СПИСЪК НА ПУБЛИКАЦИИ

на Гл. ас. д-р Радостина Палчева представени за участие в конкурса за „доцент“, Институт по катализ - БАН (ДВ бр. 67/ 28.07.2020)

h index (Scopus) = 13, (ISI Web of Knowledge) = 12, брой статии: 20
брой цитати (Scopus и Web of Science): 297. Публикациите са оценени съгласно scimago journal rank.

1. A. Spojakina, K. Jirátová, V. Novak, **R. Palcheva**, L. Kaluža, Hydrodesulfurization of Different Feeds on $CoMo/Al_2O_3$ catalyst prepared using Cobalt Heteropolyoxomolybdate, Collection of Czechoslovak Chemical Communications 73(8-9) (2008) 983-999. (IF: 1.137), Q3 (Web of Science), 15 т.
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2. **R. Palcheva**, A. Spojakina, L. Dimitrov, K. Jirátová, 12-Tungstophosphoric Heteropolyacid Supported on Modified SBA-15 as catalyst in HDS of thiophene, Microporous and Mesoporous Materials,122 (2009) 128-134. (IF: 3.453), Q1, 25 т.
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3. **R. Palcheva**, A. Spojakina, K. Jirátová, L. Kaluža, Effect of Co on HDS Activity of Alumina-supported Heteropolymolybdate, Catalysis Letters, 137 (2010) 216-223. (IF: 2.307), Q1, 25 т.
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4. L. Dimitrov, **R. Palcheva**, A. Spojakina, K. Jirátová, Synthesis and characterization of W-SBA-15 and W-HMS as supports for HDS, Journal of Porous Materials, 18 (2011) 425-434. (IF: 1.108), Q2, 20 т.
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7. L. Kaluža, **R. Palcheva**, A. Spojakina, K. Jirátová, G. Tyuliev, Hydrodesulfurization NiMo catalysts supported on Co, Ni and B modified Al_2O_3 from Anderson heteropolymolybdates, Procedia Engineering, 42 (2012) 873-884. (SJR: 0.188), 10 т.
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8. **R. Palcheva**, L. Dimitrov, G. Tyuliev, A. Spojakina, K. Jirátová, TiO_2 nanotubes supported NiW hydrodesulphurization catalysts: characterization and activity, Applied Surface Science, 265 (2013) 309-316. (IF: 2.711), Q1, 25 т.
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9. L. Li, **R. Palcheva**, Klaus-Joachim Jens, Conversion of ethene to propene by a dual function $NiSO_4/Re_2O_7/\gamma$- Al_2O_3 catalyst, Topics in Catalysis, 56 (2013) 783-788. (IF: 2.365), Q1, 25 т.
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10. K. Jiratova, A. Spojakina, G. Tyuliev, J. Balabanova, L. Kaluza, **R. Palcheva**, Mechanochemical preparation of alumina-ceria, Proceeding of the 3rd International Conference on Chemical Technology, Prague, Czech Society of Industrial Chemistry (2015) 181-187.

Abstract:

Ceria containing catalysts play an essential role in heterogeneous catalytic processes. However, ceria shows poor thermal stability and low specific surface area and therefore, many studies have been done to improve its properties by combination with other oxides. Alumina-ceria is substantial component of the three ways catalysts, due to the ceria ability to function as the buffer of oxygen and to enhance the oxygen storage capacity of the catalysts. Ceria in these catalysts also functions as structural promoting component, increasing alumina stability towards thermal sintering. Promising method of oxides preparation, very interesting and simple but not sufficiently studied yet is a mechanochemical synthesis. Here we report on the synthesis of nano-sized alumina, ceria and ceria-alumina of various compositions by a wet solid phase mechanochemical reaction of hydrous aluminum, and/or cerium nitrate with ammonium bicarbonate after addition of a small amount of water. The aim of this contribution is to study processes being in progress during synthesis of the mixed oxides, interaction between components and their mutual effect on the properties of resulting products. The phase evolution during mechanical milling and the subsequent heat treatment of precursors were studied by X-ray diffraction, DTA/TG, H_2-TPR, NH_3-TPD, CO_2-TPD, N_2 adsorption at -195°C, IR, and XPS spectroscopy. Alumina and mixtures of alumina with different quantities of CeO_2 (1-18 wt. %) were synthesized by mechanochemical method from aluminum nitrate, cerium nitrate and ammonia bicarbonate.

11. **R. Palcheva**, U. Olsbye, M. Palcut, P. Rauwel, G. Tyuliev, N. Velinov, H. Fjellvåg, Rh promoted $La_{0.75}Sr_{0.25}(Fe_{0.8}Co_{0.2})_{1-x}Ga_xO_{3-\delta}$:Characterization and catalytic performance for methane partial oxidation to synthesis gas, Applied Surface Science, 357 (2015) 45-54. (IF: 3.15), Q1, 25 т.
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Abstract:
The effect of ceria loading on the structure and catalytic performance of CeO_2-Al_2O_3-supported Ni catalysts for CO_2 reforming of methane was studied. The physicochemical properties of the samples were determined by N_2 adsorption desorption isotherm, XRD, TPR and XPS. XPS results revealed the presence of Ni^{2+} and Ni^0 on the surface of reduced Ni/xCe-Al (x= 0, 1, 3, 6, 12 wt %) catalysts. It was shown that Ni catalysts supported on ceria-alumina oxides exhibit higher CH_4 conversion compared to that of Ni supported on alumina.The most active catalyst in dry reforming of CH_4 was Ni/6Ce-Al due to the specific electron interaction between ceria and Ni species.

14. K. Jiratova, A. Spojakina, L. Kaluza, **R. Palcheva**, J. Balabanova, G. Tyuliev, HDS activity of NiMo catalysts over Al/Ce mixed oxides prepared mechanochemically, Chinese Journal of Catalysis, 37 (2016) 258-267. (IF: 2.736), Q2, 20 т.
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15. **R. Palcheva**, L. Kaluza, L. Dimitrov, G. Tyuliev, G. Avdeev, K. Jiratova, A. Spojakina, NiMo Catalysts Supported on the Nb Modified Mesoporous SBA–15 and HMS: Effect of Thioglycolic Acid Addition on HDS, Applied Catalysis A: General, 520 (2016) 24-34. (IF: 3.942), Q1, 25 т.
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16. L. Kaluza, K. Jiratova, G. Tyuliev, D. Gulkova, J. Balabanova, **R. Palcheva**, M. Kostejn, A. Spojakina, Hydrodesulfurization NiMo catalysts over gamma-alumina prepared mechanochemically, Reaction Kinetics, Mechanisms and Catalysis, 125 (2018) 319-337. (IF: 1.515), Q3, 15 т.
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17. S. Damyanova, B. Pawelec, **R. Palcheva**, Y. Karakirova, M.C. Capel Sanchez, G. Tyuliev, E. Gaigneaux, J.L.G. Fierro, Structure and surface properties of ceria-modified Ni-based catalysts for hydrogen production, Applied Catalysis B: Environmental, 225 (2018) 340-353. (IF: 11.698), Q1, 25 т.
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