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8th International Conference
of the Chemical Societies
of the South-East European Countries

BOOK OF ABSTRACTS

organized by

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UCB - Union of Chemists in Bulgaria
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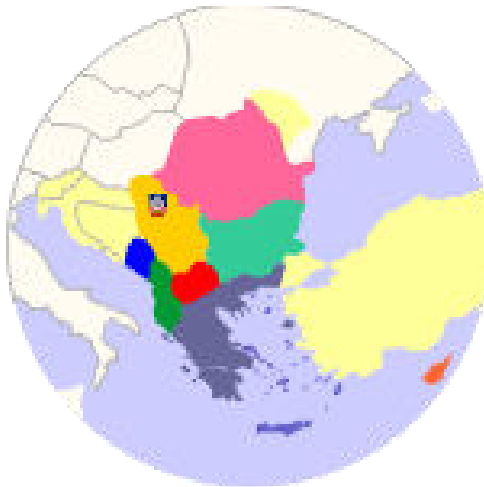
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Catalysis

Activity of DPU-Ni/D hydrogenation catalysts prepared by urea method

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Nickel catalysts supported on diatomite (Ni/D) were prepared by deposition-precipitation urea (DPU) method [1]. The precipitation of Ni(II) phase onto diatomite surface was performed under various deposition-precipitation times. The catalyst precursors prepared with different nickel loading were then subjected through preparation steps including drying, reduction and passivation under the same conditions.

Characterization of textural, structural and reducible properties was carried out using following techniques: N₂-physisorption, Hg-porosimetry, XRD, IR, TG-DTG and TPR.

The activity of DPU-Ni/D catalysts was tested in the reaction of hydrogenation of soybean oil. This reaction was performed in a three-phase slurry reactor, under conditions described in our previous paper [2].

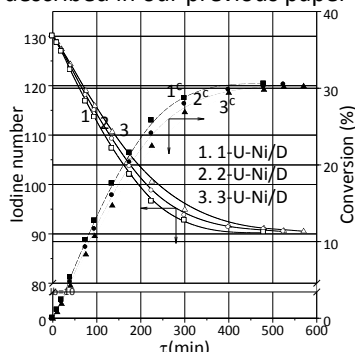


Fig. 1. Iodine number and Conversion vs. hydrogenation time

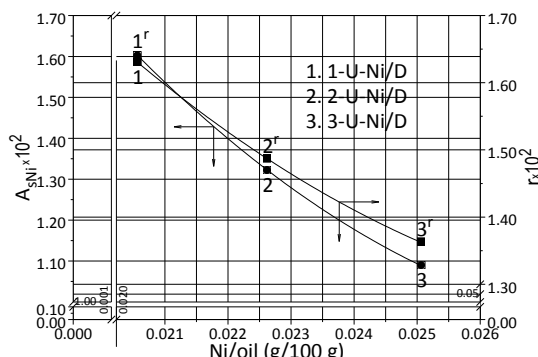


Fig. 2. Specific activity (A_{sNi}) and hydrogenation rate (r) vs Ni loading

Figures 1 and 2 show the activities of the 1-U-Ni/D, 2-U-Ni/D and 3-U-Ni/D in catalytic test reaction of soybean oil hydrogenation. For hydrogenation reaction the highest activity was observed for the catalyst sample 1-U-Ni/D with the lowest nickel loading. The activity of catalyst samples increased in the following order: 1-U-Ni/D > 2-U-Ni/D > 3-U-Ni/D.

An observed trend of increasing activity with decrease of Ni loading is in good correlation with the results obtained by the characterization of the catalyst surface and, in particular, with reducible characteristics of prepared DPU-Ni/D catalyst samples.

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References

- [1] M. Stanković, M. Shopska, Z. Vuković, V. Radonjić. D. Skala, *11th International Conference on Fundamental and Applied Aspects of Physical Chemistry, Proceedings Vol I* (2012) 182-184.
- [2] M. Stanković, M. Gabrovska, J. Krstić, P. Tzvetkov, M. Shopska, T Tsacheva, P. Banković, R. Edreva-Kardjjeva, D. Jovanović, *J. Mol. Catal. A: Chem.*, **297** (2009) 54-62.