Halocyclization of 6-Allylthiopurines

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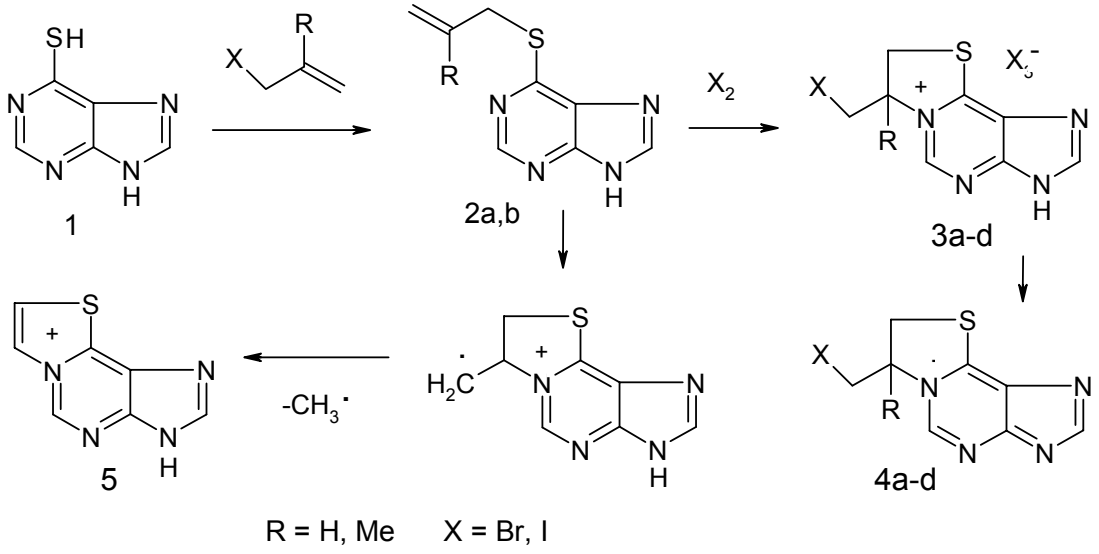
6-Mercaptopurine (**1**) and its derivatives possess high biological activity. We have devised new preparative synthesis of 7-substituted of 7,8-dihydrothiazolo[2,3-*i*]purines by halocyclization of 6-allylthiopurine (**2a**) and 6-[(2-methylallyl)thio]purine (**2b**). Sulfides **2a,b** were obtained by allylation of purine 1 by allyl bromide in hexamethylphosphorustriamide (HMPTA) in basic medium at room temperature.



By addition of bromine and iodine to the compounds **2a,b** in chloroform trihalides of 7-halogenmethyl-7,8-dihydrothiazolo[2,3-*i*]purinium (**3a-d**) were obtained. Under the basic treatment compounds **3a-d** gave 7-halogenmethyl-7,8-dihydrothiazolo[2,3-*i*]purines (**4a-d**).

Structures of synthesized compounds were confirmed by NMR ^{1}H, ^{13}C and chromato-mass-spectrometry. So in mass-spectrum of sulfide **2** more intensive signal with *m/z* 177 corresponds to the elimination of methyl radical with the formation of aromatic cation of thiazolo[2,3-*i*]purinium (**5**).