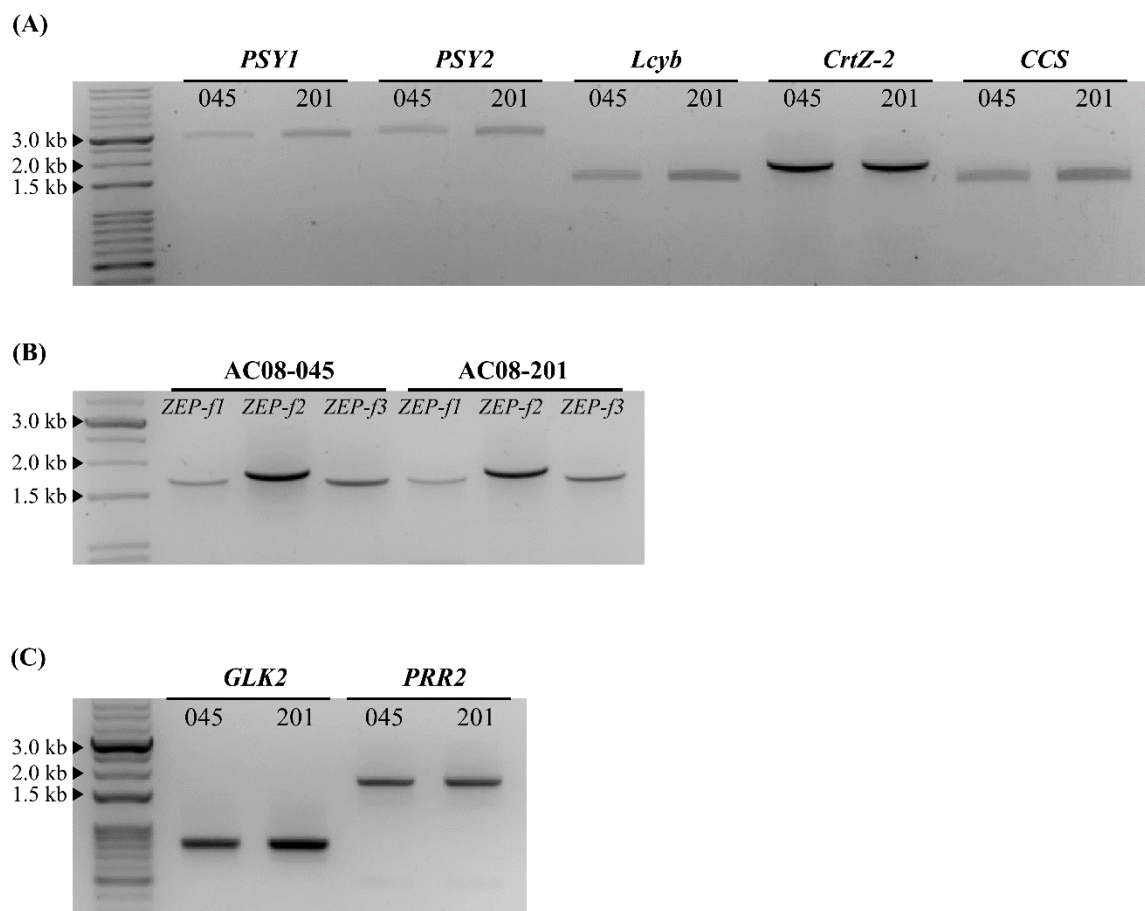


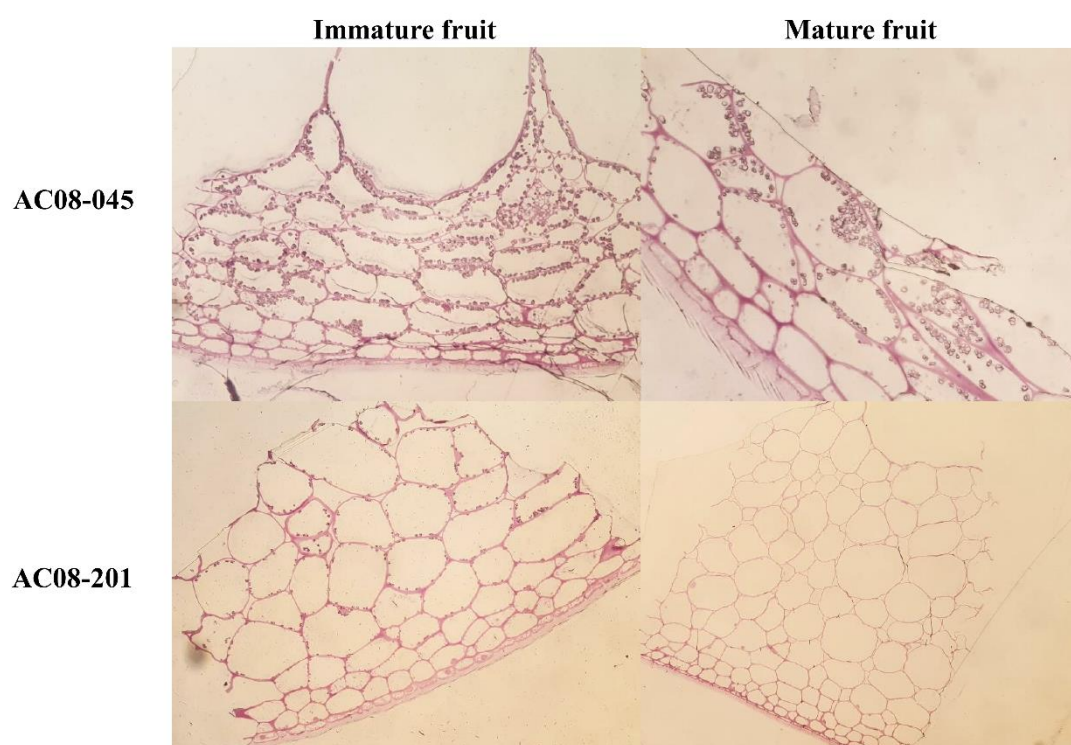
**Supplementary table****Table S1.** Carotenoid profiles of each accession.

Accession	Lutein	Neoxanthin	Antheraxanthin	Zeaxanthin	Total carotenoids (mg/100 g dW)
AC08-045	5.32±0.88 (0.88)	0.65±0.09 (0.11)	0.00±0.00 (0.00)	0.11±0.00 (0.02)	6.07±0.97
AC08-201	0.71±0.07 (0.70)	0.19±0.01 (0.19)	0.14±0.02 (0.14)	0.00±0.00 (0.00)	1.02±0.08

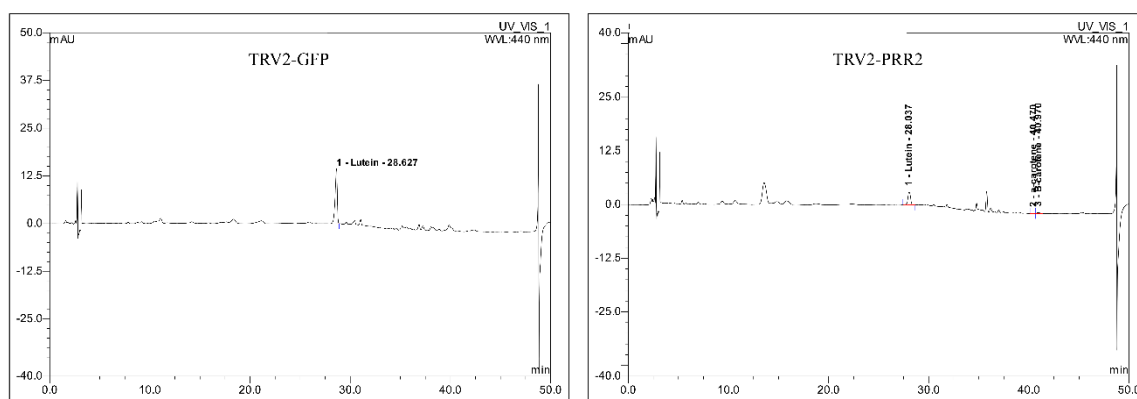
Supplementary figures



**Fig. S1.** PCR results of six carotenoid biosynthesis genes using gDNA and two plastid regulating genes using cDNA from AC08-045 and AC08-201.



**Fig. S2.** Microscopic images of immature and mature fruit pericarps of AC08-045 and AC08-201 stained with toluidine blue.



**Fig. S3.** HPLC profile of the mature fruits from MY plants subjected to VIGS.

**Supplementary Materials**

**Supplementary Material 1.** Alignment of coding sequence of *PSY1*, *CCS*, and *GLK2* between AC08 and CM334. (excel file)

**Supplementary Material 2.** Coding sequence and amino acid sequence of *PRR2* of AC08-045 and AC08-201. (pdf file)