



**Figure.S1** Sequence of logo of R2 (a) and R3 (b) MYB domain are based on the full-length alignments of all R2R3-MYB domains in five Solanaceae species: *Lycium barbarum*, *Solanum lycopersicum*, *Capsicum annuum*, *Solanum tuberosum* and *Solanum melongena*. The bit score exhibits the information content for each position in the sequence. The position of the three-helices is marked (Helix 1 to 3). Black asterisk indicates the position of the conserved amino acid that are identical among R2R3-MYB proteins. The replaced residues in the R3 domain repeat are shown by red asterisks.