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Nanotec

I am pleased to inform you that your contribution "**EXPERIMENTAL DESIGN OPTIMIZATION OF THE ODS OF DBT USING V₂O₅ SUPPORTED ON GA-SBA-15**" by *Lorena Paola Rivoira, Jorgelina Cussa, Maria Laura Martinez, Andrea Raquel Beltramone*, has been **accepted** in symposium **F.3, Advanced Catalytic Materials** 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

"Advanced Catalytic Materials"



EXPERIMENTAL DESIGN OPTIMIZATION OF THE ODS OF DBT USING V₂O₅ SUPPORTED ON GA-SBA-15

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Experiment design-response surface methodology (RSM) was used in this work to model and optimize one response in the oxidative desulfurization of dibenzothiophene with hydrogen peroxide using VOx-Ga-SBA-15 catalysts with different Ga/Si and V/Si ratios. In this study, we analyze the influence of the nature of the catalyst (metal/Si ratio), the catalyst/substrate ratio and the oxidant/substrate ratio as factors for the design. The response analyzed was conversion at 15 min of reaction time. The response surfaces were obtained with the Box–Behnken Design, finding the best combination between the reaction parameters that allowed optimizing the process. By applying the statistic methodology, the higher levels of the objective function were obtained employing the catalyst with Ga/Si and V/Si ratios of 1/15 and 1/25, respectively. Structural and textural characterization of the catalysts were performed by means of XRD, N₂ adsorption, UV–Vis–DRS, XPS, NMR, TEM, Raman, TPR and Py-FTIR. UV–Vis–DRS and Raman demonstrated that highly dispersed vanadium pentoxide crystallites are responsible for the high activity in the sulfur removal. The high dispersion depended on the vanadium loading and on the nature of the support.

Keywords: Box–Behnken Design, VOx supported Ga-SBA-15, Gallium, Dibenzothiophene; Ultra-low-sulfur diesel

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