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ETHYLENE GLYCOL CHEMISORPTION ON NANOSTRUCTURED CARBON-SUPPORTED PLATINUM CATALYSTS

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In this paper ethylene glycol (EG) chemisorption on Pt/C catalysts was investigated. Pt/C catalysts were obtained by different methods with loading of Pt (10–40 %) and size of Pt particles (2–12 nm). Chemisorption of EG on Pt/C catalysts as well as on Pt/Pt electrode and bulk polycrystalline Pt electrode was accompanied by formation of two types of adsorbates (C1 and C2). Coverage ratio of Pt surface by organic adsorbate depends on adsorption conditions, platinum loading and size of Pt particles. Relative quantity of C1 adsorbates which formed due to destructive chemisorption of EG on Pt/C catalysts is slightly higher than it is Pt/Pt electrode and bulk polycrystalline Pt electrode. This fact does not dependent on Pt loading in catalysts and size of Pt particles.

Keywords: *ethylene glycol, Pt/C catalysts, platinized platinum, chemisorption, electrochemical oxidation.*

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