

# Prof. HAYRETTİN TÜMTÜRK

## Personal Information

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## International Researcher IDs

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## Education Information

Doctorate, Gazi University, Fen Bilimleri Enstitüsü, Kimya (Dr), Turkey 1991 - 1998

Postgraduate, Gazi University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), Turkey 1985 - 1991

Undergraduate, Gazi University, Gazi Eğitim Fakültesi, Fen Bilimleri Bölümü, Turkey 1981 - 1985

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, a-Amilazın polimerik mikroküreler üzerinde kovalent bağlanma ile immobilizasyonu, Gazi University, Fen Bilimleri Enstitüsü, Kimya (Dr), 1998

Postgraduate, Propilen oksitin stereospesifik polimerleşmesinin katı maddeleri ile denetlenmesi, Gazi University, Fen Bilimleri Enstitüsü, Kimya (YI) (Tezli), 1988

## Research Areas

Chemistry, Physical Chemistry, Natural Sciences

## Academic Titles / Tasks

Professor, Gazi University, Fen Fakültesi, Kimya, 2018 - Continues

Associate Professor, Gazi University, Fen Fakültesi, Kimya, 2012 - 2018

Assistant Professor, Gazi University, Fen Fakültesi, Kimya, 2000 - 2012

Research Assistant, Gazi University, Fen Fakültesi, Kimya, 1987 - 2000

## Academic and Administrative Experience

Vice Dean, Gazi University, Fen Fakültesi, 2016 - Continues

Gazi University, Fen Fakültesi, 2014 - Continues

Gazi University, Fen Fakültesi, Kimya Bölümü, 2009 - 2012

Gazi University, Fen Fakültesi, Kimya Bölümü, 2005 - 2008

## Courses

GENEL KİMYA-II, Undergraduate, 2017 - 2018

KIM-171- BİYOLOJİ ÖĞRENCİLERİ İÇİN KİMYA, Undergraduate, 2017 - 2018

GENEL KİMYA-I, Undergraduate, 2017 - 2018

KIM101 KİMYA-1, Undergraduate, 2017 - 2018

GENEL KİMYA LABORATUVARI, Undergraduate, 2017 - 2018

KIM258 FİZİKOKİMYAYA GİRİŞ, Undergraduate, 2016 - 2017

KIM434 KİMYASAL KİNİTİK VE TEPKİME MEKANİZMALARI, Undergraduate, 2016 - 2017

KIM103 KİMYA, Undergraduate, 2016 - 2017

## Advising Theses

TÜMTÜRK H., Preparation And Usability Of Epitop Printed Pdms Surfaces For Specific Recognition Of Ferritine, Postgraduate, R.BÖCEK(Student), 2021

TÜMTÜRK H., The Preparation And Usability Of Antibody Imprinted Magnetic Nanoparticles, Postgraduate, S.GÜRLEYİK(Student), 2020

TÜMTÜRK H., Covalent Immobilization Of  $\gamma$ -Glutamyl Transpeptidase On Tannic Acid Modified Magnetic Nanoparticles, Postgraduate, J.Daana(Student), 2018

TÜMTÜRK H., Synthesis And Characterization Of Biomimetic Nanofilms, Postgraduate, O.ARIPZHANOVA(Student), 2018

TÜMTÜRK H., Tannik asit modifiyeli manyetik nanotanicler üzerine  $\gamma$ -glutamil transpeptidazın kovalent immobilizasyonu, Postgraduate, J.DAANA(Student), 2018

TÜMTÜRK H., Enzyme immobilization onto magnetic nanoparticles prepared via biomimetic coating, Postgraduate, H.YÜKSEKDAĞ(Student), 2014

TÜMTÜRK H., Development of immunosensor platforms based on magnetic nanostructured, Doctorate, F.ŞAHİN(Student), 2012

TÜMTÜRK H., Functional ended of poly ( glycidyl methacrylate ) spheres immobilization of glucose oxidase microspheres, Postgraduate, A.AKDAĞ(Student), 2012

TÜMTÜRK H., Application of polymer-modified silica nanoparticles in enzyme immobilization, Postgraduate, A.MALKOÇ(Student), 2011

TÜMTÜRK H., Aminoasit içeren polimerik Schiff bazı ve Ni(II) kompleksinin sentezi, karakterizasyonu ve immobilizasyonu, Postgraduate, V.ERDURAN(Student), 2010

TÜMTÜRK H., SYNTHESIS, CHARACTERIZATION OF POLYMERIC-SCHIFF BASE INCLUDING AMINOACID AND IT'S Ni(II) COMPLEXES AND IMMOBILIZATION, Postgraduate, V.ERDURAN(Student), 2010

TÜMTÜRK H., Poliindol/polietilen kompozitin elektroeolojik özelliklerinin incelenmesi, Postgraduate, M.MAKULOĞULLARI(Student), 2009

TÜMTÜRK H., INVESTIGATION OF ELECTORHEOLOGICAL PROPERTIES OF POLYINDOLE/POLYETHYLENE COMPOSITE, Postgraduate, M.MAKULOGULLARI(Student), 2009

TÜMTÜRK H., Poli(vinil alkol)-kalsiyum aljinat, poli(n-izopropilakrilamit)-kalsiyum aljinat kürelerine  $\beta$ -galaktosidaz immobilizasyonu, Postgraduate, B.LÜTFİYE(Student), 2007

TÜMTÜRK H., IMMOBILIZATION OF  $\beta$ -GALACTOSIDASE IN POLY(VINYL ALCOHOL)- CALCIUM ALGINATE, POLY(N-ISOPROPYLACRYLAMIDE) - CALCIUM ALGINATE, Postgraduate, B.Lütfiye(Student), 2007

TÜMTÜRK H., Üreazın aljinat/kitosan polielektrolit ve poli ( akrilamit-ko-akrilik asit)/k-karragenan interpolimer komplekslerine immobilizasyonu, Postgraduate, F.KARA(Student), 2006

TÜMTÜRK H., Poli (Metilmetakrilat-ko-Glisidilmetakrilat) hidrojelini kullanılarak beta-galaktosidazın kovalent bağlanma yöntemiyle immobilizasyonu, Postgraduate, G.TUNÇ(Student), 2006

TÜMTÜRK H., Poli (akrilamit-ko-akrilik asit) polietilenimin ve poli (metil metakrilat-koglisidil metakrilat) kullanılarak kolesterol oksidaz enziminin immobilizasyonu, Postgraduate, B.AKKAYA(Student), 2006

TÜMTÜRK H., Poli (N,N-dimetilakrilamit-ko-akrilamit) ve poli (N-izopropilakrilamit-ko-akrilmit)/k-karragenan polimerleri kullanılarak lipaz enziminin immobilizasyonu, Postgraduate, N.KARACA(Student), 2006

TÜMTÜRK H., Aljinat jel boncukları ve poli (akrilamit -ko-akrilik asit) hidrojenlerle tirozinaz enziminin binari yöntemiyle immobilizasyonu, Postgraduate, A.YAHŞI(Student), 2005

TÜMTÜRK H., Asetilkolinesterazın doğal polimerler kullanılarak immobilizasyonu, Postgraduate, F.ŞAHİN(Student), 2005

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

- I. **A fluoroimmunodiagnostic nanoplatform for thyroglobulin detection based on fluorescence quenching signal**  
Turan E., Sahin F., Suludere Z., TÜMTÜRK H.  
SENSORS AND ACTUATORS B-CHEMICAL, vol.300, 2019 (SCI-Expanded)
- II. **Acetylcholinesterase immobilized onto PEI-coated silica nanoparticles**  
Tümtürk H., Yüksekdağ H.  
ARTIFICIAL CELLS NANOMEDICINE AND BIOTECHNOLOGY, vol.44, pp.443-447, 2016 (SCI-Expanded)
- III. **Research on the Repeated Use of Novel Ferrocene-Tagged Nanomaterial for Determination of Glucose**  
Kurnaz Yetim N., Hasanoğlu Özkan E., Daniş B., Tümtürk H., Sarı N.  
INTERNATIONAL JOURNAL OF POLYMERIC MATERIALS AND POLYMERIC BIOMATERIALS, vol.64, pp.888-893, 2015 (SCI-Expanded)
- IV. **Immobilization of acetylcholinesterase on Pt(II) and Pt(IV) attached nanoparticles for the determination of pesticides**  
Hasanoğlu Özkan E., Kurnaz Yetim N., Tümtürk H., Sarı N.  
DALTON TRANSACTIONS, vol.44, no.38, pp.16865-16872, 2015 (SCI-Expanded)
- V. **Immobilization of glucose oxidase attached to new nanospheres including azomethine**  
Özdem N., Hasanoğlu Özkan E., Sarı N., Arslan F., Tümtürk H.  
MACROMOLECULAR RESEARCH, vol.22, pp.1282-1287, 2014 (SCI-Expanded)
- VI. **Magnetic nanoparticles coated with different shells for biorecognition: high specific binding capacity**  
TÜMTÜRK H., Sahin F., Turan E.  
ANALYST, vol.139, no.5, pp.1093-1100, 2014 (SCI-Expanded)
- VII. **Immobilization of -galactosidase on Polystyrene Microspheres Attached L-Alanine**  
Erduran V., TÜMTÜRK H., Aynaci E., SARI N.  
JOURNAL OF MACROMOLECULAR SCIENCE PART A-PURE AND APPLIED CHEMISTRY, vol.50, no.8, pp.871-878, 2013 (SCI-Expanded)
- VIII. **Core-shell magnetic nanoparticles: a comparative study based on silica and polydopamine coating for magnetic bio-separation platforms**  
Sahin F., Turan E., TÜMTÜRK H., DEMİREL G.  
ANALYST, vol.137, no.23, pp.5654-5658, 2012 (SCI-Expanded)
- IX. **Immobilization of beta-galactosidase on Novel Polymers Having Schiff Bases**  
Aynaci E., SARI N., TÜMTÜRK H.  
ARTIFICIAL CELLS BLOOD SUBSTITUTES AND BIOTECHNOLOGY, vol.39, no.4, pp.259-266, 2011 (SCI-Expanded)
- X. **Functional polymeric supports for immobilization of cholesterol oxidase**  
Akkaya B., Sahin F., DEMİREL G., TÜMTÜRK H.  
BIOCHEMICAL ENGINEERING JOURNAL, vol.43, no.3, pp.333-337, 2009 (SCI-Expanded)
- XI. **Covalent immobilization of invertase on chemically activated poly (styrene-2-hydroxyethyl methacrylate) microbeads**  
ALTINOK H., Aksoy S., TÜMTÜRK H., HASIRCI N.  
JOURNAL OF FOOD BIOCHEMISTRY, vol.32, no.3, pp.299-315, 2008 (SCI-Expanded)

- XII. **Immobilization of glucose isomerase in surface-modified alginate gel beads**  
TÜMTÜRK H., DEMİREL G., ALTINOK H., Aksoy S., HASIRCI N.  
JOURNAL OF FOOD BIOCHEMISTRY, vol.32, no.2, pp.234-246, 2008 (SCI-Expanded)
- XIII. **A new method for immobilization of acetylcholinesterase**  
Tumturk H., Sahin F., DEMİREL G.  
BIOPROCESS AND BIOSYSTEMS ENGINEERING, vol.30, no.2, pp.141-145, 2007 (SCI-Expanded)
- XIV. **Preparation and application of poly(N,N-dimethylacrylamide-co-acrylamide) and poly(N-isopropylacrylamide-co-acrylamide)/kappa-Carrageenan hydrogels for immobilization of lipase**  
Tumturk H., Karaca N., DEMİREL G., Sahin F.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.40, no.3, pp.281-285, 2007 (SCI-Expanded)
- XV. **Activation of poly(dimer acid-co-alkyl polyamine) particles for covalent immobilization of alpha-amylase**  
HASIRCI N., Aksoy S., Tumturk H.  
REACTIVE & FUNCTIONAL POLYMERS, vol.66, no.12, pp.1546-1551, 2006 (SCI-Expanded)
- XVI. **Covalent immobilization of invertase on chemically activated poly(2-hydroxyethyl methacrylate) microbeads**  
Altinok H., Aksoy S., Tumturk H., HASIRCI N.  
RUSSIAN CHEMICAL BULLETIN, vol.55, no.10, pp.1860-1864, 2006 (SCI-Expanded)
- XVII. **Immobilization of urease by using chitosan-alginate and poly(acrylamide-co-acrylic acid)/kappa-carrageenan supports**  
Kara F., DEMİREL G., Tumturk H.  
BIOPROCESS AND BIOSYSTEMS ENGINEERING, vol.29, no.3, pp.207-211, 2006 (SCI-Expanded)
- XVIII. **Semi-interpenetrating polymer networks (IPNs) for entrapment of glucose isomerase**  
DEMİREL G., Ozcetin G., Sahin F., Tumturk H., Aksoy S., HASIRCI N.  
REACTIVE & FUNCTIONAL POLYMERS, vol.66, no.4, pp.389-394, 2006 (SCI-Expanded)
- XIX. **A novel matrix for the immobilization of acetylcholinesterase**  
Sahin F., DEMİREL G., Tumturk H.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.37, no.3, pp.148-153, 2005 (SCI-Expanded)
- XX. **Binary immobilization of tyrosinase by using alginate gel beads and poly(acrylamide-co-acrylic acid) hydrogels**  
Yahsi A., Sahin F., DEMİREL G., Tumturk H.  
INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES, vol.36, no.4, pp.253-258, 2005 (SCI-Expanded)
- XXI. **Immobilization of invertase onto dimer acid-co-alkyl polyamine**  
Tumturk H., Tufan Y.  
JOURNAL OF APPLIED POLYMER SCIENCE, vol.93, no.4, pp.1526-1530, 2004 (SCI-Expanded)
- XXII. **The effect of gel composition on the adsorption of invertase on poly(acrylamide/maleic acid) hydrogels**  
Arslan F., Tumturk H., Caykara T., ŞEN M., Guven O.  
FOOD CHEMISTRY, vol.70, no.1, pp.33-38, 2000 (SCI-Expanded)
- XXIII. **Immobilization of invertase attached to a granular dimer acid-co-alkyl polyamine**  
Tumturk H., Arslan F., Disli A., Tufan Y.  
FOOD CHEMISTRY, vol.69, no.1, pp.5-9, 2000 (SCI-Expanded)
- XXIV. **Covalent immobilization of alpha-amylase onto poly(2-hydroxyethyl methacrylate) and poly(styrene-2-hydroxyethyl methacrylate) microspheres and the effect of Ca<sup>2+</sup> ions on the enzyme activity**  
Tumturk H., Aksoy S., HASIRCI N.  
FOOD CHEMISTRY, vol.68, no.3, pp.259-266, 2000 (SCI-Expanded)
- XXV. **The effect of external stimuli on the invertase adsorption capacity of poly(N-vinyl-2-pyrrolidone-co-itaconic acid) hydrogels**  
Tumturk H., Caykara T., Kantoglu O., Guven O.  
ANGEWANDTE MAKROMOLEKULARE CHEMIE, vol.273, pp.1-5, 1999 (SCI-Expanded)

- XXVI. **Adsorption of alpha-amylase onto poly(acrylamide/maleic acid) hydrogels**  
Tumturk H., Caykara T., ŞEN M., Guven O.  
RADIATION PHYSICS AND CHEMISTRY, vol.55, pp.713-716, 1999 (SCI-Expanded)
- XXVII. **Covalent immobilization of alpha-amylase onto poly(methyl methacrylate-2-hydroxyethyl methacrylate) microspheres and the effect of Ca<sup>2+</sup> ions on the enzyme activity**  
Tumturk H., Aksoy S., HASIRCI N.  
STARCH-STARKE, vol.51, no.6, pp.211-217, 1999 (SCI-Expanded)
- XXVIII. **Adsorption of α-amylase onto poly(N-vinyl 2-pyrrolidone/itaconic acid) hydrogels**  
Tümtürk H., Çaykara T., Kantoglu Ö., Güven O.  
NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION B-BEAM INTERACTIONS WITH MATERIALS AND ATOMS, vol.151, no.1-4, pp.238-241, 1999 (SCI-Expanded)
- XXIX. **Stability of alpha-amylase immobilized on poly(methyl methacrylate-acrylic acid) microspheres**  
Aksoy S., Tumturk H., HASIRCI N.  
JOURNAL OF BIOTECHNOLOGY, vol.60, pp.37-46, 1998 (SCI-Expanded)
- XXX. **MONOMER-BOUND ION-PAIRS IN THE STEREOREGULAR POLYMERIZATION OF PROPYLENE-OXIDE BY THE PRUITT-BAGGETT CATALYST**  
AKSOY S., ALTINOK H., TUMTURK H., ALYURUK K.  
POLYMER, vol.31, no.6, pp.1142-1148, 1990 (SCI-Expanded)

## Books & Book Chapters

### I. Ekler

Tümtürk H., Menzek A., Tunçeli A., Aktan E., Sevin Düz F., Ünal H. İ., Yekeler H., Kiran İ., Aksu M. L., Pulat M., et al.  
in: Genel Kimya Öğrenciler İçin Problem Çözümleri, Recai İnam, Serpil Aksoy, Editor, Palme Yayıncılık, Ankara, pp.300-320, 2015

## Refereed Congress / Symposium Publications in Proceedings

- I. **Covalent Immobilization of gama-Glutamyl Transpeptidase on Tannic Acid Modified Magnetic Nanoparticles**  
jehaad d., turan e., TÜMTÜRK H.  
12 th International Symposium on Pharmaceutical Sciences, 26 - 29 June 2018
- II. **Covalent Immobilization of g-Glutamyl Transpeptidase On Tannic Acid Modified Magnetic Nanoparticles**  
DAANA J., TURAN E., TÜMTÜRK H.  
ISOPS-12 International Symposium on Pharmaceutical Sciences, ANKARA (26-29 June 2018), 26 - 29 June 2018, pp.78
- III. **Biomimetic Nanofilms**  
ARİPCANOVA O., TURAN E., TÜMTÜRK H.  
1. Uluslararası Türk Dünyası Mühendislik ve Fen Bilimleri Kongresi, 7 - 10 December 2017
- IV. **Antibody imprinted magnetic nanoparticles**  
GÜRLEYİK S., TURAN E., ALTINOK H., TÜMTÜRK H.  
I. International Turkish World Engineering and Science Congress, Antalya, Turkey, 7 - 10 December 2017
- V. **Specific Bioaffinity of Hashimoto's Thyroiditis Antibodies Conjugated Ferritin Nanocages**  
TÜMTÜRK H., TURAN E., ŞAHİN F.  
22nd International Biomedical Science and Technology Symposium BIOMED2017, 12 - 14 May 2017
- VI. **Specific Bioaffinity of Hashimoto's Thyroiditis Antibodies Conjugated Ferritin Nanocages**  
TURAN E., TÜMTÜRK H., ŞAHİN F.  
22nd International Biomedical Science and Technology Symposium, 12 - 14 May 2017

- VII. **Determination of optimum conditions of immobilized acetylcholinesterase**  
KURNAZ YETİM N., HASANOĞLU ÖZKAN E., TÜMTÜRK H., SARI N.  
International Conference on Chemical and Biochemical Engineering, Paris, France, 20 - 22 July 2015
- VIII. **Çift Ferrosen İçeren Nano Boyuttaki Küreler Üzerine Enzim Çalışması**  
KURNAZ YETİM N., HASANOĞLU ÖZKAN E., DANIŞ B., TÜMTÜRK H., SARI N.  
V. Ulusal Anorganik Kimya Kongresi, Mersin, Turkey, 22 - 25 April 2015
- IX. **Pt(II) Koordinasyon Polimerlerinin Hazırlanması, Toksik Bileşiklerin Analizinde AChE'in Kullanımı için Önemli Parametrelerinin Araştırılması**  
HASANOĞLU ÖZKAN E., KURNAZ YETİM N., SARI N., TÜMTÜRK H.  
V. Ulusal Anorganik Kimya Kongresi, Mersin, Turkey, 22 - 25 April 2015
- X. **Asetilkolin Esteraz Enziminin Tekrar Kullanım Sayısında Pt(II) ve Pt(IV) İyonlarının Etkisi**  
KURNAZ YETİM N., HASANOĞLU ÖZKAN E., TÜMTÜRK H., SARI N.  
V. Ulusal Anorganik Kimya Kongresi, Mersin, Turkey, 22 - 25 April 2015
- XI. **Determination of Optimum Conditions of Immobilized Acetylcholinesterase**  
KURNAZ YETİM N., Hasanoğlu Özkan E., TÜMTÜRK H., SARI N.  
International conference on Chemical and Biochemical Engineering, 20 - 22 July 2015
- XII. **Immobilization of  $\beta$ -galaktosidaze enzyme with (aminomethyl)polystyrene using the method of covalent bounded**  
Aynacı E., TÜMTÜRK H., SARI N.  
International Symposium on Drug Research Development "From Chemistry to Medicine Educational Fair on GLP and Laboratory Safety: New Approaches, 4 - 07 May 2009
- XIII. **Immobilization of  $\beta$ -galaktosidaze enzyme with (4-formyl-3-methoxyphenoxyethyl)polystyrene using the method of covalent bounded,**  
TÜMTÜRK H., SARI N., Erduran V.  
International Symposium on Drug Research Development From Chemistry to Medicine Educational Fair on GLP and Laboratory Safety: New Approaches, 4 - 07 May 2009

## Supported Projects

- TÜMTÜRK H., Project Supported by Higher Education Institutions, Antikor Baskılanmış Manyetik Nanotanecikler, 2017 - 2018
- TÜMTÜRK H., TUBITAK Project, Ferritin Nanokafes Tabanlı Nanobiyosensor Tasarımı ve Uygulamaları, 2015 - 2017
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Sıcaklık Duyarlı Hibrid Nanojellerin Sentezi, Karakterizasyonu ve Biyomolekül Uygulamaları, 2012 - 2014
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Farklı fonksiyonel uçlu PGMA mikrokürelerinin enzim immobilizasyonunda kullanımı, 2011 - 2012
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Manyetik Nanoyapılı İmmunosensör Platformlarının Hazırlanması, 2010 - 2012
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Polimer Modifiye Silika Nanopartiküllerin Enzim İmmobilizasyonunda Kullanımı, 2010 - 2011
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Aldehit grubu ile sonlandırılmış Polistirenden Schiff bazları ve Ni(II) komplekslerinin sentezi, karakterizasyonu ve immobilizasyon özelliklerinin araştırılması,, 2009 - 2011
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Kimya Eğitiminde Uygulama Yöntemlerinin Sağlanması, 2006 - 2007
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Ca-Alginat Jel Kürelerinin Hazırlanışı ve Çeşitli Enzimlerin İmmobilizasyonunda Kullanılması, 2005 - 2007
- TÜMTÜRK H., Project Supported by Higher Education Institutions, Poli (2-Hidroksietil Metakrilat-Maleik Asit) Hidrojeli Üzerinde Glikosamerazın İmmobilizasyonu, 2002 - 2004

## **Metrics**

Publication: 45

Citation (WoS): 794

Citation (Scopus): 873

H-Index (WoS): 15

H-Index (Scopus): 16

## **Non Academic Experience**

Gazi Üniversitesi