Synthesis of new heterocyclic system: [1,3]oxazolo[4,5-d] [1,2,4]triazolo[4,3-a] pyrimidine

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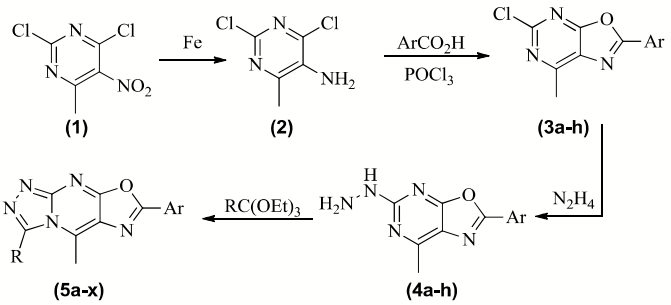
Fused pyrimidines such as oxazolopyrimidines have attracted increasing interest because of their diverse biological activities such as anti-inflammatory, analgestic and antimicrobial agents.[1-3]

Regarding these points, it seems to need for identification of novel structure that may be of use in designing new, potent and effective pharmacological active compounds like 1,2,4-triazole moieties fused to oxazolo[4,5-d]pyrimidine ring at 6,7 position.

In this study, 2,4-dichloro-4-nitro-6-methyl-pyrimidine (1) was reduced with iron to give the amino derivative (2). Compound (2) was treated with various derivatives of arylcarboxylic acids to obtain quantitatively the cyclized products 3(a-h) as precursors. The subsequent reaction of compounds 3(a-h) with hydrazine hydrate and treatment with some triethylorthoesters attained the corresponding novel heterocyclic system of [1,3]oxazolo[4,5-d][1,2,4]triazolo[4,3-a]pyrimidine derivatives 5(a-x) in good to excellent yields.



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