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Influence of palladium precursor nature on the state of metal particles in selective hydrogenation of acetylene

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Abstract

Influence of palladium precursor nature on geometric and electronic properties of supported Pd particles and their adsorption properties in the selective hydrogenation of acetylene was investigated. It has been established that catalysts synthesized from $Pd(Acac)_2$ precursor dispersion is 1.3 times higher than for samples of *acetate* complex. This determines a high conversion of acetylene, catalysts for the former. It is shown that catalysts of $Pd(Ac)_2$ have high electron density on valence orbitals of metal particles compared to samples based on $Pd(Acac)_2$, and characterized by 1.4 times greater selectivity in conversion of acetylene into ethylene.