

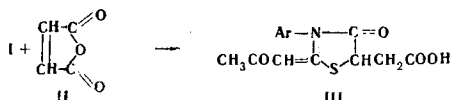
REACTION OF ARYLAMIDES OF ACETYLTHTIOACETIC
ACID WITH MALEIC ANHYDRIDE

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The reaction of arylamides of acetylthioacetic acid [$\text{CH}_3\text{COCH}_2\text{CSNHAr}$ (I)] with maleic anhydride (II) has not been studied. It was of interest to ascertain whether compounds I, which contain an active methylene group [1], would react, like β -dicarbonyl compounds [2], with II to form substituted 2,3-dihydrofurans or whether the presence of a thioarylamide group in I would bring about a different reaction direction.

We have found that the chief products in the reaction of I and II are 2-acetylidene-3-aryl-5-carbomethylthiazolidin-4-ones (III):



The NH group of amide I is probably acylated in the initial step of the reaction, and the acylamide is cyclized to III.

Compound III was obtained by adding an equimolar amount of II to fused I and heating the mixture at 93–103° for 1 h. Thiazolidine IIIa (Ar = C₆H₅) was obtained in 55% yield and had mp 222–223° (from alcohol). Found %: S 10.7, 10.8. C₁₄H₁₃NO₄S. Calculated %: S 11.0. Thiazolidine IIIb (Ar = p-CH₃C₆H₄) was obtained in 50% yield and had mp 210–212° (decomp.). Found %: S 10.5. C₁₅H₁₅NO₄S. Calculated %: S 10.5. Compound IIIc (Ar = p-CH₃OC₆H₄) was obtained in 62% yield and had mp 243–245°. Found %: S 10.0, 9.8. C₁₅H₁₅NO₅S. Calculated %: S 10.0. Product IIId (Ar = p-ClC₆H₄) was obtained in 50% yield and had mp 221–222°. Found %: S 9.6, 9.7. C₁₄H₁₂ClNO₄S. Calculated %: S 9.8.

The absorption maxima in the UV spectrum of IIIa (255 and 308 nm) lie at the same wavelengths as those of the corresponding 2-acetylidene-3-arylthiazolidin-4-ones that we previously obtained in [3]. The trend of the absorption curves for comparable compounds are identical, and the IR spectra of these compounds are closely similar.

LITERATURE CITED

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