Synthesis and characterization of the $MnWO_4$ by process hydrothermal-microwave

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Recent efforts has been focused on the development of new nano materials, as nanotubes, nanorods, nanowire, mainly because of their only electronics, optics proprieties. Tungstates form part of a family of inorganic materials in which their compounds has a high potential for application, type humidity sensors photoluminescent, magnetics properties among others [1, 2]. The synthesis nano materials have been made by various methods, such as solvothermal, hydrothermal, hydrothermal-microwave [3]. Here we are a focus on syntheses hydrothermal-microwave, because by that method we can obtain materials at temperatures and time low. In our work was synthesized $MnWO_4$ in different times at 413 K taking as a reagent starting the $Mn(CH_3COO)_2$ and $NaWO_4$ at dodecyl sulfate of sodium (SDS) solution 0,04 M by 15 min.. Isolated $MnWO_4$ were then obtained by initial centrifugation, followed by washing with water, and finally oven drying at 373 K for 2 h. The sample were characterized by powder X-ray diffraction (XRD), FTIR with KBr as a diluting agent and operated in the range 400-1500 cm^{-1}, Raman Spectrometer and Scanning Electron Microscopy (FEG-SEM), where such experiments confirm the obtaining of $MnWO_4$.

Keywords: Hydrothermal-microwave, Magnetics properties and Photoluminescences.

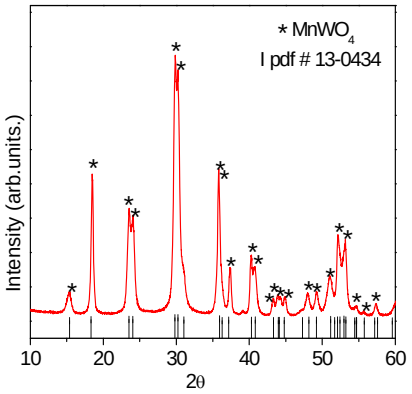

Figure 1: XRD patterns prepared by the hydrothermal-microwave of $MnWO_4$ 15 min.

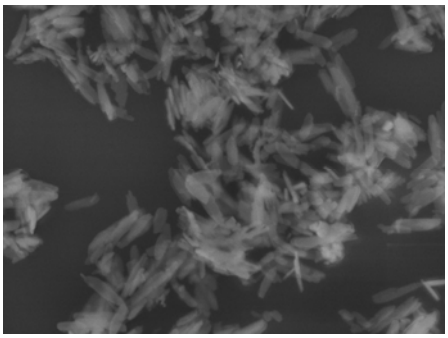

Figure 2: FEG-SEM micrographs of $MnWO_4$ powers processed in hydrothermal-microwave at 413 K for different.

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