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I am pleased to inform you that your contribution "**NANOSTRUCTURED SBA-15 HOST: SYNTHESIS, CHARACTERIZATION AND APPLICATION IN KETOROLAC-TROMETHAMINE RELEASE SYSTEM**" by *Jorgelina Cussa, Juliana M. Juarez, Marcos B. Gomez Costa, Oscar A. Anunziata*, has been **accepted** in symposium **A.7, Nanostructured Materials and Nanotechnology** at the XXV International Materials Research Congress, to be held in Cancun in August 14 - 19, 2016.

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 7th, 2016.

Organizers of the Symposium

"Nanostructured Materials and Nanotechnology"



NANOSTRUCTURED SBA-15 HOST: SYNTHESIS, CHARACTERIZATION AND APPLICATION IN KETOROLAC-TROMETHAMINE RELEASE SYSTEM

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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 template and TEOS as a silica source[1].

Drug delivery is an emerging field mainly focused on aiming 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 [2]. Controlled drug delivery systems can achieve precise spatial and temporal delivery of therapeutic agents to the target site. 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 37 °C under continuous stirring. Release studies were performed in order to evaluate the required therapeutic efficacy. SBA-15 provides significant improvement in the controlled release of ketorolac tromethamine [3]. 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, drug controlled release

References:

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