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Reactivity of 6-imidatopurines with benzylhydrazine

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Reactivity of 6-imidat-purines with benzylhydrazine

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Mycobacterium tuberculosis is a bacterium responsible for thousands of deaths worldwide [1]. Its acquired resistance referred to multi-drug resistance (MDR) is due to the restrictive choice of antibiotics, the prolonged course of therapy, globalization and continuous patient noncompliance [2]. Hence, MDR tuberculosis has led researchers worldwide in the quest to find novel drugs to combat these threatening new strains.

In our research group, 6-imidatopurines of general structure **1** (Figure 1) were identified as precursors to generate 6-amidinopurines of general structure **2** (Scheme 1) [3,4]. When reacting compounds of structure **1** with a selected hydrazide **a** (Scheme 1) in the experimental conditions established by our research group, compounds with structure **2** are promptly obtained.

When the same reaction conditions were used with benzylhydrazine to obtain products **2** (Scheme 1) an unexpected new derivative was isolated. The proton NMR spectrum of the new derivative showed the absence of the alkyl moiety. Furthermore, the data was not compatible with the purine nucleus. The HMBC and HMQC data showed that the new compound contained the pyrimidopyrimidine core.

All the results will be shown and a possible mechanistic approach will be presented and discussed in order to understand the formation of the new derivative.

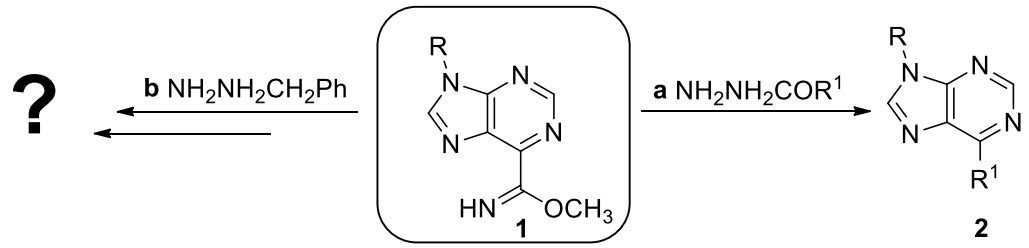

Figure 1

Scheme 1.

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