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New convenient formation characterization and biological screening of metal complexes containing triterpene acid

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In pharmaceutical key part is played by terpenoids and terpenes. This work leads to the formation of the hydrazide derivative of oleanolic acid utilizing benzaldehyde. As it appeared that metals proved to be useful against certain diseases so incorporation of several metals (Zn, Cu, Fe, Sb, Sn) in hydrazide group of oleanolic acid was practiced, which resulted in the synthesis of eleven complexes. The change in physical and spectroscopic data analysis confirmed the formation of complexes as well as a ligand. In IR spectra, a form of new bands in the range of 3300-3385cm^{-1} necessary the structure of ligand. ^{1}H NMR structural elucidation of ligand due to the presence of CONH and NH peaks at 4.11ppm and 7.92 ppm respectively. The peak appeared for phenyl and methyl group showed the structure of organotin complexes. Biological evaluation exhibited that metal complexes have better results than ligand. During the antioxidant assay, the $LSnMe_3$ persuade good results than the ligand. In the case of antifungal activity metal complexes also showed more powerful results than ligand. Antibacterial screening reveals that the metal complexes especially, $LSbBr_3$ and $LCu(CH_3COO)_2$ have a good zone of inhibition against Shigella than the ligand and standard (Tetracycline). After Spectroscopic analysis and biological evaluation, it is concluded that the structure of ligand and its metal complexes corresponded with proposed structures. As these results from such demonstrations lead to an era inter addition of metals in terpenes should be worked on to facilitate human life.

Biography

Khadija Shahid has been serving as an Associate Professor at RIPS, RIU, involved in the synthesis of organometallics and bioassays. She is an expert at using UV-Vis, FT-IR, NMR, Mass Spectrometer and Atomic Absorption Spectrophotometer. She received her PhD degree in chemistry(Inorganic/Analytical) from QAU, Islamabad after completing 3years research at University of Bayreuth (Germany), completed a year of Post Doc studies at the same institute. She has visited Germany in 2010-2017 as a Visiting Scientist. She has collaborations including the University of Bayreuth, University of Oxford. She has published 50+ papers, 60+ impact factor and citation index of 360 +.

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