



**UNIVERSITY GRANTS COMMISSION
MINOR RESEARCH PROJECT**

NAME AND ADDRESS OF THE PRINCIPAL INVESTIGATOR:

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TITLE OF THE PROJECT:

Synthesis and Pharmacological Evaluation of Ibuprofen Derivatives

OBJECTIVES OF THE PROJECT:

- To synthesize some novel ibuprofen derivatives.
- To establish simple, rapid and eco-friendly methods for the synthesis of these compounds via one-pot or microwave irradiation.
- To establish the structure of the newly synthesized compounds by spectral and analytical data.
- To evaluate the biological activities like anti-inflammatory, analgesic, antioxidant and ulcerogenic properties of the newly synthesized compounds.

ABSTRACT

Some ibuprofen analogues were synthesized as per the schemes. Simple, rapid and eco-friendly methods are employed to achieve the ibuprofen derivatives by means of microwave and one-pot methods. These methods dramatically reduced reactions times and increased the product yield. The newly synthesized compounds have been characterized by their analytical and spectral data such as ^1H NMR, IR and Mass Spectra. The newly synthesized compounds were subjected to biological screening; such as anti-inflammatory employing carrageenan-induced paw edema method, analgesic activity employing hotplate method, antioxidant studies by means of DPPH method and ulcerogenic activity. Thus some biologically potent ibuprofen derivatives such as 4-[(4-furyl)methylidene]amino-2-(substituted-4-ylmethyl)-5-[1-(isobutylphenyl) ethyl]-2,4-dihydro-3*H*-1,2,4-triazole-3-thione and *N'*-(arylmethylidene)-2-(4-isobutylphenyl) propanoyl hydrazones were able to synthesise.