

Output results of CLIME (CLustering by Inferred Models of Evolution)

Dataset:

Num of genes in input gene set: 6
Total number of genes: 20834
Prediction LLR threshold: 0

The CLIME PDF output two sections:

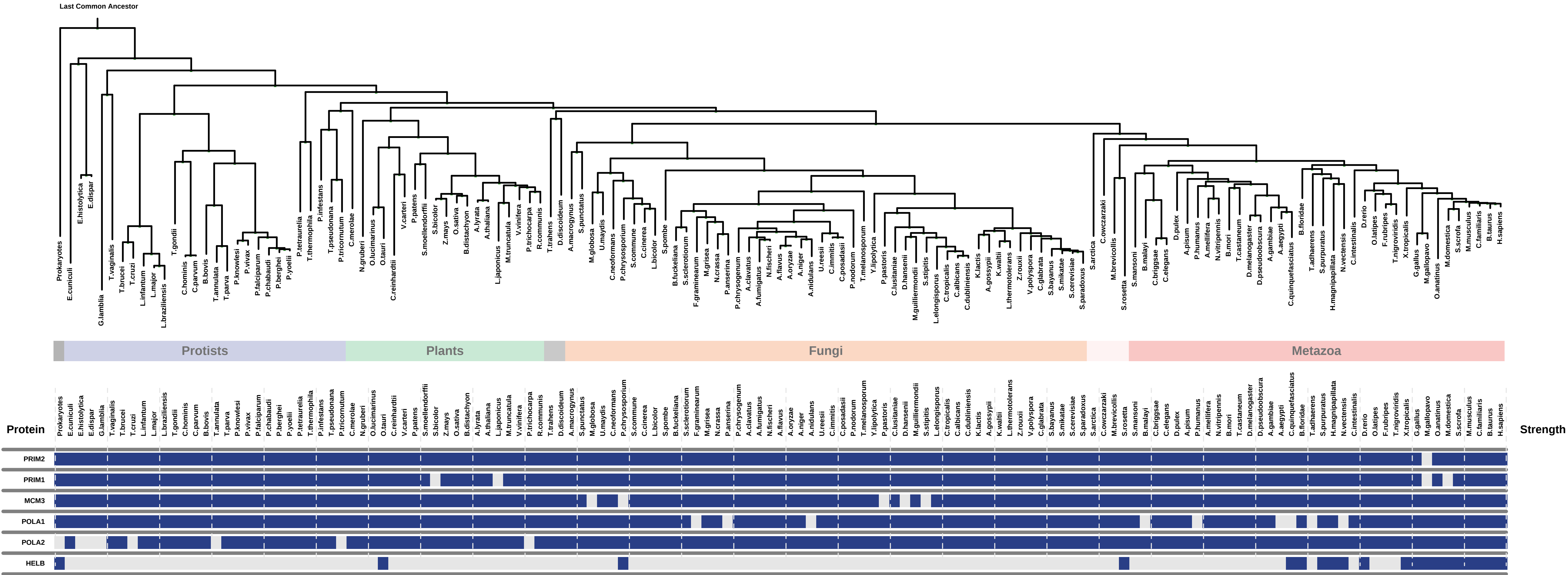
1) Overview of Evolutionarily Conserved Modules (ECMs)

- Top panel shows the predefined species tree.
- Bottom panel shows the partition of input genes into Evolutionary Conserved Modules (ECMs), ordered by ECM strength (shown at right), and separated by horizontal lines.
- Each row show one gene, where the phylogenetic profile indicates presence (blue) or absence (gray) of homologs in each species (column).
- Gene symbols are shown at left. Gray color indicates that the gene is a paralog to a higher scoring gene within the same ECM (based on BLASTP $E < 1e-3$).

2) Details of each ECM and its expansion ECM+

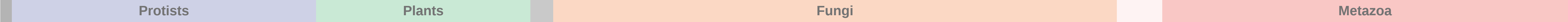
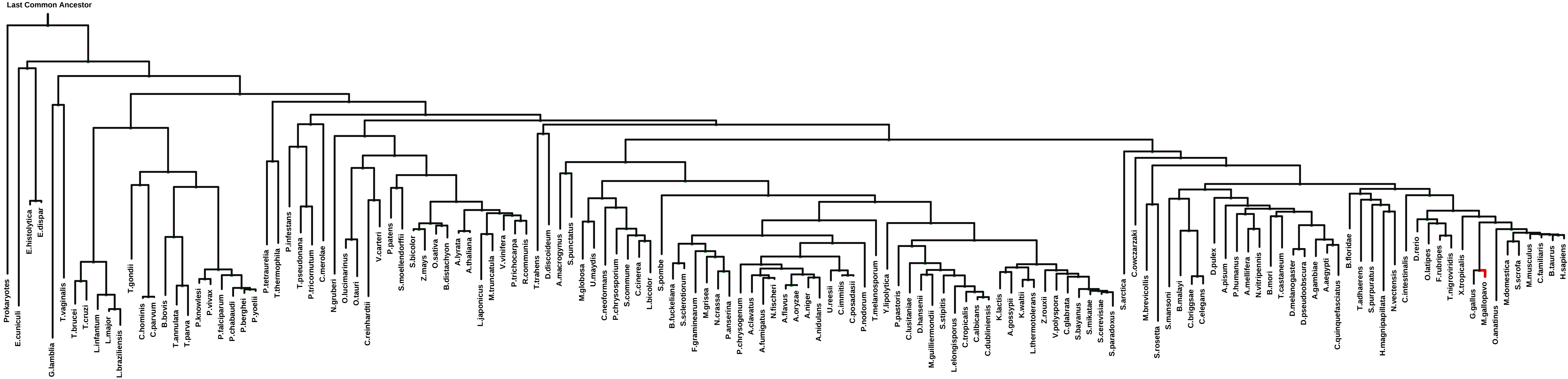
- Top panel shows the inferred evolutionary history on the predefined species tree. Branch color shows the gain event (blue) and loss events (red color, with brighter color indicating higher confidence in loss). Branches before the gain or after a loss are shown in gray.
- Bottom panel shows the input genes that are within the ECM (blue/white rows) as well as all genes in the expanded ECM+ (green/gray rows). The ECM+ includes genes likely to have arisen under the inferred model of evolution relative to a background model, and scored using a log likelihood ratio (LLR).
- PG indicates "paralog group" and are labeled alphabetically (i.e., A, B). The first gene within each paralog group is shown in black color. All other genes sharing sequence similarity (BLAST $E < 1e-3$) are assigned to the same PG label and displayed in gray.

Overview of Evolutionarily Conserved Modules (ECMs)



ECM 1, Gene set "alpha DNA polymerase:primase complex", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0



PG

Protein



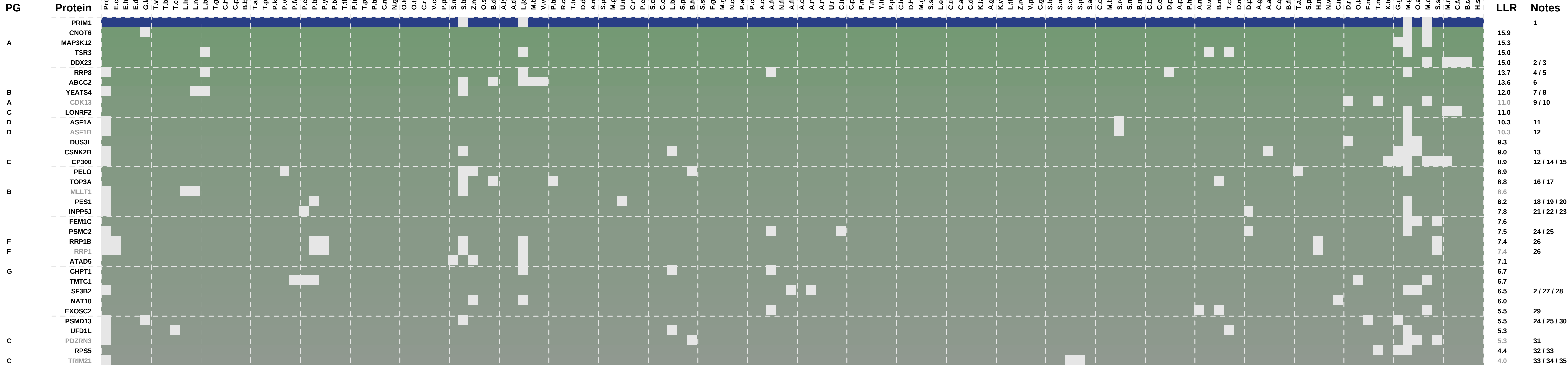
LLR

Notes

1

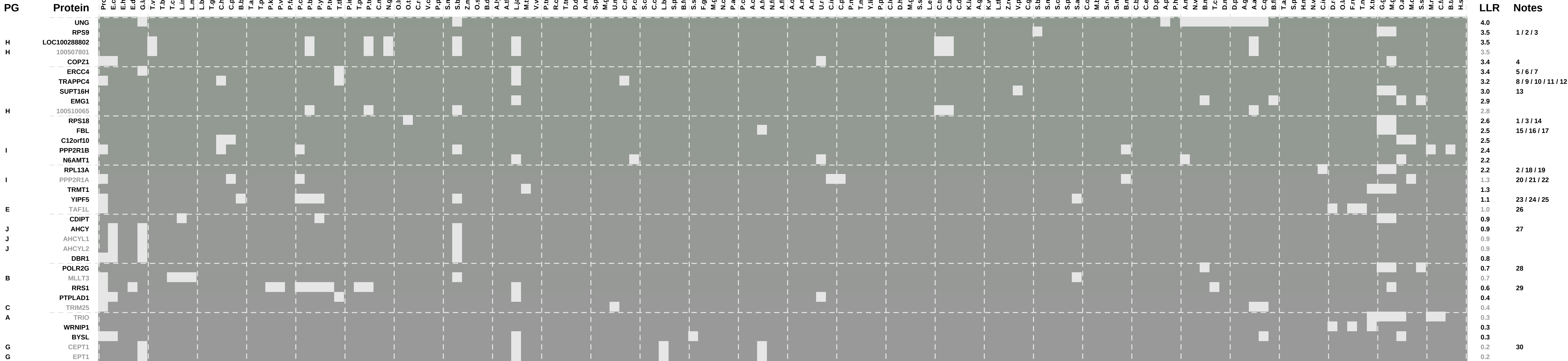
1: alpha DNA polymerase:primase complex

Num of ECM Genes: 1. Num of Predicted Genes: 71



1: alpha DNA polymerase:primase complex || 2: catalytic step 2 spliceosome || 3: U5 snRNP || 4: chromatin silencing complex || 5: rDNA heterochromatin || 6: intercellular canaliculus || 7: NuA4 histone acetyltransferase complex || 8: nuclear matrix || 9: nuclear cyclin-dependent protein kinase holoenzyme complex || 10: nuclear speck || 11: chromatin remodeling complex || 12: chromatin || 13: PcG protein complex || 14: histone acetyltransferase complex || 15: protein-DNA complex || 16: chromosome || 17: PML body || 18: condensed chromosome || 19: PeBoW complex || 20: preribosome, large subunit precursor || 21: dendritic shaft || 22: growth cone || 23: ruffle || 24: proteasome accessory complex ||

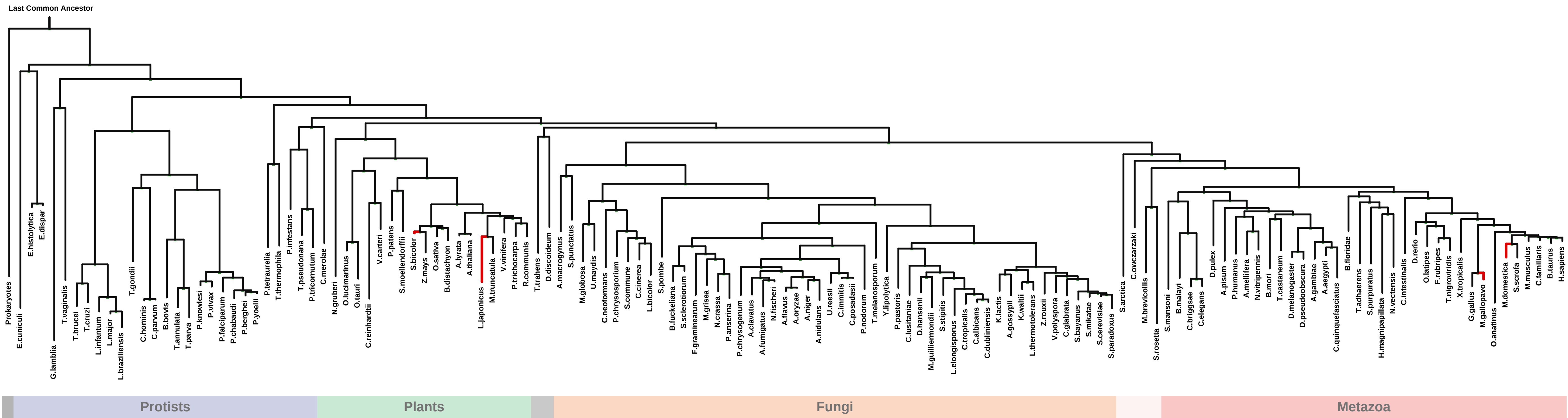
Num of ECM Genes: 1. Num of Predicted Genes: 71



1: cytosolic small ribosomal subunit || 2: ribonucleoprotein complex || 3: ribosome || 4: COPI vesicle coat || 5: chromosome, telomeric region || 6: nuclear chromosome, telomeric region || 7: nucleotide-excision repair complex || 8: dendrite || 9: Golgi stack || 10: synapse || 11: synaptic vesicle || 12: TRAPP complex || 13: chromosome || 14: small ribosomal subunit || 15: box C/D snoRNP complex || 16: Cajal body || 17: granular component || 18: cytosolic large ribosomal subunit || 19: large ribosomal subunit || 20: chromosome, centromeric region || 21: microtubule cytoskeleton || 22: protein phosphatase type 2A complex || 23: endoplasmic reticulum exit site || 24: ER to Golgi transport vesicle ||

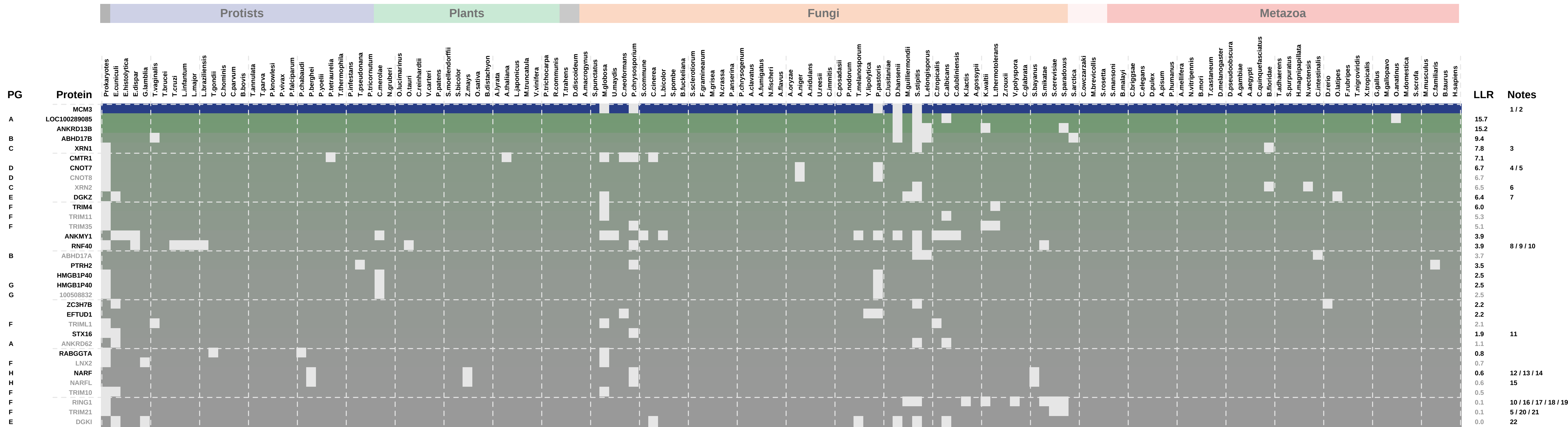
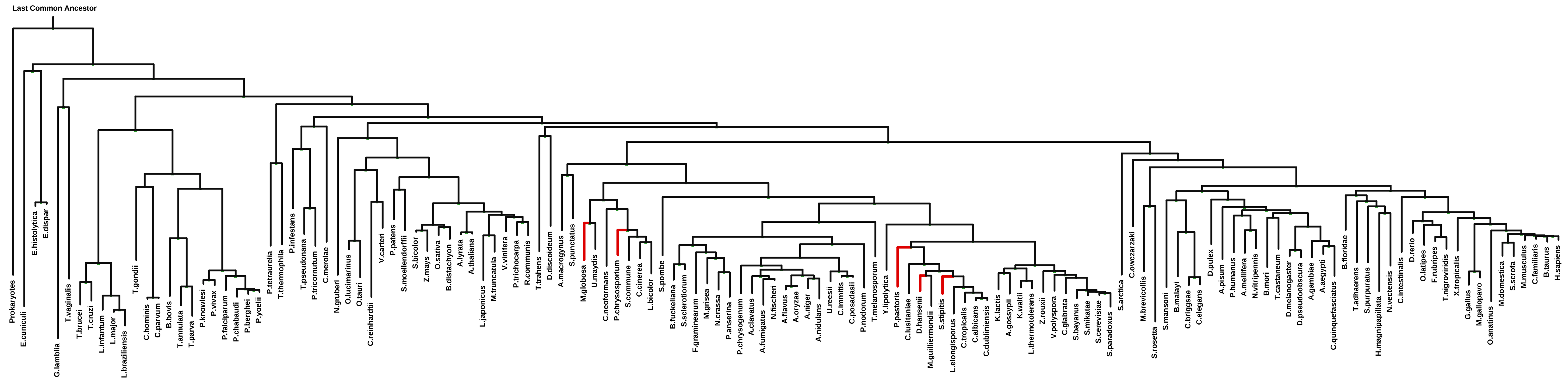
ECM 2, Gene set "alpha DNA polymerase:primase complex", Page 3

Num of ECM Genes: 1. Num of Predicted Genes: 71

[illegible]

ECM 3, Gene set "alpha DNA polymerase:primase complex", Page 1

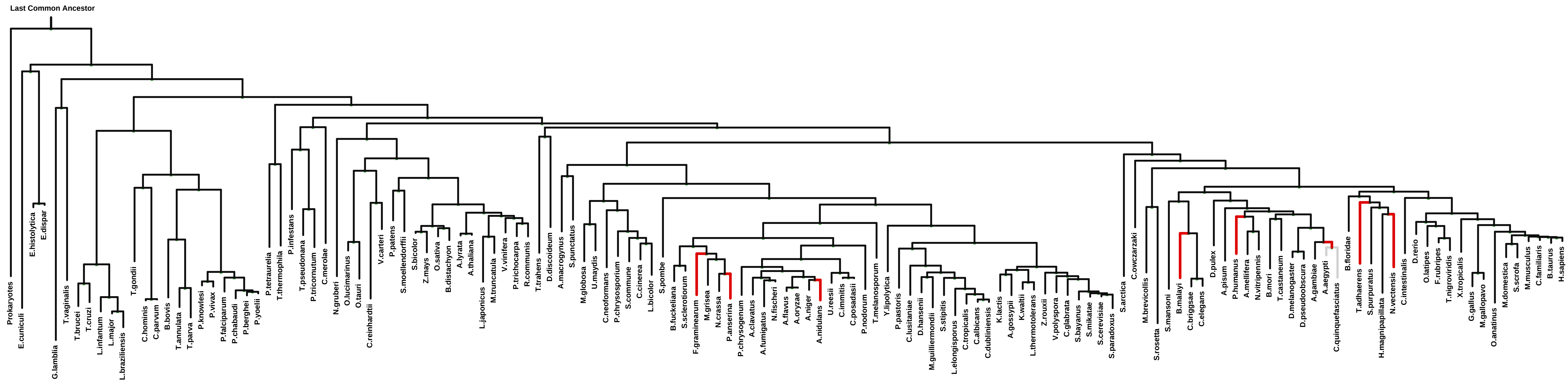
Num of ECM Genes: 1. Num of Predicted Genes: 32



1: alpha DNA polymerase:primase complex || 2: MCM complex || 3: intermediate filament cytoskeleton || 4: CCR4-NOT complex || 5: cytoplasmic mRNA processing body || 6: aggresome || 7: lamellipodium || 8: HULC complex || 9: neuron projection || 10: ubiquitin ligase complex || 11: SNARE complex || 12: lamin filament || 13: nuclear lamina || 14: nuclear lumen || 15: CIA complex || 16: nuclear speck || 17: PcG protein complex || 18: PRC1 complex || 19: sex chromatin || 20: ribonucleoprotein complex || 21: SCF ubiquitin ligase complex || 22: guanyl-nucleotide exchange factor complex

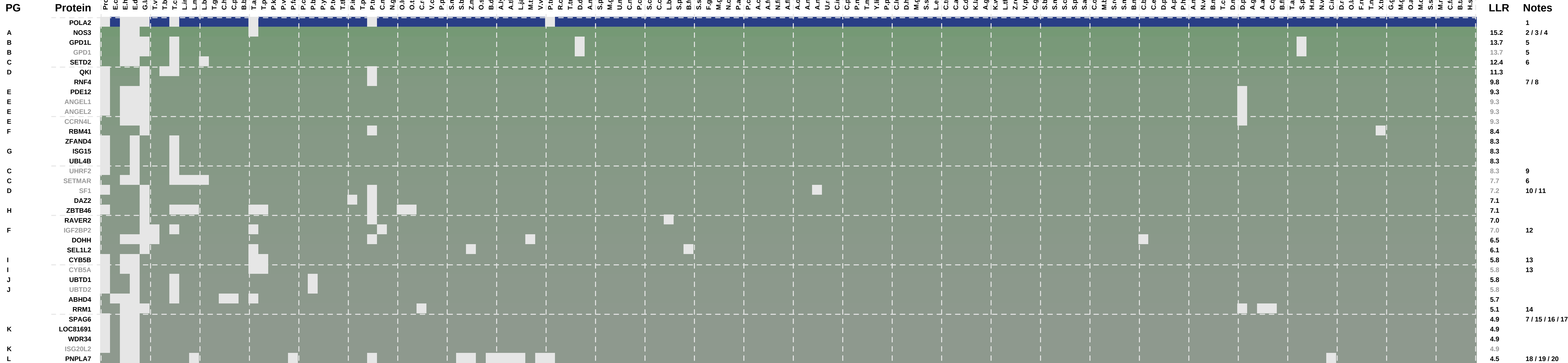
ECM 4, Gene set "alpha DNA polymerase:primase complex", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 0

[illegible]

1: alpha DNA polymerase:primase complex || 2: chromatin || 3: nuclear envelope || 4: nuclear matrix

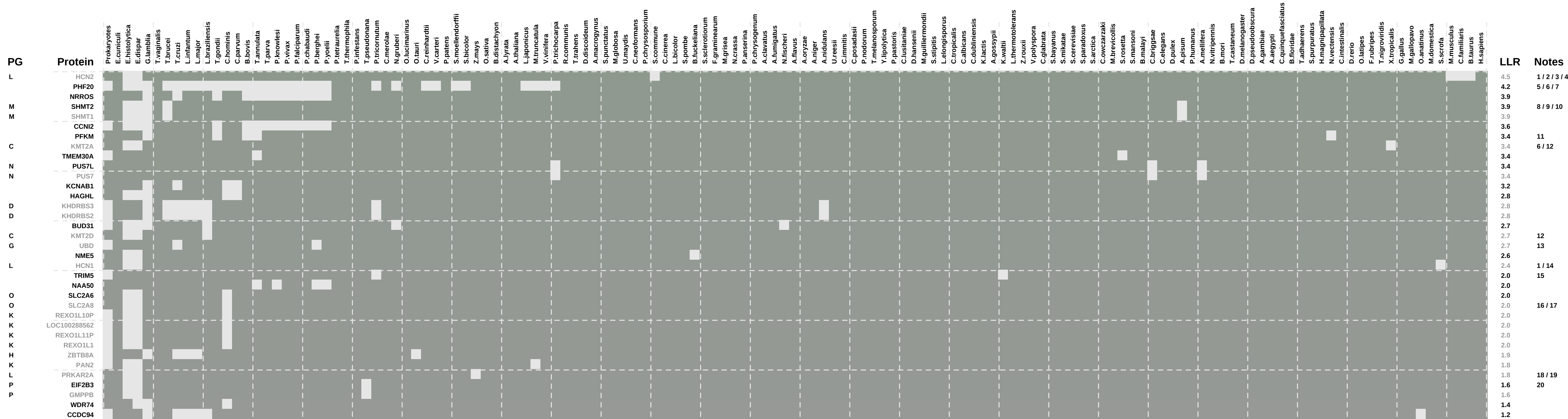
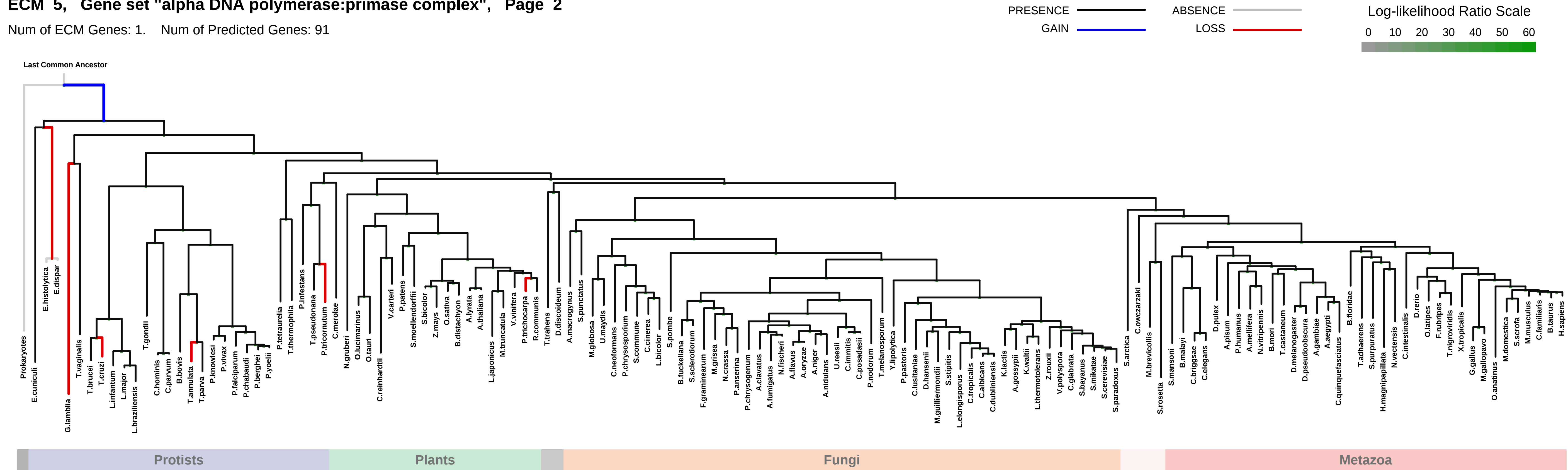
Num of ECM Genes: 1. Num of Predicted Genes: 91



LLR	Notes
	1
15.2	2 / 3 / 4
13.7	5
13.7	5
12.4	6
11.3	
9.8	7 / 8
9.3	
9.3	
9.3	
8.4	
8.3	
8.3	
8.3	
8.3	9
7.7	6
7.2	10 / 11
7.1	
7.1	
7.0	
7.0	12
6.5	
6.1	
5.8	13
5.8	13
5.8	
5.8	
5.7	
5.1	14
4.9	7 / 15 / 16 / 17
4.9	
4.9	
4.9	
4.5	18 / 19 / 20

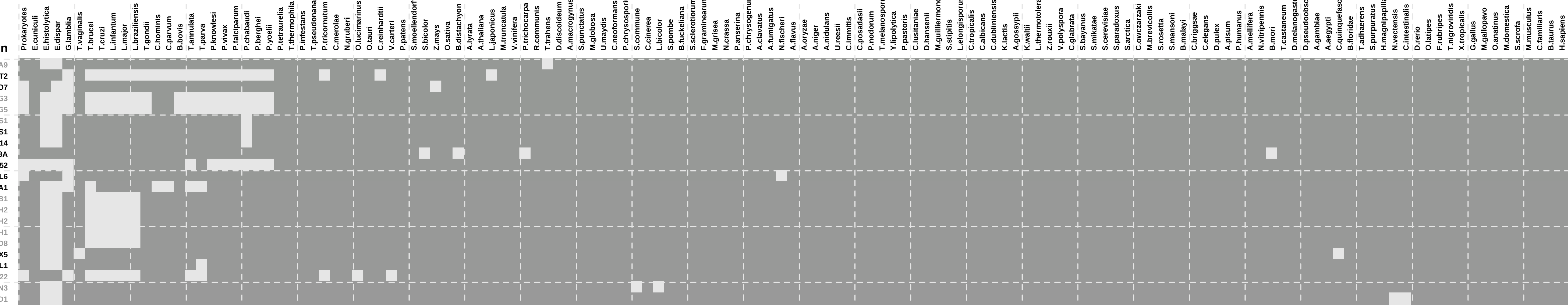
ECM 5, Gene set "alpha DNA polymerase:primase complex", Page 2

Num of ECM Genes: 1. Num of Predicted Genes: 91



1: axon || 2: dendritic shaft || 3: synapse || 4: voltage-gated potassium channel complex || 5: histone acetyltransferase complex || 6: MLL1 complex || 7: nuclear membrane || 8: microtubule cytoskeleton || 9: mitochondrial intermembrane space || 10: mitochondrial nucleoid || 11: 6-phosphofructokinase complex || 12: histone methyltransferase complex || 13: aggresome || 14: dendrite || 15: cytoplasmic mRNA processing body || 16: cytoplasmic vesicle membrane || 17: synaptic vesicle || 18: cAMP-dependent protein kinase complex || 19: T-tubule || 20: eukaryotic translation initiation factor 2B complex

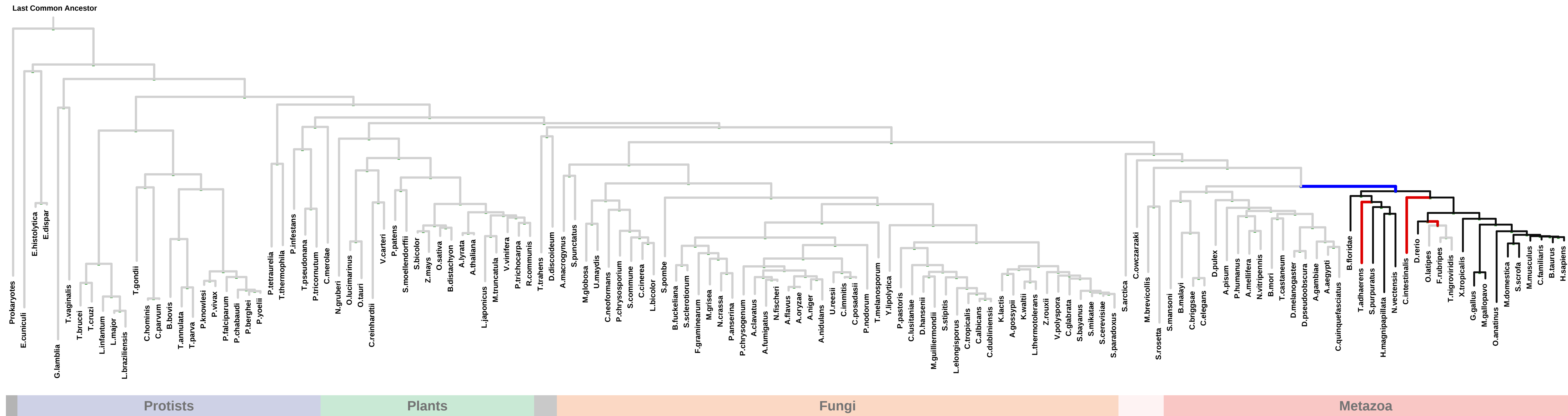
Num of ECM Genes: 1. Num of Predicted Genes: 91



1: nuclear envelope || 2: nuclear pore || 3: NuA4 histone acetyltransferase complex || 4: Piccolo NuA4 histone acetyltransferase complex || 5: MOZ/MORF histone acetyltransferase complex || 6: dendritic spine || 7: photoreceptor inner segment || 8: sarcolemma || 9: sarcoplasmic reticulum || 10: chromosome || 11: PML body || 12: peroxisomal matrix || 13: peroxisome || 14: chromatin || 15: chromosome, centromeric region || 16: nuclear heterochromatin || 17: ESC/E(Z) complex || 18: pronucleus

ECM 6, Gene set "alpha DNA polymerase:primase complex", Page 1

Num of ECM Genes: 1. Num of Predicted Genes: 9



1: alpha DNA polymerase:primase complex || 2: HAUS complex || 3: spindle || 4: proteinaceous extracellular matrix || 5: Bcl-2 family protein complex || 6: mitochondrial outer membrane || 7: nuclear membrane || 8: BLOC-1 complex || 9: transport vesicle