World Academy of Science, Engineering and Technology
International Journal of Chemical and Molecular Engineering
Vol:17, No:11, 2023

Photo-Degradation of a Pharmaceutical Product in the Presence of a Catalyst Supported on a Silicoaluminophosphate Solid

Authors : I. Ben Kaddour, S. Larbaoui

Abstract : Since their first synthesis in 1984, silicoaluminophosphates have proven their effectiveness as a good adsorbent and catalyst in several environmental and energy applications. In this work, the photocatalytic reaction of the photo-degradation of a pharmaceutical product in water was carried out in the presence of a series of materials based on titanium oxide, anatase phase, supported on the microporous framework of the SAPO4-5 at different levels, under ultraviolet light. These photo-catalysts were characterized by different physicochemical analysis methods in order to determine their structural, textural, and morphological properties, such as X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR), microscopy scanning electronics (SEM), nitrogen adsorption measurements, UV-visible diffuse reflectance spectroscopy (UV-Vis-DRS). In this study, liquid chromatography coupled with spectroscopy of mass (LC-MS) was used to determine the nature of the intermediate products formed during the photocatalytic degradation of DCF.

Keywords : photocatalysis, titanium dioxide, SAPO-5, diclofenac
Conference Title : ICCHC 2023 : International Conference on Chemistry and Heterogeneous Catalysis
Conference Location : Paris, France
Conference Dates : November 27-28, 2023