Abstract

Some new substituted 4-Methyl quinazoline derivatives (DJP/D102 to DJP/D125), substituted 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol derivatives (DJP/D131 to DJP/D145), substituted 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol ester derivatives (DJP/D146 to DJP/D155) and substituted 3-Trifluoromethyl-5,6,7,8-tetrahydro-[1,2,4]triazolo[4,3-a]pyrazine derivatives (DJP/D156 to DJP/D165) are synthesize. All the synthesized compounds were confirmed for their structure by FT-IR, $^1$H-NMR, $^{13}$C-NMR, and Mass spectra and were tested in vitro for their antibacterial activity. All the new compounds showed moderate antimicrobial activity in the agar cup assay method.

Graphical Abstract:

[A]
New substituted 4-Methyl quinazoline derivatives. Reaction scheme shown as given below.

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\text{R= substituted Piperazine, Piperadine, Morpholine, substituted Morpholine, Phenyl amine, Pyrrolidine, substituted pyrrolidine, aliphatic amine, aromatic amine, substituted pyrrole}
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[B]
New 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol derivatives. Reaction scheme shown as given below.
Where \( R = \) alkyl halide and aryl halide

New 5-Pyrrol-1-yl-1H-benzoimidazole-2-thiol ester derivatives. Reaction scheme shown as given below.

Where

\( R = \) Different aliphatic acid substituent.

TBTU = 2-(1H-benzotriazole-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate.

DIPEA = N,N-Diisopropyl ethyl amine.

DMF = N,N-Dimethyl formamide.
novel 3-Trifluoromethyl-5,6,7,8-tetrahydro-[1,2,4]triazolo[4,3-a]pyrazine derivatives. Reaction scheme shown as given below.

Where

R= Different aliphatic and aromatic acid substituent.
TBTU=2-(1H-benzotriazole-1-yl)-1,1,3,3-tetramethyluronium tetrafluoroborate.
DIPEA=N,N-Diisopropyl ethyl amine.
DMF=N,N-Dimethyl formamide.

Keywords: Quinazoline, Benzimidazole, Triazole antibacterial and antifungal activity.