

The reactivities of some cyclic nitrones in 1,3-dipolar cycloaddition reactions. Ali, S. Asrof; Wazeer, Mohammed I. M.. Dep. Chem., Univ. Pet. Miner., Dhahran, Saudi Arabia. Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1986), (11), 1789-92.

Abstract

Rate consts. for the cycloaddn. of 1-pyrroline 1-oxide, 3,4,5,6-tetrahydropyridine 1-oxide (I), or 3-oxo-3,4,5,6-tetrahydropyridine 1-oxide to Me acrylate, Et vinyl ether, or hex-1-ene were detd. at different temps. by ¹H NMR. The activation parameters and solvent effect on rate const. indicate the concerted nature of the reaction. Strain energy in the transition state plays an important role in the addn. reactions of these cyclic nitrones. I is the most reactive among these cyclic nitrones. Me acrylate and Et vinyl ether react faster than hex-1-ene. The presence of a protic solvent minimizes the dimerization of I.