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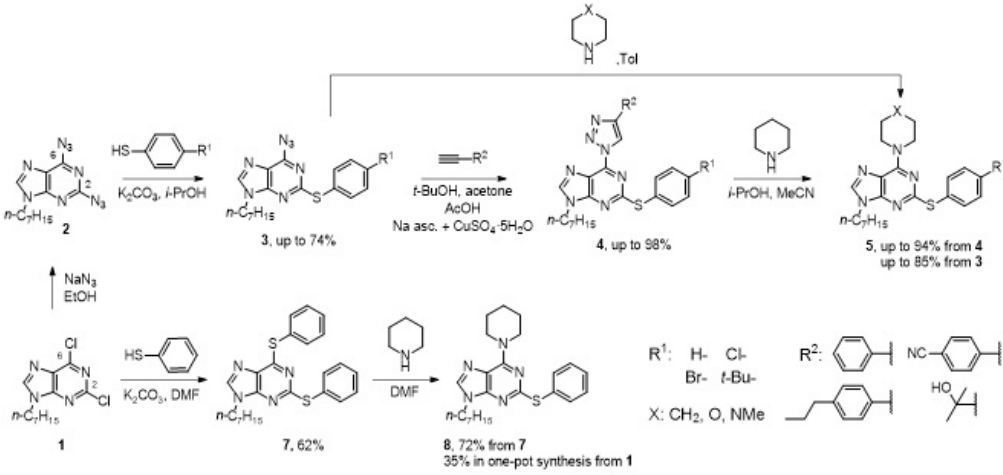
AZIDE-TETRAZOLE EQUILIBRIUM MEDIATED S_NAR REACTIONS OF ARYLTHIOPURINE DERIVATIVES

Andris Jeminejs

Faculty of Materials Science and Applied Chemistry, Riga Technical University,
P. Valdena iela 3, Riga, Latvia
E-mail: andris.jeminejs@rtu.lv

Several purine based compounds that contain both arylthio and amino moieties have been established as potential medicine in the treatment of adenocarcinoma, chronic lymphocytic leukemia and other carcinogenic disorders [1, 2]. Till now purine derivatives with arylthio and amino groups at C(2) and C(6) positions were not synthesized.

Several synthetic approaches for the synthesis of 6-amino-2-arylthiopurine derivatives **5** and **8** were developed. 2,6-Diazidopurine derivative **2** was proven to be a valuable starting material for introduction of arylthio group at C(2) position of purine. Both triazoles and thiophenolates can be used as good leaving groups in nucleophilic aromatic substitution reactions with amines giving products in yields up to 94% and 85%, respectively.



Compound **3** exists in a broad, easily shifted azide-tetrazole equilibrium that affects the regioselectivity of S_NAr reaction with amines, providing the target products **5** with good yields up to 85%.

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Supervisor: *Dr. chem. Ē. Bizdēna, Dr. chem. I. Novosjolova*

References:

[1] Speranza, G. et al. *Invest. New Drugs*, **2018**, *36*(2), 230–239.
[2] Hei, Y. et al. *Bioorg. Med. Chem.*, **2018**, *26*(8), 2173–2185.