

Spin-Coated vs. Electrodeposited Mn Oxide Films as Water Oxidation Catalysts

*Original*

Spin-Coated vs. Electrodeposited Mn Oxide Films as Water Oxidation Catalysts / HERNANDEZ RIBULLEN, SIMELYS PRIS; OTTONE MELIS, CARMINNA SOPHIA; Varetti, Sara; Fontana, Marco; Pugliese, Diego; Saracco, Guido; Bonelli, Barbara; Armandi, Marco. - In: MATERIALS. - ISSN 1996-1944. - ELETTRONICO. - 9:4(2016), p. 296.  
[10.3390/ma9040296]

*Availability:*

This version is available at: 11583/2640468 since: 2016-09-24T16:13:20Z

*Publisher:*

MDPI - Open Access Publishing

*Published*

DOI:10.3390/ma9040296

*Terms of use:*

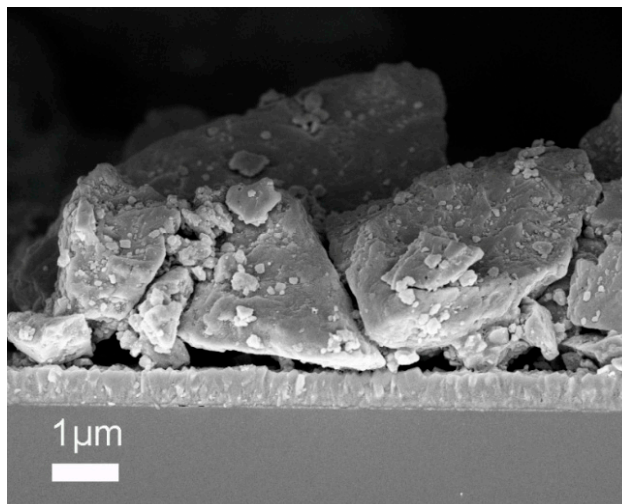
This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

*Publisher copyright*

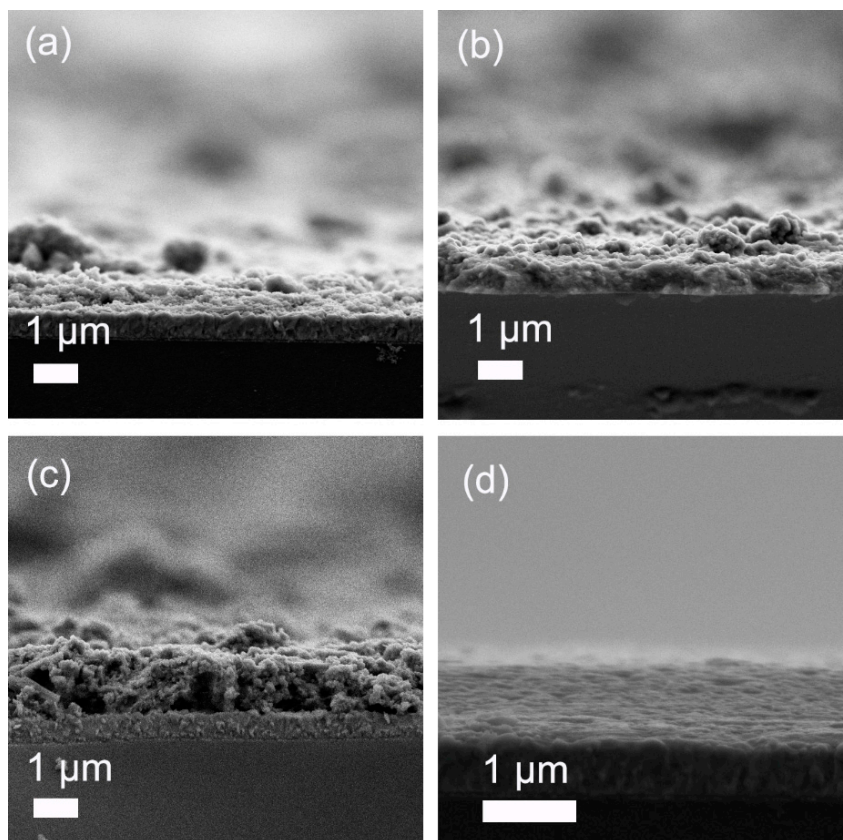
(Article begins on next page)

# Supplementary Materials: Spin-Coated *vs.* Electrodeposited Mn Oxide Films as Water Oxidation Catalysts

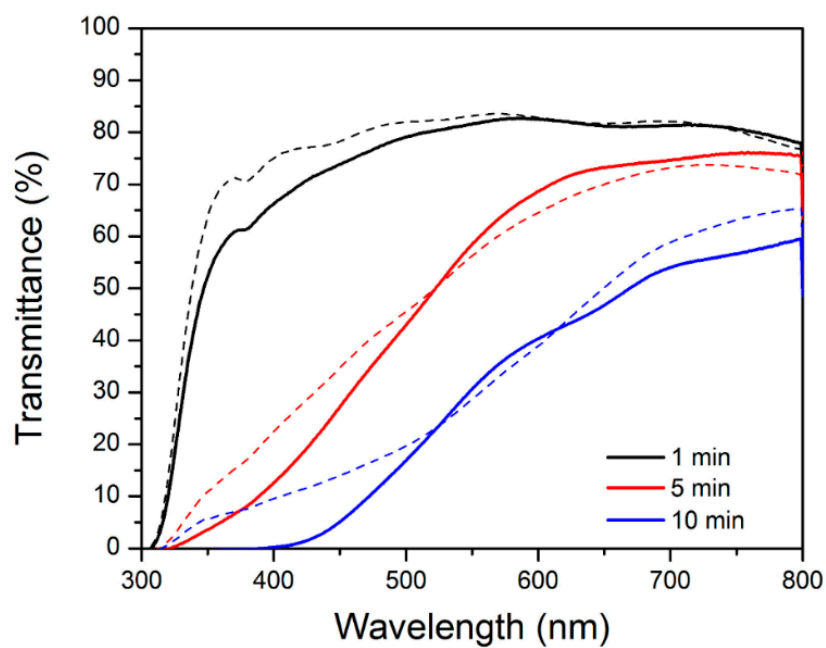
Simelys Hernández, Carminna Ottone, Sara Varetto, Marco Fontana, Diego Pugliese, Guido Saracco, Barbara Bonelli and Marco Armandi



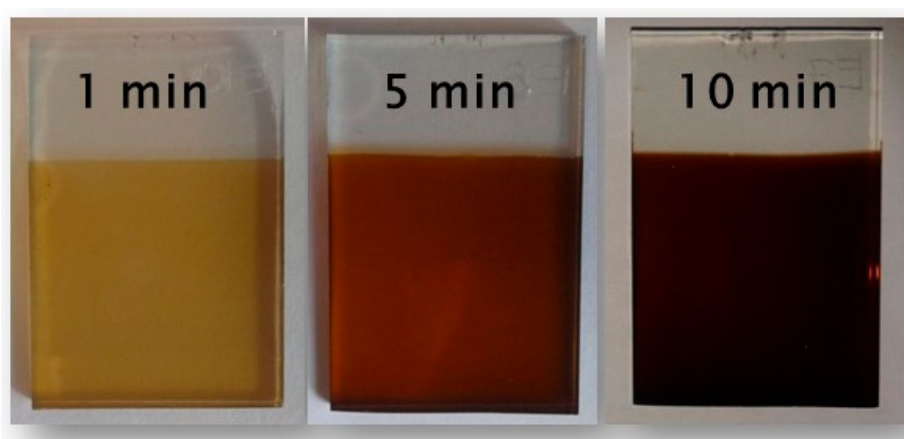
**Figure S1.** Cross-section FE-SEM image of a spin-coated film made with a non-ball-milled  $\text{Mn}_2\text{O}_3$  powder.



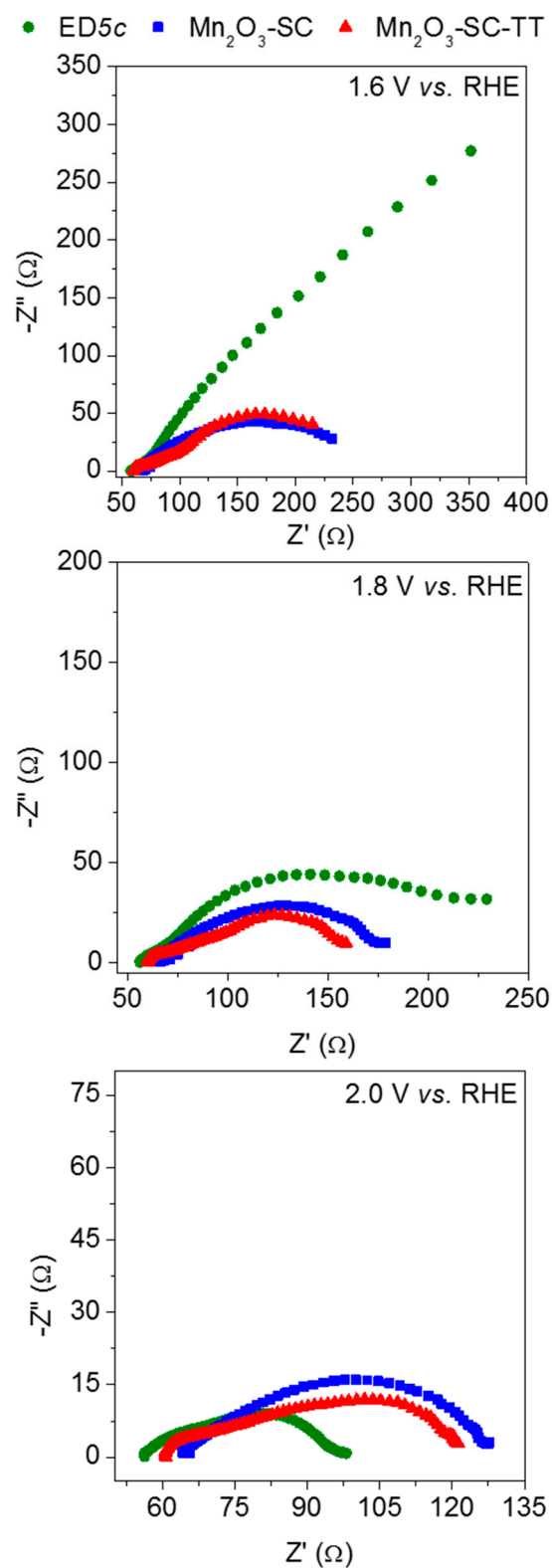
**Figure S2.** FE-SEM cross-section images of the films prepared by spin-coating of  $\text{MnO}_2$  (a);  $\text{Mn}_2\text{O}_3$  (b) and  $\text{Mn}_3\text{O}_4$  (c) powders; as-made electrodeposited 5-min film (d).



**Figure S3.** UV-Vis transmittance spectra of the electrodeposited films: as-made (continuous line) and calcined at 500 °C (dotted line).



**Figure S4.** Photographs of the as-made films prepared by electrodeposition at different deposition times.



**Figure S5.** Nyquist plots of the EIS measurements acquired using the  $\alpha\text{-Mn}_2\text{O}_3$ -based electrodes at 1.6, 1.8 and 2.0 V vs. RHE.