

Supplementary Materials

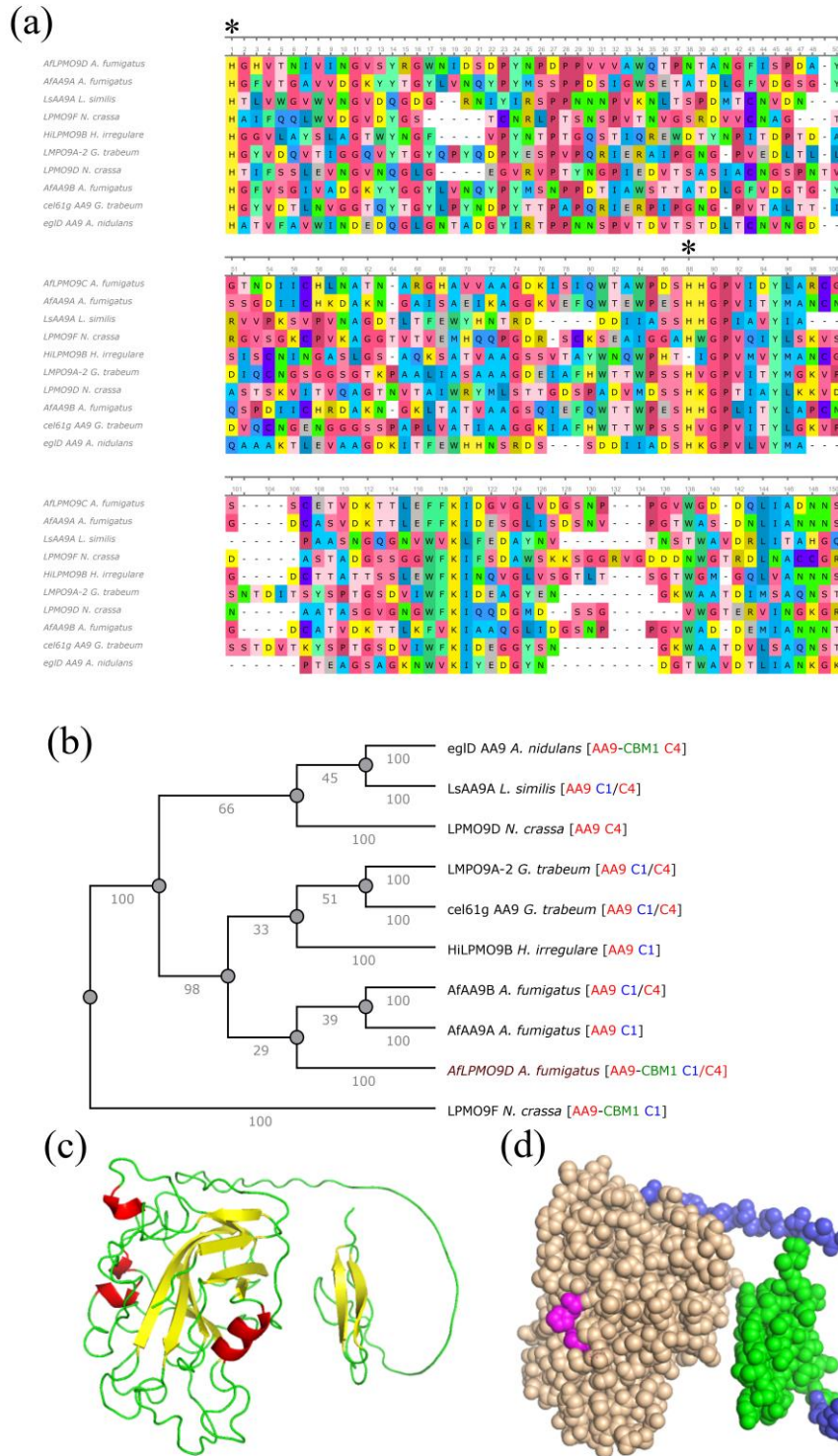


Figure S1. (a) ClustalW sequence alignment, and (b) protein phylogenetic three of AflPMO9D and characterized LPMOs; AfAA9A *A. fumigatus* [Genbank:KEY82006.1], AfAA9B *A. fumigatus* [Genbank:KEY76044.1], HiLPMO9B *H. irregulare* [Uniprot:W4KMP1], LPMO9A-2 *G. trabeum* [Uniprot:A0A1C9ZMC5], cel61g AA9 *G. trabeum* [Uniprot:F8T947], LPMO9F *N. crassa* [Uniprot:Q6MGH2], eglD AA9 *A. nidulans* [Uniprot:Q5BCX8], LsAA9A *L. similis* [Uniprot:A0A052GKZ1], LPMO9D *N. crassa* [Uniprot:Q1K8B6]. (c)

Cartoon representation of AfLPMO9D structure, helix (red), loop (green), β -sheet (yellow). (d) Sphere model of AfLPMO9D structure, CBM1 (green), CBM1 linker (blue), copper-coordinating histidines (purple).

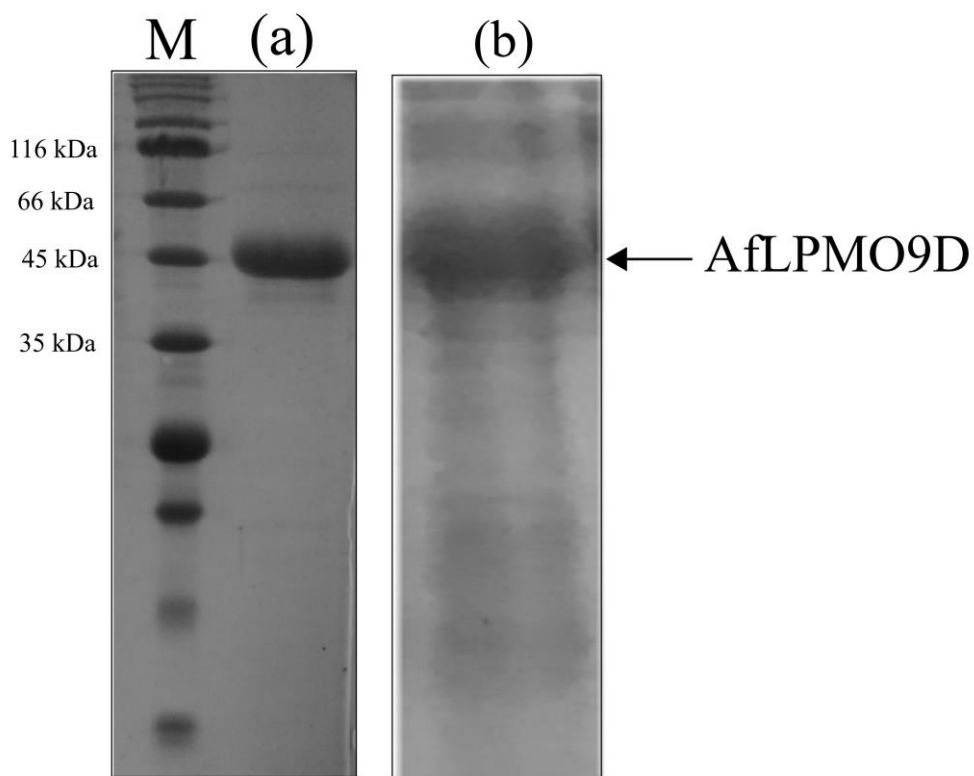


Figure S2. 12% SDS-PAGE of (a) purified AfLPMO9D, and (b) *A. nidulans* secretome after maltose induction showing AfLPMO9D secretion.

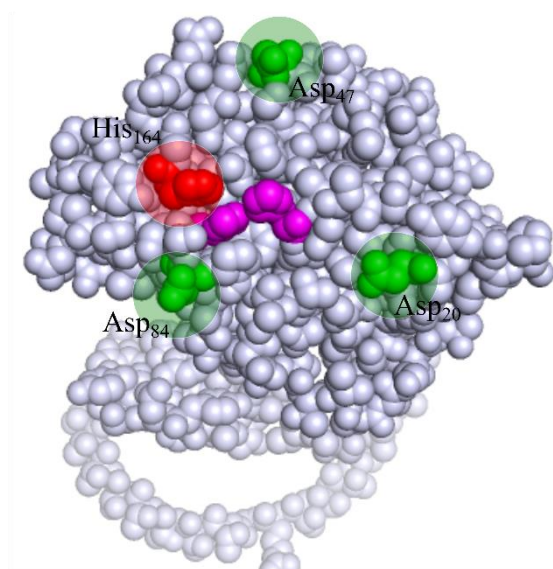


Figure S3. AfLPMO9D structural model showing the two copper-coordinating histidines (purple), aspartate residues (Asp₄₇, Asp₈₄, Asp₂₀, green), and histidine 164 (red) close to the catalytic site.