

Synthesis and Biological Studies of Some Sulfur, Selenium and Tellurium Organic Compounds Based on Diethanolamine

Abstract

Several new and known bis(2-(arylchalcogeno)ethyl)amines (i.e. $\text{HN}(\text{CH}_2\text{CH}_2\text{EAr})_2$; where E = S, Se and Te, Ar = C₆H₅, 4-CH₃C₆H₄, 4-CH₃OC₆H₄, 4-CH₃CH₂OC₆H₄, 4-BrC₆H₄, 4-ClC₆H₄ and 4-PhC₆H₄) were prepared by the reaction of bis(chloroethyl)amine with lithium arylthiolate or with the corresponding sodium arylchalcogenate (generated in situ by borohydride reduction of R₂Ee₂; i.e. ArENa⁺; E = Se and Te). All compounds were obtained in good yield and characterized by elemental analysis, IR, ¹H and ¹³C NMR and mass spectroscopic data. Antibacterial activity study of these compounds showed some promising activity against *S. aureus*, *P. aeruginosa* and *E. coli*.