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The Photochemistry of Nitrous Acid and Nitrite Ion

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THE PHOTOCHEMISTRY OF NITROUS ACID AND NITRITE ION

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Research is currently underway to elucidate the photochemical decomposition mechanism of nitrous acid and nitrite ion in aqueous and non-aqueous media. The quantum yield of the disappearance of nitrous acid and nitrite ion, as a function of pH and nitrous acid/nitrite ion concentration ratios, was examined. Spectroscopic studies have been done with nitrite ion in various aprotic organic solvents. Similar work has been started with molecular nitrous acid that was produced in aqueous solution and then extracted into organic solvents. These organic solvents were employed in order to study the quantum yield with respect to NO_2^- and HONO without the complications of the acid dissociation equilibrium seen in aqueous solutions. Other work includes the product analysis of hydroxyl radical scavenging reactions.