

CURRICULUM VITAE



Dr. Ayman Nafady

Professor of physical Chemistry at Sohag University, Sohag, Egypt & Professor of Inorganic Electrochemistry at King Saud University, Riyadh, Saudi Arabia and Editor in Chief of International Journal of Nanomaterials and Chemistry

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PERSONAL INFORMATION

Full Name: Ayman Nafady Ahmed Abdellah

Date of birth: 5 November 1970

Nationality: Egyptian/Australian

Work Address: Chemistry Department, College of Science, King Saud University, Riyadh, Saudi Arabia

Residency: 8 Sancho Dr, Cranbourne east, Victoria, Australia

Webpages: <http://fac.ksu.edu.sa/anafady/home>

<https://scholar.google.com/citations?user=BuApxoMAAAAJ&hl=en&safe=on>

http://www.researchgate.net/profile/Ayman_Nafady

<http://www.scopus.com/authid/detail.url?authorId=14622777700>

Editor in Chief: International Journal of Nanomaterials and Chemistry

<http://www.naturalspublishing.com/show.asp?JorID=4&pgid=41>

TV-Interviews on the future of Renewable Energy

Nile TV-International (Breakfast show): <https://www.youtube.com/watch?v=N8rbQlyREO4>

Nile-TV International (Story of Success): <https://www.youtube.com/watch?v=N8rbQlyREO4>

<https://www.youtube.com/watch?v=f4ug5Mt6pR8>

BIOGRAPHY

Dr. Nafady did his Ph.D. (2000-2004) under supervision of Prof. William Geiger, at the University of Vermont, USA and has been a Research Fellow at Monash University (2005-2011), Melbourne, Australia working with Prof. Alan Bond. He has made significant contributions to the fields of inorganic/organometallic electrochemistry and material science and has been a pioneer in the development of novel electrochemical and photochemical approaches for controlling the synthesis and fabrication of wide range of metal-organic frameworks and nanostructured materials for applications in water splitting, supercapacitors, biosensors, and other energy-related applications as well as *flow cell* technology for electrochemical applications using Synchrotron radiation. He has published one book chapter, one review article and more than **90** papers in peer-reviewed international journals. He has an ***h-index*** of **23** and the total number of citations for his publications is **1300**.

Dr. Nafady has been invited to give seminars about his work at many universities within Australia and overseas, including, Curtin University of Technology (2006), University of Melbourne (2007), Cairo University (2008), Sohag University (2009), University of Sydney (2010), RMIT University (2011), King Saud University (2013) Zewail city of Science and technology (2015), and University of Sindh (2016). He also presented his work in more than 25 international conferences and TV-interviewed by Nile TV international through programs of "Breakfast show" (2013) and Story of Success (30 Sep. and 5 Oct. 2015).

EDUCATION

May, 2004	PhD in Physical/Inorganic Chemistry University of Vermont, USA/South Valley University, Egypt (Joint Supervision program).
January, 1998	Master in Analytical chemistry South Valley University, Sohag, Egypt.
December, 1994	Diploma in Analytical/Inorganic Chemistry (Excellent with honors) South Valley University, Sohag, Egypt.
May, 1992	B.S. in Chemistry (Very good with honors) Asyut University, Egypt

EMPLOYMENT

1/2017- present	Professor Department of Chemistry, Faculty of Science, King Saud University
8/2012-1/2017	Associate Professor Department of Chemistry, Faculty of Science, King Saud University
8/2010-4/2012	Senior Research Associate School of Chemistry, Monash University, Clayton, Victoria, Australia
8/2005-8/2010	Postdoctoral Research Fellow School of Chemistry, Monash University, Clayton, Victoria, Australia
6/2004-8/2005	Lecturer of Inorganic-Electrochemistry Chemistry Department, Faculty of Science, Sohag University, Sohag, Egypt
9/2000-5/2004	Research Assistant Department of Chemistry, University of Vermont, Burlington, USA
12/1998-9/2000	Assistant Lecturer Chemistry Department, Faculty of Science, South Valley University, Sohag, Egypt
1/1993-11/1998	Demonstrator Chemistry Department, Faculty of Science, South Valley University, Sohag, Egypt

INVITED SEMINAR

November, 2016	New avenues in Electrochemistry using TCNQ, TFAB and N/P doped carbon	Sultan Qaboos University, Muscat, Oman
April, 2016	New Horizons of Chemistry and Personal Development	Sohag University Sohag, Egypt

October, 2015	TCNQ: Simple Organic Molecule with Astonishing technological Applications	Zewail City of Science and Technology
July, 2013	Magic Anions derived from TCNQ/TFAB and their Electrochemical Applications	University of Melbourne, Australia
October, 2012	Novel Electrochemical Approaches for the Design, Fabrication, and Characterization of Nanostructure Materials and Coordination Polymers	King Saud University, Riyadh, Saudi Arabia
July, 2012	Recent Advances in Inorganic/Organometallic Electrochemistry via Utilization of TCNQ/TFAB Anions	RMIT, Melbourne, Australia
November, 2011	The “boring guy” (Zn) and its unusual chemistry with the two sisters: TCNQ and TCNQF ₄	Monash University, Australia
September, 2010	Recent advances in TCNQ-based molecular materials	University of Sydney, Australia
April, 2008	M(TCNQ) ₂ -based molecular materials: mechanistic aspects, their design and fabrications	Sohag University, Egypt

ACADEMIC SUPERVISION

2015-2017	Supervising one master student (Tawfeeq AlOtebi) on "synthesis, characterization and fabrication of lanthanides-TCNQ based coordination polymers (Ln = Gd, Sm, Pr and Eu)
2007-2011	Trained and co-supervised five Ph.D. students to conduct electrochemistry research in collaboration with their formal supervisors. These students are: Shaimaa Ahmed and Thanh Hai Le (Monash University, Prof. Alan Bond and Lisa Martin), Yanyan Mulyana and Kerwyn Alley (University of Melbourne, Asso/Prof. Colette Boskovic, and Laura J. McCormick (University of Melbourne, with Richard Robson and Brenden Ibrahams).
2005-2008	Co-supervised one Masters Student (Emad Newar), Sohag University, thesis title: electro-clarification of sugar cane juice using aluminum alloy, Al1050, electrodes coated with polyaniline.

TEACHING EXPERIENCE AND SKILLS DEVELOPMENT

I- King Saud University:(2012-present)

1. General Chemistry for science students (CHEM–101), (2012–2017).
2. Experimental General Chemistry (CHEM–101), (2012–2017).
3. General Chemistry for eengineering, computer engineering and Agriculture students (CHEM–103) (2012-2015)

4. Experimental General Chemistry (CHEM-101), (2012–2017).
5. Solid State Chemistry (CHEM- 422) (2014–Present)
6. Experimental Solid State Chemistry (CHEM- 422) (2014–Present)
7. Electrochemistry (CHEM- 425) (2012–2013)
8. Bio-inorganic Chemistry (CHEM-426) (2017)

II- Monash University (2005 - 2011)

1. Advanced Electro-analytical methods of analysis (BMC2042) (2007–2011)
2. Experimental Electrochemistry for masters students (2008-2010)
3. Lab maintenance and drybox safety “training workshop” for graduate students (2006-2011)

III- Sohag University:(2004-2005 and 2008)

1. Advanced Electrochemistry for 4th year chemistry students (2004-2005)
2. Physical Chemistry for 2nd year chemistry students (2004, 2005)
3. Advanced Organometallic Chemistry for 4th year chemistry students (2004, 2005)
4. Lanthanides & Actinides Chemistry for 3th year chemistry students (2004, 2005)
5. Analytical Chemistry for 2nd year Biology students (2004, 2005)
6. Experimental Physical Chemistry for 4th year chemistry students (1994-1999)
7. Experimental Analytical Chemistry for 4th year chemistry students (1994-1999)
8. Experimental Inorganic Chemistry for 4th year chemistry students ((1994-1999)
9. Experimental gravimetric analysis for 3rd year chemistry students (1994-1999)
10. Experimental Analytical Chemistry for 2nd year chemistry students (1994-1999)

IV- University of Vermont (2000-2004)

1. Experimental Electrochemistry course for graduate students (2002-2004)
2. Training Course on Lab safety and instruments (2002-2004)
3. Using Schlenk and High Vacuum lines (2001-2003)

TEACHING SKILLS DEVELOPMENT

Sohag University 2008

- Curriculum Design (12 hours)
- Teaching Evaluation (12 hours)
- Teaching for Small and Large Groups (10 hours)
- Modern Trends in Teaching (8 hours)
- Practical Training on Microteaching (6 hours)

King Saud University 2016

- Teaching and Leadership Skills Development (6 hours)
- Utilizing Problem Solving Approach in Teaching (6 hours)
- Motivating and Engaging Students (6 hours)
- Improving Students learning (6 hours)
- Mentoring Faculty (6 hours)
- Research Based Learning (6 hours)

INTERNATIONAL REVIEWER AND EXAMINER

Reviewer for many top international journals such as: *Inorganic Chemistry, Chemistry of Materials, Angewandte Chemie international edition, Electroanalytical Chemistry, Advanced Functional Materials, Analyst, Chem Phys Chem, Electrochimica Acta, J. International environmental Application and Science, J. organometallic Chemistry, Materials letter, Nano Research, Solid State Electrochemistry, Organometallics, Spectrochimica Acta and Journal of Physical Chemistry C. Advanced Material Interface*

- 2016** Examiner for Ph.D. thesis from National Center of Excellence in Analytical Chemistry, University of Sindh, Jamshoro-Pakistan titled “*synthesis and Application of Calix[n]arene Derivatives*” by Ashfaque Ali Bhatti
- 2011** Examiner for Ph.D. thesis from National Center of Excellence in Analytical Chemistry, University of Sindh titled “*Quantification of Aspirin, Brufen, Paracetamol and Diclofen in Human Body Fluids by Various Analytical Techniques*”.
- 2008** Examiner for Ph.D. thesis from National Center of Excellence in Analytical Chemistry, University of Sindh titled “*Electrochemical Evaluation and Recovery of Precious Metals Present in Some Pakistani Ores and Rocks*”

RESEARCH GRANTS

Funded by National Plan for Science and Technology in Saudi Arabia

Project Title

- | | <u>Fund</u> |
|--|---------------------|
| 1- Design and Fabrication of High-Performance Flexible Energy Storage Devices via Layer by Layer assembly of Graphene and Ultra-thin Metal hydroxide Films Deposited onto Multiwall Carbon Nanotubes | SR 1,805,600 |
| 2- Development of Novel Proton Conducting Organic Ionic Materials and their Acid Containing Compositions for H ₂ /O ₂ Fuel Cell Application | SR 1,820,760 |
| 3- Nitrogen and Phosphorous co-doped crystalline carbon materials as metal free electrocatalysts for water splitting in collaboration with Princess Nora University | SR 200,000 |

RESEARCH GROUP FUNDING FROM KSU-DSR-236

- 1- **2013 (SR 300,000)** was awarded to fund the project titled "Redox-Induced Solid-Solid Transformation of Ca-TCNQ nanostructured materials"
- 2- **2014 (SR 300,000)** was awarded to fund the project titled "Metal oxides nanomaterials for energy storage and other applications"
- 3- **2015 (SR 300,000)** was awarded to fund the project titled "C/P co-doped Nanomaterials for water splitting"
- 4- **2016-2017 (SR 500,000)** was awarded to fund the project titled "Electrodeposited metal-amine complexes and metal phosphides as bi-functional electrocatalyst for water splitting"

SCHOLARSHIPS AND AWARDS

- 2016** Medal from Center of Excellence in Analytical Chemistry, Sindh University, Pakistan

2005-2012	Australian Postdoctoral Fellowship
2007- 2008	travel grant awards from Monash University to attend conferences at USA, Italy and Egypt
2009-2010	
2002-2004	Research Assistant Scholarship, University of Vermont, USA
2000-2002	Ph.D. Research Scholarship to USA, Egyptian Ministry of Higher Education and Research
1999	Research Scholarship, South valley University, Sohag, Egypt.
1997	Teaching Assistant Award at South Valley University
1993	Outstanding Undergraduate Award, Egyptian scientific committee

SCIENTIFIC ACTIVITIES AND TRAINING

5 October, 2016	General Lecture on " Chemistry of Life " titled " <i>Effective Learning Strategies and the Ideal Interaction Between Teachers and Students (World Day of Teachers)</i> " at King Saud University, Riyadh, Saudi Arabia
16 June to 25 August 2016	Visiting Scientist at RMIT University, Melbourne, Australia working at with prof. Suresh Bhargava Centre for Advanced Materials and Industrial Chemistry
21 April, 2016	General Lecture on " Chemistry of Life " titled " <i>Make your own Future</i> " for Pharmacy and Science Students at Sohag University, Sohag, Egypt
20 April, 2016	Invited Lecture on the 1 st Science Day at Faculty of Science, Sohag University, Egypt titled " <i>New Horizons in Chemistry and Personal development</i> "
27 March, 2016	General Lecture on " Chemistry of Life " titled " <i>Role of Chemistry in our daily life and Chemistry of Happiness</i> " at king Saud University, Riyadh Saudi Arabia
5 October, 2015	Invited TV-Show for " Story of Success" program by Nile TV International, English https://www.youtube.com/watch?v=N8rbQlyREO4
30 September, 2015	Invited TV-Show for " Story of Success" program by Nile TV International, English https://www.youtube.com/watch?v=f4ug5Mt6pR8
10 June to 20 August 2015	Visiting Scientist at RMIT University, Melbourne, Australia working at with prof. Suresh Bhargava Centre for Advanced Materials and Industrial Chemistry
17-20 March, 2015	Scientific Referee at the Riyadh and National Olympiad for Giftness and Creativity (Mawhiba), Riyadh Saudi Arabia
17 June to 23 August 2014	Visiting Scientist at RMIT University, Melbourne, Australia working at with prof. Suresh Bhargava Centre for Advanced Materials and Industrial Chemistry
20-21 February, 2014	Scientific Referee at the Riyadh and National Olympiad for Giftness and Creativity (Mawhiba), Riyadh Saudi Arabia
25 June to 27 August 2013	Visiting Scientist at RMIT University, Melbourne, Australia working at with prof. Suresh Bhargava Centre for Advanced Materials and Industrial Chemistry

17-20 March, 2013	Referee at the Riyadh and National Olympiad for Giftness and Creativity (Mawhiba), Riyadh Saudi Arabia
11-13 November 2012	Participate in the 2 nd Saudi International Nanotechnology Conference, KACST, Riyadh, Saudi Arabia
8 June to 26 August 2012	Visiting Scientist at RMIT University, Melbourne, Australia working at with prof. Suresh Bhargava Centre for Advanced Materials and Industrial Chemistry
20-24 April, 2011	Electrocrystallization and in situ grazing XRD characterization of Zn-TCNQ semiconducting materials. Australian Synchrotron, Clayton, Australia
1-6 August, 2009	Design of flow cell for transient voltammetry and in situ grazing incidence X-ray diffraction characterization of electrocrystallized materials. Australian Synchrotron, Clayton, Australia
5-6 November, 2008	Special training on using scanning electron microscopy, CSIRO, Clayton, Australia
1-5 March, 2007	Develop in-situ electrochemical X-ray diffraction cells to monitor film formation of M(TCNQ) ₂ -based material at Tsukuba synchrotron, Tokyo, Japan
15-21 February, 2006	Conduct X-ray diffraction on M(TCNQ) ₂ -based material at Tsukuba synchrotron, Tokyo, Japan
12-15 January, 2006	Attending synchrotron radiation workshop Monash University, Clayton, Australia

AFFILIATION

- American Chemical Society
- Royal Australian Chemical Institute (RACI)
- Egyptian Chemical Society
- Saudi Chemical Society
- International Society of Electrochemistry

RESEARCH COLLABORATORS WORLDWIDE

1-Prof. William E. Geiger	University of Vermont, USA
2-Prof. Alan M. Bond	Monash University, Australia
3- Prof. Richard Robson	University of Melbourne, Australia
4- Prof. Brendan Abrahams	University of Melbourne, Australia
5-Prof. Colette Boskovic	University of Melbourne, Australia
6-Prof. Roland de Marco	Curtin University of Technology, Australia
7-Dr. Anthony P. O'Mullane	RMIT University, Melbourne, Australia
8- Camron Jones	Monash University, Australia
9-Dr. C. Johan McAdam	University of Otago, New Zealand
10-Dr. Nigel Lucas	University of Otago, New Zealand
11-Dr. Alexander Bilyk	CSIRO, Australia
12-Prof. Siraj Uddin	University of Sindh, Jamshoro, Pakistan
13-Prof. Refat Abdel-Hamid	Sohag University, Egypt
14- Prof. Suresh Bhargava	RMIT University, Melbourne, Australia
15-Prof. Douglas MacFarlane	Monash University, Australia
16- Dr Usman Ali Rana	King Saud University, Riyadh, Saudi Arabia
17- Ali Alsalmeh	King Saud University, Riyadh, Saudi Arabia
18- Abdullah Elenizi	King Saud University, Riyadh, Saudi Arabia

RESEARCH SKILLS AND EXPERTISE

Electrochemistry

- Intimate knowledge of electrochemical theory and methodology including cyclic voltammetry, chronoamperometry, chronocoulometry, squarewave voltammetry, differential pulse voltammetry, bulk electrolysis and galvanostatic techniques.
- Solid-state electrochemistry and its applications in synthesis of nanostructured and nanocomposite materials.
- Electrocrystallization of semiconducting and magnetic network coordination polymers
- Electrodeposition of metals from organic solvents and ionic liquids for wide range of electroanalytical applications.
- Excellent practical experience in electrodeposition and fabrication of polymeric organic thin films for solar cells and organic field effect transistors.
- Professional of all mechanistic aspects of electron transfer reactions.
- Expert in electrochemistry of inorganic and organometallic compounds in nonconventional media such as ionic liquids, fluorosolvents and weakly coordinating anions.
- Professional of using modeling and digital simulation softwares for many electrochemical and ESR techniques.
- Expert in photo-electrochemical water splitting using semiconductors and sunlight
- Electrochemical synthesis of flexible materials for super capacitance and storage materials
- Trained in Fuel cells and its application.
- Using of Sunlight/photoelectrochemistry and silicon for water splitting and hydrogen production from aprotic ionic liquids
- Trained in measuring Faradaic efficiency of catalyst
- Using Ni-foam as substrate for water splitting
- Expert in fabrication of flexible carbon cloth with catalysts for water splitting

Synthesis	<ul style="list-style-type: none"> • Highly skilled hands in all types of chemical and electrochemical synthesis including ligands, inorganic and organometallic compounds. • Good experience with using electrochemical methodology in preparing and controlling the size and morphology of semiconducting nanostructured materials. • Skilled in preparing and characterizing metal nanoparticles via redox active biomolecules and drugs. • Proficient with standard Schlenk line, high vacuum and dry box techniques for dealing with moisture and air sensitive compounds. • Expert in using classical flash liquid chromatography and standard purification methods. • Practical experience in growing single crystals of inorganic and organometallic compounds for x-ray structural analysis
Spectroscopy and microscopy	<ul style="list-style-type: none"> • Practical experience of various spectroscopic techniques such as NMR, IR, ESR, UV/VIS and Raman. • Proficient in using fiber-optic infrared and UV-Vis probe for <i>in-situ</i> spectroelectrochemistry. • Highly trained on using <i>in-situ</i> Synchrotron-Based XRD for characterization of crystalline thin films of nanostructures. • Good user of optical microscopy, scanning electron microscope (SEM) and atomic force microscopy (AFM). • Trained in annealing of solid samples under different temperatures and pressure
Computer skills	<ul style="list-style-type: none"> • Advanced computer skills including using of Word, Excel and power point. • Origin, Kaleidagraph and Chem. Draw Ultra software. Digital simulation (digisim, digialc) and modeling of cyclic voltammetry (CV), square wave voltammetry (SWV) and Electron spin resonance (ESR).

PUBLICATIONS

(a) Book Chapters

Imran Shakir, Zahid Ali, Usman Ali Rana, **Ayman Nafady**, Mansoor Sarfraz, Inas Muen Al-Nashef and Dae Joon Kang “*Nanostructured Materials for the Realization of Electrochemical Energy Storage and Conversion Devices: Status and Prospects*” **Handbook of Research on Nanoscience, Nanotechnology & Advanced Materials 2013**, IGI Global Publisher, chapter 15, pp376-413.

(b) Review Articles

Ayman Nafady, Anthony P O’Mullane, Alan M Bond “*Electrochemical and photochemical routes to semiconducting transition metal-tetracyanoquinodimethane coordination polymers*” **Coordination Chemistry Reviews 2014**, 268, 101-142 (I.F. = 11.01)

(c) Refereed Journal Articles

82- Shalini Singh, Ylias M Sabri, Deshetti Jampaiah, PR Selvakannan, **Ayman Nafady**, Ahmad Esmailzadeh Kandjani, Suresh K Bhargava "Easy, one- step synthesis of CdTe quantum dots via microwave irradiation for fingerprinting application" **Materials Research Bulletin** **2017**, **90**, 260-265

81- Deshetti Jampaiah, T Srinivasa Reddy, Victoria E Coyle, **Ayman Nafady**, Suresh K Bhargava "Co₃O₄@ CeO₂ hybrid flower-like microspheres: a strong synergistic peroxidase-mimicking artificial enzyme with high sensitivity for glucose detection" **Journal of Materials Chemistry B**, **2017**, in press
<http://pubs.rsc.org/is/content/articlelanding/2017/tb/c6tb02750d#!divAbstract>

80- Razium A. Soomro, **Ayman Nafady**, Keith R. Hallam, Sana Jawaaid, Abdullah Al Enizi, Syed T.H. Sherazi, Sirajuddin, Zafar H. Ibupoto, Magnus Willander "Highly sensitive determination of atropine using cobalt oxide nanostructures: Influence of functional groups on the signal sensitivity"

Analytica Chimica Acta, **2016** 948, 30-39

79- **Ayman Nafady**, Ylias Mohammad Sabri, Ahmad Esmailzadeh Kandjani, Ali M. Alsalmeh, Alan M. Bond, Suresh Bhargava "Preferential synthesis of highly conducting Tl(TCNQ) phase II nanorod networks via electrochemically driven TCNQ/Tl(TCNQ) solid-solid phase transformation"

Journal of Solid State Electrochemistry, **2016**, **20**, 1-12

78- Masood Hussain, **Ayman Nafady**, Sirajuddin, Syed Tufail Hussain Sherazi, Muhammad Raza Shah, Ali Alsalmeh, Muhammad Siddique Kalhor, Sarfaraz Ahmed Mahesara and Samia Siddiquia "Cefuroxime Derived Copper Nanoparticles and Their Application as a Colorimetric Sensor for Trace Level Detection of Picric Acid"

RSC Advances **2016**, **6**, 82882-82889

77- Omran A. Omran, Fadl A. Elgendy and **Ayman Nafady** " Fabrication and Applications of Potentiometric Sensors Based on p-tert-butylthiacalix[4]arene Comprising Two Triazole Rings Ionophore for Silver Ion Detection"

International Journal of Electrochemical Science **2016**, **11**, 4729 – 4742

76- Qurrat-ul-ain Baloach, **Ayman Nafady**, Aneela Tahira, Sirajuddin, Syed Tufail Hussain Sherazi, Tayyaba Shaikh, Munazza Arain, Magnus Willander, Zafar Hussain Ibupoto "An amperometric sensitive dopamine biosensor based on novel copper oxide nanostructures"

Microsystem Technologies **2016**, **1-7**

75- Deshetti Jampaiah, Samuel J Ippolito, Ylias M Sabri, James Tardio, PR Selvakannan, **Ayman Nafady**, Benjaram M Reddy, Suresh K Bhargava "Ceria-zirconia modified MnO_x catalysts for gaseous elemental mercury oxidation and adsorption"

Catalysis Science & Technology **2016**, **6**, 1792-1803

74- Putla Sudarsanam, Brendan Hillary, Baithy Mallesham, Bolla Govinda Rao, Mohamad Hassan Amin, **Ayman Nafady**, Ali Alsalmeh, Benjaram M Reddy, Suresh K Bhargava "Designing CuO_x Nanoparticles-Decorated CeO₂

Nanocubes for Catalytic Soot Oxidation: Role of Nano-interface in the Catalytic Performance of Hetero-structured Nanomaterials"

LANGMUIR, 2016, 32(9), 2208-2215

- 73- Nazar Hussain Kalwar, Ayman Nafady, Razium Ali Soomro, Sirajuddin, Syed Tufail Hussain Sherazi Abdul Rauf Khaskheli, Keith Richard Hallam "*Microwave-assisted synthesis of L-cysteine-capped nickel nanoparticles for catalytic reduction of 4-nitrophenol*"

Rare Met. (2015) 34(10):683–691

- 72- Ayman Nafady "*Electrochemistry with the extremely weak coordinating anions: Using of carboranes $[H-CB_{11}X_6Y_5]^-$ ($X = H, Cl, Br$; $Y = H$ or Me) as supporting electrolyte anions*"

Journal of Electroanalytical Chemistry, 2015, 755, 1–6

- 71- K. M. Mohibul Kabir, Ylias M. Sabri, Ahmad Esmailzadeh Kandjani, Glenn I. Matthews, Matthew Field, Lathe A. Jones, Ayman Nafady, Samuel J. Ippolito, and Suresh K Bhargava "*Mercury Sorption and Desorption on Gold: A Comparative Analysis of Surface Acoustic Wave and Quartz Crystal Microbalance-Based Sensors*"

Langmuir, 2015, 31 (30), pp 8519–8529

- 70- Sudarsanam Putla, Mohamad Hassan Amin, Benjaram M. Reddy, Ayman Nafady, Khalid A. Al Farhan, and Suresh K. Bhargava "*MnO_x Nanoparticle-Dispersed CeO₂ Nanocubes: A Remarkable Heteronanostructured System with Unusual Structural Characteristics and Superior Catalytic Performance*"

ACS Appl. Mater. Interfaces, 2015, 7 (30), pp 16525–16535

- 69- Ahmad Esmailzadeh Kandjani, Ylias Mohammad Sabri, Selvakannan R Periasamy, Nafisa Zohora, Mohamad Hassan Amin, Ayman Nafady, Suresh Kumar Bhargava "*Controlling Core/Shell Formation of Nanocubic p-Cu₂O/n-ZnO Toward Enhanced Photocatalytic performance*"

Langmuir, 2015, 31, 10922-10930

- 68- Synøve Ø. Scottwell, Anastasia B. S. Elliott, Karl J. Shaffer, Ayman Nafady, C. John. McAdam, Keith C. Gordon and James D. Crowley "*Chemically and Electrochemically Induced Expansion and Contraction of a Ferrocene Rotor*"

Chemical Communications 2015, 51, 8161-8164

- 67- Razium Ali Soomro, Ayman Nafady, Sirajuddin, Syed Tufail Hussain Sherazi, Nazar Hussain Kalwar, Mohammad Raza Shah, and Keith Richard Hallam "*Catalytic Reductive Degradation of Methyl Orange Using Air Resilient Copper Nanostructures*"

Journal of Nanomaterials Volume 2015, Article ID 136164, 12 pages

- 66- Sameerah I Al-Saeed, Khalid A AL-Farhan, Ayman Nafady "*Redox-Induced Solid-Solid Phase Transformation of TCNQ Microcrystals into Semiconducting Ba [TCNQ] 2 Microstructures*"

International Journal of Nanomaterials and Chemistry 2015, 1, 31

- 65- Nazar H Kalwar, Ayman Nafady, Syed Tufail H Sherazi, Razium A Soomro, Keith R Hallam, Abdul R Khaskheli, Asif A Jamali "*Catalytic degradation of imidacloprid using L-serine capped nickel nanoparticles*"

Materials Express 2015, 5, 121-128

- 64- Razium Ali Soomro, Ayman Nafady, Zafar Hussain Ibupoto, Syed Tufail Hussain Sherazi, Magnus Willander, Muhammad Ishaq Abro "*Development of sensitive non-enzymatic glucose sensor using complex nanostructures of cobalt oxide*"

Materials Science in Semiconductor Processing 2015, 34, 373-381

- 63- Tayyaba Shaikh, Ayman Nafady, Farah N Talpur, Muhammad H Agheem, Muhammad R Shah, Syed Tufail H Sherazi, Razium A Soomro, Samia Siddiqui " *Tranexamic acid derived gold nanoparticles modified glassy carbon electrode as sensitive sensor for determination of nalbuphine* "

Sensors and Actuators B: Chemical 2015, 211, 359-369

- 62- Zafar Hussain Ibupoto, Ayman Nafady, Razium Ali Soomro, Syed Tufail Hussain Sherazi, Muhammad Ishaq Abro, Magnus Willander " *Glycine-assisted synthesis of NiO hollow cage-like nanostructures for sensitive non-enzymatic glucose sensing* "

RSC Advances 2015, 5, 18773-18781

- 61- Shaimaa Adeel, Mohamed S Abdelhamid, Ayman Nafady, Qi Li, Lisa L Martin, Alan M Bond " *Voltammetric studies on the inter-relationship between the redox chemistry of TTF, TTF^{+} , TTF^{2+} and $HTTF^{+}$ in acidic media* "

RSC Advances 2015, 5, 18384-18390

- 60- Ruchika Ojha, Ayman Nafady, M. J. Shiddiky, Dayna Mason, John F. Boas, Angel A. J. Torriero, Alan M. Bond, Glen B. Deacon, Peter C. Junk " *Conditions favouring formation of Pt^{III} derivatives in the electrochemical oxidation of the anticancer compound $trans-[Pt^{II}\{(p-BrC_6F_4)NCH_2CH_2NEt_2\}Cl(py)]$ "*

ChemElectroChem 2015, 2, 1048

- 59- Sameerah I. Al-Saeed, Ali M. Alsalmeh, Ayman Nafady " *New Insights on the Mechanism of Oxidatively-Induced CO-Substitution Reaction for the Bimetallic $FvCo_2(CO)_4$ Gained by Digital Simulation* "

International Journal of Electrochemical Science 2015, 10, 2170-2182

- 58- Sameerah I. Al-Saeed, Ali M. Alsalmeh, Ayman Nafady " *Oxidatively-Promoted CO-Substitution Reaction by PPh_3 in the Dinuclear $FvCo_2(CO)_4$ in Low-Polarity Media Comprising $CH_2Cl_2/[NBu_4][B(C_6F_5)_4]$ "*

International Journal of Electrochemical Science 2015, 10, 1669-1683

- 57- Ayman Nafady, Ali M. Alsalmeh, Khalid. A. AL-Farhan, Rafat M. El Khatib, Suresh Bhargava " *Probing Solvation and Ion-Pairing Effects on the Redox Behavior of Cyclopentadienyl Cobalt Dicarbonyl, $CpCo(CO)_2$, in the presence of $[B(C_6F_5)_4]^-$ anion* "

International Journal of Electrochemical Science 2014, 9, 8131 - 8144

- 56- Munawar Saeed Qureshi, Abdull Rahim bin Mohd Yusoff, Afzal Shah, Ayman Nafady, Sirajuddin " *A new sensitive electrochemical method for the determination of vanadium(IV) and vanadium(V) in Benfield sample* "

Talanta, 2015, 132, 541–547

- 55- Syeda S. Hassan, Ayman Nafady, Sirajuddin, Amber R. Solangi, Muhammad S. Kalhor, Muhammad I. Abro, Syed Tufail H. Sherazi " *Ultra-trace level electrochemical sensor for methylene blue dye based on nafion stabilized ibuprofen derived gold nanoparticles* "

Sensors and Actuators B: Chemical, 2015, 208, 320–326

- 54- Razium A. Soomro, Ayman Nafady, Sirajuddin, Najma Memon, Tufail H. Sherazi, Nazar H. Kalwar " *L-cysteine protected copper nanoparticles as colorimetric sensor for mercuric ions* "

Talanta 2014, **130**, 415–422

- 53- Alexandr N. Simonov, Peter Kemppinen, Cristina Pozo-Gonzalo, John F. Boas, Ante Bilic, Andrew D. Scully, Adel Attia, Ayman Nafady, Elena A. Mashkina, Kevin N. Winzenberg, Scott E. Watkins, Alan M. Bond "Aggregation of a Dibenzo[b,def]chrysene Based Organic Photovoltaic Material in Solution"

J. Phys. Chem. B, 2014, **118**, 6839–6849

- 52 - Shaimaa M Adeel, Oi Li, Ayman Nafady, Chuan Zhao, Amal I Siriwardana, Alan M Bond, Lisa L Martin "A systematic study of the variation of tetrathiafulvalene (TTF), $TTF^{+ \cdot}$ and TTF^{2+} reaction pathways with water in the presence and absence of light"

RSC Advances 2014, **4** (91), 49789-49795

- 51- Hiroaki Iguchi, Ayman Nafady, Shinya Takaishi, Masahiro Yamashita, Alan M Bond "Solid-State Electrochemistry of a Semiconducting MMX-Type Diplatinum Iodide Chain Complex"

Inorganic Chemistry 2014, **53**, 4022

- 50-Mousa Al-Noaimi, Ayman Nafady, Ismail Warad, Rwaida Alshwafy, Ahmad Husein, Wamidh H Talib, Taibi Ben Hadda "Heterotrimetallic Ru (II)/Pd (II)/Ru (II) complexes: Synthesis, crystal structure, spectral characterization, DFT calculation and antimicrobial study"

Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy 2014, **122**, 273-282

- 49- Ayman Nafady, Nasser J Al-Qahtani, Khalid A Al-Farhan, Suresh Bhargava, Alan M Bond "Synthesis and characterization of microstructured sheets of semiconducting Ca [TCNQ] 2 via redox-driven solid-solid phase transformation of TCNQ microcrystals"

Journal of Solid State Electrochemistry 2014, **18**, 851-859

- 48- Ayman Nafady, Thanh Hai Le, Nguyen Vo, Naomi L Haworth, Alan M Bond, Lisandra L Martin "Role of Water in the Dynamic Disproportionation of Zn-Based TCNQ(F4) Coordination Polymers (TCNQ= Tetracyanoquinodimethane)"

Inorganic Chemistry 2014, **53**, 2268–2275

- 47-Thanh H Le, Ayman Nafady, Nguyen T Vo, Robert W Elliott, Timothy A Hudson, Richard Robson, Brendan F Abrahams, Lisandra L Martin, Alan M Bond "Electrochemically Directed Synthesis of $Cu_2I(TCNQF_4^-)(MeCN)_2$ ($TCNQF_4 = 2, 3, 5, 6$ -Tetrafluoro-7, 7, 8, 8-tetracyanoquinodimethane): Voltammetry, Simulations, Bulk Electrolysis, Spectroscopy, Photoactivity, and X-ray Crystal Structure of the $Cu_2I(TCNQF_4^-)(EtCN)_2$ Analogue"

Inorganic Chemistry 2014, **53**, 3230–3242

- 46- K. Wu, D. R. Laws, Ayman Nafady, W. E. Geiger "Substitution of CO Ligand by P (OPh) 3 in Radical Cations of the Cymantrene Family: Relationships of Substitution Rates to $E_{1/2}$ Values and Carbonyl IR Frequencies"

Journal of Inorganic and Organometallic Polymers&Materials 2014, **24**, 137-144

- 45- M Al-Noaimi, Ayman Nafady, I Warad, R Alshwafy, A Husein, WH Talib, TB Hadda "Heterotrimetallic Ru (II)/Pd (II)/Ru (II) complexes: Synthesis, crystal structure, synthesis, spectral characterization, DFT calculation and antimicrobial study"

Spectrochimica acta. Part A, Molecular and biomolecular spectroscopy 2013, **122**, 273-282

- 44- Muhammad Shahid, Ayman Nafady, Imran Shakir, Usman Ali Rana, Mansoor Sarfraz, Muhammad Farooq Warsi, Rafaqat Hussain, and Muhammad Naeem

Ashiq "Copper vanadate Nanowires-Based MIS Capacitors: Synthesis, Characterization, and their Electrical Charge Storage Applications"

Journal of Nanoparticle Research 2013, *15*, 1826.

- 43- Shaukat Ali Shahid, Ayman Nafady, Inam Ullah, Yun H. Taufiq-Yap, Imran Shakir, Farooq Anwar, and Umer Rashid "Characterization of Newly Synthesized $ZrFe_2O_5$ Nanomaterial and Investigations of Its Tremendous Photocatalytic Properties under Visible Light Irradiation"

Journal of Nanomaterials 2013, *517643*

- 42- Sam L. Choong, Ayman Nafady, Andreas Stasch, Alan M. Bond and Cameron Jones "The facile assembly of bis-, tris- and poly- (triazaphosphole) systems using "click" chemistry"

Dalton Trans. 2013, *42*, 7775

- 41- Ayman Nafady, Alan M Bond, Victor Qu, and Liza Martin "Kinetic and Thermodynamic Interplay of Cation Ingress and Egress at TCNQ-modified Electrode in Contact with Aqueous Electrolytes Containing Co(II) and Ni (II) Cations"

Journal Solid State Electrochemistry 2013, *17*, 1609-1620

- 40- Hayley S. Scott, Ayman Nafady, John D. Cashion, Alan M. Bond, Boujemaa Moubaraki, Keith S. Murray and Suzanne M. Neville "A ferrocenyl-substituted 1,2,4-triazole ligand and its Fe^{II} , Ni^{II} and Cu^{II} 1D-chain complexes"

Dalton Trans. 2013, *42*, 10326

- 39- Kerwyn G. Alley, Giordano Poneti, Peter S. D. Robinson, Ayman Nafady, Jade B. Aitken, Simon C. Drew, Chris Ritchie, Brendan F. Abrahams, Rosalie K. Hocking, Keith S. Murray, Alan M. Bond, Hugh H. Harris, Lorenzo Sorace and Colette Boskovic " Redox Activity and Two-Step Valence Tautomerism in a Family of Dinuclear Cobalt Complexes with a Spiroconjugated Bis(dioxolene) Ligand"

Journal of the American Chemical Society 2013, *135*, 8304-8323

- 38- Ian A. Gas, Nicholas. F. Chilton, Ayman Nafady, Christopher J. Gartshore, Mousa Asadi, David W. Lupton, Boujemaa Moubaraki, Alan M. Bond, John F. Boas, S. Tiwari, Gopalan Rajaraman, and Keith S. Murray " Ferromagnetic Exchange, Spin-crossover, Reductively Induced Oxidation and Field Induced Slow Magnetic Relaxation in Monomeric Cobalt Nitroxides"

Inorganic Chemistry 2013, *52*, 7557.

- 37- Ayman Nafady, Reda A. Ammar, Hussein M. El Sagher, Usman Ali Rana and Khalid. A. AL-Farhan " Electrochemically-Induced CO-Substitution Reactions of $CoCp(CO)_2$: Manipulating the $[CoCp(CO)_2]^+/CoCp(CO)_2$ Radical/Substrate Coupling with PR_3 Nucleophiles ($R = Ph$ or OMe)"

International Journal of Electrochemical Science 2013, *8*, 1700 – 1710

- 36- Reda A. Ammar, Ayman Nafady, Mona F. Amin, Muneerah M. Al-Mogren and Eman M. Shoukry "pH-Metric Studies of Acid-Base Equilibria on the mixed $Cu(II)$ Complexes with Pyrazine-2,3-Dicarboxylic Acid and Amino Acids"

International Journal of Electrochemical Science 2013, *8*, 1501 – 1510

- 35- Brendan F. Abrahams, Alan M. Bond, Thanh Hai Le, Laura J. McCormick, Ayman Nafady, Richard Robson and Nguyen Vo "Voltammetric reduction and re-oxidation of solid coordination polymers of dihydroxybenzoquinone"
Chemical Communications 2012, **48**, 11422-11424
- 34- Thanh Hai Le, Ayman Nafady, Alan M. Bond and Lisandra L. Martin "Electrochemical Direct Synthesis of Co^{2+} and Ni^{2+} Complexes with TCNQF_4^{2-} (TCNQF_4 =2,3,5,6-Tetrafluoro-7,7,8,8-tetracyanoquinodimethane)"
European Journal of Inorganic Chemistry 2012, **5534-5541**
- 33- Lisandra L. Martin, Jinzhen Lu, Ayman Nafady, Thanh Hai Le, Amal I. Siriwardana, Xiaohu Qu, Daouda A. K. Traore, Matthew Wilce and Alan M. Bond "Novel Semiconducting Biomaterials Derived from a Proline Ester and Tetracyanoquinodimethane Identified by Handpicked Selection of Individual Crystals"
Australian Journal of Chemistry 2012, **65**, 935-941
- 32- Thanh Hai Le, Ayman Nafady, Jinzhen Lu, Germanas Peleckis, Alan M. Bond, and Lisandra L. Martin "Electrochemical Synthesis and Characterization of Semiconducting $\text{Ni}(\text{TCNQF}_4)_2(\text{H}_2\text{O})_2$ (TCNQF_4 = 2,3,5,6-tetrafluoro-7,7,8,8-tetracyanoquinodimethane)"
European Journal of Inorganic Chemistry 2012, **2889-2897**
- 31- Jean-Pierre Veder, Ayman Nafady, Roland De Marco, Graeme Clarke, and Alan M. Bond "A Combined Voltammetric/Synchrotron Radiation-Grazing Incidence X-ray Diffraction Study of the Electrocrystallization of Zinc Tetracyanoquinodimethane"
Australian Journal of Chemistry 2012, **65**, 236.
- 30- Thanh Hai Le, Ayman Nafady, Xiaohu Qu, Alan M. Bond, and Lisandra L. Martin "Redox and Acid-Base Chemistry of 7,7,8,8-Tetracyanoquinodimethane, 7,7,8,8-Tetracyanoquinodimethane Radical Anion, 7,7,8,8-Tetracyanoquinodimethane Dianion, and Dihydro-7,7,8,8-Tetracyanoquinodimethane in Acetonitrile"
Analytical Chemistry 2012, **84**, 2343-2350
- 29- Kiran Bano; Ayman Nafady; Jie Zhang and Alan M. Bond "Electrode Kinetics Associated with TCNQ, TCNQ^- and TCNQ^{2-} (TCNQ = 7,7,8,8-tetracyanoquinodimethane) Redox Chemistry in Acetonitrile as Determined by Analysis of Higher Harmonic Components Derived From Fourier Transformed Large Amplitude ac Voltammetry"
Journal of Physical Chemistry C 2011, **115**, 24153-24163
- 28- Thanh Hai Le; Ayman Nafady; Xiaohu, Qi; Lisandra L. Martin and Alan M. Bond "Detailed Electrochemical Analysis of the Redox Chemistry of Tetrafluorotetracyanoquinodimethane TCNQF_4 , the Radical Anion $[\text{TCNQF}_4]^-$, and the Dianion $[\text{TCNQF}_4]^{2-}$ in the Presence of Trifluoroacetic Acid"
Analytical Chemistry 2011, **83**, 6731-6737
- 27- Ian A. Gass, Christopher J. Gartshore, David W. Lupton, Boujemaa Moubaraki, Ayman Nafady, Alan M. Bond, John F. Boas, John D. Cashion, Carsten Milschmann, Karl Wiegardt and Keith S. Murray "Anion Dependent Redox Change in Iron(II) bis-terdentate Nitroxide {NNO} Chelates"
Inorganic Chemistry 2011, **50**, 3052-3064
- 26- Jean-Pierre Veder, Ayman Nafady, Roland De Marco, Graeme Clarke, and Alan M. Bond "A flow cell for transient voltammetry and its application to in

situ grazing incidence X-ray diffraction characterization of electrocrystallized cadmium(II) tetracyanoquinodimethane”

Electrochimica Acta 2011, **56**, 1546.

- 25- Sirajuddin, Ayman Nafady, H. I. Afridi, S. Sara, A. Shah, and A. Niaz “*Direct Synthesis and Stabilization of Bi-Sized Cysteine-Derived Gold Nanoparticles: Reduction Catalyst for Methylene Blue*”

Journal Iranian Chemical Society, 2011, **8**, S34-S43.

- 24- Sirajuddin, Adam Mechler, Angel A. Torriero, Ayman Nafady, Chong-Yong Lee; Alan M Bond, Anthony P. O'Mullane, Suresh K. Bhargava “*The formation of gold nanoparticles using hydroquinone as a reducing agent through a localized pH change upon addition of NaOH to a solution of HAuCl₄*”

Colloids and Surfaces A:Physicochemical and Engineering Aspects 2010, **370**, 35.

- 23- Ayman Nafady and William E. Geiger “*The Anodic Reaction of Co(η^5 -C₅H₅)(CO)(PPh₃): An Oxidatively-Induced Ligand Exchange Involving a 17e-/18 e- Redox Pair.*”

Organometallics 2010, **29**, 4276.

- 22- Ayman Nafady, Alan M. Bond and Anthony P. O'Mullane “*Electrochemically-Induced TCNQ/Mn[TCNQ]₂(H₂O)₂ (TCNQ = 7,7,8,8-Tetracyanoquinodimethane) Solid-Solid Interconversion: Two Voltammetrically Distinct Processes That Allow Selective Generation of Nanofiber or Nanorod Network Morphologies.*”

Inorganic Chemistry 2009, **48**, 9258-9270.

- 21- Ayman Nafady “*Voltammetric behavior of microparticles and thin films of neo-pentyl-ferrocene-based polyester (PmFB): Manipulation of anion uptake at the ionic liquid/aqueous electrolyte interface.*”

Electrochemistry Communications 2009, **11**, 1838-1841

- 20- Ayman Nafady, C. John McAdam, Alan M. Bond, Stephen C. Moratti and Jim Simpson “*Electrochemical studies with dissolved and surface-confined forms of neo-pentyl-ferrocene-based polyesters utilising [NBu₄][B(C₆F₅)₄] and other electrolytes.*”

J. Solid State Electrochemistry, 2009, **13**, 1511

- 19- Yanyan, Mulyana; Ayman Nafady; Arindam Mukherjee; Roland Bircher; Boujemaa Moubaraki; Keith S. Murray; Alan M. Bond; Brendan F.Abrahams; Colette Boskovic “*New Family of Ferric Spin Clusters Incorporating Redox-Active ortho-Dioxolene Ligands.*”

Inorganic Chemistry 2009, **48**, 7765-7781

- 18- Jannie C. Swarts, Ayman Nafady, John Roudebush, Sabrina Trupia, and William E. Geiger “*The One-Electron Oxidation of Ruthenocene: Reactions of the Ruthenocenium Ion in Gentle Electrolyte Media*”

Inorganic Chemistry, 2009, **48**, 2156-2165

- 17- C. John McAdam, Ayman Nafady, Alan M. Bond, Stephen C. Moratti and Jim Simpson “*Neo-Pentyl-Ferrocene Based Electroactive Polyesters*”

Journal of Inorganic and Organometallic Polymers and Materials, 2008, **18**, 485

- 16- Ayman Nafady and William E. Geiger “*Characterization of the Successive One-Electron Oxidation Products of the Dicobalt Fulvalenediyl (Fv) Compound Co₂Fv(CO)₄ and its Phosphine-Substituted Product*”

Organometallics 2008, **27**, 5624-5631

- 15- Ayman Nafady, Alan M. Bond, Alexander Bilyk “*Controllable Synthesis and Fabrication of Semiconducting Fe[TCNQ]₂(H₂O)₂ Nanowire/Nanorod*

Bundles via Electrochemically-Induced Solid-Solid Phase Transformation of TCNQ Microcrystals”

Journal Physical Chemistry C. 2008, 112, 6700 – 6709

- 14- Daesung Chong, Derek R. Laws, Ayman Nafady, Paulo Jorge Costa, Arnold L. Rheingold, Maria José Calhorda, and William E. Geiger “*[Re(η^5 -C₅H₅)(CO)₃]⁺ Family of 17-Electron Compounds: Monomer/Dimer Equilibria and Other Reactions*”

Journal of the American Chemical Society 2008, 130, 2692 – 2703

- 13- Xiaohu Qu, Ayman Nafady, Adam Mechler, Jie Zhang, Alexander R. Harris, Lisa L. Martin, Anthony P.O’Mullane, Alan M. Bond “*In situ AFM and ex situ SEM Imaging of Electrochemical Solid-Solid Transformation of 3 Dimensional Crystals of TCNQ to M^{x+}[TCNQ]_x (M=Cu,Co,Ni, TCNQ= Tetracyanoquinodimethane)*”

J. Solid-State Electrochemistry 2008, 12, 739

- 12- Alexander R. Harris, Ayman Nafady, Anthony P. O’Mullane, Alan M. Bond “*Voltammetric, Spectroscopic and Microscopic Investigations of Electrocrystallized forms of Semi-conducting, AgTCNQ (TCNQ=7,7,8,8-tetracyanoquinodimethane) Exhibiting Different Morphologies and Colours*”

Chemistry of Materials, 2007, 19, 5499 -5509

- 11- Ayman Nafady, Robert Butterick III, Maria José Calhorda, Patrick J. Carroll, Daesung Chong, William E. Geiger, and Larry R. Sneddon “*Hyperelectronic Metal-Carborane Analogues of Cymantrene (MnCP(CO)₃) Anions: Electronic and structural Noninnocence of the Tricarbaboranyl Ligand*”

Organometallics 2007, 26, 4471- 4482

- 10- Ayman Nafady and Alan M Bond “*Redox-Induced Solid-Solid Phase Transformation of TCNQ Microcrystals into Semiconducting/Magnetic Ni[TCNQ]₂(H₂O)₂ Nanowire/Flowerlike Architectures: A Combined Voltammetric, Spectroscopic and Microscopic Study*”

Inorganic Chemistry 2007, 46, 4128-4137

- 9- Ayman Nafady, Alan M. Bond, Alexander Bilyk, Alexander Harris, Anand I. Bhatt, Anthony P. O’Mullane and Roland De Marco “*Tuning the Electrocrystallization Parameters of Semiconducting Co[TCNQ]₂-Based Material to Yield Either Single Nanowires or Crystalline Thin Films*”

Journal of the American Chemical Society 2007, 129, 2369-2382

- 8- Anthony P. O’Mullane, Nigel Fay, Ayman Nafady and Alan M. Bond “*Preparation of Metal-TCNQ Charge Transfer Complexes on Conducting and Insulating Surfaces by Photocrystallization*”

Journal of the American Chemical Society 2007, 129, 2066-2073

- 7- Ayman Nafady, Paulo Jorge Costa, Maria Jose Calhorda and William E. Geiger “*Electrochemical Oxidation of CoCp(CO)₂: Radical-Substrate Reaction of a 17 e-/18 e- Pair and Production of a Unique Dimer Radical*”

Journal of the American Chemical Society 2006, 128, 16587-16599

- 6- Ayman Nafady, Anthony P. O’Mullane, Alan M. Bond, and Aaron K. Neufeld “*Morphology Changes and Mechanistic Aspects of the Electrochemically-Induced Reversible Solid-Solid Transformation of Microcrystalline TCNQ into Co[TCNQ]₂-Based Materials (TCNQ) 7,7,8,8-Tetracyanoquinodimethane)*”

Chemistry of Materials, 2006, 18, 4375-4384.

- 5- **Ayman Nafady**, Teen T. Chin, and William E. Geiger "Manipulating the Electrolyte Medium to Favor Either One-Electron or Two-Electron Oxidation Pathways for (Fulvalendiyl)dirhodium Complexes" **Organometallics** **2006**, **25**, 1654-1663
- 4- Daesung Chong, **Ayman Nafady**, Paulo Jorge Costa, Maria Jose Calhorda and William E. Geiger "Anodic Preparation of $[Re_2Cp_2(CO)_6]^{2+}$: A Dimeric Dication that Provides the Powerful One-Electron Oxidant $[ReCp(CO)_3]^+$ " **Journal of the American Chemical Society** **2005**, **127**, 15676-15677
- 3- Sabrina Trupia, **Ayman Nafady**, and William E. Geiger "Electrochemical Preparation of the Bis(ruthenocenium) Dication." **Inorganic Chemistry** **2003**, **42**, 5480
- 2- Nicole Camire, **Ayman Nafady**, and William E. Geiger "Characterization and Reactions of Previously Elusive 17-Electron Cations: Electrochemical Oxidations of $(C_6H_6)Cr(CO)_3$ and $(C_5H_5)Co(CO)_2$ in the Presence of $[B(C_6F_5)_4]^-$ " **Journal of the American Chemical Society** **2002**, **124**, 7260
- 1- Abdel-Hamid, R; El-sagher, H; Abdel-Mawgoud, M.A. and **Ayman Nafady** "Electrochemistry of the bis(1,4,7-triazacyclodecane) cobalt(III) complex and its role in the catalytic reduction of hydrogen" **Polyhedron**, **1998**, **17**, 4535

(d) CONFERENCES:

المؤتمرات الدولية

- 1- **Ayman Nafady** "Synthesis and Fabrication of Nanostructured Metal-Organic Frameworks Based on $Tl(TCNQ)$ " (oral Presentation) 6th International Chemistry Conference (6th ICC) "New trends in chemistry" November 8-10 **2016** Riyadh, Saudi Arabia.
- 2- **Ayman Nafady** "New Horizon in Electrochemistry and its applications" (Plenary Lecture). 11th International Symposium in Analytical and Environmental Chemistry, 7-9 March **2016**, Jamshoro, Sindh, Pakistan
- 3- **Ayman Nafady** "Novel Approaches for the Synthesis and fabrication of MOF comprising Metal-TCNQ" (keynote) 1st International Conference on Applied Chemistry – (ICAC 2015) 18–19 November **2015**, Jeddah, Saudi Arabia
- 4- **Ayman Nafady** "Magic Anions for Stabilization of highly reactive cations" (oral presentation). 13th Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, 14-17 February **2015**, Hurghada, Egypt
- 5- **Ayman Nafady** "TCNQ: Simple Organic Molecule but with Astonishing Technological Applications" (oral presentation). 13th Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, 14-17 February **2015**, Hurghada, Egypt
- 6- **Ayman Nafady** "Synthesis, Characterization, and Utilization of Metal-TCNQ Nanostructured Materials in Graphene-Based Flexible Energy Storage Devices"(oral presentation). The 15th Topical Meeting of the International Society of Electrochemistry, 27-30 April **2014**

- 7- **Ayman Nafady** "*M[TCNQ]₂ Nanostructured Materials as Photoanodes for Water Splitting*" (oral presentation). **The 2nd International Conference in Environmental Resources and Renewable Energy**, Sadat city, Egypt, 25-28 February **2013**.
- 8- **Ayman Nafady** "*Facile Approaches for monitoring reductively-induced solid-solid interconversion of microcrystalline TCNQ into M[TCNQ]₂-based Molecular Magnets (M = first row transition metals)*" (oral presentation). **The 11th International Chemistry Conference and Exhibition in Africa (11 ICCA)**, Luxor, Egypt, 20-23 November **2010**.
- 9- **Ayman Nafady** and Alan M Bond "*Novel Electrochemical Approaches for the synthesis and characterization of M[TCNQ]₂-based Molecular Magnets (M = Mn, Fe, Co, Ni)*" (oral presentation) **The 2nd Egyptian International Conference in Chemistry "chemistry for human needs"**, Hurghada, Egypt, 9-12 November **2009**.
- 10- **Ayman Nafady** and Alan M Bond "*Electrochemically-Induced Solid-Solid Phase Transformation of TCNQ Microcrystals into M[TCNQ]₂-based Molecular Magnets (M = Mn, Fe, Co, Ni)*" (Oral Presentation) **5th Chianti Meeting on Inorganic Electrochemistry (5th CHIMIE)**, July 8th - 13th, **2008**, Certosa di Pontignano, Siena, Italy.
- 11- **Ayman Nafady** and Alan M Bond "*Novel Approaches for the Design and Fabrication of Morphology-Tunable M[TCNQ]₂-based Molecular Magnet*" **5th International Conference in Chemistry "Green and Sustainable Chemistry for Developing Countries"**, Cairo University, Egypt March 3-5, **2008** (Oral).
- 12- **Ayman Nafady** and Alan M Bond "*Electrocrystallization of the Semiconducting/Magnetic Co[TCNQ]₂(H₂O)₂: Towards Facile Morphology-Tunable Crystalline Materials*. **Inorganic Chemistry Division Royal Australian Chemistry**, Hobart, Tasmania, Feb 4th to 9th **2007** (Poster).
- 13- **Ayman Nafady** and Alan M Bond "*Electrocrystallization of molecule-based M[TCNQ]₂ magnets (M= Co, Ni): Toward morphology-tunable crystalline materials*" **233rd American Chemical Society National meeting**, Chicago, IL, March 25-29, **2007** (Oral).
- 14- **Ayman Nafady** and William E. Geiger "*Oxidatively-activated ligand-exchange reaction of CoCp(CO)(PPh₃) complex in low polarity media*" **233rd American Chemical Society National meeting**, Chicago, IL, March 25-29, **2007** (Oral).
- 15- **Ayman Nafady** and Alan M Bond "*Redox-induced reversible solid-solid phase transformation of microcrystalline TCNQ into semiconducting Co[TCNQ]₂(H₂O)₂ nanowires network*" **233rd American Chemical Society National meeting**, Chicago, IL, March 25-29, **2007** (Poster).
- 16- Butterick, R.; **Ayman Nafady**; Geiger, W.E.; Carroll, P.J.; Sneddon, L.G. "*Chemistry of mangana- and rhena-tricarbadecaboranyl tricarbonyl complexes: Evidence for an associative mechanism of ligand substitution*". **230th ACS National Meeting**, Washington, DC, United States, Aug. 28-Sept. 1, **2005** (Poster).
- 17- Geiger, W.E.; Chong, D.; Laws, D.; **Ayman Nafady** "*New Organometallic Electrochemistry: From Reactions to Modified Electrodes*." **207th Electrochemical Society Meeting**, Quebec, Canada, May 15th-20th, **2005** (Oral).

- 18- Butterick, R. **Ayman Nafady**; Geiger, W.E.; Carroll, P.J.; Sneddon, L.G. *"Synthesis and properties of half-sandwich metallatricarbadecaboranyl complexes"* **228th ACS National Meeting, Philadelphia, PA, United States, August 22-26, 2004 (Oral).**
- 19- Butterick III, R.; **Ayman Nafady**; Geiger, W.E.; Carroll, P. J.; Sneddon, L. G. *"Synthesis and properties of half-sandwich metallatricarbadecaboranyl complexes."* **Boron Americas IX, Texas, May 19th -22nd, 2004 (Poster).**
- 20- Geiger, W.E.; Barriere, F.; LeSuer, R.; **Ayman Nafady** *"New family of supporting electrolytes in inorganic electrochemistry"* **New trends in molecular electrochemistry and XII meeting of the Portuguese electrochemical society, Lisbon, Portugal, September 16th -20th , 2003 (Oral).**
- 21- Geiger, W.E.; Barriere, F.; Camire, N.; LeSuer, R.; **Ayman Nafady** *"Big changes in supporting electrolytes."* **Metal-containing Molecules 2nd Chianti Electrochemistry Meeting, Certosa di Pontignano, Siena, Italy, July 13th-18th, 2002 (Oral).**
- 22- **Ayman Nafady**; Geiger, W.E. *"Novel oxidative chemistry of cobalt carbonyl complexes in the presence of the large anions."* **224th ACS National Meeting, Boston, MA. August 18th -22nd, 2002 (Oral).**
- 23- El-sagher, H.M.; **Ayman Nafady** *"Acyclic bis(1,4,7-Triazaheptane) cobalt(III) complex and its triazamacrocyclic analogue. A comparative voltammetric study Naimi (Nucleic acids and their interactions with metal ions) Congress, Alghero, Italy, September 5th -7th, 1998 (Poster).*

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