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ABSTRACTS

L.I. Matienko, L.A. Mosolova, G.E. Zaikov. Metallocomplex catalysis in oxidation processes. Kinetics and mechanisms.

Ways of increasing catalytic activity of complexes of transition metals towards oxidation of alkylarenes with molecular oxygen, described in the literature within last 10-15 years, are reviewed. Attention is focused on the original method of controlling the catalytic activity of complexes of $M(\text{acac})_n$ ($M=\text{Ni(II)}, \text{Fe(II,III)}, \text{Co(II)}$) in the oxidation reactions of alkylarene (e.g., ethylbenzene and cumol) to hydroperoxides by introducing the mono- or polydentate electron-donating ligands L^2 . Modeling of the catalytically active complexes of nickel as selective catalysts for ethylbenzene oxidation to α -phenylethylhydroperoxide by introducing phenol (PhOH) in the binary system $\{\text{Ni(II)}(\text{acac})_2 + L^2\}$, and also active complexes of nickel or iron by using quaternary ammonium salts and macrocyclic polyethers as L^2 , is successfully realized by the authors. The role of H-bonding in the mechanisms of the homogeneous catalysis is discussed. A strategy of controlling the catalytic activity of $\text{Fe(II,III)}(\text{acac})_n \cdot L^2$ complexes ($L^2 = R_4\text{NBr}$ or 18-crown-6 (18C6) by introducing small amounts of H_2O ($\sim 10^{-3}$ mol/l) is proposed. The activity of Ni and Fe catalysts in the processes of radical chain initiation (O_2 activation) and radical chain propagation ($\text{Catalyst} + \text{RO}_2\cdot \rightarrow$) in the reactions of ethylbenzene oxidation is discussed. The bibliography includes 144 references.

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S.A. Reshetov, A.K. Frolkova, A.A. Muzyka. Influence of some structural characteristics of the ionic liquids on homogeneous and heterogeneous characteristics of their mixtures with water and alcohols.

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N.A. Bragina, J.G. Kirillova, A.I. Lutik, A.F. Mironov, V.I. Shvets. The organization and methodical support of the theoretical education of the graduate students specializing in the «Bioorganic chemistry» and «Biotechnology»

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Вестник МИТХТ

Журнал выходит один раз в два месяца и публикует обзоры и статьи по актуальным проблемам химической технологии и смежных наук. Журнал основан в 2006 году. Учредителем журнала является Московская государственная академия тонкой химической технологии им. М.В. Ломоносова (МИТХТ).

Журнал входит в Перечень ведущих рецензируемых научных журналов, в которых должны быть опубликованы основные научные результаты диссертации на соискание ученой степени доктора (кандидата) наук.

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