



Condensed Bridge Head Nitrogen Heterocyclic Compounds: Facile Synthesis, Characterization and Bioactivity Studies of Some Substituted-7H-[1,2,4]triazolo[3,4-b][1,3,4]thiadiazines

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Received on 25th July and finalized on 22nd August 2013.

ABSTRACT

Two series of compounds namely, 3-(2-bromo-5-methoxyphenyl)-7-(substituted-benzylidene)-6-(substituted-phenyl)-7H-[1,2,4]triazolo[3,4-b][1,3,4]thiadiazines (**13a-h**) and 3-(2-bromo-5-methoxyphenyl)-6-(substituted-phenyl)-7H-[1,2,4]triazolo[3,4-b][1,3,4]thiadiazines (**14a-h/16**) were synthesized by cyclocondensation between 4-amino-5-(2-bromo-5-methoxyphenyl)-2,4-dihydro-3H-[1,2,4]triazole-3-thione (**4**) and 2-bromo-1,3-diaryl-prop-2-en-1-ones (**9a-h**) or 2-bromo-1-aryl-ethanones (**11a-h** and **15**) in ethanol with an aim to explore their antioxidant, analgesic, anti-inflammatory activity and effect on in vitro growth of micro-organism causing microbial infection. The antioxidant properties of synthesized compounds were evaluated by scavenging effect on DPPH radical method. In vitro antimicrobial activity was performed against four bacterial and four fungal strains. The analgesic and anti-inflammatory activities were evaluated by applying carrageenan-induced paw oedema bioassay and tail flick methods respectively. Some of the compounds were associated with moderate to good antioxidant, antimicrobial, analgesic and anti-inflammatory activity.

Keywords: [1,2,4]triazolo[3,4-b][1,3,4]thiadiazines, Antioxidant activity, Anti-microbial activity, Analgesic activity, Anti-inflammatory activity.
