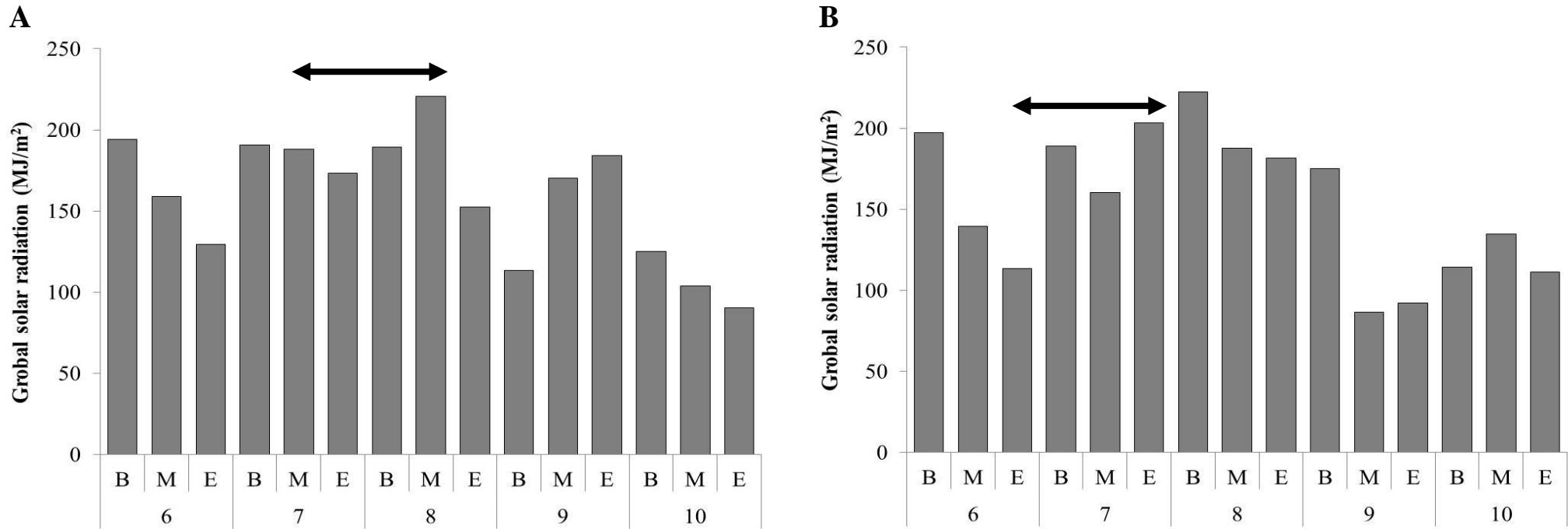
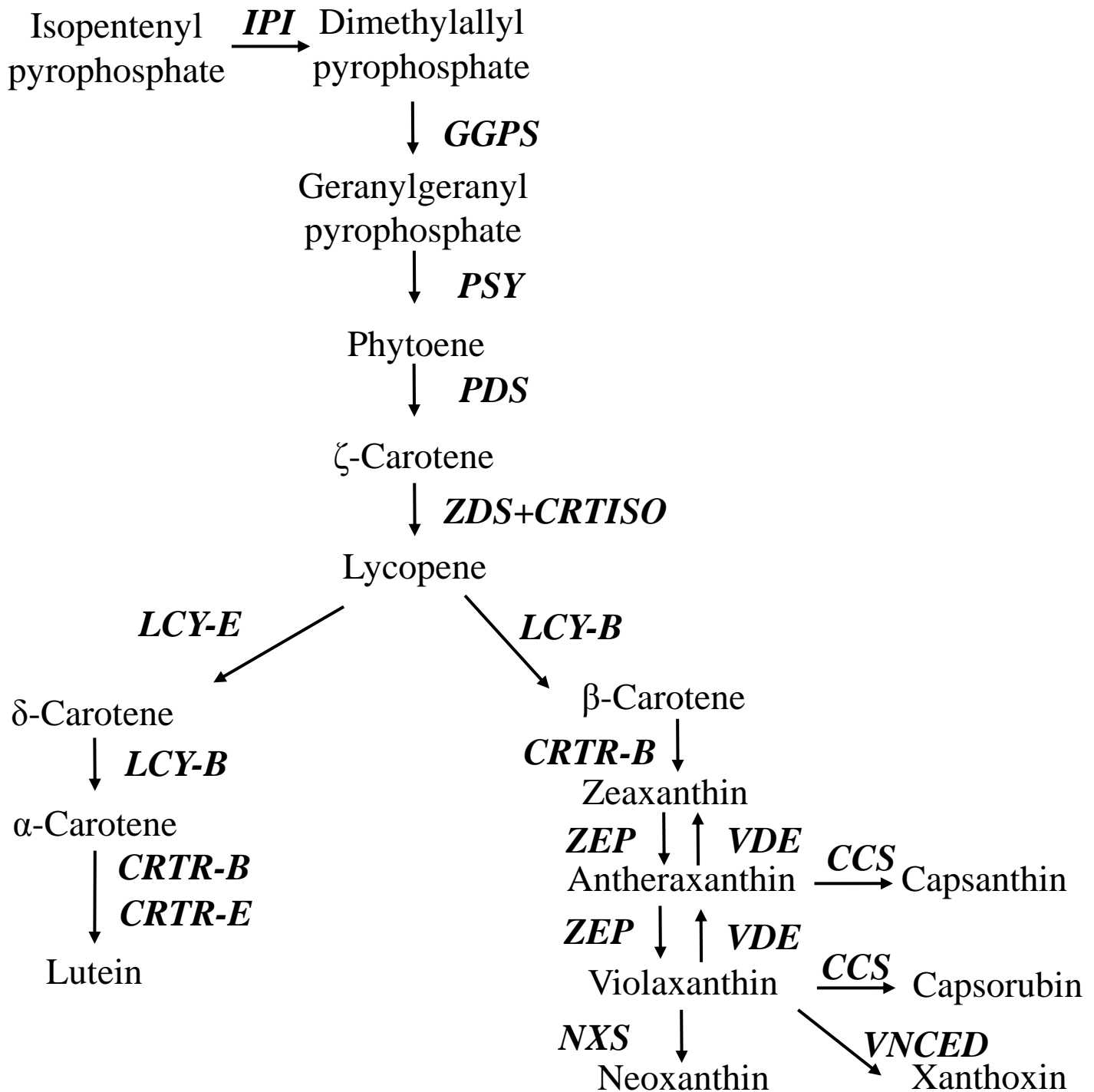


Supplemental Fig. 1. Position of QTLs for capsanthin content on linkage map. Positions of QTLs with 1-LOD support intervals are shown by black boxes. (A)QTL analysis using the capsanthin content at 45 DAF and 90 DAF as two phenotypes(B)QTL analysis using 45 DAF and 90 DAF data at once as a single phenotype. The vertical dotted line indicates the LOD threshold.



Supplemental Fig. 2. Global solar radiation of Nara-city, the nearest observation point of Seika, during the period of fruiting. (A) Experiment 1 (2013). (B) Experiment 2 (2016). B is the beginning ten days of the month, M is the middle ten days, and E is the last ten days. Arrows indicate the immaturity stage period of fruits for analysis.



Supplemental Fig. 3. The carotenoid biosynthesis pathway in *Capsicum*. Abbreviations of enzymes: CCS, capsanthin-capsorubin synthase; CRTISO, carotenoid isomerase; CRTR-B, β-ring hydroxylase; CRTR-E, ε-ring hydroxylase; GGPS, geranylgeranyl diphosphate synthase; IPI, isopentenyl diphosphate isomerase; LCY-B, lycopene β-cyclase; LCY-E, lycopene ε-cyclase, NXS, neoxanthin synthase; PDS, phytoene desaturase; PSY, phytoene synthase; VDE, violaxanthin de-epoxidase; VNCED, 9-*cis*-epoxycarotenoid dioxygenase; ZDS, ζ-carotene desaturase; ZEP, zeaxanthin epoxidase. Figure was modified Rodriguez-Urbe *et al.* (2012).