

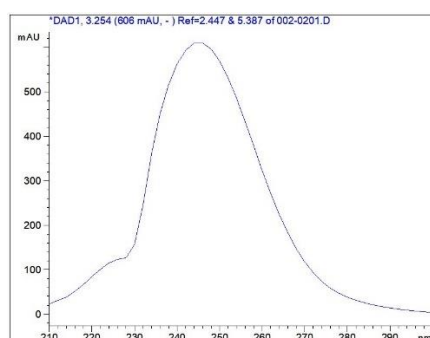
## SUPPLEMENTARY MATERIALS

**Table S1.** Descriptions of the tomato genotypes used in the study

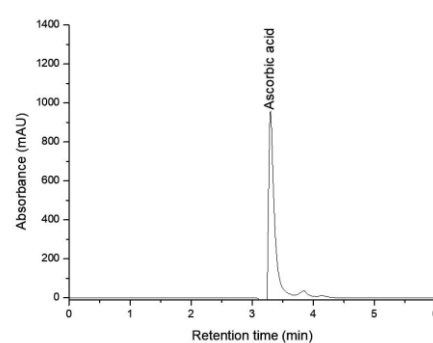
Genotypes	Descriptions
AS 300	Early semi – determinate tomato hybrid recommended for greenhouse and open field cultivation. Strong root system, weak foliage and high yield (12 kg/m <sup>2</sup> ). Large, uniform in size, slightly flattened fruits. Resistant to fusarium wilt, verticillium wilt and nematodes. Not sensible to calcium deficiency or cracking. Suitable for fresh consumption or for industrial purpose.
AS 400	Mid–early, semi – determinate tomato hybrid, recommended for greenhouse and open field cultivation for first cycle of vegetation. Strong root system, medium foliage and a high yielding, with a production rate of 14 kg/m <sup>2</sup> . Large, uniform in size, slightly flattened fruits. Adequate response to fusarium, verticillium wilt, and tomato mosaic virus. Not sensible to calcium deficiency and cracking. Used for fresh consumption or for industrial purpose.
Precos	Very early hybrid with semi–determinate growth and medium foliage, suitable for cultivation in greenhouse for cycle I. Medium developed root system, medium distances between internodes, uniparous inflorescence with round fruits. It is a low–yielding type, less susceptible to calcium deficiency and cracking.
Addalyn	Semi–determinate hybrid for greenhouse and open field cultivation. Has a high tolerance to high temperatures and is best grown during the summer–autumn cycle. Large, uniform in size, slightly flattened fruits. Fusarium, verticillium wilt, tobacco mosaic virus, tomato spotted wilt virus, tomato yellow leaf curl virus, and nematodes disease resistant.



**Figure S1.** Fruit set and fruit traits of the four genotypes of tomatoes: (a) AS 300; (b) AS 400; (c) Precos; (d) Addalyn

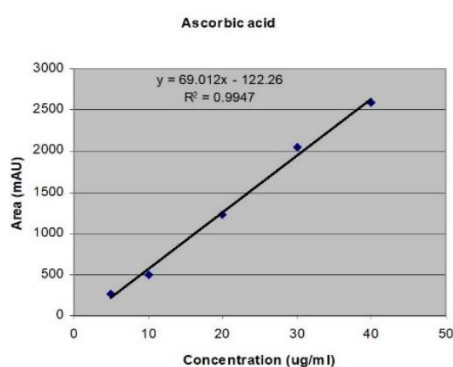


(a)

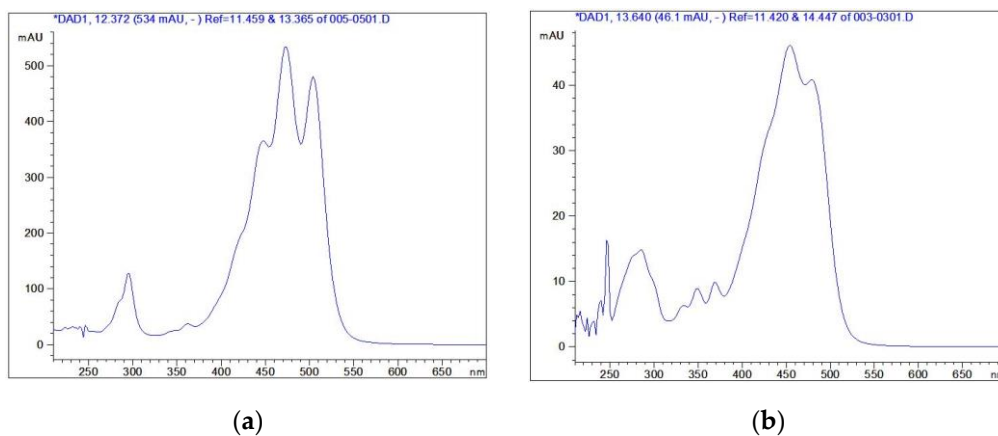


(b)

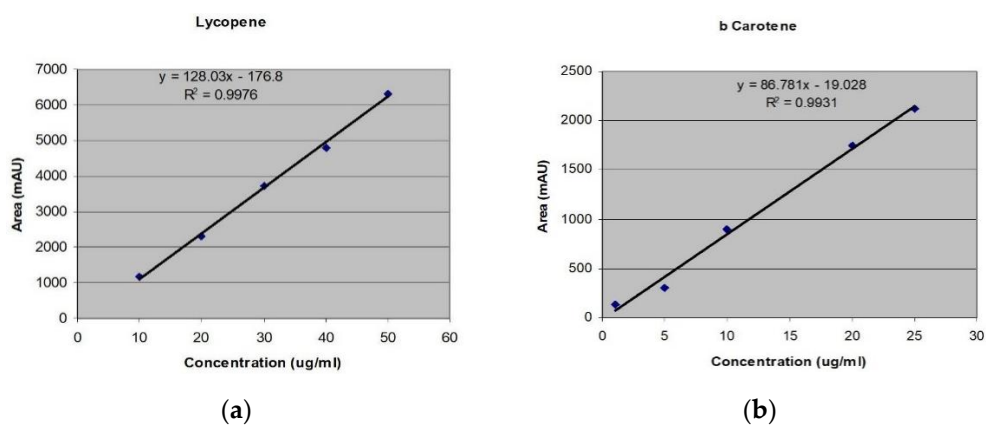
**Figure S2.** (a) UV absorption spectrum for ascorbic acid:  $\lambda_{\text{max}} = 246 \text{ nm}$ ; (b) Retention time ( $R_t = 3,254$ )



**Figure S3.** Calibration curves for ascorbic acid, by injecting five different concentrations of 99% purity standard substance, with  $\mu\text{g/ml}$  concentration ( $R^2 = 0.9947$ ,  $P < 0.05$ )



**Figure S4.** (a) UV-Vis absorption spectrum for lycopene:  $\lambda_{\text{max}} = 448, 474, 508$  (Rt = 12.37); (b) UV-Vis absorption spectrum for  $\beta$ -Carotene:  $\lambda_{\text{max}} = 455, 480$  (Rt = 13.52)



**Figure S5.** Calibration curves by injecting five different lycopene and  $\beta$ -carotene concentrations: (a)  $R^2 = 0.9976$  lycopene; (b)  $R^2 = 0.9931$   $\beta$ -carotene;  $P < 0.05$