

Viscosity-Controlled Stereoselective Inversion during the Photochemical Denitrogenation of a Stereolabeled Diazabicyclo[2.1.1]heptene(DBH)-Type Azoalkane

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Synthesis of Starting materials: The azoalkane **1** and housanes **2(inv)** and **2(ret)** were synthesized and characterized as previously described.⁷

Photolysis and Product Studies: A solution of 0.07 mmol of the azoalkane **1** in the particular solvent (distilled prior to use) was transferred to an NMR tube, deaerated with a stream of argon gas for 10 min, and irradiated with the 333-, 353- and 364-nm laser lines of the argon-ion laser (INNOVA 100, Coherent Company) at 20 °C and 760 torr. The conversions, mass balances, and product distributions (error ca. 5% of the stated value) were determined by quantitative capillary GC analysis and corrected for the response factors of the starting material and the products. These analyses were performed on a GC 6000 Vega Series 2 equipped with a FID and a Shimadzu C-R 6 A electronic integrator. A 30-m RTX 1 wide-bore capillary column with an internal diameter of 0.53 mm and a film thickness of 1.5 µm was used.