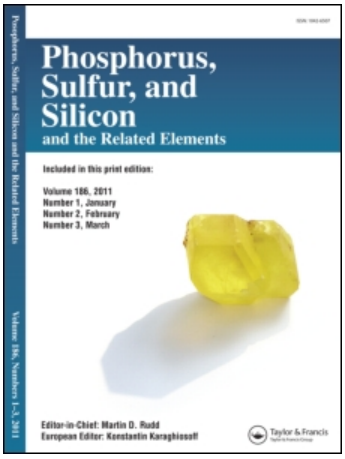

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Reactions of α-Formyl-α-Chlorcyclonones and γ-Butyrolactone with S-Trirnethylsilyl Ester of Dialkyldithiophosphoric Acid

F. I. Guseinov[a]; R. N. Burangulova[a]; V. V. Moskva[a]
[a] Department of Organic Chemistry, Kazan State Technological University, Kazan, Russia

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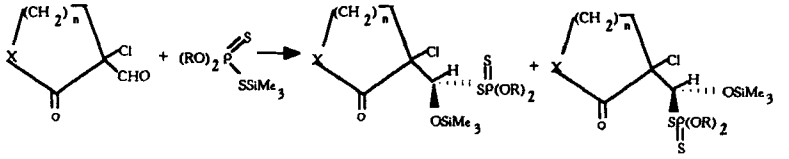
REACTIONS OF α-FORMYL-α-CHLORCYCLONONES AND γ-BUTYROLACTONE WITH S-TRIMETHYLSILYL ESTER OF DIALKYLDITHIOPHOSPHORIC ACID

F.I.GUSEINOV, R.N.BURANGULOVA, V.V.MOSKVA
Department of Organic Chemistry, Kazan State Technological University,
Kazan, 420015, Russia

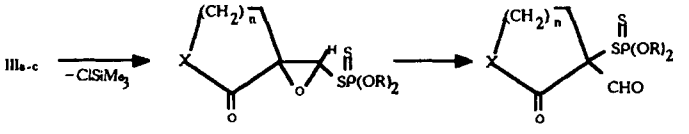
Abstract α-Formyl-α-chlorsubstituted cyclonones or α-formyl-α-chlor-γ-butyrolactone react with O,O-diizopropyltrimethylsilyldithiophosphate to give adducts which rearrange thermaly to α- dithiophos phoryl contained β-dicarbonic compounds.

In our previous studies we have shown that silyl esters of semithioacetals of α-chlor-β-oxo and α-phosphoryl-α,α-dichlorosubstituted aldegydes rearrange to 1,3- and 1,2-dicarbonic compounds[1] or α-ketophosphonates contained chlorthioesters[2], respectively. The main reason for our current interest is the reactions of α-formyl-α-chlorcyclonones (Ia, b) and α-formyl-α-chlor-γ-butyrolactone (Ic) with dialcoxy-S-trimethylsilyldithiophosphates (II). Stable adducts (IIIa, c) are formed by reactions of oxoaldegydes (Ia, c) with dithiophosphates (II).



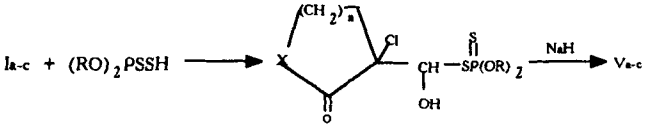
Ia-c II IIIa-c

The spectral date (IIIa, c) are consistent with the mixture stereomers (^{1}H NMR: two dublets (CH) J=15Hz). Upon heating, (IIIa, c) rearrange to α-dithiophosphoryl substituted 1,3-dicarbonic compounds (Va, c) followed by elimination of trimethylchlorsilan and migration of phosphoryl group. We suggest the formation of oxiranes (IVa, c) in this reaction.



IVa-c Va-c

The interaction of chlorcontained hydroxydithiophosphate (VIa, c) obtained from the reaction of (Ia, c) and dithiophosphoric acids, with natrium hydrid affords isomeric adducts (Va, c), instead of oxiranes (IVa, c).



VI VIIa-c

REFERENCES

1. F.I.Guseinov, V.V.Moskva, Zh.Org.Khim., 30, 360-365 (1994)
2. F.I.Guseinov, G.U.Klimentova, V.V.Moskva, Zh.Obshch.Khim., 63, 710-711 (1993)