**Supporting Information**

**Edible gold leaf as a viable modification method for screen-printed sensors**

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**Figure S1**.Cyclic voltammograms obtained with Au-SH-GP/AS made on the same day (red line) and Au-SH-GP/AS made 1 year ago (black line) in 0.1 mol L−1 KCl in the presence of 1.0 mmol L−1 ferrocenemethanol. Scan rate = 50 mV s−1;



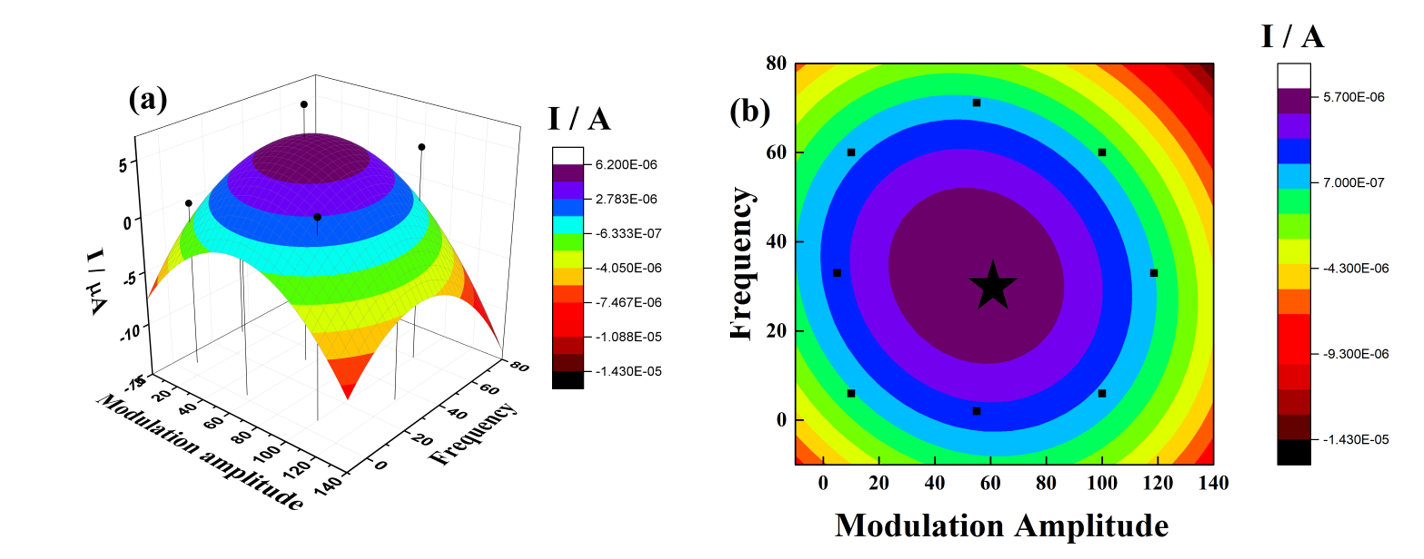
**Figure S2**. 50 Cyclic voltammograms obtained with Au-SH-GP/AS in 0.1 mol L−1 KCl in the presence of 1.0 mmol L−1 ferrocenemethanol. Scan rate = 50 mV s−1;



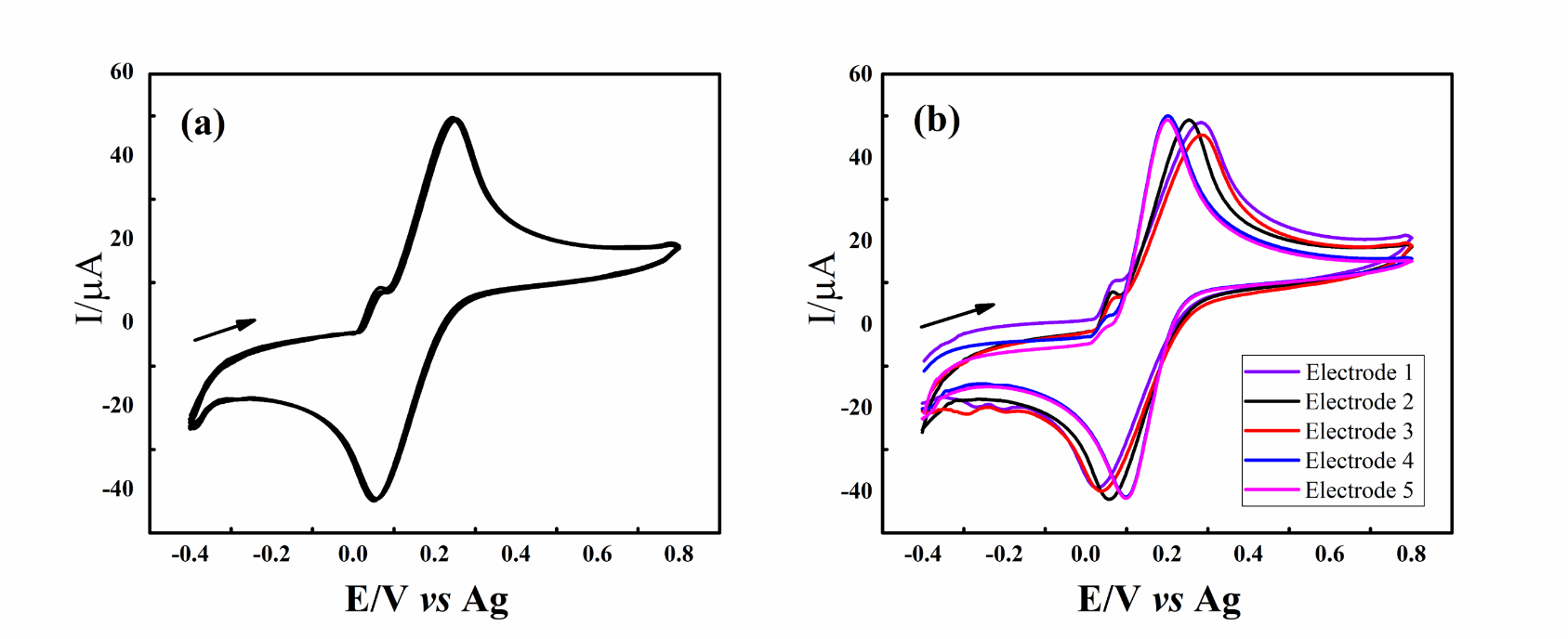
**Figure S3.** SWV voltammograms recorded in 0.1 mol L−1 PBS at different pHs 6.0; 7.0; 8.0; 9.0 and 10.0, with 70 μmol L−1 of L-tyrosine. Step = 5 mV, modulation amplitude: 60 mV and frequency: 35 Hz;

**Table S1.** The design of the experiment to optimize the SWV conditions

|  |  |  |
| --- | --- | --- |
| Experiment | Modulation Amplitude | Frequency |
| 9 | 55.0000 | 33.00000 |
| 1 | 10.0000 | 6.00000 |
| 8 | 55.0000 | 71.18400 |
| 7 | 55.0000 | 2.00000 |
| 3 | 100.0000 | 6.00000 |
| 5 | 5.0000 | 33.00000 |
| 10 | 55.0000 | 33.00000 |
| 2 | 10.0000 | 60.00000 |
| 4 | 100.0000 | 60.00000 |
| 6 | 118.6390 | 33.00000 |



**Figure S4.** Optimization of SWV parameters through mapping of experiments performed in the STATSTICA® software (a) 3D graph related to the current value obtained in the SWV; (b) 2D graph related to the current value, black star positioned over the highest values current within the confidence interval



**Figure S5 -** (a) Repeatability and (b) Reproducibility data obtained from cyclic voltammograms (n = 5) using 1.0 mmol L−1 Ferrocenemethanol and 0.1 mol L−1 KCl. Scan rate = 50 mV s



**Figure S6.** SWV voltammograms recorded in the presence of 20 μmol L−1 L-tyrosine in 0.1 mol L−1 PBS (pH 7.0) using the same concentration for Ascorbic acid, Urea and Uric acid; step = 5 mV modulation amplitude: 60 mV and frequency: 35 Hz;