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Dear Dr. Nasser H. Shalaby

We are delighted to inform you that your paper entitled:

" CATALYTIC PERFORMANCE OF ORGANICALLY TEMPLATED NANO NICKEL INCORPORATED- RICE HUSK SILICA IN HYDROCONVERSION OF CYCLOHEXENE AND DEHYDROGENATION OF ETHANOL "

By:

Salah A. Hassan, Ahmed M. Al-Sabagh, Nasser H. Shalaby, Samia A. Hanafi and Hamdi A. Hassan

has been accepted for publication in the *Egyptian Journal of Petroleum* (EGYJP) and will be published in vol. 22 part 1, 2013.

We appreciate considering the *Egyptian Journal of Petroleum* (EGYJP) for publishing your research papers and hopefully we look forward to the pleasure of hearing from you.

Best regards,

Editor-in-Chief

Prof. Dr. Ahmed M. Al-Sabagh

Abstract

Silica was extracted from local rice husk (RH) by the acid digestion and calcined at 650^{o} C. The amorphous extracted silica was texturally modified with cetyltrimethylammonium bromide (CTAB) and span 40. The surface of RHS xerogel and CTAB-MS, were organically functionalized with amine-terminated groups through an easy and swift pathway via condensation method. Both nickel and platinum nanoparticles were anchored on the surface functionalized silica. Nanonickel particles were incorporated into pore regulated RHS xerogel using p-amino benzoic acid and p-phenyline diamine. RHS-nanonickel was also prepared as a reference catalyst for comparison. The as-prepared samples were characterized through XRD, FTIR, TEM, TGA-DSC and BET techniques. All prepared catalysts were applied in dehydrogenation of ethanol for selective production of acetaldehyde and cyclohexene hydroconversion using a fixed-bed flow reactor. The catalytic results were correlated with various characteristics to determine the most active and selective samples for application.

The Egyptian bentonite clay (EB) was modified with p-amino benzoic acid (MEB). Different loadings of nanonickel particles were intercalated into MEB and MEB-Pt was also prepared. The textural and morphology characteristics of all catalysts were investigated through XRD, FTIR, TEM, TGA-DSC and BET techniques. The catalytic performance test in ethanol dehydrogenation using a fixed bed flow reactor showed that the optimum Ni loading is 1%. Also, Pt-MEB showed a higher activity and phase stability than the nanoplatinum anchored to the surface of the functionalized RHS xerogel.

Keywords:

Rice husk silica; Functionalized silica; Nanonickel; Nanoplatinum; Ethanol Dehydrogenation; modified clay.

Acknowledgment

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Candidate

Nasser Shalaby

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بســـم الله الرحـــمن الرحـــــيم

"قالو سبحانك لا علم لنا إلا ما علمتنا

إنك أنت العليم الحكيم"

صدق الله العظيم

البقرة : الأية 32

3.1 Rice Husk Silica

3.2 Modified Egyptian Bentonite Clay as a Support for Nanometallic Particles

Qualification

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09/2005	07/2009:	Manager of Laboratories and Quality Control at Suez Company for Fertilizers Production (SCFP) [Sulphoric Acid and Phosphatic Fertilizers]
08/1995	09/2005:	Chemist at Egyptian Financial and Industrial Company (EFIC) [Sulphuric Acid & Phosphatic Fertilizers]
05/1991	07/1995:	Chemist, Saudi Arabia (Water Treatment, R.O Technique)

List of Tables, Figures and Schemes

Papers Published from the thesis

1)Catalytic Performance of Organically Templated Nano Nickel Incorporated Rice Husk Silica [*The 15th International Conference on Petroleum, Mineral Resources and Development, Egyptian Petroleum Research Institute, Cairo, Egypt, 8-10 April, 2012*.] (Accepted in *Egyptian Journal of Petroleum* in 18 September 2012).

2) Surface Functionalized Rice Husk Silica Xerogel-Anchored Nickel and Platinum Nanocatalyst for dehydrogenation of Ethanol [*The 15th International Conference on Petroleum, Mineral Resources and Development, Egyptian Petroleum Research Institute, Cairo, Egypt, 8-10 April, 2012*.]

CONTENTS

III. Results and Discussion