
بسم الله الرحمن الرحيم

A THESIS ENTITLED

SPECTROPHOTOMETRIC DETERMINATION OF THE DRUG SILDENAFIL CITRATE USING CHROMOTROPIC ACID AZO DYES

PRESENTED BY

ASMAA RAGB SENOSY KHALID

FOR

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Title of the M. Sc thesis:

"SPECTROPHOTOMETRIC DETERMINATION OF THE DRUG SILDENAFIL CITRATE USING CHROMOTORPIC ACID AZO DYES"

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ABSTRACT

Name: Asmaa Ragb Senosy Khalid

Title of Thesis: Spectrophotometric Determination of the Drug Sildenafil Citrate Using Chromotorpic Acid Azo Dyes.

Degree: Master of Science (M. Sc).

Simple and highly sensitive spectrophotometric methods have been developed for the quantitative determination of sildenafil citrate (SC), Viagra, in pure form and in pharmaceutical formulations, through ion-associate formation reactions with mono-chromotropic acid azo dyes, chromotrope 2B (I) and chromotrope 2R (II) and ion-pair reactions with bi-chromotropic acid azo dyes, 3-phenylazo-6-o-carboxyphenylazo-chromotropic acid (III), bis-3,6-(o-hydroxyphenylazo)-chromotropic acid (IV), bis-3,6-(p-N,N-dimethylphenylazo)-chromotropic acid (V) and 3-phenylazo-6-o-hydroxyphenylazo-chromotorpic acid (VI). The reaction conditions were studied and optimized. The methods were successfully applied to the analysis of commercial tablets (Vigoran) and the recovery study reveals that there is no interference from the common excipients that are present in tablets. Statistical comparison of the results was performed with regard to accuracy and precision using student's t- and F-tests at 95% confidence level. Solid complexes of SC were prepared, and then subjected to elemental analysis, IR and UV/Vis measurements to elucidate the structure of these complexes.

Key words: Spectrophotometry, Sildenafil citrate, Chromotropic acid azo dyes, Ion-pair, Ion-associate.

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Publications

Part of the original work of this thesis has been published in a paper

1- Spectrophotometric determination of sildenafil citrate in pure form and in pharmaceutical formulation using some chromotropic acid azo dyes.

Y.M. Issa, W.F. El-Hawary, A.F.A. Youssef, A.R. Senosy, Spectrochimica Acta Part A, 75, 1297 (2010).

Also another part of the work in this thesis is under publication.

CONTENTS

CHAPTER IV: RESULTS AND DISCUSSION

LIST of TABLES

LIST of FIGURES