

Synthesis of Novel 1,3-Indandione Derivatives and Investigation Their Anti-Microbial and Anti-Fungal Activity

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1,3-Indanedione derivatives, which are of wide interest because of their diverse biological and chemical applications. A series of novel 1,3-Indanedione derivatives are synthesized via KNOEVENAGEL condensing reaction mechanism by condensing 1,3-Indanedione with diverse aryl aldehydes using 2-hydroxyethylammonium formate as ionic liquid and catalyst. All the synthetic derivatives were fully characterized by spectral analysis data (FT-IR, ¹H- ¹³C-NMR and elemental analysis).

This series of 7 compounds were tested for in vitro anti-bacterial activity against Gram- negative *Escherichia coli* ATCC 25922 and *Proteus mirabilis* ATCC 43071, Gram-positive *Staphylococcus aureus* ATCC 25952 and *Enterococcus faecalis* ATCC 29212. Anti-fungal activity of the newly synthesized derivatives was evaluated by Disc diffusion method with *Candida albicans*. The newly synthesized compounds are evaluated for their antimicrobial activity (by using Cup-Plate method against selected bacterial strains among total compounds, compounds 7 was found to have higher activity against selected strains and the results were found to be as moderate activity, for anti-fungal activity-compounds 2,5 are more potent .

Biography:

My study: Hannover university of Germany , Ph.D of Biochemistry, lower Saxony Institute for Peptide Research, Hannover , Germany

My research interest: Synthesis of biological active organic molecules and natural products and search for novel pharmacophores., synthesis of novel nanocatalysts.