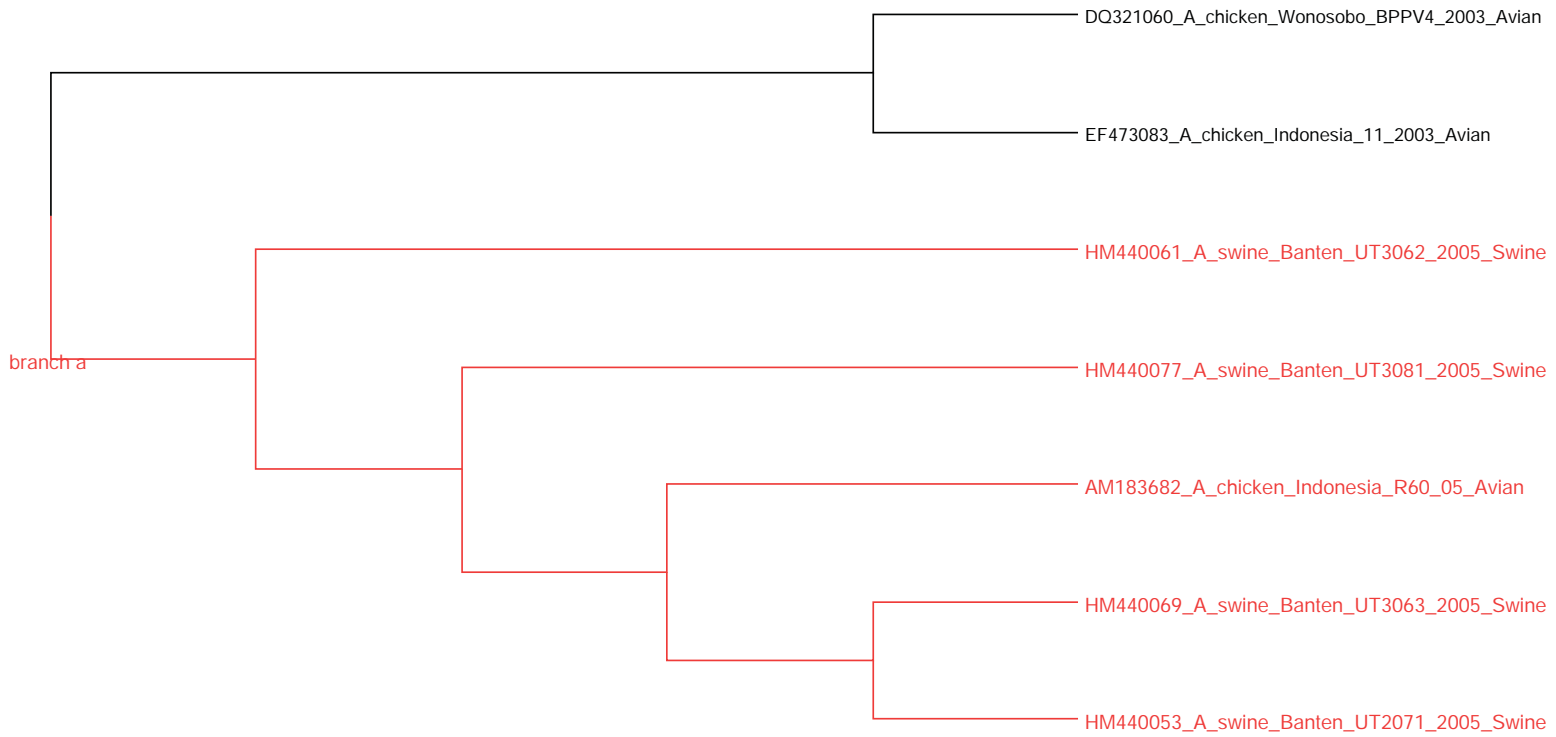
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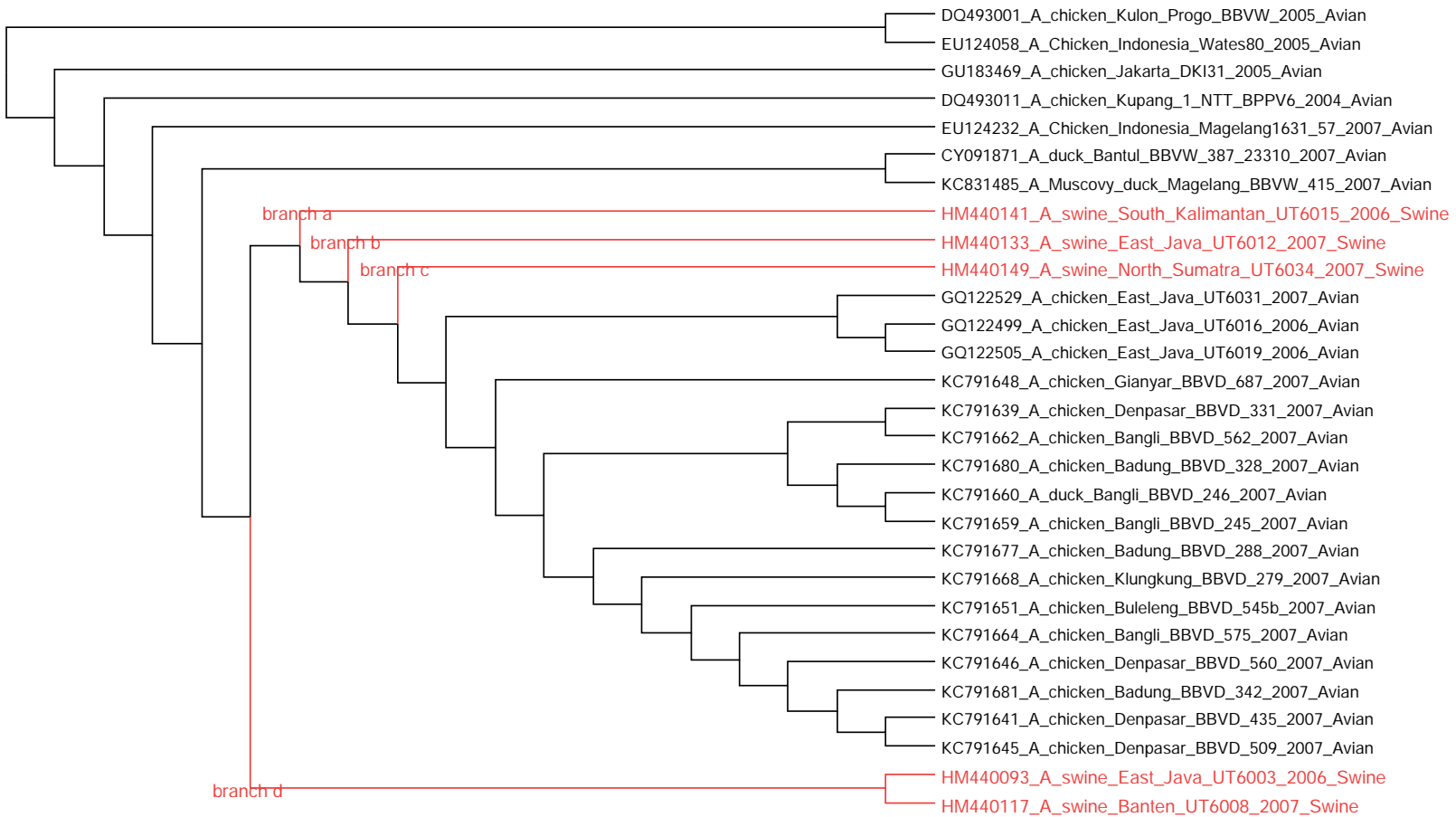
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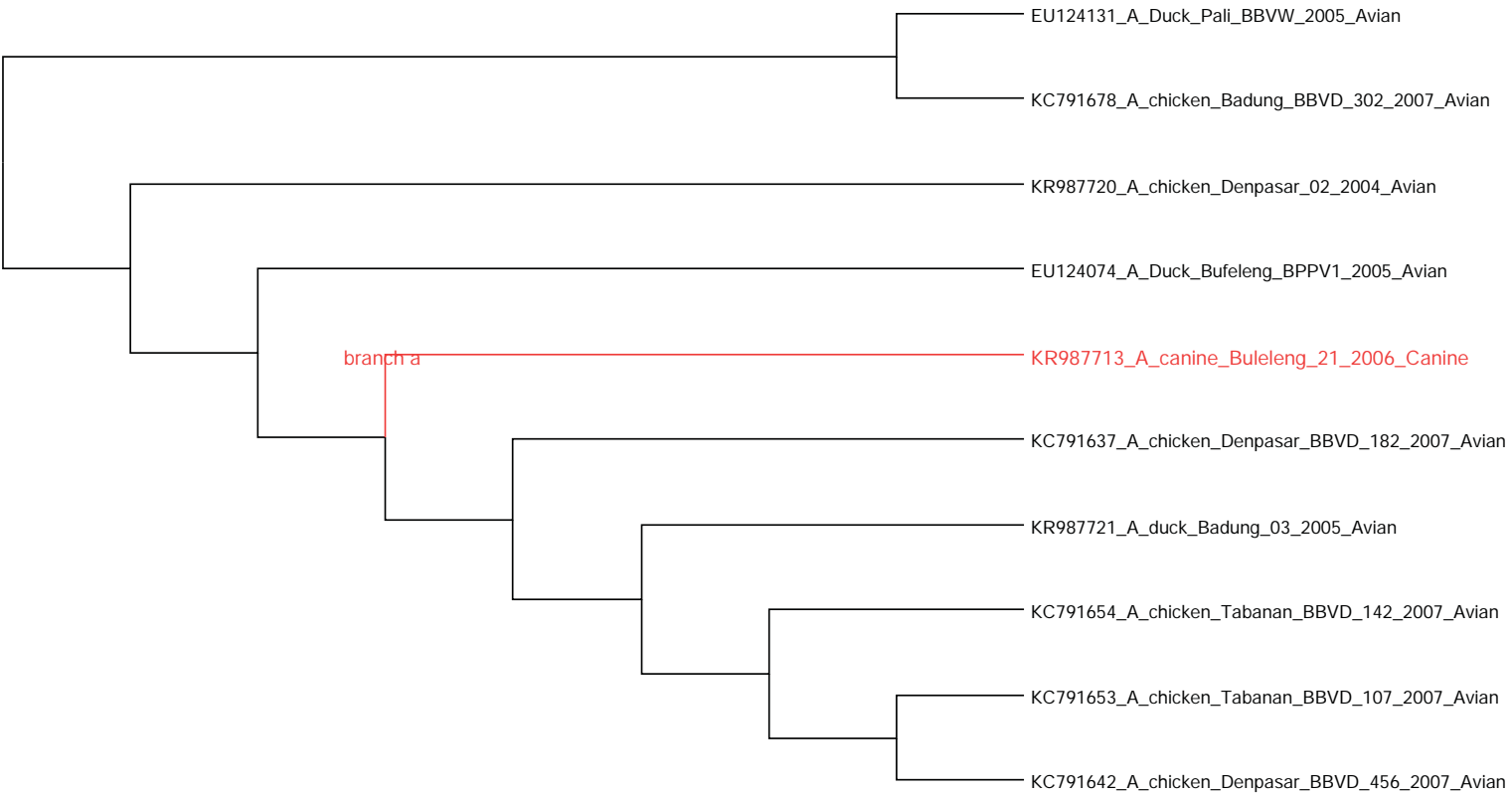
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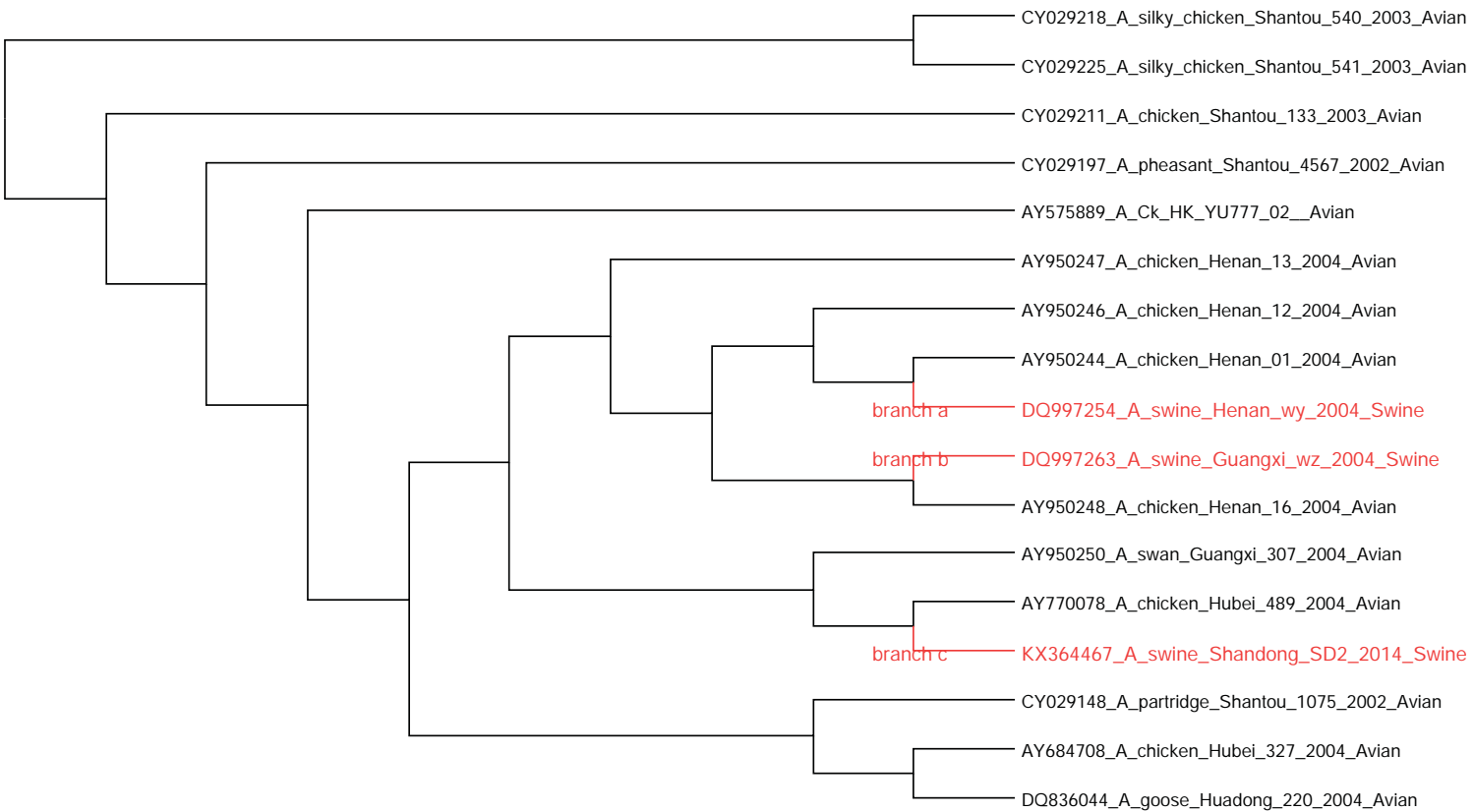
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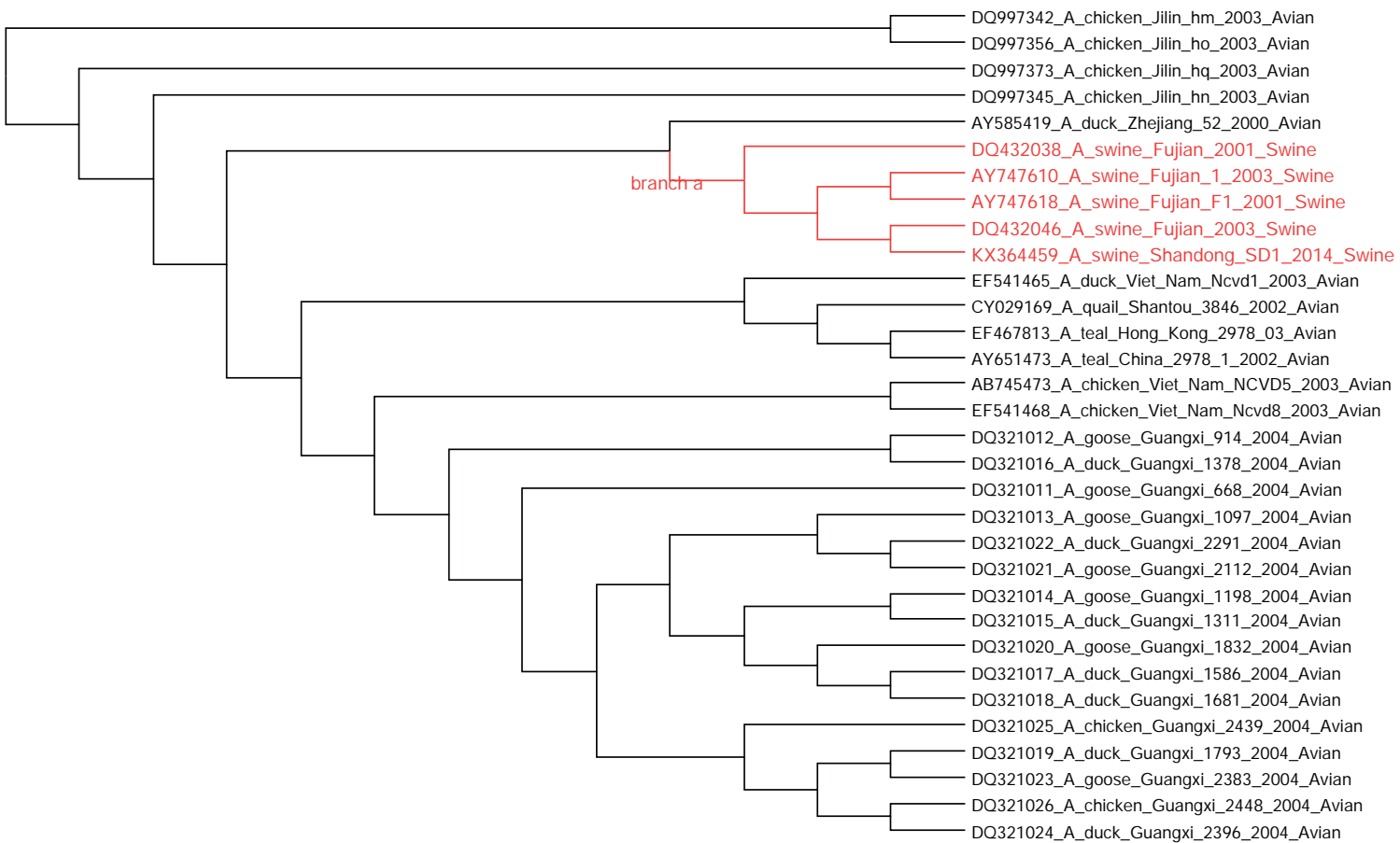
NA1-Group75



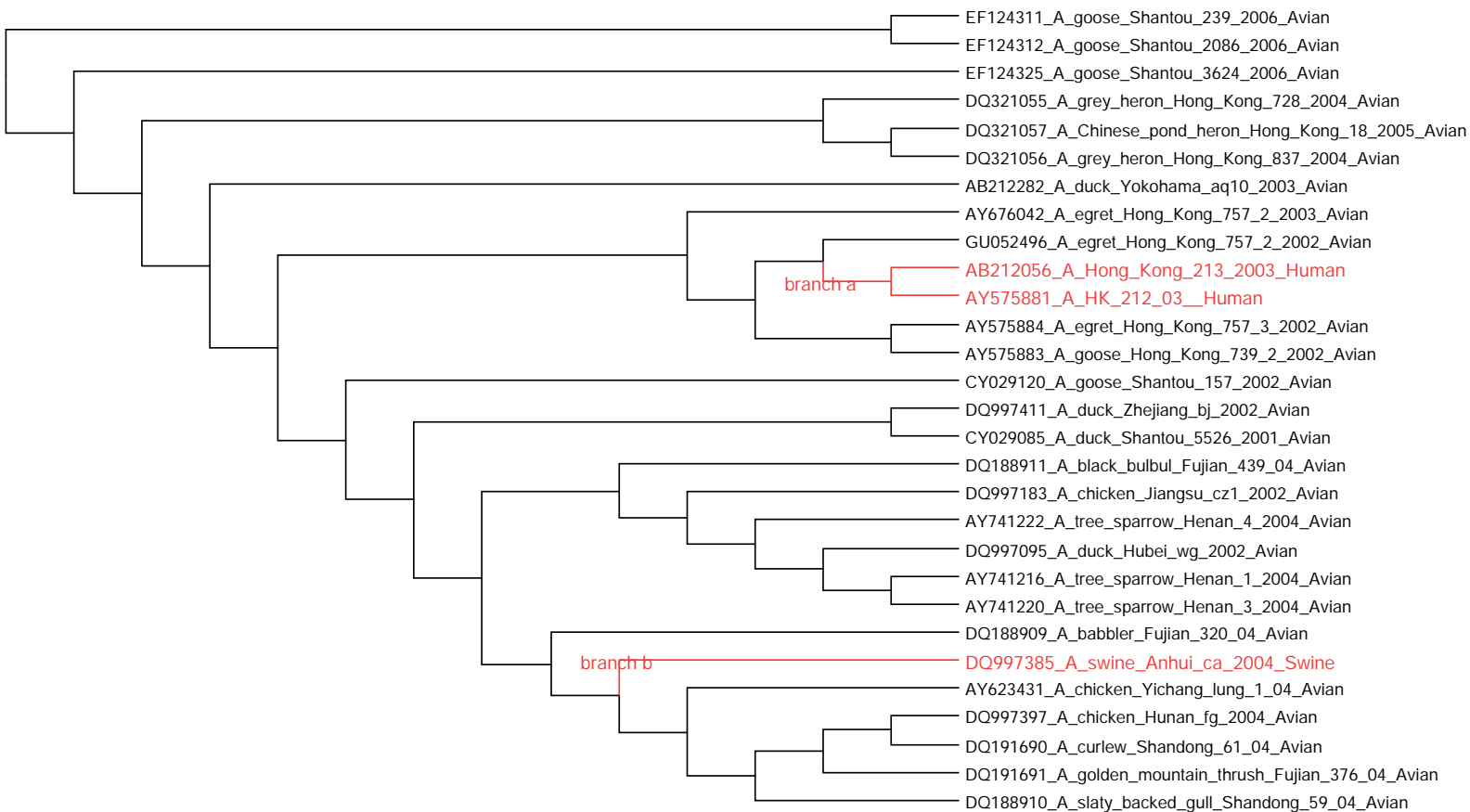
NA1-Group76



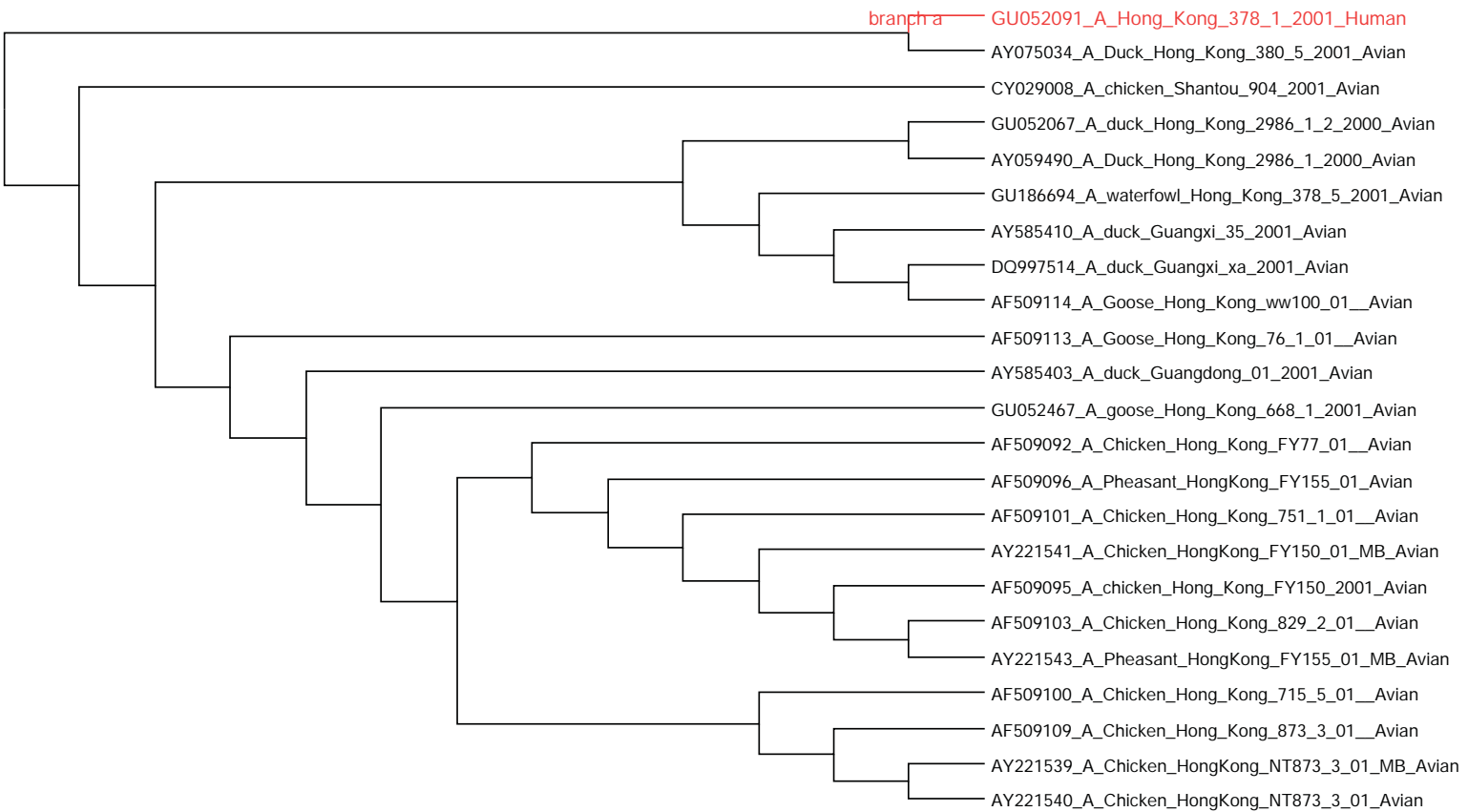
NA1-Group77



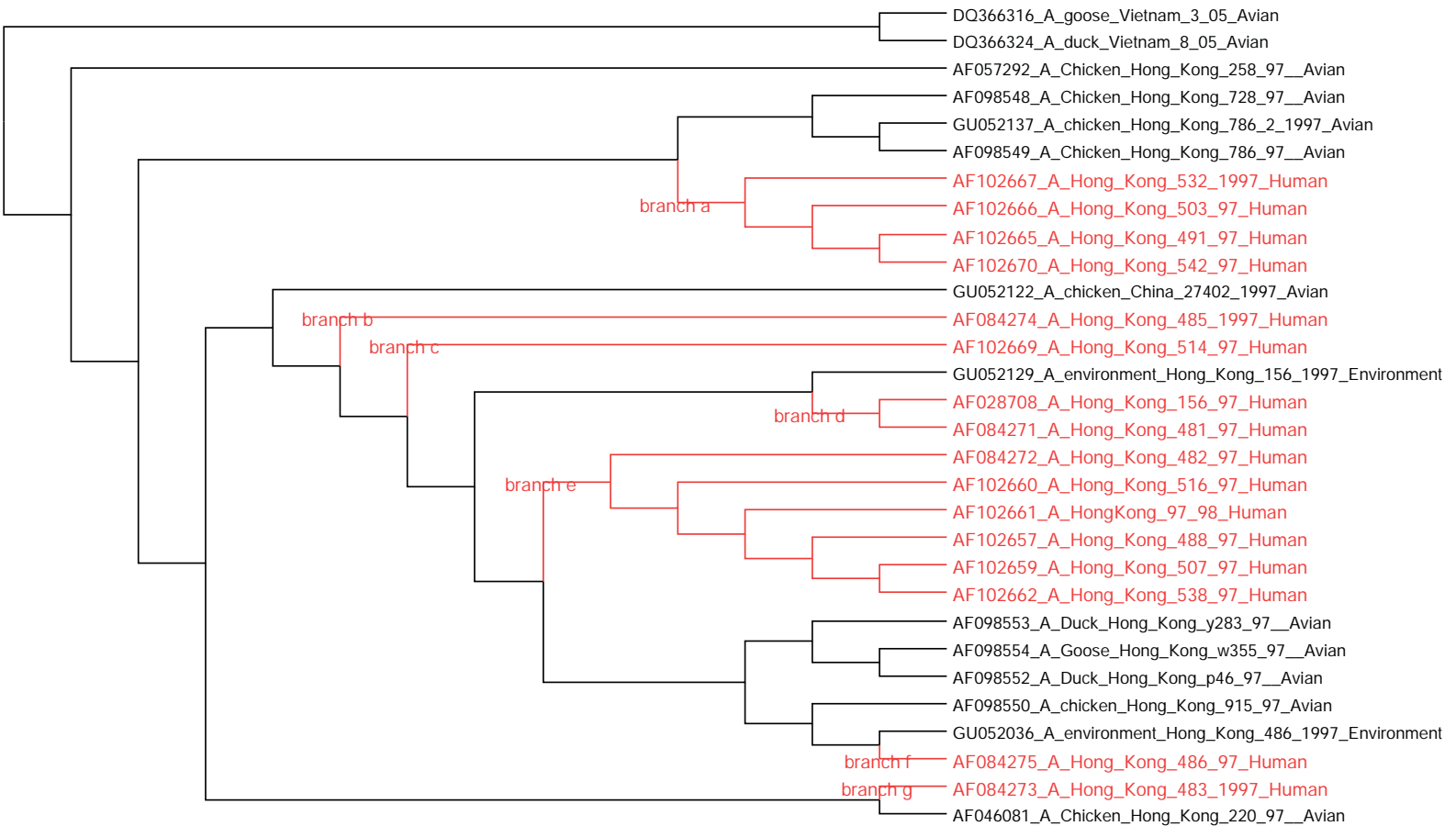
NA1-Group78



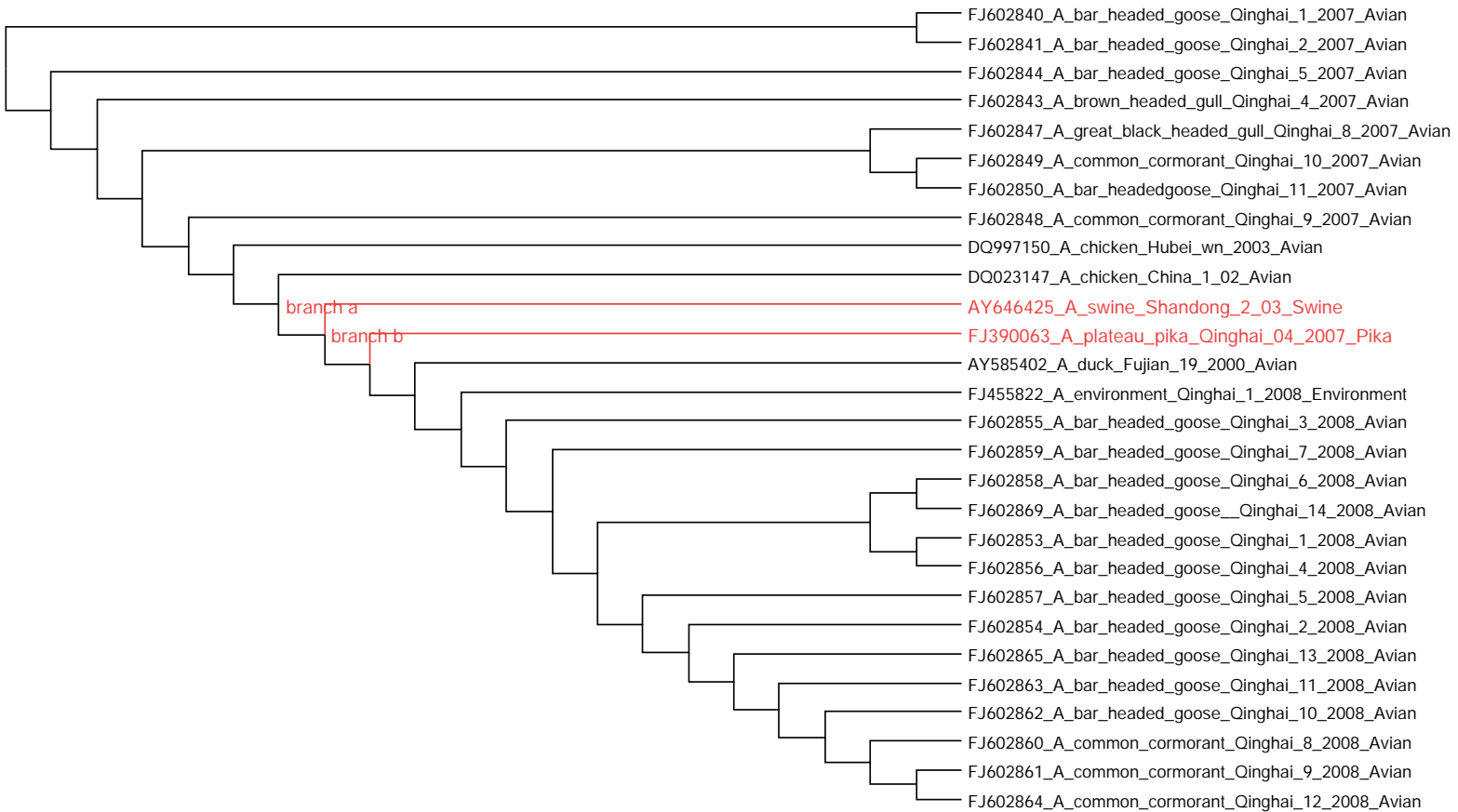
NA1-Group79



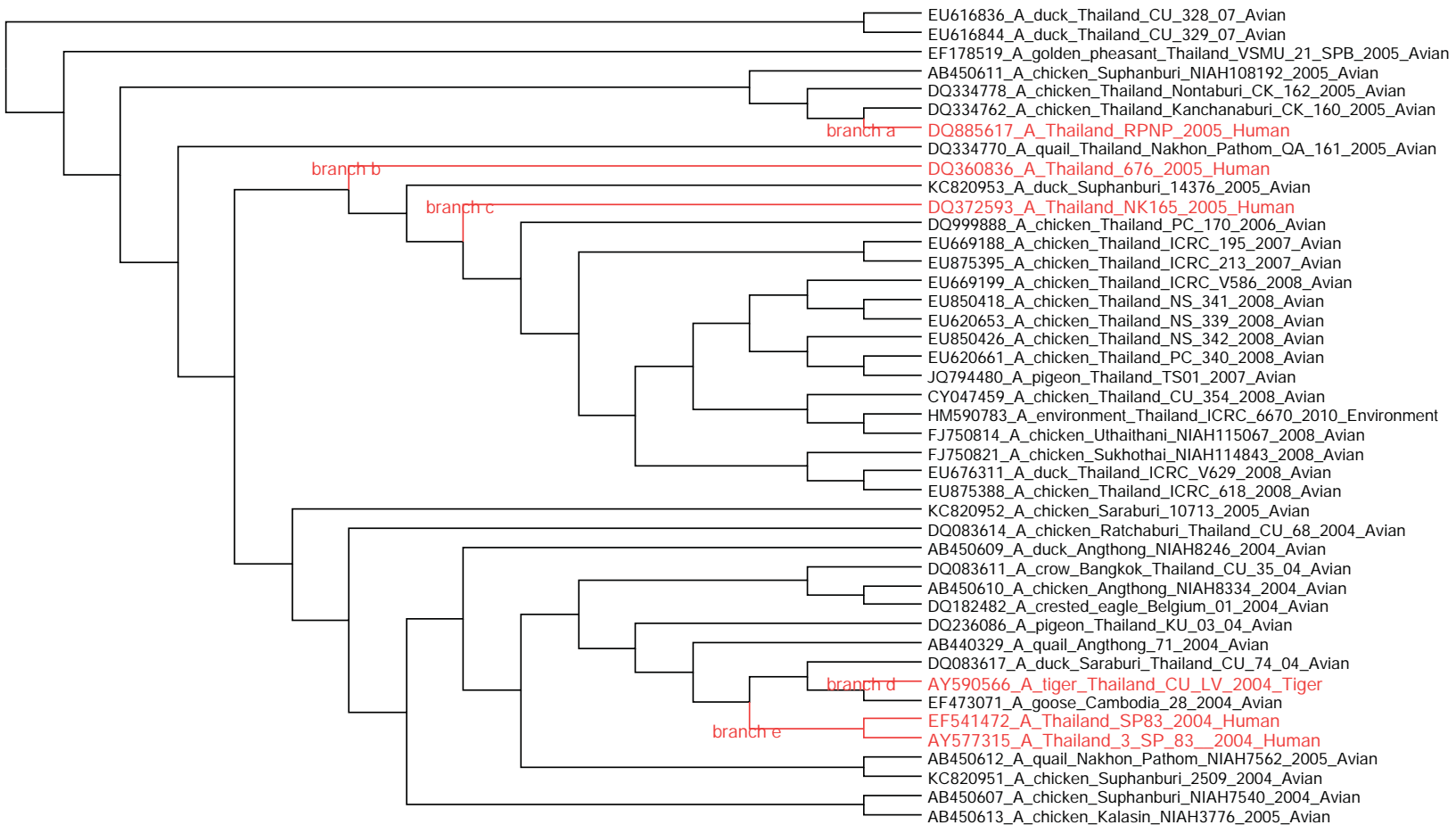
NA1-Group80



NA1-Group81



NA1-Group82



Phylogenetic tree showing relationships among 100 avian species. The tree is rooted at the bottom left and branches out to the right. Species names are listed on the right, with some names in red. Bootstrap values are indicated by numbers at the nodes. The tree is divided into several major clades, including Galliformes, Charadriiformes, and Columbiformes. The tree is labeled with 'branch' and 'branch' at the top right.

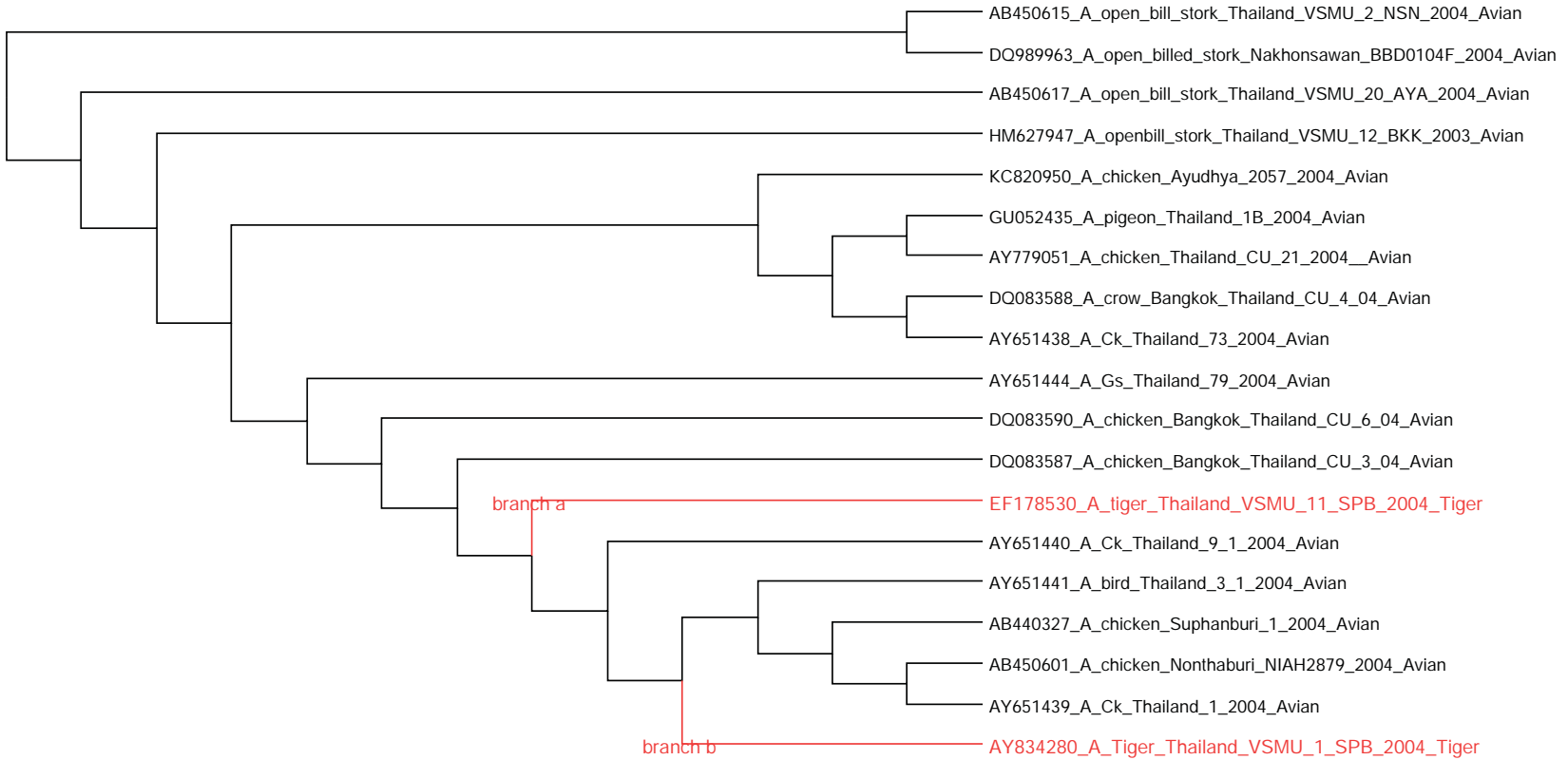
Species names (from top to bottom):

- AV55151 A. Thailand_1_KAN_1_2004_Human
- DO885611 A. Thailand_MKF_2005_Human
- DO885613 A. Thailand_NKNP_2005_Human
- DO236078 A. cat_Thailand_KU_02_04_Cat
- DO083615 A. duck_Nakhon_Pathom_Thailand_CU_71_04_Avian
- AV649383 A. chicken_Thailand_CH_2_2004_Avian
- DO885620 A. Thailand_M60_2005_Human
- AV627886 A. Thailand_5_KK_494_2004_Human
- AB450600 A. quail_Phathumthani_NIAH2711_2004_Avian
- AB576204 A. pigeon_Thailand_VSMU_7_NPT_2004_Avian
- EF54171 A. Thailand_Kan353_2004_Human
- DO083608 A. chicken_Saraburi_Thailand_CU_27_2004_Avian
- DO083605 A. chicken_Ayuthaya_Thailand_CU_24_04_Avian
- AV770992 A. chicken_Ayuthaya_Thailand_CU_23_04_Avian
- AB450608 A. chicken_Suphanburi_NIAH7618_2004_Avian
- DO083607 A. rollers_Bangkok_Thailand_CU_26_04_Avian
- AB450602 A. chicken_Narathiwat_NIAH1703_2004_Avian
- DO321066 A. chicken_Malaysia_5858_2004_Avian
- KC684447 A. chicken_Malaysia_5744_2004_Avian
- AV972543 A. tiger_Thailand_CU_14_04_Tiger
- AB450625 A. open_bill_stork_Thailand_VSMU_29_NSN_2005_Avian
- AB450620 A. pigeon_Thailand_VSMU_13_KRI_2005_Avian
- DO083618 A. chicken_Praichinburi_Thailand_CU_104_04_Avian
- AB450622 A. tree_sparrow_Thailand_VSMU_14_KRI_2005_Avian
- EF512562 A. Prachinburi_6231_2004_Human
- GU186642 A. unknown_Praichinburi_Thailand_6231_2004_
- EF178533 A. tiger_Thailand_VSMU_23_CBI_2004_Tiger
- AV972546 A. tiger_Thailand_CU_T8_04_Tiger
- AB450624 A. tree_sparrow_Ratchaburi_VSMU_16_RBR_2005_Avian
- AB450623 A. open_bill_stork_Thailand_VSMU_15_ATG_2005_Avian
- AB450596 A. chicken_Kalasin_NIAH316_2004_Avian
- AB450621 A. tree_sparrow_Thailand_VSMU_12_KRI_2005_Avian
- GO466177 A. Thailand_NBL_1_2006_Human
- AB450604 A. chicken_Samutprakan_NIAH6604_2004_Avian
- HO025951 A. Silver_Pheasant_Thailand_VSMU_1_CBI_2005_Avian
- AV866476 A. tiger_Thailand_CU_T7_2004_Tiger
- AV972545 A. tiger_Thailand_CU_T6_04_Tiger
- EF178507 A. tree_sparrow_Thailand_VSMU_16_RBR_2005_Avian
- DO30175 A. dog_Thailand_Suphanburi_KU_08_04_Canine
- AV842936 A. tiger_Thailand_CU_T3_2004_Tiger
- AV972544 A. tiger_Thailand_CU_T5_04_Tiger
- AB450603 A. chicken_Loel_NIAH2373_2004_Avian
- DO083606 A. crow_Bangkok_Thailand_CU_25_04_Avian
- DO321065 A. quail_Malaysia_5309_2005_Avian
- AB450605 A. chicken_Sawen_NIAH01502_2004_Avian
- CY047453 A. chicken_Thailand_CU_353_2008_Avian
- AB450618 A. common_myra_Thailand_VSMU_10_BRM_2005_Avian
- EF112324 A. open_billed_stork_Nakhonsawan_BBD2316f_05_Avian
- EF112342 A. open_billed_stork_Nakhonsawan_BBD2516f_05_Avian
- EF112332 A. open_billed_stork_Nakhonsawan_BBA2611M_05_Avian
- EF112332 A. open_billed_stork_Nakhonsawan_BBA2611M_05_Avian
- EF112328 A. open_billed_stork_Nakhonsawan_BBD3209M_05_Avian
- EF112339 A. open_billed_stork_Nakhonsawan_BBD4011M_05_Avian
- EF112330 A. open_billed_stork_Nakhonsawan_BBD3509M_05_Avian
- EF112329 A. open_billed_stork_Nakhonsawan_BBD3309M_05_Avian
- EF112334 A. open_billed_stork_Nakhonsawan_BBA2811M_05_Avian
- EF112341 A. open_billed_stork_Nakhonsawan_BBD4411M_05_Avian
- EF112326 A. open_billed_stork_Nakhonsawan_BBD2416f_05_Avian
- EF112327 A. open_billed_stork_Nakhonsawan_BBD3009M_05_Avian
- DO990005 A. open_billed_stork_Nakhonsawan_BBA3011M_2005_Avian
- EF112335 A. open_billed_stork_Nakhonsawan_BBA2911M_05_Avian
- AB450606 A. chicken_Nakhon_Sawen_NIAH01503_2004_Avian
- EF112323 A. open_billed_stork_Nakhonsawan_BBD1821J_05_Avian
- EF112320 A. open_billed_stork_Nakhonsawan_BBD1421J_05_Avian
- EF112322 A. open_billed_stork_Nakhonsawan_BBD1721J_05_Avian
- EF112319 A. open_billed_stork_Nakhonsawan_BBD1221J_05_Avian
- EF112321 A. open_billed_stork_Nakhonsawan_BBD1621J_05_Avian
- EF112340 A. open_billed_stork_Nakhonsawan_BBD4211M_05_Avian
- DO98989 A. open_billed_stork_Nakhonsawan_BBD1521J_2005_Avian
- EF112343 A. open_billed_stork_Nakhonsawan_BBD3616M_05_Avian
- EF112344 A. open_billed_stork_Nakhonsawan_BBA0627M_05_Avian
- EF112333 A. open_billed_stork_Nakhonsawan_BBA2711M_05_Avian
- DO98997 A. open_billed_stork_Nakhonsawan_BBD2616f_2005_Avian
- CY047463 A. chicken_Thailand_CU_355_2008_Avian
- EF112331 A. open_billed_stork_Nakhonsawan_BBA2111M_05_Avian

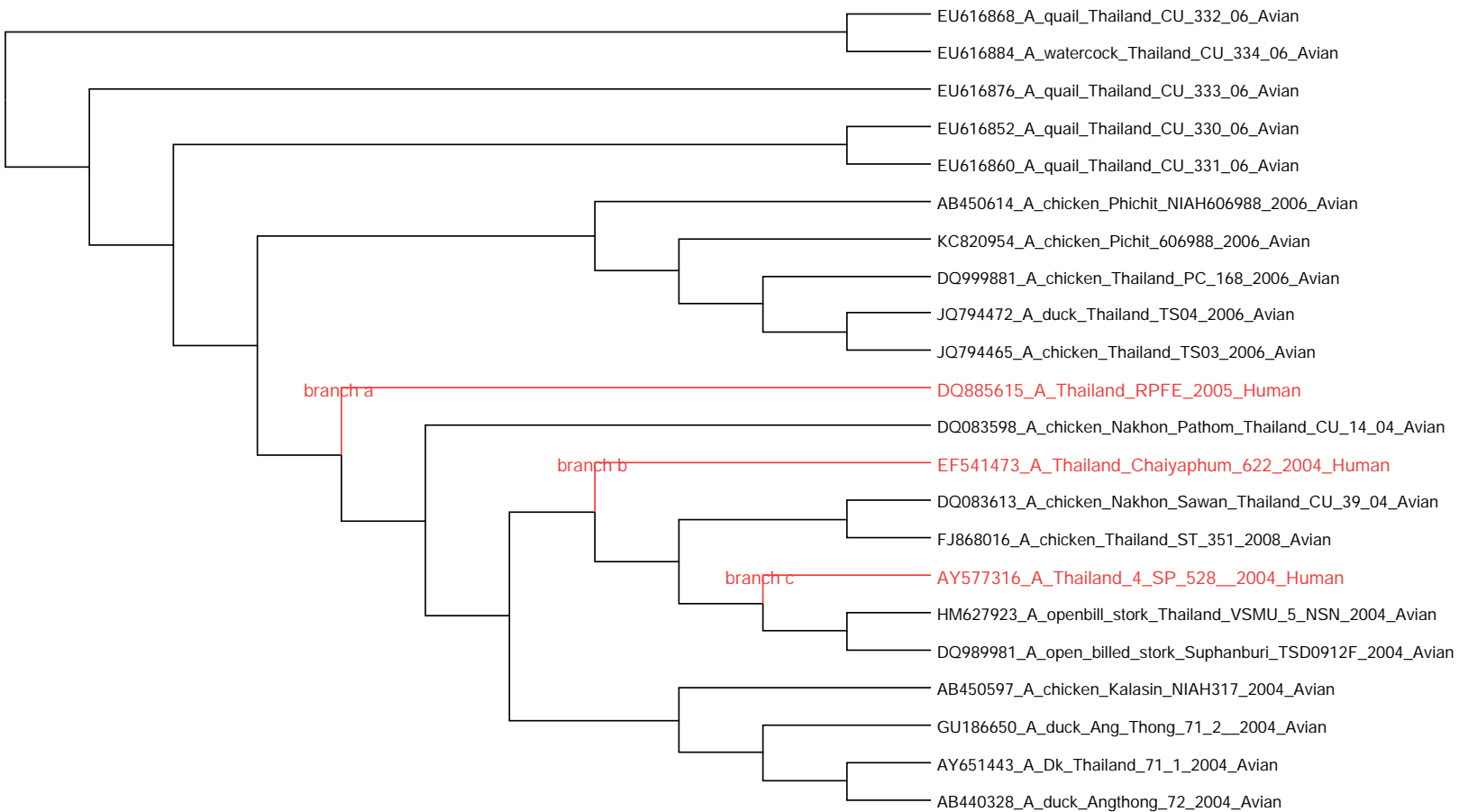
NA1-Group83

NA1-Group83

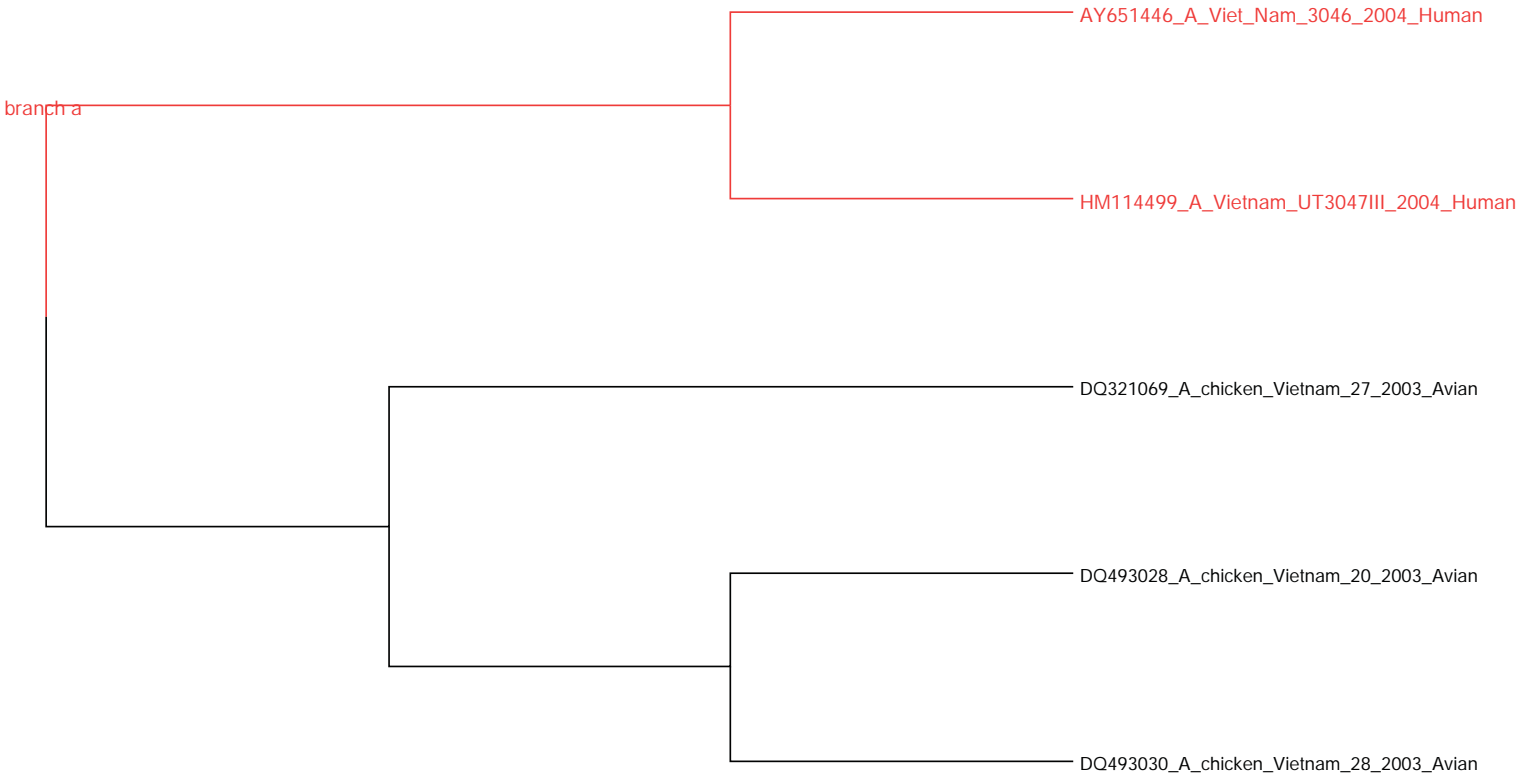
NA1-Group84



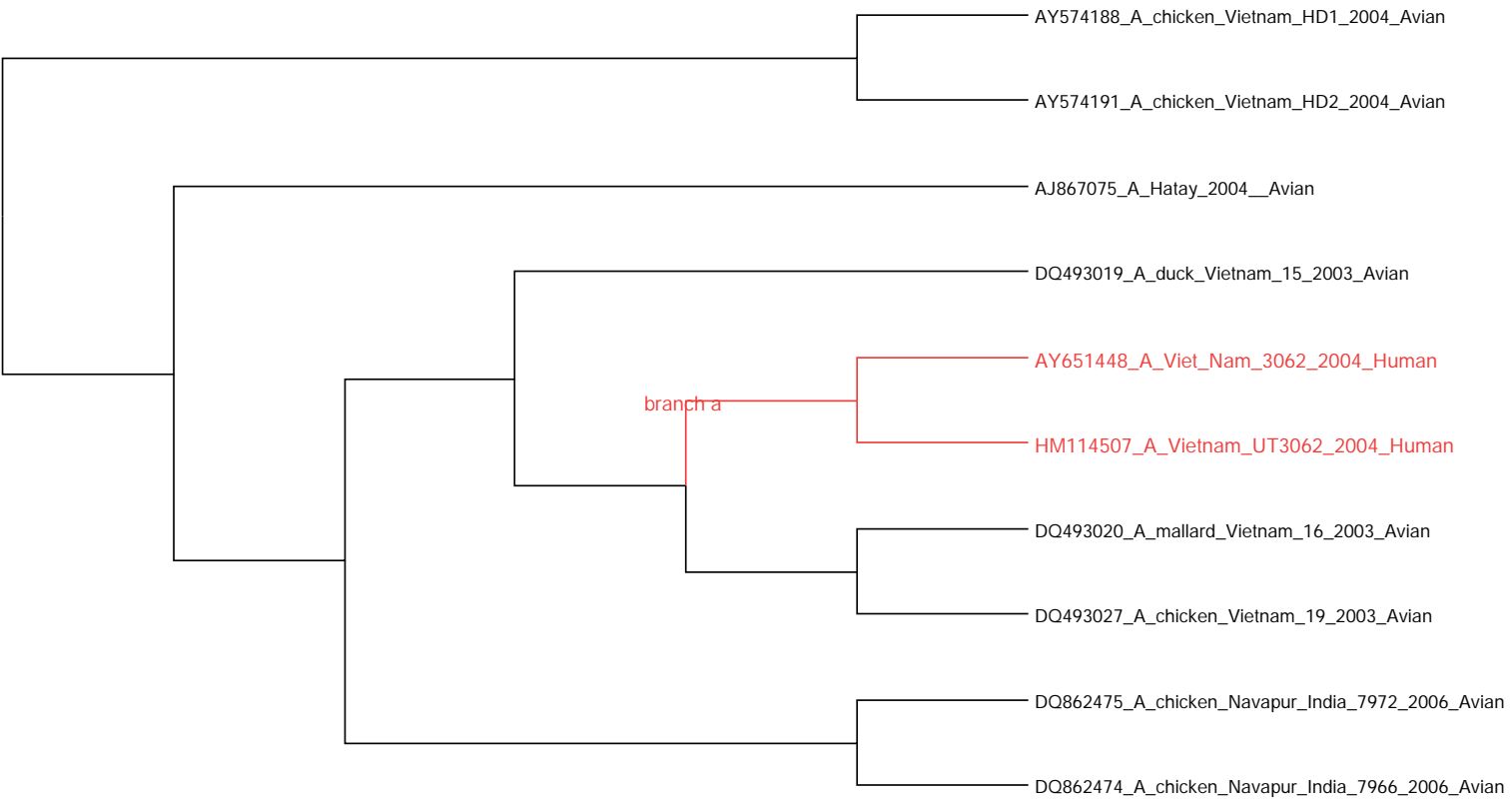
NA1-Group85

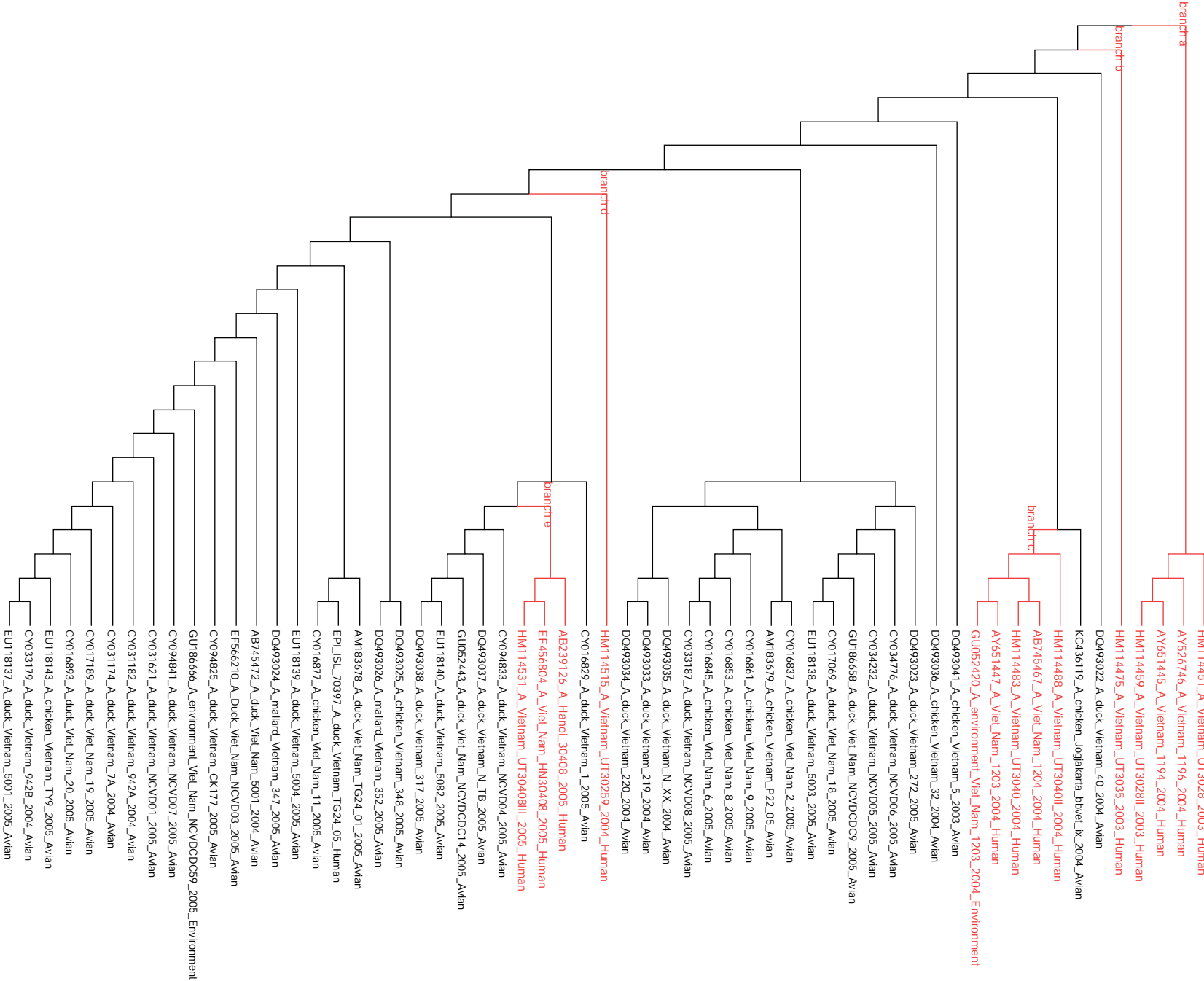


NA1-Group86



NA1-Group87

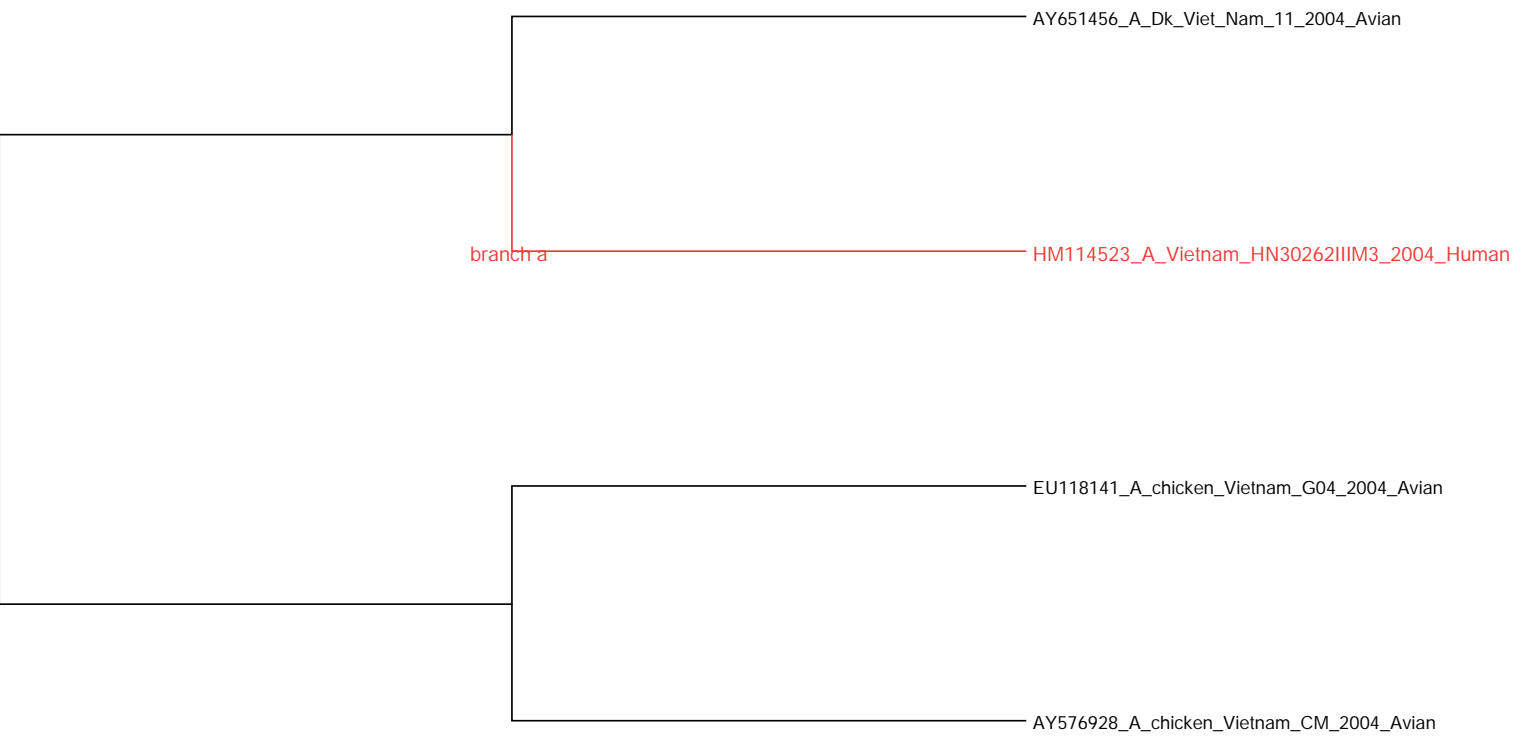




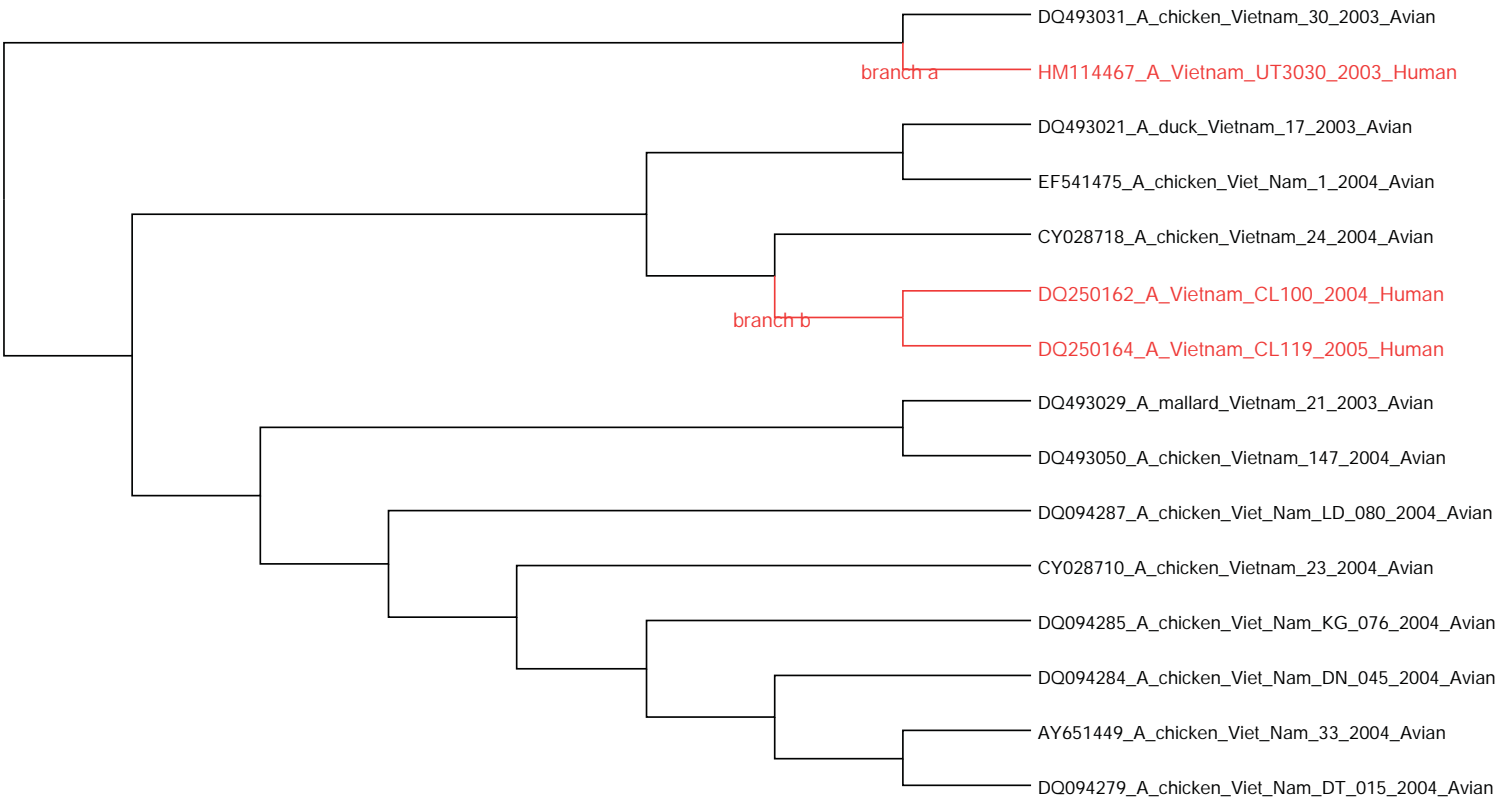
NA1-Group88

NA1-Group88

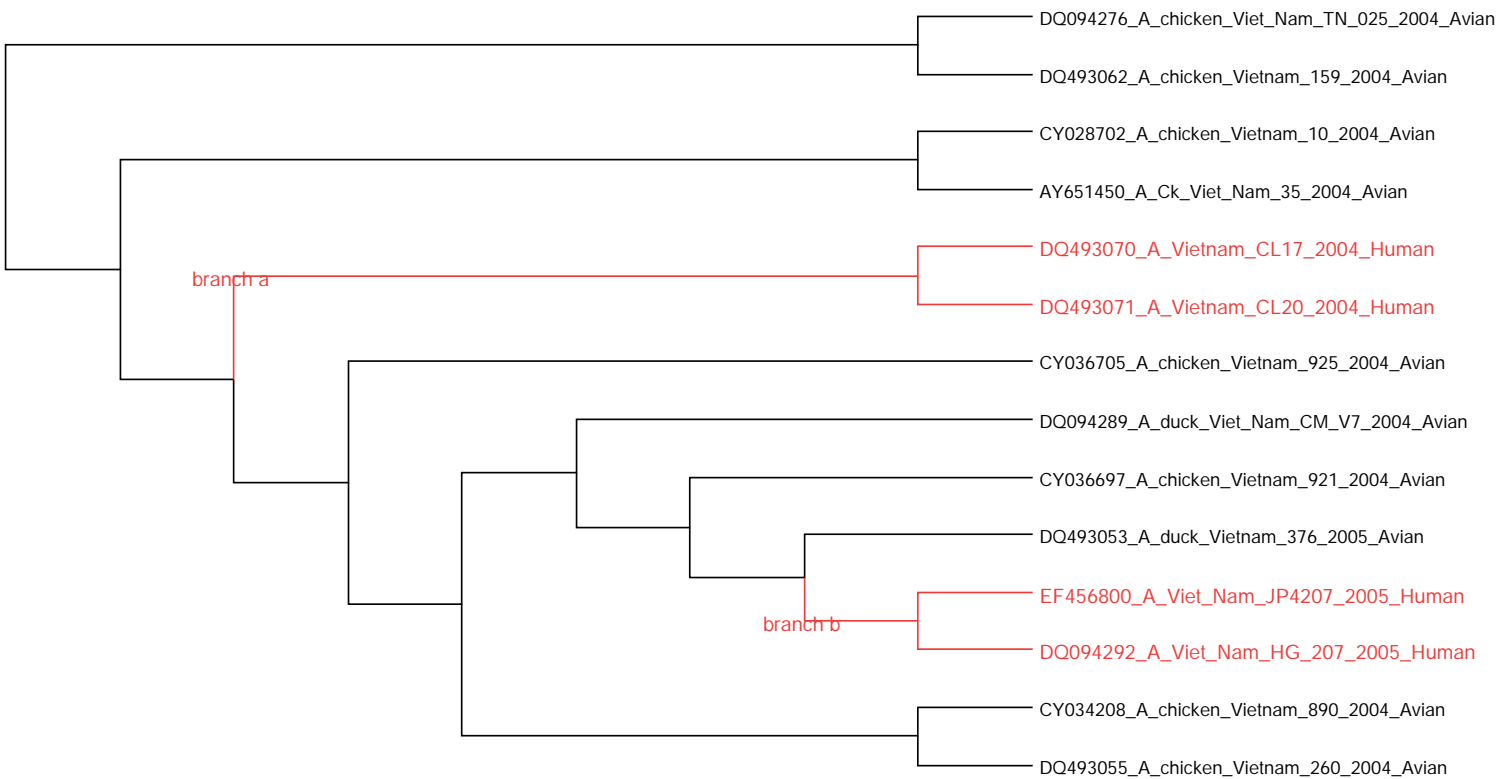
NA1-Group89



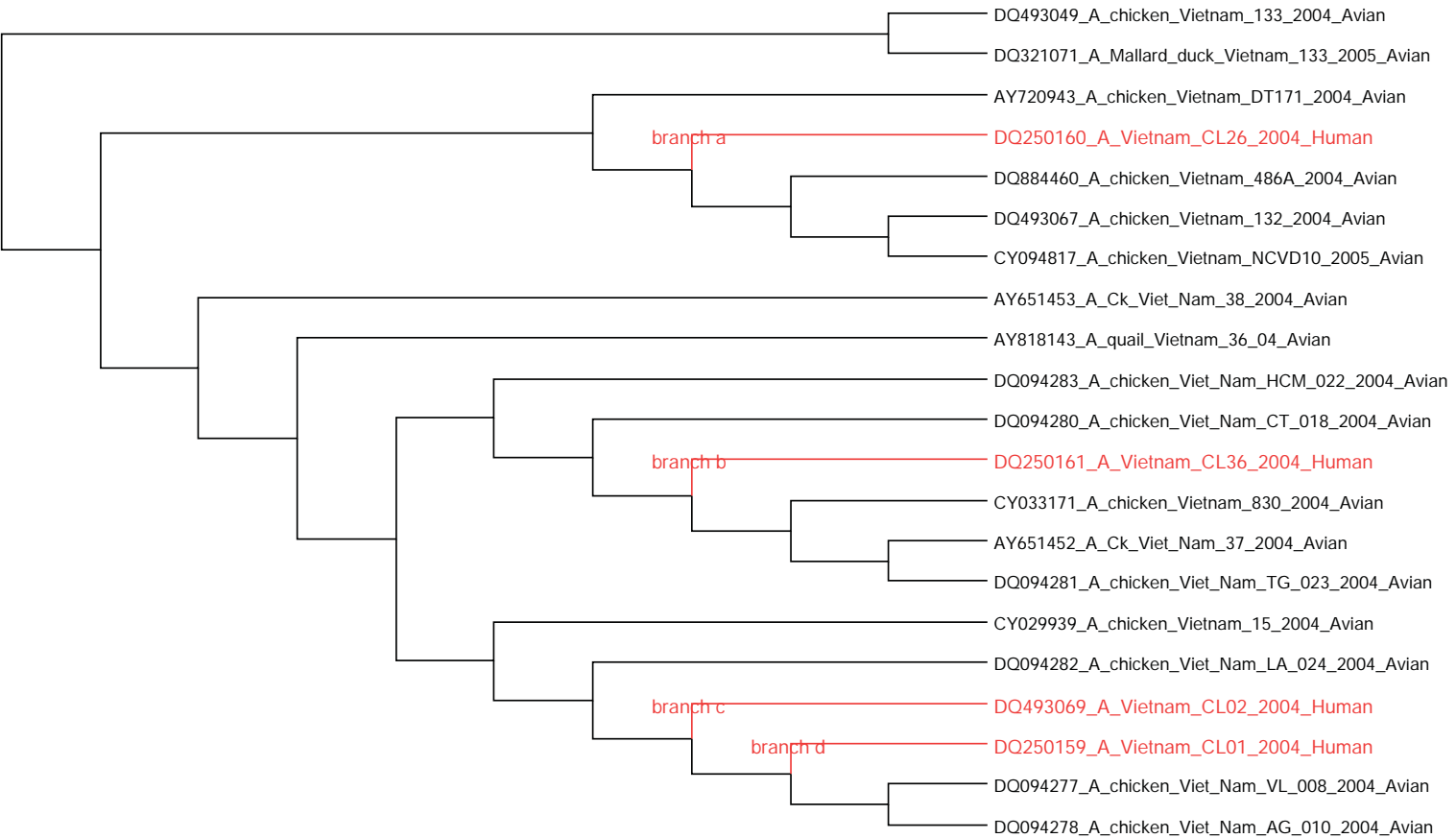
NA1-Group90



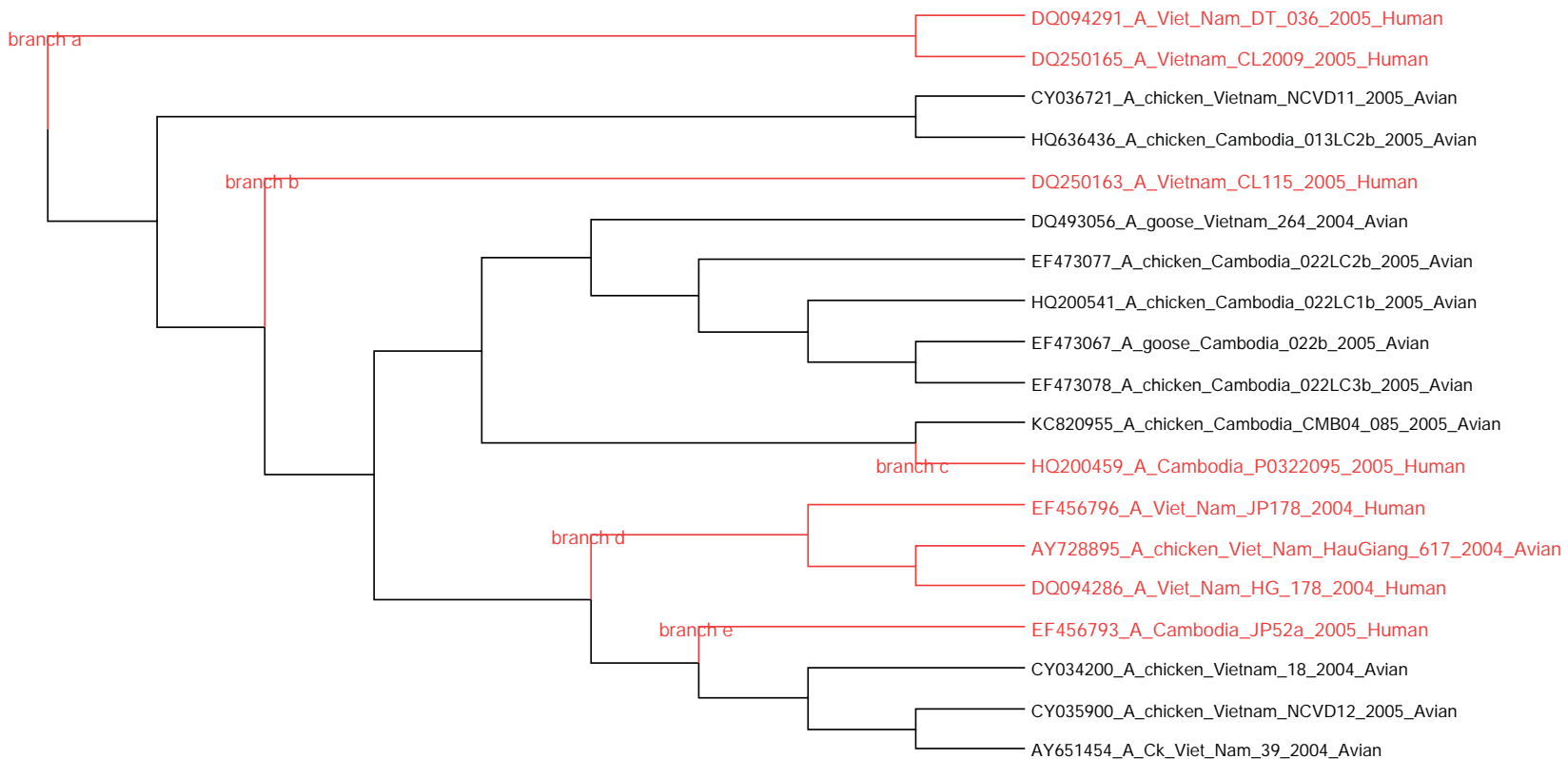
NA1-Group91



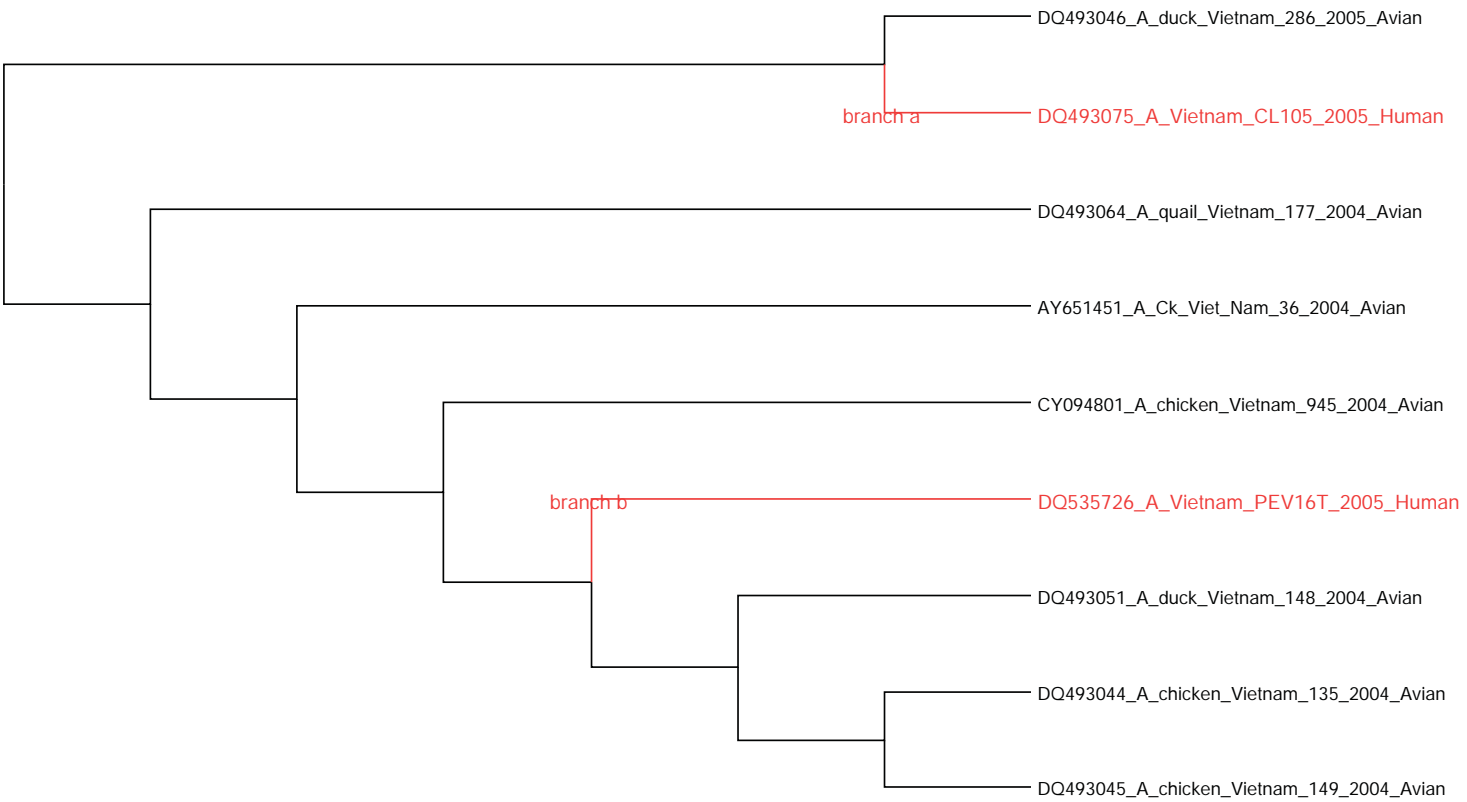
NA1-Group92



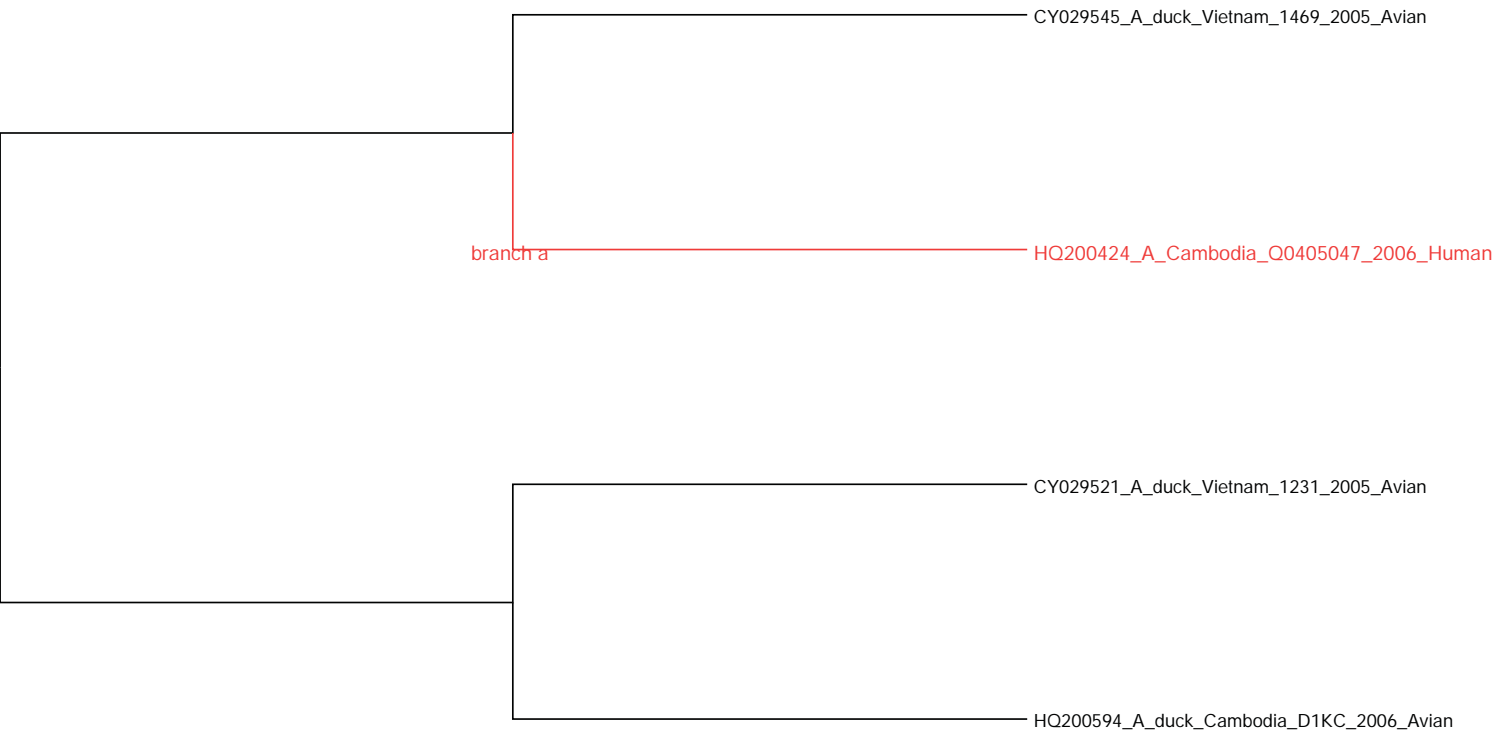
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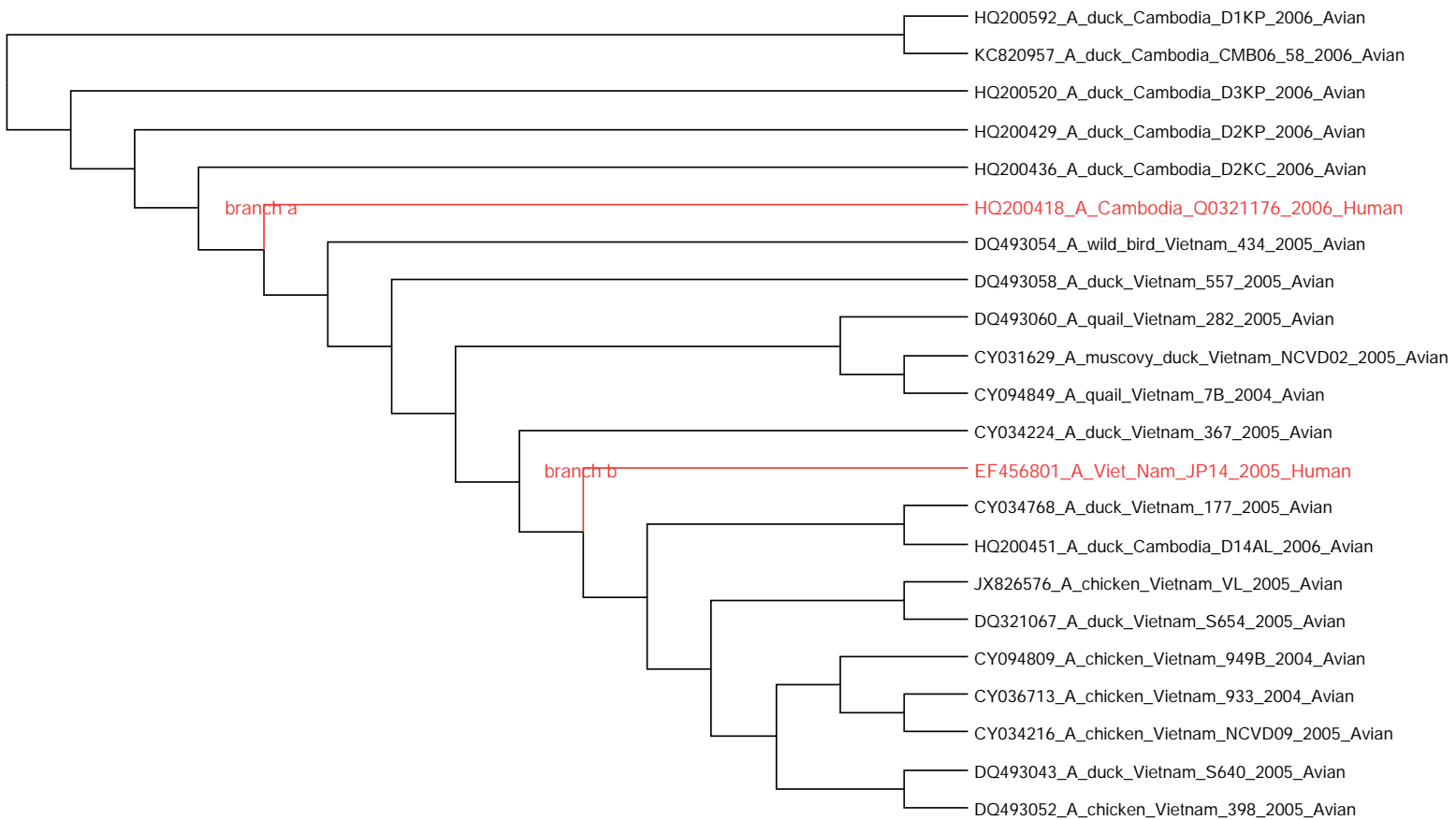
NA1-Group94



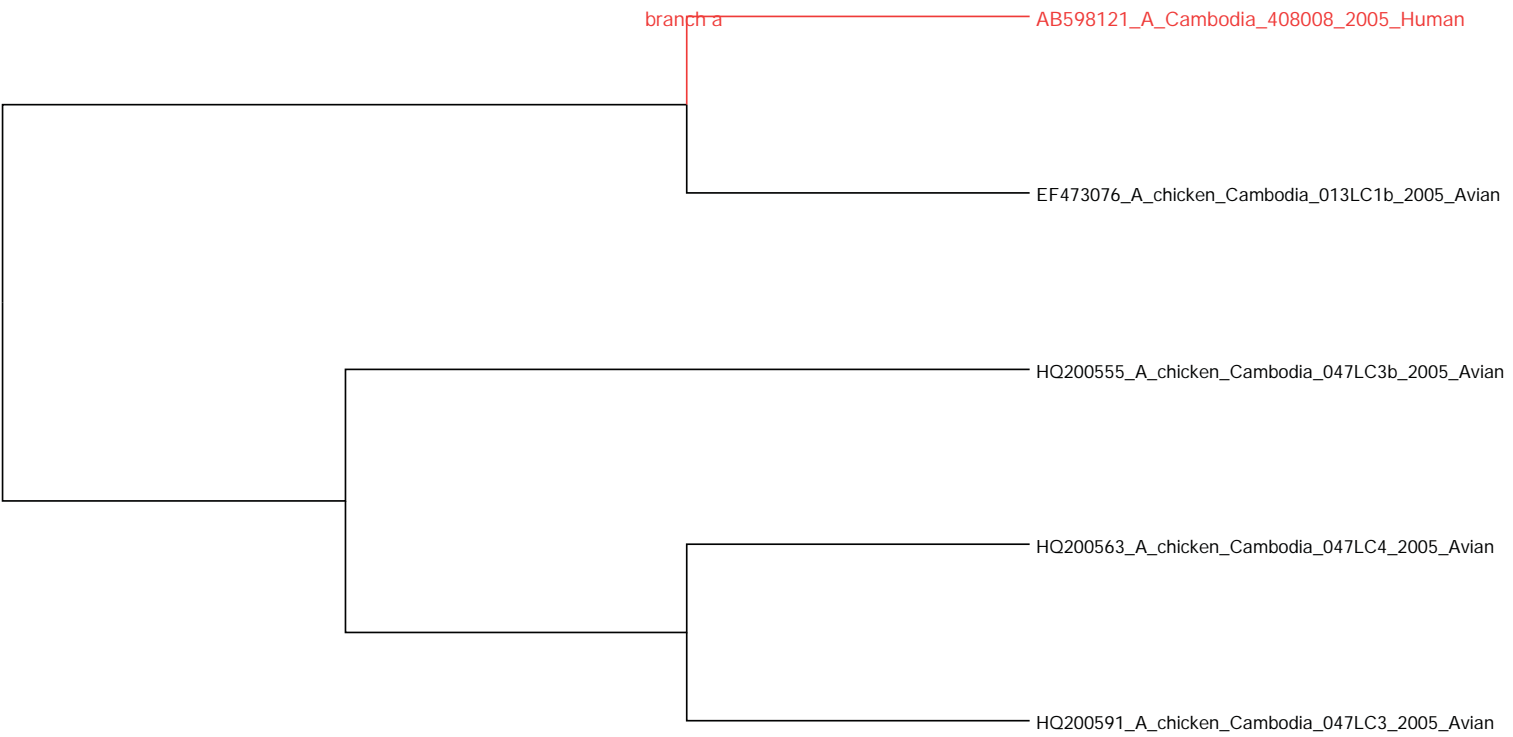
NA1-Group95



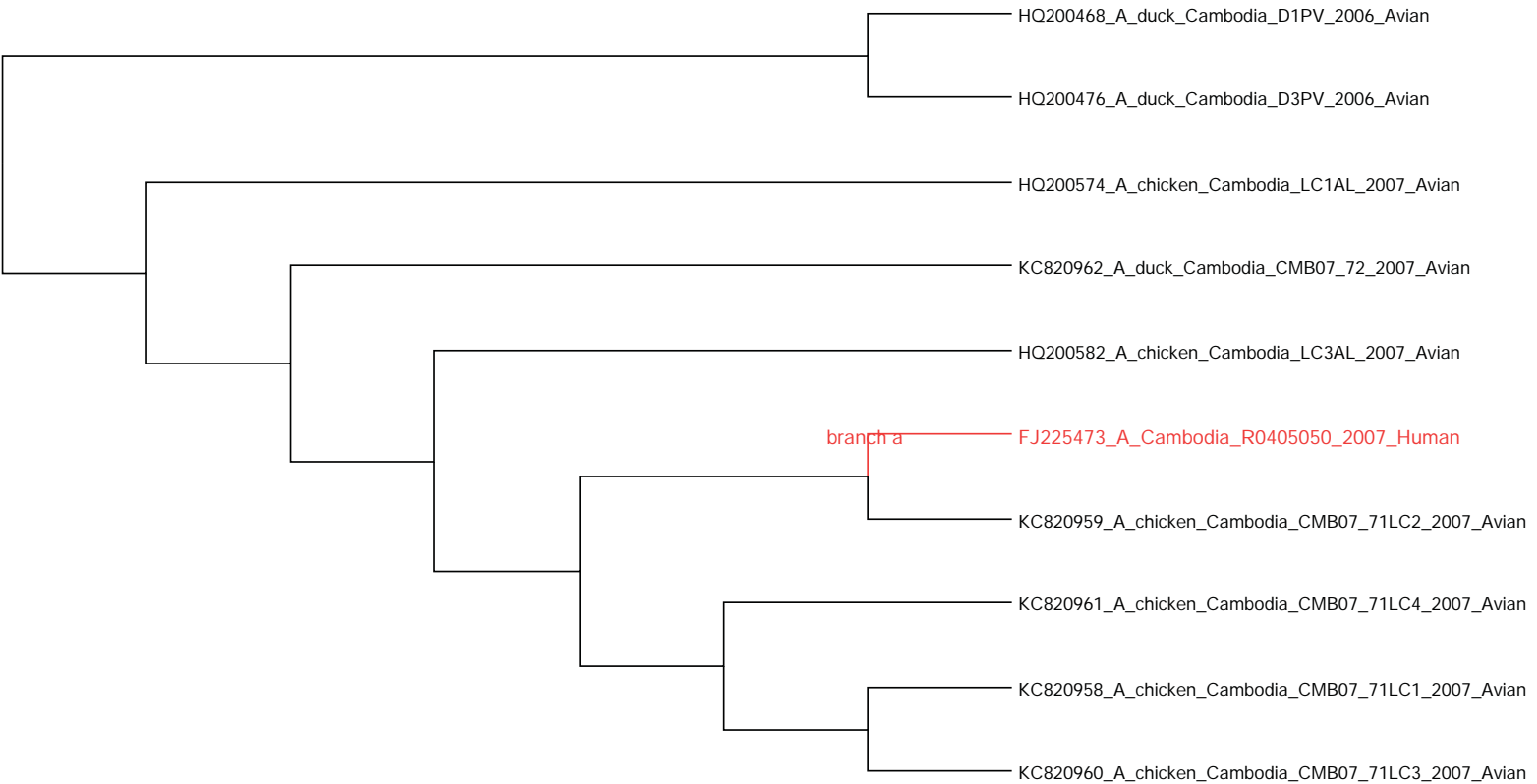
NA1-Group96



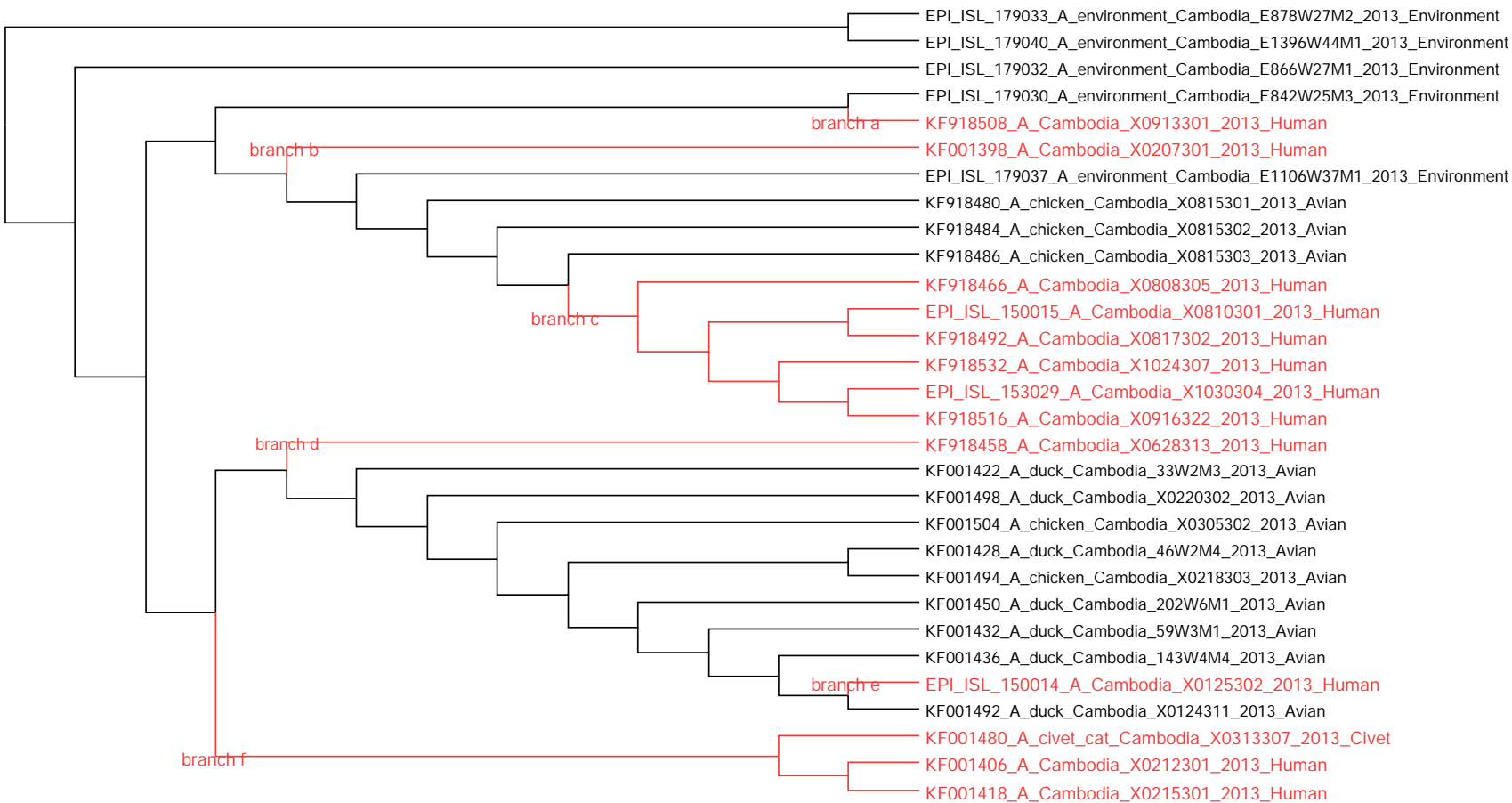
NA1-Group97



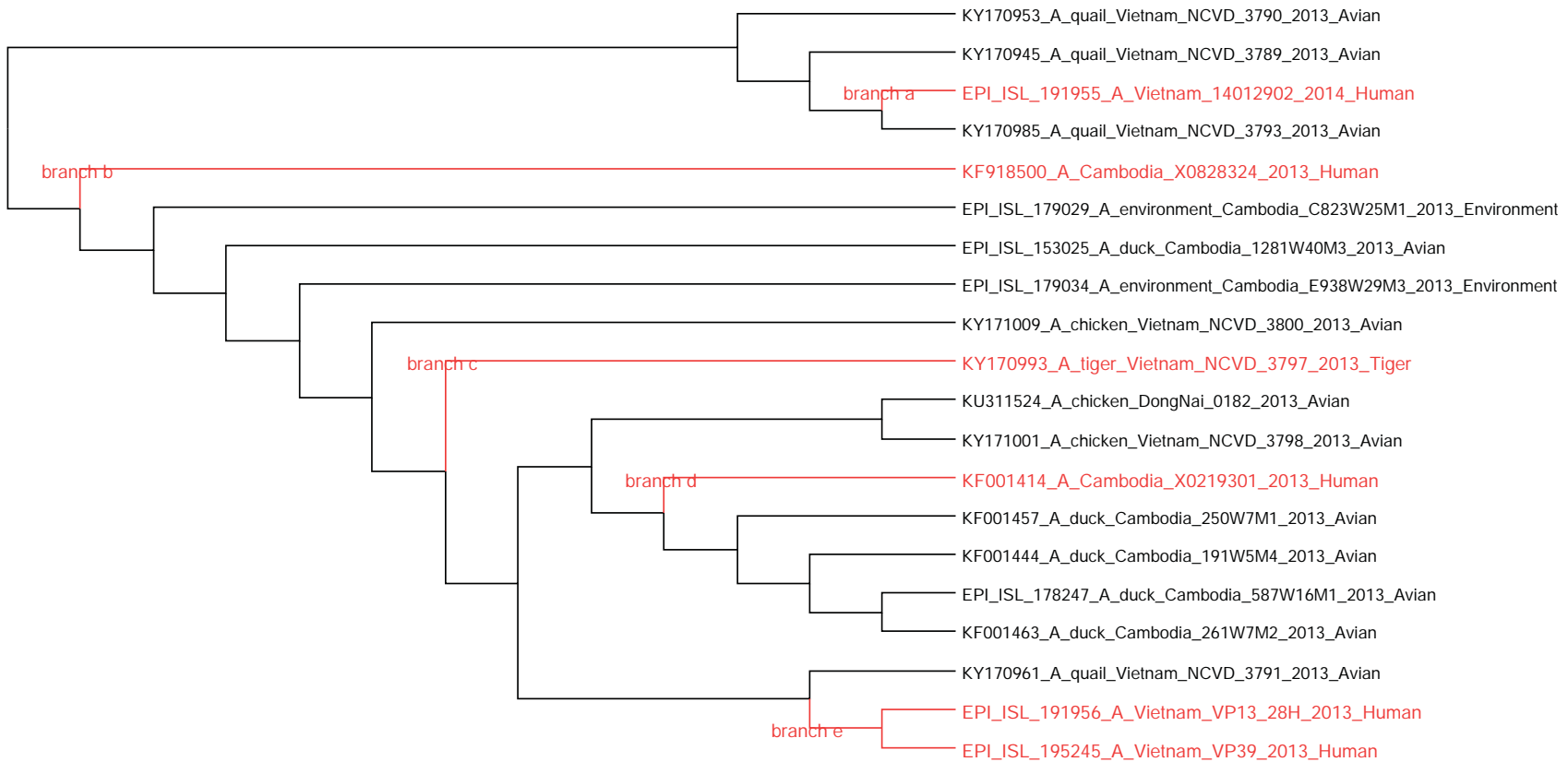
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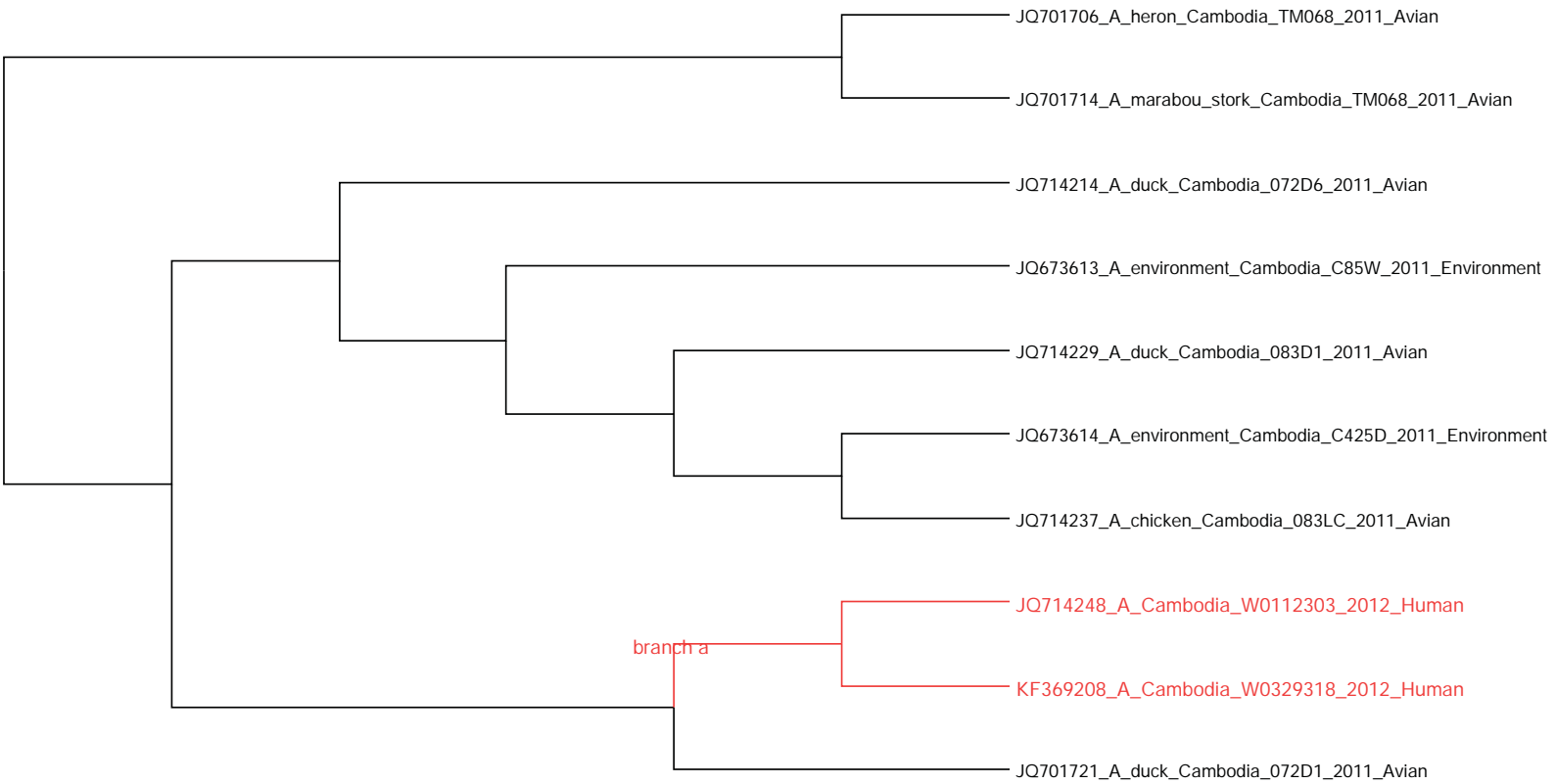
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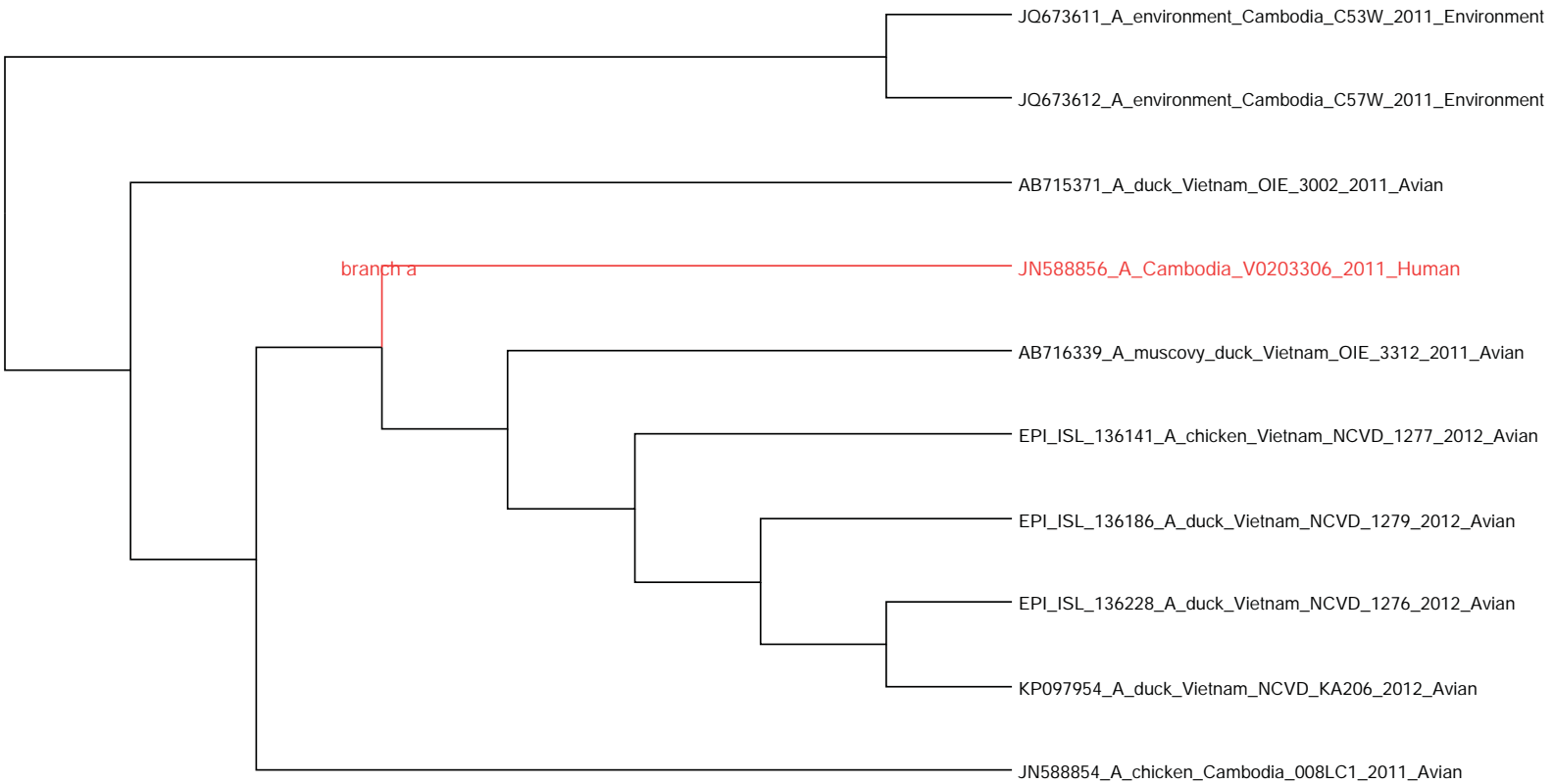
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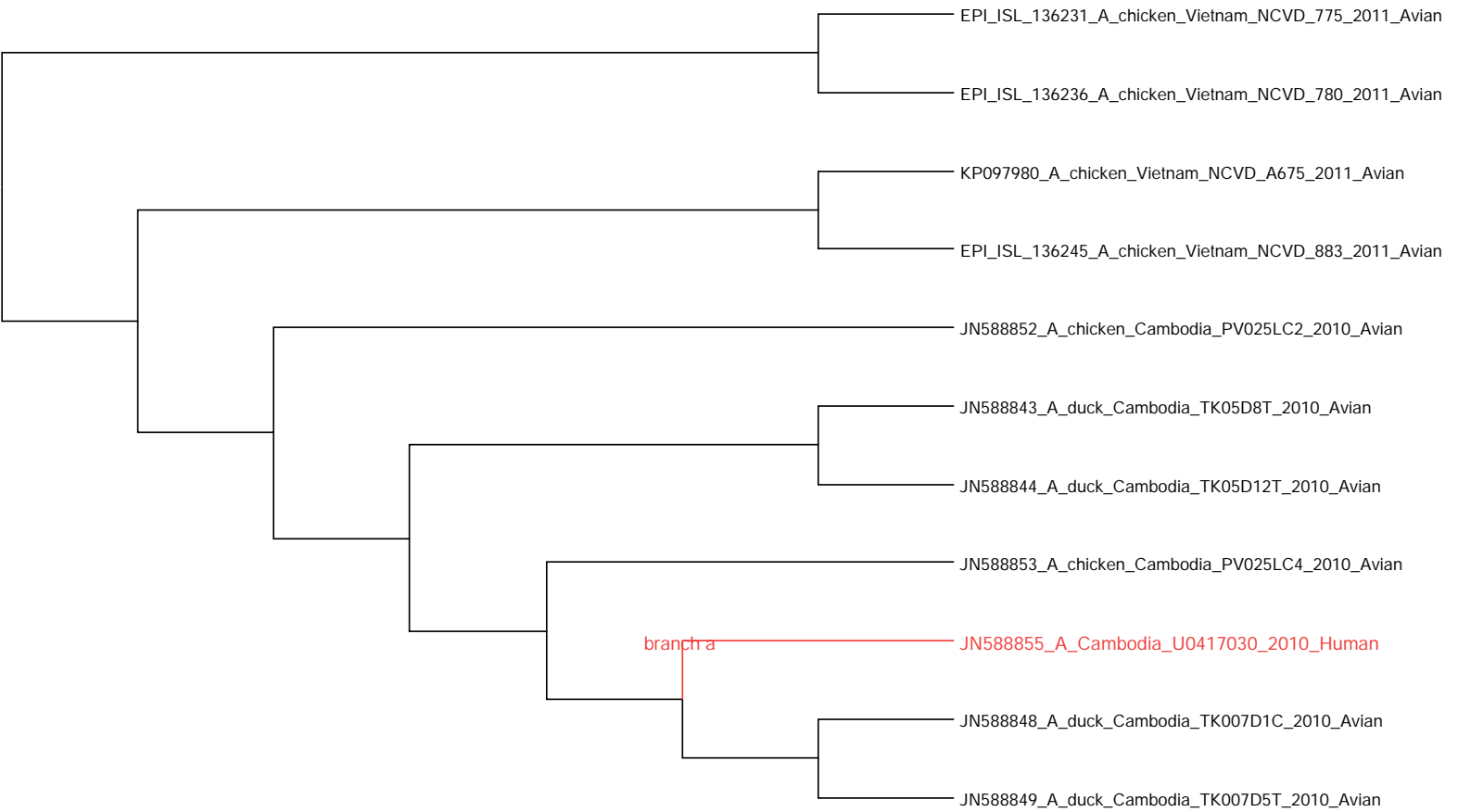
NA1-Group101



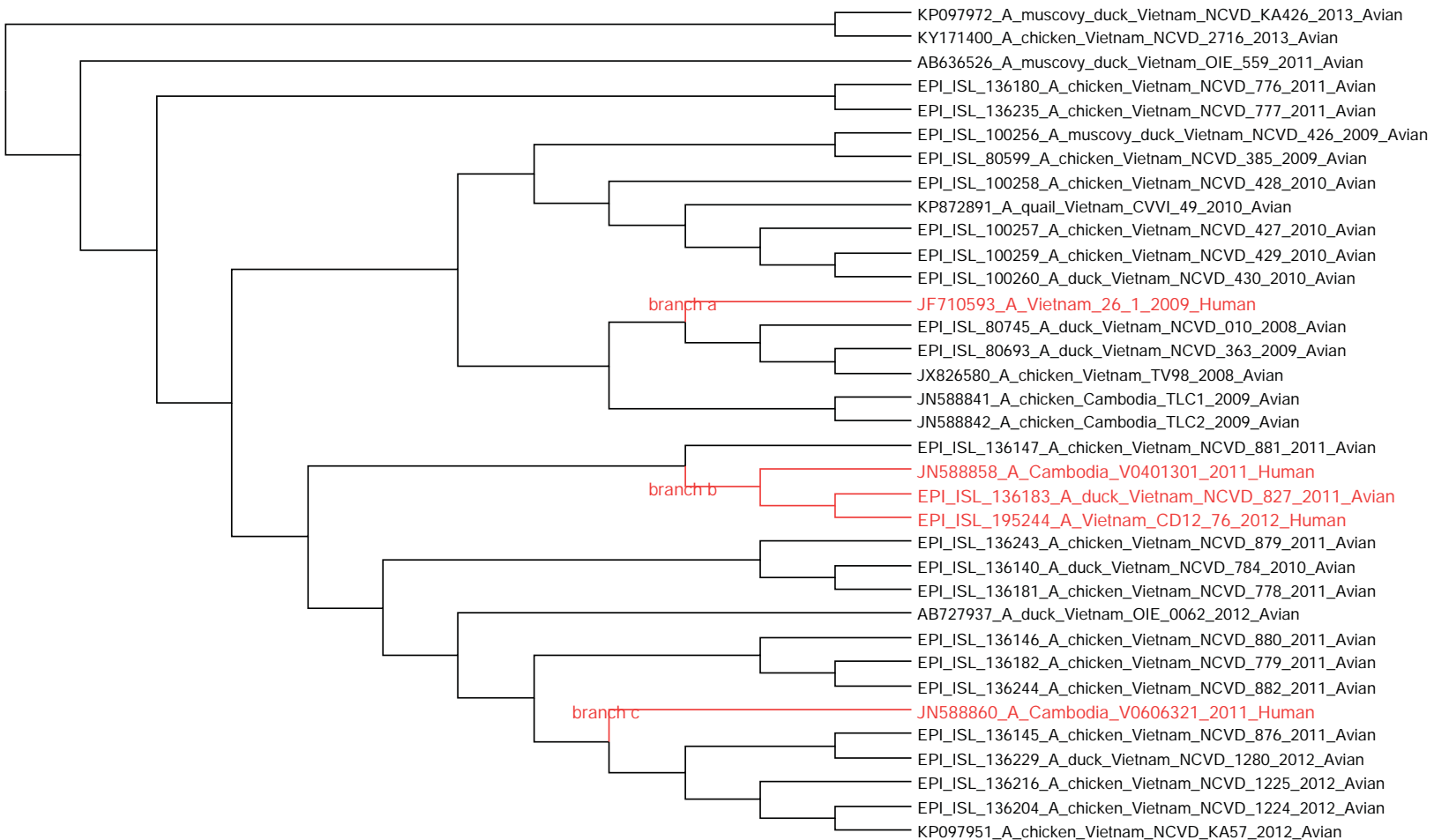
NA1-Group102



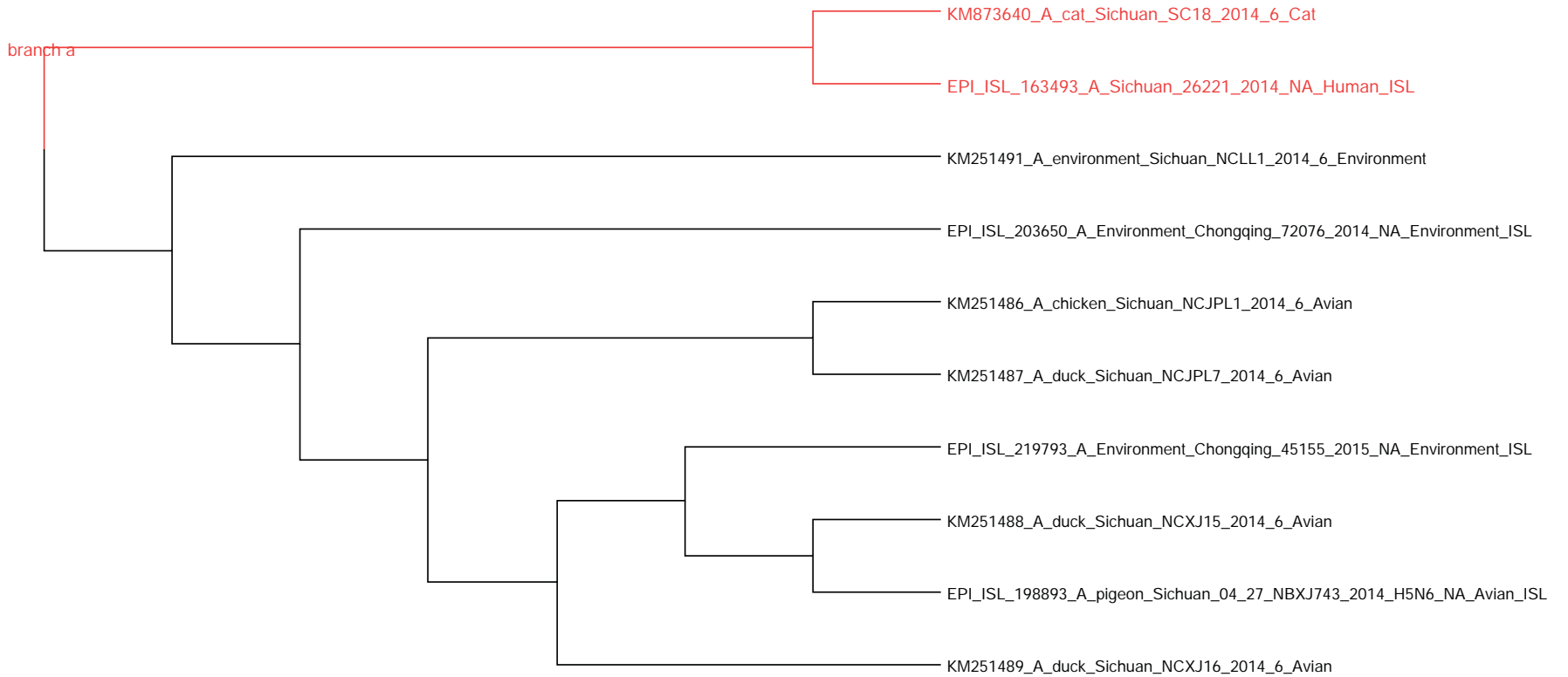
NA1-Group103



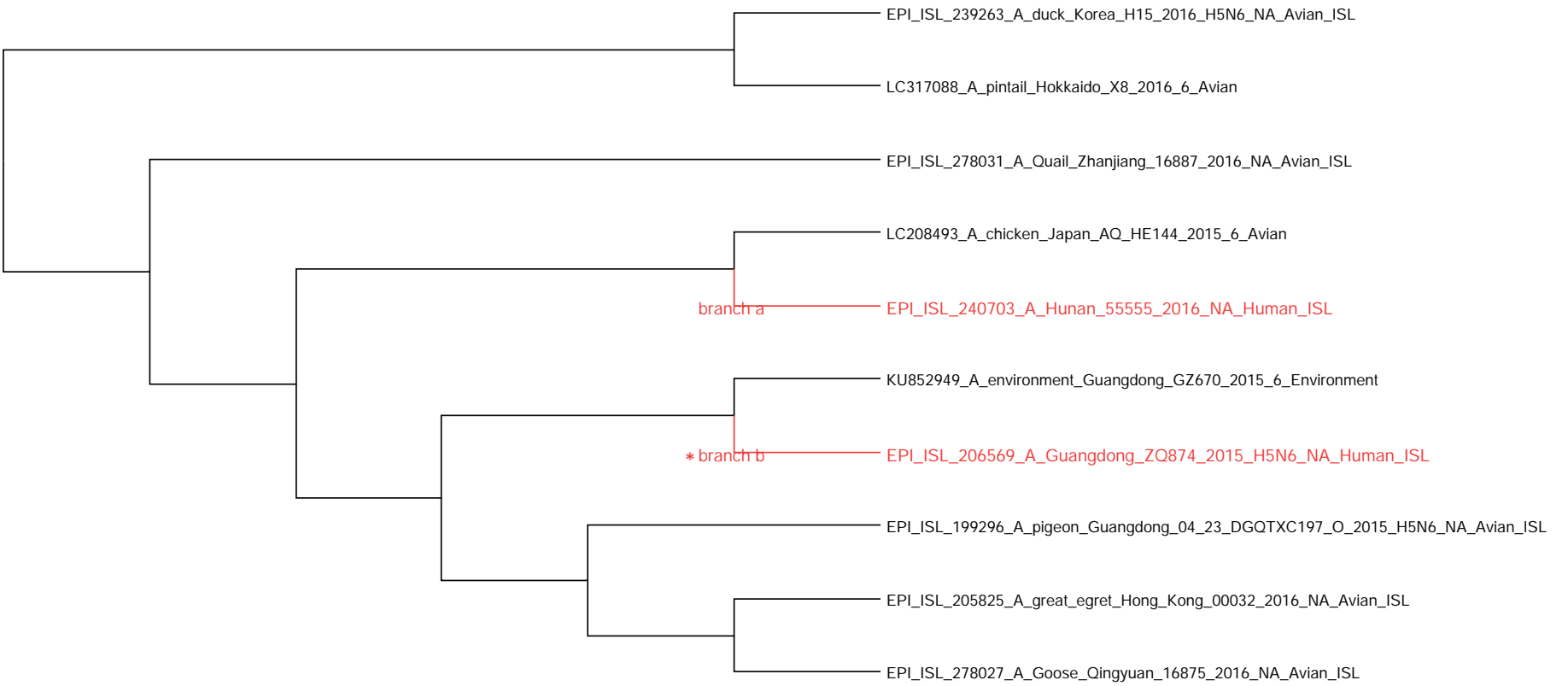
NA1-Group104



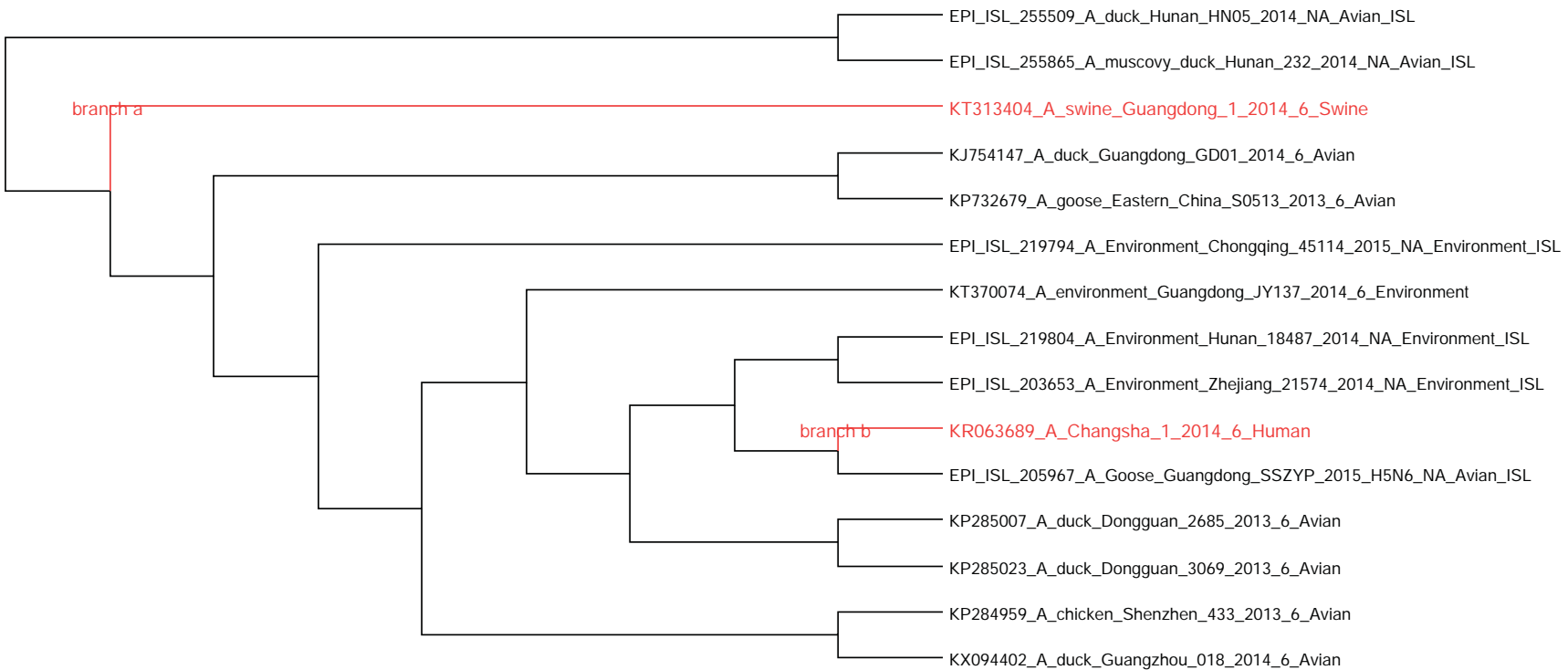
NA6_Group1



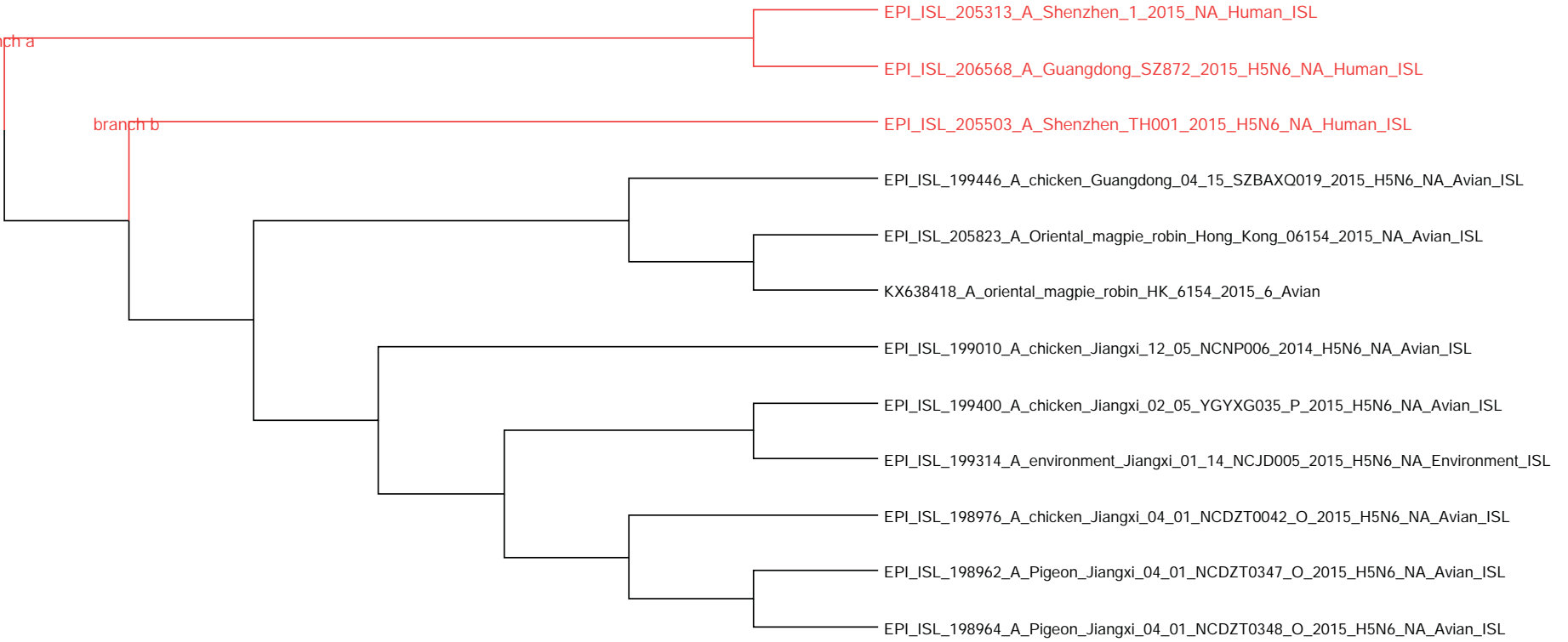
NA6_Group2



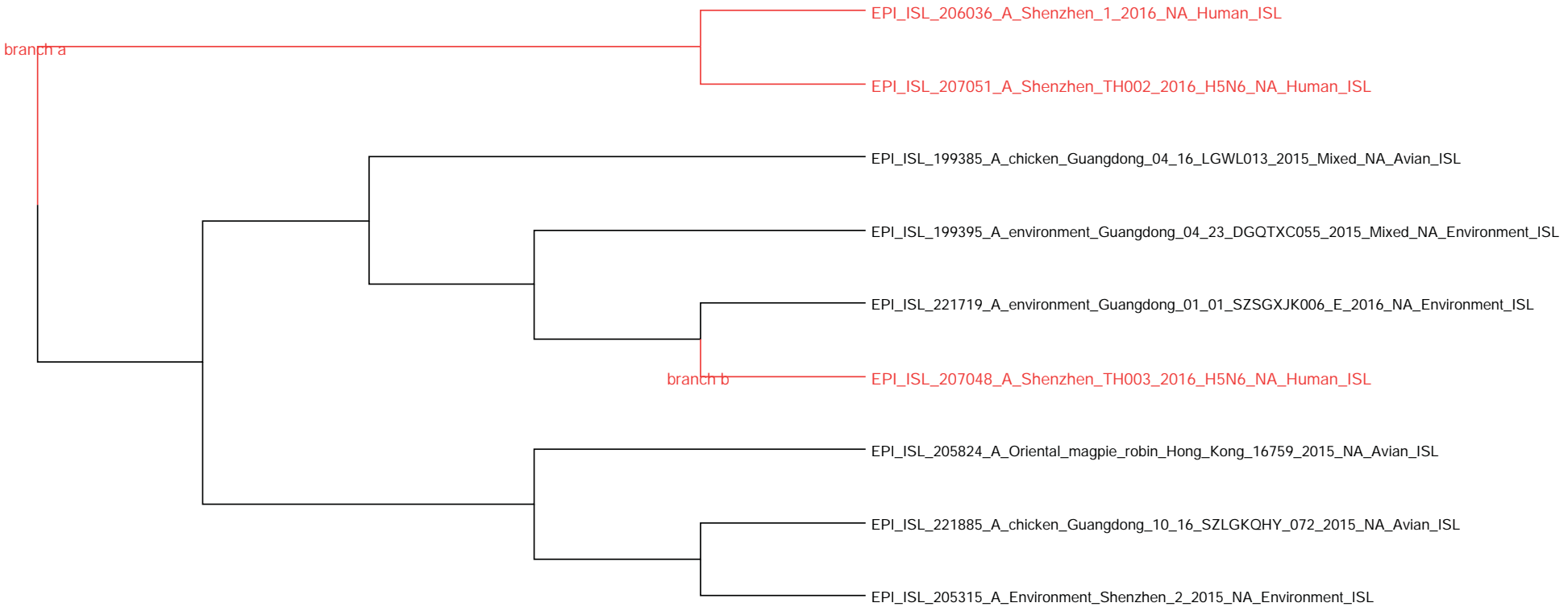
NA6_Group3



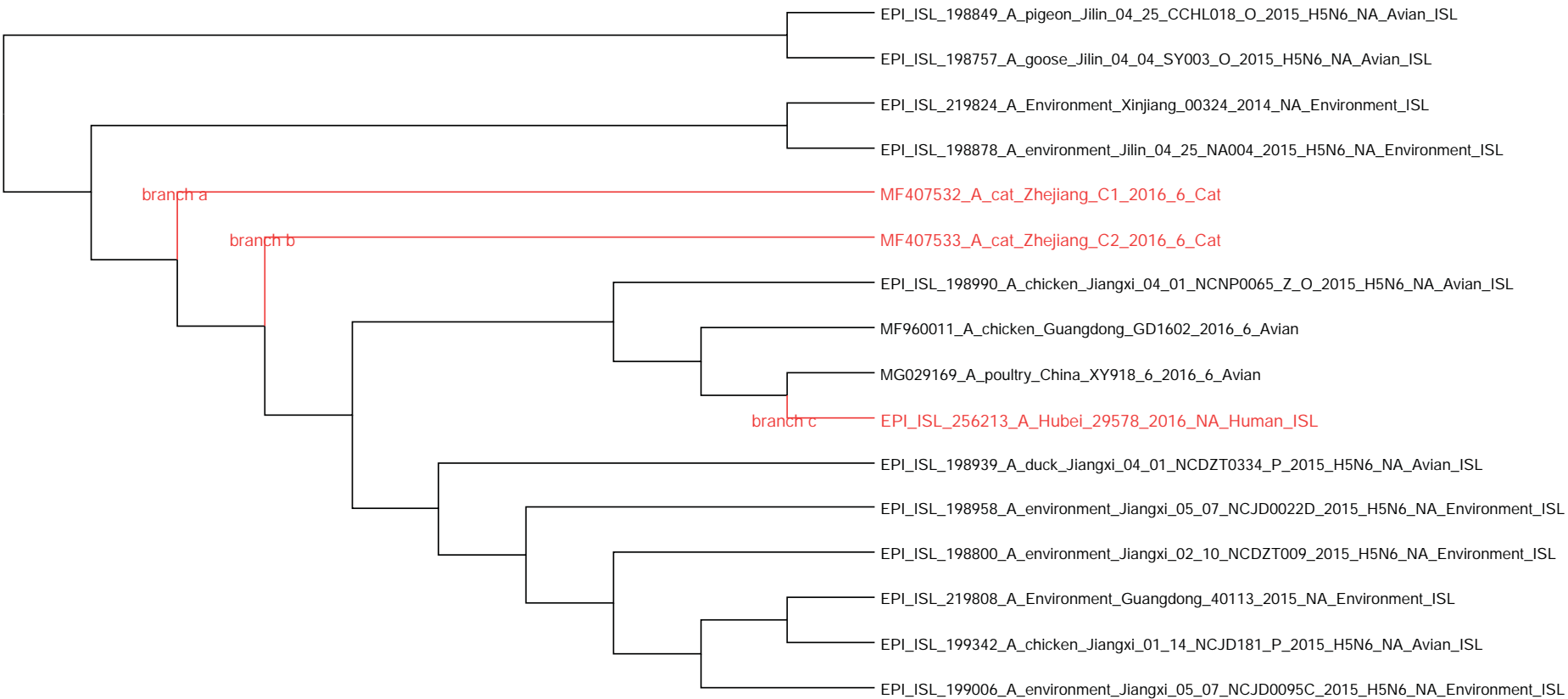
NA6_Group4



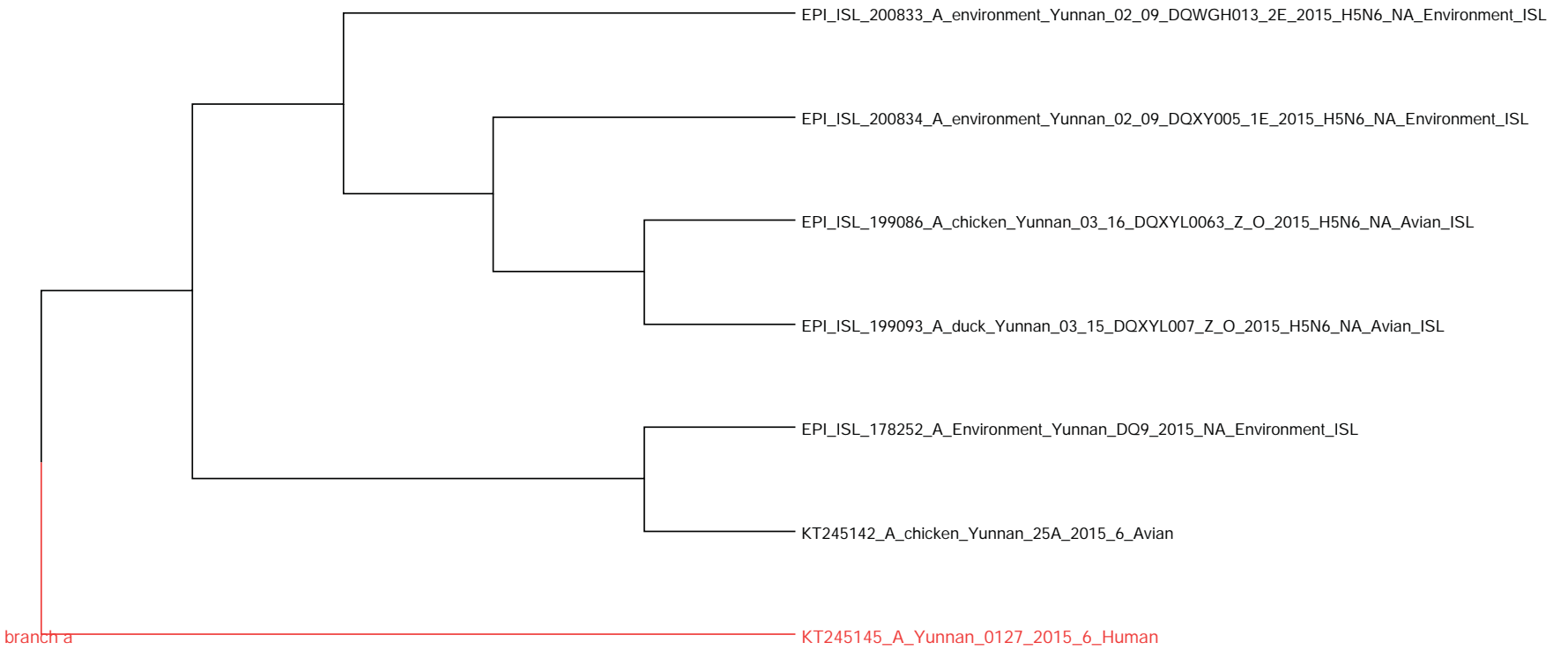
NA6_Group5



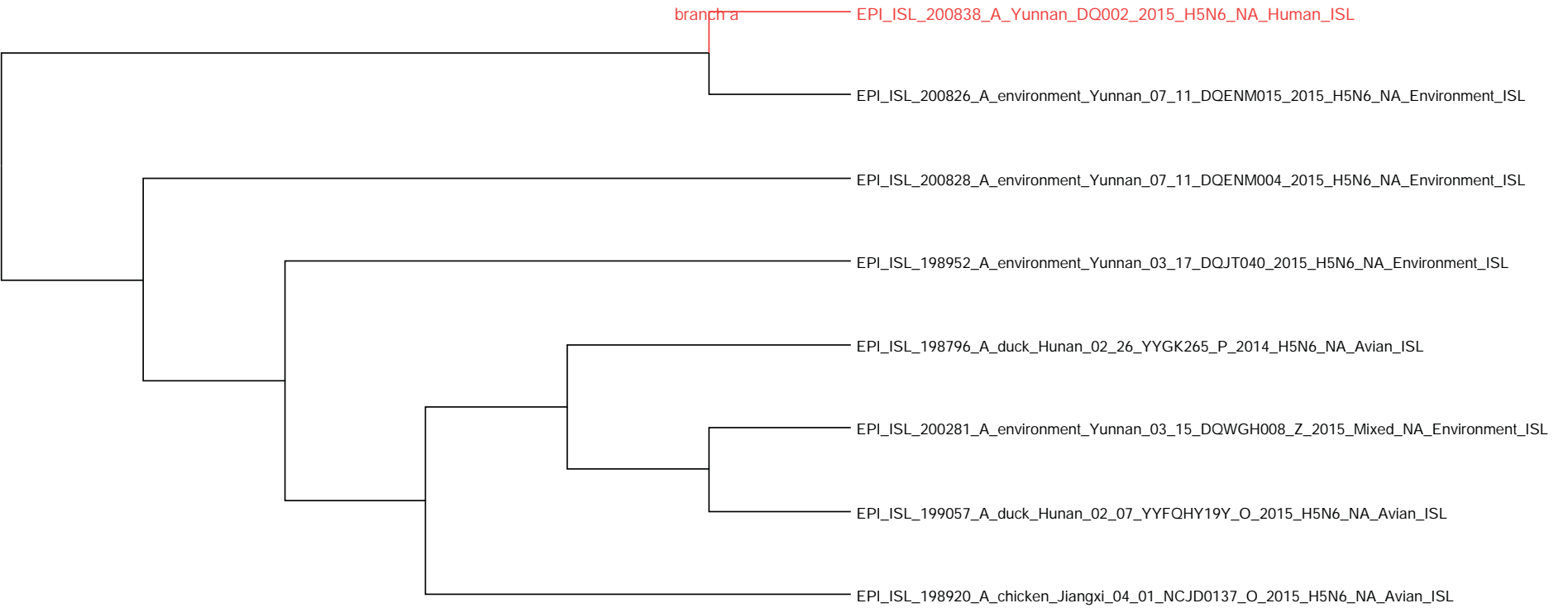
NA6_Group6



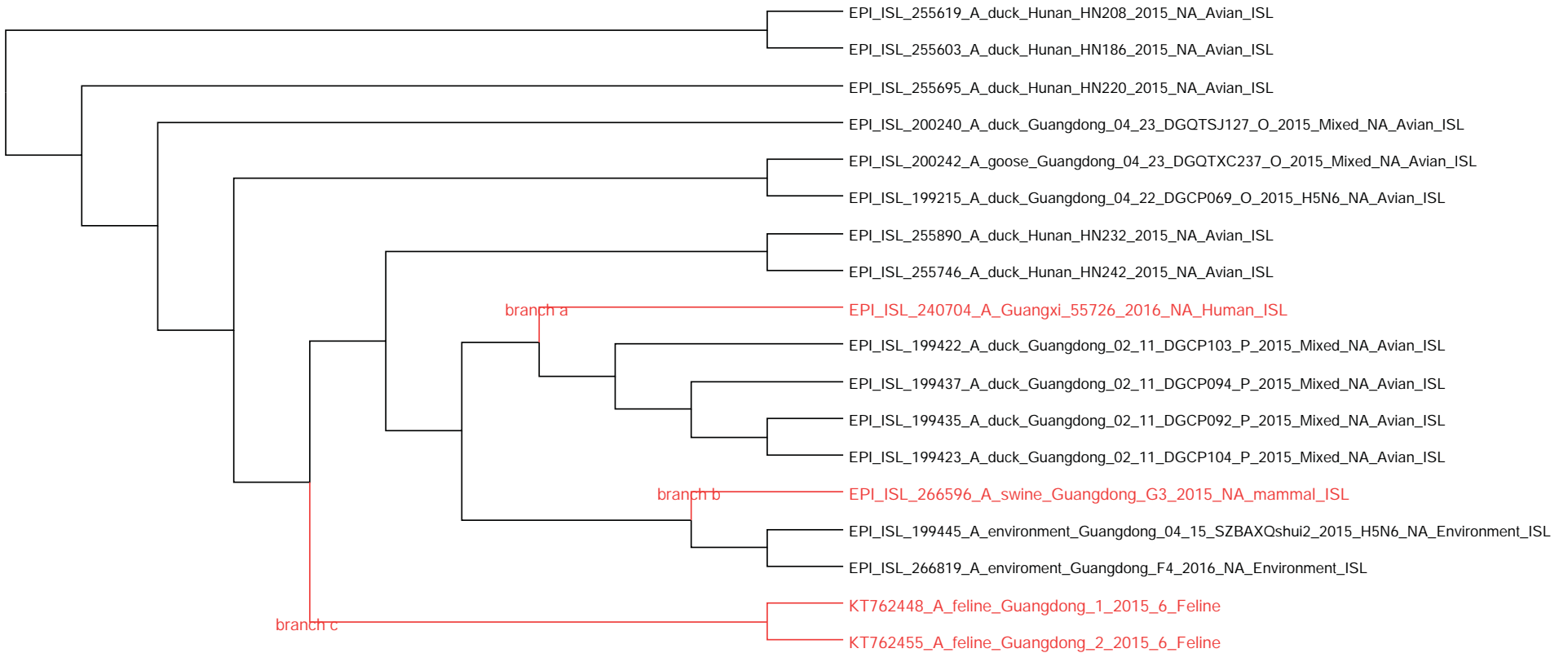
NA6_Group7



NA6_Group8



NA6_Group9



NA6_Group10

