

'...HPLC offers high selectivity and sensitivity for the determination of diethylstilbestrol when coupled with the appropriate sample preparation techniques...'



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Determination of Diethylstilbestrol by C18 RP-HPLC

Abstract

A method is described for the determination of nonsteroidal estrogen, Diethylstilbestrol, using C18 reversed phase HPLC and UV detection. The procedure is straight forward with sensitivity at the sub-ppm level. The retention time for diethylstilbestrol is approximately 4 minutes.

The two principal steroidal classes of female sex hormones are estrogens and progestins. Estrogens are substances that induce estrus in various mammalian species.¹ They are important because they bring about the secondary sex characteristics in females. The steroid nucleus is however not required for estrogenic activity. Many derivatives of stilbene, especially the trans isomers, are potent estrogenic substances used therapeutically, and in the animal industry.²

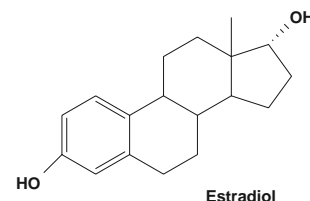
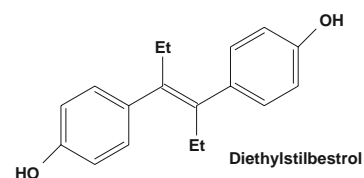
One of the most important synthetic estrogens is diethylstilbestrol. This drug is significantly cheaper than naturally occurring estrogens and yet can produce all the same effects. The official diethylstilbestrol is the trans isomer, which has 10 times the estrogenic potency of the cis isomer because it resembles more closely the natural estrogen, estradiol.² HPLC offers high selectivity and sensitivity for the determination of diethylstilbestrol when coupled with the appropriate sample preparation techniques.

Conditions

Column: Spherisorb S5 ODS2,
250 x 4.6 mm ID
Mobile Phase: Water/Acetonitrile (25:75)
(Helium Sparging)
Flow Rate: 1.0 ml/min
Temperature: 30°C
Detection: UV at 254 nm
Injection Vol: 20 µl
Standard Prep.: 1.0 mg dissolved in 10 ml of
methanol.

Keywords:

Diethylstilbestrol, Stilboestrol, Nonsteroidal Estrogen, Female Sex hormone, Pharmaceutical, Veterinary Medicine, RP-HPLC



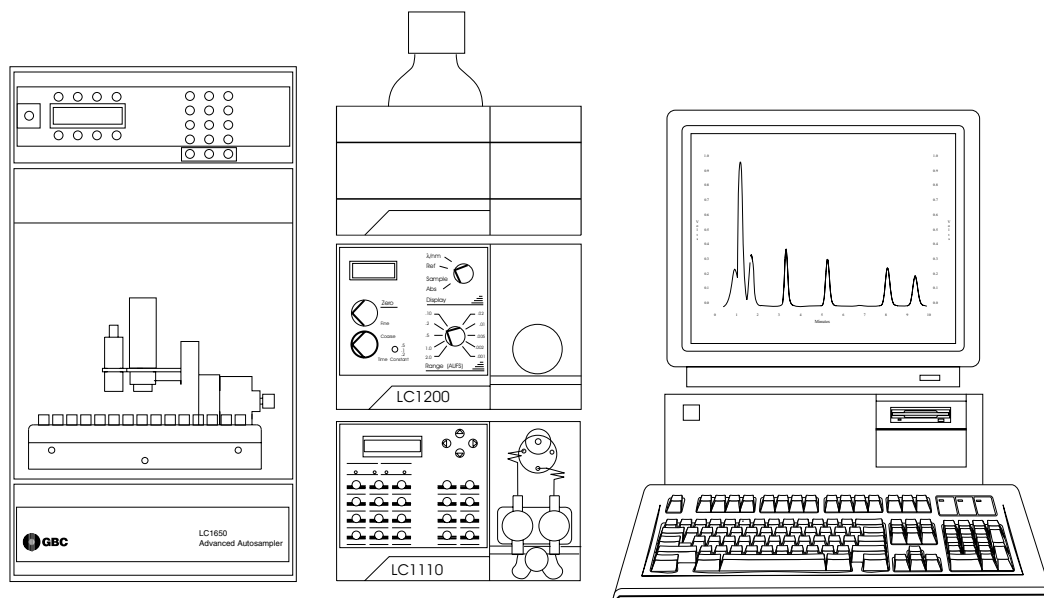
Diethylstilbestrol

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