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β -Keto phosphonic esters - Communication 10. Diethyl 2-oxocyclopentylphosphonate

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Abstract

1. The reaction of 2-chlorocyclopentanone with triethyl phosphite leads to the formation of 1-cyclopenten-1-yl diethyl phosphate. 2. By the addition of phosphorus pentachloride to ethoxycyclopentene, and treatment of the intermediate complex with sulfur dioxide, we obtained 2-ethoxy-1-cyclopenten-1-ylphosphonic dichloride, which was converted into diethyl 2-ethoxy-1-cyclopenten-1-ylphosphonate. Hydrolysis of the ester gave diethyl 2-oxocyclopentylphosphonate. 3. Bromine titration of diethyl 2-oxocyclopentylphosphonate showed that it is enolized only to a slight extent (about 5%), The occurrence of enolization was confirmed by the ultraviolet spectra of the ester in hexane solution. © 1962 Consultants Bureau Enterprises, Inc.

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