

2016 Publications

1. Achadu, O.J., Uddin, I. and Nyokong, T.
Fluorescence behavior of nanoconjugates of graphene quantum dots and zinc phthalocyanines
Journal of Photochemistry and Photobiology A: Chemistry 317 (2016) 12–25
ISSN: 10106030
DOI: 10.1016/j.jphotochem.2015.11.006
<http://dx.doi.org/10.1016/j.jphotochem.2015.11.006>
2. Shumba, M., Mashazi, P. and Nyokong, T.
“Turn on” fluorescence enhancement of Zn octacarboxyphthalocyanine-graphene oxide conjugates by hydrogen peroxide.
Journal of Luminescence 170 (2016) 317–324
ISSN: 00222313
DOI: 10.1016/j.jlumin.2015.11.001
<http://www.sciencedirect.com/science/article/pii/S0022231315301460>
3. Bankole, O.M., Y?Imaz, Y. and Nyokong, T.
Nonlinear optical behavior of alkyne terminated phthalocyanines in solution and when embedded in polysulfone as thin films: Effects of aggregation
Optical Materials 51 (2016) 194-202
ISSN: 09253467
DOI: 10.1016/j.optmat.2015.11.041
<http://linkinghub.elsevier.com/retrieve/pii/S0925346715301361>
4. Achadu, O.J. and Nyokong, T.
Interaction of Graphene Quantum Dots with 4-Acetamido-2,2,6,6-Tetramethylpiperidine-Oxyl Free Radicals: A Spectroscopic and Fluorimetric Study
Journal of Fluorescence 26 (2016) 283–295
ISSN: 1053-0509
DOI: 10.1007/s10895-015-1712-0
<http://link.springer.com/10.1007/s10895-015-1712-0>
5. Sekhosana, K.E., Amuhaya, E. and Nyokong, T.
Nonlinear optical behavior of neodymium mono- and bi-nuclear phthalocyanines linked to zinc oxide nanoparticles and incorporated into poly acrylic acid
Polyhedron 105 (2016) 159–169
ISSN: 02775387
DOI: 10.1016/j.poly.2015.12.045
<http://linkinghub.elsevier.com/retrieve/pii/S0277538715007950>
6. Bankole, O.M. and Nyokong, T.
Nonlinear optical response of a low symmetry phthalocyanine in the presence of gold nanoparticles when in solution or embedded in poly acrylic acid polymer thin films
Journal of Photochemistry and Photobiology A: Chemistry 319-320 (2016) 8-17
ISSN: 10106030
DOI: 10.1016/j.jphotochem.2015.12.014
<http://dx.doi.org/10.1016/j.jphotochem.2015.12.014>

7. Adegoke, O., Mashazi, P., Nyokong, T. and Forbes, P.B.C.
Fluorescence properties of alloyed ZnSeS quantum dots overcoated with ZnTe and ZnTe / ZnS shells
Optical Materials 54 (2016) 104–110
ISSN: 0925-3467
DOI: 10.1016/j.optmat.2016.02.024
<http://www.sciencedirect.com/science/article/pii/S0925346716300842>
8. Nxele, S.R. and Nyokong, T.
Conjugation of Azide-functionalised CdSe/ZnS Quantum Dots with Tetrakis(5-hexyn-oxy) Fe(II) phthalocyanine via Click Chemistry for Electrocatalysis
Electrochimica Acta 194 (2016) 26-39
ISSN: 00134686
DOI: 10.1016/j.electacta.2016.01.234
<http://linkinghub.elsevier.com/retrieve/pii/S0013468616302559>
9. Osifeko, O.L., Uddin, I., Mashazi, P.N. and Nyokong, T.
Physicochemical and antimicrobial photodynamic chemotherapy of unsymmetrical indium phthalocyanines alone or in the presence of magnetic nanoparticles
New Journal Chemistry 2016, 40, 2710 – 2721
ISSN: 1144-0546
DOI: 10.1039/C5NJ01922B
<http://xlink.rsc.org/?DOI=C5NJ01922B>
10. Osifeko, Olawale L.; Nyokong, Tebello
A comparative physicochemical study of unsymmetrical indium phthalocyanines in the presence of magnetic nanoparticles or quantum dots
Journal of Coordination Chemistry (2016), 69(6), 1050-1065
DOI:10.1080/00958972.2016.1152628
<http://www.tandfonline.com/doi/full/10.1080/00958972.2016.1152628>
11. Adegoke, Oluwasesan; Nyokong, Tebello; Forbes, Patricia B. C.
Deposition of CdS, CdS/ZnSe and CdS/ZnSe/ZnS shells around CdSeTe alloyed core quantum dots: effects on optical properties
Luminescence (2016), 31, 694-703
DOI:10.1002/bio.3013
<http://onlinelibrary.wiley.com/doi/10.1002/bio.3013/abstract>
12. Shumba, Munyaradzi; Nyokong, Tebello
Electrode modification using nanocomposites of boron or nitrogen doped graphene oxide and cobalt (II)
tetra aminophenoxy phthalocyanine nanoparticles
Electrochimica Acta (2016), 196, 457-469 DOI:10.1016/j.electacta.2016.02.166
<http://www.sciencedirect.com/science/article/pii/S0013468616304686>
13. Nyoni, Stephen; Mashazi, Philani; Nyokong, Tebello
Electrode modification using nanocomposites of electropolymerised cobalt phthalocyanines supported on multiwalled carbon nanotubes
Journal of Solid State Electrochemistry (2016), 20, 1075-1086
DOI:10.1007/s10008-015-2985-6
<http://link.springer.com/article/10.1007/s10008-015-2985-6>
14. Mack, John; Mkhize, Scebi; Safanova, Evgeniya A.; Martynov, Alexander G.; Gorbunova, Yulia G.; Tsivadze, Aslan Yu.; Nyokong, Tebello

MCD spectroscopy and TD-DFT calculations of magnesium tetra-(15-crown-5-oxanthreno)-phthalocyanine

Journal of Porphyrins and Phthalocyanines (2016), 20, 505-513

DOI:10.1142/S1088424616500322

<http://www.worldscientific.com/doi/10.1142/S1088424616500322>

15. Sekhosana, Kutloano Edward; Nyokong, Tebello

Optical limiting response of multi-walled carbon nanotube-phthalocyanine nanocomposite in solution and when in poly(acrylic acid)

Journal of Molecular Structure (2016), 1117, 140-146 DOI:10.1016/j.molstruc.2016.03.067

<http://dx.doi.org/10.1016/j.molstruc.2016.03.067>

16. Managa, Muthumuni; Mack, John; Gonzalez-Lucasb, Daniel; Remiro-Buenamanana, Sonia; Tshangana, Charmaine; Cammidge, Andrew N.; Nyokong, Tebello

Photophysical properties of tetraphenylporphyrin subphthalocyanine conjugates

Journal of Porphyrins and Phthalocyanines (2016), 20, 204-212

DOI:10.1142/S1088424615500959

<http://www.worldscientific.com/doi/10.1142/S1088424615500959>

17. Oluwole, David O.; Tilbury, Chelsea M.; Prinsloo, Earl; Limson, Janice; Nyokong, Tebello

Photophysicochemical properties and in vitro cytotoxicity of zinc tetracarboxyphenoxy phthalocyanine - quantum dot nanocomposites

Polyhedron (2016), 106, 92-100

DOI:10.1016/j.poly.2015.12.060

<http://dx.doi.org/10.1016/j.poly.2015.12.060>

18. Xu, Li; Huang, Tingting; Liang, Xu; Mack, John; Harris, Jessica; Nyokong, Tebello; Li, Minzhi; Zhu, Weihua

Spectroscopic investigations and theoretical calculations of DABCO induced xanthene bridged self- assembled zinc(II) porphyrin dimer

Journal of Porphyrins and Phthalocyanines (2016), 20, 647-655

DOI:10.1142/S1088424616500231

<http://www.worldscientific.com/doi/10.1142/S1088424616500231>

19. Sekhosana, Kutloano Edward; Manyeruke, Meloddy Hlatini; Nyokong, Tebello

Synthesis and optical limiting properties of new lanthanide bis- and tris-phthalocyanines

Journal of Molecular Structure (2016), 1121, 111-118 DOI:10.1016/j.molstruc.2016.05.068

<http://linkinghub.elsevier.com/retrieve/pii/S0022286016305142>

20. Lu, Hua; Mack, John; Nyokong, Tebello; Kobayashi, Nagao; Shen, Zhen

Optically active BODIPYs

Coordination Chemistry Reviews (2016), 318, 1-15

DOI:10.1016/j.ccr.2016.03.015

<http://linkinghub.elsevier.com/retrieve/pii/S0010854515301466>

21. Osifeko, Olawale; Nyokong, Tebello

Synthesis and physicochemical properties of zinc and indium phthalocyanines conjugated to quantum dots, gold and magnetic nanoparticles

Dyes and Pigments (2016), 131, 186-200 DOI:10.1016/j.dyepig.2016.04.015

<http://www.sciencedirect.com/science/article/pii/S014372081630136X>

22. Xue, Zhaoli; Wang, Yemei; Mack, John; Mkhize, Scebi; Nyokong, Tebello; Fang, Yuanyuan; Ou, Zhongping; Kadish, Karl M.

Synthesis, characterization and electrochemistry of rhodium(III) complexes of meso-substituted

[14]tribenzotriphyrin(2.1.1)
RSC Advances (2016), 6, 41919-41926
DOI:10.1039/C6RA03028A
<http://xlink.rsc.org/?DOI=C6RA03028A>

23. Achadu, Ojodomo J.; Uddin, Imran; Nyokong, Tebello
The interaction between graphene quantum dots grafted with polyethyleneimine and Au@Ag nanoparticles: Application as a fluorescence "turn-on" nanoprobe
Journal of Photochemistry and Photobiology, A: Chemistry (2016), 324, 96-105
DOI:10.1016/j.jphotochem.2016.03.016
<http://linkinghub.elsevier.com/retrieve/pii/S1010603016300235>
24. Sekhosana, Kutloano Edward; Nyokong, Tebello
The optical limiting of blue and green ytterbium double-decker phthalocyanines in solution and in poly(acrylic acid) as thin films
Inorganica Chimica Acta (2016), 450, 87-91
DOI:10.1016/j.ica.2016.05.026
<http://linkinghub.elsevier.com/retrieve/pii/S0020169316302687>
25. Wu, Y., Gai, L., Xiao, X., Lu, H., Li, Z., Mack, J., Harris, J., Nyokong, T. & Shen, Z.
A Chiral Hemiporphyrazine Derivative: Synthesis and Chiroptical Properties.
Chemistry – An Asian Journal (2016), 11(15): 2113–2116.
DOI: 10.1002/asia.201600754
<http://dx.doi.org/10.1002/asia.201600754>
26. Shumba, Munyaradzi, Nyokong, Tebello
Characterization and Electrocatalytic Activity of Nanocomposites Consisting of Nanosized Cobalt Tetraaminophenoxy Phthalocyanine, Multi-walled Carbon Nanotubes and Gold Nanoparticles
Electroanalysis (2016), 28, 1478-1488.
DOI:10.1002/elan.201501058
<http://onlinelibrary.wiley.com/doi/10.1002/elan.201501058/abstract>
27. Bankole, Owolabi M.; Osifeko, Olawale; Nyokong, Tebello
Enhanced nonlinear optical responses of zinc diaminopyrimidin-2-ylthio phthalocyanine conjugated to AgxAu alloy nanoparticles
Journal of Photochemistry and Photobiology, A: Chemistry (2016), 329, 155-166.
DOI:10.1016/j.jphotochem.2016.06.025
<http://dx.doi.org/10.1016/j.jphotochem.2016.06.025>
28. Oluwole, David O.; Uddin, Imran; Prinsloo, Earl; Nyokong, Tebello
The effects of silica based nanoparticles on the photophysicochemical properties, in vitro dark viability and photodynamic therapy study of zinc monocarboxyphenoxy phthalocyanine
Journal of Photochemistry and Photobiology, A: Chemistry (2016), 329, 221-231.
DOI:10.1016/j.jphotochem.2016.07.002
<http://dx.doi.org/10.1016/j.jphotochem.2016.07.002>
29. Shumba, Munyaradzi; Nyokong, Tebello
Development of nanocomposites of phosphorus-nitrogen co-doped graphene oxide nanosheets and nanosized cobalt phthalocyanines for electrocatalysis
Electrochimica Acta (2016), 213, 529-539
DOI:10.1016/j.electacta.2016.07.079
<http://dx.doi.org/10.1016/j.electacta.2016.07.079>

30. Yan, Yu; Wu, Fan; Qin, Jiawei; Xu, Haijun; Shi, Maohu; Zhou, Jingfeng; Mack, John; Fomo, Gertrude, Nyokong, Tebello and Shen, Zhen
Efficient energy transfer in ethynyl bridged corrole-BODIPY dyads
RSC Advances (2016), 6, 72852-72858
DOI:10.1039/C6RA12271J
<http://xlink.rsc.org/?DOI=C6RA12271J>
31. Managa, Muthumuni; Mkhize, Scebi; Britton, Jonathan; Prinsloo, Earl; Nyokong, Tebello
Synthesis and dark toxicity of 5-(4-carboxyphenyl)-10,15,20-tris(phenyl)-porphyrinato chlorido gallium(III)
when conjugated to δ -aminolevulinic acid
Journal of Coordination Chemistry (2016), 69(20), 3035-3042
DOI:10.1080/00958972.2016.1223292
<http://dx.doi.org/10.1080/00958972.2016.1223292>
32. Ojodomo J. Achadu and Tebello Nyokong
Application of graphene quantum dots decorated with TEMPO-derivatized zinc phthalocyanine as
novel nanoprobes: probing the sensitive detection of ascorbic acid
New Journal Chemistry, 2016, 40, 8727-8736
DOI: 10.1039/c6nj01796g
<http://pubs.rsc.org/en/content/articlelanding/2016/nj/c6nj01796g#!divAbstract>
33. Managa, Muthumuni; Britton, Jonathan; Prinsloo, Earl and Tebello Nyokong
Effects of pluronic silica nanoparticles on the photophysical and photodynamic therapy behavior of triphenyl-p-phenoxy benzoic acid metalloporphyrins
Journal of Coordination Chemistry (2016) 69 (23) 3491-3506
DOI: 10.1080/00958972.2016.1236372
<http://dx.doi.org/10.1080/00958972.2016.1236372>
34. Okujima, Tetsuo; Mack, John; Nakamura, Jun; Kubheka, Gugu; Nyokong, Tebello; Zhu, Hua; Komobuchi, Naoki; Ono, Noboru; Yamada, Hiroko; Uno, Hidemitsu and Nagao Kobayashi
Synthesis, Characterization, and Electronic Structures of Porphyrins Fused with Polycyclic Aromatic Ring Systems
Chemistry - A European Journal (2016), 22, 14730-14738
DOI:10.1002/chem.201602213
<http://onlinelibrary.wiley.com/doi/10.1002/chem.201602213/full>
35. Achadu O., Britton J., and Nyokong T.
Graphene Quantum Dots Functionalized with 4-Amino-2, 2, 6, 6-Tetramethylpiperidine-N-Oxide as
Fluorescence "Turn-ON" Nanosensors
Journal of fluorescence (2016) 26, 2199–2212
DOI: 10.1007/s10895-016-1916-y
<http://link.springer.com/article/10.1007/s10895-016-1916-y>
36. Mafukidze, D.M., Mashazi, P. and Nyokong, T.
Synthesis and singlet oxygen production by a phthalocyanine when embedded in asymmetric polymer membranes
Polymer 105 (2016) 203-213
DOI: 10.1016/j.polymer.2016.10.032

<http://dx.doi.org/10.1016/j.polymer.2016.10.032>

37. Ikeuchi Takuro; Kobayashi Nagao; Kimura Mutsumi; Mack John and Nyokong Tebello
Aggregation Control of Robust Water-Soluble Zinc(II) Phthalocyanine-Based Photosensitizers
Langmuir, 2016, 32 (45), pp 11980–11985
DOI: 10.1021/acs.langmuir.6b03552
<http://pubs.acs.org/doi/abs/10.1021/acs.langmuir.6b03552>

38. Oluwole, David O.; Prinsloo, Earl; Nyokong, Tebello
Photophysical properties of nanoconjugates of zinc(II) 2(3)-mono-2-(4-oxy)phenoxy-acetic acid phthalocyanine with cysteamine capped silver and silver-gold nanoparticles
Polyhedron (2016), 119, 434-444
DOI: 10.1016/j.poly.2016.09.034
<http://dx.doi.org/10.1016/j.poly.2016.09.034>

39. Fanchiotti, Brenda Gomes; Machado, Marcella Piffer Zamprogno; de Paula, Letícia Camilato; Durmus, Mahmut; Nyokong, Tebello; da Silva Goncalves, Arlan; da Silva, Andre Romero
The photobleaching of the free and encapsulated metallic phthalocyanine and its effect on the photooxidation of simple molecules
Journal of Photochemistry and Photobiology, B: Biology (2016), 165, 10-23
DOI: 10.1016/j.jphotobiol.2016.10.007
<http://dx.doi.org/10.1016/j.jphotobiol.2016.10.007>

40. Bankole, O.M. and Nyokong, T.
Comparative studies on photophysical and optical limiting characterizations of low symmetry phthalocyanine linked to Fe₃O₄-Ag core-shell or hybrid nanoparticles
New Journal of Chemistry (2016) 40,10016-10027
DOI: 10.1039/C6NJ01511E
<http://pubs.rsc.org/en/content/articlehtml/2016/nj/c6nj01511e>

41. Jonathan Britton, Alexander G. Martynov, David O. Oluwole, Yulia G. Gorbunova, Aslan Yu. Tsivadze and Tebello Nyokong
Improvement of nonlinear optical properties of phthalocyanine bearing diethyleneglycole chains: Influence of symmetry lowering vs. heavy atom effect
Journal of Porphyrins and Phthalocyanines 2016; 20: 1296–1305
DOI: 10.1142/S1088424616501042
<http://dx.doi.org/10.1142/S1088424616501042>

42. Gugu Kubheka, Imran Uddin, Edith Amuhaya, John Mack and Tebello Nyokong
Synthesis and photophysical properties of BODIPY dye functionalized gold nanorods for use in antimicrobial photodynamic therapy
Journal of Porphyrins and Phthalocyanines 2016; 20: 1016–1024
DOI: 10.1142/S108842461650070X
<http://dx.doi.org/10.1142/S108842461650070X>

43. Munyaradzi Shumba and Tebello Nyokong
Electrocatalytic Activity of Nanocomposites of Sulphur Doped Graphene Oxide and Nanosized Cobalt Phthalocyanines
Electroanalysis (2016), 28, 3009-3018
DOI: 10.1002/elan.201600226
<http://onlinelibrary.wiley.com/doi/10.1002/elan.201600226/full>

44. Charles. S. J. N. O'Donoghue, Gertrude Fomo and Tebello Nyokong

Electrode Modification Using Alkyne Manganese Phthalocyanine and Click Chemistry for

Electrocatalysis

Electroanalysis (2016), 28, 3019-3027

DOI: 10.1002/elan.201600379

<http://onlinelibrary.wiley.com/doi/10.1002/elan.201600379/full>