

ABSTRACT

The present invention discloses a preparation method of an alumina supported cerium oxide powder material. A cerium organometallic precursor is effectively decomposed into CeO_2 nanoparticles at 500-700°C in an oxygen atmosphere condition by using a chemical vapor deposition method, and the CeO_2 nanoparticles are evenly dispersed on an Al_2O_3 support. The decomposition of the CeO_2 precursor is accelerated by changing experimental parameters of reaction between organic materials and oxygen, so as to control the size and microstructure of powder, thereby achieving the preparation and even dispersion of cerium oxide nanoparticles, and avoiding the problem of generation of toxic waste liquor during reaction. The method of the present invention is simple, has a short preparation period, and the cerium oxide nanoparticles prepared are evenly dispersed, can be used as catalytic materials and functional materials, and have a broad application prospect in multiple fields.

Fig. 1