

Solvent, salt and high pressure effects on the rate and equilibrium constants for the formation of tri-n-butylphosphoniumdithiocarboxylate

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Abstract

Solvent, salt and high pressure effects on the rate and equilibrium constants for the formation of tri-n-butylphosphoniumdithiocarboxylate at 298.2 K are reported. This equilibrium is shifted to the phosphobetaine in polar solvents, salt solutions and under high external pressure. The reaction volume changes dramatically on going from less polar diethyl ether (-69 cm³ mol⁻¹) and tetrahydrofuran (THF) (-66 cm³ mol⁻¹), to more polar acetonitrile (-39 cm³ mol⁻¹) and acetone (-38 cm³ mol⁻¹). Copyright © 2010 John Wiley & Sons, Ltd.

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Keywords

activation volume, reaction volume, solvent effect, tri-n-butylphosphoniumdithiocarboxylate