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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*

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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*⁻.

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