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Synthesis and antimicrobial investigations of novel polymer-supported schiff bases

Dilek Nartop¹, Nurşen Sarı² and Hatice Öğütçü³

¹University of Nevşehir Hacı Bektaş Veli, Turkey

²Gazi University, Turkey

³AhiEvran University, Turkey

Coordination polymers have been investigated for their physical characteristics, chemical properties and biological activities. Polymeric-Schiff bases are widely being used in hydrometallurgy, bioinorganic systems and in the different field of nanotechnology. Also, polymeric macromolecules can be used as antibacterial agents. In this study, three novel polymer-bound Schiff bases were synthesized from condensation reaction of (4-formyl-3-methoxyphenoxy)methyl polystyrene and 2-aminophenol/2-amino-4-chlorophenol/2-amino-4-methylphenol. The polymer-supported Schiff bases were characterized by means of elemental analyses, FTIR, UV-vis, ¹H-NMR. The biological activities of synthesized compounds were investigated against some gram-positive bacteria (*Bacillus cereus* sp., *Listeria monocytogenes* 4b, *Micrococcus luteus*, *Staphylococcus aureus*, *Staphylococcus epidermis*) with some gram-negative bacteria (*Brucella abortus*, *Escherichia coli*, *Pseudomonas putida* sp., *Shigella dysenteria* type 10, *Salmonella typhi* H) and yeast (*Candida albicans*) by the well-diffusion method. The synthesized compounds showed a good antimicrobial activity. These modified polymers can be suggested as antibacterial materials in medicinal applications.

Biography

Dilek Nartop is an Assistant Professor of Inorganic Chemistry, University of Nevşehir Hacı Bektaş Veli. She received her PhD degree from Gazi University in 2006. Her research interests are focused on the synthesis, characterization and biological activity of Schiff bases; coordination polymers; enzyme immobilization and biocatalysis.

dileknartop@nevsehir.edu.tr