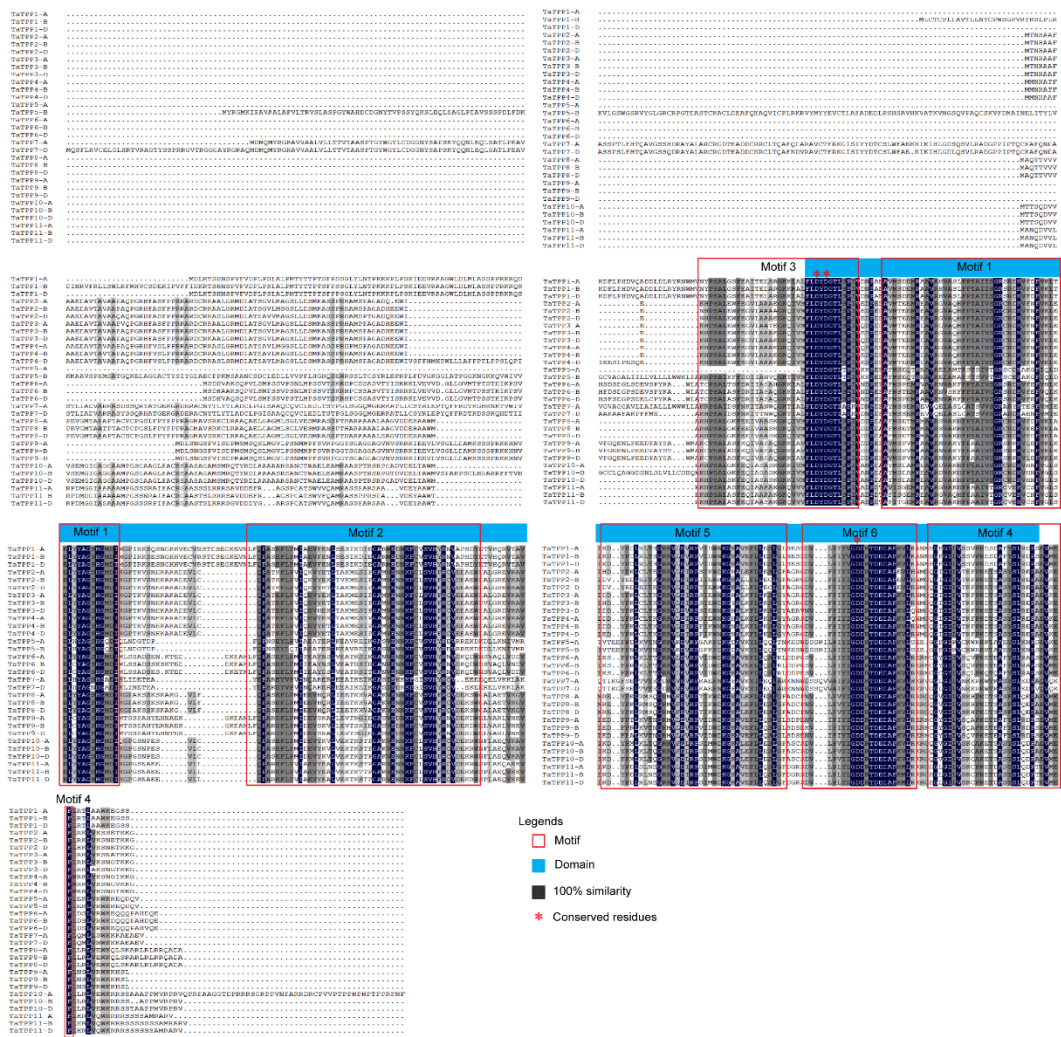
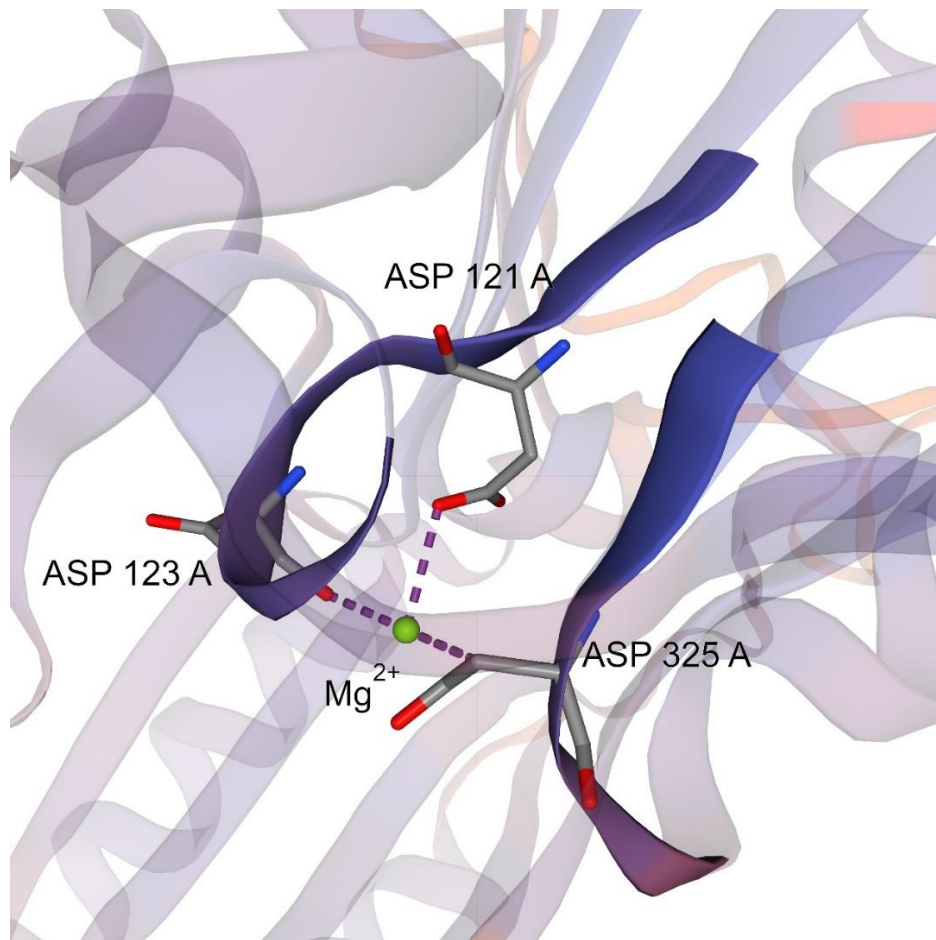


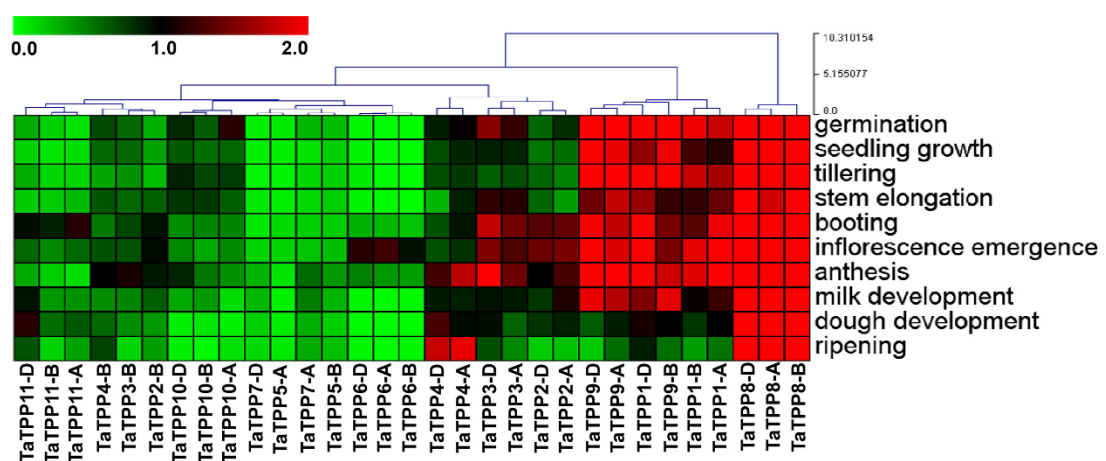
**Figure S1.** Schematic illustration of 3-D protein structures and the Ramachandran plot for TaTPP proteins. (a) TaTPP proteins predicted three-dimensional structures. N, N-terminus;  $Mg^{2+}$ , magnesium ion, C, C-terminus; (b) The Ramachandran plot for TaTPP proteins.



**Figure S2.** Schematic representation of protein alignment of all TaTPPs.

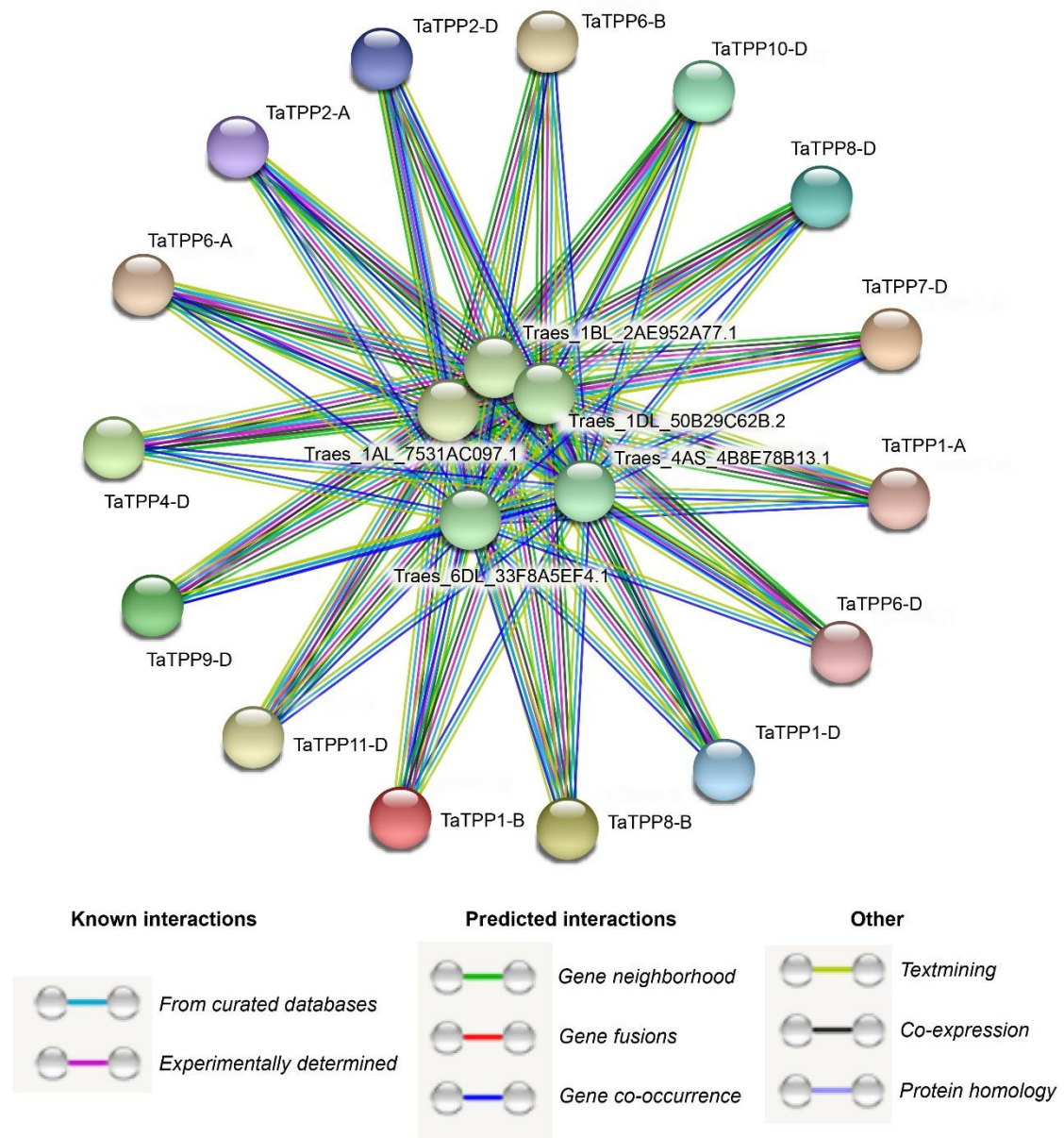


**Figure S3.** Schematic representation of TaTPP1-A side chains catalytic triads

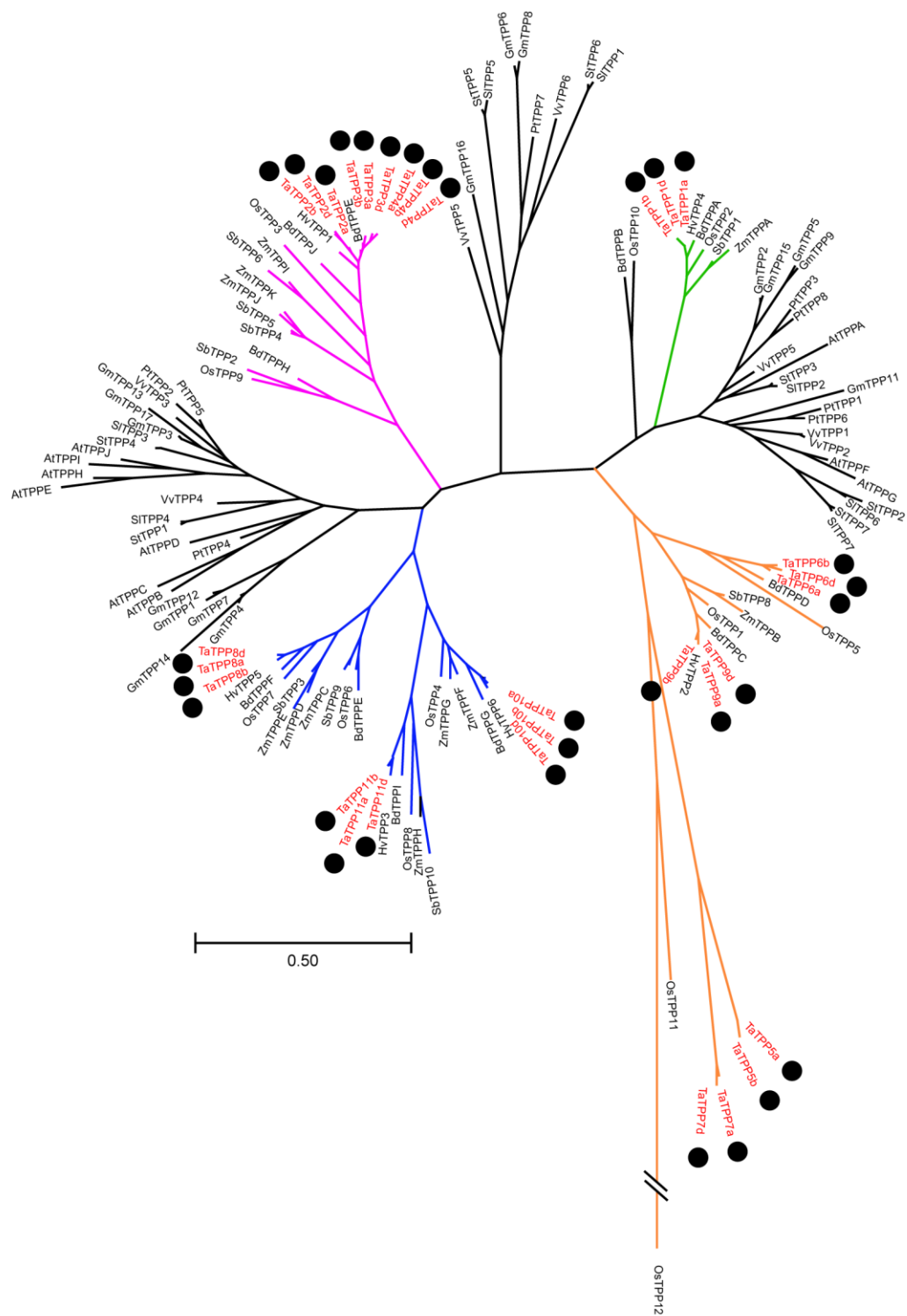


**Figure S4.** Heat map of *TaTPPs* transcriptions in wheat development stages. Gene transcriptions data was collected from Genevestigator.





**Figure S5.** Protein–protein interaction analysis of TaTPP proteins. Protein–protein interaction network was produced by STRING V11.5, where each node represents a protein and each edge represents an interaction, colored by evidence type.



**Figure S6.** Radiation tree of TaTPPs along with TPPs from other species. *Os* *Oryza sativa* (Rice), *Zm* *Zea mays* (Maize), *Hv* *Hordeum vulgare* (Barley), *Sb* *Sorghum bicolor* (Sorghum), *Bd* *Brachypodium distachyon* (Purple false brome), *At* *Arabidopsis thaliana* (Arabidopsis), *Vv* *Vitis vinifera* (Grapevine), *Pt* *Populus trichocarpa* (Black cottonwood), *Gm* *Glycine max* (Soybean), *Sl* *Solanum lycopersicum* (Tomato), *St* *Solanum tuberosum* (Potato).