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Chemistry of Bicyclic Endoperoxides Derived from Dihydropyridine Derivatives: Attempted Synthesis of Polyhydroxypiperidine Derivatives

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Abstract: To achieve the synthesis of azasugar derivatives with the utilization of singlet oxygen, pyridine was used as the starting material. The reduction of pyridine followed by a singlet oxygen reaction afforded cyclic aza-endoperoxides (14 and 16). However, many attempts were made to convert the aza-endoperoxides to the corresponding di- and triacetates without success. However, the base-catalyzed rearrangement of 14 gave unprecedented rearrangement products 23 and 24.

Key Words: Azasugar derivatives, amino sugars, singlet oxygen, bicyclic endoperoxides

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