

Curriculum Vitae

MOHAMED M. HEFNAWY, Ph.D.

Pharmaceutical Chemistry Department

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PERSONAL DATA:

Position : Professor
Birth Date : September 1, 1961.
Marital Status : Married

TEACHING EXPERIENCES:

Teaching graduate and under graduate students in the following subjects:

1. Principles of chiral analysis of optical active drugs.
2. Pharmacoepial analysis of drugs.
3. Fundamentals to qualitative analytical chemistry.
4. Principles of electrochemistry.
5. Principles of spectroscopy (UV-VIS, IR, Raman, NMR, and MS)
6. Principles of chromatography (GC, TLC, HPLC and CE).
7. Natural products analysis including water analysis and food analysis.
8. Quality control & quality assurance for drugs.
9. Introduction to physical chemistry.

RESEARCH INTEREST:

1. Chiral resolution of racemic compounds.
2. Analysis of drugs by Capillary Electrophoresis (CE), High Performance Liquid Chromatography (HPLC).
3. Bioanalytical quantitation of drugs and metabolites in Complex matrix using HPLC and CE with solid phase extraction, (SFE), liquid-liquid extraction, fluorescence, UV-VIS, IR, polarography.
4. Procedures have been developed to separate-detect metabolites and degradation products.
5. Environmental researches.
6. Bio-availability studies of drugs for companies products.
7. Methods of development and validation.
8. Statistics, chemometrics and wet chemistry

TRAINING:

- I. ** Dissertations under my Supervision;
 1. " Advanced Chiral Chromatographic Analysis of Some Amino Alcohols-containing Pharmaceuticals ". Degree of Doctoral of Philosophy in Pharmaceutical Sciences, (Analytical Chemistry) - 2008. Presented by Aymen Al-Sewalem (College of Pharmacy, King Saud University, Kingdom of Saudi Arabia.
 2. "Contribution to Analysis of Some selected Drugs Using Nano-Analytical Techniques". Degree of Doctoral of Philosophy in Pharmaceutical Sciences, (Analytical Chemistry) - 2007. Presented by Saeed Al-Kahtani (College of Pharmacy, King Saud University, Kingdom of Saudi Arabia.
 3. "Capillary electrophoresis analysis of selected chiral and achiral clinical drugs" Degree of Doctoral of Philosophy in Pharmaceutical Sciences, (Analytical Chemistry) - 2005.

Presented by Haya Al-Gohr (College of Pharmacy, King Saud University, Kingdom of Saudi Arabia).

4. "Optimization of the chiral resolution and quantitation of some pharmaceutical compounds using direct and indirect liquid chromatography"
Degree of Doctoral of Philosophy in Pharmaceutical Sciences, (Analytical Chemistry) – 2004,.
Presented by Noura Al-Zoman (College of Pharmacy, King Saud University, Kingdom of Saudi Arabia).
5. "Enantioselective resolution and determination of some racemic cardiovascular drugs using chiral stationary phase"
Degree of Doctoral of Philosophy in Pharmaceutical Sciences, (Analytical Chemistry) – 2003.
Presented by Mona Al-Shehri (College of Pharmacy, King Saud University, Kingdom of Saudi Arabia).
6. Contribution to analysis of amino compounds in biological fluids, Degree of Doctoral of Philosophy in Pharmaceutical Sciences, (Analytical Chemistry) - 2001. Presented by Manal Ibrahim Eid (College of Pharmacy, University of Mansoura, Egypt).
7. Now, supervision on a graduate students to obtain Master Degree in Pharmaceutical Sciences;
 - a. Determination of minor components in pharmaceutical analysis. Presented by Geny Gehan M. Naser (College of Pharmacy, University of Mansoura, Egypt)
 - b. Contribution to analysis of carbonyl containing compounds. Presented by Fawzi M. Elsabaey (College of Pharmacy, University of Mansoura, Egypt).
 - c. Analysis of related compounds in formulations and biological fluids. Presented by Mohamed El-Awady (College of Pharmacy, University of Mansoura, Egypt)
- II. Training of under-graduate students in hospitals.
- III. Scientific consultant for Studies of pollution's in Dakahelle State, Manzala Lake, Egypt.

- IV. Scientific consultant for Memphis's Pharmaceutical Chemical Company, Cairo, Egypt.
- V. Scientific consultant for Farco Pharmaceutical Chemical Company, Alexandria, Egypt.
- VI. Scientific consultant for Sedico Pharmaceutical Chemical Company, Cairo, Egypt.

ACTIVITES:

Some Important Conferences:

1. The 9th International Pharmaceutical Sciences Conference & Exhibition, Riyadh, Saudi Arabia. Dec., 17-21, 2005.
2. ISCD'16, 16th International Symposium on Chiral Discrimination, New York, NY, USA. July, 11-14, 2004.
3. The 6th Saudi Pharmaceutical International Conference, Riyadh, Saudi Arabia. Oct., 6 - 9, 2003.
4. 8th IBN SINA International Conference on Pure and Applied Heterocyclic Chemistry. Luxor, Egypt. Feb. 16 -19, 2002.
5. ISCD'13, 13th International Symposium on Chiral Discrimination, Orlando, Florida, USA. July, 15-18, 2001.
6. ISCD'11, 11th International Symposium on Chiral Discrimination, Chicago, Illinois, USA. July, 25-28, 1999.
7. 5th International Conference on Chemistry and its Role in Development. Faculty of Science, Mansoura University, Egypt. April 19 - 22, 1999.
8. ISCD'10, 10th International Symposium on Chiral Discrimination, Atlanta, Georgia, USA. April, 16-19, 1997.
9. Al-Azhar International Conference of Recant Advances in Pharmaceutical Technology and Biological Sciences. Sonesta Hotel, Cairo, Egypt. Dec. 19-21, 1995.

10. International Conference of Pharmaceutical Sciences and Technology, Palestine Hotel, Montazah, Alexandria, Egypt. March, 22 - 25, 1995.
11. XXIV Conference of Pharmaceutical Sciences, Cairo International Conference Center, Cairo, Egypt. Dec. 20-22, 1994.

EXPERIENCE:

March, 2005 to present

Professor of pharmaceutical chemistry, College of Pharmacy, King Saud University, Kingdom of Saudi Arabia.

Sept., 2003 to March, 2005

Associate Professor of pharmaceutical chemistry, College of Pharmacy, King Saud University, Kingdom of Saudi Arabia.

Sept., 2002 to Sept., 2003

I was holding a position of a senior scientist in the Bioanalytical and Drug Development Laboratory, Biological and Medical Research Department, Research Center of King Faisal Specialist Hospital, Riyadh, Kingdom of Saudi Arabia.

July, 2000 to Sept., 2002

Associate Professor of analytical pharmaceutical chemistry, Faculty of Pharmacy, University of Mansoura, Egypt.

1998 to July, 2000

Assistant Professor of analytical pharmaceutical Chemistry, Faculty of Pharmacy, University of Mansoura, Egypt.

1997 to 1998

I was holding a position of a post-doctoral fellowship in the Department of Medicinal Chemistry, College of Pharmacy, University of Georgia, Athens, GA, USA.

Sept. 1996 to January, 1997

Assistant Professor of analytical pharmaceutical Chemistry, Faculty of Pharmacy, University of Mansoura, Egypt.

July 1995 - Sept. 1996

I was holding a position of a post-doctoral fellowship in National Institute for Resources and Environment, 16-3 Onogawa, Tsukuba, Ibaraki, 305 Japan.

April 1994 – July 1995

Assistant professor of bioanalytical and pharmaceutical chemistry, teaching of analytical chemistry to graduate and under graduate students. Conducting research in application of HPLC for the determination of Metyrosine in presence of its metabolites using SPE. Enantiomeric separation of chiral Metyrosine using capillary electrophoresis Fluorimetric study of Alpha-aminocephalosoprine in biological samples and contributed in a review for analysis of pharmaceutically-important Thioxanthene derivatives.

Nov. 1990- April 1994

Ph.D.

Teaching and Research graduate Associate, Conducting research in application of HPLC and CE for the determination of tauromustine (a novel antitumor agent) in presence of its metabolites in biological fluids. Fluorimetric determination of Tauromustine and some benzodiazepine compounds in biological fluids. Spectrophotometric characterization of certain pesticides (Maneb and Zineb) in some vegetables and its application to kinetic study after Green House treatment (Environmental Studies) Spectrophotometric determination of Rifampin in presence of its degradation products. Study of the polarographic behaviour of beclomethasone dipropionate. (Main Prof. Dr. Mohamed Walsh, Analytical Chemistry Department, college of Pharmacy, University of Mansoura, Egypt.)

Sept. 1986-Nov. 1990

M.Sc.:

Student conducting research on the chromatographic separation of furazolidone and nitrofurazone and some important nitro-compounds in presence of their degradation products in biological fluids. Spectrophotometric assay of retinol using charge transfer complexation. Teaching

pharmaceutical analytical chemistry to undergraduate students (Main Prof. Dr. S. Hassan, Dept. of chemistry University of Georgia, Athens , GA, USA.)

EDUCATION:

Ph.D In Pharmaceutical analytical Chemistry, Medicinal Chemistry Department, University of Mansoura, Egypt (05/94).

Thesis: Analysis of certain pharmaceutical compounds in biological fluids and other compounds of interest in environment.

M.Sc. In Pharmaceutical Analytical Chemistry. Faculty of Pharmacy, University of Mansoura, Egypt (09/90).

Thesis : Stability-indicating methods in pharmaceutical analysis.

Bachelor of Pharmaceutical Sciences. Very Good "Honor"
Alexandria University, Alexandria, Egypt. (06/84).

REFERENCES

- 1) Prof. Dr. James Stewart
University of Georgia
College of Pharmacy
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- 2) Prof. Dr. Sayed M. Hassan
University of Georgia
College of Agricultural and environmental sciences
Dept. of Grope & soil Sciences
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Fax : 001-706-227-0914
e-mail : shassan@uga.edu

- 3) Prof. Dr. Hassan Y. Aboul-Enein
Pharmaceutical Analysis Laboratory,
Biological and Medical Research Department (MBC-03),
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P.O. Box, 3354,
Riyadh 1211,
Saudi Arabia
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- 4) Prof. Dr. Mohamed I. Walsh
Mansoura University
College of Pharmacy
Dept. of Pharmaceutical Analytical Chemistry
Mansoura, 35516,
Egypt.
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Fax : 0020-50-224-7496
e-mail : mwalash@mans.edu.eg

List of Publications

1. **Mohamed M. Hefnawy**, Maha A. Sultan and Mona M. Al-Shehri
“HPLC separation technique for analysis of bufuralol enantiomers in plasma and pharmaceutical formulations using a vancomycin chiral stationary phase and UV detection “
J. Chromatogr. B, 856 (2007)328-336.
2. **Mohamed M. Hefnawy**, Maha A. Sultan and Mona M. Al-Shehri
“Enantioanalysis of bisoprolol in human plasma with a macrocyclic antibiotic HPLC chiral column using fluorescence detection and solid phase extraction“
Chem. Pharm. Bull., 55 (2007)1-5.
3. **Mohamed M. Hefnawy**, Maha A. Sultan and Mona M. Al-Shehri
”Development of an HPLC method for the quantitation of bisoprolol enantiomers in pharmaceutical products using a teicoplanin chiral stationary phase and fluorescence detection“
J. Liq. Chromatogr. & Rel. Technol., 29 (2006)1-14.
4. **Mohamed M. Hefnawy**, Maha A. Sultan and Mona M. Al-Shehri
”Direct enantiomeric resolution of betaxolol with application to analysis of pharmaceutical products“
Anal. Chem. Insights, 2 (2006)1-8.
5. **Mohamed M. Hefnawy**
”Optimization of the chiral resolution of metyrosine by means of capillary electrophoresis and / or micellar electrokinetic capillary chromatography“
J. Liq. Chromatogr. & Rel. Technol., 28 (2005) 439-452
6. **Mohamed M. Hefnawy** and H.Y. Aboul-Enein
“Liquid chromatographic high-throughput analysis of ketamine and its metabolites in human plasma using a monolithic silica column and solid phase extraction”
Talanta, 65 (2005) 67-73.

7. H.Abdine, M.A. Sultan, **M. Hefnawy** and F. Belal
"Spectrofluorometric determination of some β -blockers in tablets and human plasma using 9,10-dimethoxyanthracene-2-sodium sulfonate"
Pharmazie , 60 (2005)76-72.
8. **M. Hefnawy** and H. Y. Aboul-Enein
"A validated LC method for the determination of vesamicol enantiomers in human plasma using vancomycin chiral stationary phase and solid phase extraction"
J. Pharm. & Biomed. Anal., 35 (2004) 535-543.
9. H.Y. Aboul-Enein and **M. Hefnawy**
"Chiral Analysis of Butaclamol Enantiomers in Human Plasma by HPLC Using a Macrocyclic Antibiotic (Vancomycin) Chiral Stationary Phase and Solid Phase Extraction"
Chirality, 16 (2004) 147-152.
10. H.Y. Aboul-Enein and **M. Hefnawy**
"LC Determination of the Enantiomeric Purity of L-Arginine Using a Teicoplanin Chiral Stationary Phase "
J. Liq. Chromatogr. & Rel. Technol., 27 (2004)1681-1693.
11. **M. Hefnawy** and H. Y. Aboul-Enein
"Fast high-performance liquid chromatographic analysis of mianserin and its metabolites in human plasma using monolithic silica column and solid phase extraction"
Anal. Chim. Acta., 504 (2004) 291-297.
12. **Mohamed M. Hefnawy** .
"Stereoselective determination of pyridoglutethimide enantiomers in serum with a cellulose based HPLC chiral column using UV detection and solid phase extraction "
J. Pharm. & Biomed. Anal., 31(2003) 999-1005.

13. H. Y. Aboul-Enein and **M. Hefnawy**
"Enantiomeric resolution of some human aldosterone Synthase [CYP II B2] inhibitors on derivatized polysaccharides chiral stationary phases".
J. Sep. Sci. 26 (2003)1455-1458 .
14. H. Y. Aboul-Enein and **M. Hefnawy**
"Enantioselective determination of arotinolol in human plasma by HPLC using teicoplanin chiral stationary phase"
Biomed., Chromatogr., 17(2003) 453-457.
15. **Mohamed M. Hefnawy** and H. Y. Aboul-Enein
"Enantioselective high-performance liquid chromatographic method for the determination of baclofen in human plasma"
Talanta, 61(2003) 667-673.
16. H. Y. Aboul-Enein and **M. Hefnawy**
"Rapid determination of sildenafil citrate in pharmaceutical preparations using monolithic HPLC column"
J. Liq. Chromatogr. & Rel. Technol., 26 (2003) 28967-2903.
17. H. Y. Aboul-Enein and **M. Hefnawy**
"High throughput determination of lamivudine in pharmaceutical preparations using monolithic HPLC column"
Anal. Lett., 36 (2003) 2527-2538 .
18. **Mohamed M. Hefnawy.**
"Micellar electrokinetic capillary chromatography determination of (+)S and (-)R arotinolol in serum using UV detection and solid phase extraction".
Chirality,14 (2002) 67-71.
19. **Mohamed M. Hefnawy**
"Analysis of certain tranquilizers in biological fluids"
J. Pharm. & Biomed. Anal. 27 (2002) 661-678.

20. M.I. Walash, F. Belal, f. Ibrahim, **M. Hefnawy** and M. Eid
" Kinetic spectrophotometric method for the
determination of ranitidine and nizatidine in
pharmaceuticals"
J. AOAC, Int., 85 (2002) 1316-1323.
21. M.I. Walash, F. Belal, f. Ibrahim, **M. Hefnawy** and M. Eid
"Voltammetric determination of nitrosocimetidine in
simulated gastric juice".
J. Clin., Pharm., & Ther., 27 (2002) 365-370.
22. M.I. Walash, F. Belal, f. Ibrahim, **M. Hefnawy** and M. Eid
"LC determination of dinitrosopiperazine in simulated gastric
juice"
J. Pharm. & Biomed. Anal. 26(2001) 1003-1008.
23. **Mohamed M. Hefnawy.**
"HPLC determination of rogletimide enantiomers in serum
using a reversed phase cellulose-based chiral stationary phase
and solid-phase extraction "
J. Liq. Chromatogr. & Rel. Technol., 23 (2000) 781-790.
24. **Mohamed M. Hefnawy** and James Stewart.
"Enantioselective determination of R(+) and S(-) rogletimide
in serum using alpha-cyclodextrin-modified capillary
electrophoresis and solid phase extraction".
J. Liq. Chromatogr. & Rel. Technol., 23(2000) 791-804.
25. M.I. Walash, F. Belal, f. Ibrahim, **M. Hefnawy** and M. Eid
"Voltammetric determination of N,N'-
dinitrosopiperazine in simulated gastric juice"
IL Farmaco, 55 (2000) 694-699.
26. **Mohamed M. Hefnawy** and James .Stewart.
"Resolution of nomifensine enantiomers on selected
achiral and chiral stationary phases using high
performance liquid chromatography "
Anal. Lett., 32 (1999) 159-171.

27. **Mohamed M. Hefnawy** Y. Elshabrawy and F. Belal.
“Spectrofluorometric determination of alpha
aminocephalosporins in biological fluids and pharmaceutical
preparations”.
J. Pharm. & biomed. Anal. 21 (1999) 703-707..
28. **Mohamed M. Hefnawy** and James Stewart.
“HPLC separation of metyrosine enantiomers as methylester
derivatized with 2,3,4,6-Tetra-O-Acetyl-B-D
Glucopyranosyl isothiocyanate”
J. Liq. Chromatogr. & Rel. Technol., 21 (1998) 381-389.
29. **Mohamed M. Hefnawy** and James Stewart.
“Resolution of enantiomers of tropicamide by reversed
phase HPLC using hydroxypropyl betacyclodextrins as
chiral mobile phase additives”
Anal. Lett., 31 (1998) 659-667.
30. **Mohamed . Hefnawy** and James Stewart.
“Determination of metyrosine and its metabolies in
human serum by HPLC using solid phase extraction
and fluorescence detection”
J. Liq. Chromatogr. & Rel. Technol., 20 (1997) 3009-
3016.
31. Sridhar Susarla, **Mohamed M. Hefnawy** Shigeki Masunaga , Nobuyoshi
Yamashita Yoshitaka Yonezawa, Mohamed M. Salem Rizk and
Yoshikuni Urushigawa
“Anaerobic biotransformations of organochlorine
pesticides in manzala lake, Egypt”
Toxicological and Environmental Chemisty, 62 (1997)
149-160.
32. **Mohamed . Hefnawy**. F. Belal and F.A. Aly.
“Analaysis of Pharmaceutically-important
thioxanthene derivatives”
*J. Pharm. & Biomed. Anal.*16 (1997) 369-376.

33. **Mohamed M. Hefnawy**, F.A. Aly and F. Belal.
"A Selective Spectrofluorometric Method for the Determination of some Alpha-Aminocephalosporine in Formulation and Biological Fluids".
Anal. Lett., 29 (1996)117-130.
34. **Mohamed M. Hefnawy**, F.A. Aly and F. Belal.
"A Rapid Spectrofluorometric Determination of Metyrosine in Formulation and Biological fluids"
Anal. Lett., 28 (1995) 1811-1818.
35. M.I. Walsh, F. Belal, M. E. Metwally and **M. Hefnawy**.
"Application of High Performance Liquid Chromatography in the determination of tauromustine in presence of its metabolites and degradation products"
J. Liq. Chrom. & Rel. Technol. 17 (1994) 1597- 1604.
36. M.I. Walsh, F. Belal, M. E. Metawly and **M. Hefnawy**.
"Polarographic Behavior and Determination of Beclomethasone Dipropionate".
Mikrochim Acta, 112 (1994) 217-223.
37. M.I. Walsh, F. Belal, M. E. Metwally and **M. Hefnawy**
"A Selective Fluorimetric Method for Determination of some 1,4-Benzodiazepine Drugs Containing a Hydroxy groups at C-3".
J. Pharm. Biomed. Anal., 12 (1994) 1417-1423.
38. M.I. Walsh, F. Belal, M. E. Metwally and **M. Hefnawy**.
"Spectrophotometric Determination of Maneb and Zineb and their decomposition products in some Vegetables and its Application to kinetic studies after Green House Treatment".
Food Chemistry, 47 (1993) 411-416.

39. M.I. Walash, F. Belal, M. E. Metwally and **M. Hefnawy.**
 “Spectrophotometric Determination of Rifampin in Presence of its Metabolites and Degradation Products in Pharmaceutical Preparations”
Anal. Lett., 26 (1993) 1905-1917.
40. M.I. Walash, F. Belal, M. E. Metwally and **M. Hefnawy.**
 “Fluorimetric determination of taumoustine (a novel antitumour agent) in formulations and biological fluids”
J.Pharm. Biomed. Anal. 11 (1993) 777-780.
41. F. Ibrahim, S.M. Hassan and **M. Hefnawy**
 “Spectrophotometric Assay of Retinol Via Charge-Transfer Complexes”
Mikrochim. Acta, 1 (1991) 209-215.
42. F. Ibrahim, S.M. Hassan and **M. Hefnawy**
 “A Stability-Indicating High-Performance Liquid Chromatographic Assay for the Determination of Some Pharmaceutically Important Nitrocompounds”
Chromatographia 30 (1991) 176-184.
43. F. Ibrahim, S.M. Hassan and **M. Hefnawy**
 “Simultaneous high-performance liquid chromatographic determination of furazolidone and nifuroxime in dosage forms”
Anal. Lett., 23 (1990) 599-606.

Chapter Book

1. Aboul-Enein, Hassan Y.; **Hefnawy, Mohamed M.**; Nakashima, Kenichiro.
 “Chromatographic methods for the analysis of drugs in biological fluids.”
 Handbook of Analytical Separations
 (Drug Monitoring and Clinical Chemistry), ed. by G. Hempel,
 Elsevier, 5 (2004) 15-75.
 CODEN: HASAAX AN 2004:624888 CAPLUS

2. **Hefnawy, Mohamed M.**

“Pharmacokinetic of drugs.”

(A Comprehensive Introduction to Medicinal and Pharmaceutical Chemistry), ed. by H. El-Subbagh and A. Al-Obaid, Al-Rushd, 5 (**2006**) 101-140.

CODEN: HASAAX AN 2006:524588 CAPLUS

Some Important Conferences:

- The 9th International Pharmaceutical Sciences Conference & Exhibition, Riyadh, Saudi Arabia. Dec., 17-21, 2005.
10. ISCD'16, 16th International Symposium on Chiral Discrimination, New York, NY, USA. July, 11-14, 2004.
 11. The 6th Saudi Pharmaceutical International Conference, Riyadh, Saudi Arabia. Oct., 6 - 9, 2003.
 12. 8th IBN SINA International Conference on Pure and Applied Heterocyclic Chemistry. Luxor, Egypt. Feb. 16 -19, 2002.
 13. ISCD'13, 13th International Symposium on Chiral Discrimination, Orlando, Florida, USA. July, 15-18, 2001.
 14. ISCD'11, 11th International Symposium on Chiral Discrimination, Chicago, Illinois, USA. July, 25-28, 1999.
 15. 5th International Conference on Chemistry and its Role in Development. Faculty of Science, Mansoura University, Egypt. April 19 - 22, 1999.
 16. ISCD'10, 10th International Symposium on Chiral Discrimination, Atlanta, Georgia, USA. April, 16-19, 1997.
 17. Al-Azhar International Conference of Recant Advances in Pharmaceutical Technology and Biological Sciences. Sonesta Hotel, Cairo, Egypt. Dec. 19-21, 1995.
 18. International Conference of Pharmaceutical Sciences and Technology, Palestine Hotel, Montazah, Alexandria, Egypt. March, 22 - 25, 1995.
 19. XXIV Conference of Pharmaceutical Sciences, Cairo International Conference Center, Cairo, Egypt. Dec. 20-22, 1994.