

Supplementary material

Self-assembly deposition and electrochemical characterization of multilayered ultrathin films of MnO₂ nanoparticles in a room temperature ionic liquid

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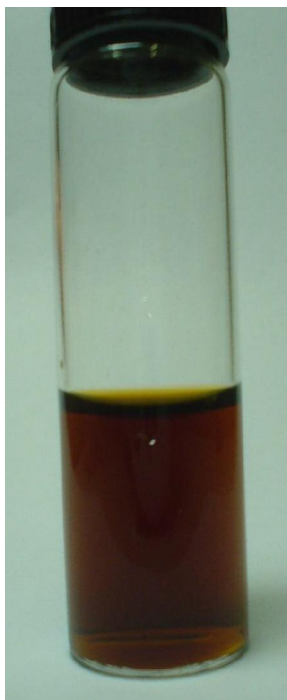


Figure 1s - A $10^{-3} \text{ molL}^{-1}$ aqueous sol of MnO₂ nanoparticles. This photograph was taken in February 2nd, 2006.

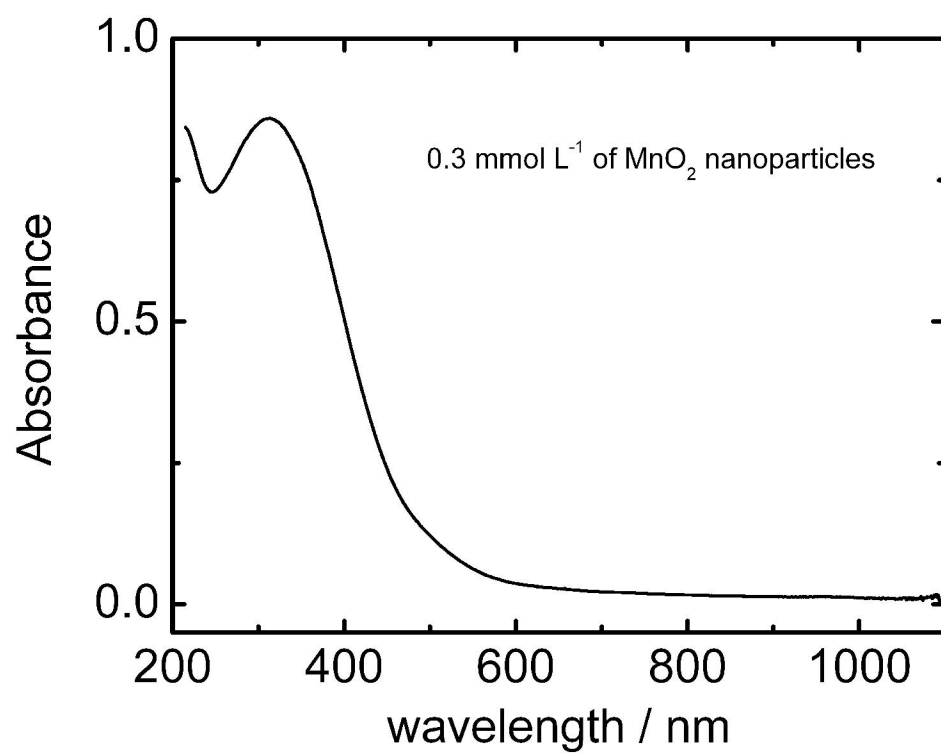


Figure 2s – UV-vis spectrum of a 0.3 mmolL⁻¹ aqueous sol of MnO₂ nanoparticles.

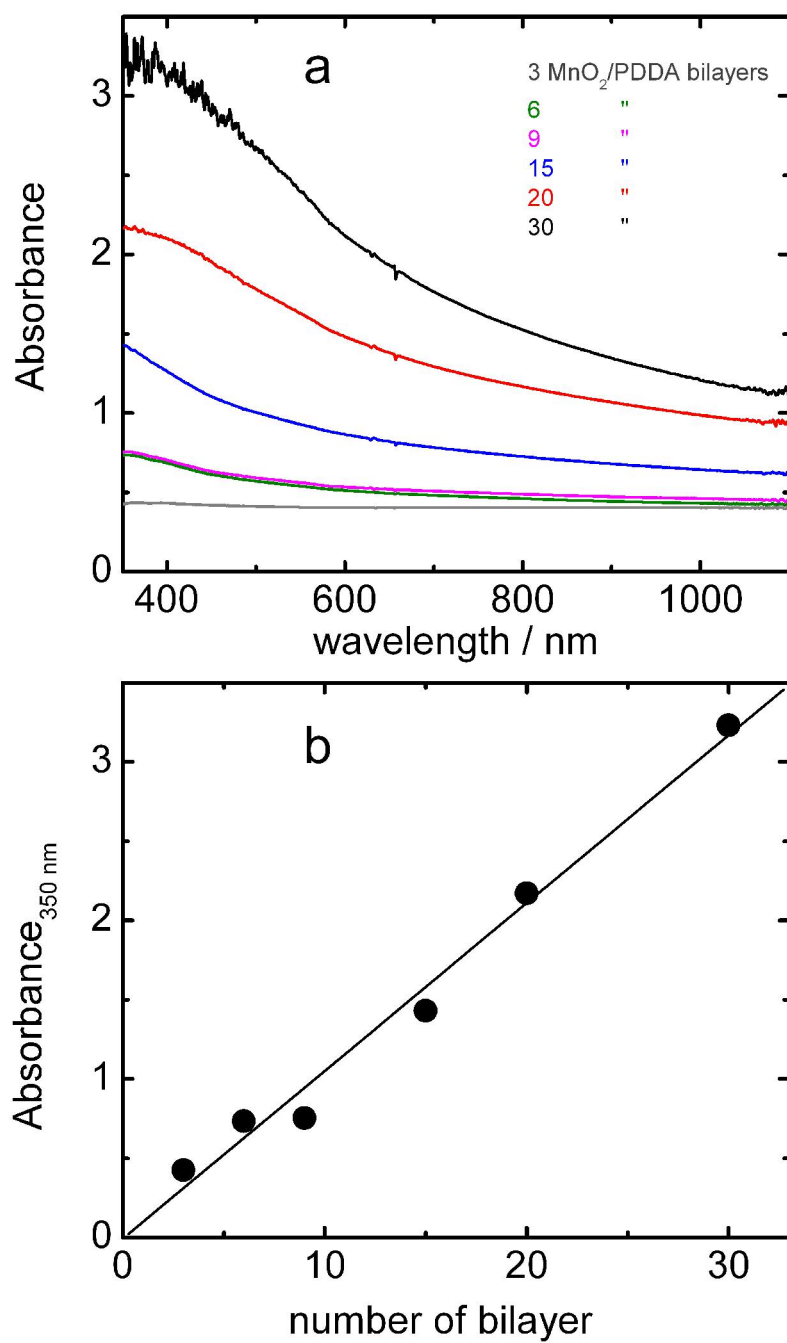


Figure 3s – (a) Visible spectra of different number of bilayers (indicated in the figure).
 (b) Absorbance at 350 nm as a function of the number of bilayers of MnO_2/PDDA .

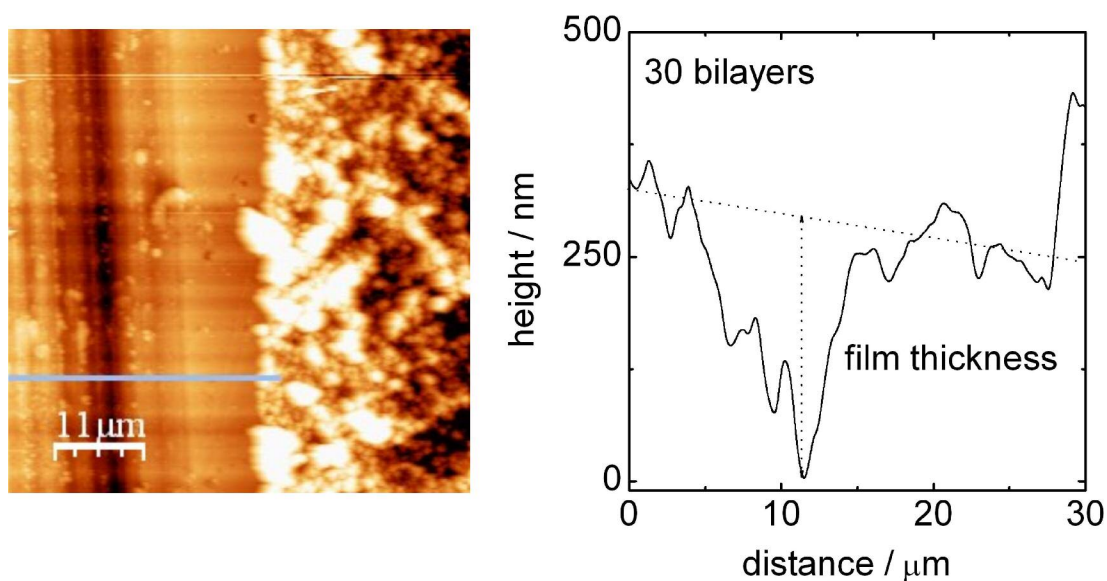


Figure 4s – Left: AFM image obtained in the AAC mode of 30 bilayers of MnO₂/PDDA. Right: Cross section (indicated in the image) on the intentional scratch made on the film to measure its thickness.

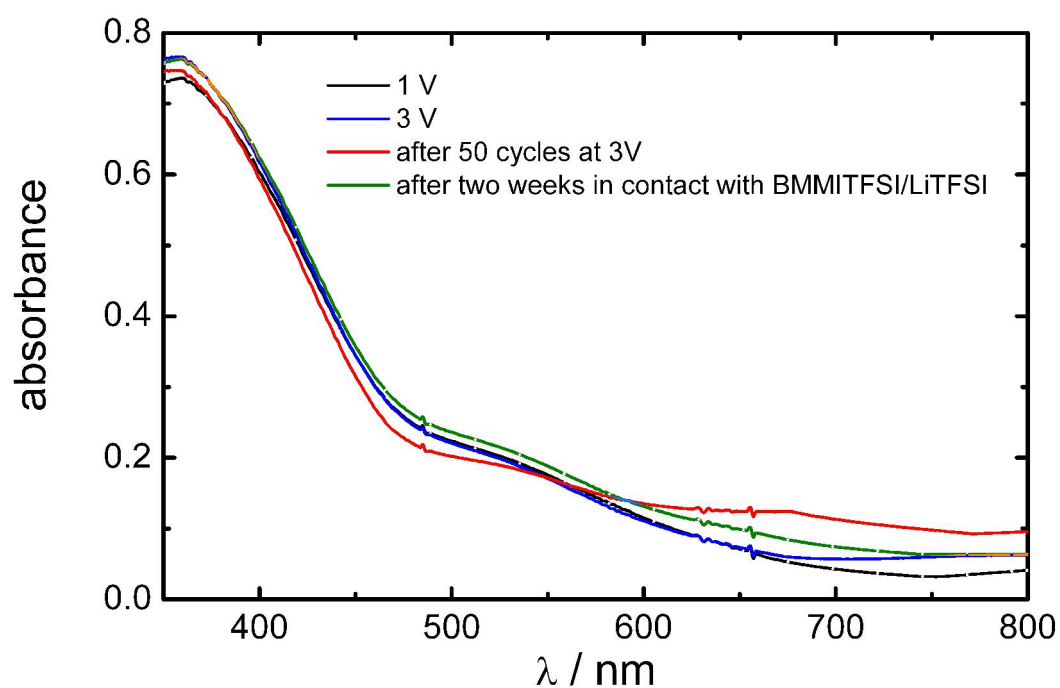


Figure 5s – Visible spectra of 10 bilayers of MnO₂/PDDA at different experimental conditions indicated in the figure.

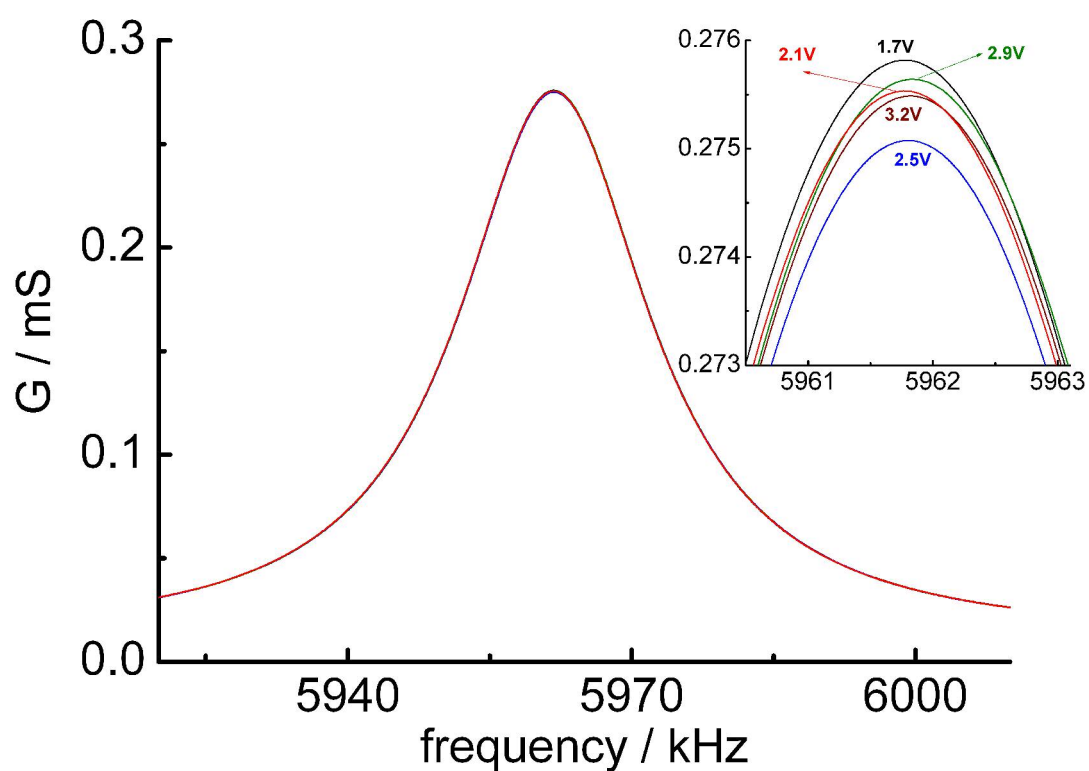


Figure 6s – EIA (conductance) spectrum of quartz electrode with 12 MnO₂/PDDA bilayers at different applied potentials in BMMITFSI + 0.1 molL⁻¹ LiTFSI electrolytic solution. The inset is an enlarged view of the maximum of G in order to observe the small changes at the different applied potentials (indicate in the figure).

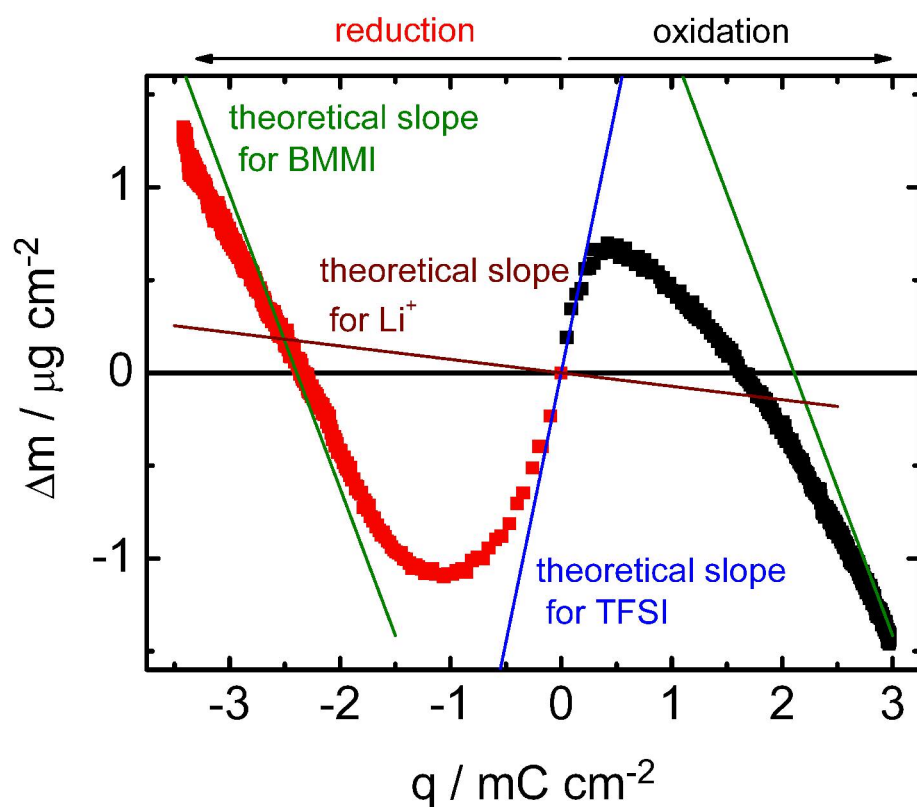


Figure 7s – Electric charge as a function of mass change for 12 MnO₂/PDDA bilayers in BMMITFSI + 0.1 molL⁻¹ LiTFSI electrolytic solution.