
Zinat Gordi, a Mehd Bakavoli, a,b Mohammad Rahimizadeh b
aDepartment of Chemistry, Payame Noor University, Torbat-e-Heydarieh, Iran.
bDepartment of Chemistry, School of Sciences, Ferdowsi University of Mashhad, Mashhad, 91775-1436, Iran.
*Corresponding Author E-mail: mbakavoli@yahoo.com

Furo[2,3-d]pyrimidines have received much attention due to their biological activities. Antifungal, antibacterial, antiviral, antifolate, antitumor, and anti-HCMV (human cytomegalovirus) activities have been described for these compounds [1]. Recently, some furopyrimidines were shown to be potent LCK (lymphocyte-specific kinase) [2], PI3K (phosphoinositide 3-kinase) [3], VEGFR2 (vascular endothelial growth factor receptor2) and EGFR (epidermal growth factor receptor) inhibitors [4]. Furthermore, a wide range of biological activities has been attributed to fused triazoles, triazines and tetrazoles [5].

In connection with our interest in the synthesis of polyheterocyclic systems, we now report here the utility of 4-imino-3,6-diphenyl-3,4-dihydrofuro[2,3-d]pyrimidine-2(1H)-thione I for the synthesis of some novel tricyclic fused furo[3',2':5,6]pyrimido[2,1-c][1,2,4]triazines III and furo[3,2-e][1,2,3,4]tetrazolo[1,5-a]pyrimidine IV from α-haloketones and nitrous acid respectively in high yields.

References: