Electronic Supplementary Material (ESI) for Analyst.

Supplementary Information

Paper-based platforms with coulometric readout for ascorbic acid determination in fruit juices

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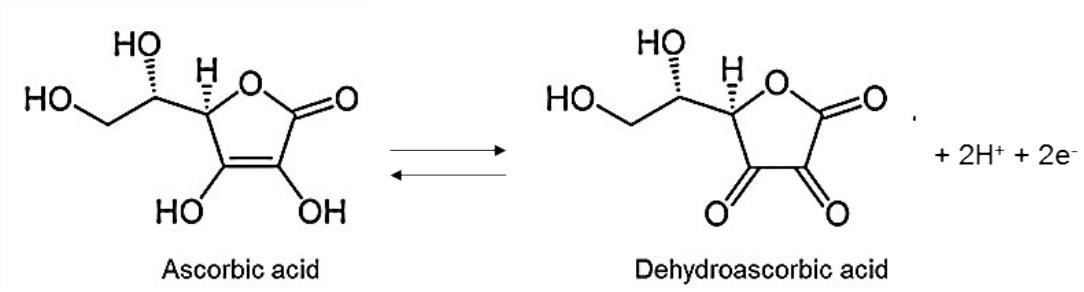
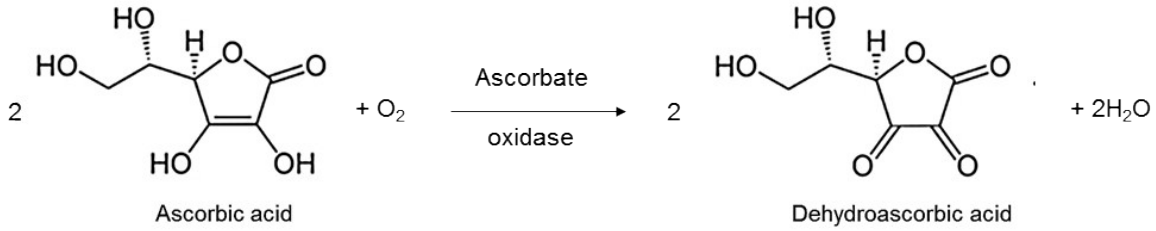


Scheme 1. Redox process of ascorbic acid.



Scheme 2. Enzymatic oxidation of ascorbic acid.

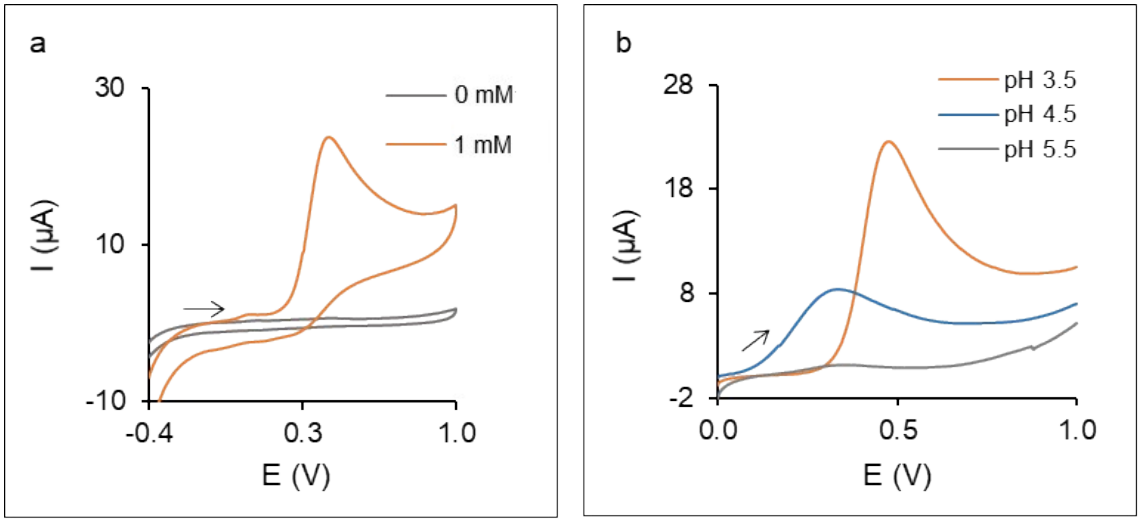


Figure S1 (a) Cyclic voltammograms recorded in acetate buffer pH 3.5 and 1.0 mM AA solutions using PCWEs on different paper substrates. Scan rate: 100 $mV \cdot s^{-1}$; **(b)** Linear sweep voltammograms recorded in 1 mM AA solutions in acetate buffers of different pH. Scan rate: 100 $mV \cdot s^{-1}$.

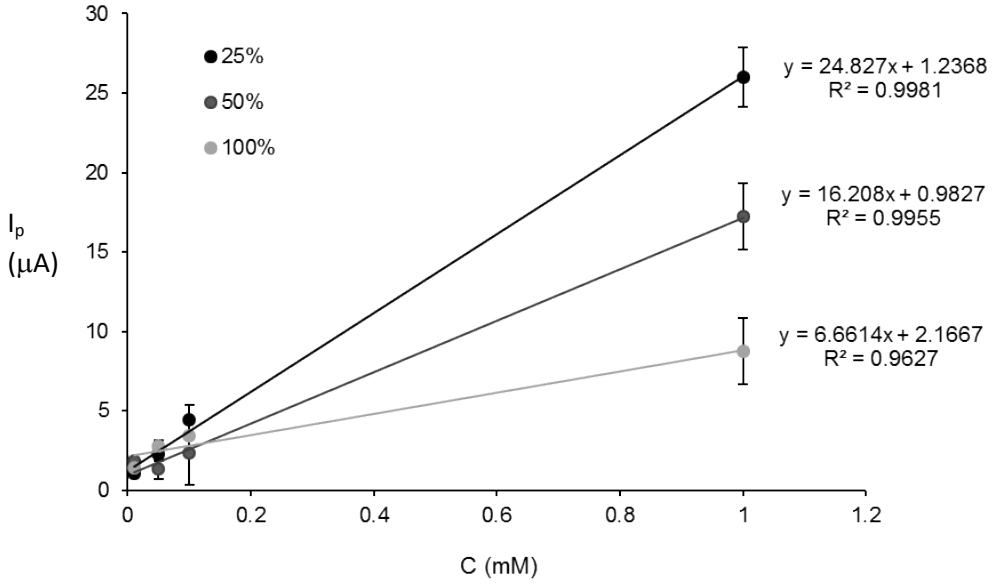


Figure S2. Influence of the carbon ink concentration on the sensitivity. Calibration curves corresponding to anodic peak currents obtained from linear sweep voltammograms recorded in AA solutions with concentrations in the 0.01-5 mM range. Scan rate: 100 mVs^{-1}. Error bars correspond to the standard deviation of measurements recorded in different PCWEs (n=3)**.**

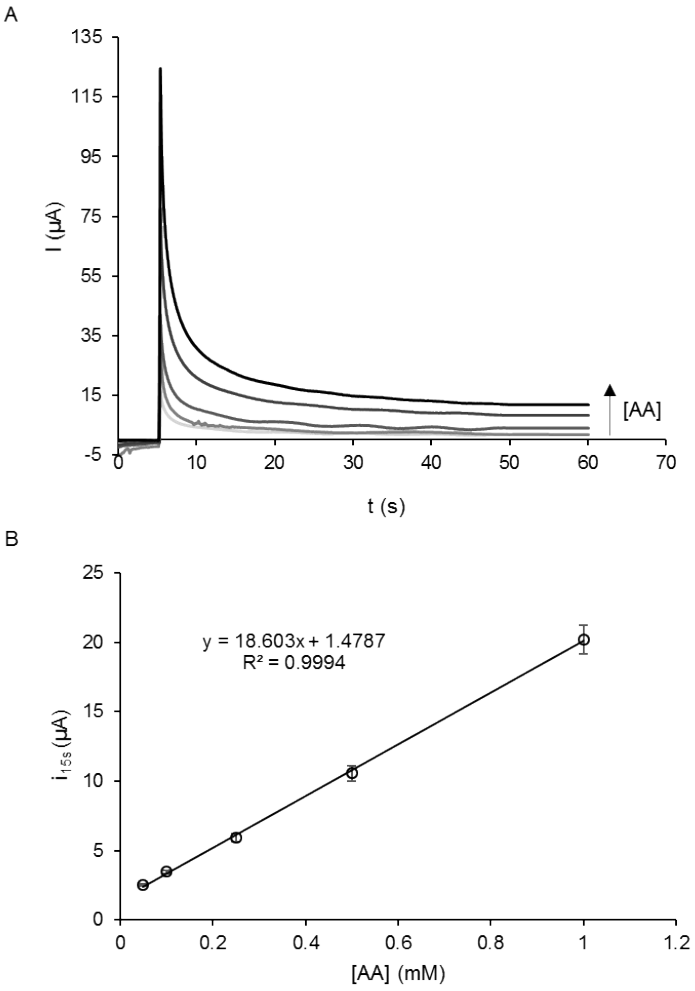


Figure S3. Chronoamperograms recorded in AA solutions in acetate buffer pH 3.5 with concentrations ranging from 0.05 to 1 mM **(A)** and calibration plot with currents measured at 15 s once the electrolysis has been initiated **(B)**. Error bars correspond to the standard deviation of measurements obtained in different PCWEs (n=3).

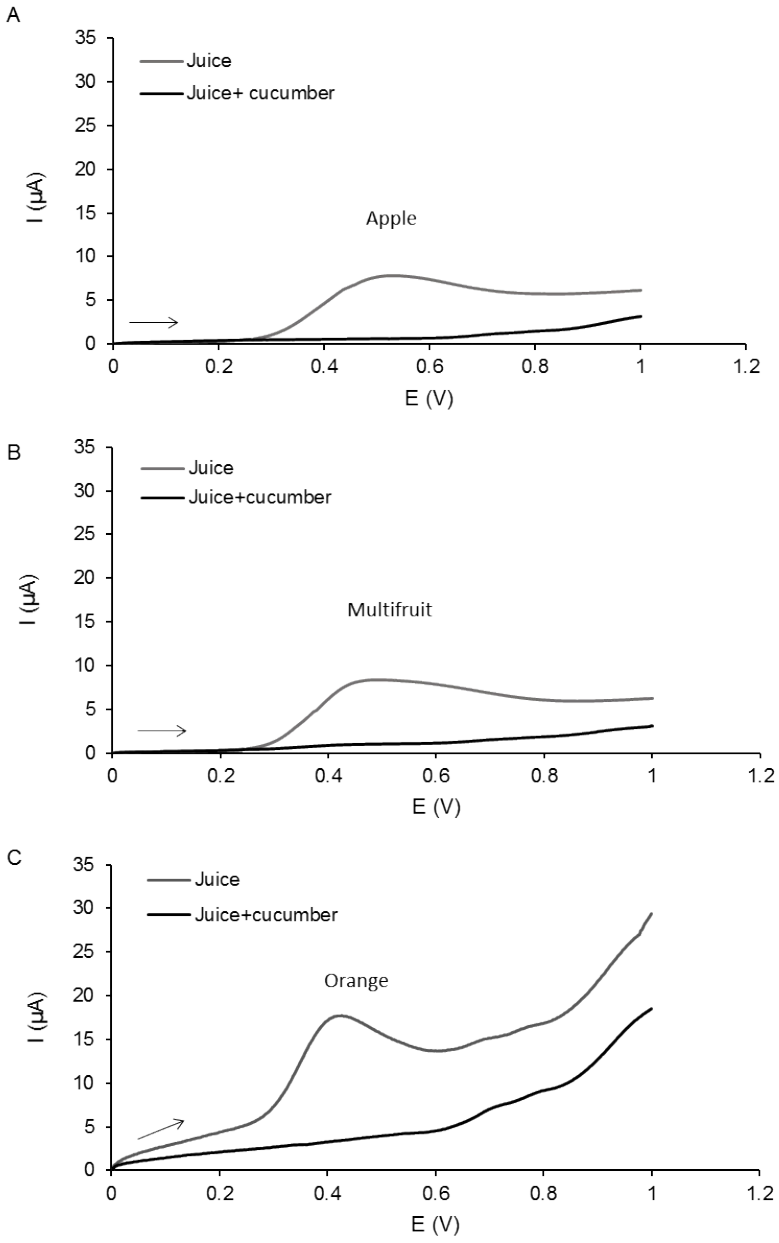


Figure S4. Linear sweep voltammograms recorded in enzymatically-treated and untreated apple **(A)**, multifruit **(B)**, and orange **(C)** juices in acetate buffer pH 5.0, diluted with acetate buffer pH 3.5. Scan rate: 100 $mV \cdot s^{-1}$.