spectrum: $\lambda_{max}^{CH_3OH}$ 220 nm ($\log \varepsilon$ 3.7594). IR spectrum: ν_{max}^{KBr} 3450 (OH); 1744 (–O–C=O); 1684 (C=C–C=O); mol. wt. 338 (mass spectrometry). The PMR spectrum [1.95 ppm (3 H, CH_3CO)] and the ^{13}C PMR spectrum (in $CDCl_3$) coincided with those described for 15-acetoxy-3,7-dihydroxy-12,13-epoxytrichothec-9-en-8-one [2, 3].

Thus, the 3-acetate and the 15-acetate of deoxynivalenol have been identified in the biomass from isolate F. sp. 579a VNIIZ of F. graminearum. This is the first time that the simultaneous presence of two monoacetates in the culture of an isolate of this species has been reported.

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SYNTHESIS OF DEC-5Z-ENYL ACETATE AND TETRADEC-9Z-ENYL ACETATE – COMPONENTS OF THE SEX PHEROMONE OF Agrotis segetum

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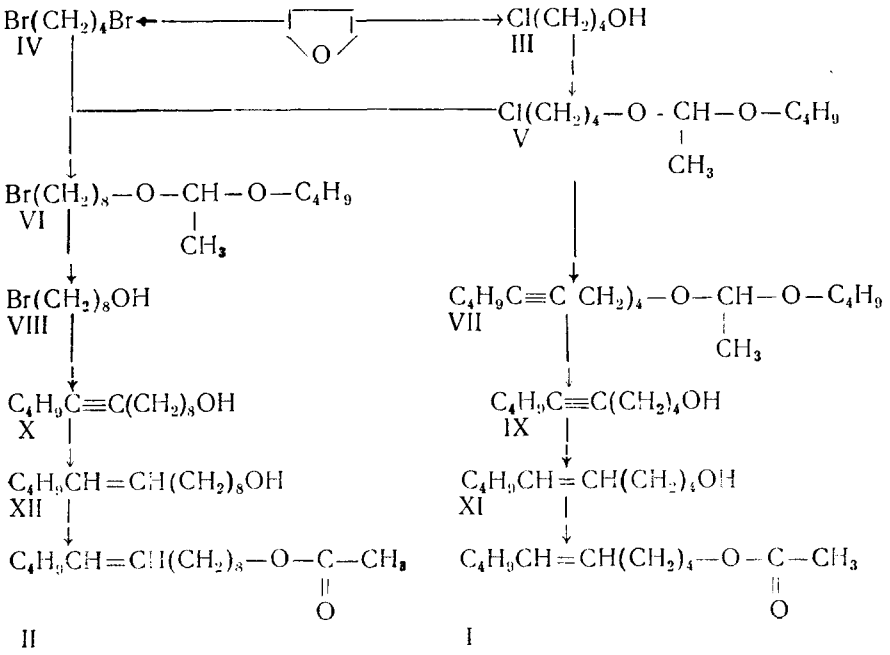
Dec-5Z-enyl acetate (I) and tetradec-9Z-enyl acetate (II) are among the main components of the pheromone of the turnip moth Agrotis segetum [1, 2]. Syntheses of compound (I) have been described with the use of the Wittig reaction [3, 4], the two-stage oxyethylation of lithium hexynylide [5], and the selective ozonolysis of cyclododeca-1,6-diene [6]. Compound (II) has been obtained from methyl myristoleate [7], by an acetylenic route [8], and by the carbocupration reaction [9], and also by a method based on the selective ozonolysis of 1-methylcycloocta-1Z,5Z-diene [10].



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We have effected the synthesis of compounds (I) and (II) starting from the readily accessible tetrahydrofuran and hex-1-yne.

By known methods [11], tetrahydrofuran was converted into 4-chlorobutan-1-ol (III) and 1,4-dibromobutane (IV). The interaction of (III) with butyl vinyl ether under the conditions described in [12] gave 1-(1-butoxyethoxy)-4-chlorobutane (V) with a yield of 85%; bp 46-50°C/2 mm.

Alkylation of lithium hexynylide with the protected chlorobutanol (V) (liq. NH_3/HMPT) gave 1-(1-butoxyethoxy)dec-5-yne (VII) with a yield of 51%; bp 115-120°C/1.5 mm. $C_{16}H_{30}O_2$. Found, %: C 75.50, H 11.68, O 12.67. Calculated, %: C 75.59, H 11.81, O 12.60. IR spectrum (ν, cm^{-1}): 1140, 1105, 1090, 1065 (O—CH—O). Treatment of the latter with the cation-exchange resin KU-2-8 (H^+ form) in methanol at room temperature for 5 h led to dec-5-yn-1-ol (IX) with a yield of 92%, bp 120-122°C/2 mm, n_D^{20} 1.4578. The hydrogenation of (IX) over Ni-P2 catalyst followed by acetylation with acetic anhydride in pyridine gave dec-cis-5-enyl acetate (I) with a yield of 82%. n_D^{20} 1.4420.

Condensation of the Grignard reagent obtained from (V) with 1,4-dibromobutane (IV) in THF solution in the presence of lithium tetrachlorocuprate [13] gave a 54% yield of 8-bromo-1-(1-butoxyethoxy)octane (VI), bp 128-133°C/1.5 mm.

8-Bromooctan-1-ol (VIII) was obtained by eliminating the protective group with the aid of KU-2-8. Yield 96%, n_D^{20} 1.4805.

Tetradec-9-yn-1-ol (X) was obtained from hex-1-yne and the bromooctanol (VIII) with a yield of 49%. bp 138-140°C/1 mm; n_D^{20} 1.4630.

By the methods described for the preparation of (I), the acetylenic alcohol (X) was converted into tetradec-cis-9-enyl acetate (II). Yield 80%, n_D^{20} 1.4492.

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