



Dr. Abdelwahed R. Sayed

Associate Professor

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Education

Ph. D. University of Cairo, Egypt	Organic Chemistry	Jan 2005
M. Sc. University of Cairo, Egypt	Organic Chemistry	December 2000
B. Sc. University of Cairo, Egypt	Chemistry	June 1995

Professional Carrier

- Postdoctoral Fellow/Visiting Scholar, The University of Southern Mississippi, Hattiesburg, Mississippi, United States, synthesis of polymeric materials (**one of the Top 10 in USA**); (**March 2006-present**).
- Lecturer, Cairo University, Beni-Suef Branch, Department of Chemistry. (**Jan 2005-February 2006**)
- Teaching Assistant, Cairo University, Beni-Suef Branch, Department of Chemistry. (**Jan 2001-December 2004**)
- Demonstrator, Cairo University, Beni-Suef Branch, Department of Chemistry. (**March 1996-December 2000**)

Experience

*** Teaching**

- Cairo University, Beni-Suef Branch, Department of Chemistry, Lecturer. (**Jan 2005-February 2006**):-
Teaching and assisting in the delivery of academic education courses for undergraduates, the courses include:
Mono-function and bi-function aliphatic and aromatic compounds, Heterocyclic compounds, Dyes, Natural products, Spectroscopy (IR, NMR, Mass, UV), Stereo-Isomerism, polymer, petroleum, physical organic chemistry, chemistry of high polymers, and mechanistic studies for organic synthesis.
- Cairo University, Beni-Suef Branch, Department of Chemistry, Teaching Assistant, (**March 1996-December 2004**):-
 - Responsibilities included delivery of general/freshmen chemistry pre-lab instruction, supervision of lab student, and grading of student's lab reports.
 - Shared in preparation of the demonstrations used in freshman chemistry lectures.

- Managed 25-30 general/freshmen chemistry lab teaching assistant scheduled lab usage and compiled grades for over 700 students.
- Authored experimental procedures and quizzes for chemistry students.
- Lead chemistry tutoring program that included over 200 students

* **Research**

- Expert in the field of heterocyclic synthesis (**Renewable Energy**), I have prepared numerous new heterocyclic organic compounds which could be used in the fields of photovoltaic cells, fuel cells, stimuli-responsive, and high performance materials applications; for example:
diarylformazans and its derivatives, large number of hydrozonoyl halids (Nitrilimines and its derivatives), some hetrocyclic systems having thiourea moiety, thiosemicarbazide or cabonothioic dihydrazide.
- Variety of other heterocyclic systems such as:
Furan, thiophene, Pyrrole, imidazole, thiazole, triazole, tetrazole, benzimidazole, pyrazole, thiouracil derivatives, 3-arylo[1,2,4]triazolo[4,3-a]pyrimidin-5(1H)-ones
Azino[b][1,2,4,5]tetrazines, [1,2,,4]triazolo[4,3-a] benzimdazole, [1,2,,4]triazolo[3,4-a]quinazolin-5-one, Tetrazine derivatives, Triazole derivatives, Bis-triazole derivatives, Bis-thiadiazole derivatives, Triazolo[3,4-b][1,3,4]thiadiazole derivatives, Poly tetrazine, Polyurea, Polyimide, Polyurethane, Polypyrazoles, Polytriazole and Polypyrimidine, polythiophene, polythiazole and other related polymers.

Proficiencies

- Extensive experience in teaching organic chemistry.
- Extensive experience in heterocyclics synthesis which have biological activity a.
- Extensive experience in polymerization (**Renewable Energy**) (Postdoctoral in USA).
- Extensive experience in characterization techniques such as NMR, Mass, GPC, IR, and UV spectroscopy; TGA and DSC.
- Synthesis and fabrication of heterocyclic dyes.
- Synthesis and fabrication of polymers for aerospace and biodegradable TPU applications.
- Successfully prepared antibiotics and antimicrobial drugs.
- Synthesis and fabrication of polymers for photovoltaic and fuel cells applications.

Honors and Skills

- University of Southern Mississippi, Postdoctoral Fellowship/visiting scholar, **March 2006–Current.**
- Cairo University, Chemistry Department, Teaching/Research Assistantship, **March 1996– Jan 2005.**
- Ranked first in a class of 20 students, Very good with honor, Department of Chemistry, Cairo University, **1995.**
- Skilled in Sigma Plot, Chem Draw [3D; Chem. Sketch], Chem Win, ISIS Draw, Microsoft Office, and Origin softwares.
- Member of the American Chemical Society.
- Well in spoken and written English.

References

- 1- Jeffrey S. Wiggins, Assistant Professor of Polymer Synthesis, School of Polymers and High Performance Materials, The University of Southern Mississippi, Hattiesburg, Mississippi, United States. **E-mail:** jeffrey.wiggins@usm.edu.
- 2- Abdou Osman Abdelhamid, Professor of Organic Chemistry, Faculty of Science, Cairo University, Giza, Egypt. **E-mail:** abdou_abdelhamid@yahoo.com.
- 3- Ahemed Sami Shawali, Professor of Organic Chemistry, Faculty of Science, Cairo University, Giza, Egypt. **E-mail:** as_shawali@mail.com
- 4- Ahmed Hafez Elghandour, Professor of Organic Chemistry, Faculty of Science, Beni-Suef University, Egypt. **E-mail:** elghandourchem4ever@yahoo.com.

Publications

1. Raluca Gearba, **Abdelwahed R. Sayed**, Ron Pindak, Curt T. Black, Derek Patton and Jeffrey S. Wiggins. **Tetrazine-based polymers as n-type acceptors in organic photovoltaic devices**; Journal of American chemical society; under press
2. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S. Alternating Copolymer of Pyridine and 1,4-Diphenyl-1,2,4,5-Tetrazine from *Bis*-1,3-Dipolar Cycloaddition Polymerization Journal of Applied Polymer Science; under press.
3. **Sayed, Abdelwahed R.**; Tetrahedron Letters 51(2010), 4490
4. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S. Journal of Applied Polymer Science (2009), 3915
5. Shawali, Ahmad S.; **Sayed, Abdelwahed R.**; Zayed, Mohie M., Journal of Sulfur Chemistry (2008), 29(5), 521-527
6. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S. Polymer (2008), 49(9), 2253-2259.
7. Abdelhamid, Abdou O.; **Sayed, Abdelwahed R.**; Zaki, Yasser H. Phosphorus, Sulfur and Silicon and the Related Elements (2007), 182(8), 1767-1777.
8. Abdelhamid, Abdou O.; **Sayed, Abdelwahed R.**; Zaki, Yasser H. Phosphorus, Sulfur and Silicon and the Related Elements (2007), 182(7), 1447-1457.
9. Shawali, Ahmad; **Sayed, Abdelwahed R.**, Journal of Sulfur Chemistry (2007), 28(1), 23-29.
10. Shawali, Ahmad; **Sayed, Abdelwahed R.**, Journal of Sulfur Chemistry (2006), 27(3), 1.
11. Abdou O. abdelhamid, **Abdelwahed R. Sayed**, Ali M.Elzanate Chemistry (Rajkot, India) (2005), 2(9),287-292.
12. Ahmad S. Shawali and **Abdelwahed R. Sayed**, Journal of Chemical Research, 2005, 285-288.
13. Ahmad S. Shawali and **Abdelwahed R. Sayed**, Journal of Chemical Research, 2004, 399-401.
14. Ahmad S. Shawali, Ahmad H. H. Elgandour and **Abdelwahed R. Sayed**, Synthetic Communication, 2001, 31(5), 731-740.
15. Ahmad S. Shawali, Ahmad A. Abdelkhalek and **Abdelwahed R. Sayed**, Journal of the Chinese Chemical Society, 2001, 48, 693-699.

Presentations

1. Samuel J Tucker, **Abdelwahed R Sayed**; Jeffrey S Wiggins, Study of molecular motions in epoxy network using solid state deuterium NMR, February 9, 2010. Astor Crowne Plaza, New Orleans, LA, **USA**
- 2- **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S; Synthesis of Novel Macromolecules Containing Pyridine and Tetrazine Rings and Their Complexation with Metal. International Symposium on Stimuli-Responsive Materials, October 28-30, 2008. School of Polymers and High Performance Materials, The University of Southern Mississippi Hattiesburg, Mississippi, **USA**. Poster.
3. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S; Novel macromolecules Containing sym-tetrazine rings and their subsequent reactions through click modifications. Abstracts of Papers, 235th ACS National Meeting, New Orleans, LA, **USA**, April 6-10, 2008 (2008). Talk.
4. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S; 1,3-Dipolar Cycloaddition of Polymeric Tetrazines. International Symposium on Stimuli-Responsive Materials, October 30-31, 2007. School of Polymers and High Performance Materials, The University of Southern Mississippi Hattiesburg, Mississippi, **USA**. Poster.
5. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S; Synthesis of New Heterocyclic Thermoplastic Polyurethanes-Urea Containing Tetrazine Rings, International Symposium on Stimuli-Responsive Materials, October 30-31, 2007. School of Polymers and High Performance Materials, The University of Southern Mississippi Hattiesburg, Mississippi, **USA**. Poster.
6. **Sayed, Abdelwahed R.**; Wiggins, Jeffrey S, Synthesis of Novel Heterocyclic Organic Polymers using bis-amine with bis-isocyanate and bis-dianhydride, the 12th symposium on the latest Trends in Organic Synthesis, August 9–12, 2006. Saint Catharine-Brock University, Ontario, **Canada**. Poster.