

One step synthesis of advanced-CVD nanocomposite particles

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The importance of this study is the usage of two precursors for simultaneous synthesis of nanocomposite particle using a CVD(chemical vapor deposition) process as a simple and advanced method which is better than the traditional CVD process. In this work, we synthesized the V₂O₅-TiO₂ nanocomposite particle by the advanced-CVD process using a metal-organic precursor. The morphology and particle size were analyzed by high resolution transmission electron microscopy (HR-TEM) operation at 200 kV. The composition of the surface layer of the particles was determined with an X-ray photoelectron spectrometer (XPS) using the Al K_α line as an X-ray source. Brunauer-Emmett-Teller (BET) measurement was also applied to perform the size analysis of CVD nanoparticle.