A NMR study of nitrogen inversion in some hydroxylamines. Wazeer, Mohammed I. M.; Muallem, Hasan A. Al; Fayyaz, S. Sikkander; Ali, Sk. Asrof. Chemistry Dep., King Fahd Univ. Petroleum and Minerals, Dhahran, Saudi Arabia. Canadian Journal of Applied Spectroscopy (1995), 40(1), 27-30. Publisher: Polyscience Publications, Inc.

Abstract

Nitrogen inversion barriers in several acyclic dialkylhydroxylamines and their acetyl derivs. are detd. by 1H NMR band shape anal. A barrier range of 50.0-57.7 kJ/mol is obsd. The hydroxylamines with bulky substituents show a lower barrier. The smaller activation barrier for the acetyl derivs. reflects the dominance of π-repulsive character of oxygen lone pairs in the transition state during nitrogen inversion.