



Synthesis, Characterization and *in vitro* Antimicrobial Activity of Newly Synthesized 4-(2'-cyanobiphenyl-2-yl)-3, 4-dihydropyrimidines

Atul H Makwana* and Alimamad H Malani

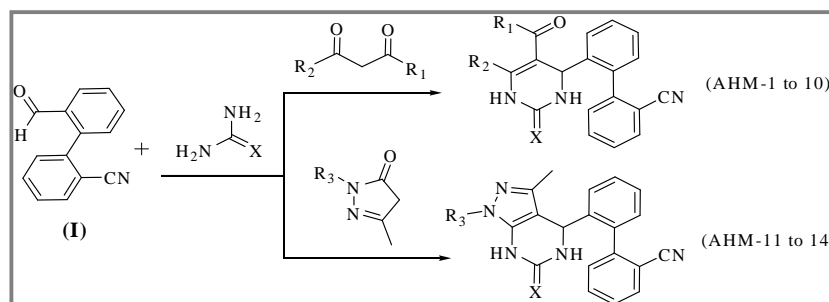
St. Xavier's College (Autonomous) (Affiliated to Gujarat University), Navarangpura,
Ahmedabad-380009, **INDIA**
Email: makwana_atul@yahoo.com

Accepted on 1st May, 2019

ABSTRACT

A series of fourteen novel cyano group containing 3, 4-dihydropyrimidine derivatives was synthesized through Biginelli reaction. It has used different seven β -Keto esters i.e. ethylacetoacetate, acetoacetanilide, 2,6-dimethylacetoacetanilide, methyl acetoacetate, ethylcyanoacetate, 3-methyl-5-pyrazolone, 1-phenyl, 3-methyl-5-pyrazolone etc and urea or thiourea along with 2'-formylbiphenyl-2-carbonitrile (I) in dimethyl sulphoxide solvent. The structures of newly synthesized compounds were established by IR, ^1H NMR, and Mass spectrometry. The synthesized compounds were evaluated for their *in-vitro* anti-microbial activity by using broth dilution method to determine their minimum inhibitory concentration.

Graphical Abstract



Keywords: Cyano biphenyl dihydropyrimidine, Biginelli product, Suzuki reaction, Anti-microbial activity, Multicomponent reactions (MCRs).