REACTION OF BENZOXAZOLONES WITH PROPIOLYL CHLORIDE

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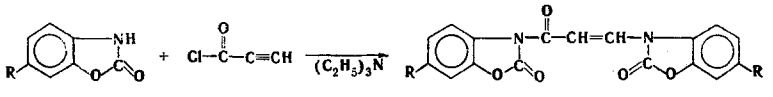
UDC 547.787.3:543.422.25'51

In the reaction of benzoxazolone (I) with an equivalent amount of propiolyl chloride (II) and triethylamine in benzene at 5-20°C instead of the expected acyl derivatives, we isolated 1,3-bis(2-oxo-3-benzoxazolyl)-1-oxo-2-propene (III), with mp 213-215° (from toluene), in 17% yield, i.e., in addition to acylation, a second molecule of I added simultaneously to the activated acetylenic bond.



II III

I, III R = H, Br

The mass spectrum of III contains ion peaks at 322 (M^+), 188, 144, 135, and 116, the relative intensities of which are 48, 100, 15, 44, and 16%, respectively. The PMR spectrum contains doublets of trans-vinyl protons at 7.94 and 8.17 ppm (J = 14 Hz) and a multiplet of aromatic protons.

Similarly, 6-bromobenzoxazolone (IV) and II in a 2:1 ratio react to give 1,3-bis(2-oxo-6-bromo-3-benzoxazolyl)-1-oxo-2-propene (V), with mp 250-253° (from m-xylene), in 20.5% yield. The results of elementary analysis of III and V for C, H, and N are in agreement with the calculated values.

Institute of the Chemistry of Plant Substances, Academy of Sciences of the Uzbek SSR, Tashkent. Translated from Khimiya Geterotsiklicheskikh Soedinenii, No. 3, p. 429, March, 1976. Original article submitted June 24, 1975.