Cairo University
Faculty of Pharmacy

Personal Information

Name:	Ahmed Sayed Saad
Title:	Associate Professor
Department:	Analytical Chemistry
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Education and Academic Degrees

Data Analysis Professional Track Nanodegree (July 2021)
From Udacity

Data Analysis Advanced Track Nanodegree (April 2021)
From Udacity

Associate professor (April 2019)
of Analytical Chemistry, **2019**, Faculty of Pharmacy, Cairo University / October 6 University / Badr University in Cairo

PhD (January 2014)
In Analytical Chemistry, **2014**, Faculty of Pharmacy, Cairo University

Master (May 2010)
In Analytical Chemistry, **2010**, Faculty of Pharmacy, Cairo University

Bachelor (May 2004)
In Pharmacy, **2004**, Faculty of Pharmacy, Cairo University

Research interest

Under my domain “Pharmaceutical Analytical Chemistry”. I have been working on the development of reliable solutions for analytical problems within industrial, biological, clinical and environmental sectors. My work experience included several analytical techniques such as: spectrophotometry, chemometrics, Chromatography (HPLC), potentiometry and voltammetry. One of the main areas I focused is the employment of simple spectrophotometric technique for resolving multicomponent mixtures and development of simple yet affordable solutions other than commonly used costly HPLC, thus developing of new methods such as ratio difference, DWRS, ratio difference at isoabsorptive and coabsorptive points. Application of chemometrics to enhance selectivity of spectrophotometry and thus permit selective spectrophotometric determination of multicomponent mixtures. Fabrication of sensors utilizing electrochemistry including both; potentiometry (Ion-Selective electrode) and voltammetry, for the determination of drugs in different matrices and improvement of their selectivity via different techniques such as electrochemical deposition of doped polyaniline for surface modification. However still HPLC and its continually growing successor such as UF/HPLC and UPLC keeping their position in pharmaceutical analysis, especially in complex matrices such as biological, food and environmental analysis. Also interested in microfabrication and its integration in electrochemical and photochemical sensors for direct, real-time and low-cost analysis.

Teaching Experience

	Course Title
Undergraduate Courses (General Program)	General and Physical Chemistry, (Cairo University)
	Analytical Chemistry I, (Cairo University)
	Analytical Chemistry II, (Cairo University)
	Analytical Chemistry III, (Cairo University)
	Instrumental Analysis, (Cairo University)
	Quality Control and Quality Assurance, (Cairo University)
Undergraduate Courses (Clinical Program)	Physical and Inorganic Chemistry, (Cairo University)
	Pharmaceutical Analytical Chemistry-1, (Cairo University)
	Pharmaceutical Analytical Chemistry-2, (Cairo University)
	Instrumental Analysis, (Cairo University)
	Advanced Spectroscopic Analysis, (Cairo University

Undergraduate Courses Lectures at *Other Universities*	
Ain Shams University (ASU)	Pharmaceutical Analytical Chemistry-I **(Ain Shams University)** Pharmaceutical Analytical Chemistry-II **(Ain Shams University)**
October 6 University (O6U)	General Chemistry **(October 6 University, Cairo, Egypt O6U)** Pharmaceutical Analytical Chemistry-I **(October 6 University, Cairo, Egypt)**
Badr University in Cairo (BUC)	Qualitative Analytical Chemistry **(Badr University in Cairo)** Quantitative Analytical Chemistry **(Badr University in Cairo)** Instrumental Analysis **(Badr University in Cairo)** Applied Analysis **(Badr University in Cairo)** *Currently working **(full time) at Badr University in Cairo (BUC).***
Postgraduate Courses	Teaching Diploma and Premaster courses for postgraduate students in Cairo University and October 6 University.
Scientific Workshop Training	High Performance Liquid Chromatography (HPLC) workshop (practical sessions) at Biotechnology center (BTC), Cairo University. Solid Phase Extraction (SPE) workshop (practical sessions) at Center of advanced research and application sciences (CARAS), Cairo University (2016). Liquid Chromatography- Method development session for R&D, QC, postgraduate and postdoc attendees at Center of advanced research and application sciences (CARAS), Cairo University (2016) repeated (2017).

Career History and Professional Experience

Titles	- Associate Professor of Analytical Chemistry, Faculty of Pharmacy, Cairo University (Current Position) - Associate Professor of Analytical Chemistry, Faculty of Pharmacy, Badr University in Cairo (Since October 2020 till now)

- Associate Professor of Analytical Chemistry, Faculty of Pharmacy, October 6 University (October 2018 – September 2020)
- Lecturer of Analytical Chemistry, Faculty of Pharmacy, Cairo University (January 2014 – March 2019)
- Teaching Assistant of Analytical Chemistry, Faculty of Pharmacy, Cairo University (May 2010 – December 2013)
- Demonstrator of Analytical Chemistry, Faculty of Pharmacy, Cairo University (May 2004 – April 2010)

Administrative Positions

- Faculty of Pharmacy Cairo University **Website** Committee Manger (2016)
- **Vice manager of the Accreditation unit** at Badr University in Cairo (BUC)

Awards

- Best Poster presentation (second place) in international conference "6th Black Sea Basin Conference on Analytical Chemistry", 2013. (Included 250 participant from different Nationalities)
- Best PhD thesis in Analytical Chemistry Department, Faculty of Pharmacy, Cairo University, 2013.

International Publications and Conference Presentations

[1] A.M. Badawy, A.B.A. El-Aleem, A.S. Saad, **Stability-indicating spectrophotometric methods for determination of tazarotene in the presence of its alkaline degradation product by derivative spectrophotometric techniques.**, *Drug Test. Anal.* 2 (**2010**) 130–136.

[2] A.S. Saad, H.W. Darwish, A.M. Badawy, A.B.A.E.B.A. El-aleem, **Stability-indicating chemometric methods for the determination of tazarotene.**, *Drug Test. Anal.* 2 (**2010**) 357–361.

[3] A.S. Saad, E.S. Elzanfaly, A.-E.B. Abd-Elaleem, A new application of the recently developed ratio difference spectrophotometric method for the determination of ternary mixtures with overlapping spectral data, in: 6th Black Sea Basin Conf. Anal. Chem., Trabzon, Turkey, **2013**.

[4] A.S. Saad, **Novel spectrophotometric method for selective determination of compounds in ternary mixtures (dual wavelength in ratio spectra).**, *Spectrochim. Acta. A. Mol. Biomol. Spectrosc.* 147 (**2015**) 257–61.

[5] A.S. Saad, A.K. Attia, M.S. Alaraki, E.S. Elzanfaly, **Comparative study on the selectivity of various spectrophotometric techniques for the determination of binary mixture of fenbendazole and rafoxanide**, *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.* 150 (**2015**) 682–690.

[6] A.S. Saad, N.F. Abo-Talib, M.R. El-Ghobashy, **Novel ratio difference at coabsorptive point spectrophotometric method for determination of components with wide**

variation in their absorptivities, *Spectrochim. Acta Part A Mol. Biomol. Spectrosc.* 152 (**2016**) 480–484.

[7] A.S. Saad, N.S. Ismail, M. Soliman, H.E. Zaazaa, **Validated Stability-Indicating RP-HPLC Method for Simultaneous Determination of Clorsulon and Ivermectin Employing Plackett-Burman Experimental Design for Robustness Testing**, *J. AOAC Int.* 99 (**2016**) 571–578.

[8] A.S. Saad, A.M. Hamdy, F.M. Salama, M.M. Abdelkawy, **Enhancing prediction power of chemometric models through manipulation of the fed spectrophotometric data: A comparative study.**, *Spectrochim. Acta. A. Mol. Biomol. Spectrosc.* 167 (**2016**) 12–18.

[9] H.W. Darwish, E.S. Elzanfaly, A.S. Saad, A.E.-B. Abdelaleem, **Full spectrum and selected spectrum based multivariate calibration methods for simultaneous determination of betamethasone dipropionate, clotrimazole and benzyl alcohol: development, validation and application on commercial dosage form**, *Spectrochim. Acta Part A Mol. Biomol. Spectrosc.* 169 (**2016**) 50–57.

[10] A.S. Saad, A.M. Hamdy, F.M. Salama, M. Abdelkawy, **Validated UPLC and TLC-densitometry stability indicating methods for determination of rafoxanide in presence of its degradation products**, *J. Chromatogr. Sci.* 54 (**2016**) 1661–1669.

[11] A.M. Badawy, A.S. Saad, A.E.-A.B. Abd El-Aleem, Simultaneous determination of retinoic acid and hydroquinone in pharmaceutical formulations using spectrophotometric methods, in: 2nd Sci. Conf. Fac. Pharmacy, Cairo Univ. "Quality Assur. Pharm. Educ., Cairo, Egypt., **2010**.

[12] H.W. Darwish, A.S. Saad, A.M. Badawy, A.E.-A.B. Abd El-Aleem, Stability indicating chemometric methods for determination of tazarotene in ternary mixture with its degradation products, in: 2nd Sci. Conf. Fac. Pharmacy, Cairo Univ. "Quality Assur. Pharm. Educ., Cairo, Egypt., **2010**.

[13] E.S. Elzanfaly, A.S. Saad, A.E.-A.B. Abd El-Aleem, A simple validated spectrophotometric method for simultaneous determination of binary mixtures, in: Egypt. Pharm. Soc. XXXII Conf. Pharm. Sci., **2011**.

[14] E.S. Elzanfaly, A.S. Saad, A.B. Abd Elaleem, **Simultaneous determination of retinoic acid and hydroquinone in skin ointment using spectrophotometric technique (ratio difference method)**, *Saudi Pharm. J.* 20 (**2012**) 249–253.

[15] E.S. Elzanfaly, A.S. Saad, A.B. Abd Elaleem, A. Elaziz, B.A. Elaleem, E.A. Elaleem, **A smart simple spectrophotometric method for simultaneous determination of binary mixtures**, *J. Pharm. Anal.* 2 (**2012**) 382–385.

[16] E.S. Elzanfaly, A.S. Saad, A.E.B. Abd-Elaleem, A.B. Abd Elaleem, **Combining the isoabsorptive point in the ratio spectrum and the smart ratio difference methods for a single step determination of compounds with overlapped spectra**, *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.* 95 (**2012**) 188–192.

[17] E.S. Elzanfaly, A.S. Saad, A.B. Abd Elaleem, **A novel simple method for resolving**

overlapped spectral data with a wide range of applicability , and its application as a stability indicating method for determination of tazarotene., *Pharm. Anal. Acta*. 3 (**2012**) 153–156.

[18] E.S. Elzanfaly, A.S. Saad, A.E.-A.B. Abd El-Aleem, A green validated RP-HPLC method for simultaneous determination of brimonidine tartarate and timolol maleate in combined dosage form, in: 4th Int. Sci. Conf. Fac. Pharm. Entiteld "Pharmacy Educ. Community Expect., Cairo, Egypt., **2013**.

[19] A.S. Saad, M.A. Mohamed, S.H. Koshek, M.R. El-, **Assessment of the oxidative degradation pathways for trifluoperazine hydrochloride and isopropamide iodide through a validated SPE-HPLC methods and application in human plasma**, *J. Appl. Pharm. Biol. Res.* 2 (**2017**) 10–19.

[20] E.S.E.S. Elzanfaly, A.S.A.S. Saad, **Green in-Line Ion Selective Electrode Potentiometric Method for Determination of Amantadine in Dissolution Media and in Pharmaceutical Formulations**, *ACS Sustain. Chem. Eng.* 5 (**2017**) 4381–4387.

[21] A.K. Attia, A.S. Saad, M.S. Alaraki, E.S. Elzanfaly, **Study of thermal analysis behavior of fenbendazole and rafoxanide**, *Adv. Pharm. Bull.* 7 (**2017**).

[22] M. A. Mohamed, A.S. Saad, S.H. Koshek, M.R. El-Ghobashy, **Smart electrochemical sensing platform for the simultaneous determination of psychotic disorder drugs isopropamide iodide and trifluoperazine hydrochloride**, *New J. Chem.* 42 (**2018**) 9911–9919.

[23] A.S. Saad, M.R. El-Ghobashy, N.S. Ayish, B.A. El-Zeany, **ISE-potentiometric sensor for the determination of zolmitriptan: applications in plasma, pharmaceutical formulation and in vitro release profile**, *New J. Chem.* 42 (**2018**) 15263–15269.

[24] M.A.R. Korashy, A.S. Saad, S.A.A. Gawad, M.A. Al-Ghobashy, N.Y. Hassan, M. AbdelKawy, **Chemometric assisted solid-phase extraction for the simultaneous determination of some anti-inflammatory drug residues in pharmaceutical industrial wastewater**, *Curr. Sci. Int.* 7 (**2018**) 344–354. http://www.curresweb.com/csi/csi/2018/344-354.pdf.

[25] A.S. Saad, I.A. Naguib, M.E. Draz, H.E. Zaazaa, A.S. Lashien, **Studying the Effect of Membrane Thickness on the Performance of Green ISE-Potentiometric Sensors: Application to Ritodrine HCl and Its Active Impurity, Tyramine**, *J. Electrochem. Soc.* 165 (**2018**) H764–H769.

[26] A.S. Saad, M.R. El-Ghobashy, N.S. Ayish, B.A. El-Zeany, **Greenness assessment as per Eco - scale and AMVI metrics for the chromatographic assay of selected drugs in a semisolid dosage form and in tissues**, *Chem. Pap.* (**2018**).

[27] A.S. Saad, I.A. Naguib, M.E. Draz, H.E. Zaazaa, A.S. Lashien, **Validated Analytical Methods for the Determination of Drugs Used in the Treatment of Hyperemesis Gravidarum in Multiple Formulations**, *J. AOAC Int.* 101 (**2018**) 427–436.

[28] A.S. Saad, A.M.A. Al Alamein, M.M. Galal, H.E. Zaazaa, **Novel Green Potentiometric Method for the Determination of Lidocaine Hydrochloride and its Metabolite 2, 6-**

Dimethylaniline; Application to Pharmaceutical Dosage Form and Milk, *Electroanalysis*. (**2018**).

[29] A.M.A. Al Alamein, A.S. Saad, M.M. Galal, H.E. Zaazaa, **A comparative study of different chromatographic techniques for determination of toxic impurities of some commonly used anesthetics**, *JPC - J. Planar Chromatogr. - Mod. TLC*. 31 (**2018**) 280–289.

[30] A.S. Saad, N.S. Ismail, M. Soliman, H.E. Zaazaa, **Study of Oxyclozanide's Innate Stability Coupled with the Assessment of its Aquatic Photo-Transformation Using a Validated Isocratic HPLC Method.**, *J. AOAC Int.* (**2018**).

[31] O.M. Abdalla, A.M. Abdel-Megied, A.S. Saad, S.S. Soliman, **Simultaneous spectrophotometric determination of compounds having relatively disparate absorbance and concentration ranges; application to antidiabetic formulation of linagliptin and metformin**, *Spectrochim. Acta Part A Mol. Biomol. Spectrosc.* 203 (**2018**) 112–117.

[32] A.S. Saad, A.M.A. AlAlamein, M.M. Galal, H.E. Zaazaa, **Traditional versus advanced chemometric models for the impurity profiling of paracetamol and chlorzoxazone: Application to pure and pharmaceutical dosage forms**, *Spectrochim. Acta Part A Mol. Biomol. Spectrosc.* 205 (**2018**) 376–380.

[33] A.S. Saad, A.M.A. Al-Alamein, M.M. Galal, H.E. Zaazaa, **Voltammetric Determination of Lidocaine and Its Toxic Metabolite in Pharmaceutical Formulation and Milk Using Carbon Paste Electrode Modified with C18 Silica**, *J. Electrochem. Soc.* 166 (**2019**) B103–B109.

[34] A.S. Saad, E.S. Elzanfaly, M.K. Halim, K.M. Kelani, **Comparing the predictability of different chemometric models over UV-spectral data of isoxsuprine and its toxic photothermal degradation products**, *Spectrochim. Acta - Part A Mol. Biomol. Spectrosc.* 219 (**2019**) 444–449.

[35] A.M. Abou Al Alamein, A.S. Saad, S.H. Salah El-Din, **A green stability indicating ISE-potentiometric method for the monitoring of chlorhexidine in the presence of its rapidly absorbed toxic degradation product; a kinetic study**, *Microchem. J.* 149 (**2019**) 103969.

[36] A.S. Saad, M.R. El-Ghobashy, N.S. Ayish, B.A. El-Zeany, **Greenness assessment as per Eco-scale and AMVI metrics for the chromatographic assay of selected drugs in a semisolid dosage form and in tissues**, *Chem. Pap.* 73 (**2019**) 683–691.

[37] A.S. Saad, N.S. Ismail, M. Soliman, H.E. Zaazaa, **Study of oxyclozanide's innate stability coupled with the assessment of its aquatic photo-transformation using a validated isocratic HPLC method**, *J. AOAC Int.* 102 (**2019**) 480–489.

[38] A.S. Saad, H.M. Essam, **Evaluating the Effect of four Hosting Ionophores on the Performance of Anion Selective Potentiometric Sensor**, *Electroanalysis*. 31 (**2019**) 2224–2231.

[39] A.M. Yehia, A.S. Saad, M.A. Tantawy, **USB multiplex analyzer employing screen-**

printed silver electrodes on paper substrate; A developed design for dissolution testing, *J. Pharm. Biomed. Anal.* 186 (**2020**) 113272.

[40] N.S. Abdelwahab, F.H. Edrees, M.T. Alsaadi, N.H. Amin, A.S. Saad, **Simultaneous estimation of dimenhydrinate, cinnarizine and their toxic impurities benzophenone and diphenylmethylpiperazine; in silico toxicity profiling of impurities**, *RSC Adv.* 10 (**2020**) 37439–37448.

[41] K.M. Kelani, E.S. Elzanfaly, M.K. Halim, A.S. Saad, **Computational optimization of a novel solid-state sensor for stable assay of isoxsuprine hydrochloride in the presence of its nephrotoxic/hepatotoxic photothermal degradation products: application in different sampling matrices**, *New J. Chem.* 44 (**2020**) 15260–15269.

[42] A.S. Saad, F.H. Edrees, M.T. Elsaady, N.H. Amin, N.S. Abdelwahab, **Experimentally Designed Sensor for Direct Determination of the Environmentally Hazardous Compound and Occupational Exposure Biomarker (p-aminophenol) in Different Sampling Matrices**, *J. Electrochem. Soc.* 167 (**2020**) 147504.

[43] N.S. Abdelwahab, F.H. Edrees, M.T. Alsaadi, N.H. Amin, A.S. Saad, **Therapeutic drug monitoring of two co-administered drugs through development of two ecological chromatographic methods: Invivo application**, *Microchem. J.* 156 (**2020**) 104935.

[44] M.M. Galal, A.S. Saad, **Portable solid-state sensor for therapeutic monitoring of an antineoplastic drug; vinblastine in human plasma**, *RSC Adv.* 10 (**2020**) 42699–42705.

[45] M.E. Draz, I.A. Naguib, A.S. Saad, **Computational ionophore selection during optimization of a portable calixarene based sensor for direct assay of levamisole residues in livestock products**, *J. Electroanal. Chem.* 897 (**2021**) 115546.

[46] H. Ibrahim, A.M. Hamdy, H.A. Merey, A.S. Saad, **Dual-mode gradient HPLC and TLC densitometry methods for the simultaneous determination of paracetamol and methionine in the presence of paracetamol impurities**, *J. AOAC Int.* (**2021**).

[47] F.H. Edrees, A.S. Saad, M.T. Alsaadi, N.H. Amin, N.S. Abdelwahab, **Experimentally designed chromatographic method for the simultaneous analysis of dimenhydrinate, cinnarizine and their toxic impurities**, *RSC Adv.* 11 (**2021**) 1450–1460.

[48] H. Ibrahim, A.M. Hamdy, H.A. Merey, A.S. Saad, **Simultaneous Determination of Paracetamol, Propyphenazone and Caffeine in Presence of Paracetamol Impurities Using Dual-Mode Gradient HPLC and TLC Densitometry Methods**, *J. Chromatogr. Sci.* 59 (**2021**) 140–147.

[49] M.E. Draz, H.W. Darwish, I.A. Darwish, A.S. Saad, **Solid-state potentiometric sensor for the rapid assay of the biologically active biogenic amine (tyramine) as a marker of food spoilage**, *Food Chem.* 346 (**2021**) 128911.

[50] M. Soliman, A.S. Saad, N.S. Ismail, H.E. Zaazaa, **A validated RP-HPLC method for determination of nitroxinil and investigation of its intrinsic stability**, *J. Iran. Chem. Soc.* 18 (**2021**) 351–361.

[51] A.S. Saad, N.S. Ismail, N.S. Gaber, E.S. Elzanfaly, **Introducing a Polymeric Ion Exchanger as a Modifier for Carbon-Paste Potentiometric Sensors**, *J. Electrochem. Soc.* 168 (**2021**) 017504.

[52] M.E. Wahba, D. El Wasseef, A.S. Saad, M.E. Draz, **Calixarene based portable sensor for the direct assay of indiscriminate ephedrine content of weight loss herbal preparations**, *RSC Adv.* 11 (**2021**) 12833–12844.

[53] M.O. Heragy, A.A.M. Moustafa, E.S. Elzanfaly, A.S. Saad, **A portable solid-state potentiometric sensor based on a polymeric ion-exchanger for the assay of a controversial food colorant (sunset yellow)**, *Anal. Methods*. (**2021**).

[54] K.M. Kelani, E.S. Elzanfaly, A.S. Saad, M.K. Halim, M.B. El-Zeiny, **Different greenness assessment perspectives for stability-indicating RP-HPLC method used for the assay of isoxsuprine hydrochloride and four nephrotoxic and hepatotoxic photothermal degradation products**, *Microchem. J.* 171 (**2021**) 106826.

[55] A.S. Saad, M.E. Draz, I.A. Naguib, H.E. Zaazaa, A.S. Lashien, F.F. Abdallah, **Adoption of Advanced Chemometric Methods for Determination of Pyridoxine HCl, Cyclizine HCl, and Meclizine HCl in Presence of Related Impurities: A Comparative Study**, *J. AOAC Int.* (**2021**).

Articles Under Publication

[1] "Experimentally Designed Chemometric Models for the Assay of Toxic Adulterants in Turmeric Powder".

[2] "Green validated TLC and UV spectrometric techniques for the simultaneous determination of hyoscine butylbromide and ketoprofen in pharmaceutical dosage form".

[3] “Different Sustainable Chemometric Assisted Spectrophotometric Methods for Analysis Dimenhydrinate, Cinnarizine and Their Toxic Impurities: Comparative Study of Different Greenness Assessment Tools”

[4] “QbD portable screen-printed sensor for the rapid and direct assay of the anticonvulsive agent (sodium valproate) in pharmaceutical and plasma samples”

[5] “Challenge Methodology of an Economical Voltammetric Sensor for Sensitive Rapid Determination of Ondansetron in Presence of Opioid Antagonist Naltrexone”