

عنوان مقاله:

Microwave-assisted synthesis of molybdenum oxide nanoparticles

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خلاصه مقاله:

This paper focused on a simple approach for synthesis of molybdenum oxide (MoO₃) nanoparticles and reports a facile route for synthesis of such nanoparticles, using microwave irradiation as a homogenous and powerful source of heating, using ethylene glycol as the solvent and heating medium. For more investigations, besides microwave heating, the obtained solutions were also treated by conventional heating. Finally, product particles were characterized and compared using scanning electron microscopy (SEM) and energy dispersive X-ray microanalysis (EDX). According to the results, microwave irradiated particles showed a good dispersion and stability in relation to the other sample. So, the obtained product was subjected to X-ray diffraction (XRD) analysis to survey the formation of MoO₃ nanoparticles. The transmission electron microscope (TEM) micrographs were also recorded to study the size and morphology of the nanoparticles. According to the results, nanoparticles were spherical with an average size of about 50 nm. The absorbance spectrum of MoO₃ nanoparticles was further studied using the UV-vis spectroscopy and the absorbance peak was observed at 257 nm.

کلمات کلیدی:

„Molybdenum oxide nanoparticles, Microwave heating, Ethylene glycol

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