

**Additional file 15: Fig. S7** The characterization of UDP-glucoside transferase forming glucose ester with ferulate *in vitro*. **a.** The profile of soluble phenolics in methanolic extracts from midribs of *bm5*-504J mutant. **b-d.** The formation of FG by adding ferulate and UDP-glucose into the crude extractive protein of recombinant proteins of AtUGT84A1 (b), ZmUGT84A-1 (c) and ZmUGT84A-2 (d). The arrow indicates FG. FG, feruloyl glucoside.