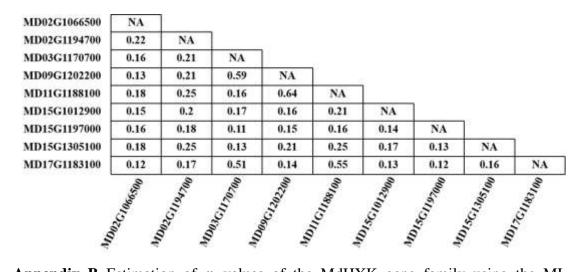
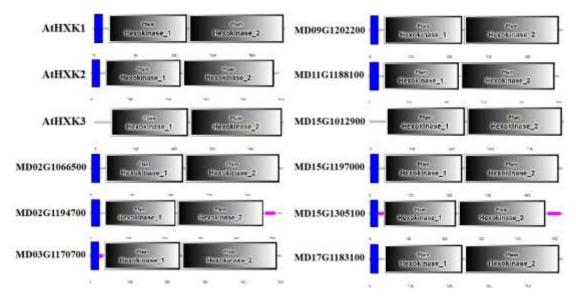
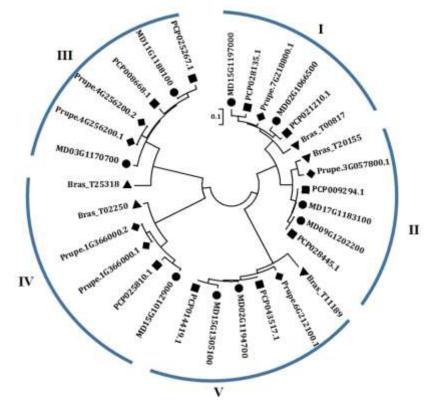
## **Appendix B-C and I-J**



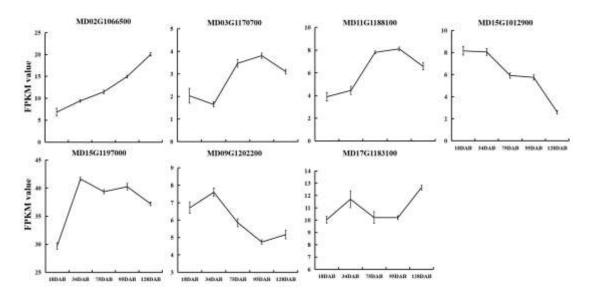
**Appendix B** Estimation of  $\omega$  values of the MdHXK gene family using the ML method.



**Appendix C** The conserved domain of nine MdHXKs and AtHXK1-3. The two grey boxes represent conserved domains of Hexokinase-1 and Hexokinase-2, the blue box represents transmembrane region, and the pink box represents signal peptide.



**Appendix I** Phylogenetic tree analysis of HXK genes in four Rosaceae species using maximum likelihood (ML) method.



**Appendix J** The expression profiles of MdHXK genes in five developmental stages of apple fruit.