

## Prof. Ayşegül Gölçü

### Personal Information

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**Address:** İstanbul Teknik Üniversitesi, Fen-Edebiyat Fak., Kimya Bölümü, Ayazağa, İstanbul.

### International Researcher IDs

ORCID: 0000-0001-5228-1682

Publons / Web Of Science ResearcherID: U-1966-2017

ScopusID: 35616991800

Yoksis Researcher ID: 9623

### Biography

10. 03. 1971 yılında Ankara'da doğdum.

### Education Information

Doctorate, Ankara University, Eczacılık Fakültesi, Analitik Kimya , Turkey 1996 - 2001

### Foreign Languages

English, B2 Upper Intermediate

### Dissertations

Doctorate, Ariloksipropanolamin Yapısındaki Antihipertansif İlaçların Cu(II) ve Co(II) ile Metal Komplekslerinin Sentezi, Karakterizasyonu ve Mekanizmalarının İncelenmesi , Ankara Üniversitesi, Eczacılık Fakültesi, Analitik Kimya, 2001

### Research Areas

Basic Sciences, Chemistry, Analytical Chemistry, Spectroscopical Methods

### Academic Titles / Tasks

Professor, Istanbul Technical University, Fen-Edebiyat, Kimya, 2017 - Continues

### Academic and Administrative Experience

Kahramanmaraş Sütçü İmam Üniversitesi, Fen Edebiyat Fakültesi, 2007 - 2010

## Jury Memberships

Associate Professor Exam, Doçentlik Sınav Jürisi, yüksek Öğretim Kurumu, October, 2015

## Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Voltammetric quantification, spectroscopic, and DFT studies on the binding of the antineoplastic drug Azacitidine with DNA**  
Şenel P., Ağar Özbek A. Ş., Yurtsever M., Gölcü A.  
Journal of Pharmaceutical and Biomedical Analysis, vol.237, 2024 (SCI-Expanded)
- II. **Drug release profiles of Atenolol and Benidipine from pH-responsive polymeric hydrogel matrix**  
Demir S., Çini N., Gölcü A.  
Chemical Papers, vol.77, no.8, pp.4519-4529, 2023 (SCI-Expanded)
- III. **Identification of a 3-(5-methyl-2-thiazolylamino)phthalide as a new minor groove agent**  
Yılmaz Z. T., Odabasoglu H. Y., Senel P., Yuzbasioglu E. C., ERDOĞAN T., Ozdemir A., Gölcü A., ODABAŞOĞLU M., BÜYÜKGÜNGÖR O.  
JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS, vol.41, no.9, pp.4048-4064, 2023 (SCI-Expanded)
- IV. **Spectroscopic, electrochemical, and some theoretical studies on the interactional of neuraminidase inhibitor zanamivir with double helix deoxyribonucleic acid**  
Senel P., Cetinkaya A., KAYA S., ERDOĞAN T., Topal B. D., Gölcü A., ÖZKAN S. A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1262, 2022 (SCI-Expanded)
- V. **In-vitro release study of Pt(II) and Fe(III) metallocefotaxime drug candidates in pH dependent releasing mediums mimicking human biological fluids**  
Demir S., Adımcılar V., Çini N., Gölcü A.  
JOURNAL OF DRUG DELIVERY SCIENCE AND TECHNOLOGY, vol.71, 2022 (SCI-Expanded)
- VI. **Deciphering the mechanism and binding interactions of Pemetrexed with dsDNA with DNA-targeted chemotherapeutics via spectroscopic, analytical, and simulation studies**  
Senel P., Agar S., Is Y. S., Altay F., Gölcü A., Yurtsever M.  
JOURNAL OF PHARMACEUTICAL AND BIOMEDICAL ANALYSIS, vol.209, 2022 (SCI-Expanded)
- VII. **Spectrophotometric Methodologies Applied for Determination of Pharmaceuticals**  
Çini N., Gölcü A.  
Current Analytical Chemistry, vol.17, no.8, pp.1141-1168, 2021 (SCI-Expanded)
- VIII. **Accurate and sensitive analytical method for trace iron determination in clove tea and tap water samples by slotted quartz tube-flame atomic absorption spectrometry after its preconcentration with supramolecular solvent-based liquid-phase microextraction**  
Yildirmaz B. B., Gölcü A., Zaman B. T., Kasa N. A., BAKIRDERE E. G., BAKIRDERE S.  
CHEMICAL PAPERS, vol.75, no.8, pp.4157-4164, 2021 (SCI-Expanded)
- IX. **Comparative study of cytotoxic activities, DNA binding and molecular docking interactions of anticancer agent epirubicin and its novel copper complex**  
Adımcılar V., ÇEŞME M., Senel P., Danis I., Unal D., Gölcü A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1232, 2021 (SCI-Expanded)
- X. **Mechanism of Interactions of dsDNA Binding with Apigenin and Its Sulfamate Derivatives Using Multispectroscopic, Voltammetric, and Molecular Docking Studies**  
Waihenya S., Senel P., Osonga F. J., Erdoğan T., Altay F., Gölcü A., Sadik O. A.  
ACS OMEGA, vol.6, no.8, pp.5124-5137, 2021 (SCI-Expanded)
- XI. **Investigations on crystal structure of a novel 3-((4,6-dimethylpyrimidin-2-yl)amino)isobenzofuran-1(3H)-one, and related theoretical studies**  
Yılmaz Z. T., Odabasoglu H. Y., Senel P., Adımcılar V., ERDOĞAN T., Özdemir A., Gölcü A., ODABAŞOĞLU M., BÜYÜKGÜNGÖR O.  
ARABIAN JOURNAL OF CHEMISTRY, vol.13, no.6, pp.5564-5580, 2020 (SCI-Expanded)

- XII. **A novel 3-((5-methylpyridin-2-yl)amino)isobenzofuran-1(3H)-one: Molecular structure describe, X-ray diffractions and DFT calculations, antioxidant activity, DNA binding and molecular docking studies**  
Yilmaz Z. T., Odabasoglu H. Y., Senel P., Adımcılar V., Erdogan T., Özdemir A., Golcu A., Odabasoglu M.  
Journal of Molecular Structure, vol.1205, 2020 (SCI-Expanded)
- XIII. **Elucidation of binding interactions and mechanism of Fludarabine with dsDNA via multispectroscopic and molecular docking studies**  
Şenel P., Agar S., Sayin V. O., Altay F., Yurtsever M., Gölcü A.  
Journal of Pharmaceutical and Biomedical Analysis, vol.179, 2020 (SCI-Expanded)
- XIV. **Crystal structure and DNA binding properties of khellin oxime**  
BEYAZİT N., Kaya K., Senel P., Gürgün Özdemir A. A., Gölcü A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1197, pp.450-457, 2019 (SCI-Expanded)
- XV. **Barium ion cross-linked alginate-carboxymethyl cellulose composites for controlled release of anticancer drug methotrexate**  
Kahya N., Gölcü A., Erim F. B.  
JOURNAL OF DRUG DELIVERY SCIENCE AND TECHNOLOGY, vol.54, 2019 (SCI-Expanded)
- XVI. **The new metal-based compound from anticancer drug cytarabine: Spectral, electrochemical, DNA-binding, antiproliferative effect and in silico studies**  
Gungor O., ÇEŞME M., Çınar M. E., Gölcü A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1193, pp.532-543, 2019 (SCI-Expanded)
- XVII. **Metal-Based Molecular Compounds: Structure, Analytical Properties, dsDNA Binding Studies and In Vitro Antiproliferative Activity on Selected Cancer Cell Lines**  
ÇEŞME M., Gölcü A.  
PHARMACEUTICAL CHEMISTRY JOURNAL, vol.53, no.5, pp.392-410, 2019 (SCI-Expanded)
- XVIII. **Anodic Voltammetric Determination of an Atypical Antipsychotic Drug Amisulphide in Pharmaceutical Dosage Forms Using Electrochemical fsDNA Biosensor**  
ÇEŞME M., Polat D., Senel P., Gölcü A.  
RUSSIAN JOURNAL OF ELECTROCHEMISTRY, vol.55, no.4, pp.281-290, 2019 (SCI-Expanded)
- XIX. **Electrochemical oxidation of curcuminoids: an experimental and computational investigation**  
Kalaycıoğlu Z., Karadas N., Çınar M. E., Aysil Ozkan S., Ozer Unal D., Gölcü A., Berker F. B.  
TURKISH JOURNAL OF CHEMISTRY, vol.43, no.3, pp.834-853, 2019 (SCI-Expanded)
- XX. **Multifunctional metallo porphyrin-imine conjugates: Photophysical, electrochemical, DNA binding and SOD enzyme mimetic studies**  
Gölcü A.  
Journal of Photochemistry and Photobiology A:CHEMISTRY LETTERS, vol.346, pp.236-248, 2017 (SCI-Expanded)
- XXI. **A novel porphyrin derivative and its metal complexes: Electrochemical, photoluminescence, thermal, DNA-binding and superoxide dismutase activity studies**  
Gölcü A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1105, pp.293-307, 2016 (SCI-Expanded)
- XXII. **SOD activity and DNA binding properties of a new symmetric porphyrin Schiff base ligand and its metal complexes**  
Cay S., Kose M., Tumer F., Golcu A., Tumer M.  
SPECTROCHIMICA ACTA PART A-MOLECULAR AND BIOMOLECULAR SPECTROSCOPY, vol.151, pp.821-838, 2015 (SCI-Expanded)
- XXIII. **New metal based drug as a therapeutic agent: Spectral, electrochemical, DNA-binding, surface morphology and photoluminescence properties**  
Gölcü A.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1092, pp.22-33, 2015 (SCI-Expanded)
- XXIV. **Synthesis of Acyclovir Metal Complexes: Spectral, Electrochemical, Thermal, and DNA Binding Studies**  
Gölcü A.

SYNTHESIS AND REACTIVITY IN INORGANIC METAL-ORGANIC AND NANO-METAL CHEMISTRY, vol.45, pp.581-590, 2015 (SCI-Expanded)

- XXV. **Preparation, Photoluminescence and Antimicrobial Activity of Loracarbef and its Various Complexes**  
Zengin H., Dolaz M., Goelcue A.  
CURRENT ANALYTICAL CHEMISTRY, vol.5, no.4, pp.358-362, 2009 (SCI-Expanded)
- XXVI. **Spectral, analytical, thermal, and antimicrobial studies of novel sodium 2-[4(2-hydroxy-3-izopropylaminopropoxy)phenyl]acetamide (atenolol) dithiocarbamate and its divalent transition metal complexes**  
Goelcue A., Yavuz P.  
RUSSIAN JOURNAL OF COORDINATION CHEMISTRY, vol.34, no.2, pp.106-114, 2008 (SCI-Expanded)
- XXVII. **Spectroscopic and analytic properties of new copper(II) complex of antiviral drug valacyclovir**  
Goelcue A., Dolaz M., Demirelli H., Diorak M., Serin S.  
TRANSITION METAL CHEMISTRY, vol.31, no.5, pp.658-665, 2006 (SCI-Expanded)
- XXVIII. **Synthesis and characterization of polydentate Schiff-base ligands and their complexes**  
Demirelli H., Tuemer M., Goelcue A.  
BULLETIN OF THE CHEMICAL SOCIETY OF JAPAN, vol.79, no.6, pp.867-875, 2006 (SCI-Expanded)

## Articles Published in Other Journals

- I. **Synthesis, characterization, anti-inflammatory evaluation, molecular docking and density functional theory studies of metal based drug candidate molecules of tenoxicam**  
Muslu H., Kalaycioğlu Z., ERDOĞAN T., Gölcü A., Bedia Erim F.  
Results in Chemistry, vol.3, 2021 (Scopus)
- II. **Cefoperazone metal complexes and their antimicrobial investigations**  
Çinar M. E., ERDOĞAN T., Gölcü A.  
Journal of the Turkish Chemical Society, Section A: Chemistry, vol.8, no.2, pp.375-390, 2021 (Scopus)
- III. **İNFLAMATUAR AĞRI MODELİNDE PLATİN-MELOKSİKAM METAL KOMPLEKSİNİN ANTI-HİPERNOSİSEPTİF ETKİLERİ**  
YAMAN S., AVNİOĞLU S., KÜÇÜK K., ALAKUŞ D., BÜŞRA NUR D., MUSLU H., GÖLCÜ A., MERT T.  
Kahramanmaraş Sütçü İmam Üniversitesi Tıp Fakültesi Dergisi, pp.10-11, 2017 (Peer-Reviewed Journal)
- IV. **Investigation of HL porphyrin with dsDNA by electrochemical and spectroscopic techniques**  
**Biosensor studies**  
GÖLCÜ A., TÜMER M.  
Sensor Letters, 2016 (Peer-Reviewed Journal)
- V. **Spectrophotometric determination of metoprolol tartrate in pharmaceutical dosage forms on complex formation with Cu II**  
Çeşme M., TARINÇ D., GÖLCÜ A.  
Pharmaceuticals, 2011 (Scopus)

## Books & Book Chapters

- I. **Evolution of Biosensors: Where are we now?**  
Gölcü A.  
in: Smart Biosensing Technologies: Past, Present and Future, Denizli, A, Editor, Hacettepe Üniversitesi, Ankara, pp.189-193, 2017

## Supported Projects

Gölcü A., Şenel P., Project Supported by Higher Education Institutions, Nükleosit Analogu Bazı Sitotoksik Antineoplastik İlaçların dsDNA ile Etkileşim Mekanizmaları ve Elektrokimyasal Analizleri, 2020 - 2024

Gölcü A., ALTUN B., ERTÜRK E., ÖZTÜRK M., AKLEYİN D., Project Supported by Higher Education Institutions, Hidrojel ortamından bazı antihipertansif ilaçların salım profillerinin incelenmesi, 2020 - 2021

Gölcü A., Kuzpınar E., Project Supported by Higher Education Institutions, Yüksek Basınçlı Sıvı Kromatografisi Yöntemi İle Antidepresan Tedavisinde Kullanılan Mirtazapinin dsDNA ile Etkileşimin Mekanizmasının Belirlenmesi ve Bu Etkileşime Dayalı Miktar Tayin Yönteminin Geliştirilmesi, 2019 - 2021

Gölcü A., Bekar Yıldırım B., Project Supported by Higher Education Institutions, YENİ FLAVONOİD TÜREVLERİNİN dsDNA İLE ETKİLEŞİMİNİN ANALİTİK YÖNTEMLER İLE TESPİTİ, 2019 - 2021

Gölcü A., ÇEŞME M., Şenel P., Adımcılar V., Project Supported by Higher Education Institutions, Kemoterapötik İlaç Adayları Geliştirme Çalışmaları, 2017 - 2019

Gölcü A., Other International Funding Programs, Bazı antiviral ve antibakteriyel İlaç Etken Maddelerinin Metal (Cu(II), Zn(II), Fe(III), Pt(II) ve (Ru(III)) Komplekslerinin Sentezi, Karakterizasyonu ve DNA ile Etkileşimlerinin İncelenmesi, 2009 - 2011

## Activities in Scientific Journals

3. The International Journal of Modern Chemistry and Applied Science, Evaluation Committee Member, 2010 - Continues

## Memberships / Tasks in Scientific Organizations

COST/D39 ve CM1105, Member, 2009 - Continues

## Scientific Refereeing

Journal of Coordination Chemistry, National Scientific Refreed Journal, January 2010

## Scientific Consultations

Tübitak, Project Consultancy, 2013 - 2017

## Metrics

Publication: 114

Citation (WoS): 960

Citation (Scopus): 1339

H-Index (WoS): 16

H-Index (Scopus): 20

## Congress and Symposium Activities

8. Ulusal Analitik Kimya Kongresi, Attendee, Turkey, 2016

8. Ulusal Analitik Kimya Kongresi, Invited Speaker, Isparta, Turkey, 2016

## Non Academic Experience

Kahramanmaraş Sütçü İmam Üni.,  
Kahramanmaraş Sütçü İmam Üni.,  
Kahramanmaraş Sütçü İmam Üni.,  
Kahramanmaraş Sütçü İmam Üni.,  
Kahramanmaraş Sütçü İmam Üni.,