

## 2. NANO CHEMISTRY

### 2.1. Inorganic Materials

**3.2.1.1. Microwave synthesis of ZnO/Ag nanocomposite.** /A.A. Sargsyan, V.V. Baghramyan, N.B. Knyazyan, R.K. Hovsepyan, N.R. Aghamalyan, G.R. Badalyan/. Proceedings of NAS RA. Physics. – 2020. – vol. 55. – #4. – pp. 559-565. – rus.; abs.: rus., arm., eng.

A microwave (MW) method has been developed for the production of ZnO/Ag nanocomposites using chemical precipitation and decomposition of thermally unstable compounds. Chemical co-precipitation is a simple and effective method compared to other methods for producing ZnO/Ag nanocomposites. The characteristics of the synthesized product were determined by differential thermal analysis (DTA), X-ray phase analysis (XRD) and scanning electron microscopy (SEM). The studies show the effectiveness of MW processing for the preparation of ZnO/Ag nanocomposites. Fig. 4, Ref. 15.

**Keywords:** microwave (MW) method, ZnO/Ag nanocomposites, chemical precipitation and decomposition, differential thermal analysis (DTA), X-ray phase analysis (XRD), scanning electron microscopy (SEM)

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### 2.2. Organic Materials

**3.2.2.1. Photochemical degradation of phenol with the participation of TiO<sub>2</sub> nanoparticles and ethyl-3,3,5,5-tetraciano-2-hydroxide-2-metil-4,6-diphenyl cyclohexane carboxylate.** /E.M. Gadirova/. Azerbaijan Chemical Journal. – 2021. – #2. – pp. 101-105. – eng.; abs.: eng., az., rus.

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The photochemical decomposition of phenol with the participation of TiO<sub>2</sub> nano-particles and ethyl-3,3,5,5-tetraciano-2-hydroxide-2-metil-4,6-diphenyl cyclohexane carboxylate by UV spectroscopy was studied for the first time. It has been shown, that UV irradiation of this mixture during 1 hour brings to 52% decomposition of phenol. Fig. 5, Ref. 12.

**Keywords:** UV decomposition, photocatalysis, ethyl-3,3,5,5-tetracyano-2-hydroxy-2-methyl-4,6-diphenyl cyclohexane carboxylate, phenol, waste water solution

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