-Synthesis of New Fused Thienopyrimidines Derivatives as Anti inflammatory Agents

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Abstract:

5-Amino-2-(p-tolylamino)-4-phenylthieno[2,3-d]pyrimidine-6-carbonitrile 9, which was synthesized by an innovative method, was used as a versatile precursor for synthesizing pyrimido-thienopyrimidine, triazolopyrimidothienopyrimidine, and pyrimidothienotriazine compounds. Thus, reaction of aminothienopyrimidinecarbonitrile 9 with chloroacetylchloride in dioxane afforded the chloroacetylaminocarbonitrile derivative10, which underwent nucleophilic substitution reactions with various primary and secondary amines gave the correspondingN-alkyl-(aryl)amino acetamides 11a,b. On the other hand, the reaction of aminocarbonitrile9with triethyl orthoformate followed by cyclization with hydrazine yielded an aminoiminopyrimidine derivative13. The latter was used as versatile precursor for synthesis of new heterocyclic compounds. The structures of all the new compounds have been established on the basis of their analytical and spectral data (IR, 1 H NMR, 13 C NMR, and MS). Some of the synthesized compounds were evaluated in vitro for their anti-inflammatory activity. All the tested compounds exhibited remarkable anti-inflammatory activity.

Published In:

J. Heterocyclic Chem , Volume 54, Issue 6 , 11