

# CURRICULUM VITAE

## MOHAMED MOHMOUD HEFNAWY, Ph.D.

### PERSONAL:

1. Nationality: Egyptian
2. Date and place of birth: Sept., 1<sup>st</sup>, 1961, Egypt.
3. Marital status: Married, three children.
4. Address: Pharmaceutical Chemistry Dept., College of Pharmacy, King Saud University, P.O. 2457, Riyadh 11451, Saudi Arabia, (966-1), 050-949-2218 (mobile), 2760623 (Home), 4677346 (Office), 4677220 (Fax).  
**E-mail:** mhefnawy@ksu.edu.sa  
mhefnawy2003@yahoo.com  
<http://www.mhefnawy.ksu.sa>
5. Language: Arabic (mother), Excellent.  
English, Excellent.

### EDUCATION:

**Ph.D.** (Analytical Pharmaceutical Chemistry), 1994:

University of Georgia, Athens, GA, USA and University of Mansoura, Egypt.

**Dissertation:** "Analysis of Certain Pharmaceutical Compounds in Biological Fluids and Other Compounds of Interest in Environment"

**M.Sc.** (Analytical Pharmaceutical Chemistry), 1991:

University of Mansoura, Mansoura, Egypt.

**Dissertation:** "Stability Indicating methods in Pharmaceutical Analysis"

**B.Sc.** (Pharmaceutical Sciences), 1984:

Faculty of Pharmacy, University of Alexandria, Alexandria, Egypt. Very Good, High Honor.

## EMPLOYMENT AND REponsibilities

- 2005-present:** Professor of Analytical Pharmaceutical Chemistry, Department of Pharmaceutical Chemistry, College of Pharmacy, King Saud University, Kingdom of Saudi Arabia.
- 2003-2005:** Associate Professor of Analytical Pharmaceutical Chemistry, Department of Pharmaceutical Chemistry, College of Pharmacy, King Saud University, Kingdom of Saudi Arabia.
- 2002-2003:** 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.
- 2000-2002:** Associate Professor of Analytical Pharmaceutical Chemistry, Faculty of Pharmacy, Univ. of Mansoura, Mansoura, Egypt
- 1998-2000:** Assistant Professor of Analytical Pharmaceutical Chemistry, Faculty of Pharmacy, Univ. of Mansoura, Mansoura, Egypt
- 1997-1996:** Sabbatical postdoctoral fellowship, Dept. of Medicinal Chemistry, College of Pharmacy, University of Georgia, Athens, GA, USA.
- 1995-1996:** Research fellowship in National Institute for Resources and Environment, 16-3 Onogawa, Tsukuba, Ibaraki, 305, Japan.
- 1994-1995:** Assistant Professor of Analytical Pharmaceutical Chemistry, Faculty of Pharmacy, Univ. of Mansoura, Mansoura, Egypt
- 1992-1994:** Ph.D. graduate student, Dept. of Medicinal Chemistry, College of Pharmacy, University of Georgia, Athens, GA, USA. Supported by the Egyptian channel system of mutual exchange of scientific research.
- 1986-1991:** Graduate research and teaching associate, Dept., of Analytical Chemistry, Faculty of Pharmacy, Univ. of Mansoura, Mansoura, Egypt

## TEACHING EXPERIENCE

Pharmaceutical analytical chemistry courses, for undergraduate and graduate students.

### a. Undergraduate:

1. **Pharmaceutical Analytical Chemistry-I:** The course offered to the first year class, College of Pharmacy. Emphasis on fundamental concepts and applications of volumetric analysis based on acid-base, precipitation, complexation and redox reaction. In addition on introduction to gravimetric analysis is given.
2. **Pharmaceutical Analytical Chemistry-II:** The course offered to the second year class, which deals with a broad basis for instrumental analysis which comprises, colorimetry, UV-spectrophotometry, fluorometry, IR-spectrometry, flame photometry, atomic absorption, spectrophotometry, polarimetry, refractometry, conductimetry and potentiometry. Furthermore, nuclear magnetic resonance (NMR), mass-spectrometry and high-performance liquid chromatography (HPLC) will be briefly introduced.
3. **Instrumental Analysis:** The course concerns with the study of the principles and theoretical bases of electrochemical analysis, spectrophotometric analysis as well as separation methods with regard to instrumentation, and application are also included.
4. **Official Methods in Drug Analysis:** The course offered to the fourth year class, which deals mainly with quantitative official methods of drug analysis compiled in B.P., U.S.P. and N.F. These are gravimetry, colorimetry, ultraviolet spectrophotometry, fluorometry, atomic absorption spectrophotometry, ion-selective potentiometry, oxygen flask combustion technique and Kjeldahl's method. In addition derivatization as applied in different analytical methods will be covered.

### b. Graduate:

1. **Analytical Separation Methods:** A course offered to graduate and drug analysis diploma students emphasizing different types of liquid chromatography with emphasis on High Performance Liquid Chromatography (HPLC) and recent advances in that area. Furthermore, application of HPLC in the quantitation of pharmaceutical compounds is highlighted.
2. **Chemical Kinetics in Drug Analysis:** The course is tailor to introduce chemical kinetics on experimental and theoretical basis. Kinetic parameters involving order of reaction, rate constant, activation energy and related parameters will be presented. In addition, the use of kinetic methods in quantitation will be elaborated and the link between mechanism and reaction kinetic is highlighted.

3. **Spectroscopic Methods in Drug Analysis:** The course deals with application of advanced methods in single- and multi-component spectrophotometric and spectrofluorimetric analysis of pharmaceutical compounds. Chemical derivatization and functional group analysis using colorimetric methods are also discussed.
4. **Electrochemical Methods in Drug Analysis:** The course covers advanced aspects of chemical equilibria, potentiometry in aqueous and non-aqueous media, polarography and voltammetry and their applications in characterization and quantitation of selected pharmaceutical compounds.
5. **Environmental Analysis:** Quality-assurance and routine analysis of the environment is of great value in the health-care programme. The presence of many inorganic and organic pollutants in trace scales needs special sensitive and specific semimicro- up to the ultra-microanalytical techniques, especially those which need no preliminary separation. This course will give the chance to highlight some of such techniques in the environmental quality control and routine testing..
6. **New Trends in Chromatography and Separation Techniques:** This course covers the recent methodologies of chromatography such as supercritical fluid chromatography, size-exclusion chromatography, in addition to the growing technique of capillary electrophoresis and its various disciplines. The application of these techniques in the field of pharmaceuticals will be highlighted.
7. **Automation in Pharmaceutical Analysis:** The course deals with the integrated principles and practice of automation as applied to pharmaceutical analysis. The course includes the automation of both continuous and batch analysis, in addition to automation of analytical instruments and the use of microprocessors in the field.

#### **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

## **SUPERVISION OF DISSERTATIONS**

1. Aymen Al-Sewalem, Ph.D. (expected at 2010), College of Pharmacy, King Saud University, Saudi Arabia. "Advanced Chiral Chromatographic Analysis of Some Amino Alcohols-containing Pharmaceuticals"
2. Saeed Al-Kahtani, Ph.D. (expected at 2009), College of Pharmacy, King Saud University, Saudi Arabia. "Contribution to Analysis of Some selected Drugs Using Nano-Analytical Techniques"
3. Haya Al-Gohr, Ph.D. (expected at 2009), College of Pharmacy, King Saud University, Saudi Arabia. "Capillary electrophoresis analysis of selected chiral and achiral clinical drugs"
4. Noura Al-Zoman, Ph.D. (2008), College of Pharmacy, King Saud University, Saudi Arabia. "Optimization of the chiral resolution and quantitation of some pharmaceutical compounds using direct and indirect liquid chromatography"
5. Mona Al-Shehri, Ph.D. (2007), College of Pharmacy, King Saud University, Saudi Arabia. "Enantioselective resolution and determination of some racemic cardiovascular drugs using chiral stationary phase"
6. Manal Ibrahim Eid, Ph.D. (2001), College of Pharmacy, University of Mansoura, Mansoura, Egypt. "Contribution to analysis of amino compounds in biological fluids"
7. Geny Gehan M. Naser, M.Sc. (2006), College of Pharmacy, University of Mansoura, Mansoura, Egypt. "Determination of minor components in pharmaceutical analysis"
8. Fawzi M. Elsabaey, M.Sc. (2005), College of Pharmacy, University of Mansoura, Mansoura, Egypt. "Contribution to analysis of carbonyl containing compounds"
9. Mohamed El-Awady, M.Sc. (2004), College of Pharmacy, University of Mansoura, Mansoura, Egypt. "Analysis of related compounds in formulations and biological fluids"

#### **EXAMINER OF DISSERTATIONS:**

1. "Contribution to Analysis of H<sub>2</sub> Receptor Containing Compounds" Mostafa A. Shabana, **M.Sc.** (2000), College of Pharmacy, University of Mansoura, Mansoura, Egypt
2. "Analysis of Some Important  $\beta$ -Lactam Antibiotic in Formulations and Biological Fluids" Yaser I. Al-Sharkawy, **Ph.D.** (2002), College of Pharmacy, University of Mansoura, Mansoura, Egypt
3. "New Trends in the Analysis of Weak-UV Absorbing Compounds" Manar M. Tolba, **M.Sc.** (2006), College of Pharmacy, University of Mansoura, Mansoura, Egypt

#### **AWARDS:**

1. Postdoctoral fellowship in National Institute for Resources and Environment, 16-3 Onogawa, Tsukuba, Ibaraki, 305 Japan.
2. Postdoctoral fellowship, Dept. of Medicinal Chemistry, College of Pharmacy, University of Georgia, Athens, GA, USA. 1996-1997.
3. "Mansoura University Award" for the young Scientists in Chemistry, Mansoura, Egypt, 2000.

#### **MEMBERSHIPS:**

1. The Egyptian Syndicate of Pharmacists since 1984.
2. The Egyptian Pharmaceutical Society since 1984.
3. The American Chemical Society since 1995.
4. The Advisory Board of "The Saudi Pharmaceutical Journal", since 2004.
5. The Advisory Board of "Chirality Journal", since 2000.
6. The Advisory Board of "Journal of Liquid Chromatography & Related technology", since 2001.

## FUNDED RESEARCH PROJECTS:

1. "Development of HPLC Method for the Quantitation of Tertatolol Enantiomers In Human Plasma Using Chiral Stationary Phase and Solid Phase Extraction." M.M.Hefnawy, A.A.Al-Majed, G. Abd-Alhafez. **College of Pharmacy, Research Center, King Saud University**. 2007, Riyadh, Saudi Arabia.
2. "Fluorimetric Study of Some  $\beta$ -Blockers and its Applications in Human Plasma." M.A.Abunasef, M.M.Hefnawy, M.I. Gabr . **College of Pharmacy, Research center, King Saud University**. 2006, Riyadh, Saudi Arabia.
3. "Analytical investigation of a new thiazolo[3,2- ]diazepine analogue as an ultra-short acting hypnotic." A.A.Al-Majed, H.I. El-Subbagh, M.M.Hefnawy. **College of Pharmacy, Research center, King Saud University**. 2005, Riyadh, Saudi Arabia.
4. "Chemical study and the synthesis of new derivatives of pheromones to be tested as anti-*rhynchophorus ferrugineus* in Saudi Arabia." O.A.Al-Deeb, H.I. El-Subbagh, M.M.Hefnawy. **Deanship of Scientific Research; King Saud University**. 2005, Riyadh, Saudi Arabia.
5. "Adverse reactions study of enantiomers of some important anti-hypertensive drugs using chromatographic methods" H. Al-Khamees. M. Hefnawy, A. Al-Majed and k. Al-Tair. **King Abdulaziz City for Science & Technology**; 2004, Riyadh, Saudi Arabia.
6. "Chiral analysis of pyridoglutethimide enantiomers in human plasma by HPLC using macrocyclic antibiotic chiral stationary phase" M. Hefnawy and A. Al-Majed, **College of Pharmacy, Research center, King Saud University**. 2003, Riyadh, Saudi Arabia.

## CONFERENCES AND PUBLICATIONS

### a) Conferences:

1. "Enantiomeric Resolution and Determination of Clenbuterol by HPLC in Plasma and Pharmaceutical Formulations using Polysaccharide Chiral Stationary Phase and UV Detection", Mohamed M. Hefnawy, Maha A. Sultan and Mona M. Al-Shehri, **ISCD'20, 20<sup>th</sup> International Symposium on Chiral Discrimination**, Geneva, Switzerland. July, 6-9, 2008.
2. "1<sup>st</sup> Workshop in Nano Research at Universities: The Road Toward Fulfilling the Vision of Custodian of the Two Holy Mosques", Mohamed.M. Hefnawy, **King Saud University – Nano Program**, Riyadh, Saudi Arabia. Oct., 28-29, 2007

3. "New chromatographic technique for enantiomeric resolution and determination of pindolol in mice", Mohamed M. Hefnawy, Hamad A. Al-Kamees, Abdul-Alrhan A. Al-Majed, Mohamed I. Gabr, ***ISCD'19, 1<sup>9th</sup> International Symposium on Chiral Discrimination***, Orlando, Florida, USA. July, 15-18, 2007.
4. "Development of an HPLC method for the quantitation of bisoprolol enantiomers in pharmaceutical products using a teicoplanin chiral stationary phase and fluorescence detection", M.M. Hefnawy, M.A. Sultan and M.M. Al-Shehri,, ***The 7<sup>th</sup> International Saudi Pharmaceutical Conference***, Al-Fasialia Hotel, Riyadh, Saudi Arabia. March 19-21, 2007
5. "Direct enantiomeric resolution of betaxolol with application to analysis of pharmaceutical products", Mohamed M. Hefnawy, Maha A. Sultan and Mona M. Al-Shehri, ***ISCD'18, 18<sup>th</sup> International Symposium on Chiral Discrimination***, Chicago, Illinois, USA. July, 10-13, 2006.
6. "Optimization of the chiral resolution of metyrosine by means of capillary electrophoresis and/or micellar electrokinetic capillary chromatography", Mohamed M. Hefnawy, ***The 9<sup>th</sup> International Pharmaceutical Sciences Conference & Exhibition***, Riyadh, Saudi Arabia. Dec., 17-21, 2005.
7. "Chiral Analysis of Butaclamol Enantiomers in Human Plasma by HPLC Using a Macrocyclic Antibiotic (Vancomycin) Chiral Stationary Phase and Solid Phase Extraction", H.Y. Aboul-Enein and M. Hefnawy, ***ISCD'16, 16<sup>th</sup> International Symposium on Chiral Discrimination***, New York, NY, USA. July, 11-14, 2004.
8. "Enantioselective high-performance liquid chromatographic method for the determination of baclofen in human plasma", Mohamed M. Hefnawy and H. Y. Aboul-Enein, ***The 6<sup>th</sup> Saudi Pharmaceutical International Conference***, Riyadh, Saudi Arabia. Oct., 6 - 9, 2003.
9. "Analysis of certain tranquilizers in biological fluids", Mohamed M. Hefnawy, ***8<sup>th</sup> IBN SINA International Conference on Pure and Applied Heterocyclic Chemistry***. Luxor, Egypt. Feb. 16 -19, 2002.
10. "Micellar electrokinetic capillary chromatography determination of (+)S and (-) R arotinolol in serum using UV detection and solid phase extraction", Mohamed M. Hefnawy, ***ISCD'13, 13<sup>th</sup> International Symposium on Chiral Discrimination***, Orlando, Florida, USA. July, 15-18, 2001.



11. "Enantioselective determination of R-(+) and S-(-) roglitimide in serum using alpha-cyclodextrin-modified capillary electrophoresis and solid phase extraction", Mohamed M. Hefnawy and James Stewart, ***ISCD'11, 11<sup>th</sup> International Symposium on Chiral Discrimination***, Chicago, Illinois, USA. July, 25-28, 1999.
12. "Resolution of enantiomers of tropicamide by reversed phase HPLC using hydroxypropyl betacyclodextrins as chiral mobile phase additives", Mohamed M. Hefnawy and James Stewart, ***5<sup>th</sup> International Conference on Chemistry and its Role in Development***. Faculty of Science, Mansoura University, Egypt. April 19 - 22, 1999.
13. "HPLC separation of metyrosine enantiomers as methylester derivatized with 2,3,4,6-Tetra-O-Acetyl-B-D Glucopyranosyl isothiocyanate", Mohamed M. Hefnawy and James Stewart, ***ISCD'10, 10<sup>th</sup> International Symposium on Chiral Discrimination***, Atlanta, Georgia, USA. April, 16-19, 1997.
14. "A Selective Spectrofluorometric Method for the Determination of some Alpha-Aminocephalosporine in Formulation and Biological Fluids", Mohamed Hefnawy, F. Belal and Y. Al-Shabrawy, ***Al-Azhar International Conference of Recant Advances in Pharmaceutical Technology and Biological***, Sciences.Sonesta Hotel, Cairo, Egypt. Dec. 19-21, 1995.
15. "Application of High Performance Liquid Chromatography in the determination of tauromustine in presence of its metabolites and degradation products", M.I. Walash. F. Belal, M. E. Metwally and M. Hefnawy, ***XXIV Conference of Pharmaceutical Sciences, Cairo International Conference Center***, Cairo, Egypt. Dec. 20-22, 1994.

## **b) Publications**

1. "Development of Capillary Electrophoresis Technique for Simultaneous Measurement of Amlodipine and Atorvastatin from Their Combination Drug Formulations", **Mohamed M. Hefnawy**, Maha Sultan and Haya Al-Johar, ***J. Liq. Chromatogr. & Rel. Technol.***, 32 (2009)1–20.
2. "Separation and determination of clenbuterol by HPLC vancomycin chiral stationary phase", **Mohamed M. Hefnawy**, Gamal Mostafa and Abdulrahman El-Majed, ***J. AOAC Int.*** 92 (2009) 824–829.
3. "Rapid and sensitive simultaneous determination of ezetimibe and simvastatin from their combination drug products by monolithic silica high-performance liquid chromatographic column", **Mohamed M. Hefnawy**, Mohamed Al-Omar and Saeed Julkhuf, ***J. Pharm. & Biomed. Anal.***, 50 (2009) 535–543.

4. Enantioanalysis of tertatolol in plasma and pharmaceutical formulations with immobilized polysaccharide-derived HPLC chiral column at nano detection level", **Mohamed M. Hefnawy**, Abdulrhman Al-Majed, and Aymen Al-Suwailem, *J. Liq. Chromatogr. & Rel. Technol.*, 32 (2009)1–19.
5. Development of a sensitive and stereoselective HPLC method for analysis of pindolol in plasma and pharmaceutical products using Chiralpak IB column and fluorescence detection", **Mohamed M. Hefnawy**, Mohamed G. Kassem, Haba H. Abdine, Nourah Z. Al-Zoman, *Sci. Pharm.* 856 (2009) 328–336.
6. "HPTLC analysis of a new ultra-short-acting thiazolodiazepine hypnotic (HIE-124) in spiked human plasma", Mohamed M. Hefnawy, Ehab A. Abourashed and Hussein I. El-Subbagh, *J. Planar Chromatogr.* , 22 (2009) 34-42 (DOI: 10.1556/JPC.221009.3.4)
7. "PVC membrane sensors for potentiometric determination of acebutolol", Mohamed M. Hefnawy, Gamal A. Mostafa and Al-Majed A, *Sensors* 7 (2008) 32728–3286.
8. "PVC membrane sensors for potentiometric determination of fluxetine in some pharmaceutical formulations", Mohamed M. Hefnawy, Gamal A. Mostafa and Al-Majed A, *Inst. Sci. Techn.* 36 (2008) 279–290.
9. "HPLC Separation technique for analysis of bufuralol enantiomers in plasma and pharmaceutical formulations using a vancomycin chiral stationary phase and UV detection", Mohamed M. Hefnawy, Maha A. Sultan and Mona M. Al-Shehri, *J. Chromatogr. B*, 856 (2007) 328–336.
10. "Enantioanalysis of bisoprolol in human plasma with a macrocyclic antibiotic HPLC chiral column using fluorescence detection and solid phase extraction", Mohamed M. Hefnawy, Maha A. Sultan and Mona M. Al-Shehri, *Chem. Pharm. Bull.*, 55 (2007) 1–5.
11. "Micellar liquid chromatographic analysis of benzyl alcohol and benzaldehyde in injectable formulations", Mohamed M. Hefnawy, Rizk M. Ibrahim F and Nasr JJ, *Acta Pharm.*, 57 (2007) 231–239.
12. "Development of an HPLC method for the quantitation of bisoprolol enantiomers in pharmaceutical products using a teicoplanin chiral stationary phase and fluorescence detection", Mohamed M. Hefnawy, Maha A. Sultan and Mona M. Al-Shehri, *J. Liq. Chromatogr. & Rel. Technol.*, 29 (2006)1–14.
13. "Direct enantiomeric resolution of betaxolol with application to analysis of pharmaceutical products", Mohamed M. Hefnawy, Maha A. Sultan and Mona M. Al-Shehri, *Anal. Chem. Insights*, 2 (2006) 1–8.

14. "Fourth order derivative spectrophotometric determination of benzyl alcohol in piroxicam injections", Mohamed M. Hefnawy, Rizk M. Ibrahim F and Nasr JJ, *J. Chin. Chem. Soc.*, 4 (2006) 767– 772.
15. "Optimization of the chiral resolution of metyrosine by means of capillary electrophoresis and/or micellar electrokinetic capillary chromatography", Mohamed M. Hefnawy, *J. Liq. Chromatogr. & Rel. Technol.*, 28 (2005) 439–452.
16. "Liquid chromatographic high-throughput analysis of ketamine and its metabolites in human plasma using a monolithic silica column and solid phase extraction" Mohamed M. Hefnawy and H.Y. Aboul-Enein, *Talanta*, 65 (2005) 67–73.
17. "Spectrofluorometric determination of some  $\beta$ -blockers in tablets and human plasma using 9,10-dimethoxyanthracene-2-sodium sulfonate", H. Abdine, M.A. Sultan, M. Hefnawy and F. Belal, *Pharmazie*, 60 (2005) 76–72.
18. "A validated LC method for the determination of vesamicol enantiomers in human plasma using vancomycin chiral stationary phase and solid phase extraction", M. Hefnawy and H. Y. Aboul-Enein, *J.Pharm. & Biomed. Anal.*, 35 (2004) 535–543.
19. "Chiral Analysis of Butaclamol Enantiomers in Human Plasma by HPLC Using a Macrocyclic Antibiotic (Vancomycin) Chiral Stationary Phase and Solid Phase Extraction", H.Y. Aboul-Enein and M. Hefnawy, *Chirality*, 16 (2004) 147–152.
20. "LC Determination of the Enantiomeric Purity of L-Arginine Using a Teicoplanin Chiral Stationary Phase ", H.Y. Aboul-Enein and M. Hefnawy, *J. Liq. Chromatogr. & Rel. Technol.*, 27 (2004) 1681–1693.
21. "Fast high-performance liquid chromatographic analysis of mianserin and its metabolites in human plasma using monolithic silica column and solid phase extraction", M. Hefnawy and H. Y. Aboul-Enein, *Anal. Chim. Acta.*, 504 (2004) 291–297.
22. "Stereoselective determination of pyridoglutethimide enantiomers in serum with a cellulose based HPLC chiral column using UV detection and solid phase extraction" Mohamed M. Hefnawy, *J. Pharm. & Biomed. Anal.*, 31 (2003) 999–1005.
23. "Enantiomeric resolution of some human aldosterone Synthase [CYP II B2] inhibitors on derivatized polysaccharides chiral stationary phases", H. Y. Aboul-Enein and M. Hefnawy, *J. Sep. Sci.*, 26 (2003) 1455–1458 .

24. "Enantioselective determination of arotinolol in human plasma by HPLC using teicoplanin chiral stationary phase", H. Y. Aboul-Enein and M. Hefnawy, ***Biomed., Chromatogr.***, 17 (2003) 453–457.
25. "Enantioselective high-performance liquid chromatographic method for the determination of baclofen in human plasma", Mohamed M. Hefnawy and H. Y. Aboul-Enein, ***Talanta***, 61 (2003) 667–673.
26. "Rapid determination of sildenafil citrate in pharmaceutical preparations using monolithic HPLC column", H. Y. Aboul-Enein and M. Hefnawy, ***J. Liq. Chromatogr. & Rel. Technol.***, 26 (2003) 28967–2903.
27. "High throughput determination of lamivudine in pharmaceutical preparations using monolithic HPLC column", H. Y. Aboul-Enein and M. Hefnawy, ***Anal. Lett.***, 36 (2003) 2527–2538.
28. "Micellar electrokinetic capillary chromatography determination of (+)-S and (-)-R arotinolol in serum using UV detection and solid phase extraction", Mohamed M. Hefnawy, ***Chirality***, 14 (2002) 67–71.
29. "Analysis of certain tranquilizers in biological fluids", Mohamed M. Hefnawy, ***J. Pharm. & Biomed. Anal.*** 27 (2002) 661–678.
30. "Kinetic spectrophotometric method for the determination of ranitidine and nizatidine in pharmaceuticals", M.I. Walsh, F. Belal, F. Ibrahim, M. Hefnawy and M. Eid, ***J. AOAC, Int.***, 85 (2002) 1316–1323.
31. "Voltammetric determination of nitrosocimetidine in simulated gastric juice", M.I. Walsh, F. Belal, F. Ibrahim, M. Hefnawy and M. Eid, ***J. Clin., Pharm., Ther.***, 27 (2002) 365–370.
32. "LC determination of dinitrosopiperazine in simulated gastric juice", M.I. Walsh, F. Belal, F. Ibrahim, M. Hefnawy and M. Eid, ***J. Pharm. & Biomed. Anal.***, 26 (2001) 1003–1008.
33. "HPLC determination of roglitimide enantiomers in serum using a reversed phase cellulose-based chiral stationary phase and solid-phase extraction", Mohamed M. Hefnawy, ***J. Liq. Chromatogr. & Rel. Technol.***, 23 (2000) 781–790.
34. "Enantioselective determination of R(+) and S(-) roglitimide in serum using alpha-cyclodextrin-modified capillary electrophoresis and solid phase extraction", Mohamed M. Hefnawy and James Stewart, ***J. Liq. Chromatogr. & Rel. Technol.***, 23 (2000) 791–804.
35. "Voltammetric determination of N,N'-dinitrosopiperazine in simulated gastric juice", M.I. Walsh, F. Belal, F. Ibrahim, M. Hefnawy and M. Eid, ***IL Farmaco***, 55 (2000) 694–699.

36. "Resolution of nomifensine enantiomers on selected achiral and chiral stationary phases using high performance liquid chromatography", Mohamed M. Hefnawy and James Stewart, **Anal. Lett.**, 32 (1999) 159–171.
37. "Spectrofluorometric determination of alpha aminocephalosporins in biological fluids and pharmaceutical preparations", Mohamed M. Hefnawy Y. Elshabrawy and F. Belal, **J. Pharm. & Biomed. Anal.**, 21 (1999) 703–707.
38. "HPLC separation of metyrosine enantiomers as methylester derivatized with 2,3,4,6-Tetra-O-Acetyl-B-D Glucopyranosyl isothiocyanate", Mohamed M. Hefnawy and James Stewart, **J. Liq. Chromatogr. & Rel. Technol.**, 21 (1998) 381–389.
39. "Resolution of enantiomers of tropicamide by reversed phase HPLC using hydroxypropyl betacyclodextrins as chiral mobile phase additives", Mohamed M. Hefnawy and James Stewart, **Anal. Lett.**, 31 (1998) 659–667.
40. "Determination of metyrosine and its metabolies in human serum by HPLC using solid phase extraction and fluorescence detection", Mohamed . Hefnawy and James Stewart, **J. Liq. Chromatogr. & Rel. Technol.**, 20 (1997) 3009–3016.
41. "Anaerobic biotransformations of organochlorine pesticides in manzala lake, Egypt", Sridhar Susarla, Mohamed M. Hefnawy Shigeki Masunaga, Nobuyoshi Yamashita Yoshitaka Yonezawa, Mohamed M. Salem Rizk and Yoshikuni Urushigawa,, **Toxicological and Environmental Chemistry**, 62 (1997) 149–160.
42. "Analysis of Pharmaceutically-important thioxanthene derivatives", Mohamed Hefnawy, F. Belal and F.A. Aly, **J. Pharm. & Biomed. Anal.**, 16 (1997) 369–376.
43. "A Selective Spectrofluorometric Method for the Determination of some Alpha-Aminocephalosporine in Formulation and Biological Fluids", Mohamed Hefnawy, F. Belal and Y. Al-Shabrawy, **Anal. Lett.**, 29 (1996) 117–130.
44. "A Rapid Spectrofluorometric Determination of Metyrosine in Formulation and Biological fluids", Mohamed M. Hefnawy, F.A. Aly and F. Belal, **Anal. Lett.**, 28 (1995) 1811–1818.
45. "Application of High Performance Liquid Chromatography in the determination of tauromustine in presence of its metabolites and degradation products", M.I. Walsh. F. Belal, M. E. Metwally and M. Hefnawy, **J. Liq. Chromatogr. & Rel. Technol.**, 17 (1994) 1597–1604.

46. "Polarographic Behavior and Determination of Beclomethasone Dipropionate", M.I. Walsh, F. Belal, M. E. Metawly and M. Hefnawy, *Mikrochim Acta*, 112 (1994) 217–223.
47. "A Selective Fluorimetric Method for Determination of some 1,4-Benzodiazepine Drugs Containing a Hydroxy groups at C-3", M.I. Walsh, F. Belal, M. E. Metwally and M. Hefnawy, *J. Pharm. & Biomed. Anal.*, 12 (1994) 1417–1423.
48. "Spectrophotometric Determination of Maneb and Zineb and their decomposition products in some Vegetables and its Application to kinetic studies after Green House Treatment", M.I. Walsh, F. Belal, M. E. Metwally and M. Hefnawy, *Food Chemistry*, 47 (1993) 411–416.
49. "Spectrophotometric Determination of Rifampin in Presence of its Metabolites and Degradation Products in Pharmaceutical Preparations", M.I. Walsh, F. Belal, M. E. Metwally and M. Hefnawy, *Anal. Lett.*, 26 (1993) 1905–1917.
50. "Fluorimetric determination of taumustine (a novel antitumour agent) in formulations and biological fluids", *J. Pharm. & Biomed. Anal.*, 11 (1993) 777–780.
51. "Spectrophotometric Assay of Retinol Via Charge-Transfer Complexes", F. Ibrahim, S.M. Hassan and M. Hefnawy, *Mikrochim. Acta*, 1 (1991) 209–215.
52. "A Stability-Indicating High-Performance Liquid Chromatographic Assay for the Determination of Some Pharmaceutically Important Nitrocompounds", F. Ibrahim, S.M. Hassan and M. Hefnawy, *Chromatographia*, 30 (1991) 176–184.
53. "Simultaneous high-performance liquid chromatographic determination of furazolidone and nifuroxime in dosage forms", F. Ibrahim, S.M. Hassan and M. Hefnawy, *Anal. Lett.*, 23 (1990) 599–606.

### C) Book Chapters

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