

## عنوان مقاله:

Synthesis and Characterization of the Ti-Doped Vanadium Oxide Nanotubes

## محل انتشار:

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## نویسنده:

azita salimian - Young researchers and elite club, Shahr-e-Rey Branch, Islamic Azad University, Tehran, Iran

## خلاصه مقاله:

Synthesis of different kinds of nanotubes were considering after the discovery of carbon nanotubes . Lately has been noticed synthesis of vanadium oxide nanotubes. Vanadium oxide nanotubes are made of multilayer scrolls with thick walls built up from several vanadium oxide layers. This compounds be used as catalysts, molecular sieves, absorbents and energy storage devices. In this research study for the first time Titanium doped vanadium oxide nanotubes (VONTs) were synthesized and characterized. This nanotubes have been synthesized by hydrothermal treatment at 180OC. Vanadium metal is known to be a catalytically active center in different molecular materials. Ti-doped VONTs were performed by using hydrothermal method. The structure and morphology of the nanotubes were investigated by x- ray diffraction (XRD), scanning electron microscopy (SEM) and Brunaur Emmett Teller Theory (BET). In contrast to the undoped VONTs, the interlayer distance between oxide layers in the (V<sub>0.95</sub>Ti<sub>0.05</sub>)xONTs increases owing to replacement of some V in nanotubes by Ti. The main objective of the study is to titanium doped vanadium penta-oxide .nanotubes. The results showed that Titanium 0.05wt% doped VONTs

## کلمات کلیدی:

Keywords: Vanadium Oxide Nanotubes (VONTs), Titanium (Ti), Hydrothermal, Doped

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