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CO Oxidation over Mono and Bi-Metallic Sequentially Impregnated Pd-Pt Catalysts


of

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**Abstract:** The CO oxidation capability of sequentially impregnated Pd-Pt/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> bimetallic catalysts was tested. The CO oxidation light-off curves were hierarchically spaced between monometallic Pd and monometallic Pt, which showed the highest and lowest activity, respectively, indicating that sequential impregnation did not result in the formation of bimetallic particles, but that the catalysts remained as monometallic entities over the support surface. An investigation of the effect of CO partial pressure on the reaction rates over monometallic catalysts indicated that in the presence of excess CO the surface of Pt was poisoned. On the other hand, in the presence of excess CO the reaction rates over Pd catalysts remained constant due to the availability of the subsurface oxygen pools in PdO layers.

**Key Words:** CO oxidation, bimetallic catalysts, palladium, platinum

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