

SYNTHESIS AND EVALUATION OF ANTIMICROBIAL ACTIVITY OF TETRANORLABDANE COMPOUNDS BEARING 1,3,4-THIADIAZOLE UNITS

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Abstract. Synthesis of novel tetranorlabdane compounds bearing 1,3,4-thiadiazole units and intermediary tetranorlabdane compounds with thiosemicarbazone fragment has been reported. The structures of the synthesized compounds were confirmed using IR and ¹H, ¹³C, and ¹⁵N NMR spectroscopy. The *in vitro* antifungal and antibacterial activities of the tetranorlabdane compounds with thiosemicarbazone and 1,3,4-thiadiazole units have been evaluated. Results of this study have shown that one of the tested compounds has an excellent activity against five strains of fungi and two species of bacteria at minimum inhibitory concentration values of 0.125 and 2.5 µg/mL, respectively.

Keywords: (+)-sclareolide, tetranorlabdane compound, 1,3,4-thiadiazole, thiosemicarbazone, antimicrobial activity.