

Curriculum Vita of Wael Arafa

Personal Data:

| Name | | | Nationality | Place of Birth | Date of Birth | Gender | Marital Status |
|-------------------------------|---------------|---|-------------------|----------------|---------------|--------|----------------|
| Frist | Middle | Family | Egyptian | Egypt | 14-12-1974 | Male | Married |
| Wael | Abdelgayed | Arafa | | | | | |
| General Specialization | | Chemistry | | | | | |
| Specialization | | Organic chemistry | | | | | |
| Current Position | | Professor Associate at chemistry department/Jouf university Head of the Graduate Studies Unit Chairman of the Student Forum Committee | | | | | |
| Scientific Title | | Professor Associate | | | | | |
| Highest degree/ Date | | PHD | | | | | |
| ID Number | | 2350260168 | | | | | |
| College | | Science | Department | | Chemistry | | |

Contact Data:

| | | | |
|--|--------------------------------------|----------------------------------|------------------------|
| Address | Chemistry department/Jouf university | E-mail address (official) | waarafa@ju.edu.sa |
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| Mailbox | | Postal code | |

Education (Bachelor, Master, PhD, Other):

| No. | Qualification | Date | Degree | University | Collage | Scientific Department | Specialization | |
|-----|---------------|------|----------|------------|---------|-----------------------|----------------|---------------|
| | | | | | | | General | Specific |
| 1. | Bachelor | 1997 | Bachelor | Cairo | Science | Chemistry | Chemistry | Chemistry |
| 2. | Master | 2003 | Master | Cairo | Science | Chemistry | Chemistry | Organic chem. |
| 3. | PhD | 2008 | PhD | Fayoum | Science | Chemistry | Chemistry | Organic chem. |

Employment Qualifications:

| Job | Job Title | University Degree | Workplace | Date | | Work duty | Years of Experience |
|---------------------|---------------------|---------------------|-------------|------|------|-----------------------|---------------------|
| | | | | From | To | | |
| Demonstrator | Demonstrator | Demonstrator | Cairo uni. | 1998 | 2003 | Teaching and research | 5 |
| Assistant Lecturer | Assistant Lecturer | Assistant Lecturer | Cairo uni. | 2003 | 2008 | Teaching and research | 5 |
| Assistant Professor | Assistant Professor | Assistant Professor | Fayoum uni. | 2008 | 2016 | Teaching and research | 8 |
| Associate Professor | Associate Professor | Associate Professor | Jouf uni. | 2016 | 2021 | Teaching and research | 5 |
| Professor | Professor | Professor | Fayoum uni. | 2021 | now | Teaching and research | 2 |

Participation in scientific conferences and symposiums

| No. | Title of the conference or symposium | Held in | Year |
|-----|---|---------|------|
| 1. | Pharmacy educational webinar series | KSA | 2021 |
| 2. | Vision of solar energy in the KSA: applications and Challenges | KSA | 2020 |
| 3. | Scientific Conference in Surface Science and Its Applications (CSSA–2017) | KSA | 2017 |

| | | | |
|----|---|-------|------|
| 4. | The 5 th international Conference of Chemical Industries, National Research Centre | Egypt | 2008 |
|----|---|-------|------|

Supervision of undergraduate:

| No. | Thesis Title | Degree | | University | Year | Collage | Department |
|-----|---|--------|-------|------------|------|---------|------------|
| | | M.Sc. | Ph.D. | | | | |
| 1. | Synthesis and Reactions of Some New Heterocyclic Compounds Bearing Pyridine Moiety with Potential Biological Activity | √ | | Jouf | 1442 | Science | Chemistry |
| 2. | Design and green synthesis of some new heterocyclic compounds and their application in biological activities | √ | | Jouf | 1442 | Science | Chemistry |
| 3. | An efficient and sustainable protocol for the synthesis of pyrimidines: Quantum-chemical calculations and biological evaluation | √ | | Jouf | 1443 | Science | Chemistry |
| 4. | Green synthesis and biological studies of some new pyrimidine and thiazolidinone derivatives bearing quinazoline moiety | √ | | Jouf | 1443 | Science | Chemistry |

Training courses and workshops:

| No. | courses / workshop | Specialization | Held in | Year |
|-----|--|----------------|---------|--------------------|
| 1. | Pharmacy educational webinar series | Chemistry | Online | April 20, 2021 |
| 2. | Managing scientific references | General | Online | March 17, 2021 |
| 3. | IEEE workshop | General | Online | March 8, 2021 |
| 4. | Vision of solar energy in the KSA: applications and Challenges | Chemistry | Online | December 9-10 2020 |
| 5. | Managing allergy symptoms in the Covid-19 times | Medical | Online | November 30, 2020 |

| | | | | |
|----|---|-----------|--|----------------|
| 6. | Renewable Energy Workshop: Prospects and Challenges | Chemistry | | March 26, 2019 |
|----|---|-----------|--|----------------|

Awards and honors:

| No. | Award | Awarded by | Specialization | Period |
|-----|--|--------------------------|----------------|---------------|
| 1) | Scientific Visitor, Stockholm University, Sweden | Fayoum University, Egypt | Chemistry | 2012 and 2015 |
| 2) | University Award for International Publishing | Jouf University | Chemistry | 2016 & 2018 |
| 3) | University Award for Excellence, faculty members (men, 1st | Jouf University | Chemistry | 2018 |
| 4) | University Award for International Publishing | Fayoum University, Egypt | Chemistry | 2009-2021 |

Languages:

| language | Speaking | Writing | Reading |
|----------|-----------|-----------|-----------|
| English | Excellent | Excellent | Excellent |

Scientific Publications:

- 1) AbdElAziz A Nayl, Wael AA Arafa, Ismail M Ahmed, Ahmed I Abd-Elhamid, Esmail M El-Fakharany, Mohamed A Abdelgawad, Sobhi M Gomha, Hamada M Ibrahim, Ashraf A Aly, Stefan Bräse, Asmaa K Mourad "Novel Pyridinium Based Ionic Liquid Promoter for Aqueous Knoevenagel Condensation: Green and Efficient Synthesis of New Derivatives with Their Anticancer Evaluation" *Molecules*, 2022, **27**, 3716.
<https://doi.org/10.3390/molecules27123716>

- 2) Mohamed A Abdelgawad, Nadia AA Elkanzi, AA Nayl, Arafa Musa, Nasser Hadal Alotaibi, WAA Arafa, Sobhi M Gomha, Rania B Bakr " Targeting tumor cells with pyrazolo[3,4-*d*]pyrimidine scaffold: A literature review on synthetic approaches, structure activity relationship, structural and target-based mechanisms" *Arabian Journal of Chemistry*, 2022, **15**, 103781.
<https://doi.org/10.1016/j.arabjc.2022.103781>
- 3) AbdElAziz A Nayl, Ashraf A Aly, Wael AA Arafa, Ismail M Ahmed, Ahmed I Abd-Elhamid, Esmail M El-Fakharany, Mohamed A Abdelgawad, Hendawy N Tawfeek, Stefan Bräse " Azides in the Synthesis of Various Heterocycles" *Molecules*, 2022, **27**, 2940.
<https://doi.org/10.3390/molecules27092940>
- 4) Wael Abdelgayed Ahmed Arafa, Amira Atef Ghoneim, Asmaa K Mourad "N-Naphthoyl Thiourea Derivatives: An Efficient Ultrasonic-Assisted Synthesis, Reaction, and In Vitro Anticancer Evaluations" *ACS Omega*, 2022, **7**, 6210–6222.
<https://doi.org/10.1021/acsomega.1c06718>
- 5) Khairiah Nasser AL-Shammri, Nadia AA Elkanzi, Wael AA Arafa, Ibrahim O Althobaiti, Rania B Bakr, Shaima Mohamed Nabil Moustafa "Novel indan-1,3-dione derivatives: Design, green synthesis, effect against tomato damping-off disease caused by *Fusarium oxysporum* and in silico molecular docking study" *Arabian Journal of Chemistry*, 2022, **15**, 103731.
<https://doi.org/10.1016/j.arabjc.2022.103731>
- 6) H Nady, Amr Elgendy, Wael Abdelgayed Ahmed Arafa, Ehab S Gad "Insight Into the Inhibition Performance of Thiosemicarbazones as Efficient Inhibitors for Copper in Acidic Environment: Combined Experimental and Computational Investigations" *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2022, **647**, 129208.
<https://doi.org/10.1016/j.colsurfa.2022.129208>
- 7) Mariam Azzam Alanazi, Wael AA Arafa, Ibrahim O Althobaiti, Hamud A Altaleb, Rania B Bakr, Nadia AA Elkanzi "Green Design, Synthesis, and Molecular Docking Study of Novel Quinoxaline Derivatives with Insecticidal Potential against *Aphis craccivora*" *ACS Omega*, 2022, **31**, 27674–27689.
<https://doi.org/10.1021/acsomega.2c03332>
- 8) Amira Atef Ghoneim, Wael Abdelgayed Ahmed Arafa "Design, synthesis and antimicrobial evaluation of thioglycosides of a novel class of 2-mercaptonicotinonitriles" *Journal of Saudi Chemical Society*, 2020, **24**(12), 1025-1033.
<https://doi.org/10.1016/j.jscs.2020.11.001>
- 9) Wael Abdelgayed Ahmed Arafa "Ru-Based Complexes as Heterogeneous Potential Catalysts for the Amidation of Aldehydes and Nitriles in Neat Water" *Bulletin of the Chemical society of Japan*, Japan, 2020, **93**(9), 1056-1064.
<https://doi.org/10.1246/bcsj.20200071>
- 10) Wael Abdelgayed Ahmed Arafa and Modather F. Hussein "Design, Sonosynthesis, Quantum-Chemical Calculations, and Evaluation of New Mono- and Bis-pyridine Dicarbonitriles as Antiproliferative Agents" *Chinese Journal of Chemistry*, 2020, **38**(5), 501-508.
<https://doi.org/10.1002/cjoc.201900494>
- 11) Hamada Mohamed Ibrahim, Haider Behbehani and Wael Abdelgayed Ahmed Arafa "A facile, practical and metal-free microwave assisted protocol for mono- and bis [1,2,4]triazolo[1,5-*a*]pyridines synthesis utilizing 1-amino-2-imino-pyridine derivatives as versatile precursors" *RSC Advances*, 2020, **10**(26), 15554-15572. <https://doi.org/10.1039/D0RA02256J>
- 12) Tarek Ahmed Seaf-Elnasr, Ibrahim Hotan Alsohaimi, Wael Abdelgayed Ahmed Arafa and Mutairah Shaker Alshammari "New spectrophotometric protocol using tetrathiosemicarbazone derivative chelating (TTSC) for the assessment of trace level of cadmium(II) in drinking water" *International Journal of Environmental Analytical Chemistry*, 2020,
<https://doi.org/10.1080/03067319.2020.1767093>

- 13) A. A. Nayl, Wael Abdelgayed Ahmed Arafa, A. I. Abd-Elhamid and R.A.Elkhach "Studying and spectral characterization for the separation of lanthanides from phosphate ore by organic and inorganic acids" *Journal of Materials Research and Technology*, 2020, 9(5), 10276-10290. <https://doi.org/10.1016/j.jmrt.2020.07.007>
- 14) Wael Abdelgayed Ahmed Arafa and Abd El-Aziz Ahmed Nayl "Water as a solvent for Ru-catalyzed click reaction: Highly efficient recyclable catalytic system for triazolocoumarins synthesis" *Applied organometallic chemistry*, 2019, 33(10), e5156. <https://doi.org/10.1002/aoc.5156>
- 15) Wael Abdelgayed Ahmed Arafa "Deep eutectic solvent for an expeditious sono-synthesis of novel series of bis-quinazolin-4-one derivatives as potential anti-cancer agents" *Royal Society Open Science*, 2019, 6(3), 182046. <https://doi.org/10.1098/rsos.182046>
- 16) Wael Abdelgayed Ahmed Arafa and Hamada Mohamed Ibrahim "Sustainable and scalable synthesis of polysubstituted bis-1,2,4-triazoles, bis-2-iminothiazolines and bis-thiobarbiturates using bis-*N,N*-disubstituted thioureas as versatile substrate" *Royal Society Open Science*, 2019, 6(6), 181963. <https://doi.org/10.1098/rsos.181963>
- 17) Wael Abdelgayed Ahmed Arafa and Asmaa K. Mourad "New dicationic DABCO-based ionic liquids: a scalable metal-free one-pot synthesis of bis-2-amino-5-arylidenethiazol-4-ones" *Royal Society Open Science*, 2019, 6(7), 190997. <https://doi.org/10.1098/rsos.190997>
- 18) Wael Abdelgayed Ahmed Arafa "Sonochemical Preparation of Dipicolinamide Mn-complexes and Their Application as Catalysts towards Sono-synthesis of Ketones" *Journal of Heterocyclic Chemistry*, 2019, 56(4), 1403-1412. <https://doi.org/10.1002/jhet.3518>
- 19) Wael Abdelgayed Ahmed Arafa and Hamada Mohamed Ibrahim "A sustainable strategy for the synthesis of bis-2-iminothiazolidin-4-ones utilizing novel series of asymmetrically substituted bis-thioureas as viable precursors" *RSC Advances*, 2018, 8(19), 10516-10521. <https://doi.org/10.1039/C8RA01253A>
- 20) Wael Abdelgayed Ahmed Arafa "An eco-compatible pathway to the synthesis of mono and bis-multisubstituted imidazoles over novel reusable ionic liquids: an efficient and green sonochemical process" *RSC Advances*, 2018, 8(29), 16392-16399. <https://doi.org/10.1039/C8RA02755B>
- 21) Hamada Mohamed Ibrahim, Wael Abdelgayed Ahmed Arafa and Haider Behbehani "L-Proline catalyzed one-pot synthesis of polysubstituted pyridine system incorporating benzothiazole moiety via sustainable sonochemical approach" *RSC Advances*, 2018, 8(66), 37606-37617. <https://doi.org/10.1039/C8RA07013J>
- 22) Wael Abdelgayed Ahmed Arafa, Rasha A. M. Faty and Asmaa K. Mourad "A New Sustainable Strategy for Synthesis of Novel Series of Bis-imidazole and Bis-1,3-thiazine Derivatives" *Journal of Heterocyclic Chemistry*, 2018, 55(8), 1886-1894. <https://doi.org/10.1002/jhet.3221>
- 23) Wael Abdelgayed Ahmed Arafa "Sustainable Catalytic Process with a High Eco-scale Score for the Synthesis of Novel Series of Bischalcones through Claisen-Schmidt Condensation" *Journal of Heterocyclic Chemistry*, 2018, 55(2), 456-464. <https://doi.org/10.1002/jhet.3063>
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- 26) Wael Abdelgayed Ahmed Arafa and Ahmed Fawzy Abdel-Magied "Utilization of ultrasonic irradiation as green and effective one-pot protocol to prepare a novel series of bis-2-amino-1,3,4-oxa(thia) diazoles and bis-tetrazoles" *Arkivoc*, 2017, 5, 327-340. <https://doi.org/10.24820/ark.5550190.p010.197>
- 27) Wael Abdelgayed Ahmed Arafa, Ashraf M. Mohamed and Ahmed F. Abdel-Magied "Ultrasound-mediated three-component reaction on-water protocol for the synthesis of novel mono- and bis-1,3-thiazin-4-one derivatives" *Heterocycles*, 2017, 94(8), 1439-1455. DOI: 10.3987/COM-17-13726
- 28) Mohamed G. Badrey, Sobhi M. Gomha, **Wael Abdelgayed Ahmed Arafa** and Mohamed M. Abdulla "An Approach to Polysubstituted Triazipines, Thiadiazoles and Thiazoles Based on Benzopyran Moiety Through the Utility of Versatile Hydrazonoyl Halides as *in Vitro* Monoamine Oxidase Inhibitors" *Journal of Heterocyclic Chemistry*, 2017, 54(2), 1215-1227. <https://doi.org/10.1002/jhet.2695>
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- 30) Ahmed F. Abdel-Magied, **Wael Abdelgayed Ahmed Arafa**, Tanja M. Laine, Andrey Shatskiy, Markus D. Kärkäs, Björn Åkermark and Eric V. Johnston "Substituent Effects in Molecular Ruthenium Water Oxidation Catalysts Based on Amide Ligands" *ChemCatChem*, 2017, 9(9), 1583-1587. <https://doi.org/10.1002/cctc.201601382>
- 31) Ahmed F. Abdel-Magied, Andrey Shatskiy, Rong-Zhen Liao, Tanja M. Laine, **Wael Abdelgayed Ahmed Arafa**, Per E. M. Siegbahn, Markus D. Kurkus, Björn Åkermark and Eric V. Johnston "Chemical and Photochemical Water Oxidation Mediated by an Efficient Single-Site Ruthenium Catalyst" *ChemSusChem*, 2016, 9(24), 3448-3456. <https://doi.org/10.1002/cssc.201601171>
- 32) Ashery, G. Said, **Wael Abdelgayed Ahmed Arafa**, A.E.H. Gaballah and A.A.M. Farag "Morphological and crystalline structural characteristics of PEDOTTM/TiO₂ Nanocomposites for applications towards technology in electronic devices" *Journal of Alloys and Compounds*, 2016, 671, 291-298. <https://doi.org/10.1016/j.jallcom.2016.02.088>
- 33) Ashery, G. Said, **Wael Abdelgayed Ahmed Arafa**, A.E.H. Gaballah and A.A.M. Farag "Structural and optical characteristics of PEDOT/n-Si heterojunction diode" *Synthetic Metals*, 2016, 214, 92-99. <https://doi.org/10.1016/j.synthmet.2016.01.008>
- 34) Sobhi M. Gomha, Mohamed G. Badrey and **Wael Abdelgayed Ahmed Arafa** "DABCO-catalyzed green synthesis of thiazole and 1,3-thiazine derivatives linked to benzofuran" *Heterocycles*, 2016, 92(8), 1450-1461. DOI: 10.3987/COM-16-13470
- 35) **Wael Abdelgayed Ahmed Arafa**, Mervat F. Fareed, Saleh A. Rabeh and Raafat M. Shaker "Ultrasound mediated green synthesis of rhodanine derivatives: Synthesis, chemical behavior, and antibacterial activity" *PHOSPHORUS, SULFUR, AND SILICON*, 2016, 191(8), 1129-1136. <https://doi.org/10.1080/10426507.2016.1146276>
- 36) **Wael Abdelgayed Ahmed Arafa** and Mohamed G. Badry "Facile synthesis of bis-thiosemicarbazone derivatives as key precursors for the preparation of functionalized bis-thiazoles" *Journal of Chemical Research*, 2016, 40(7), 385-392. <https://doi.org/10.3184/174751916X14639296902648>
- 37) **Wael Abdelgayed Ahmed Arafa**, Raafat M. Shaker and Saleh A. Rabeh "Prospective Study Directed to the Synthesis of Symmetrical Linked Bis-Rhodanine Derivatives with their Antimicrobial Activity" *HETEROCYCLES*, 2016, 92(7), 1224-1243. DOI: 10.3987/COM-16-13479
- 38) **Wael Abdelgayed Ahmed Arafa** and Raafat M. Shaker "Facile green chemistry approaches towards the synthesis of bis-Schiff bases using ultrasound versus microwave and conventional method without catalyst" *ARKIVOC*, 2016, iii, 187-201. <http://dx.doi.org/10.3998/ark.5550190.p009.464>

- 39) Ashraf M. Mohamed, Husam R. M. Al-Qalawi, Wael A. El-Sayed, **Wael Abdelgayed Ahmed Arafa**, Mosaed S. Alhumaimess and Amgad K. Hassan "Anticancer Activity of Newly Synthesized Triazolopyrimidine Derivatives and Their Nucleoside Analogs" *Acta Polonae Pharmaceutica-Drug Research*, **2015**, 72, 307-318. <https://www.ptfarm.pl/wydawnictwa/czasopisma/acta-poloniae-pharmaceutica/110/-/15574>
- 40) **Wael Abdelgayed Ahmed Arafa** and Nady Hashem. "Synthesis and corrosion inhibition evaluation of novel aminic nitrogen bearing 1,2,4-triazole Schiff base compound" *European Journal of Chemistry*, **2014**, 5, 563-569. <https://doi.org/10.5155/eurjchem.5.4.563-569.1083>
- 41) **Wael Abdelgayed Ahmed Arafa**, Markus D. Kärkäs, Bao-Lin Lee, Torbjörn Åkermark, Rong-Zhen Liao, Per E. M. Siegbahn and Björn Åkermark "Dinuclear Manganese Complexes for Water Oxidation: Evaluation of Electronics and Catalytic Activity" *Physical Chemistry Chemical Physics*, **2014**, 16(24), 11950-11964. <https://doi.org/10.1039/C3CP54800G>
- 42) **Wael Abdelgayed Ahmed Arafa** and Abdelmoneim A. Makhlof "One-Pot Synthesis and Antimicrobial Activity of Novel Pyrazole-Pyridine Hybrid Analogs" *International Journal of Advanced Research*, **2013**, 6, 320-331. <https://www.ijournal.com/article/282/one-pot-synthesis-and-antimicrobial-activity-of-novel-pyrazole-pyridine-hybrid-analogs>
- 43) Ramadan M. Abdel-Motaleb, Hadeer M. Bakeer, Gammal H. Tamam and **Wael Abdelgayed Ahmed Arafa** "A Simple and Convenient Synthesis of 4-Ylidene-5(4H)oxazolone Derivatives: Oxazolone Ring Transformation Leading to Other Heterocyclic Structures" *Journal Heterocyclic Chemistry*, **2012**, 49(5), 1071-1076. <https://doi.org/10.1002/jhet.938>
- 44) **Wael Abdelgayed Ahmed Arafa** and Asmaa S. Mohamed "Synthesis, Characterization and Antibacterial Activity of Some New Bi-1,2,4-Triazole Mannich Base Derivatives". *Chinese Journal of Chemistry*, **2011**, 29(8), 1661-1668. <https://doi.org/10.1002/cjoc.201180297>
- 45) Sami M. Abdel Azeem, **Wael Abdelgayed Ahmed Arafa** and Mohamed F. El-Shahat "Synthesis and application of alizarin complexone functionalized polyurethane foam: Preconcentration/separation of metal ions from tap water and human urine" *Journal of Hazardous Materials*, **2010**, 182, 286-294. <https://doi.org/10.1016/j.jhazmat.2010.06.028>
- 46) **Wael Abdelgayed Ahmed Arafa** "Preparation and Evaluation of Antibacterial Activity of Some New 1,2,4-Triazole Derivatives" *Journal Heterocyclic Chemistry*, **2010**, 47(5), 1109-1115. <https://doi.org/10.1002/jhet.431>
- 47) R. M. Abdel-Motaleb, H. M. Bakeer, G. H. Tamam and **Wael Abdelgayed Ahmed Arafa**, "Synthesis and some reactions of 4-(2-alkyl-2-arylhydrazono)-2-phenyloxazol-5-one derivatives" *Egyptian Journal of Chemistry*, **2007**, 50, 823-832.
- 48) G. H. Tamam, H. M. Bakeer, R. M. Abdel-Motaleb and **Wael Abdelgayed Ahmed Arafa** "Synthesis and Some Reactions of Coumarin-3-yl Crotonitrile Derivatives" *Journal of Chinese Chemical Society*, **2005**, 52(6), 1191-1199. <https://doi.org/10.1002/jccs.200500171>

References:

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|-----|----------------|-----------|------------------------------|----------------------|------|
| | Björn Åkermark | Professor | Stockholm University, Sweden | bjorn.akermark@su.se | |
| | Ahmed Alghorab | Professor | Jouf university | aghorab@ju.edu.sa | |