

SUPPLEMENTARY MATERIAL

“Soluble” vs “Insoluble” Prussian blue based catalysts: Influence on Fenton-type treatment

Lucila I. Doumic ^{a,b}, Gabriel Salierno ^b, Cinthia Ramos ^c, Patricia M. Haure ^a, Miryan C. Cassanello ^b, María A. Ayude ^a

^a *División Catalizadores y Superficies- Instituto de Investigaciones en Ciencia y Tecnología de Materiales - INTEMA, Departamento de Ingeniería Química, Universidad Nacional de Mar del Plata, J.B. Justo 4302, 7600 Mar del Plata, Argentina.*

^b *Laboratorio de Reactores y Sistemas para la Industria - Larsi, Departamento Industrias, Facultad Ciencias Exactas y Naturales, Universidad de Buenos Aires, Intendente Güiraldes 2620, C1428BGA, Buenos Aires, Argentina.*

^c *GlA, Centro Atómico Constituyentes, CNEA, 1600, San Martín, Argentina*

*Author to whom correspondence should be addressed

Tel. +54 0223 4816600 (242); Fax: +54 0223 4810046; E-mail address:
luciladoumic@gmail.com; luciladoumic@fimdp.edu.ar (Lucila I. Doumic).

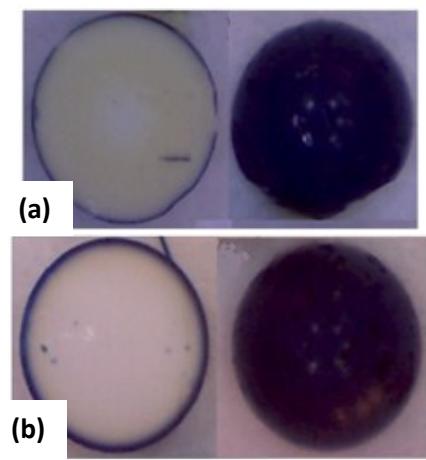


Fig. SM-1. Images of the internal and external aspect of the fresh catalysts: (a) B₂; (b) B₃

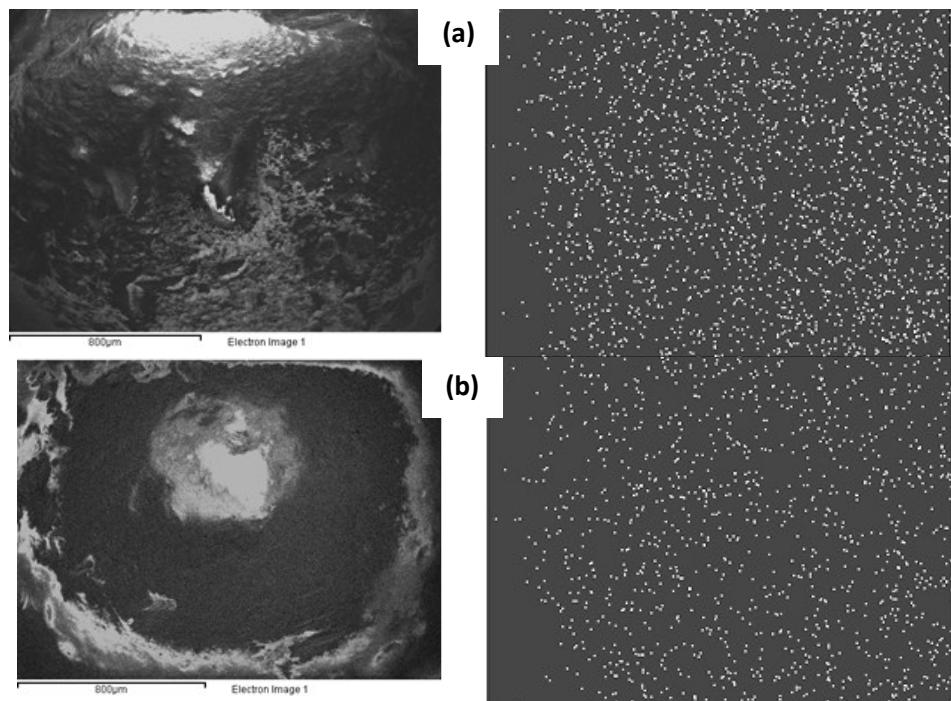


Fig. SM-2. Fe atoms maps distribution determined by EDS with their corresponding SEM images: (a) B₂ fresh catalyst; (b) B₃ fresh catalyst

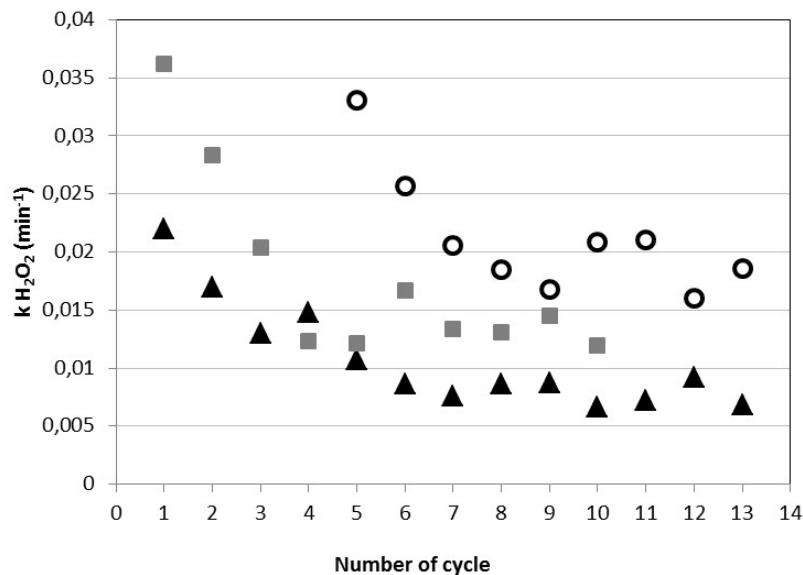


Fig. SM-3. Pseudo-first order apparent rate constants for H_2O_2 consumption in each cycle of use for ($\textcircled{\text{O}}$) B_1 ; (\blacksquare) B_2 and (\blacktriangle) B_3 catalysts. Operating conditions: $\text{pH}_0=3$, $T=343\text{K}$, $[\text{H}_2\text{O}_2]_0=9\text{ mmol L}^{-1}$, $[\text{catalyst}]=6.5\text{ g L}^{-1}$

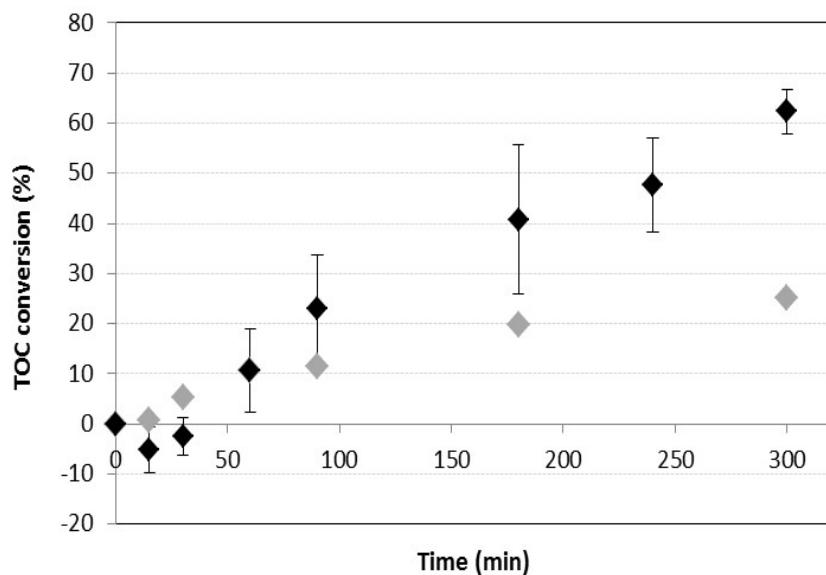


Fig. SM-4. TOC conversion profiles for reactions performed at $\text{pH}_0=3$, $T=343\text{K}$, in presence of ambient light and with $[\text{H}_2\text{O}_2]_0=9\text{ mmol L}^{-1}$. (\oplus) Heterogeneous oxidations using $[\text{B}_2]=6.5\text{ g L}^{-1}$ (13 cycles); (\ominus) Fenton homogeneous reaction with $[\text{Fe}^{2+}]=0.2\text{ mg L}^{-1}$

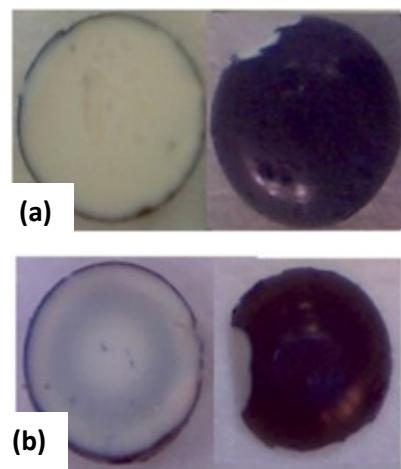


Fig. SM-5. Photographs of the internal and external appearance of the used catalysts: (a) B₂ and (b) B₃