

Efficient removal of toluene by TiO₂ films on carbon paper

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Using a novel deposition technique, which can be described as pulsed chemical vapor deposition (CVD), TiO₂ thin films were synthesized on carbon fibers. We show that these films exhibit extraordinary high absorption capacities of toluene vapor. Such an absorption phenomenon of toluene at room temperature was not found for other TiO₂ samples. We expect that TiO₂ thin films prepared here can be used for removing volatile organic compounds from indoor atmosphere. Structures of there TiO₂ films were studied by SEM and XPS, and the results are discussed.