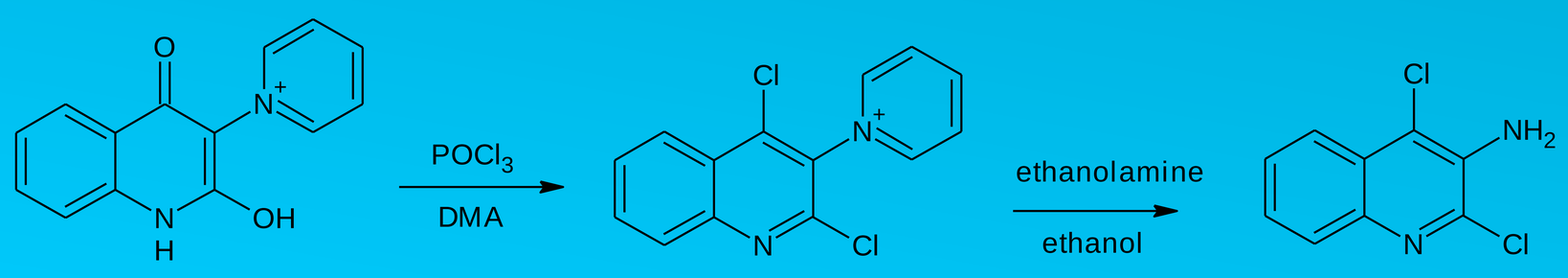
Preparation and Reactivity of 3-amino-2,4-dichloroquinoline

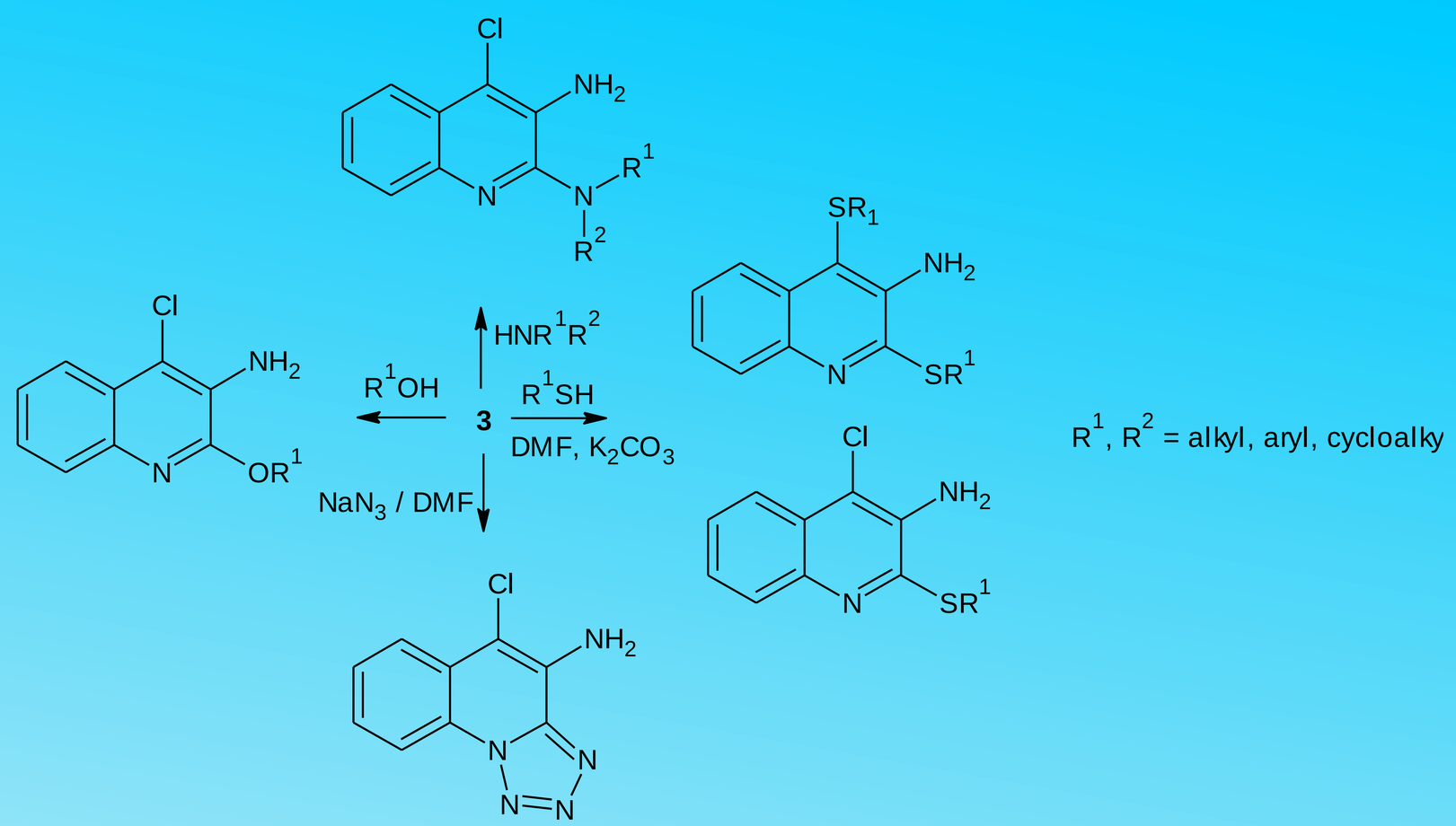
Adam Šimáček,[a] Martin Grepl,[b] Ludmila Hradilová, [a,b] Pavel Hradil [a,b]
[a] Department of Organic Chemistry, Palacky University, Tr. 17. listopadu 12, 771 46 Olomouc, Czech Republic;
[b] Farmak a.s.; 771 17 Olomouc, Czech Republic;

Quinoline derivatives are a class of heterocyclic compounds that have importance in organic chemismy, pharmaceutical chemismy and as precursors for many biologically active compounds.[1,2] The best-known quinoline alkaloid is quinine, which has been widely used to treat malaria.[3] Some new thiazolo[5,4-b]quinolines have recently been considered as potential anticancer drugs.[4,5] Our interest was in the synthesis of 3-amino-2,4-dichloroquinoline **3** from compound **1**, which was chosen as a simple and versatile starting material.[6] The reaction of compound **1** with an excess of phosphorus oxychloride and a catalytic amount of *N*,*N*-dimethylaniline (DMA) gave compound **2** in good yield. The transformation of compound **2** into **3** was performed using an ethanolamine in an ethanolic solution:



1 **2** **3**

Reaction of compound **3** with various oxygen-, sulfur- and nitrogen-containing nucleophiles gave a series of 2-substituted-3-amino-4-chloroquinolines and 2,4-disubstituted-3-aminoquinolines:



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