magnetochemistry

MDPI

Supplementary information: Use of Time Domain Nuclear Magnetic Resonance Relaxometry to Monitor the Effect of Magnetic Field on the Copper Corrosion Rate in Real Time

Cirlei Igreja Nascimento Mitre [1], Bruna Ferreira Gomes [2,*], Elaine Paris [3], Carlos Manuel Silva Lobo [4], Christina Roth [2] and Luiz Alberto Colnago [3]

[1] Instituto de Química de São Carlos, Universidade de São Paulo, Av. Trab. São Carlense, 400-Parque Arnold Schimidt, 13566-590 São Carlos, SP, Brazil; cirlei.nascimento@hotmail.com
[2] Chair of Electrochemical Process Engineering, Faculty of Engineering, University of Bayreuth, Universitätsstraße 30, 95447 Bayreuth, Germany; christina.roth@uni-bayreuth.de
[3] Embrapa Instrumentação, R. 15 de Novembro, 1452-Centro, 13560-970 São Carlos, SP, Brazil; elaine.paris@embrapa.br (E.P.); luiz.colnago@embrapa.br (L.A.C.)
[4] Institute of Technical Chemistry, University of Stuttgart, Keplerstraße 7, 70174 Stuttgart, Germany; carlos.lobo@itc.uni-stuttgart.de
* Correspondence: bruna.lobo@uni-bayreuth.de

In the following file, we show the SEM images acquired after the copper sample had undergone corrosion in a 1 mol L^{-1} HCl aqueous solution for 24 h. It is clear when comparing the images that when the reaction is performed outside the magnetic field (Figure S1 left) the resulting surface has much lower peak-to-valley amplitudes with a few deeper valleys (black regions), while the opposite is true for the opposite case (reaction performed inside the magnetic field), where the peak-to-valley amplitudes are higher with much deeper valleys.

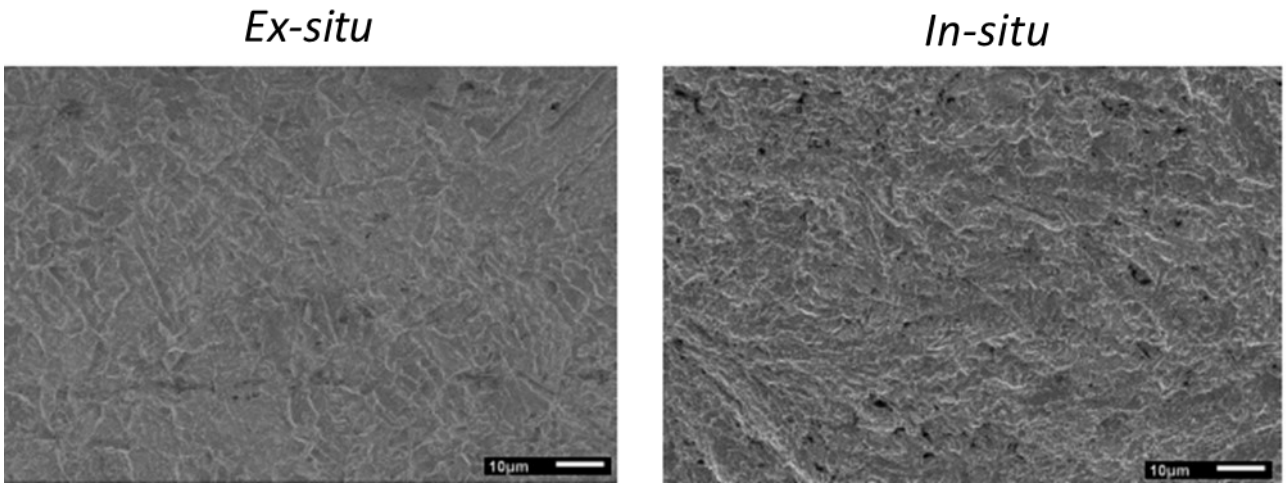

Figure S1. SEM imaging of the electrode surfaces performed at the end of the corrosion experiments.