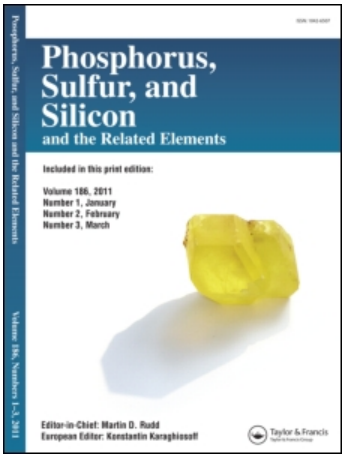

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pH Dependent Hantzsch Cyclization of the Thioureidobisphosphonates

Alexey Chuiko[a]; Ludmila Philonenko[a]; Anatoly Borisevich[a]; Miron O. Lozinsky[a]
[a] National Academy of Sciences of Ukraine, Ukraine

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pH DEPENDENT HANTZSCH CYCLIZATION OF THE THIOUREIDOBISPHOSPHONATES

Alexey Chuiko, Ludmila Philonenko, Anatoly Borisevich, and Miron O. Lozinsky
National Academy of Sciences of Ukraine, Ukraine

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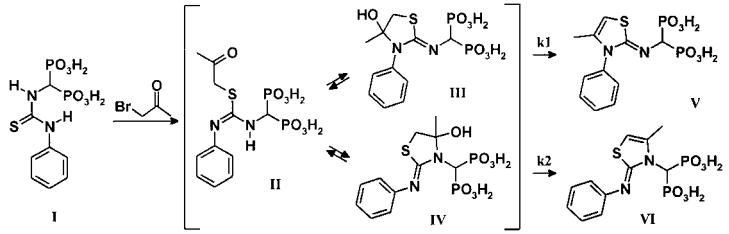
Reaction of the Phenylthioureidobisphosphonic acid (**1**) with bromoacetone quickly leads to the isothiourea (II) in equilibrium with hydroxy-thiazolines (III, IV). Next slow dehydratation leads to the isomeric thiazoles (V, VI).



SCHEME 1

Data on the dependence of the velocities of this dehydratation on quantities of the NaOH in the reaction mixture presented at the diagram (Figure 1).

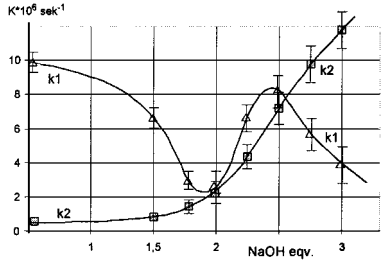


FIGURE 1

Address correspondence to Miron O. Lozinsky, Institute of Organic Chemistry, National Academy of Sciences of Ukraine, Murmanskaya Str. 5, Kiev, 02094, Ukraine. E-mail: iochkiev@ukrpack.net

As for our opinion, this dependence may be the result of hydrogen bonding in the catione of (IV).

REFERENCE

[1] A. Chuiko, L. Philonenko, A. Borisevich, and M. O. Lozinsky, *Phosphorus, Sulfur & Silicon*, **111,** 65 (1996).