

İLERİ ORGANİK SENTEZ LABORATUVARI

Prof. Dr. Arif KIVRAK
ESOGÜ, KİMYA BÖLÜMÜ



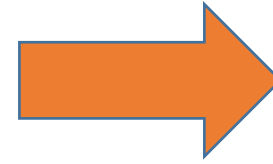
ARAŐTIRMA ALANLARIMIZ

ORGANİK SENTEZ

YENİ HETEROAROMATİK YAPILARIN SENTEZİ

ALTERNATİF SENTEZ YÖNTEMİ GELİŐTİRİLMESİ

DOĐAL ÜRÜN İZOLASYONU
ve
HİBRİT YAPILARIN SENTEZİ

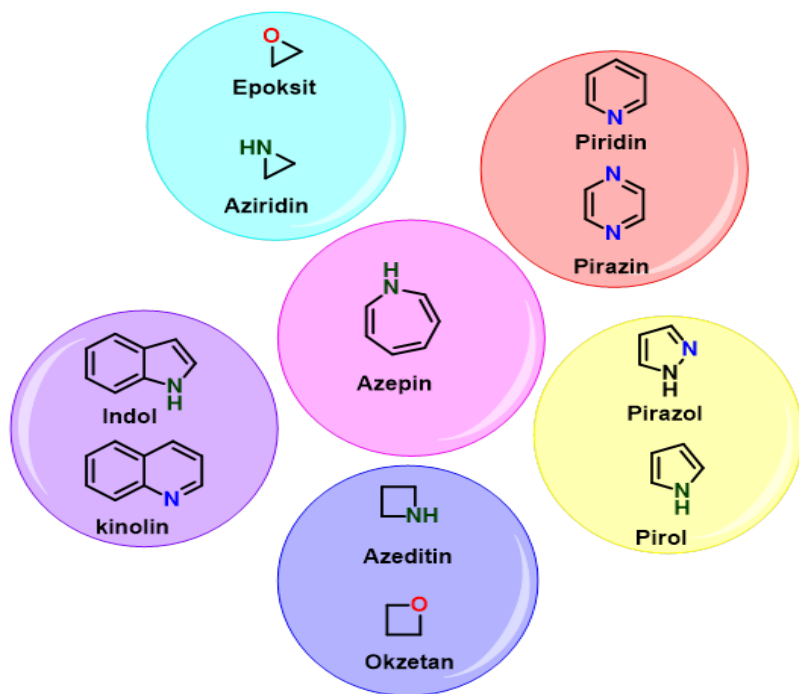


YENİ İLAÇ
ADAYLARININ
BULUNMASI

ENERJİ
ÜRETİMİNDE
KULLANILMASI



YENİ HETEROAROMATİK YAPILARIN SENTEZİ



Top 200 Pharmaceutical

Compiled and Produced by the Njardarson Group

1	NexIIM (Somnolax)	2	Abilyl (Aliprazole)	3	Crestor (Rosuvastatin)	4	Advair Diskus (Fluticasone Propionate)	5	Cymbalta (Duloxetine)	6	Humira (Adalimumab)	7	Entrel (Bimatoprost)	8	Remicade (Infliximab)	9																							
10		11		12		13		14		15		16																											
17		18		19		20		21	Lantus SoloSTAR (Insulin Glargine)	22	Epogen (Epoetin Alfa)	23	Diovan (Valsartan)	24	Lytico (Pegaptan)	25	Lipitor (Atorvastatin)	26	Celebrex (Celecoxib)	27	Herceptin (Trastuzumab)	28	Gleevec (Imatinib)	29															
30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49	



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Design, Synthesis, and *In vitro* Evaluation of Thieno[a]dibenzothiophene Derivatives

Metin Konus, Muheb A. S. Algo, Emrah Kavak, Aslihan Kurt-Kızıldoğan, Can Yılmaz, Prof. Dr. Arif Kivrak

First published: 26 March 2020 | <https://doi.org/10.1002/slct.202000685> | Citations: 3

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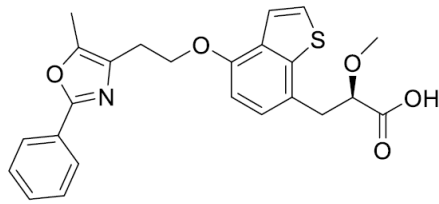
Volume 5, Issue 12
March 31, 2020
Pages 3700-3709

Figures References Related Information

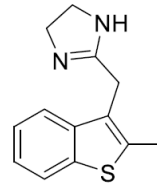
[2\(1H\)-ones and Their *In Vitro* Antimicrobial and "DPPH" Scavenging Activity Evaluation](#)

Alla, Krishna, V. Vijayakumar, S. Sarveswari

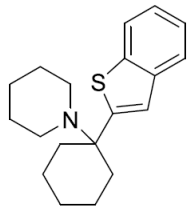
ALTERNATİF SENTEZ YÖNTEMİ GELİŞTİRİLMESİ



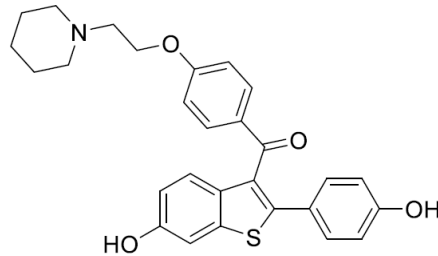
Aleglitazar



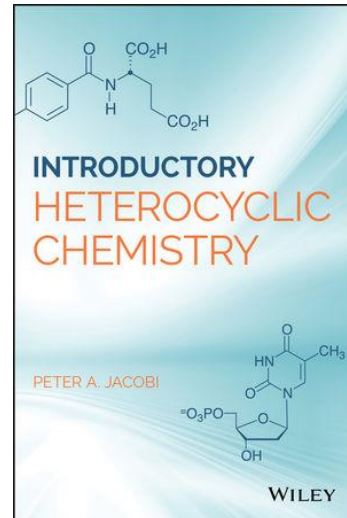
Metizolin



Benoksilidin



Raloksifen



 Springer Link

Original Paper | [Published: 19 November 2018](#)

New strategy for the synthesis of 3-ethynyl-2-(thiophen-2-yl)benzo[b]thiophene derivatives

[Muheb A. S. Algso](#) & [Arif Kivrak](#) 

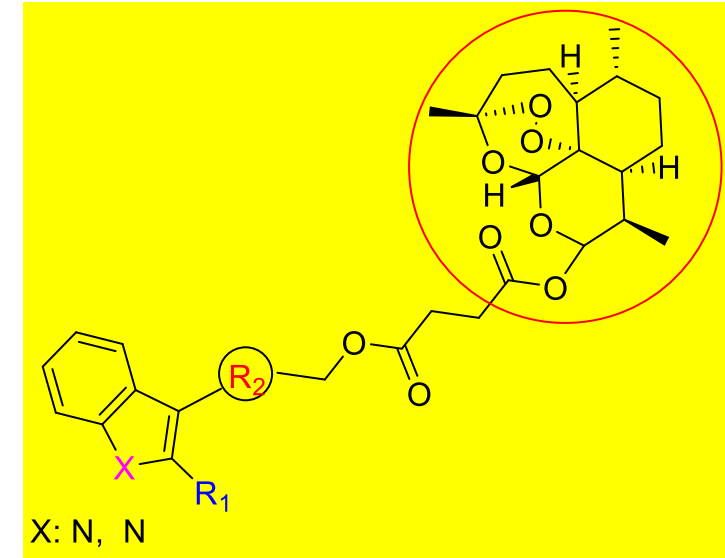
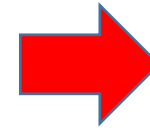
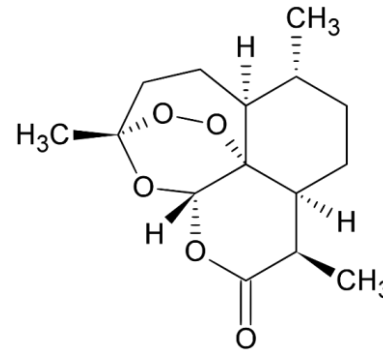
[Chemical Papers](#) **73**, 977–985 (2019) | [Cite this article](#)

322 Accesses | **12** Citations | [Metrics](#)

Abstract

Pd-catalyzed coupling reactions like the Sonogashira coupling reaction are very useful tools for the formation of new carbon–carbon bonds under mild reaction conditions. Coupling

DOĞAL ÜRÜN İZOLASYONU ve HİBRİT YAPILARIN SENTEZİ



Research Article | Full Access

Synthesis of Thiophene/Furan-Artemisinin Hybrid Molecules

Omrue Ozok-Arıcı, Emrah Kavak, Arif Kivrak

First published: 17 June 2022 | <https://doi.org/10.1002/cbdv.202200144>

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Abstract



Volume 19, Issue 8
August 2022
e202200144

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Formerly Natural Product Letters
Volume 36, 2022 - Issue 14

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Research Articles

Design, synthesis and pharmacological evaluation of novel Artemisinin-Thymol

Emrah Kavak, Dogukan Mutlu, Omrue Ozok, Sevki Arslan & Arif Kivrak

Pages 3511-3519 | Received 28 Sep 2020, Accepted 15 Dec 2020, Published online: 08 Jan 2021

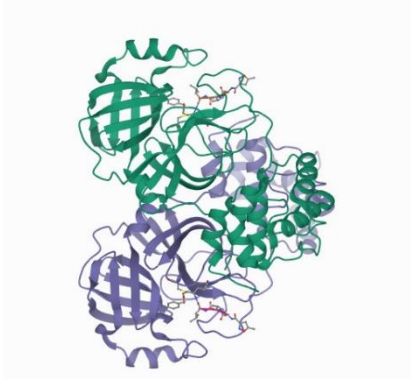
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<https://doi.org/10.1080/14786419.2020.1865954>

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ORGANİK MALZEMELERİN UYGULAMA ALANLARI: İLAÇ ADAYLARI

Docking Metodu

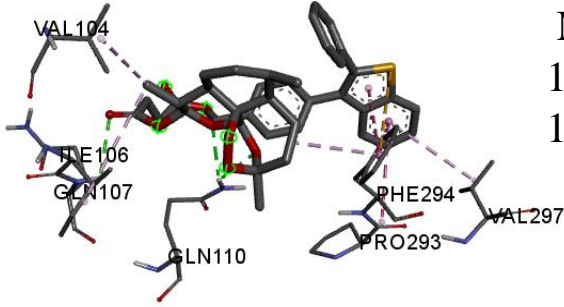


Antimikrobiyal Aktivite

İndikatör mikroorganizma olarak;
üç gram pozitif (*Bacillus subtilis*
ATCC 6633, *Enterococcus faecalis*
ATCC 29212, *Staphylococcus aureus*
ATCC 25923)

üç gram negatif (*Escherichia coli*
ATCC 25922, *Klebsiella pneumoniae*
ATCC 700603, *Pseudomonas*
aeruginosa ATCC 27853)

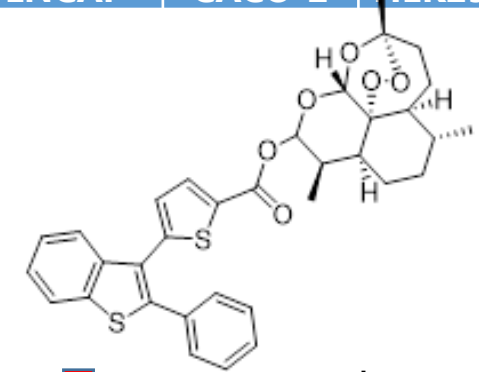
Maya (*Candida albicans* ATCC
10231) ve *Aspergillus niger* ATCC
16404 fungusu kullanılmıştır



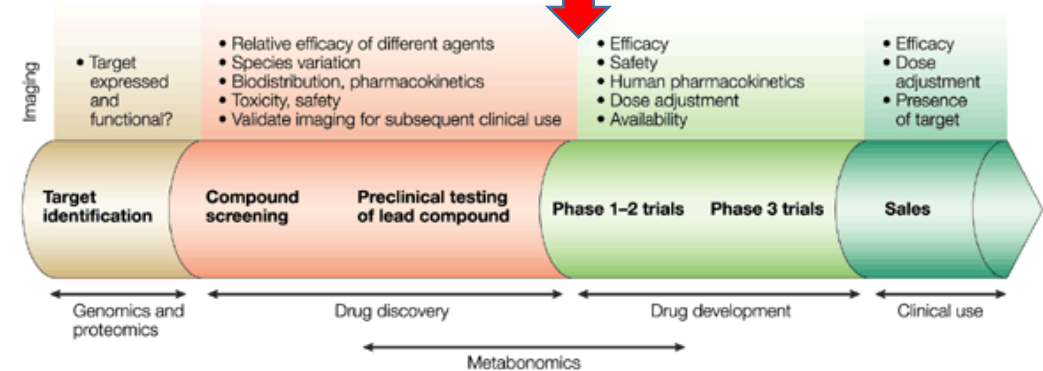
Anti-oksidant Özellikleri

Sitotoksite

HEPG2	LNCAP	CACO-2	HEK293	HELA
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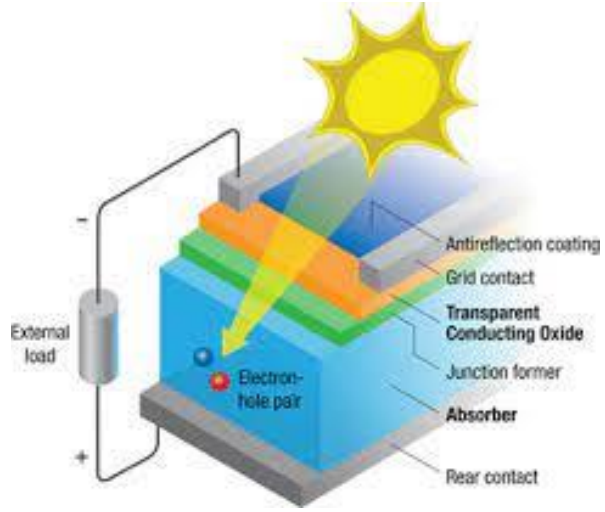


Kolon Kanseri

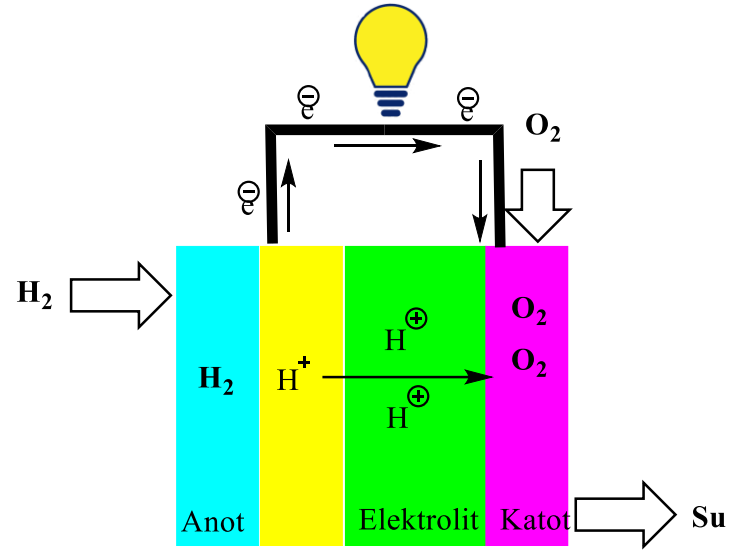


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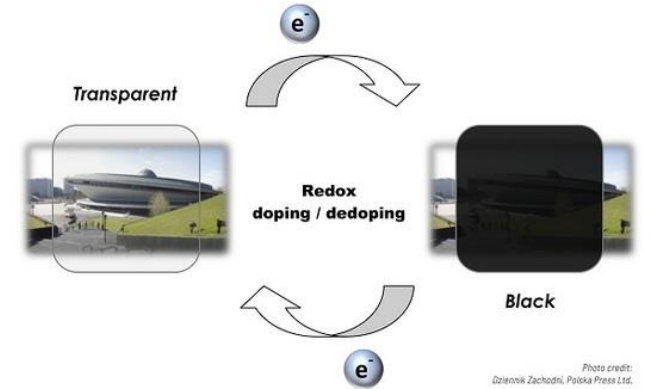
Organik Fotovoltaikler



Yakıt Pili Organik Anot Katalizörleri



Elektrokromik Malzemeler

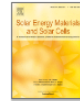


ORGANİK MALZEMELERİN UYGULAMA ALANLARI: ENERJİ

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Solar Energy Materials and Solar Cells

Volume 161, March 2017, Pages 31-37



Synthesis of thiophenyl-substituted unsymmetrical anthracene derivatives and investigation of their electrochemical and electrooptical properties

Arif Kivrak^a, Hatice Çalıg^a, Yasemi

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Fuel

Volume 328, 15 November 2022, 125355



Benzotiyofen@Pd as an efficient and stable catalyst for the electrocatalytic oxidation of hydrazine

Sefika Kaya^a, Omruye Ozok-Arici^b, Arif Kivrak^{b, c}, Aykut Caglar^d, Hilal Kivrak^{a, e}

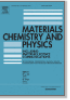
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Materials Chemistry and Physics

Volume 188, 15 February 2017, Pages 68-74



Electrosynthesis of a new indole based donor-acceptor-donor type polymer and investigation of its electrochromic properties

Buket Bezzin Carbas^{a, b}, Arif Kivrak^c, Emrah Kavak^c

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Table 1

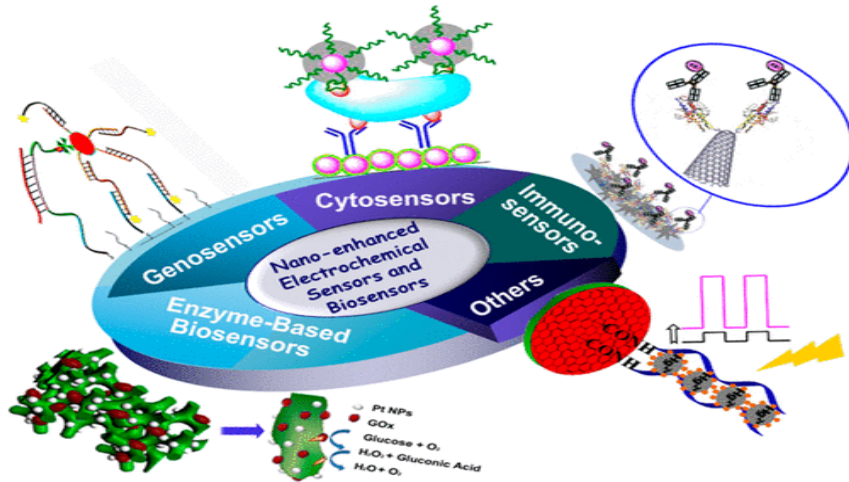
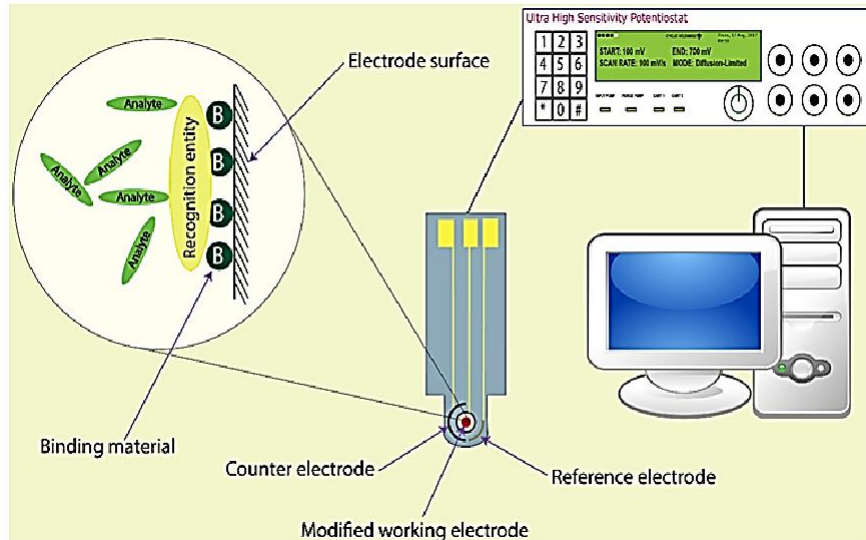
Some examples for the hydrazine electrooxidation catalyst.

Catalyst	Current density (mA/cm ²)	Onset Potential (V)	Reference
MnO/N-C	6.3	-0.541	[41]
VGNH-45	13	-0.42	[54]
NCS	2.88	0.38	[55]
Flower-shaped CuO	5.23	-0.14	[56]
AuPd DANCs	9.57	-0.11	[57]
AuPd NCs	5.28	-0.10	[57]
CPE/PpDP/ZnO	7.89	-0.06	[58]
Ag/Ti	7.7	-	[59]
Pd@benzotiyofen	80.930	-0.593	This work



ORGANİK MALZEMELERİN UYGULAMA ALANLARI: BİYOSENSÖR

Elektrokimyasal Biyosensör mekanizma



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Materials Chemistry and Physics

Volume 291, 15 November 2022, 126560



Novel 5-(2-phenylbenzo[b]thiophen-3-yl)furan-2-carbaldehyde based ovarian cancer carbohydrate antigen 125 electrochemical sensor

Omer Faruk Er ^a, Hilal Kivrak ^{b, c, d}  , Omruye Ozok ^e, Arif Kivrak ^e  

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Materials Chemistry and Physics


Volume 281, 1 April 2022, 125951



Synthesis and characterization of 4-(2-(4-methoxyphenyl)benzo[b]thiophen-3-yl)benzaldehyde for carbohydrate antigen 125 electrochemical detection and molecular docking modeling

Hilal Kivrak ^{a, b}  , Omer Faruk Er ^c, Omruye Ozok ^d, Sebahattin Celik ^e, Arif Kivrak ^d  

PROJELER (TÜBİTAK)

**ARDEB PBS**
Proje Başvuru Sistemi

Ana Sayfa ARİF KIVRAK Çıkış

Başvurularım (1) Yeni Destek Başvurusu E-İmza Süreci ARDEB Proje Görevlerim Kuruluş Yetkilisi

ARDEB Proje Görevlerim

Kotaya Dahil Projelerim ARDEB Proje Görevlerim Desteklenen ARDEB Proje Görevlerim

Proje Türü	Projedeki Görevi	Proje No	Proje Adı	Proje Durumu	Katılım / Ayrılış Tarihi	Proje Başlangıç/Bitiş Tarihi
1001 - Araştırma	Yürütücü	113Z249	Optoelektronik Devreler İçin Tasarlanmış Yeni Antresen Türevlerinin Eldesi, Karakterizasyonu Ve Aygıt Uygulamaları	Sonuçlandı	K:01/11/2013 A:	01/11/2013 01/11/2015
1002 - Hızlı Destek	Araştırmacı/Uzman	114M879	Yüksek Aktiviteye Sahip Formik Asit Yakıt Pili Anot Katalizörü Pt-Pd-Au Çekirdek Kabuk Katalizörlerinin Mikrodalga Yöntemi İle Üretilmesi	Sonuçlandı	K:01/12/2014 A:	01/12/2014 01/12/2015
1002 - Hızlı Destek	Danışman	122Z061	Benzofuran Türevlerinin Hidrazin Elektrokoksidasyon Uygulamaları ve Yakıt Pili Performansları	Yürürlükte	K:01/04/2022 A:	01/04/2022 01/04/2023
1002 - Hızlı Destek	Yürütücü	120Z928	Yeni Nesil Donör-Akseptör (D-A) Tipi İndol Türevlerinin Sentezi Ve Elektrokimyasal Davranımlar	Sonuçlandı	K:15/03/2021 A:	15/03/2021 15/03/2022
3001 - Başlangıç AR-GE	Araştırmacı/Uzman	113Z872	Elektron Sunucu-Elektron Alıcı-Elektron Sunucu Yönteme Göre Tasarlanmış, Elektrokromik, Düşük Bant Aralıklı, Tiyadiazol Ve Furan Bazlı Polimerlerin Sentezi Ve Karakterizasyonu	Sonuçlandı	K:01/04/2014 A:	01/04/2014 01/10/2015
3501 - Kariyer	Araştırmacı/Uzman	217Z074	Akıllı Cam Teknolojisi İçin İletken Polimer Poli(3,4-Propilendioksitiyofen) Türevlerinin Kullanıldığı Boya Duyarlı Güneş Gözeleri İle Birleştirilmiş Yeni Fotoelektrokromik Cam Aygıtların	Yürürlükten kaldırıldı	K:15/06/2018 A:	15/06/2018 15/06/2020

PROJELER

COST



EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

Uluslararası	Araştırmacı/Uzman	115Z071	Lignin Model Bileşiklerinin Katalitik Yükseltgenme Tepkimeleri için Katalitikçe Etkin, Uzun Ömürlü ve Tekrar Kullanılabilir Yeni Heterojen Katalizörlerin Geliştirilmesi	Sonuçlandı	K:15/06/2015 A:	15/06/2015 15/12/2017
Uluslararası	Araştırmacı/Uzman	120Z743	Molekül İçi Küme Yaklaşımı Uygulanmış Möller-Plesset Pertürbasyon Teorisi Yöntemlerinin Geliştirilmesi, Cpu ve Gpu İçin Paralel Programlanması ve Boya Bazlı Foto-Elektrokimyasal Güneş Hücrelerine Uygulanması	Yürürlükte	K:15/01/2021 A:	15/01/2021 15/01/2024
Uluslararası	Yürütücü	218Z028	Yeni Artemisin-Indol/Benzotiyofen Hibrit Yapıların Tasarımı, Sentezi ve Karakterizasyonu	Sonuçlandı	K:15/09/2019 A:	15/09/2019 15/03/2022
Uluslararası	Yürütücü	115Z020	Tiyeno-Dibenzotiyofen Türevlerinin Sentezi İçin Uygulanabilir Metotların Geliştirilmesi, Antioksidan, Antifungal, Antimikrobiyal Kapasitelerinin Belirlenmesi Ve İlaç Metabolize Eden Enzimler Üzerine Etkilerinin İncelenmesi	Sonuçlandı	K:01/06/2015 A:	01/06/2015 01/06/2017
Uluslararası	Yürütücü	114Z042	Tiyenokarbazol Türevlerinin Sentezi için Uygulanabilir Metotların Geliştirilmesi	Sonuçlandı	K:01/05/2014 A:	01/05/2014 01/05/2016

PROJELER (DİĞERLERİ)



KOSGEB
Arge-İnovasyon
Programı

BAP

Yürütücü: 15

Araştırmacı: 6

TUBİTAK

2209-A - Üniversite Öğrencileri Araştırma Projeleri
Destekleme Programı
DANIŞMANLIK

2015-2020 : 4 proje

2022: ESOGÜ 4 Proje



HEALTH SECURITY
PARTNERS

COST ÇALIŞMA GRUPLARI



CA15106 –
C-H Activation in Organic Synthesis (CHAOS)

CM1307 –
Targeted chemotherapy towards diseases caused by endoparasites

CA21145
European Network for diagnosis and treatment of
antibiotic-resistant bacterial infections (EURESTOP)

CA20103
Biosecurity Enhanced Through Training Evaluation and
Raising Awareness (BETTER)

İŞBİRLİKLERİ



T.C. YEDİTEPE
ÜNİVERSİTESİ