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بالرسالة صفحات
لم ترد بالاصل

Identification of Certain Pharmaceutical Compounds Using Different Spectroscopic and Chromatographic Techniques

A Thesis

Presented to the Graduate School
Faculty of pharmacy, Alexandria University
in Partial Fulfillment of the Requirements for the Degree

OF

Master of Pharmaceutical Sciences

In

Pharmaceutical Analytical Chemistry

By

Ehab Hassan Ali Emam

B.Pharm.Sci., University of Alexanderia,1988
Alexandria Co. for Pharmaceutical and Chemical Industries
(Q.C department)

2007

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Ehab Hassan Ali Emam

Preface

The thesis deals with the identification and determination of some pharmaceutical compounds, their degradation products, preservatives and sweetening agents using hyphenated high performance liquid chromatography with photodiide array detector and spectrophotometric methods.

The HPLC identification and purity testing include the description of a new concept for identification and purity testing for each component in a multi-component mixture without extraction. The concept for identification is based on recording the UV-spectra under each peak at different time intervals throughout the elution time of the peak. The identification was performed using wavelengths of UV-absorption and derivative optima as well as the absorption and derivative ratios. The purity was performed using absorption and derivative ratios, plot of log A versus wavelengths as well as Waters Millennium software method. The proposed concept was applied for identification and testing the HPLC peak purity prior to determination of the following multi-component mixtures

a) A mixture containing trimebutine maleate, trimethoxybenzoic acid and substituted phenylethyl alcohol using ethylparaben as internal standard.
b) A mixture containing mepivacaine hydrochloride, metylparaben, 2,6-dimetylaniline and parahydroxybenzoic acid using sodium benzoate as internal standard.
c) A mixture containing lidocaine hydrocloride, methylparaben, 2.6-dimethylaniline and parahydroxybenzoic acid using sodium benzoate as internal standard.
d) A mixture containing lidocaine hydrochloride, sodium benzoate, saccharine sodium and 2,6-dimethylaniline using methylparaben as internal standard.
e) A mixture containing bupivacaine hydrochloride and 2,6-dimethylaniline using sodium benzoate as internal standard.
f) A mixture containing mebendazole, methylparaben, propylparaben, mebendazole degradation and parahydroxybenzoic acid using benzoic acid as internal standard.
g) A mixture containing flubendazole, methylparaben, propylparaben, flubendazole degradation and parahydroxybenzoic acid using benzocaine as internal standard.

The spectrophotometric identification methods are performed by allocation of the optima obtained from the ^{0}D, ^{1D}, ^{2}D, ^{3}D and ^{4}D and calculating their ratios

The spectrophotometric quantitative work includes development of the methods based on the use of derivative and/or difference techniques for proposing method for either routine quality control, stability-indicating and selective determination of the forementioned drugs in their pharmaceutical preparations.

CONTENTS