عنوان مقاله:

Preparation and Characterization Sm2Ti2O7 nanoparticles and Sm2Ti2O7/carbon quantum dot nanocomposites and investigation of its photocatalytic and optical properties

محل انتشار:

اولین کنگره بین المللی شیمی و نانو شیمی از پژوهش تا فناوری (سال: 1397)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

Sm2Ti2O7 nanoparticles Sm2 Ti2 O7/ Carbon quantum dot (CQD) nanocomposites were synthesized by eco-friendly method. The effects of various capping agents such as glucose, fructose, lactose, and starch on the morphology and particle size of 2SmTi2 O7/CQDs nanocomposites were investigated. Sm2Ti2O 7/CQDs nanocomposites were analyzed through techniques including, spectroscopy,-rayX diffraction (XRD), Scanning electron microscopy (SEM), desorption branch of the isotherm by the Barrett,Joyner and Halenda (BJH) and Ultraviolet–visible (UV–vis) spectroscopy. Furthermore, due tooccurrence of red shift in nonanocomposite, during the coupling of CQDs into Sm2Ti2O7, photocatalytic and optical properties of final products were improved which lead to improve photo-destruction efficiency for methylene blue from 57% to 95%, during 135 min visible irradiation.

کلمات کلیدی:

Sm2Ti2O7/CODs, Visible light, Nanocomposites, Eco-friendly method

لینک ثابت مقاله در پایگاه سیویلیکا: