



## **Dr. Abdelwahed R. Sayed**

### **Associate Professor**

Chemistry Department, Faculty of Science, Beni Suef University, Beni Suef, Egypt.

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### **Education**

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

### **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-Febrary 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-Febrary 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-arylaazo[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.
- Successully 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](mailto: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](mailto: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](mailto:as_shawali@mail.com)
- 4- Ahmed Hafez Elghandour, Professor of Organic Chemistry, Faculty of Science, Beni-Suef University, Egypt. **E-mail:** [elghandourchem4ever@yahoo.com](mailto: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 12<sup>th</sup> symposium on the latest Trends in Organic Synthesis, August 9–12, 2006. Saint Catharine-Brock University, Ontario, **Canada**. Poster.