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Ahmed Mohamed El-Toni

Civil Status

Marital Status : Married
Nationality : Egyptian
Date of birth :16/ 5/ 1974
Birth place: Giza, Egypt



Education

Ph.D. in inorganic chemistry	Faculty of engineering, Tohoku University, Sendai, Japan <i>Thesis title "Performance improvement of UV-rays absorbents by nano-silica shell coating"</i>	Sep. 2006
M.Sc. in inorganic chemistry	Faculty of science, Ain Shams University, Cairo, Egypt <i>Thesis title "Preparation of pure barium salts from Egyptian barite ore"</i>	Jan. 2002
B.Sc. in chemistry	Faculty of science, Cairo University, Egypt	May 1996

Professional experience

Associate professor	King Abdullah institute for Nano-technology, King Saud University, Riyadh, Saudi Arabia	April 2015- Till now
Assistant professor	King Abdullah institute for Nano-technology, King Saud University, Riyadh, Saudi Arabia	May 2008- April 2015
Assistant professor	Nanostructured Materials&Nanotechnology Lab., Advanced Materials Department, Central Metallurgical Research Institute (CMRDI), Cairo, Egypt	Oct.2007- Till now
Post-doctoral researcher	Functional Assembly Technology group, Advanced, Manufacturing Research Institute, National Institute of Advanced Industrial Science and Technology (AIST),Nagoya, Japan	Oct. 2006- Sep 2007
Ph.D student	Laboratory of inorganic reactions, Institute of Multidisciplinary Research for Advanced Materials, Faculty of engineering, Tohoku University, Sendai, Japan	Oct. 2003 – Sep. 2006
Lecturer assistant	Hydrometallurgy laboratory, Extractive metallurgy division, CMRDI, Cairo, Egypt	Jan.2002 – Sep. 2003
Researcher assistant	Hydrometallurgy laboratory, Extractive metallurgy division, CMRDI, Cairo, Egypt	Sep. 1997- Dec. 2001

Scholarships and Honors

Post-doctoral fellowship	National Institute of Advanced Industrial Science and Technology	Oct. 2006-Sep 2007
Ph.D Monbukagakusho Scholarship	Ministry of Education, Culture and Agricultural Science, Japan	Oct. 2003 –Sep. 2006

Skills

I have ability to conduct sample preparation and sample measurements and results analysis using the following instruments.

- Powder X ray diffraction.
- Electron dispersive energy (EDX)
- Infrared Spectroscopy (FTIR)
- Nanoparticles morphology (TEM, SEM)
- Nanoparticles surface properties (surface area and porosity)
- Photochemical properties (UV-visible spectroscopy)
- Thermal properties (TG, DTA)
- X-ray photoelectron spectroscopy (XPS)(only sample preparation and results analysis)
- Materials, ceramics coating and pattering techniques (Spin coating, Ink-jet printing, Dip coating, Screen printing)

Research experience

- Synthesis of layered materials
- Intercalation of organic molecules into layered inorganic materials
- Synthesis of inorganic UV-shielding nanoparticles
- Surface coating of nanopartcles and development of core/shell structures
- Morphological and particles size control of inorganic materials
- Surface coating of ceramics substrate
- Sealing of fuel cell by different coating and pattering techniques
- Multifunctional core-shell nanoparticles for application in:
 - *Drug controlled and stimulated release and enzyme immobilization*
 - *Water treatment and energy production*
 - *Catalysis*

Academic Reviewing

- Journal materials chemistry A
- Journal materials chemistry B
- RSC advances
- Chemical communications
- Physical Chemistry A
- Journal of colloid and interface science
- Journal of solid state chemistry
- Journal of the American Ceramic society
- Chemical Engineering Journal

Research projects

Funded projects from national plan for science and technology (NPST):

1- Synthesis of core-shell mesoporous architectures based on anionic surfactants for drug control release and stimulated drug delivery, **10-NAN1035-02 (Budget: 1,387,500 Saudi Riyals)**, National plan for science and technology (**principal investigator**). The final technical and financial report were submitted and approved (**project finished**)

2- Development of temperature sensitive polymer-gold nanoparticles hybrid materials for biomedical application, **10-NAN1008-02 (Budget: 1,010,000 Saudi Riyals)**, National plan for science and technology. (**co-investigator**). The final technical and financial report were submitted and approved (**project finished**)

3- The use of venoms derived from snakes in Saudi Arabia and Nanotechnology as a new therapeutic method to induce chemotaxis and growth arrest of Breast cancer, Prostate cancer

and Multiple Myeloma, **10-BIO969-02 (Budget : 1,400,000 Saudi Riyals)**, National plan for science and technology, (**co-investigator**). The final technical and financial report were submitted and approved (**project finished**)

4- Photothermally Triggered Drug Delivery from Core/shell Mesoporous Nanoparticles for Targeted Cancer Therapy, **12-NAN2544-02 (Budget: 1,546,000 Saudi Riyals)**, National plan for science and technology, (**principal investigator**). (**Running**).

5- Synthesis of multifunctional magnetic core-TiO₂/meso-SiO₂ double shell for simultaneous heavy metal removal and organic pollutants decomposition, **14-WAT169-02 Budget: 1,543,000 Saudi Riyals**, National plan for science and technology, (**principal investigator**). (**approved for funding**).

6- Multi-Functional Janus Core-Shell Mesoporous Silica Nanocomposites for Dual-Control Drug Release, **14-NAN167-02-R Budget: 1,485,000 Saudi Riyals**, National plan for science and technology, (**principal investigator**). (**approved for funding**).

Funded Research group from Deanship of scientific research:

1- Nanomaterials synthesis and characterization", **PI: Dr. Ahmed El-Toni**, KAIN, KSU, **current status: Running since 2014**, ID. No.: RG-1435-002. (**Budget: 150,000 Saudi Riyals**).

Supervision for M.Sc and Ph.D students

1- Co-Supervising master student Mr. Abdul-rahman Al-amry in physics department, faculty of science, KSU, thesis title "Development of some hazardous liquid and gas detectors based on metal oxide nanostructures".

2- Co-Supervising master student Mrs. Hoda Saad Al-Nefe'i in physics department, faculty of science, KSU, and the thesis title is "Synthesis and characterization of mesoporous silica nanoparticles and their application for radium adsorption".

3- Co-Supervising master student Mr. Fahd Al-Bakami in physics department, faculty of science, KSU, and the thesis title is "Synthesis and characterization of core-shell based ZnO nanoparticles for photocatalytic decompositions of organic pollutants".

4- Co-Supervising Ph.D student Mrs. Tahany Mohamed Al-Mossa in physics department, faculty of science, KSU, and the thesis title is "Synthesis of mesoporous based hollow silica and carbon nanospheres and their application for uranium removal from aqueous solutions".

5- Co-Supervising master student Mr. Hussain Alafifi in physics department, faculty of science, KSU, and the thesis title is "Effect of Fe and W doping on the optical properties of TiO₂ thin films prepared sol-gel technique".

6- Co-Supervising Ph.D student Mr. Abdulrhman S. Al-Awadi in chemical engineering department, faculty of Engineering, KSU, and the thesis title is "Oxidative Dehydrogenation of Ethane with CO₂ over Silica - Supported Metal Oxide Nanostructures Catalyst".

AWARD:

2014 ALMARAI PRIZE FOR SCIENTIFIC INNOVATION (National Award organized by King Abdulaziz City for Science and Technology (KACST), Kingdom of Saudi Arabia)

AWARDED PAPER: *Simple and facile synthesis of amino functionalized hollow core-mesoporous shell silica spheres using anionic surfactant for Pb(II), Cd(II), and Zn(II) adsorption and recovery*, **Ahmed Mohamed El-Toni**, Mohamed A. Habila, Mohamed Abbas Ibrahim, Joselito Puzon Labis, Zeid A. Allothman, Chemical Engineering Journal, Volume 251, 1 September 2014, Pages 441–451, (IF: 4.181).

Organization of seminars and workshops

1. Organizing seminar on “Fabrication of Nanostructured Cluster Arrays for Advanced Nano-dynamic Designs and Chemical Process” delivered by Prof. Sherif El-Safty, National Institute of Material Science, Japan.
2. Helping in organizing seminar in KSU on “Hydrothermal Synthesis of Ordered Mesoporous Materials and their Applications” delivered by Prof. Dongyuan Zhao, Fudan University, China. Delivered on **March 2013**.
3. Sharing in organizing seminar in KSU on “Core-Shell Porous Microspheres: Synthesis and Applications” delivered by Prof. Dongyuan Zhao, Fudan University, China. Delivered on **Oct. 2012**.
4. Sharing in organizing workshop in KSU on Porous materials: design and applications delivered by Prof. D. Zhao and Prof. A. Vinu on 18-19/11/2013.
5. Sharing in organizing workshop in KSU on “Construction of Novel Mesoporous Material Structures for “Bioapplications” by Prof. Dongyuan Zhao, at King Saud University on 17/12/2014.

Other activities

- I have been examiner for master student Mr. Faez Farag Binagag from Chemical Engineering department, KSU.
- I have been examiner for master student Mrs. Amani Moahmed Soliman Ali from physics department, KSU.
- Reviewing two large-grant proposals for King Abdulaziz City for Science and Technology (KACST).
- Reviewing five small-grant proposals for King Abdulaziz City for Science and Technology (KACST).
- Reviewing more than 15 research proposal from Deanship of scientific research, King Abdulaziz University.

Publications

International Journals

1. Direct coating for layered double hydroxide/4,4'-diaminostilbene-2,2'-disulfonic acid nanocomposite with silica by seeded polymerization technique, ***Ahmed Mohamed El-Toni***, Shu Yin, Tsugio Sato, **Journal of Solid State Chemistry** 177, 3197-3201, 2004.
2. Depression of deintercalation of 4-hydroxy-3-methoxybenzoic acid from Zn₂Al layered double hydroxide by direct coating with silica, ***Ahmed Mohamed El-Toni***, Shu Yin, Tsugio Sato, **Materials Letters**, 58, 3149-3152, 2004.
3. Silica coating of Zn₂Al/4-hydroxy-3-methoxybenzoic acid nanocomposites via seeded polymerization technique, ***Ahmed Mohamed El-Toni***, Shu Yin, Tsugio Sato, **Materials Chemistry & Physics**, 89/1, 154-158, 2005.
4. Coating and photochemical properties of calcia-doped ceria with amorphous silica by seeded polymerization technique, ***Ahmed Mohamed El-Toni***, Shu Yin, Yuichiro Hayasaka, Tsugio Sato, **Journal of Materials Chemistry**, 15, 1293 – 1297, 2005.
5. Coating of calcia-doped ceria with amorphous silica shell by seeded polymerization technique, ***Ahmed Mohamed El-Toni***, Shu Yin, Shinryo Yabe, Tsugio Sato, **Materials Research Bulletin**, 40, 1059-1064, 2005.
6. Silica coating and photochemical properties of layered double hydroxide/4,4'-diaminostilbene-2,2'-disulfonic acid nanocomposite, ***Ahmed Mohamed El-Toni***, Shu Yin, Tsugio Sato, **Journal of Colloid and Interface science**, 293, 449-454, 2006.

7. Synthesis and silica coating of calcia-doped ceria/mica nanocomposite by seeded polymerization technique, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Applied Surface Science**, *252*, 5063-5070, 2006.
8. Particle size control of plate-like lepidocrocite related potassium lithium titanate through optimization of synthesis parameters, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Materials Letters**, *60*, 185-189, 2006.
9. Dense silica coating of titania nanoparticles by seeded polymerization technique, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, *274*, 229-233, 2006.
10. Synthesis and UV-shielding properties of silica-coated calcia-doped ceria nanoparticles via soft solution processes, Tsugio Sato, *Ahmed Mohamed El-Toni*, Shu Yin and Yuichiro Hayasaka, **Journal of Electroceramics**, *17*, 9-14, 2006.
11. Control of silica shell thickness and microporosity of titania-silica core-shell type nanoparticles to depress the photocatalytic activity of titania, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Journal of Colloid and Interface Science**, *300*, 123-130, 2006.
12. Enhancement of calcia doped ceria nanoparticles performance as UV shielding materials, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Advances in Science and Technology**, *45*, 673-678, 2006.
13. Synthesis and photochemical properties of white calcia-doped ceria nanoparticles via soft solution processes, Tsugio Sato, *Ahmed Mohamed El-Toni*, Shu Yin, Ruixing Li, Hisao Hidaka, **Advances in Science and Technology**, *45*, 685-690, 2006.
14. Synthesis and silica coating of calcia-doped ceria/plate-like titanate ($K_{0.8}Li_{0.27}Ti_{1.73}O_4$) nanocomposite by seeded polymerization technique, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Materials Chemistry & Physics**, *103*, 345-350, 2007.
15. DNA Damage upon UV illumination in the presence of inorganic UV-shielding materials, Tsugio Sato, *Ahmed Mohamed El-Toni*, Shu Yin, Hisao Hidaka, **Key Engineering Materials**, *352*, 293-296, 2007.
16. Development of the Stacked Micro SOFC Modules using New Approaches of Ceramic Processing Technology, Y.Fujishiro, M.Awano, T.Suzuki, T.Yamaguchi, K.Arihara, Y.Funahashi, S.Shimizu, *A. M. El-Toni* and S.Sakuragi, **ECS transactions**, vol 7, 497-501, 2007.
17. Synthesis and UV-shielding Property of Plate-like Potassium Lithium Titanate Coated with Calcia-doped Ceria Nanoparticles, Tsugio SATO, *Ahmed Mohamed El-TONI*, Shu YIN and Takayuki KUMEI, **Journal of ceramic society of Japan**, Vol. 115[10], 571-576, 2007.
18. UV Shielding Performance Enhancement of CaO Doped Ceria by coupling with plate-like $K_{0.8}Li_{0.27}Ti_{1.73}O_4$, *Ahmed Mohamed El-Toni*, Shu Yin, Tsugio Sato, **Journal of Materials Science**, Vol 43, 2411-2417, 2008.
19. Development of dense electrolyte thin film by ink-jet printing techniques for porous LSM substrate, *Ahmed Mohamed El-Toni*, T. Yamaguchi, S. Shimizu, Y. Fujishiro, M. Awano, **Journal of American ceramic Society**, Vol. 91[1], 346-349, 2008.
20. Panoroscopic Assembling and UV-Shielding Properties of Calcia-Doped Ceria with Micaceous Lepidocrocite Type Potassium Lithium Titanate via Soft Chemical Processes, Tsugio SATO, *Ahmed Mohamed El-TONI*, Shu YIN and Takayuki KUMEI, **Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry**, Vol.38 [3], 335-340, 2008.
21. UV-shielding Performance of Panoroscopically Morphology Controlled Plate-like Titanate/Calcia-doped Ceria Nanoparticle Composite, Chigusa Sato, *Mohamed Ahmed El-*

Toni, Shu Yin and Tsugio Sato, **Journal of the Japan Society of Powder and Powder Metallurgy**, 55 ,253-258, 2008.

22. Development of fabrication technology for honeycomb-type SOFC with integrated multi micro-cells, T. Yamaguchi, **Ahmed Mohamed El-Toni**, S. Shimizu, Y. Fujishiro, M. Awano, **Ceramic Engineering and Science Proceedings** ,Vol. 28, 41-47, 2008.

23. Sonochemical synthesis of networked silica shell with reduced microporosity on titania nanocores for photocatalytic activity reduction", **Ahmed Mohamed El-Toni**, Shu Yin, Tsugio Sato, **Journal of the American Ceramic Society**, 92, 3125, 2009.

24. Synthesis of double mesoporous core-shell silica nanospheres with radially oriented mesopores via one-templating step using anionic surfactant, **Ahmed Mohamed El-Toni**, Mohamed Wasi Khan, Mohamed Abbas Ibrahim, Mohamed Abid, Mansour Al-Hoshan, and Mohamed Al-salhi, **Chemical communications**, 46, 6482, 2010.

25. Investigation of photocatalytic activity and UV-shielding properties for silica coated titania nanoparticles by solvothermal coating, **Ahmed Mohamed El-Toni**, Shu Yin, and Tsugio Sato ,Talal Ghannam, Mansour Al-Hoshan, and Mohamed Al-Salhi, **Journal of Alloys and compounds**, 508, L1–L4, 2010.

26. Microwave-assisted synthesis of silver nanoparticles using poly-N-isopropylacrylamide/acrylic acid microgel particles, Aslam Khan, **Ahmed Mohamed El-Toni**, Salman Alrokayan, Mohamad Alsalhi, Mansour Alhoshan, Abdullah S. Aldwayyan, **Colloids and Surfaces A: Physicochemical and Engineering Aspects**, 377, 356, 2011.

27. Walterinnasia aegyptia venom combined with silica nanoparticles enhances the functions of normal lymphocytes through PI3K/AKT, NFκB and ERK signaling, Gamal Badr, Mohamed K. Al-Sadoon, **Ahmed Mohamed El-Toni** and Maha Daghestani, **Lipids in Health and Disease** 2012, 11:27

28. Impact of textural properties of double mesoporous core-shell silica nanospheres on drug loading and in-viro release, Mohamed Abbas Ibrahim, **Ahmed Mohamed El-Toni**, Aslam Khan, Joselito P. Labi, and Mansour Al-Hoshan, **Digest Journal of Nanomaterials and Biostructures** 7, 2012, 447.

29. Preparation of magnetic polyacrylonitrile core–shell nanospheres by the miniemulsion polymerization method, Aslam Khan, **Ahmed Mohamed El-Toni**, Mohamad Alsalhi, Abdullah S. Aldwayyan and Mansour Alhoshan, **Materials letters**, 76, 2012, 141-143.

30. Synthesis of double mesoporous core-shell silica spheres with tunable core porosity and their drug release and cancer cell apoptosis properties, **Ahmed Mohamed El-Toni**, Aslam Khana, Mohamed A. Ibrahim, Joselito P. Labis, Gamal badr, Mansour Al-Hoshan, Shu Yin, and Tsugio Sato, **J. Colloid and interface science**, 378, 2012, Pages 83-92

31. Synthesis of magnetic core-mesoporous silica shell nanoparticles using anionic surfactant and their application for ketoprofen control release, **Ahmed Mohamed El-Toni**, Aslam Khan, Mohamed Abbas Ibrahim, Mansour Al-Hoshan, Joselito Puzon Labis, , **Chemistry letters**, 41,10, 1357, 2012.

32. Preparation of thermo-responsive hydrogel-coated magnetic nanoparticles, Aslam Khan, **Ahmed Mohamed El-Toni**, Mansour Alhoshan, **Materials Letters**, 89, 2012, 12-15.

33. Fabrication of Mesoporous Silica Shell on Solid Silica Spheres Using Anionic Surfactant and Their Potential Application in Controlling Drug Release, **Ahmed Mohamed El-Toni**, Aslam Khan, Mohamed Abbas Ibrahim, Mansour Al-Hoshan, Joselito Puzon Labis, **Molecules**, 17, 13210–13199, 2012.

34. Cellular and molecular mechanisms underlie the anti-tumor activities exerted by Walterinnesia aegyptia venom combined with silica nanoparticles against multiple myeloma cancer cell types, Gamal Badr, Mohamed K. Al-Sadoon, **Ahmed Mohamed El-Toni** and Maha Daghestani, **PLOS ONE**, 7, 2012, e51661, 1-15.

35. Optimization of synthesis parameters for mesoporous shell formation on magnetic nanocores and their Application as nanocarriers for Docetaxel Cancer Drug, Ahmed Mohamed El-Toni, Mohamed Abbas Ibrahim, Joselito Puzon Labis, Aslam Khan and Mansour Alhoshan, *Int. J. Mol. Sci.* 2013, 14, 11496-11509.
36. Spatially confined fabrication of core-shell gold nanocages@mesoporous silica for near-infrared controlled, Jianping Yang, Dengke Shen, Lei Zhou, Wei Li, Xiaomin Li, Chi Yao, Rui Wang, Ahmed Mohamed El-Toni, Fan Zhang, and Dongyuan Zhao, *Chem. Mater.* 2013, 25 (15), 3030–3037.
37. Immobilization of cyclodextrin glucanotransferase on aminopropyl-functionalized silica-coated superparamagnetic nanoparticles, Abdelnasser S.S. Ibrahim, Ali A. Al-Salamah, Ahmed Mohamed El-Toni, Mohamed A. El-Tayeb, and Yahya B. Elbadawi, *e-Journal of Biotech.* 2013, 16 (6), 1-16.
38. Detoxification of hexavalent chromate by *Amphibacillus* sp. KSUCr3 cells immobilised in silica-coated magnetic alginate beads, Abdelnasser S.S. Ibrahim, Ali A. Al-Salamah, Ahmed Mohamed El-Toni, Mohamed A. El-Tayeb, Yahya B. Elbadawi, Garabed Antranikian, *Biotechnology and Bioprocess Eng.* 2013, 18, 1238-1249.
39. Cyclodextrin glucanotransferase immobilisation onto functionalized magnetic double mesoporous core-shell silica nanospheres, Abdelnasser S.S. Ibrahim, Ali A. Al-Salamah, Ahmed Mohamed El-Toni, Mohamed A. El-Tayeb, and Yahya B. Elbadawi, *e-Journal of Biotechnology*, 17, 2014, 55-64.
40. Mesoporous Silica Coated Plasmonic Nanostructures for Surface-Enhanced Raman Scattering Detection and Photothermal Therapy, Jianping Yang, Dengke Shen, Lei Zhou, Wei Li, Jianwei Fan, Ahmed Mohamed El-Toni, Wei-xian Zhang, Fan Zhang, and Dongyuan Zhao, *Advanced Healthcare Materials*, 2014, 3, 1620–1628.
41. Simple and facile synthesis of amino functionalized hollow core-mesoporous shell silica spheres using anionic surfactant for Pb(II), Cd(II), and Zn(II) adsorption and recovery, Ahmed Mohamed El-Toni, Mohamed A. Habila, Mohamed A. Ibrahim, Joselito P. Labis 2, Zeid A. Al Othman, *Chem. Eng. J.*, 251, 2014, 441.
42. Anisotropic growth induced synthesis of dual-compartment Janus mesoporous silica nanoparticles for bimodal triggered drugs delivery, Xiaomin Li, Lei Zhou, Yong Wei, Ahmed Mohamed El-Toni, Fan Zhang, and Dongyuan Zhao, *J. Am. Chem. Soc.*, 136 (42), 2014, 15086–15092.
43. Effect of an external quantum electric field on the surface plasmons of a nano-system, T. Ghannam, Ahmed Mohamed El-Toni, *Optik*, 126, 2015, 101–106.
44. Anisotropic Encapsulation-Induced Synthesis of Asymmetric Single-Hole Mesoporous Nanocages, Xiaomin Li, Lei Zhou, Yong Wei, Ahmed Mohamed El-Toni, Fan Zhang and Dongyuan Zhao, *J. Am. Chem. Soc.*, 2015, 137, 5903–5906.
45. Synthesis of Mesoporous Silica/Reduced Graphene Oxide Sandwich-Like Sheets with Enlarged and “Funneling” Mesochannels, Yupu Liu, Wei Li, Dengke Shen, Chun Wang, Xiaomin Li, Manas Pal, Renyuan Zhang, Lei Chen, Chi Yao, Yong Wei, Yuhui Li, Yujuan Zhao, Hongwei Zhu, Wenxing Wang, Ahmed Mohamed El-Toni, Fan Zhang, and Dongyuan Zhao, *Chem. Mater.*, 27, 2015, 5577–5586.
46. Pulsed laser deposition of 3D ZnO nanowall networks in nest-like structures by a two-step approach Solar Energy Materials and Solar Cells, Joselito P. Labis, Mahmoud Hezam, Anwar Al-Anazi, Hamad Al-Britthen, Anees A. Ansari, Ahmad Mohamed El-Toni, Ronaldo Enriquez, Gwenole Jacopin, and Mansour Al-Hoshan, *Solar Energy Materials & Solar Cells*, 143, 2015, 539–545.
47. Carbon-dot Sensitized and N-doped TiO₂ in Mesoporous Silica for Water Decontamination through Non-hydrophobic Enrichment-Degradation Mode, Lingzhi Wang,

Chen Cheng, Tapas Sen, Juying Lei, Jinlong Zhang, **Ahmed Mohamed El-Toni**, Fan Zhang and Dongyuan Zhao, *Chem. Eur. J.*, 2015, 21 ,1–8.

48. Design, synthesis and applications of core-shell, hollow core, and nanorattle multifunctional nanostructures, **Ahmed Mohamed El-Toni**, Mohamed A. Habila, Joselito Puzon Labis, Zeid A. ALOthman, Mansour Alhoshan, Ahmed A. Elzatahry, and Fan Zhang, *Nanoscale*, 2016,8, 2510-2531.

49. Periodic Mesoporous Organosilica Nanocubes with Ultrahigh Surface Areas for Efficient CO₂ Adsorption, Yong Wei, Xiaomin Li, Renyuan Zhang, Yong Liu, Wenxing Wang, Yun Ling, **Ahmed Mohamed El-Toni**, *Scientific reports*, 2016, 6:20769.

50. Facile Peptides Functionalization of Lanthanide-based Nanocrystals through Phosphorylation Tethering for Efficient In Vivo NIR-to-NIR Bioimaging, Chi Yao, Caiyi Wei, Zhi Huang, Yiqing Lu, **Ahmed Mohamed El-Toni**, Dianwen Ju, Xiangmin Zhang, Wenning Wang and Fan Zhang, *Anal. Chem.*, 2016, 88, 1930–1936.

51. Development of novel robust nanobiocatalyst for detergents formulations and the other applications of alkaline protease, Abdelnasser S.S. Ibrahim, **Ahmed Mohamed El-Toni**, Ali A. Al-Salamah, Mohamed A. El-Tayeb, Yahya B. Elbadawi, *Bioprocess and Biosys. Eng.*, 2016, 39, 793-805.

52. Enhancement of alkaline protease activity and stability via covalent immobilization onto hollow core-mesoporous shell silica nanospheres, Abdelnasser Salah Shebl Ibrahim, Ali A. Al-Salamah, Ahmed M. El-Toni, Khalid S. Almaary, Mohamed A. El-Tayeb, Yahya B. Elbadawi, Garabed Antranikian, *Int. J. Mol. Sci.*, 2016, 17, 184.

53. Phosphorylated Peptides Functionalization of Lanthanide Upconversion Nanoparticles for Tuning the Nanomaterial-Cell Interaction, Chi Yao, Caiyi Wei, Zhi Huang, Yiqing Lu, **Ahmed Mohamed El-Toni**, Dianwen Ju, Xiangmin Zhang, Wenning Wang and Fan Zhang, *ACS Applied Materials & Interfaces*, 2016, 8 (11), 6935–6943.

54. Synthesis of Highly Dispersed Silver Doped g-C₃N₄Nanocomposites with Enhanced Visible-Light Photocatalytic Activity, M. Faisal, Adel A. Ismail, Farid A. Harraz, S. A. Al-Sayaria, **Ahmed Mohamed El-Toni**, M.S. Al-Assiri, *Materials & Design*, 2016, 98, 223–230.

55. Synthesis and application of Fe₃O₄@SiO₂@TiO₂ for photocatalytic decomposition of organic matrix simultaneously with magnetic solid phase extraction of heavy metals prior to ICP-MS analysis, Mohamed A. Habila, Zeid A. ALOthman, **Ahmed Mohamed El-Toni**, and Joselito Puzon Labis, *Talanta*, 2016, 154, 539–547.

56. A facile synthesis of mesoporous Pd-ZnO nanocomposites as efficient chemical sensor, Adel A. Ismail, Farid A. Harraz, M. Faisal, **Ahmed Mohamed El-Toni**, A. Al-Hajry, M.S. Al-Assiri, *Superlattices and Microstructures*, 2016, 95, 128-139.

57. Mercaptobenzothiazole-functionalized magnetic carbon nanospheres of type Fe₃O₄@SiO₂@C for the preconcentration of nickel, copper and lead prior to their determination by ICP-MS, Mohamed A. Habila, Zeid A. ALOthman, **Ahmed Mohamed El-Toni**, Joselito Puzon Labis, Xiaomin Li, and Fan Zhang, *Microchimica Acta*, 2016,183, 2377–2384.

58. A sensitive and selective amperometric hydrazine sensor based on mesoporous Au/ZnO nanocomposites, Adel A. Ismail, Farid A. Harraz, M. Faisal, **Ahmed Mohamed El-Toni**, A. Al-Hajry, M.S. Al-Assiri, *MATERIALS & DESIGN*, 2016, 109, 530-538.

59. Combination of Syringe–Solid Phase Extraction with Inductively Coupled Plasma Mass Spectrometry for Efficient Heavy Metals Detection, Mohamed A. Habila, Zeid A. ALOthmana, **Ahmed Mohamed El-Toni**, Mustafa Soylak, *CLEAN - Soil, Air, Water*, 2016, 44, 720-727.

60. Synthesis of Monodisperse Mesoporous TiO₂ Nanospheres from a Simple Double-Surfactant Assembly-Directed Method for Lithium Storage, Hongwei Zhu, Yesheng Shang, Yunke Jing, Yang Liu, Yupu Liu, *Ahmed Mohamed El-Toni*, Fan Zhang, and Dongyuan Zhao, *ACS Appl. Mater. Interfaces*, 2016, 8, 25586–25594.
61. Intracellular and In Vivo Cyanide Mapping via Surface Plasmon Spectroscopy of Single Au-Ag Nanoboxes, Peiyuan Wang, Yujie Bai, Chi Yao, Xiaomin Li, Lei Zhou, Wenxing Wang, *Ahmed Mohamed El-Toni*, Jian Zi, Dongyuan Zhao, Lei Shi, Fan Zhang, *Anal. Chem.*, 2017, 89 (4), 2583–2591.
62. Orthogonal near-infrared upconversion Co-Regulated site-specific O₂ delivery and photodynamic therapy for hypoxia tumor by using red blood cell microcarriers, Peiyuan Wang, Xiaomin Li, Chi Yao, Wenxing Wang, Mengyao Zhao, *Ahmed Mohamed El-Toni*, Fan Zhang, *Biomaterials*, 125, 2017, 90–100.
63. Near Infrared-Activated Upconversion Nanoprobes for Sensitive Endogenous Zn²⁺ Detection and Selective On-Demand Photodynamic Therapy, Ping Hu, Rui Wang, Lei Zhou, Lei Chen, Qingsheng Wu, Ming-Yong Han, *Ahmed Mohamed El-Toni*, Dongyuan Zhao, Fan Zhang, *Anal. Chem.*, 2017, 89 (6), 3492–3500.
64. Carbon-coated Fe₃O₄ nanoparticles with surface amido groups for magnetic solid phase extraction of Cr(III), Co(II), Cd(II), Zn(II) and Pb(II) prior to their quantitation by ICP-MS, Mohamed A. Habila, Zeid A. AlOthman, *Ahmed Mohamed El-Toni*, Saad A. Al-Tamrah, Mustafa Soylak and Joselito Puzon Labis, *Microchim Acta*, 2017, 184, 2645-2651
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