**Spatiotemporal expression profiling of the farnesyl diphosphate synthase genes in aphids and** **analysis of their associations with the biosynthesis of alarm pheromone**

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**Supplementary Fig.** **1** Different developmental stages and the midgut tissue of *M. persicae*. **a**, embryo; **b**, 1st instar; **c**, 2nd instar; **d**, 3rd instar; **e**, 4th instar; **f**, apterous adult; **g**, alate adult; **h**, dissected digestive system of aphid, showing the midgut.

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**Supplementary Fig. 2** Relative expression level of *MpFPPS1/2* in different tissues of the apterous adults of *M. persicae* with the *actin* gene as the internal control. Different lowercase letters on the bars indicate significant difference in the expression level of *MpFPPS1/2* between different tissues at 5% level by using LSD multiple comparison method.

**Supplementary Fig. 3** *Ct* values of the reference genes *actin* and *18S* in different tissues of the apterous adults of *M. persicae*. Different lowercase letters on the bars for the same gene indicate significant difference in the expression levels of *actin* and *18S*, respectively, between different tissues at 5% level by using LSD multiple comparison method.

**Supplementary Fig. 4** *Ct* value of the reference gene *SDHB* during different developmental stages and in different tissues of *A*. *pisum*. Different lowercase letters on the bars indicate significant difference in the expression level of *SDHB* between different stages and tissues at 5% level by using independent sample *t* test and LSD multiple comparison method, respectively.



A B

EβF

**Supplementary Fig. 5** Analysis of the standard farnesene solution by GC-MS. A: the gas chromatogram of the standard solution (the retention time of EβF is 20.784 min); B: the mass spectrum of EβF (the characteristic ions are 69, 93, 105, 120, 133 and 161).