

عنوان مقاله:

Heterogeneous Photocatalytic Degradation of Ofloxacin using Mesoporous BixOyClz Nanophotocatalysts: One-Pot Combustion Route

محل انتشار:

سومین همایش بین المللی نفت، گاز، پتروشیمی و HSE (سال: 1397)

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خلاصه مقاله:

An intra-heterostructure photocatalyst of bismuth oxychlorides BixOyClz was successfully synthesized via an one-pot solution combustion synthesis (SCS) using various fuels such as glycine, urea, citric acid and sorbitol. The results exhibited that the grain-like mesoporous BixOyClz nanophotocatalyst synthesized by sorbitol displayed more noticeable photocatalytic activity than other samples for the photo-destruction of antibiotic ofloxacin. The higher photocatalytic activity of this nanophotocatalyst obtained 82.5% with high reaction rate ($k = 0.017 \text{ min}^{-1}$). It could be attributed to larger specific surface area and total pore volume, meso-structure of pores, the formation of fine particles and defects, the suitable band gap, absorption of much light and the reduction of recombination related to the charge carriers.

کلمات کلیدی:

BixOyClz Nanophotocatalyst, One-Pot Combustion Fabrication, Solar Light, Antibiotic Ofloxacin

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