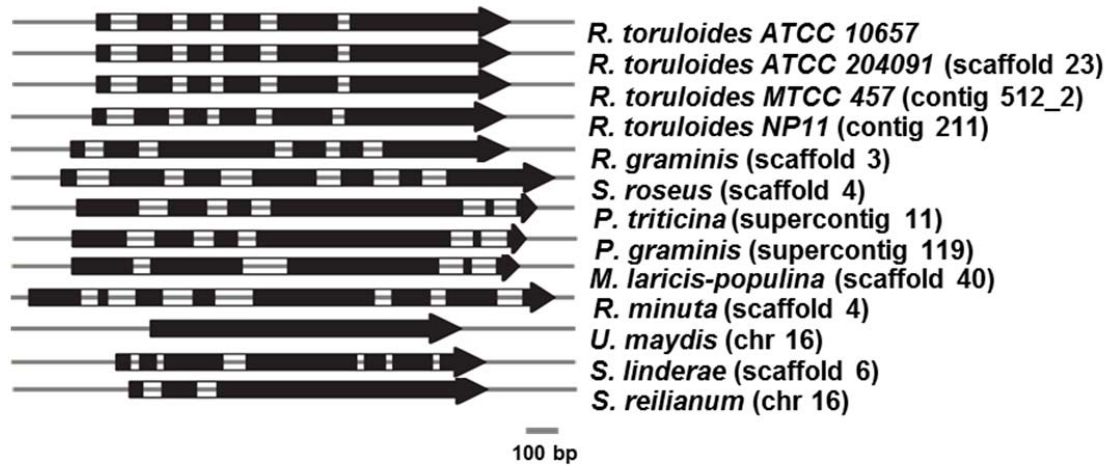
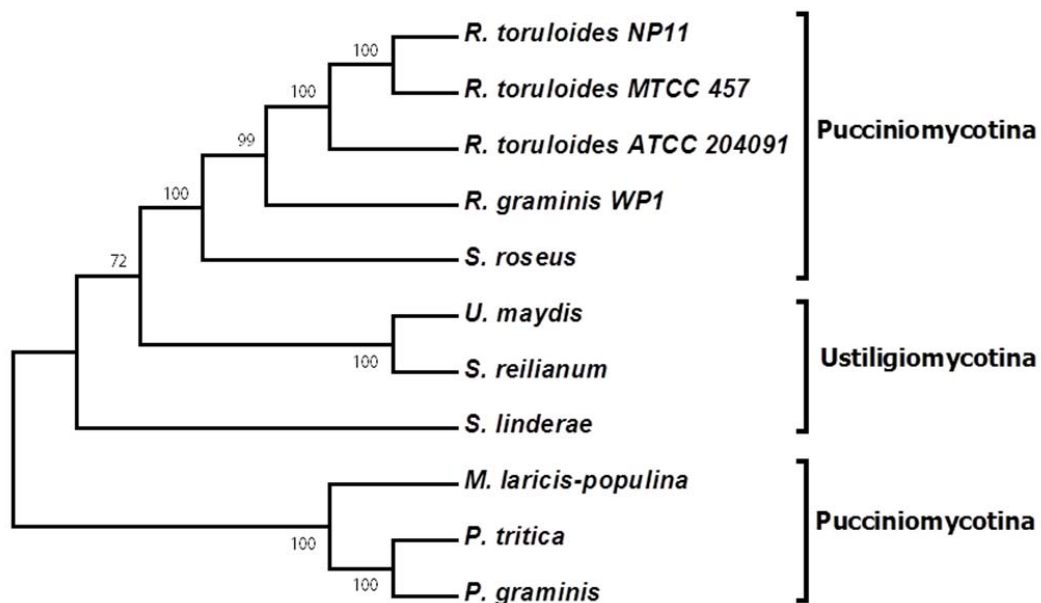


a**b**

Additional file 2. Basidiomycetous *DAO1* genes and phylogenetic analysis of their proteins. (a) Schematic diagrams of *DAO1* genes from *Pucciniomycotina* and *Ustiligiomycotina* subphyla. Introns are shown in white bars. (b) Phylogenetic tree analysis of putative D-amino acid oxidases from *Pucciniomycotina* and *Ustiligiomycotina* subphyla. The phylogenetic tree was constructed by MEGA version 6 program (<http://www.megasoftware.net/>) using Neighbor-Joining algorithm and tested by Bootstrapping. The *DAO1* sequences are listed in GenBank under accession numbers KR183638-183695.