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Reaction of acetylacetone with diethylphosphorous acid

Arbuzov B., Bogonostseva N., Vinogradova V., Musina A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The reaction of equimolar amounts of acetylacetone and diethylphosphorous acid at room temperature in the presence of sodium alcoholate gives the diethyl ester of 1-methyl-1-hydroxy-3-ketobutylphosphonic acid. When heated or when treated with water-removing agents the latter cleaves water with the formation of the diethyl ester of 1-methyl-3-keto-1-butylphosphonic acid. The reaction of two moles of diethylphosphorous acid with one mole of acetylacetone under the same conditions gave 2-oxo-2-ethoxy-3,5-dimethyl-3-hydroxy-5-diethoxyphosphono-1-oxa-2-phospholane. © 1972 Consultants Bureau.

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