

CURRICULUM VITAE

Mehmet Gokhan CAGLAYAN

Date of Birth: June, 8th 1982

Place of Birth: Istanbul

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Institution:

Ankara University, Faculty of Pharmacy, Department of Analytical Chemistry

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Academic Background:

Department of Chemistry Education, Faculty of Education, Middle East Technical University, Ankara, Turkey, Graduate, 2000- 2005

Department of Analytical Chemistry, Faculty of Pharmacy, Ankara University, Turkey, MS, 2007- 2009

Department of Analytical Chemistry, Faculty of Pharmacy, University of Ankara, Turkey, PhD, 2009-2014

Scientific Activities:

Research Assistant, Department of Analytical Chemistry, Faculty of Pharmacy, Ankara University, 2008 –

Postdoctoral researcher – Department of Chemistry and Center for Photochemical Sciences, Bowling Green State University, Ohio, USA, June 2015- June 2016

Subject of Specialization

1. Chemical sensing: Design and synthesis of cross-reactive chemical sensors. Sensing of drugs, prohibited substances, bacteria and biologically important molecules by using optical methods. Evaluation of results from cross-reactive sensor arrays using chemometric techniques.

2. Metal nanoparticle based spectroscopic sensors: Synthesis and modification of metal nanoparticles for detection of analytes with spectroscopic techniques (Raman, fluorescence and UV-Vis absorption spectroscopy).
3. Drug Analysis: Development and validation of new methods for simultaneous determination of drug mixture using capillary electrophoresis, high performance liquid chromatography, spectrophotometry and spectrofluorimetry.

Scientific Publication List

1. Bakar F, Kilic-Kurt Z, **Caglayan MG**, Olgen S. The Effects of 1,3,5-trisubstituted Indole Derivatives on Cell Growth, Apoptosis and MMP-2/9 mRNA Expression of MCF-7 Human Breast Cancer Cells. *Anticancer Agents Med Chem.* 2017; 17(5):762-767. DOI: 10.2174/1871520616666160802115737
2. Koutnik P, Shcherbakova EG, Gozem S, **Caglayan MG**, Minami T, Anzenbacher P, Jr. Fluorescence-Based Assay for Carbonic Anhydrase Inhibitors. *Chem.* 2017;2(2):271-82. DOI: 10.1016/j.chempr.2017.01.011
- 3 **Caglayan MG**, Kasap E, Cetin D, Suludere Z, Tamer U. Fabrication of SERS active gold nanorods using benzalkonium chloride, and their application to an immunoassay for potato virus X. *Microchim Acta.* 2017; 184(4):1059-1067. DOI: 10.1007/s00604-017-2102-x
4. Selbes YS, **Caglayan MG**, Eryilmaz M, Boyaci IH, Saglam N, Basaran AA, et al. Surface-enhanced Raman probe for rapid nanoextraction and detection of erythropoietin in urine. *Anal Bioanal Chem.* 2016;408(29):8447-56. DOI: 10.1007/s00216-016-9966-1
5. **Caglayan MG**, Sheykhi S, Mosca L, Anzenbacher P, Jr. Fluorescent zinc and copper complexes for detection of adrafinil in paper-based microfluidic devices. *Chem Commun (Cambridge, U K).* 2016;52(53):8279-82. DOI: 10.1039/c6cc03640f
6. Akdeniz A, **Caglayan MG**, Polivina I, Anzenbacher P. Detection and quantification of ATP in human blood serum. *Org Biomol Chem.* 2016;14(31):7459-62. DOI: 10.1039/c6ob01378c
7. Akdeniz A, **Caglayan MG**, Anzenbacher P. A tri-serine tri-lactone scaffold for the quantification of citrate in urine. *Chem Commun (Cambridge, U K).* 2016;52(9):1827-30. DOI: 10.1039/c5cc08759g

8. **Caglayan MG**, Torul H, Onur F, Tamer U. SERS-based assays for sensitive detection of modafinil. *J Raman Spectrosc.* 2015;46(9):802-6. DOI: 10.1002/jrs.4722
9. **Caglayan MG**, Onur F. A metal-enhanced fluorescence study of primary amines: determination of aminoglycosides with europium and gold nanoparticles. *Anal Methods.* 2015;7(4):1407-14. DOI: 10.1039/c4ay02957g
10. Bakar F, **Caglayan MG**, Onur F, Nebioglu S, Palabiyik IM. Gold Nanoparticle-Lignan Complexes Inhibited MCF-7 Cell Proliferation in vitro: A Novel Conjugation for Cancer Therapy. *Anti-Cancer Agents Med Chem.* 2015;15(3):336-44. DOI: 10.2174/1871520614666141202144152
11. **Caglayan MG**, Onur F. Silver Nanoparticle Based Analysis of Aminoglycosides. *Spectrosc Lett.* 2014;47(10):771-80. DOI: 10.1080/00387010.2013.845577
12. Amanova A, Kendi Celebi Z, Bakar F, **Caglayan MG**, Keven K. Colchicine levels in chronic kidney diseases and kidney transplant recipients using tacrolimus. *Clin Transplant.* 2014;28(10):1177-83. DOI: 10.1111/ctr.12448
13. Palabiyik IM, Goker E, **Caglayan MG**, Onur F. Multivariate optimization model in a partial least squares-1 method for simultaneous determination of dorzolamide hydrochloride and timolol maleate in eye drops. *Curr Pharm Anal.* 2013;9(4):404-12. DOI: 10.2174/1573412911309040008
14. **Caglayan MG**, Palabiyik IM, Onur F. Stability-indicating micellar electrokinetic chromatography method for determination of finasteride in pharmaceutical preparations. *J Liq Chromatogr Relat Technol.* 2013;36(6):781-91. DOI: 10.1080/10826076.2012.673214
15. Bas E, Ozdemir S, **Caglayan MG**, Palabiyik IM, Onur F. First derivative spectrophotometric determination of cefixime and cefdinir in pharmaceutical preparations. *Turk J Pharm Sci.* 2013;10(3):321-8.
16. Aybaba C, Palabiyik IM, **Caglayan MG**, Onur F. Multivariate optimization of separation conditions for simultaneous determination of acemetacin and chlorzoxazone in a pharmaceutical preparation by HPLC using response surface methodology. *J AOAC Int.* 2013;96(4):723-9. DOI: 10.5740/jaoacint.11-092

17. Palabiyik IM, **Caglayan MG**, Onur F. Using derivative and ratio spectra derivative: spectrophotometries as new data preprocessing method in partial least squares technique for resolving overlapped spectra of montelukast sodium, desloratadine, and levocetirizine dihydrochloride. *Rev Anal Chem.* 2012;31(2):107-12. DOI: 10.1515/revac-2011-0013
18. Aybaba C, **Caglayan MG**, Palabiyik IM, Onur F. Spectrophotometric methods for determination of quetiapine hemifumarate in pharmaceutical preparations using bromcresol purple and bromcresol green. *Turk J Pharm Sci.* 2012;9(3):301-9.
19. Palabiyik IM, **Caglayan MG**, Onur F. Multivariate optimization and validation of a CE method for simultaneous analysis of dorzolamide hydrochloride and timolol maleate in ophthalmic solution. *Chromatographia.* 2011;73(5-6):541-8. DOI: 10.1007/s10337-010-1901-6
20. Karacan E, **Caglayan MG**, Palabiyik IM, Onur F. Liquid chromatographic and spectrophotometric determination of diflucortolone valerate and isoconazole nitrate in creams. *J AOAC Int.* 2011;94(1):128-35.
21. **Caglayan MG**, Palabiyik IM, Bor M, Onur F. Optimisation and validation of liquid chromatographic and partial least-squares-1 methods for simultaneous determination of enalapril maleate and nitrendipine in pharmaceutical preparations. *Chem Pap.* 2011;65(6):754-60. DOI: 10.2478/s11696-011-0078-2
22. **Caglayan MG**, Palabiyik IM, Onur F. Development and validation of spectrophotometric and high-performance column liquid chromatographic methods for the simultaneous determination of dienogest and estradiol valerate in pharmaceutical preparations. *J AOAC Int.* 2010;93(3):862-8.
23. Ozbakan H, Palabiyik IM, **Caglayan MG**, Onur F. Spectrophotometric and liquid chromatographic determination of acemetacin in pharmaceutical formulations. *Turk J Pharm Sci.* 2009;6(3):163-76.

Conference Presentations

International Conferences

1. **Caglayan MG**, Palabiyik IM, Onur F “Liquid chromatographic and spectrophotometric determination of dienogest and estradiol valerate in a

pharmaceutical preparation” 6th Aegean Analytical Chemistry Days, AACD 2008, 09-12 October 2008, Denizli, Turkey.

2. **Caglayan MG**, Palabiyik IM, Onur F “Simultaneous spectrophotometric determination of estradiol valerate and dienogest in pharmaceutical preparations by principle component regression method”, International Symposium on Pharmaceutical Sciences 9th, 23-26 June 2009, Ankara, Turkey.
3. Aybaba C, **Caglayan MG**, Palabiyik IM, Onur F “Spectrophotometric method for determination of quetiapine in pharmaceutical preparations” International Symposium on Pharmaceutical Sciences 9th, 23-26 June 2009, Ankara, Turkey.
4. Aybaba C, Palabiyik IM, **Caglayan MG**, Onur F “Multivariate Optimization of The Experimental Conditions in High Performance Liquid Chromatographic Method Using Response Surface Methodology” ISC 2010, 12 -16 September 2010, Valencia, Spain.
5. **Caglayan MG**, Palabiyik IM, Onur F “Capillary Electrophoretic Determination of Timolol Maleate and Dorzolamide Hydrochloride in Eye Drops” ISC 2010, 12 -16 September 2010, Valencia, Spain.
6. **Caglayan MG**, Palabiyik IM, Onur F “Stability-indicating micellar elektrokinetic chromatography method for determination of finasteiide in pharmaceutical preparations” 36thInternational Symposium on Capillary Chromatography, 27 May – 1 June 2012, Riva del Garda, Italy
7. **Caglayan MG**, Palabiyik IM, Bor M, Onur F “Determination of nitrendipine and enalapril maleate in pharmaceuticals by reversed-phase HPLC and PLS-1” National Analytical Chemistry Congress, 03-07 September 2012, Hatay, Turkey.
8. Karademir F, **Caglayan MG**, Palabiyik IM, Onur F “Response surface methodology in optimization of hplc analysis of fluoxetine and olanzapine” HPLC 2013, 16-20 September 2013, Amsterdam, Netherlands.
9. **Caglayan MG**, Onur F, “Silver nanoparticle sensor for detection of aminoglycosides in milk” FIP World Congress 2013, 30 August – 05 September 2013, Dublin, Ireland.

10. Amanova A, Kendi-Celebi Z, Bakar F, **Caglayan MG**, Kenan Keven, “Colchicine levels in chronic kidney diseases and kidney transplant recipients using tacrolimus” 51th ERA – EDTA Congress, May 31- June 3 2014, Amsterdam, Netherlands.
11. **Caglayan MG**, Onur F “Europium and gold nanoparticles-based fluorescence sensor for tobramycin” XVI International Symposium on Luminescence Spectrometry, 24-27 September 2014, Rhodes, Greece.
12. **Caglayan MG**, Sheykhi S, Mosca L, Anzenbacher Jr P “Paper-Based Fluorescence Sensing of a Prohibited Substance in Sports” 10th Aegean Analytical Chemistry Days, 29 September – 2 October 2016, Canakkale, Turkey.
13. Gumustas A, Ahi EE, **Caglayan MG**, Uslu B, Cetin D, Suludere Z, Tamer U “CTAB-Free Generation of SERS Active Gold Nanoparticle and Lateral Flow Immunoassay Application” 10th Aegean Analytical Chemistry Days, 29 September – 2 October 2016, Canakkale, Turkey.
14. **Caglayan MG**, Kasap E, Cetin D, Suludere Z, Tamer U “Fabrication of SERS Active Gold Nanorod using Benzalkonium Chloride” Pittcon 2017, 5-9 March 2017, Chicago, IL, USA.

Reviewer in journals

1. Talanta
2. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy
3. Luminescence: The Journal of Biological and Chemical Luminescence
4. Journal of Pharmaceutical & Biomedical Analysis
5. Journal of Liquid Chromatography & Related Technologies
6. Journal of AOAC International
7. Arabian Journal of Chemistry
8. Journal of Analytical Methods in Chemistry
9. Turkish Journal of Pharmaceutical Sciences
10. Pharmaceutica Analytica Acta