

# Prof. FİLİZ BETÜL KAYNAK

## Personal Information

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## International Researcher IDs

ORCID: 0000-0002-3216-4021

Publons / Web Of Science ResearcherID: E-7489-2013

Yoksis Researcher ID: 116133

## Education Information

Doctorate, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği, Turkey 1996 - 2003

Postgraduate, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği, Turkey 1993 - 1996

Undergraduate, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği, Turkey 1986 - 1992

## Foreign Languages

English, B2 Upper Intermediate

## Dissertations

Doctorate, Bazı organik kristallerin molekül yapılarının ve moleküler özelliklerinin x-ışınları kırınımı ve kuantum mekaniksel hesaplama yöntemleri ile incelenmesi, Hacettepe Üniversitesi, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2003

Postgraduate, Geçirme x ışınları toz kırınım metresi için yüksek sıcaklık (293-1023 K) fırın tasarımı ve C<sub>19</sub>H<sub>28</sub>O<sub>2</sub>, C<sub>13</sub>H<sub>8</sub>CINO<sub>2</sub>Ni.C<sub>6</sub>H<sub>13</sub>N tek kristallerinin yapı analizleri, Hacettepe Üniversitesi, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 1996

## Research Areas

Physics, Condensed Matter 1: Structural, Mechanical and Thermal Properties, Structure of Liquids and Solids; Crystallography, Surfaces, Interfaces, Thin Films and Nanosystems, Natural Sciences

## Academic Titles / Tasks

Professor, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2013 - Continues

Associate Professor, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2008 - 2013

Research Assistant, Hacettepe University, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 1993 - 2008

## Academic and Administrative Experience

Hacettepe Üniversitesi, Mühendislik Fakültesi, Fizik Mühendisliği Bölümü, 2016 - Continues

Hacettepe Üniversitesi, Fen Bilimleri Enstitüsü, Nükleer Enerji Mühendisliği (YL) (Tezli), 2012 - 2013

## Advising Theses

Kaynak F. B., Antikanser aktiviteye sahip kondanse triazol türevlerinin kristal yapılarının X-ışını toz kırınımı yöntemiyle belirlenmesi, Doctorate, G.GÜNDOĞDU(Student), 2018

Kaynak F. B., Elektrokimyasal yöntemle grafen nanoşerit esaslı cam fiber-karbon platform üzerinde triklosan tayini, Postgraduate, S.AĞA(Student), 2018

Kaynak F. B., Galyum katkılı çinko oksit ince filmlerin karakterizasyonu ve üretim parametrelerinin ince filmlere olan etkilerinin incelenmesi, Postgraduate, E.KAHVECİ(Student), 2017

Kaynak F. B., 2-pirazolin ve hidrazon yapısı içeren bazı organik moleküllerin yapılarının x-ışını kristalografisi ve kuramsal hesaplama yöntemleriyle incelenmesi, Postgraduate, E.DEDECENGİZ(Student), 2015

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

- I. **New 2-Pyrazoline and Hydrazone Derivatives as Potent and Selective Monoamine Oxidase A Inhibitors.**  
Salgin-Goksen U., Telli G., Erikci A., Dedecengiz E., Tel B. C., Kaynak F. B., Yelekçi K., Uçar G., Gökhan Kelekçi N.  
Journal of medicinal chemistry, vol.64, no.4, pp.1989-2009, 2021 (SCI-Expanded)
- II. **Synthesis and structural characterization of 3-[1-[4-(2-methylpropyl)phenyl] ethyl]-6-(4-fluorophenyl)-1,2,4-triazolo[3,4-b]-1,3,4-thiadiazole**  
Gundogdu G., KARAYEL A., AYTAÇ S. P., TOZKOPARAN KÖPRÜCÜ B., KAYNAK F. B.  
POWDER DIFFRACTION, vol.34, no.4, pp.325-330, 2019 (SCI-Expanded)
- III. **Discovery of new azoles with potent activity against Candida spp. and Candida albicans biofilms through virtual screening**  
SARI S., KART D., Ozturk N., KAYNAK F. B., Gencil M., Taskor G., KARAKURT A., Sarac S., Essiz S., DALKARA S.  
EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY, vol.179, pp.634-648, 2019 (SCI-Expanded)
- IV. **Synthesis and anticonvulsant screening of 1,2,4-triazole derivatives**  
SARI S., KAYNAK F. B., DALKARA S.  
Pharmacological Reports, vol.70, no.6, pp.1116-1123, 2018 (SCI-Expanded)
- V. **Structure elucidation of 3-[1-(6-methoxy-2-naphtyl)ethyl]-6-(2,4-dichlorophenyl)-7H-1,2,4-triazolo[3,4-b]-1,3,4-thiadiazine, C<sub>23</sub>H<sub>18</sub>Cl<sub>2</sub>N<sub>4</sub>O<sub>2</sub> from synchrotron X-ray powder diffraction**  
GÜNDOĞDU G., AYTAÇ S. P., MELANİE M., TOZKOPARAN B., KAYNAK F. B.  
Powder Diffraction, vol.34, pp.271-278, 2017 (SCI-Expanded)
- VI. **Structure determination of two structural analogs, named 3-[1-(2-fluoro-4-biphenyl)ethyl]-6-(4-fluorophenyl)-1,2,4-triazolo[3,4-b]-1,3,4-thiadiazole (C<sub>23</sub>H<sub>16</sub>F<sub>2</sub>N<sub>4</sub>S) and 3-[1-(2-fluoro-4-biphenyl)ethyl]-6-(4-chlorophenyl)-1,2,4-triazolo[3,4-b]-1,3,4-thiadiazole (C<sub>23</sub>H<sub>16</sub>ClF<sub>2</sub>N<sub>4</sub>S) by synchrotron X-ray powder diffraction**  
GÜNDOĞDU G., AYTAÇ S. P., MELANİE M., TOZKOPARAN B., KAYNAK F. B.  
Powder Diffraction, vol.32, pp.279-289, 2017 (SCI-Expanded)
- VII. **Combined spectroscopic, XRD crystal structure and DFT studies on 2-(ethylthio)pyrimidine-4,6-diamine**  
AKTAN E., Babur B., SEFEROĞLU N., ÇATIKKAŞ B., KAYNAK F. B., SEFEROĞLU Z.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1145, pp.152-159, 2017 (SCI-Expanded)
- VIII. **New Anti-Seizure (Arylalkyl)azole Derivatives: Synthesis, In Vivo and In Silico Studies**  
SARI S., DALKARA S., KAYNAK F. B., REYNISSON J., Sarac S., KARAKURT A.  
ARCHIV DER PHARMAZIE, vol.350, no.6, 2017 (SCI-Expanded)
- IX. **New (arylalkyl)azole derivatives showing anticonvulsant effects could have VGSC and/or GABA(A)R**

**affinity according to molecular modeling studies**

SARI S., KARAKURT A., USLU H., KAYNAK F. B., CALIS U., DALKARA S.

EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY, vol.124, pp.407-416, 2016 (SCI-Expanded)

- X. **Crystal structure determination of two novel 1,2,4-triazolo[3,4-b]-1,3,4-thiadiazine and -thiadiazole derivatives by XRPD method**  
KAYNAK F. B., Gundogdu G., Muller M., ÖZBEY S.  
ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES, vol.72, 2016 (SCI-Expanded)
- XI. **Purification, structural characterization and homology modeling of a novel neurotoxic peptide (Acra3) from the scorpion Androctonus crassicauda**  
ÖZBEY S., KOÇAK D., KAYNAK F. B., ÇALIŞKAN F.  
ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES, vol.71, 2015 (SCI-Expanded)
- XII. **Three novel compounds of 5-trifluoromethoxy-1H-indole-2,3-dione 3-thiosemicarbazone: Synthesis, crystal structures and molecular interactions**  
KAYNAK F. B., ÖZBEY S., Karali N.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1049, pp.157-164, 2013 (SCI-Expanded)
- XIII. **Hetarylazoindoles 2. Spectroscopic and structural investigation of new benzothiazolylazo indole dyes**  
Seferoglu Z., KAYNAK F. B., Ertan N., ÖZBEY S.  
JOURNAL OF MOLECULAR STRUCTURE, vol.1047, pp.22-30, 2013 (SCI-Expanded)
- XIV. **Synthesis of 3,6-disubstituted 7H-1,2,4-triazolo[3,4-b]-1,3,4-thiadiazines as novel analgesic/anti-inflammatory compounds**  
AYTAÇ S. A., Tozkoparan B., KAYNAK F. B., Aktay G., Goektas O., Uenuevar S.  
EUROPEAN JOURNAL OF MEDICINAL CHEMISTRY, vol.44, no.11, pp.4528-4538, 2009 (SCI-Expanded)
- XV. **The Ambiguous Solutions from Different Automatic Structure Solution Programs**  
KAYNAK F. B., Eriksson L.  
ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES, vol.65, 2009 (SCI-Expanded)
- XVI. **Synthesis of highly functionalized BEDT-TTF analogues incorporating 1,4-dithiin rings from 1,8-diketones**  
ERTAS E., KAYNAK F. B., ÖZBEY S., Osken I., Öztürk T.  
TETRAHEDRON, vol.64, no.46, pp.10581-10589, 2008 (SCI-Expanded)
- XVII. **Molecular structure of 2-methylamino-5-[(5-methyl-2-benzoxazolinone-3-yl)methyl]-1,3,4-thiadiazole dihydrophosphate: a combined X-ray crystallographic and ab initio study**  
KAYNAK F. B., Eriksson L., Salgin-Goksen U., GÖKHAN KELEKÇİ N.  
STRUCTURAL CHEMISTRY, vol.19, no.5, pp.757-764, 2008 (SCI-Expanded)
- XVIII. **Synthesis and crystal structure of 1-benzyl-2-(4-benzyloxyphenyl)-5,6-dichloro-1H-benzimidazole**  
KAYNAK F. B., ÖZBEY S., Tuncbilek M., Alp M.  
STRUCTURAL CHEMISTRY, vol.19, no.3, pp.477-480, 2008 (SCI-Expanded)
- XIX. **Synthesis and antioxidant properties of novel N-methyl-1,3,4-thiadiazol-2-amine and 4-methyl-2H-1,2,4-triazole-3(4H)-thione derivatives of benzimidazole class**  
Kus C., Ayhan-Kilcigil G., ÖZBEY S., KAYNAK F. B., Kaya M., Coban T., Can-Eke B.  
BIOORGANIC & MEDICINAL CHEMISTRY, vol.16, no.8, pp.4294-4303, 2008 (SCI-Expanded)
- XX. **2-[2-(p-Chlorophenyl)benzimidazol-1-ylmethyl]5-(2-fluoroanilino)-1,3,4-thiadiazole**  
KAYNAK F. B.  
ACTA CRYSTALLOGRAPHICA SECTION E-CRYSTALLOGRAPHIC COMMUNICATIONS, vol.63, 2007 (SCI-Expanded)
- XXI. **Crystal Structures and Interactions in Packing of Novel Thiadiazolyl - and Triazolyl-benzimidazole Derivatives**  
KAYNAK F. B., ÖZBEY S., KILCIGİL G., KUŞ C.  
ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES, vol.63, 2007 (SCI-Expanded)
- XXII. **Design and synthesis of some new thiazolo[3,2-b]-1,2,4-triazole-5(6H)-ones substituted with flurbiprofen as anti-inflammatory and analgesic agents**  
DOĞDAŞ E., TOZKOPARAN B., KAYNAK F. B., ERİKSSON L., KUPELI E., YEŞİLADA E., Ertan M.

- ARZNEIMITTEL-FORSCHUNG-DRUG RESEARCH, vol.57, no.4, pp.196-202, 2007 (SCI-Expanded)
- XXIII. **Design and synthesis of some new thiazolo[3,2-b]-1,2,4-triazole-5(6H)-ones substituted with flurbiprofen as anti-inflammatory and analgesic agents**  
DOĞDAŞ E., Tozkoparan B., Kaynak F. B., ERİKSSON L., KUPELI E., YESILADA E., Ertan M.  
ARZNEIMITTEL-FORSCHUNG-DRUG RESEARCH, vol.57, no.4, pp.196-202, 2007 (SCI-Expanded)
- XXIV. **Synthesis and characterization of Sr<sub>0.75</sub>Y<sub>0.25</sub>C<sub>1-x</sub>M<sub>x</sub>O<sub>2.625+delta</sub> (M = Ga, 0.125 ≤ x ≤ 0.500 and M = Fe, 0.125 ≤ x ≤ 0.875)**  
Lindberg F., Drozhzhin O. A., Istomin S. Y., Svensson G., KAYNAK F. B., Svedlindh P., Warnicke P., Wannberg A., Mellergard A., Antipov E. V.  
JOURNAL OF SOLID STATE CHEMISTRY, vol.179, no.5, pp.1434-1444, 2006 (SCI-Expanded)
- XXV. **C - H center dot center dot center dot F, N / C - H center dot center dot center dot S and C - H center dot center dot center dot pi interactions in 5-fluoro-1H-indole-2,3-dione-3-thiosemicarbazones**  
ÖZBEY S., KAYNAK F. B., Eriksson L., Karali N., Gursoy A.  
ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES, vol.62, 2006 (SCI-Expanded)
- XXVI. **3,4-Bis[(4-methoxybenzoyl)methyl-sulfanyl]thiophene**  
Ozbey S., KAYNAK F. B., ERTAS E. S., OZTURK T.  
ACTA CRYSTALLOGRAPHICA SECTION C-CRYSTAL STRUCTURE COMMUNICATIONS, vol.61, 2005 (SCI-Expanded)
- XXVII. **New N'-alkylidene/cycloalkylidene derivatives of 5-methyl-3-phenyl-1H-indole-2-carbohydrazide: synthesis, crystal structure, and quantum mechanical calculations**  
KAYNAK F. B., OZTURK D., Ozbey S., CAPAN G.  
JOURNAL OF MOLECULAR STRUCTURE, vol.740, pp.213-221, 2005 (SCI-Expanded)
- XXVIII. **Synthesis of chiral crown ethers and complexation with chiral protonated amine compounds: X-ray crystal and nuclear magnetic resonance studies of perchlorate salt of chiral benzo-monoaza-15-crown-5 and chiral monoaza-15-crown-5**  
TOGRUL M., DEMIREL N., KAYNAK F. B., Ozbey S., HOSGOREN H.  
JOURNAL OF INCLUSION PHENOMENA AND MACROCYCLIC CHEMISTRY, vol.50, pp.165-171, 2004 (SCI-Expanded)
- XXIX. **Synthesis and crystal structure elucidation of 1-(4-fluorobenzyl)-2-(4-cyanophenyl)-1H-benzimidazole-5-carbonitrile**  
Ozbey S., KAYNAK F. B., GOKER H., KUS C.  
JOURNAL OF CHEMICAL CRYSTALLOGRAPHY, vol.34, no.12, pp.851-858, 2004 (SCI-Expanded)
- XXX. **Ethyl (3-ethyl-1-oxo-1,2,3,4-tetrahydrocarbazol-2-yl)acetate**  
KAYNAK F. B., Ozbey S., ULUDAG N., PATIR S.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.60, 2004 (SCI-Expanded)
- XXXI. **Saligenin derivative borocryptands: synthesis and structural analysis of new type lithium borocryptate**  
TOGRUL M., SUNKUR M., KAYNAK F. B., HOSGOREN H., Ozbey S.  
JOURNAL OF CHEMICAL RESEARCH-S, no.10, pp.605, 2003 (SCI-Expanded)
- XXXII. **2-Trichloroacetyl-1-(1-pyrrolidinyl)cyclopentene**  
KAYNAK F. B., OZBEY S., Senoz H., TUNOGLU N.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.59, 2003 (SCI-Expanded)
- XXXIII. **Crystal structure of [[mu-bis(salicylidene)-1,3-propanediaminato]-copper(II)]dibromozinc(II)**  
Ulku D., KAYNAK F. B., Atakol O., Aksu M.  
ANALYTICAL SCIENCES, vol.19, no.5, pp.799-800, 2003 (SCI-Expanded)
- XXXIV. **Synthesis of R(-)-2-ethyl-N-benzyl (benzo-monoaza-15-crown-5) and the crystal structure of its sodium perchlorate complex**  
Ozbey S., KAYNAK F. B., Togrul M., Demirel N., Hosgoren H.  
JOURNAL OF INCLUSION PHENOMENA AND MACROCYCLIC CHEMISTRY, vol.45, pp.123-128, 2003 (SCI-Expanded)
- XXXV. **Crystal structure of an inclusion complex between chiral monoaza-15-crown-5 and S(-)-1-phenyl-ethyl ammonium percholorate**  
Ozbey S., KAYNAK F. B., TOGRUL M., DEMIREL N., HOSGOREN H.  
ZEITSCHRIFT FUR KRISTALLOGRAPHIE, vol.218, no.5, pp.381-384, 2003 (SCI-Expanded)

- XXXVI. **Crystal structures of N-(trichloroacetyl)morpholine and 2,6-di(trichloroacetyl)cyclohexanone**  
OZBEY S., KAYNAK F. B., Senoz H., TUNOGLU N.  
ZEITSCHRIFT FUR KRISTALLOGRAPHIE, vol.218, no.6, pp.440-444, 2003 (SCI-Expanded)
- XXXVII. **2-(2,4-Dichlorophenyl)-5-fluoro-6-morpholin-4-yl-1H-benzimidazole monohydrate**  
Ozbey S., KAYNAK F. B., KUS C., GOKER H.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.58, 2002 (SCI-Expanded)
- XXXVIII. **{[mu-Bis(salicylidene)-1,3-propanediaminato]-bis(3,5-dimethylpyridine)-nickel(II)}dibromozinc(II)**  
Ulku D., KAYNAK F. B., Atakol O.  
ACTA CRYSTALLOGRAPHICA SECTION E-STRUCTURE REPORTS ONLINE, vol.58, 2002 (SCI-Expanded)
- XXXIX. **5,6-Diphenylthieno[2,3-d][1,3]-dithiole-2-thione**  
KAYNAK F. B., Ozbey S., OZTURK T., ERTAS E. S.  
ACTA CRYSTALLOGRAPHICA SECTION C-CRYSTAL STRUCTURE COMMUNICATIONS, vol.57, pp.1125-1126, 2001 (SCI-Expanded)
- XL. **5,6-diphenyl[1,3]dithiolo[4,5-b]dithiine-2-thione**  
KAYNAK F. B., Ozbey S., OZTURK T., ERTAS E. S.  
ACTA CRYSTALLOGRAPHICA SECTION C-CRYSTAL STRUCTURE COMMUNICATIONS, vol.57, pp.926-928, 2001 (SCI-Expanded)
- XLI. **5-Benzyl-5-phenyl[1,3]dithiolo[4,5-d]-[1,3]dithiole-2-thione**  
KAYNAK F. B., Ozbey S., OZTURK T., ERTAS E. S.  
ACTA CRYSTALLOGRAPHICA SECTION C-CRYSTAL STRUCTURE COMMUNICATIONS, vol.57, pp.319-320, 2001 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

- I. **Crystal structure determination of two novel 1,2,4-triazolo[3,4-b]1,3,4-thiazdiazine and thiadiazole derivatives by XRPD method**  
KAYNAK F. B., GÜNDOĞDU G., MÜLLER M., ÖZBEY S.  
30 th European Crystallographic Meeting, Basel, Switzerland, 28 August - 01 September 2016, vol.72, pp.359

## Supported Projects

- KAYNAK F. B., Project Supported by Higher Education Institutions, "30. Avrupa Kristalografisi Kongresi" ne Katılım, 2016 - 2016
- KAYNAK F. B., Kahveci E., Gündoğdu G., Project Supported by Higher Education Institutions, Galyum Katkılı Çinko Oksit (ZnO) İnce Filmlerin Yapısal Karakterizasyonu, 2016 - 2016
- KAYNAK F. B., Project Supported by Higher Education Institutions, Analjezik ve Antiinflamatuvar Etki Gösteren Bazı Bileşiklerde Moleküler Modelleme, 2015 - 2016
- KAYNAK F. B., Project Supported by Higher Education Institutions, "29. AVRUPA KRİSTALOGRAFİ TOPLANTISI" NA KATILIM, 2015 - 2015

## Metrics

- Publication: 42  
Citation (WoS): 428  
Citation (Scopus): 478  
H-Index (WoS): 10  
H-Index (Scopus): 10

## **Non Academic Experience**

HACETTEPE ÜNİVERSİTESİ  
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