

Supplementary

# La(OH)<sub>3</sub> Multi-Walled Carbon Nanotube/Carbon Paste-Based Sensing Approach for the Detection of Uric Acid—A Product of Environmentally Stressed Cells

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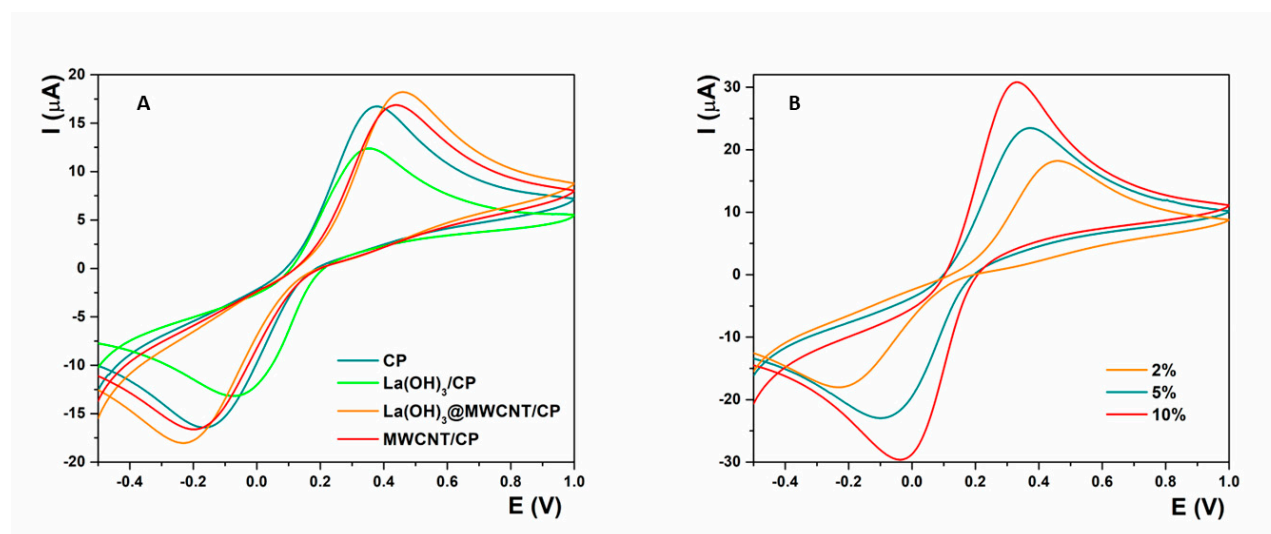
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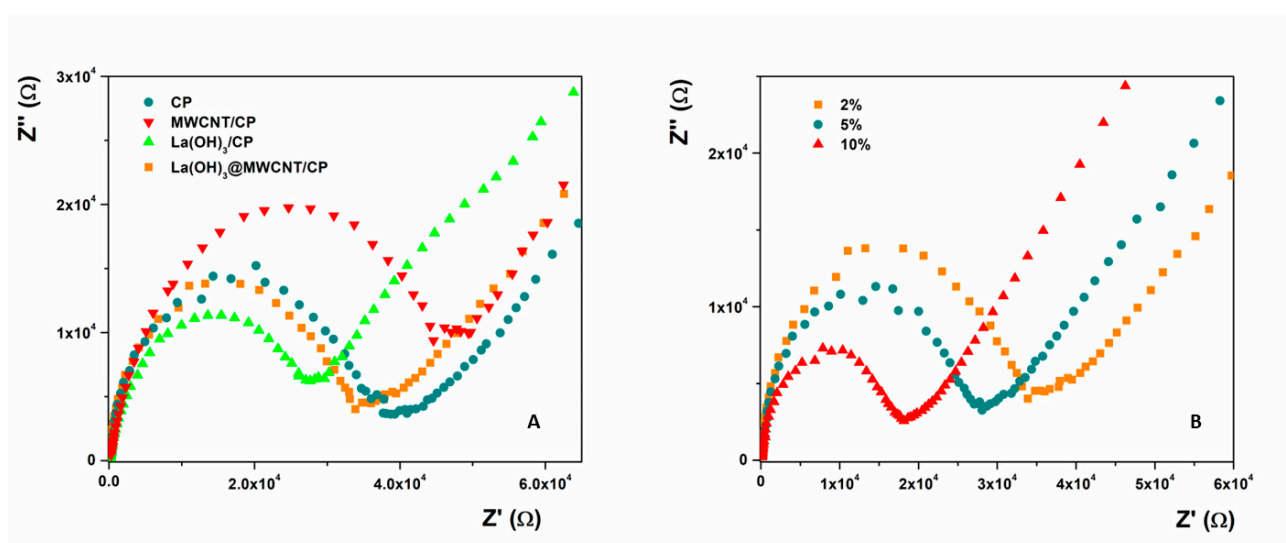
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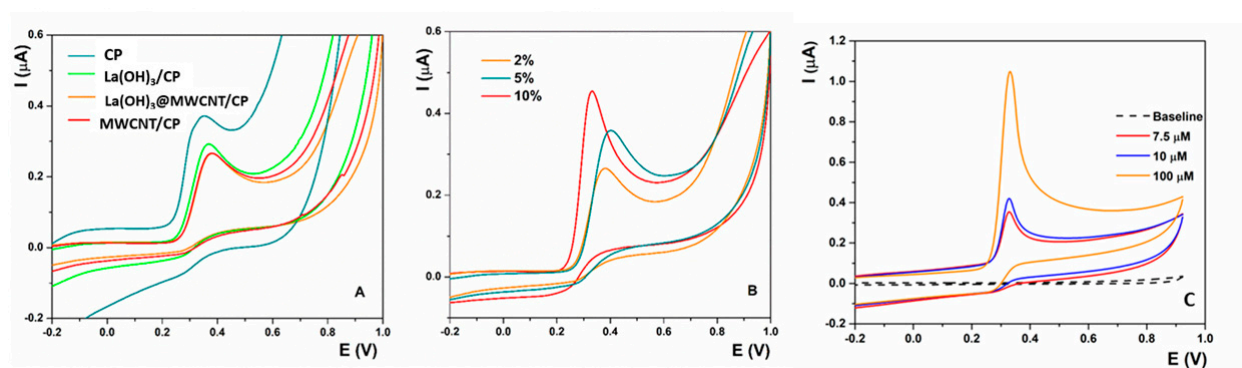
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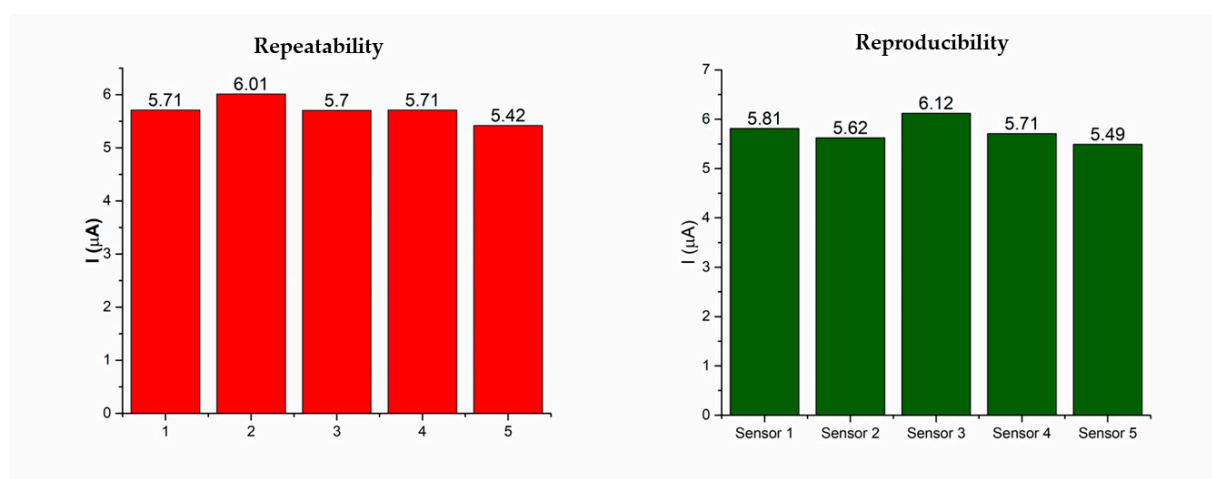
**Figure S1.** Cyclic voltammograms in 5mM Fe<sup>2+/3+</sup> in 0.1 M KCl and 0.1 M PB pH 6, in the potential range from −0.5 V to 1 V at the 50mV/s scan rate of **A**) unmodified CP electrode and electrodes modified with 2% of La(OH)<sub>3</sub>, MWCNT and La(OH)<sub>3</sub>@MWCNT **B**) electrodes modified with 2%, 5% and 10% of La(OH)<sub>3</sub>@MWCNT.

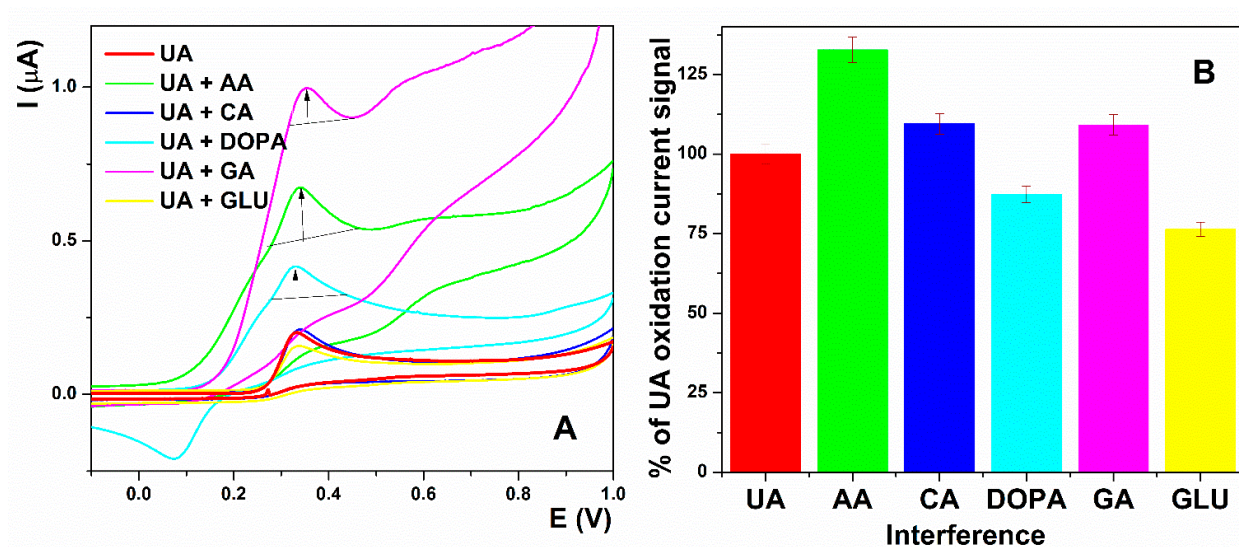
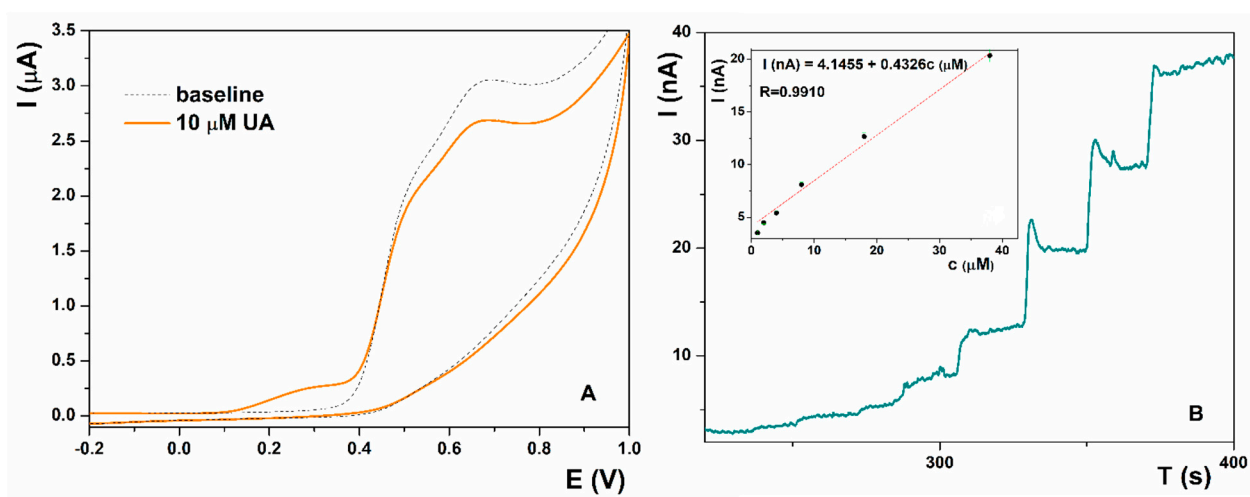


**Figure S2.** EIS spectra in 5 mM  $\text{Fe}^{2+/3+}$  in 0.1M KCl and 0.1 M PB pH 6 on 0.3 V and in the frequency range from 10 kHz to 10 mHz of **A)** unmodified CP electrode and electrodes modified with 2% of  $\text{La(OH)}_3$ , MWCNT and  $\text{La(OH)}_3@\text{MWCNT}$  **B)** electrodes modified with 2%, 5% and 10% of  $\text{La(OH)}_3@\text{MWCNT}$ .



**Figure S3.** **(A)** CV in 0.1 M PB pH 6 in the presence of 10  $\mu\text{M}$  UA - unmodified CP electrode and electrodes modified with 2% of  $\text{La(OH)}_3$ , MWCNT and  $\text{La(OH)}_3@\text{MWCNT}$  **(B)** CV in 0.1 M PB pH 6 in the presence of 10  $\mu\text{M}$  UA - electrodes modified with 2%, 5% and 10% of  $\text{La(OH)}_3@\text{MWCNT}$  **(C)** CV in 0.1 M PB pH 6 in the presence of 7.5; 10 and 100  $\mu\text{M}$  UA using electrode modified with 10% of  $\text{La(OH)}_3@\text{MWCNT}$ .



**Figure S4.** Repeatability and reproducibility studies for proposed sensor.**Figure S5.** Studying the impact of potential interferences on UA detection **A)** CV in 0.1 M PB pH 6, at the potential range from  $-0.05$  V to 1 V at the scan rate 50 mV/s, **B)** Histogram – percent of the anodic peak current which arose from the oxidation of UA.**Figure S6.** **(A)** CV in the potential range from 0.5 V to 1 V at the scan rate of 50 mV/s in the biological matrix in the presence and absence of UA **(B)** Amperometric curve of UA in the real sample matrix **(inset B)** Calibration curve of UA standard solutions in the biological matrix.