



Synthesis, Characterization and Antibacterial Evaluation of E-N'-(2-methoxy-6-pentadecyl-substituted-benzylidene)benzohydrazide Derivatives

P.Veerabhadra Swamy*^{1,2}, K.B.Chandrasekhar³ and Pullaiah China Kambhampati¹

1. Laxai Avanti Life Sciences, Lab#9, ICICI Knowledge park, Shameerpet, Turkapally Village, Hyderabad-500 078, **INDIA**

2. Department of Chemistry, Jawaharlal Nehru Technological University Hyderabad, Hyderabad-500085, Telangana, **INDIA**

3. Department of Chemistry, Jawaharlal Nehru Technological University Anantapur, Anantapuramu-515002, A.P., **INDIA**

Email: pvswamy@laxaiavanti.com

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ABSTRACT

Anacardic acid, is a natural product found in cashew nut shells and is associated with antiinflammatory, antitumor, molluscicidal, and anti-microbial activities. The synthesis of E-N'-(2-methoxy-6-pentadecyl-substituted-benzylidene)benzohydrazide (**6a-6k**) was accomplished from the key intermediate 2-methoxy-6-pentadecyl-benzaldehyde **4** which is in turn achieved from 2-hydroxy-6-pentadecylbenzoic acid **1** (anacardic acid). All the synthesized compounds were characterized by spectroscopic techniques like ¹H NMR, IR and MS analysis. These compounds were further evaluated for antimicrobial screening against Gram negative strains of (i) *Escherichia coli* (MTCC 443) and (ii) *Pseudomonas aeruginosa* (MTCC 424) and Gram positive strains of (iii) *Staphylococcus aureus* (MTCC 96) and (iv) *Streptococcus pyogenes* (MTCC 442). Compound **6e**, **6i** and **6k** with substitution R = 4-OMe, 3,4,5-OMe and 2,5-difluoro exhibited good antibacterial activity.

Keywords: Antibacterial Activity, Anacardic acid, Benzohydrazides, Synthesis, Gram positive bacteria, Gram negative bacteria.
