

عنوان مقاله:

Preparation of Titanium Dioxide Nanoparticles with Different Carbon Coating Using Polyacrylamide Gel

محل انتشار:

هفتمین کنگره ملی مهندسی شیمی (سال: 1390)

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خلاصه مقاله:

Carbon coated titanium dioxide nanoparticles with various content of carbon were prepared by polyacrylamide gel method by controlling the calcination time under air atmosphere. The thermo gravimetric analyses (TGA) showed the accelerating effect of mineral oxide on the thermal degradation of polyacrylamide gel and also TiO₂ nanoparticles with various contents of carbon were produced at different calcination times under air atmosphere. With increasing of calcination time under air atmosphere, the carbon content of TiO₂ nanoparticles reduces and the crystallite sizes of nanoparticles increase. BET analyses showed that in heat-treated samples under air atmosphere, specific surface area increases by increasing calcination time and reach a maximum point at 5 min calcination time. The SEM images of the synthesized TiO₂ nanoparticles confirmed the BET and TGA results.

کلمات کلیدی:

Titanium dioxide, Nanoparticles, Polyacrylamide gel

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