SYNTHESIS OF TERMINAL ISOPRENOID SULFOXIDES BY AN ENE REACTION WITH BENZENESULFINYL CHLORIDE

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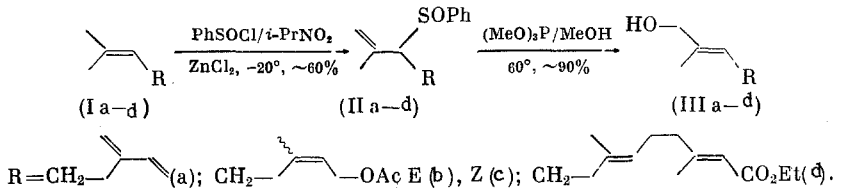
In light of the limited information available on the ene reaction of PhSOCl with individual olefins and isoprene [1], we studied this reaction for terpenoid di- and trienes (Ia)-(Id). In the presence of $ZnCl_2$, the reaction proceeds with high regioselectivity to give good yields of labile sulfoxides (IIa)-(IId):



The structures of these products were confirmed by spectral data and the conversion of (IIa)-(IIc) to known allyl alcohols (IIIa)-(IIId) commonly used as C_{10} synthons in the preparation of a number of natural products [2]. Previously unknown sesquiterpenol (IIId) was obtained by analogy, and its structure was confirmed by elemental analysis and spectral analysis. In particular, the singlet for the terminal CH_2O group in its PMR spectrum is located at δ 3.98 ppm.

We should note that this method for the synthesis of sulfoxides is less costly than the presently employed three-step procedure using the products of the addition of PhSCl to the same olefins [2].

LITERATURE CITED

1. A. M. Moiseenkov, V. V. Veselovskii (Veselovsky), Z. G. Makarova, V. M. Zhulin, and V. A. Smit, Tetrahedron Lett., 25, 5929 (1984).
2. Y. Masaki, K. Hashimoto, and K. Kaji, Tetrahedron, 40, 3481 (1984).

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