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Synthesis and Characterization of Fluorinated 4-Thiazolidinones, 4-Imidazolidinones and 2-Azetidinones bearing Pyrimidine Nucleus

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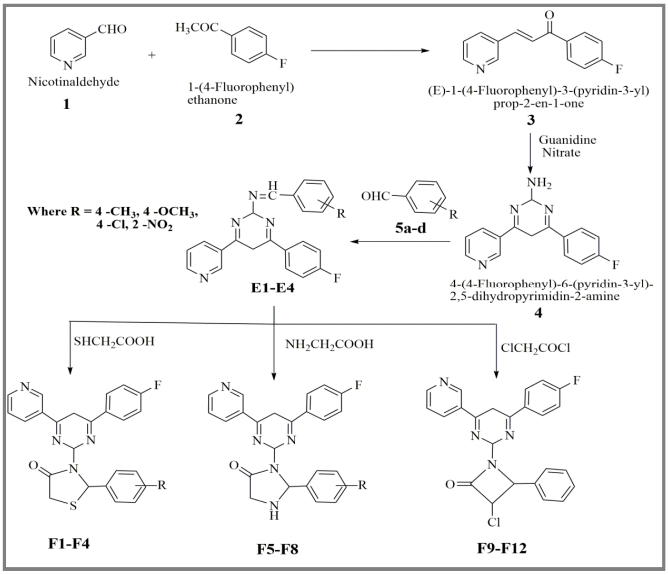
ABSTRACT

Nicotinaldehyde 1 and 1-(4-Fluorophenyl) ethanone 2 were treated to produce α, β-unsaturated ketone 3 which on treatment with Guanidine nitrate to give amine 4. Prepared amine 4 on treatment with various aldehydes 5a-d to produced products E1-E4. Prepared compounds E1-E4 were treated with Thioglycolicacid, Amino acetic acid and Chloroacetylchloride respectively to produce final products 4-thiazolidinones (F1-F4), 4-imidazilidinones (F5-F8) and 2-azetidinones (F9-F12) respectively.

Graphical Abstract



Synthesis of fluorinated pyrimidines compounds [F1-F12].

Keywords: Nicotinaldehyde, Guanidine nitrate, 4-thiazolidinones, 4-imidazilidinones, 2-azetidinones.