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Effect of temperature on ethanol conversion over surface of Zr-modified zeolite system of ZSM-5 type

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Abstract

A modification of high-silicon zeolite ZSM-5 by zirconium is carried out and a direction defined for chemical conversion of ethanol on the surface of this system. The paper shows the influence of the process parameters on the direction of the transformation of the products of ethanol dehydration. It discusses the surface state of the catalyst and the mechanism of the formation of aromatic hydrocarbons comprising dehydrogenation, dehydrocyclization and alkylation of intermediates on the surface of the system.