

Preparation, characterization, and activation of natural glassy carbon paste electrodes as new sensors for determining the total antioxidant capacity of plant extracts

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Table S1. The heterogeneous electron transfer rate constant, k^0 , obtained for unmodified and modified natural glassy carbon paste electrodes employing the Lavagnini method [1].

Electrode	k^0 (10^{-5} cm/s)
GC _n /PDMS	0.053±0.001
GC _n /PDMS/Y ₂ O ₃	0.050±0.001
GC _n /PDMS/Yb ₂ O ₃	0.11±0.01
GC _n /PDMS/Y ₂ O ₃ ,Yb ₂ O ₃	0.09±0.01
GC _n /PDMS/La ₂ O ₃	0.042±0.001

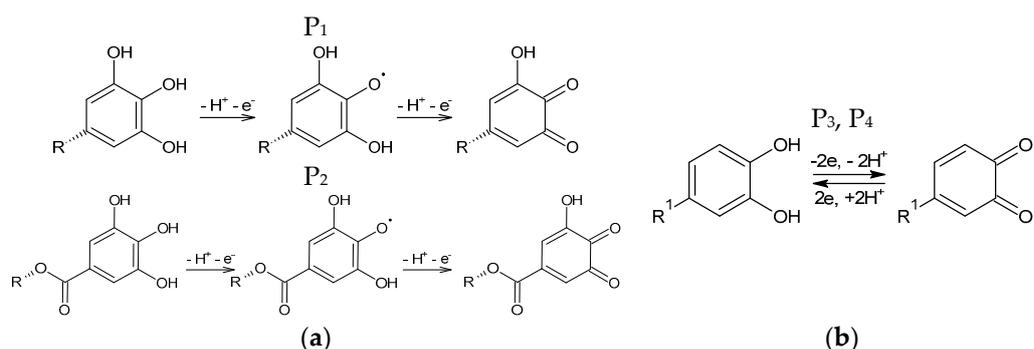


Figure S1. Electrode processes assigned to irreversible electrooxidation of (a) epigallocatechin gallate (peaks P₁ and P₂), as well as (b) reversible electrooxidation of catechin (peaks P₃ and P₄).

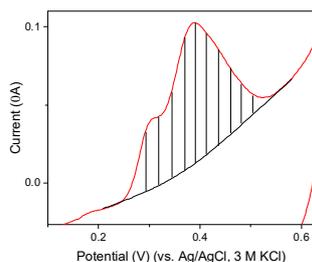


Figure S2. Illustration of how the peak area (the hatched portion of the graph), $A_{P1, P2}$, was measured for epigallocatechin solutions and in the studies of herbals extracts to determine the antioxidant capacity of the test solutions.

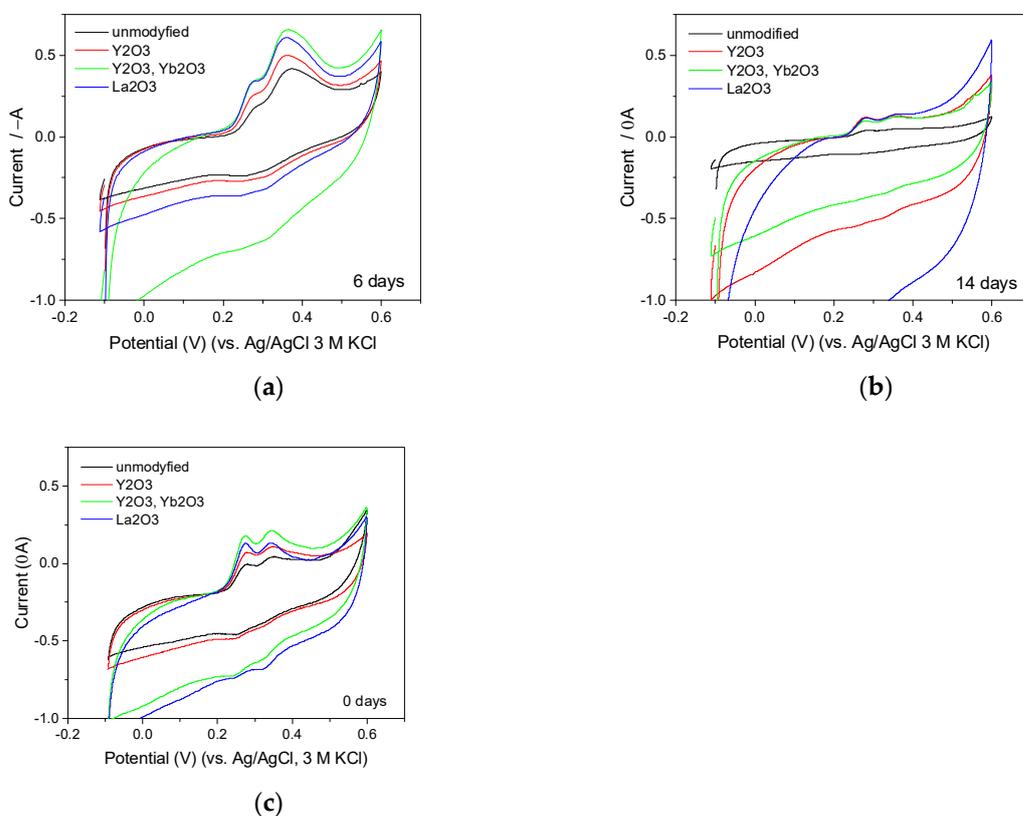


Figure S3. Cyclic voltammograms recorded by unmodified and modified GC_n/PDMS electrodes in (a) and (b) 20 or (c) 200 times diluted GT1 extracts, stored in the dark in closed vessels for (a) 6, (b) 14 or (c) 0 days. Supporting electrolyte: 0.1 M acetate buffer (pH = 4.5). Scan rate: 100 mV/s.

1. Lavagnini, I., R. Antiochia, and F. Magno, *An extended method for the practical evaluation of the standard rate constant from cyclic voltammetric data*. *Electroanalysis*, 2004. **16**(6): p. 505-506.