

Antibacterial potentials of Pentacyclic Triterpenoidal Sapogenins from *Bligha sapida* seed pods

Labake Ajoke Fadipe

Federal University of Technology, Nigeria



Abstract

Bligha sapida (family Sapindaceae) is a plant widely used in ethnomedicine for the treatment of dysentery, dental decay and whitlow. Qualitative and quantitative analysis of the 50% ethanol extract of the plant (B) revealed a rich presence of saponins. Extraction and acid hydrolysis of the crude saponins (Bs) yielded crude sapogenins (Bss) which was fractionated using various chromatographic techniques to afford five pentacyclic triterpenes (coded Bss1- Bss5) whose structures were elucidated using physical, chemical and spectroscopic data in comparison with literature data. B, Bs, Bss and Bss1- Bss5 were evaluated for their antibacterial potentials against three Gram-positive and three Gram-negative bacterial strains in comparison with Erythromycin using the agar dilution method. The isolated compounds were characterized as friedelin (Bss1), friedelinol (Bss2), β -amyrin (Bss3), oleanolic acid (Bss4) and hederagenin (Bss5) respectively. The crude extract, B, crude sapogenins, Bss and isolated compounds (Bss1 - Bss4) were moderately active against all test strains, while, the crude saponins, Bs was only active against Gram-positive strains, all at different concentrations in comparison with Erythromycin. The results of these findings justify the strong presence of pentacyclic triterpenes in the seed pods of *Bligha sapida*, as well as their contributions to the antibacterial efficacy of the plant.

Biography:

Fadipe L. A is Associate professor at Federal University of Technology, Nigeria. She started her research on Physical chemistry at Federal University of Technology, Nigeria. During her Ph.D. she joined research groups at Federal University, Nigeria. She obtained Ph.D on 2013, and started her academic carrier as assistant professor at Federal University of Technology, and promoted to Associate professor on 2019. Labake Ajoke Fadipe has successfully published several papers.

Speaker Publications:

1. "Photocatalytic degradation of local dyeing wastewater by iodine-phosphorus co-doped tungsten trioxide nanocomposites under natural sunlight irradiation".
2. "One-step green synthesis of WO₃ nanoparticles using Spondias mombin aqueous extract: effect of solution pH and calcination temperature".
3. "Anti-Tubercular Activities and Molecular Characterization of Salivary Extract of Leech (*Hirudo medicinalis*) against Mycobacterium tuberculosis".
4. "Assessment of nutritional properties of fermented and unfermented seed of cissus populnae from niger state, Nigeria".
5. "An enhanced mangifera indica for dye sensitized solar cell application".

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