

ABSTRACT

This study concerns the preparation of sprayed binary molybdenum oxide, MoO_3 , thin films and ternary and quaternary derivatives by alloying. The characterization of their physical properties was carried out by X-ray diffraction, Raman spectroscopy, scanning electron microscopy, spectrophotometry and impedancemetry. It appears from the electrical study that the great value of resistance R corresponds to the NiMoO_4 , thin films. The equivalent ac circuit of these films is composed by a parallel resistor R and capacitor C connected together. This work also focused on the photocatalysis process applied to the studied samples. Under solar irradiation, the photocatalytic application was tested in terms of the degradation reaction of wastewater containing methylene blue. Under similar experimental conditions, the NiMoO_4 thin film shows a higher rate of degradation than the other thin layers .