

Preparation and Characterization of Scolecite/ZnO Nanocomposite by a Novel Chemical Route

Anand B. Wadhav¹, Komal S. Bhagwat¹, Kiran R.Khere¹, Dnyaneshwari K. Sarsamkar¹,
Shital V. Ade¹, Supriya D.Chapte¹, Vijaypal B Wadhav², Dr. Praful D. Shirbhate¹,
Dr. D. L. Arakh¹, Dr. S. R. Vadrabade¹

Department of Physics, G. S. Gawande College, Umardhed, Maharashtra, India¹

Assistant Professor, Department of Physics, Shri. Renukadevi Mahavidyalaya, Mahur, Maharashtra, India²
anandwadhav2@gmail.com

Abstract: This research work has proposed preparation of Scolecite/ZnO nanocomposites (NCs) by a novel aqueous route using Zinc Nitrate Hexahydrate ($Zn(NO_3)_2 \cdot 6H_2O$) as a precursor and distilled water were used as solvent without any requirement of calcinations step at high temperature. The comprehensive structural studies carried out using Powder X-Ray diffraction (PXRD) and Fourier Transform Infrared Spectroscopy (FT-IR) PXRD spectrum showed that the ZnO Nanoparticles exhibited crystalline structure. The average crystallite sizes of the prepared NCs calculated by using Debye-Scherrer equation. The sharp peak in the FT-IR spectrum determined the purity of ZnO Nanoparticles.

Keywords: Nanocomposite (NCs), Natural Zeolite, Scolecite, Novel Chemical Route, ZnO, XRD, FTIR

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