

عنوان مقاله:

Controlled synthesis and photocatalytic activity of TiO₂@MIL-100 (Fe) microspheres

محل انتشار:

بیست و یکمین سمینار شیمی معدنی انجمن شیمی ایران (سال: 1398)

تعداد صفحات اصل مقاله: 1

نویسندگان:

Raheleh Hejazi - *Department of Basic Sciences, Faculty of Chemistry, Tarbiat Modares University, Tehran, Iran*

Ali Reza Mahjoub, - *Department of Basic Sciences, Faculty of Chemistry, Tarbiat Modares University, Tehran, Iran*

Amir Hossein Cheshme Khavar - *Department of Basic Sciences, Faculty of Chemistry, Tarbiat Modares University, Tehran, Iran*

خلاصه مقاله:

TiO₂@MIL-100 (Fe) microspheres with a controllable method were synthesized by incorporating MIL-100(Fe) on TiO₂ using a versatile step-by-step self-assembly strategy. The XRD patterns and FT-IR spectra of TiO₂@MIL-100 (Fe) indicated the co-existence of TiO₂ and MIL-100(Fe). Moreover, loading of MIL-100 (Fe) on TiO₂ have increased the surface area as observed in BET experiment. The SEM and TEM images demonstrated the formation of MIL-100(Fe) shells on the TiO₂ microsphere. According to UV-Vis DRS data, imparting of MIL-100 (Fe) on TiO₂ microsphere caused to a red shift in absorption edge of catalysts and the band gap energy altered from 3.2 eV for TiO₂ particles to 2.2 eV for TiO₂@MIL-100 (Fe) microsphere. The synthesized composite indicated superior photocatalytic activity in the removal of methylene blue (MB) from water under visible light. The complete degradation of 40 mg/L MB was attained by using synthesized microstructure within 120 min, while commercial TiO₂ (P-25) degraded only 36.6% of MB under similar conditions

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/960672>

