



Figure S2. Genes of non-processive xylosyl and fucosyl transferase families. **A.** Two members of *GT34*, Arabidopsis *AtXXT1* (At3g62720) and *AtXXT2* (At4g02500) are associated with xyloglucan synthesis (Cavalier et al., 2008), and one member in rice and four in maize comprise a new Group E. The rice members, Os03g19310 and Os03g19330, are within 10 kbp of each other and have consistent exon/intron structure, suggesting a possible recent duplication after the monocot/dicot evolutionary divergence, but before the maize/rice divergence, as maize has one ortholog to each rice member. Group A contains the apparent Arabidopsis orthologs to the biochemically characterized nasturtium (1→6)- α -D-galactosyl transferase (Edwards et al., 1999; Faik et al., 2002). **B.** The *MUR2* gene of *GT37* was established to encode a fucosyl transferase (Vanzin et al., 2002). Although fucose is generally lacking from polysaccharides of the the Type II wall, rice and maize have numerous putative fucosyl transferases for which function remains to be established. Color scheme and dendrogram labeling is as described in the legend of Figure 1.