

New Possibilities of the Kabachnik–Fields and Pudovik Reactions in the Phthalocyanine-Catalyzed Syntheses of α -Aminophosphonic and α -Aminophosphinic Acid Derivatives

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Abstract—The results of systematic studies demonstrated wide possibilities of the three-component Kabachnik–Fields and two-component Pudovik reactions catalyzed by metal phthalocyanines in the synthesis of structurally diverse α -aminophosphonates. Extension of this catalytic method to the synthesis α -aminophosphinates gave rise to a series of α -amino- and α -hydrazinophosphinates based on biogenic amino acids. A number of α -hydrazinophosphonates showed a good antioxidant activity.

Keywords: α -aminophosphonic acids, α -aminophosphinates, α -hydrazinophosphonates, α -hydrazinophosphinates, biogenic amino acids

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