Electronic Supplementary Material (ESI) for Analytical Methods.

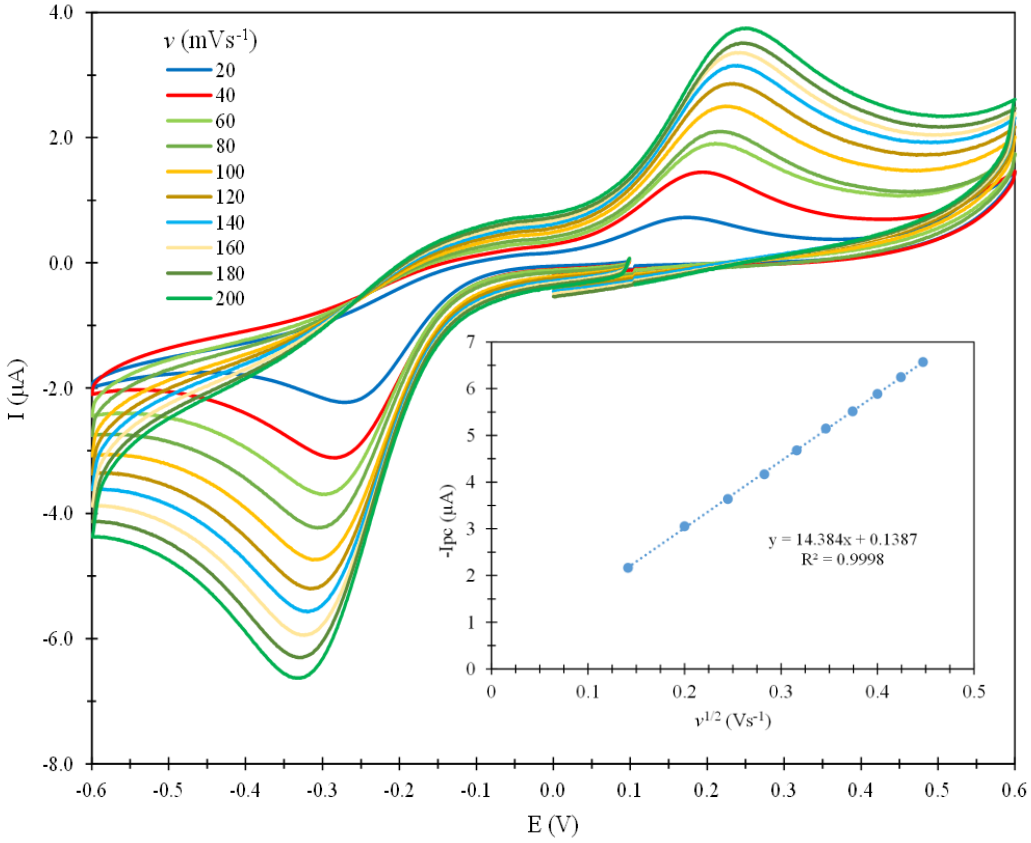

Figure S1. Family of cyclic voltammograms recorded in the system SPE / quinone, Q, 100 µM, acetates buffered 0.1M at pH 4.70 ± 0.01 and (30.0 ± 0.5)° C, considering different potential scan rates, indicated in the figure. The inset shows the variation of the cathodic peak's current as a function of the square root of the scan rate.

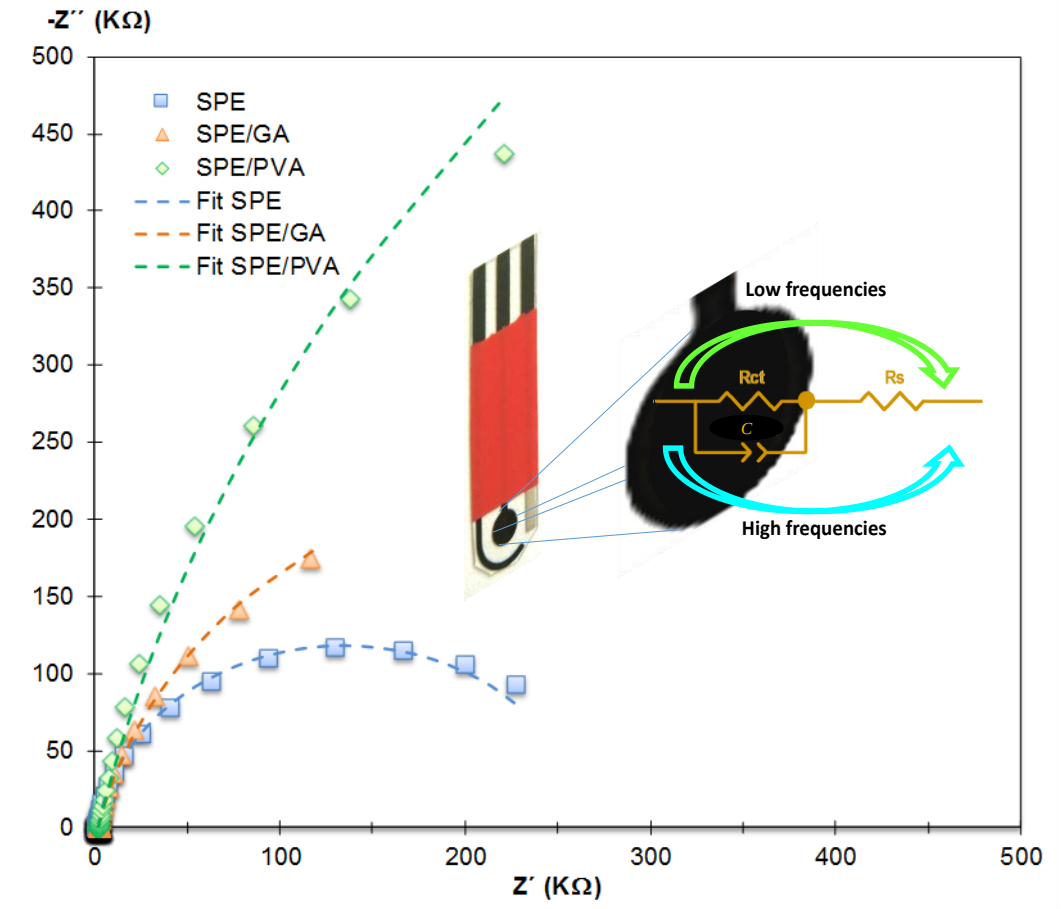

Figure S2. Experimental (points) Nyquist plot recorded in the system electrode / quinone, Q, 100 µM, acetates buffered 0.1M at pH 4.70 ± 0.01 and (30.0 ± 0.5) °C. For different electrodes, namely the bare screen printed electrode, SPE, the SPE covered with glutaraldehyde, SPE/GA, and polyvinyl alcohol, SPE / PVA. The inset depicts the equivalent electric circuit used to fit (see the lines) the experimental data; from the fitting process the electric characteristics of the systems were obtained, see Table S1.

Table 1. Characterization of the solution's resistance, Rs, and charge transfer resistance, Rct, by means of EIS of the different electrodes used.

Electrode	R_s **/ KΩ**	R_{ct} **/ KΩ**
SPE	1.67	265
SPE/PVA	1.69	2248
SPE/GA	1.65	580

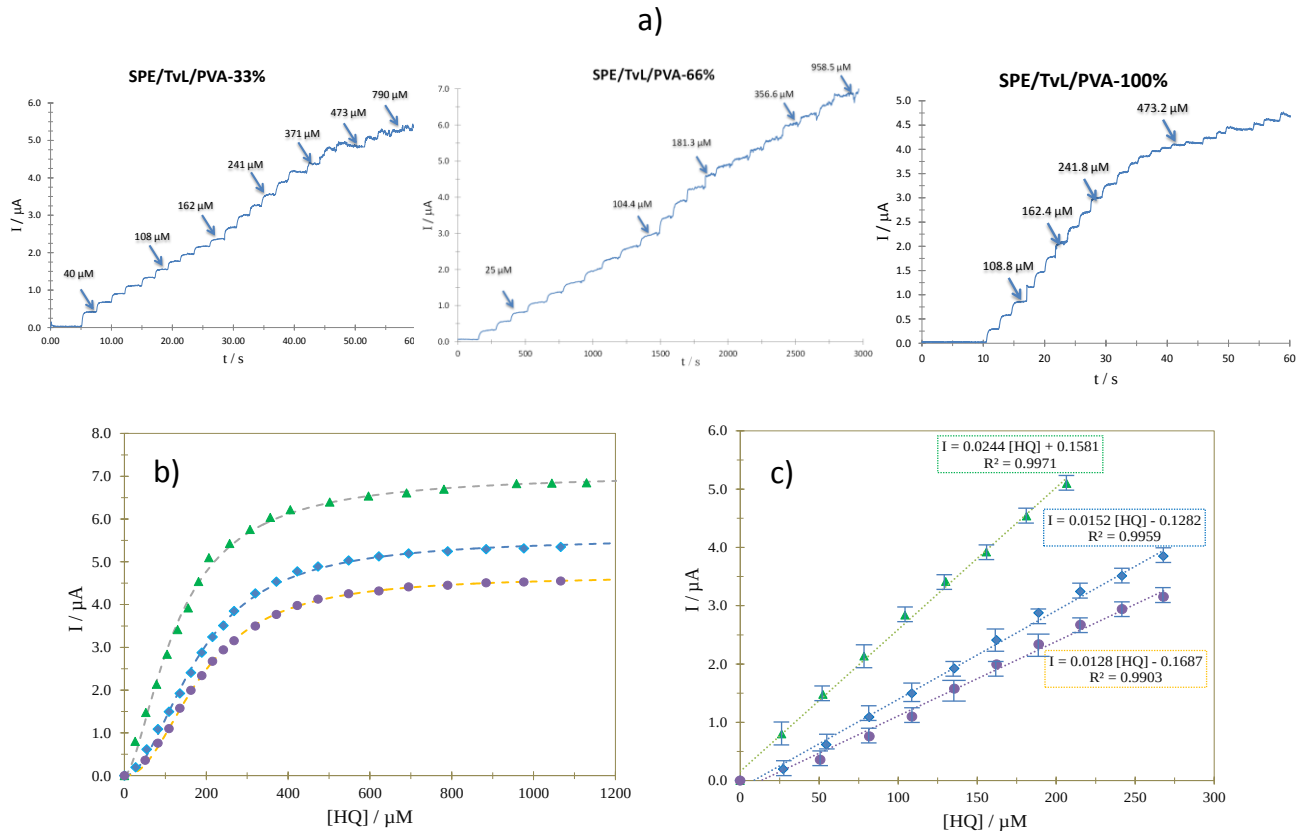

Figure S3. Comparison of the a) chronoamperograms and b) respective enzymatic kinetics for hydroquinone recorded using the different laccasa biosensors: (◆) SPE/TvL/PVA-30%, (▲) SPE/TvL/PVA-60% and (●) SPE/TvL/PVA-100% in acetates' buffer 0.1 M at pH 4.7 ± 0.01 and (30.0 ± 0.5) °C. Following the measured current, at –300 mV imposed potential, as a function of hydroquinone's concentration. The broken lines correspond to the fitting of the Hill's model [8], the best fit values for Km' are shown in Table 1. c) Linear zone of the I vs. HQ plots, see Figure S3b, alone with the respective linear fit. Each current value has been calculated on the basis of three different experiments; the error bars shown indicate the associated standard deviation.

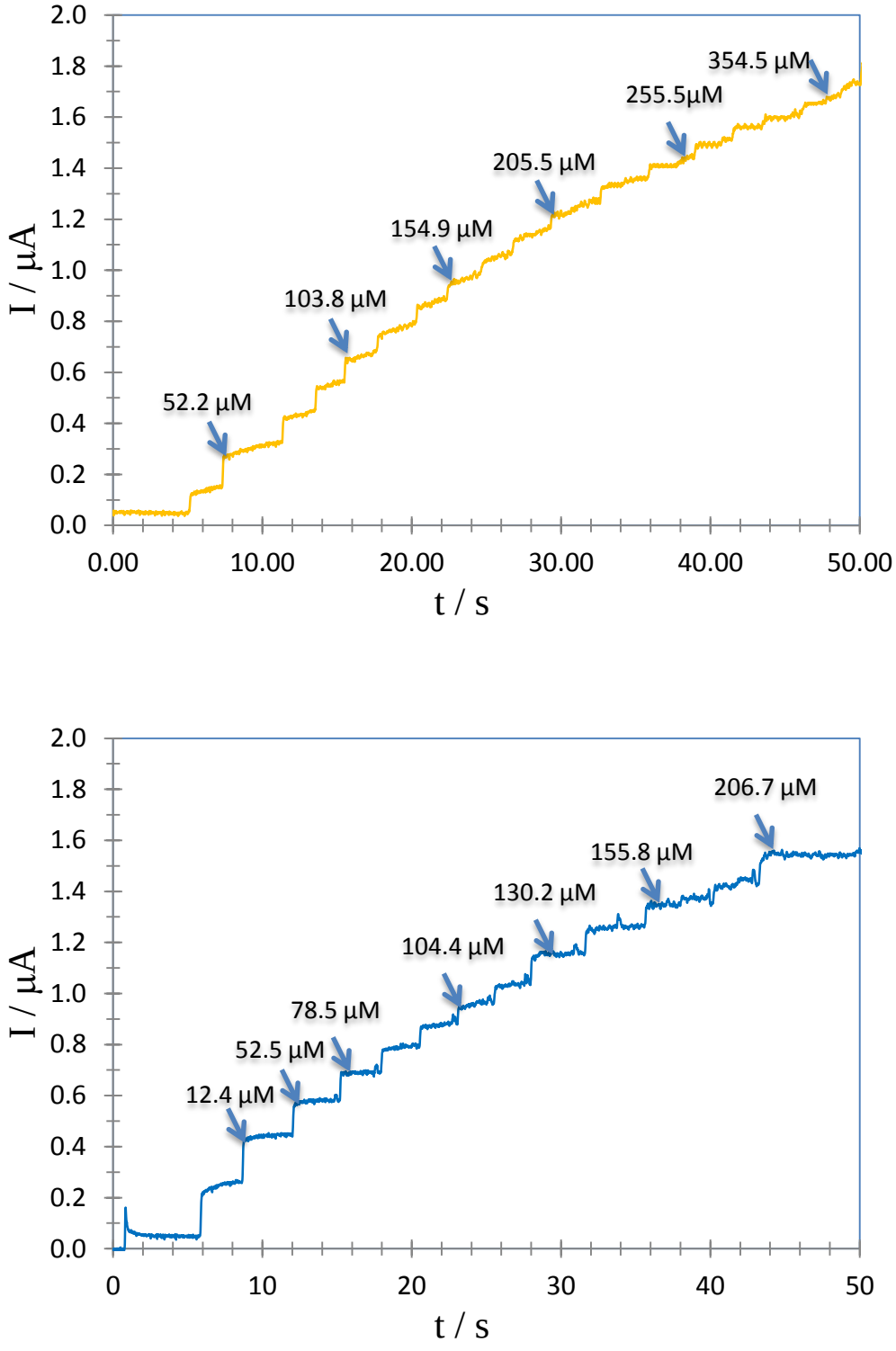

Figure S4. Comparison of the chronoamperograms for hydroquinone quantification recorded using different laccasa biosensors: (blue) SPE/TvL/GA-30%, and (yellow) SPE/TvL/GA-100% in acetates' buffer 0.1 M at pH 4.7 ± 0.01 and (30.0 ± 0.5) °C.