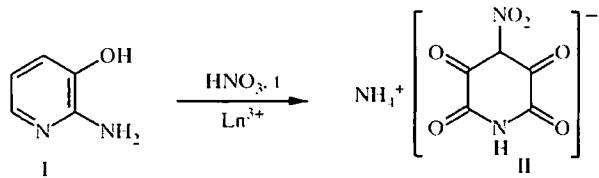


UNUSUAL BEHAVIOR OF 2-AMINO-3-HYDROXY-PYRIDINE IN THE NITRATION REACTION

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We have determined that 2-amino-3-hydroxypyridine in the presence of a number of rare-earth ions undergoes simultaneous nitration and oxidation with formation of ammonium 2,3,5,6-tetraoxo-4-nitropyridate:



This reaction is distinguished from known reactions in that the oxidation is accompanied by nitration at the position 4 of the pyridine ring.

The composition and structure of the compound is confirmed by X-ray diffraction. In the crystalline state, the molecules of II associate in pairs so that the planar tetraoxopyridate anions form a sandwich structure. The ammonium cations, located in the outer sphere of the "sandwich", are the counterions.

Compound II, which is ionic in nature, dissolves well in water and polar solvents and is stable to treatment with dilute acids and exposure to light, but is decomposed by dilute solutions of base. Yield 10%; mp 172°C. IR spectrum (KBr): 430, 460, 555, 760, 790, 817, 955, 1240-1260, 1400, 1600 (NO_2), 1690, 1710, 3080 ($\text{NH}_4^+ + \text{NH}$), 3150, 3235 cm^{-1} . Electronic absorption spectra (in ethanol): 28500, 41170, 49900 cm^{-1} .

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