

Title	Solvolysis of N-nitroso-N-(1-acetoxyalkyl) alkylamines in phosphate buffer : characterization and mutagenicity of N-nitroso-N-(1-phosphonoxyalkyl) alkylamines
Sub Title	
Author	望月, 正隆(Mochizuki, Masataka) 安生, 孝子(Anjo, Takako) 関口, 奈保子(Sekiguchi, Naoko) 五十嵐, 敦子(Igarashi, Atsuko) 鈴木, 厚子(Suzuki, Atsuko) 若林, 由子(Wakabayashi, Yuko) 岡田, 正志(Okada, Masashi)
Publisher	共立薬科大学
Publication year	1987
Jtitle	共立薬科大学研究年報 (The annual report of the Kyoritsu College of Pharmacy). No.32 (1987.) ,p.46- 46
JaLC DOI	
Abstract	
Notes	抄録
Genre	Technical Report
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=AN00062898-00000032-0046

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Solvolysis of *N*-Nitroso-*N*-(1-acetoxyalkyl)alkylamines in Phosphate Buffer: Characterization and Mutagenicity of *N*-Nitroso-*N*-(1-phosphono oxyalkyl)alkylamines*

Masataka MOCHIZUKI, Takako ANJO**, Naoko SEKIGUCHI, Atsuko IKARASHI,
Atsuko SUZUKI, Yuko WAKABAYASHI** and Masashi OKADA**

望月正隆, 安生孝子**, 関口奈保子, 五十嵐敦子
鈴木厚子, 若林由子**, 岡田正志**

The kinetics of solvolysis of some α -acetoxy nitrosamines in phosphate buffer solution was investigated and their mutagenic products were identified. *N*-Nitroso-*N*-(1-acetoxyalkyl)alkylamines were decomposed in two ways in aqueous phosphate buffer solution: O-acyl fission yielded α -hydroxy nitrosamines which were decomposed into aldehydes and alcohols, while O-alkyl fission gave a resonance hybrid of α -*N*-nitrosocarbonium and iminium ions which, when trapped with phosphate, afforded *N*-nitroso-*N*-(1-phosphonoxyalkyl)alkylamines. They were stable in neutral and alkaline aqueous solutions, and were mutagenic in *Salmonella typhimurium* TA 1535 and *Escherichia coli* WP 2 and WP 2 *hcr*⁻.

* 本報告は *Chem. Pharm. Bull.*, 34(9), 3956—3959 (1986) に発表.

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