

An unexpected result of the of 5,6-diamino-1,3-dimethyluracil condensation with mesityl oxide

V.A.Chebanov, N.N.Kolos , O.V.Shishkin,
S.V.Shishkina, V.D.Orlov**

Institute for Single Crystals, National Academy of Sciences of Ukraine,
60 Lenin Ave., 61001 Kharkiv, Ukraine

*V.Karazin Kharkiv National University,
4 Svobody Sq., 61077 Kharkiv, Ukraine

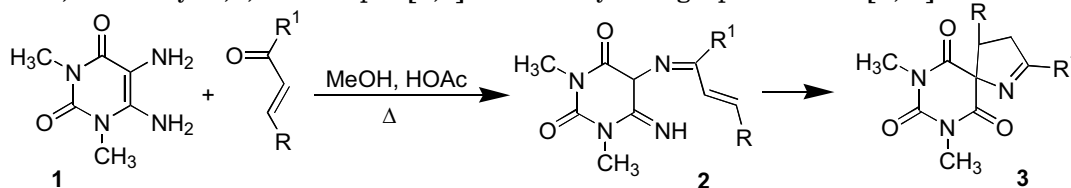
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The work is aimed at interaction of 1,3-dimethyl-5,6-diaminouracil with mesityl oxide. Using X-ray analysis, the reaction direction has been shown to be different from that described in literature: instead of 1,3,6,8,8-pentamethyl-2,3,4,7,8,9-hexahydro-1H-pyrimido[4,5-b][1,4]-diazepin-2,4-dione, 1,3,6,6,8-pentamethyl-2,3,4,5,6,7-hexahydro-1H-pyrimido[4,5-b][1,4]-diazepin-2,4-dione was isolated unexpectedly. This type of interaction is not typical of reaction of 1,3-dimethyl-5,6-diaminouracil with α,β -unsaturated carboxylic compounds.

Работа посвящена взаимодействию 1,3-диметил-5,6-диаминоурацила с окисью мезитила. При помощи рентгеноструктурного анализа показано, что направленность реакции отличается от описанной в литературе: вместо 1,3,6,8,8-пентаметил-гексагидро-1H-пиримидо[4,5-b][1,4]дiazепин-2,4-диона неожиданно образуется 1,3,6,6,8-пентаметил-2,3,4,5,6,7-гексагидро-1H-пиримидо[4,5-b][1,4]дiazепин-2,4-дион. Такая направленность не характерна для реакций 1,3-диметил-5,6-диаминоурацила с α,β -непредельными карбонильными соединениями.

It is well known that 5,6-diamino-1,3-dimethyluracil **1** is a useful starting material to synthesize new heterocyclic compounds with a wide variety of chemical and physical properties. In our previous papers [1, 2], we reported that under acid conditions in alcohol solution, the diamine **1** reacts with α,β -unsaturated ketones to give 2,4-disubstituted 7,9-dimethyl-1,7,9-triazaspiro[4,5]dec-

1-ene-6,8,10-triones **3**. It has been shown that the first reaction step is the formation of Schiff bases **2** that undergone hydrolysis at the 6-aminogroup which located in imino form. Then the cyclization into **3** occurs (Scheme 1). This way of interactions was established by synthetic, spectral and X-ray crystallographic means [1, 2].



Scheme 1. R = Ar; R¹ = Ar, Me, CH = CH-Ar