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Spectroscopic Characterisation and Biological Applications of Organotin(IV) Derivatives of 3-(N-Naphthylaminocarbonyl)-2-propenoic Acid

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Abstract: In an effort to develop new organotin materials for investigation and biocidal evaluation, a series of compounds with the general formula $R_{4-n}SnL_n$ (where R = CH_3, n-C_4H_9, C_6H_5, $C_6H_5CH_2$ and L = 3-(N-naphthylaminocarbonyl)-2-propenoic acid) were synthesised, and characterised by elemental analysis, IR, multinuclear (^1H, ^{13}C and ^{119}Sn) NMR, ^{119m}Sn Mössbauer spectroscopy and mass spectrometry. The biological activity of these compounds against various bacteria and fungi was investigated. All of the compounds were active against the fungi tested with a few exceptions. These compounds also showed significant antibacterial activity. LD_{50} data show that the investigated compounds have significant toxicity.

Key Words: Organotin(IV) carboxylates, biological studies, spectroscopic studies

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