

## 1- MU\_FSCI\_CHEM\_ORGA\_DATA\_ Ibrahim. El Sayed

Name: *Ibrahim El Tantawy El Sayed*  
**Date of Birth:** January 26, 1963.  
**Place of Birth:** El-Menoufeia, Shebin El Koom, Egypt.  
**Nationality:** Egyptian.  
**Marital Status:** Married - Two Children.

### **Contact information:**

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### **Summary of my Curriculum vitae**

I was born in Menoufeia, Egypt in 1963. Studying chemistry at Menoufeia University between 1981 and 1985 and graduated with first class honors. In the year 1986, I was appointed to my first post as a demonstrator in Organic Chemistry at the University of Menoufeia. I received both my MSc (1989) and PhD (1994) degrees from Menoufeia University and Aarhus University, Denmark and was promoted to assistant lecturer in 1989, Lecturer in 1994, associate professor in 2000 and full professor of organic chemistry at MU in 2005. After my PhD degree in 1994 I spent several years of post-doctoral positions at Vienna University, Austria (1995), University of Tokyo, Japan (1996-1997), Institute of Industrial Science and Technology (AIST), Tsukuba, Japan (1997-1999), Uppsala University, Sweden (2001-2002) and University of Antwerp, Belgium (2003-2006). Visiting Professor, Technical University of Denmark, 2001, and University of Antwerp, 2007. Member of the jury of MSc. and PhD. Menia University and Tanta University, Egypt, referee for several international journals. Currently runs a research group of one PhD and 6 MSc students and they all work in a very close co-operation with daily supervision and reporting. Teaching organic chemistry at all undergraduate levels for many years and is currently teaching stereochemistry, organic reaction mechanism, and medicinal chemistry courses at undergraduate level and advanced organometallic chemistry, spectroscopy and biochemistry at postgraduate level.. Published many papers in peer reviewed journals and books such as J. Med. Chem., Biochemistry, J. Am. Chem. Soc., Angew. Chem. Int. Ed., Org. Lett., Eur. J. Org. Chem., J. Phys. Chem. and Organosilicon chemistry: from molecules to materials and presented his work at many international conferences and workshops.

Language knowledge

English (Excellent) • In addition to Arabic (Native language).

## Education

**Ph.D.;** (Organic Chemistry; May 1994), Aarhus University, Denmark & El Menoufeia University, Egypt (Under the Auspices of the Channel System Program). Thesis titled: Chemical and Spectral Studies on C-Sulfonyldithioformates and Related Compounds,  
Thesis Supervisor Professor Dr. Alexander Senning.

**M.Sc.;** (Organic Chemistry; October 1989), Chemistry Department, El Menoufeia University, Egypt. Thesis titled: Studies on Some Nitrogenous and Oxygen Cyclic Compounds.

Thesis Supervisor Professor Dr. Ahmed Ismail Hashem, Ain Shams University.

**B.Sc.;** (Chemistry with Distinction and Honors, May 1985), Chemistry Department, El Menoufeia University, Egypt.

## 2- MU\_FSCI\_CHEM\_ORGA\_LINK\_Ibrahim. El Sayed

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### Honors

- Awarded JSPS Invitation Fellowship, Department of Bioscience and Biotechnology, Okayama University, Japan (June 2008-March 2009).
  - Visiting Professor, Department of Medicinal Chemistry, University of Antwerp, Belgium (April, 2007-June, 2007).
  - Awarded FWO Visiting Research Fellowship, Department of Medicinal Chemistry, University of Antwerp, Belgium (August 2003-August 2006).
  - Awarded Wenner-Gren Research Fellowship, Department of Organic Chemistry, Uppsala University, Sweden (April 2001 - March 2002 & July 2002- September 2002).
  - Awarded JST (Japan Science and Technology Cooperation) Fellowship, National Institute of Materials and Chemical (NIMC), Agency of Industrial Science and Technology (AIST), Tsukuba, Japan (April 1997 - October 1999).
  - Awarded JSPS Fellowship, Department of Chemistry, The University of Tokyo, Japan (March 1996 -March 1997).
  - Awarded ÖAD Research Fellowship, Institute of Organic Chemistry, Vienna University, Austria (February 1995 to August 1995).
  - Awarded Egyptian Government Scholarship for PhD study at the University of Aarhus, Denmark (November 1991-October 1993).
- Awarded Egyptian Government Scholarship to Goethe Institute, Bremen, Germany, (September 1991 - October 1991).

### Academic employment

- Professor of Organic Chemistry, Department of Chemistry, Faculty of Science, El-Menoufeia University, Egypt (from July 2005 to present).
- Associate Professor, Chemistry Department, El- Menoufeia University (July 2000 - June 2005).
- Lecturer, Chemistry Department, El- Menoufeia University (June 1994 - June 2000).
- Assistant Lecturer, Chemistry Department, El Menoufeia University (December 1989 - May 1994).
- Demonstrator, Chemistry Department, El- Menoufeia University (December 1986 - November 1989).

### Present work profile

My research interest is involved in the development of new synthetic methods including transition metal catalysed reactions, cyclizations and stereoselective processes. The target molecules are diverse but frequently compounds of biological relevance. Current research activities are focused on the following topics:

- Palladium mediated synthesis and optimization of the natural products compounds such as antiparasitic indoloquinoline alkaloids derived from neocryptolepine.

In this project we aim the synthesis of aminoalkylamino- and aminoalkyl substituted neocryptolepines as potential new antiplasmodial compounds. A new synthetic method will be developed for the indoloquinoline skeleton based on modern palladium-catalyzed reactions. D-ring modified derivatives of neocryptolepine will also be synthesized and evaluated on their antiplasmodial activity.

- Design, synthesis and evaluation of the potent and selective enzyme inhibitors of prolylpeptidases for anti-trypanosomal drug design

- Diphenylphosphonate Inhibitors for the Urokinase-type Plasminogen Activator (uPA) for the treatment of cancer.

- Synthesis of sulfines, cycloaddition of these heterocumulenes with special attention to regio- and stereocontrol, chemical behaviour of sulfur heterocycles derived from sulfines.

- Studies of the reactivity of the  $>C=S$  groups and sulfur-centered *1,3*-dipoles and their use in heterocyclic synthesis.

## Conferences attended

i. MOCXII. Meeting on Organic Chemistry August 27-29, 1993 (Kiel, Germany).

ii. ISOCS XVI. 16th International Symposium on the Organic Chemistry of Sulfur July 10-15, 1994 (Halle, Merseburg, Germany).

iii. Euchem Conference: June 21-24, 1995 (European Chemistry Meeting on Cycloadditions and Related Reactions: Theory and Practice (Vulcano Island, Messina, Italy)

iv. 17th International Symposium on the Organic Chemistry of Sulfur July 7-12, 1996 (Tsukuba, Japan).

v. The First International Symposium on Silicon-Based Polymers June 23-24, 1997 (Tokyo, Japan).

vi. The Seventh International Kyoto Conference on New Aspects of Organic Chemistry (IKCOC-7), November 10-14, 1997 (Kyoto, Japan).

vii. The Fifth International Conference on Heteroatom Chemistry ICHAC-5, July 5-10, 1998 University of Western Ontario (Ontario, London, Canada).

viii. The 12th International Symposium on Organosilicon Chemistry May 23-28, 1999 (Sendai, Japan).

ix. The 46th Symposium on Organometallic Chemistry, September 16-17, 1999 (Kinki University, Osaka, Japan).

x. The Second International Conference on Basic Sciences and Advanced

- Technology, November 5-7, 2000 (Assiut University, Assiut, Egypt).
- xi.** The Kjell Undheim Symposium in Organic Chemistry, November, 1-3, 2001, University of Oslo (Oslo, Norway).
- xii.** Structure – Based Drug Design; November 14, 2003, University of Louvain-La-Neuve, Belgium.
- xiii.** New Technologies in Microwave Synthesis and Flash Chromatography; November 18, 2003, University of Antwerp, Belgium.
- xiv.** 7th Sigma-Aldrich Organic Synthesis Meeting, December 4-5, 2003, Sol – Cress, Spa, Belgium.
- xv.** 12th Forum of Belgian Society of Pharmaceutical Sciences and Nederlandse of Pharmaceutical Sciences, May 6-7, 2004, Blankenberg, Belgium.
- xvi.** Medicinal Chemistry Symposium of the Section Medicinal Chemistry of the Royal Netherlands Chemical Society, March 5, 2004, Amsterdam, Netherlands.
- xvii.** 9th International Symposium on the Chemistry and Pharmacology of Pyridazines, June 30-July 3, 2004, University of Antwerp, Belgium.
- xviii.** 10th Belgian Organic Synthesis Symposium, July 12-16, 2004, University Louvain-La-Neuve, Belgium.
- xix.** International Congress on "Drug Development for Parasitic Diseases" November 22-24, 2004, Institute of Tropical Medicine, University of Antwerp, Belgium.
- xx.** Lead Profiling: Myth or Reality? November 26, 2004, University of Gent, Belgium.
- xxi.** 8th Sigma-Aldrich Organic Synthesis Meeting, December 1-2, 2005, Sol – Cress, Spa, Belgium.
- xxii.** Targeting the Brain, Successes and Pitfalls, November 25, 2005, University of Namour, Namur, Belgium.
- xxiii.** 9th Sigma-Aldrich Organic Synthesis Meeting, December 1-2, 2005, Sol – Cress, Spa, Belgium.
- xxiv.** 1st European Chemistry Congress, August, 27-31, 2006, Budapest, Hungary.

## Publications

1. K. Steert, **I. El-Sayed**, G. Surpateanu, P. V. d. Veken, A. Krishtal, C. V. Alsenoy, G. D. Westrop, J. C. Mottram, G. H. Coombs, K. Augustyns and A. Haemers; Dipeptidyl  $\alpha$ -fluorovinyl Michael acceptors: synthesis and activity against cysteine proteases. *Bioorganic & Medicinal Chemistry Letters* **17** 6563–6566 (2007).
2. J. Joossens, O. M. Ali, **I. El Sayed**, G. Surpateanu, P. Van der Veken, A. Lambeir, Buddy Setyono-Han, John A. Foekens, A. Haemers and K. Augustyns; Small, potent and selective diaryl phosphonate inhibitors for urokinase-type plasminogen activator with *in vivo* anti-metastatic properties *Journal of Medicinal Chemistry* **50**, 6638–6646 (2007).
3. A. F. Khattab, O. M. Ali and **I. El-Sayed** Generation and Cyclization of Thiocarbonyl *S*-Ylides by Reaction of Diazocompounds with *C*-Sulfonyldithioformates, *Heteroatom Chemistry*, **18**(1), 28-33 (2007).
4. J. Joossens, P. Van der Veken, A. Lambeir, **I. El Sayed**, O. Ali, K. Augustyns and A. Haemers;

Diphenylphosphonate Inhibitors for the Urokinase-type Plasminogen Activator: optimisation of the P4 position.

*Journal of Medicinal Chemistry*, **49**(19); 5785-5793 (2006).

5. M. Casteleijn, M. Alahuhta, K. Groebel, **I. El-Sayed**, K. Augustyns, A. Lambeir, P. Neubauer, R. Wierenga; Functional Role of the Conserved Active Site Proline of Triosephosphate Isomerase, *Biochemistry*, **45** (51), 15483 -15494, (2006).

6. P. Van der Veken, **I. El Sayed**, J. Joossens, C. V. Stevens, K. Augustyns and A. Haemers; The Lewis acid catalyzed synthesis of *N*-protected diphenyl 1-aminoalkylphosphonates, *Synthesis*, 634-638 (2005).

**7. I. El Sayed,**

Carbon versus Sulfur Addition of Nucleophiles to Sulfines. Part I. The Case of Sulfinates, *Monatshefte für Chemie*, **136**, 543 – 551 (2005).

**8. I. El Sayed,**

Synthesis of Stable Sulfines by The Oxidation of Chlorodithioformates, *Monatshefte für Chemie*, **135**, 879-884 (2004).

**9. T. Guliashvili, I. El-Sayed, A. Fischer, and H. Ottosson,**

The First Isolable 2-Silenolate, *Angewandte Chemie International Edition*, **42** (14), 1640-1642 (2003).

**10. I. El-Sayed, R. Hazell, J. O. Madsen, P-O. Norrby and A. Senning,** An Unprecedented [2+3] Cycloadditive Dimerization of a Transient Thiocarbonyl *S*-Ylide, *European Journal of Organic Chemistry*, 813-815 (2003), Erratum, *Eur. J. Org. Chem.* 457 (2005).

**11. I. El-Sayed, O. Ali, A. Fischer and A. Senning,**

Diels-Alder Reactions of Anthracenes with *C*-Sulfonyldithioformates, *Heteroatom Chemistry*, **14**, 170 - 174 (2003).

**12. H. Ottosson, T. Guliashvili, and I. El-Sayed,**

Thermolytic Formation and Trapping of Silenes Strongly Influenced by Reversed Polarization; *Organosilicon Chemistry: From Molecules to Materials*, Eds.: N. Auner & J. Weis, Wiley Interscience, **Vol. 5**, pp 78-81 (2003).

**13. I. El-Sayed, K. M. H. Hilmy, S. M. El-Kousy , A. Fischer and H. S. Slem,** Synthesis of Novel Trithiocarbonate-*S*-Oxides, *Phosphorus, Sulfur and Silicon and The Related Elements*, **178** , 2403-2413 (2003).

**14. I. El-Sayed, R. Hazell and A. Senning,**

A Convenient Access to Ring Unsaturated Cyclopentanecarbodithioates via Hetero-Diels-Alder Chemistry, *ARKIVOC XIII*, 5-11 (2003).

**15. K. M. H. Hilmy, I. El-Sayed, S. M. El-Kousy and H. S. Slem,** *C*-Sulfonyldithioformates as Heterodienophiles and Enophiles in [4+2] Cycloaddition and Ene Reactions, *Sulfur Letters* **26**, 187 - 193 (2003).

**16. I. El Sayed, T. Guliashvili, R. Hazell, A. Gogoll. and H. Ottosson,**

Evidence for Formation of Silenes Strongly Influenced by Reversed Si=C Bond Polarity, *Organic Letters* **4**, 1915 -1918 (2002).

**17. I. El-Sayed** and A. Senning,

Hetero-Diels-Alder Reactions of Chlorodithioformates with Acyclic *1,3*-Dienes, *Sulfur Letters* **25**, 263 - 267 (2002).

**18. I. El-Sayed**, Y. Hatanaka., S-Y, Onozawa and M. Tanaka,

Unusual Locking of Silicon Chains Into All Transoid Conformation By Pentacoordinate Silicon Atoms.

*Journal of The American Chemical Society*, **123**, 3597–3598 (2001). Received Honorable Mention in *Chemical and Engineering News* **79**(16), April 16, page 34 (2001).

**19. C. Muguruma**, N. Koga, Y. Hatanaka, **I. El Sayed**, M. Mikami and M. Tanaka, Theoretical Study of Ultraviolet Absorption Spectra of Tetra- and Pentacoordinate Silicon Compounds, *The Journal of Physical Chemistry A*, **104**, 4928 - 4935 (2000).

**20. I. El Sayed**, Y. Hatanaka, C. Muguruma, S. Shimada, M. Tanaka, N. Koga and M. Mikami, Synthesis, X-ray Structure, and Electronic Properties of Oligosilanes Containing Penta- coordinate Silicon Moieties at Internal Positions. *Journal of The American Chemical Society*, **121**, 5095 - 5096 (1999).

**21. N. Tokitoh**, **I. El Sayed**, and R. Okazaki,

Unusual Oxidation Reaction of an Overcrowded Thiagermacyclohexene Derivative *Chemistry Letters*, 129 -130 (1999).

**22. I. El-Sayed**,

Synthesis of A Novel Sulfine By The Oxidation of A C-Sulfonyldithioformate, *Sulfur Letters* **23**, 1- 9 (1999).

**23. W. Franek** and **I. El-Sayed**,

2-Alkenenitriles Via Mild Thermal Intramolecular Sulfimide Eliminations Reactions. A Strategy to Introduce C-C Double Bonds Adjacent to Electron Withdrawing Groups at Low Temperatures, *Phosphorus, Sulfur and Silicon and The Related Elements* **120 & 121**, 481 (1997).

**24. Ibrahim El-Sayed** and A. M. El Nahas,

"Theoretical Studies on The Unexpected *1,3*-Hydride Shift in Diels-Alder Reactions of C-Sulfonyldithioformates with *1,3*-Butadienes Derivatives"  
*Phosphorus, Sulfur and Silicon and The Related Elements* **120 & 121**, 486 (1997).

**25. W. Franek** and **I. El Sayed**,

First Spectroscopic Evidence of Azasilasulfonium Salts A New Class of Heterosulfonium, Salts, *Sulfur Letters* **19**, 181- 188 (1996).

**26. S. Yassin**, A. H. Abdel Aleem, **I. El Sayed**. and A. Hashem,

Conversion of 1-[Aracyl-  $\alpha$  -(2-Thienyl)]Acroyl Semicarbazides into 1,2,4-

- Triazole, Derivatives. *Rev. Roum. Chim.*, **41**, 989 - 993 (1996).
- 27. I. El Sayed**, M. F. Abdel Megeed, S. M. Yassin and A. Senning, The Chemistry of Chlorodithioformates, *Sulfur Reports* **16**, 235 - 297 (1995).
- 28. I. El Sayed**, W. Franek, M. F. Abdel Megeed, S. M. Yassin, A. Gylling and A. Senning, Photochemical Ene Reactions Between Thiocarbonyl Compounds and Alkenes *Sulfur Letters* **19**, 59 - 66 (1995).
- 29. I. El Sayed**, W. Franek and A. Senning, Photochemical [2+2] Cycloadditions of C-Sulfonyl- dithioformates to 2-Norbornene and to 2,5-Norbornadiene; Rearrangement of the Adducts to Sulfonyldithiocarboxylates. *Sulfur Letters* **19**, 29 - 34 (1995).
- 30. I. El Sayed**, M. F. Abdel Megeed, S. M. Yassin and A. Senning, Diels Alder Reactions of C-Sulfonyldithioformates with 1,3-Dienes Revisited *Sulfur Letters* **18**, 215 - 224 (1995).
- 31. I. El Sayed**, K. A. Jorgensen , V. K. Belsky, V. E. Zavodnik. and A. Senning, Chlorotropic Rearrangements of an  $\alpha$ -Sulfonyl-  $\alpha$ -Sulfonyl Alkanesulfonyl Chloride to an  $\alpha$ -Chloroalkyl Disulfide and an  $S(\alpha$ -Chloroalkyl) Thiosulfonate, *Journal of the Chemical Society. Perkin Transactions 1*, 1251- 1252 (1994).
- 32. I. El Sayed**, M. F. Abdel Megeed, S. M. Yassin and A. Senning, Preparation and Characterization of New C-Sulfonyl- dithioformates and Their Thiocarbonyl S-Imides, *Phosphorus, Sulfur and Silicon and The Related Elements* **86**, 239 (1994).
- 33. I. El Sayed**, M. F. Abdel Megeed, S. M. Yassin and A. Senning, The Thioimination of Thiocarbonyl Compounds with Tetrasulfur Tetranitride" *Sulfur Letters* **17**, 87 - 90 (1994).
- 34. S. Yassin**, A. H. Abdel El-Aleem, **I. El Sayed**, and A. Hashem, Synthesis of some Diaroylhydrazines 1,3,4-Oxadiazoles and Pyridazin-3-ones Bearing Thiophene Nucleus, *Collect. Czech. Chem. Commun.* **58**, 1925 - 1930 (1993).
- 35. I. El Sayed**, M. F. Abdel Megeed, S. M. Yassin, and A. Senning, "A Serendipitous Synthesis of tri(1-adamantylsulfonyl)methane" *Sulfur Letters* **15**, 209 - 211 (1992).
- 36. I. El Sayed**, M. F. Abdel Megeed, S. M. Yassin and A. Senning, An Improved Synthetic procedure for C-Sulfonyldithioformates, *Sulfur Letters* **15**, 1- 4 (1992).