



Curriculum Vitae

Ayman Ayoub Abdel-Shafi

Professor of Inorganic and Photochemistry
Faculty of Science, Ain Shams University

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Web of Science Researcher ID: AAX-2163-2021

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Awards:

- Catalonia award, 2003, Spain.
- State encouragement prize in chemistry, 2007, Egypt.

Books:

Principles of Photochemistry (Arabic 2016 KFU press)

كتب مؤلفة : مبادئ الكيمياء الضوئية
مكتبة الملك فهد الوطنية
رقم التسجيل: 660587
مبادئ الكيمياء الضوئية / ايمن ايوب
عبدالشافي ، ايمن ايوب

الكيمياء الضوئية

الموضوعات

1438 هـ ، [2016 م] .

تاريخ النشر:

244 ص : رسوم بيانية ؛ 24 سم.

الوصف المادي:

541.35

308 ع

1438 هـ

رقم الاستدعاء:

289/1438

رقم الإيداع:

Founder of the Laboratory of Ultrafast Dynamic Spectroscopy (LUDS), 2020 accredited ISO 17025-2017; June 2021

Funded by The Ministry of higher Education, Science, Technology & Innovation Fund Authority and
Ain Shams University

Achievements during the period of chairing the department (Aug 2019-July 2022):

New Programs:

- B.Sc. In Industrial Chemistry
- B. Sc. In Chemistry of Gas and Oil

Postgraduate programs

- Industrial chemistry Diploma
- Oil and petrochemicals Diploma
- M.Sc. in Forensic Chemistry

المشروعات الممولة (باحث رئيس):

- الإعتماد الدولي: معمل القياسات الطيفية الديناميكية فائقة السرعة

Laboratory of ultrafast dynamic spectroscopy

الحصول على الإعتماد ISO 17025-2017; June 2021

رقم المشروع	جهة التمويل	الميزانية	تاريخ التعاقد	مدة المشروع
LP11-034-AIN	وزارة التعليم العالي – جامعة عين شمس	2,000,000.0 LE	01/10/2018	18 شهر

- أنظمة مراكز طاقة شمسية ذات كفاءة وتكاليف منخفضة: ديكورات ونتاج

Cost-effective, Stable and efficient luminescent solar concentrator in Egypt: Decoration and Generation

رقم المشروع	جهة التمويل	الميزانية	تاريخ التعاقد	مدة المشروع
DDP 30488	STDF	2,939,480.0 LE	2019/02/10	24 شهر

- دراسة الوميض الضوئي الليزري على العوامل التي تؤثر على انتاج الاكسجين المثار بتثبيط الاكسجين الارضي للحالات المثارة الاحادية والثلاثية ودراسة التأثيرات البيئية المصاحبة

Laser Flash Photolysis Study on the Factors that affect the Production of Singlet Oxygen Following Oxygen Quenching of the Excited Singlet and Triplet States and its environmental impacts.

رقم المشروع	جهة التمويل	الميزانية	تاريخ التعاقد	مدة المشروع
AT-28-65	KACST	\$ 375,000.0	2007	24 شهر

- تطوير تطهير الماء والتخلص من الملوثات باستخدام الاكسجين المثار والمنتج من التحسس الضوئي لمترابكات مرتبطة ببوليمرات

Development of water disinfection and pollutants degradation using singlet oxygen photosensitized by luminescent d⁶ metal complexes covalently bounded to a polymer.

رقم المشروع	جهة التمويل	الميزانية	تاريخ التعاقد	مدة المشروع
09-wat735-06	STI plan, SA	\$ 424,000.0	2010	24 شهر

أنشطة أخرى

- 1- عضو لجنة تحكيم اللجنة العلمية الدائمة لترقية الاساتذة والاساتذة المساعدين تخصص الكيمياء اللاعضوية - مصر 2017-حتى اليوم
- 2- عضو لجنة تحكيم المشروعات البحثية المقدمة لمدينة الملك عبدالعزيز للعلوم والتقنية المملكة العربية السعودية
- 3- عضو لجنة تحكيم ترقية الاساتذة تخصص الكيمياء جامعة القادسية – العراق 2018
- 4- عضو لجنة تحكيم جوائز النشر العلمي المتميز واحسن باحث المعهد القومي للمواصفات والجودة – مصر 2018
- 5- عضو لجنة تحكيم رسالة دكتوراة بالجامعة اللبنانية 2016م
- 6- عضو لجنة تحكيم ترقية الاساتذة المساعدين تخصص الكيمياء جامعة الاميرة نورا – المملكة العربية السعودية 2015
- 7- عضو لجنة فحص الانتاج العلمي المقدم لنيل جائزة الدولة التشجيعية في العلوم التكنولوجية المتقدمة 2020م.
- 8- عضو لجنة تحكيم ترقية الاساتذة المساعدين تخصص الكيمياء جامعة الطائف – المملكة العربية السعودية 2023

Research Interests:

Inorganic Photochemistry, Singlet Oxygen, Photochemistry and Photophysics of coordination compounds, Inclusion complexes, Kinetics and Reaction Mechanisms, Laser Flash Photolysis studies, Energy and Electron Transfer Processes, Photo-catalytic Degradation of Pollutants.

Job History

- **Head of Chemistry Department, [Aug 2019- July 2022]**
Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**
- **Professor [Sept. 2007 - till now]**
Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**
- **Professor [Feb. 2004 - July 2014]**
Department of Chemistry, Faculty of Science, King Faisal University, Al-Hassa, 31982, **Saudi Arabia**
- **Associate Professor [Mar. 2002- Sept. 2007]**
Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.
- **Research Associate [Oct. 1999 – Oct. 2001]**
Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.
- **Assistant Professor [Dec. 1995- Feb. 2002]**
Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.
- **Assistant Lecturer [Apr. 1991- Nov. 1995]**
Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.
- **Demonstrator [Oct. 1987- Apr. 1991]**
Department of Chemistry, Faculty of Science, Ain Shams University, 11566 Cairo, **Egypt**.

Education:

- Ph.D.** “Excited State Interactions and Energy Transfer and Conversion in Fluorescent Systems” Ain Shams University, Egypt and Loughborough University, Loughborough, Leicestershire, England. (Joint Supervision of Prof. M.S.A. Abdel-Mottaleb, Egypt and Prof. F. Wilkinson, England), April 1991 - November **1995**.
- M.Sc.** “Photochemical Reactions of Ion Pair. Quantum Yield Determination in Different Media”, Ain Shams University, Cairo, Egypt. October 1989 - March **1991**.
- B.Sc.** **Chemistry** Ain Shams University, Cairo, Egypt May **1987**. “Excellent with first class honour degree”

Courses:

- **Laser Safety:** Loughborough University, Loughborough, Leicestershire, U.K., 1994.
- **University Teaching Skills:** Ain Shams University, Cairo, Egypt, 1993.
- **Economy and marketing of scientific research:** Ain Shams University, Cairo, Egypt, 2006.
- **Technology use in teaching:** Ain Shams University, Cairo, Egypt, 2006.
- **Teaching evaluation:** Ain Shams University, Cairo, Egypt, 2006.
- **Scientific research management:** Ain Shams University, Cairo, Egypt, 2006.
- **Quality assurance and accreditation:** Ain Shams University, Cairo, Egypt, 2006.
- **Preparation of research proposal:** Ain Shams University, Cairo, Egypt, 2006.

Research Fellowships

- **Visiting Professor [July 2005 - Aug. 2005]**
Institut fuer Physikalische und Theoretische Chemie, J. W. Goethe-Universitaet, Marie-Curie-Str.11 D60439 Frankfurt am Main, **Germany**.
- **Visiting Professor [Oct. 2003 - Dec. 2003]**
Departament de Química, Facultat de Ciències, Universitat Autònoma de Barcelona, **Spain**.
- **Academic Visitor [Aug. 2003- Oct. 2003]**
Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

- **Academic Visitor** [July. 2002- Sept. 2002]
Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.
- **Academic Visitor** [Jan. 1999- Sept. 1999]
Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.
- **Academic Visitor** [Sept. 1997 – Dec. 1997]
Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.
- **Visiting Researcher** [Mar. 1995]
Department of Chemistry, Tübingen University, Institut für Physikalische und Theoretische Chemie, **Germany**.
- **Visiting Researcher** [Jul. 1993 – Jul. 1995]
Department of Chemistry, Loughborough University, Loughborough, Leicestershire, LE11 3TU, **England**.

Membership of International Professional Organizations:

Name of organization/academic Institution	Membership period		Nature of membership
	From	To	
American Chemical Society	2016	Now	Member
European Photochemical Association	1999	Now	Member
European Society for Photobiology	1997	Now	Member

International links (joint publications or projects)

Prof. Dr. Tim Maisch, University Medical Centre Regensburg, **Germany**
 Prof. Dr. Matthias Selke, California State University, **USA**
 Prof. Dr. Michael Ward, The University of Warwick, **UK**
 Prof. Dr. Guillermo Orellana, Complutense University of Madrid, **Spain**
 Prof. Dr. Frank Wilkinson, Loughborough University, **UK**.
 Prof. Dr. Reinhard Schmidt, J. W. Goethe-Universität, **Germany**.
 Prof. Dr. Paul Beer, Oxford University, **UK**.
 Prof. Dr. Jose L. Bourdelande of Universitat Autònoma de Barcelona, **Spain**.
 Prof. Dr. Michael D. Ward, Sheffield University, **UK**.
 Dr. Roger J. Mortimer, Loughborough University, **UK**.
 Dr. David R. Worrall, Loughborough University, **UK**.
 Prof. Dr. Andres Olea, Universidad de Chile, **Chile**.
 Dr. Aleksei Erhov, St. Petersburg State University, **Russia**.
 Dr. Anna Eremenko, National Academy of Sciences of Ukraine, Kyiv, **Ukraine**.
 Prof. Dr. Karel von Eschwege, University of free state, **South Africa**.
 Prof. Dr. Diana SANNINO, Dipartimento di Ingegneria Industriale/DIIN, **Italy**.

Conferences Organized:

- International workshop on “*Environmental Photochemistry*”, Cairo, Egypt, Dec. 17-22, 1997.
- Fourth International Conference on “*Solar Energy Storage and Applied Photochemistry*”, Cairo, Egypt, Jan. 1-6, 1997.
- Third International Conference on “*Solar Energy Storage and Applied Photochemistry*”, Cairo, Egypt, Jan. 8-14, 1995.
- Second International Conference on “*Solar Energy Storage and Applied Photochemistry*”, Cairo, Egypt, Jan. 6-11, 1993.

- International Symposium and Workshop on “*Molecular Mechanics of Electron Transfer, Basics of Solar Energy Storage*”, Cairo, Egypt, Jan. 3-6, 1991.

Workshops

Nature of Activity	Topic	Place	Date
co-organizer and Tutor	First International workshop on “Environmental Photochemistry”	Photoenergy Centre, Ain Shams university, Cairo, Egypt.	Dec. 17-22, 1997.
Lecturer	Training course: Applications of Photoenergy.	Photoenergy Centre, Ain Shams university, Cairo, Egypt.	Oct., 13-18, 2001
Principal Tutor	Training course: Fluorometric methods of analysis	Central laboratory, Faculty of Science, Ain Shams university, Cairo, Egypt.	May, 2002
Lecturer	Laser safety	King Faisal University, Al-Hassa, Saudi Arabia	13-17 March 2005
Lecturer	Lab. skills	King Faisal University, Al-Hassa, Saudi Arabia	16-18 May 2005
Lecturer	Electronic and off distance teaching	King Faisal University, Al-Hassa, Saudi Arabia	28 Feb. - 1 Mar 2006
Lecturer	Lasers, types and applications	King Faisal University, Al-Hassa, Saudi Arabia	21 April 4 May 2007
Lecturer	First self evaluation scales for quality assurance	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Mar 2008
Lecturer	Course Reports	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Feb. 2008
Lecturer	Course specifications	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Jun. 2008
Lecturer	New technologies in chemistry teaching	College of Science, King Faisal University, Al-Hassa, Saudi Arabia	Apr. 2008
Participation	Universities between International Ranking and Academic Accreditation	King Saud University, Riyadh	June 2008

List of Publications

A) Articles in Journals

- 1- Mechanism of Oxygen Quenching of the Excited States of Heteroleptic Chromium(III) Phenanthroline Derivatives
Ahmed M. M. Alazaly, Guy J. Clarkson, Michael D. Ward, and Ayman A. Abdel-Shafi
Inorg. Chem. **2023**, **XXX**, XXX–XXX
doi.org/10.1021/acs.inorgchem.3c02343

- 2- BaSn_{0.96}XZr_{0.04}MXO₃ (M = Mn, Fe or Co, x = 0, 0.02) for spin-based devices: Ferromagnetic properties Yakout, S.M., Elsharawy, A.I.A., Wahba, M.A., Abdel-Shafi, A.A., Khalil, M.S.
Ceramics International, **2023**
DOI: 10.1016/j.ceramint.2023.08.272

- 3- Design, synthesis, and performance evaluation of TiO₂-dye sensitized solar cells using 2,2'-bithiophene-based co-sensitizers.
Elmorsy, M.R., Abdelhamed, F.H., Badawy, S.A., Abdel-Latif, E., Abdel-Shafi, A.A., Ismail, M.A.
Scientific Reports, **2023**, **13** (1), art. no. 13825.
DOI: 10.1038/s41598-023-40830-1

- 4- Effect of the π -bridge structure on the intramolecular charge transfer of push–pull 2-phenylthiophene and 2-(furan-2-yl)pyridine derivatives,
Shahin, M., Alazaly, A.M.M., Ismail, M.A., Abdel-Shafi, A.A.,
Journal of Molecular Liquids, **2023**, **378**, 121624

- 5- Fractional dependence of the free energy of activation on the driving force of charge transfer in the quenching of the excited states of substituted phenanthroline homoleptic ruthenium(ii) complexes in aqueous medium,
Akl, H.N., Salah, D., Abdel-Samad, H.S., Abdel Aziz, A.A., Abdel-Shafi, A.A.,
RSC Advances, **2023**, **13**(19), pp. 13314–13323

- 6- Photophysical properties of push-pull monocationic D- π -A⁺ thiophene based derivatives: Fluorosolvatochromism and pH studies,
Khaled, M.M., Ismail, M.A., Medien, H.A.A., Abdel-Shafi, A.A., Abdel-Samad, H.S.,
Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, **2023**, **288**, 122090

- 7- Transition-metal blends incorporated into CuO nanostructures: Tuning of room temperature spin-ferromagnetic order
Elsharawy, A.I.A., Yakout, S.M., Wahba, M.A., Abdel-Shafi, A.A., Khalil, M.S.,
Solid State Sciences, **2023**, **139**, 107166

- 8- Participation of fractional charge transfer on the efficiency of singlet oxygen production: Heteroleptic ruthenium (II) bipyridine derivatives
El-Naggar, K., Abdel-Samad, H.S., Ramadan, R.M., El-Khouly, M.E., Abdel-Shafi, A.A.,
Journal of Photochemistry and Photobiology A: Chemistry, **2023**, **436**, 114405

- 9- Design and synthesis of novel bichalcophene derivatives with double anchoring groups for dye-sensitized solar cell applications: sensitization and co-sensitization with N-719
Fatma H. Abdelhamed, Mohamed A. Ismail, Ehab Abdel-Latif, Ayman A. Abdel-Shafi, and Mohamed R. Elmorsy,
J Mater Sci: Mater Electron (2022) **33**:15665–15678

- 10- Solvent Effect on the Excited Charge Transfer State of Naphthylamine Sulfonate Derivatives: Steady State and Time resolved studies, Yara. Hagrass, Ahmed M.M. Alazaly, Dina Salah, Hesham S. Abdel-Samad and Ayman A. Abdel-Shafi, **Egypt. J. Chem.** **65** (2022), 457 – 465
- 11- Luminescence quenching of Ru(II)-diimine complexes with Cr(VI) ions: Steady-state and time-resolved studies, Hanna Hassanien, Ayman A. Abdel-Shafi, **Journal of Photochemistry & Photobiology A: Chemistry** **424** (2022) 113635
- 12- Solvent polarity indicators: Bithiophene Carboxamidine Derivatives, Maha A. Taha, Asmaa M. Dappour, Mohamed A. Ismail, Ayman H. Kamel and Ayman A. Abdel-Shafi, **Journal of Photochemistry & Photobiology A: Chemistry** **404** (2021) 112933
- 13- Photophysical properties and fluorosolvatochromism of D- π -A thiophene based derivatives, Hussain A.Z. Sabek, Ahmed M.M. Alazaly, Dina Salah, Hesham S. Abdel-Samad, Mohamed A. Ismail and Ayman A. Abdel-Shafi, **RSC Adv.**, **2020**, **10**, 43459–43471
- 14- Synthesis, characterization, and evaluation of biological activities of new 4'-substituted ruthenium (II) terpyridine complexes: Prospective anti-inflammatory properties, Elnagar, M.M., Samir, S., Shaker, Y.M. Abdel-Shafi, A.A., Sharmoukh, W., Abdel-Aziz, M.S., **Applied Organometallic Chemistry**, **2020**; e6024.
- 15- Effects on the photophysical properties of naphthylamine derivatives upon their inclusion in cyclodextrin nanocavities, H. N. Akl, A. M.M. Alazaly, D. Salah, H. S. Abdel-Samad and A. A. Abdel-Shafi, **Journal of Molecular Liquids** **311** (2020) 113319.
- 16- Effect of nano sand on the properties of metakaolin-based geopolymer: Study on its low rate sintering, M.F. Zawrah, S.E. Abo Sawan, R.M. Khattab, and Ayman A Abdel-Shafi, **Construction and Building Materials** **246** (2020) 118486
- 17- In-situ formation of geopolymer foams through addition of silica fume: Preparation and sinterability, S.E. Abo Sawan, M.F. Zawrah, R.M. Khattab, Ayman A. Abdel-Shafi, **Materials Chemistry and Physics** **239** (2020) 121998
- 18- Solvatochromic behavior of D- π -A bithiophene carbonitrile derivatives, Asmaa M. Dappour, Maha A. Taha, Mohamed A. Ismail, Ayman A. Abdel-Shafi, **Journal of Molecular Liquids** **286** (2019) 110856
- 19- Fabrication, sinterability and characterization of non-colored and colored geopolymers with improved properties, S.E. AboSawan, M.F. Zawrah, R.M. Khattab and Ayman A. Abdel-Shafi, **Mater. Res. Express** **6** (2019) 075205
- 20- Solvatochromism of 1-naphthol-4-sulfonate photoacid and its encapsulation in cyclodextrin derivatives, Aya S.I. Amer, Ahmed M.M. Alazaly, Ayman A. Abdel-Shafi, **Journal of Photochemistry & Photobiology A: Chemistry** **369** (2019) 202-211.
- 21- Photoacids as singlet oxygen photosensitizers: Direct determination of the excited state acidity by time-resolved, Ahmed M.M. Alazaly, Aya S.I. Amer, Ahlam M. Fathi, Ayman A. Abdel-Shafi, **Journal of Photochemistry & Photobiology A: Chemistry** **364** (2018) 819–825
- 22- Antiprotozoal agents as water soluble singlet oxygen photosensitizers: Imidazo[1,2-a]pyridine and 5,6,7,8-tetrahydro-imidazo[1,2-a] pyridine derivatives, Ayman A. Abdel-Shafi, Ahlam M. Fathi, Mohamed A. Ismail, and David W. Boykin, **Journal of Luminescence** **181** (2017) 164–170
- 23- Effect of solvent and encapsulation in β -cyclodextrin on the photophysical properties of 4-[5-(thiophen-2-yl)furan-2-yl] benzamidine, Ayman A. Abdel-Shafi, Mohamed A. Ismail, Shar S. Al-Shihry, **Journal of Photochemistry & Photobiology A: Chemistry** **316** (2016) 52–61

- 24- Solvent Isotope Effect and Photosensitized Generation of Singlet Oxygen, $O_2(^1\Delta_g)$, by Substituted Ruthenium (II) bipyridyl Complexes in Aqueous Media, Ayman Abdel-Shafi, Hanaa A. Hassanin and Shar S. Al-Shihry, **Photochemical & Photobiological Sciences**, 2014, 13 (9), 1330 - 1337
- 25- Luminescence Quenching of $[Os(bpy)_3]^{2+}$ by Mn^{7+} , Cr^{6+} , and Ce^{4+} ions in Acidic Aqueous Solution, Ayman Abdel-Shafi, **Journal of Luminescence** 2014, 155, 282-287.
- 26- Inclusion of Paracetamol β -cyclodextrin Nanocavities in Solution and in the Solid State, Maged El-Kemary, Saffaa Sobhy, Samy El-Daly, Ayman Abdel-Shafi, **Spectrochimica Acta Part A** 2011, 79(5), 1904-1908
- 27- The influence of Surfactant's Synergism on the Solubilization of some Fluorescent Compounds, R. Abdel-Rahem, A. A. Abdel-Shafi, J. Al-Hawarine and A. S. Ayesh, **Tenside Surf. Det.**, 2011, 48(6), 445-452
- 28- Spectroscopic Studies on the inclusion complex formation between 7-iodo-8-hydroxyquinoline-5-sulfonic acid and β -Cyclodextrin, A. A. Abdel-Shafi and S. S. Al-Shihry, **Journal of inclusion phenomena and Macrocyclic chemistry**, 2010, 67(1), 7-11.
- 29- Fluorescence enhancement of 1-naphthol-5-sulfonate by forming inclusion complex with β -Cyclodextrin in aqueous solution, A. A. Abdel-Shafi and S. S. Al-Shihry, **Spectrochimica Acta Part A** 2009, 72, 533-537, doi:10.1016/j.saa.2008.10.052.
- 30- Mechanism of quenching by oxygen of the excited states of ruthenium(II) complexes in aqueous media. Solvent isotope effect and photosensitized generation of singlet oxygen, $O_2(^1\Delta_g)$, by $[Ru(\text{diimine})(CN)_4]^{2-}$ complex ions, A. A. Abdel-Shafi, M. D. Ward and R. Schmidt, **Dalton Transactions**, 2007, 24, 2517 - 2527. doi: 10.1039/b704895e
- 31- Photosensitized generation of singlet oxygen from rhenium(I) and iridium(III) complexes, A. A. Abdel-Shafi, J. L. Bourdelande and S. S. Ali, **Dalton Transactions**, 2007, 24, 2510-2516. doi: 10.1039/b705524b
- 32- Photosensitized production of singlet oxygen and factors governing its decay in xenon and carbon dioxide supercritical fluids. A. A. Abdel-Shafi and D. R. Worrall, **Journal of Photochemistry and Photobiology A: Chemistry**, 2007, 186, 2-3, 263-269. doi:10.1016/j.jphotochem.2006.08.016
- 33- Spectroscopic studies on the inclusion complex of 2-naphthol-6-sulfonate with β -cyclodextrin. A.A. Abdel-Shafi, **Spectrochimica Acta Part A**, 2007, 66(3), 732-738. doi:10.1016/j.saa.2006.04.018
- 34- Inclusion complex of 2-naphthylamine-6-sulfonate with β -cyclodextrin: intramolecular charge transfer versus hydrogen bonding effects. A. A. Abdel-Shafi, **Spectrochimica Acta Part A** 2007, 66(3), 1228-1236. doi:10.1016/j.saa. 2006.06.011
- 35- Factors affecting the efficiency of excited-states interactions of complexes between some visible light-emitting lanthanide ions and cyclophanes containing spirobiindanol phosphonates. M. S. Attia, M. M. H. Khalil, A. A. Abdel-Shafi, G. M. Attia, S. Failla, G. Consiglio, P. Finocchiaro, and M. S. A. Abdel-Mottaleb, **International Journal of Photoenergy**, 2007, Article ID 12530, 1-7. doi:10.1155/2007/12530.
- 36- Spectrophotometric determination of manganese by using redox reaction of tris(2,2'-bipyridine)osmium(II) with Mn^{7+} . A. A. Abdel-Shafi, **Analytical Sciences**, 2006, 22, 825-828.
- 37- The temperature dependent electrical transport in biphenyl derivatives. M. M. Sallam , B.A. El-Sayed and A.A. Abdel-Shafi, **Current Applied Physics**, 2006, 6, 71-75. doi:10.1016/ j.cap.2004.12.006

- 38- Spectrofluorimetric determination of iron (III) in industrial effluents based on fluorescence quenching of 1-naphthol-2- sulfonate, A. A. Abdel-Shafi, Taha M. A. Razek and Karima F. Fadel, **J. Env. Sciences**, **2005**, **10(3)** 851-865.
- 39- Flow injection fluorimetric determination of chromium(VI) in electroplating baths by luminescence quenching of tris(2,2'-bipyridyl) ruthenium(II). S. S. M. Hassan, A. A. Abdel-Shafi, A. H. K. Mohammed, **Talanta**, **2005**, **67**, 696-702. doi:10.1016/j.talanta.2005.03.019
- 40- Mechanism of the excited singlet and triplet states quenching by molecular oxygen in acetonitrile. A. A. Abdel-Shafi and D. R. Worrall, **Journal of Photochemistry and Photobiology; A: Chemistry**, **2005**, **172(2)**, 170-179. doi:10.1016/j.jphotochem.2004.12.006
- 41- Photosensitized generation of singlet oxygen from ruthenium(II) and osmium(II) bipyridyl complexes. A. A. Abdel-Shafi, D. R. Worrall and A. A. Ershov, **Dalton Transactions**, **2004**, **1**, 30-36. DOI: 10.1039/b310238f
- 42- Electronic to vibrational energy conversion and charge transfer contributions during quenching By molecular oxygen of electronically excited triplet states. A. A. Abdel-Shafi and F. Wilkinson. **Physical Chemistry Chemical Physics**, **2002**, **4**, 248-254. DOI: 10.1039/b108272h
- 43- Solvents effects on the photophysical properties of 9,10-dicyanoanthracene. A.F. Olea, D. R. Worrall, F. Wilkinson, S. L. Williams and A. A. Abdel-Shafi. **Physical Chemistry Chemical Physics**, **2002**, **4**, 161-167. DOI: 10.1039/b104806f
- 44- Ruthenium, osmium and rhodium-2,3-bis(2'-pyridyl)quinoxaline complexes. A. A. Abdel-Shafi, M. M. H. Khalil, H. H. Abdallah and R. M. Ramadan. **Transition Metal Chemistry**, **2002**, **27**, 69-74.
- 45- Photosensitized generation of singlet oxygen from substituted bipyridine ruthenium(II) complexes. A. A. Abdel-Shafi, P. D. Beer, R. J. Mortimer, and F. Wilkinson. **Helvetica Chimica Acta**, **2001**, **84**, 2784.
- 46- Photosensitized production of singlet oxygen, ($O_2^*(a^1\Delta_g)$) in the unique 'heavy atom' solvent, supercritical fluid xenon. A. A. Abdel-Shafi, F. Wilkinson and D. R. Worrall. **Chemical Physics Letters**, **2001**, **343**, 273-280.
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