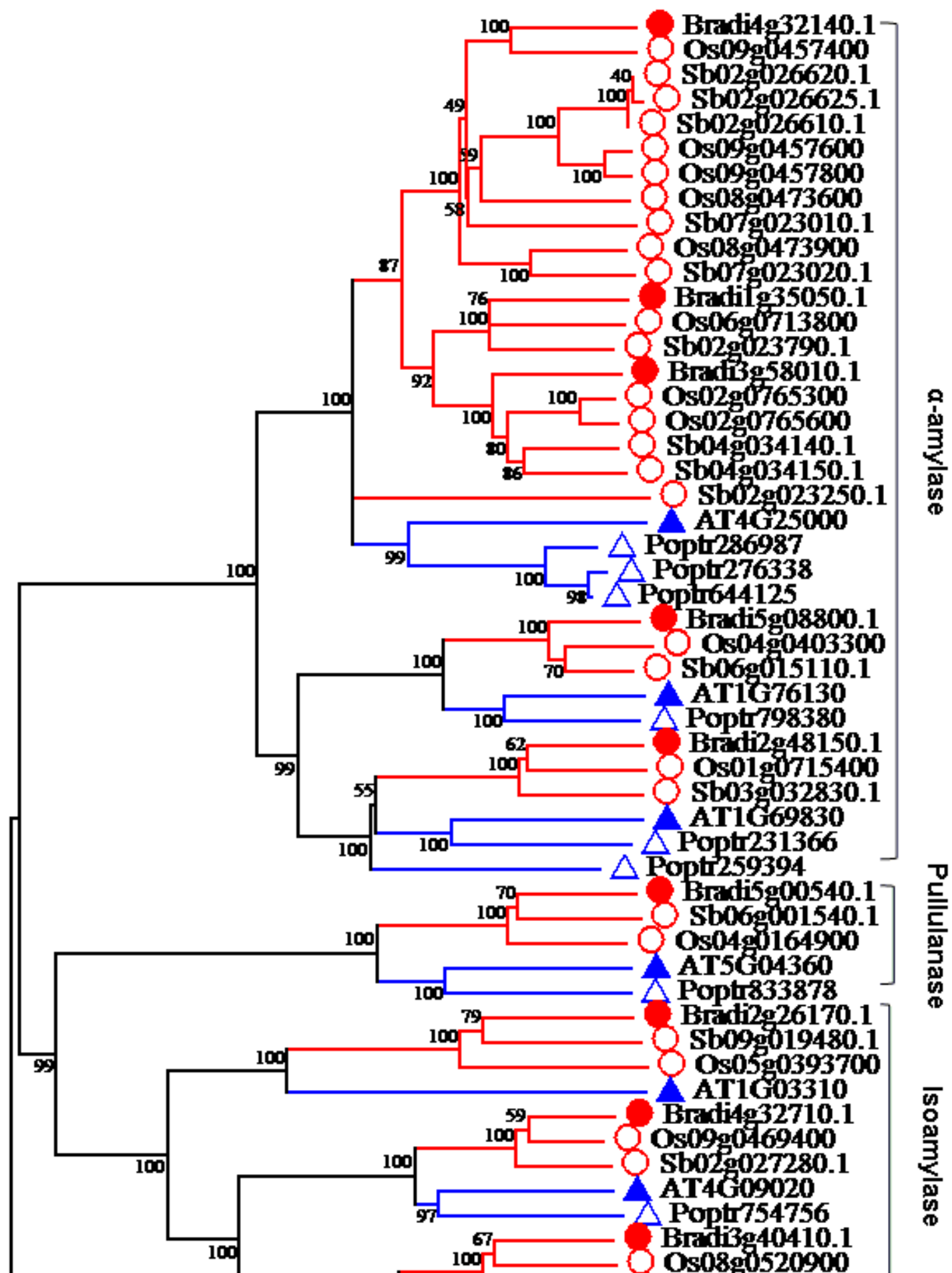
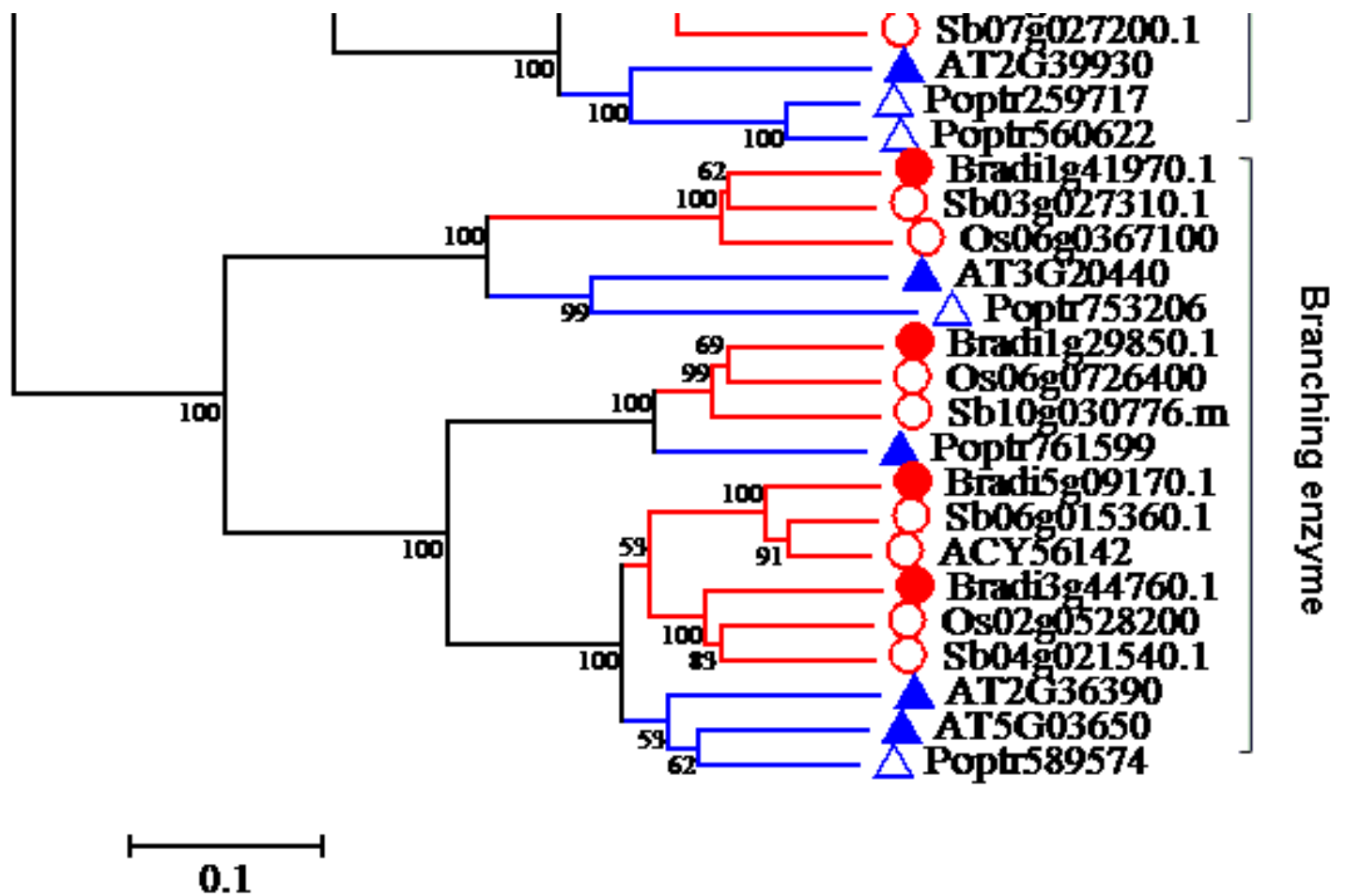






Additional file 16 – GH13 Rectangular Tree. The GH13 family tree with additional bootstrap values. The same tree as in Figure 8 is displayed in a rectangular format. The tree includes proteins from *Arabidopsis* (AT), rice, *Brachypodium* (Bradi), sorghum, and poplar. The tree was constructed using the Neighbor-Joining method and 1,000 bootstrap replicates. The percent of bootstrap replicates supporting each branch is indicated. Distances are proportional to the number of amino-acid substitutions per site. Sequences from eudicots are indicated in blue (*Arabidopsis* with filled triangles, poplar with open triangles); sequences from grasses are indicated in red (*Brachypodium* with filled circles, rice and sorghum with open circles). The three clades, α -amylases, branching enzymes, and debranching enzymes including pullulanases and isoamylases, are marked with brackets.