



Mexico City, June 5th, 2017

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I am pleased to inform you that your contribution "**KETOROLAC-TROMETHAMINE CONTAINED IN SBA-15 HOST AS A DRUG RELEASE SYSTEM**" by *Jorgelina Cussa, Antonela Macarena Prados, Juliana Maria Juarez, Marcos Bruno Gomez Costa, Oscar Alfredo Anunziata*, has been **accepted** in symposium **C.1, Materials, Surfaces and Interfaces for Medical Applications and Health** at the XXVI International Materials Research Congress, to be held in Cancun in August 20 - 25, 2017.

The presentation has been accepted in the **Poster** modality. Remember that in order to include your abstract in the program book you must register before June 9th, 2017.

Organizers of the Symposium

"Materials, Surfaces and Interfaces for Medical Applications and Health"



KETOROLAC-TROMETHAMINE CONTAINED IN SBA-15 HOST AS A DRUG RELEASE SYSTEM

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Drug delivery is an emerging field mainly focused on targeting drugs. The goal of this targeted delivery is to transport an amount of drugs to desirable sites (such as tumors and diseased tissues) while minimizing unwanted side effects of the drugs on other tissues[1]. Controlled drug delivery systems can achieve precise spatial and temporal delivery of therapeutic agents to the target site[2].

The ordered mesoporous silica SBA-15 has been applied in studies of ketorolac tromethamine adsorption and release. The SBA-15 materials with hexagonal and regular structure were obtained using a triblock copolymer Pluronic P123 as a template and TEOS as a silica source[3]. Ketorolac tromethamine was adsorbed into SBA-15 silica nanochannels using ethanol as solvent. The physicochemical and textural properties of SBA-15 and ketorolac tromethamine/SBA-15 were characterized by X-ray diffraction, thermogravimetric analysis, transmission electron microscopy, Fourier transform infrared spectroscopy and BET surface studies. Drug release was evaluated by soaking the loaded silica mesoporous material into a solution of HCl (0.1N) at initial time (0 - 2 h) and buffer pH 7 at high times at 37 °C under continuous stirring. Oral commercial Keto tablets

(Dolten®) and Keto solution (Keto power) were study for the contrast. Release studies were performed in order to evaluate the required therapeutic efficacy. In this work, we have shown a promising drug storage material for the effective encapsulation and controlled release of KETO, achieving the required therapeutic efficacy. SBA-15/KETO shows characteristic bands of both, drug materials and the inorganic framework. This indicates that KETO was adsorbed into SBA-15 channel surface without affecting the chemical structure or composition of KETO. The study also demonstrates the storage capacity and release properties of SBA-15 containing KETO. The release of KETO contained in SBA-15 can offer significant improve in controlled drug release and enhance a good analgesia effect.

Keywords: SBA-15, ketorolac tromethamine, nanostructured composite

References:

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[3] Juárez, J.M., Gómez Costa, M.B., Anunziata, O.A. 2015. Synthesis and characterization of Pt-CMK-3 hybrid nanocomposite for hydrogen storage. *Int. J. Energy Res.* 39, 128–139



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