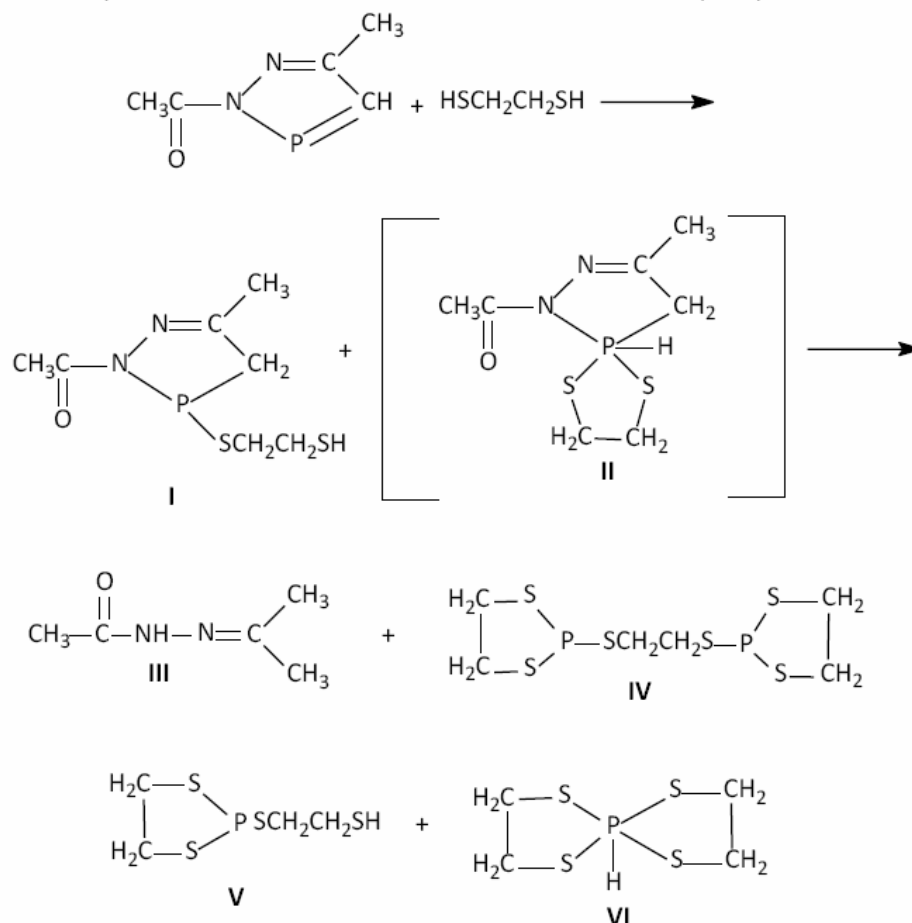


Reaction of 2H-1,2,3-diazaphosphole with ethane-1,2-dithiol

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. We have studied the interaction of the cyclic derivatives of the two-coordinated phosphorus, containing $\sigma^2\lambda^3$ P=C bond – 2-acetyl-5-methyl-2H-1,2,3-diazaphosphole – with 1,2-ethanedithiol. We have found (via kinetic ^{31}P NMR spectroscopy) that the reaction of the 2H-1,2,3-diazaphosphole with dithiol at temperature -30°C leads to the formation of 1,2,3-diazaphospholene **I**.



By the increase of temperature take place the fragmentation of the diazaphospholene ring with the formation of hydrazone **III**, trithiophosphite **V** and symmetrical bisphosphite **IV** as the main products. The structure of all products was investigated by ^1H , ^{31}P NMR spectroscopy and mass-spectrometry. It was established that the reaction of 2-acetyl-5-methyl-2H-1,2,3-diazaphosphole with ethanedithiol does not proceed with the formation of hydrospirothiophosphoranes **II** or **VI**. However the reaction of 2-acetyl-5-methyl-2H-1,2,3-diazaphosphole with butane-2,3-diol leads to the formation of hydrospiro-tetraoxophosphorane [1]. Instability of the hydrospirothiophosphoranes **II** and **VI** is confirmed by quantum chemical calculations (PM3 and HF/6-31G(d,p) methods).

[1] Khusainova, N.G., Mostovaya, O.A., Azanchev, N.M., Litvinov, I.A., Krivolapov, D.B., Cherkasov, R.A., Mend.Com.m (2004) 212.