



Microwave Assisted Facile One Pot Synthesis and Antimicrobial Activity of Some New Pyrazolo [3, 4-d] Pyrimidine Derivatives

Shelly Thakur¹, Sumeet Kaur¹, Monika Bansal², Manvinder Kaur¹, Mohamad Yusuf¹
and Balbir Kaur^{1*}

1. Department of Chemistry, Punjabi University, Patiala 147001, Punjab, **INDIA**

2. Department of Chemistry, Khalsa College, Patiala 147001, Punjab, **INDIA**

Email: drbalbirkaur@gmail.com

Accepted on 9th April 2016

ABSTRACT

3-methyl-1-phenyl-pyrazol-5-one 1 was used for the preparation of some new pyrazolo (3,4-d) pyrimidines derivatives **2a-2i**. Microwave assisted three component condensation of *3-methyl-1-phenyl-pyrazol-5-one 1*, thiourea and aromatic aldehydes gave 4-substituted pyrazolo (3,4-d) pyrimidines resulting from cyclization. The structures of the products obtained were confirmed by spectral data. All compounds of the series have been screened for their antibacterial (Gram positive and Gram negative) and antifungal studies. The most active compounds are **2b** against the bacterial strain *P. aeruginosa* and **2d** against the bacterial strains; *B. subtilis* and *P. glabrum* at M.I.C. $8\mu\text{g mL}^{-1}$. Rest of the compounds showed moderate activity against tested microbial strains at M.I.C. of $32-16\mu\text{g mL}^{-1}$.

Keywords: Pyrazolo (3,4-d) pyrimidines, microwave, Synthesis, antimicrobial activity.
