

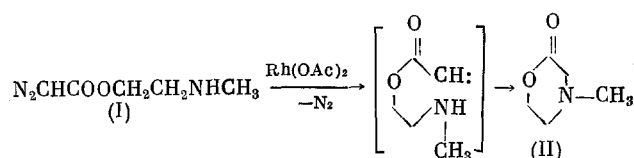
INTRAMOLECULAR INSERTION OF AMINOALKOXYCARBONYLCARBENES
INTO THE N-H BOND

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UDC 541.51:547.512

Examples are known for intramolecular transformations of carbenes generated by denitration of alkyldiazoacetates involving insertion of the carbene carbon atom into the C-H bond of the alkoxy group [1]. In addition, intermolecular insertion of alkoxy-carbonylcarbenes into the N-H bond has been described [2, 3].

We have discovered the formation of products of intramolecular insertion of the carbon atom of an aminoalkoxy-carbonylcarbene obtained by the thermocatalytic decomposition of 2-methylaminoethyl ester of diazoacetic acid (I) into the N-H bond



The slow addition of a solution of 5 mmoles (I) in 5 ml dichloroethane to a suspension of 50 μ moles Rh(OAc)_2 in 10 ml dichloroethane heated to 60°C gives nitrogen liberation and the formation of N-methyl-2-morpholinone (II) which was isolated by vacuum distillation in 20% yield, bp 60°C (2.5 mm), 92% purity, n_D^{20} 1.4753. IR spectrum (ν , cm^{-1}): 1680 (C=O). PMR spectrum (δ , ppm, in CCl_4): 3.94 s (CH_2CO), 3.80 t (CH_2O), 3.20 t (CH_2N), 2.86 (CH_3), molecular weight 115 (mass spectrometry).

Performing this reaction at 20-25°C leads to a reduction in the yield of (II) down to 10%.

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Translated from *Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya*, No. 8, pp. 1933-1934,
August, 1983. Original article submitted June 16, 1983.