

Synthesis and Biological Activity of 20-Hydroxyecdysone Acetates

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20-hydroxyecdysone (20E) 2-acetates was synthesized by direct acylation of 20E. Equimolar quantities of 20E and acetic anhydride were used. Products then were separated with a help of preparative normal-phase HPLC. 20E 2,3,22-tri and 2,3,22,25-tetraacetate were obtained when 20E was treated by the excess of acetic anhydride and when column chromatography was used for separation. Structures of products obtained were confirmed by ¹H-NMR spectroscopy.

The toxicity of 20E, its 2-acetate, 2,3,22-triacetate, 2,3,22,25-tetraacetate in relation to 19 test-cultures of different micro-organisms was studied. It was found that the toxicity of acetates was higher than that of 20E. Also it was found that these substances differed in terms of their nemathodic activity in relation to different groups of nemathods.