

PUBLICATIONS.

A. Process Understanding, Modelling & Simulation – Innovative Chemistry & Chemoinformatics.

1. Idowu, S. O. and Adeyemo, M. A. (2016). Computational antioxidant capacity simulation (CAOCS) assay of catechol, resorcinol and hydroquinone. Journal of Applied Solution Chemistry and Modeling, 5 (3): 143-156. DOI: 10.6000/1929-5030.2016.05.03.5
2. Adeyemo, M. A. and Idowu, S. O. (2016). Correlation of lipophilicity descriptors with pharmacokinetic parameters of selected benzodiazepines. African Journal of Biomedical Research (In Press).
3. Idowu, S.O., Thomas, O.E., and Bioku, O.O. (2015). Modelling of 4-carboxyl-2,6-dinitrobenzene diazonium ion (CDNBD) hydrolysis through addition of water and alkaline buffer in a strongly acidic medium. Journal of Solution Chemistry 44:1501-1517. DOI: 10.1007/s10953-015-0352-y
4. Idowu, S.O. (2014). Computational antioxidant capacity simulation (CAOCS): a novel framework of antioxidant capacity profiling. Chemical Products and Process Modeling 9(1): 25 - 43. DOI: 10.1515/cppm-2013-0041, (e-publication: Nov. 2013)
5. Idowu, S.O., Adeyemo, M.A. and Ogbonna, U.I. (2009). Engineering and validation of a novel lipid thin film for biomembrane modeling in lipophilicity determination of drugs and xenobiotics. Journal of Biological Engineering 3:14 (7 September, 2009) [Open access:<http://www.jbioleng.org/articles/browse.asp>]
6. Idowu, S.O., Adeyemo, M.A. and Itiola, A.J. (2009). Computational models for the determination of antioxidant capacity and phenolics in dietary supplements using real-time proton transfer kinetics data. Chemical Product and Process Modeling 4(1) ISSN (Online): DOI: <http://dx.doi.org/10.2202/1934-2659.1385> (<http://www.degruyter.com/view/j/cppm.2009.4.1/cppm.2009.4.1.1385/cppm.2009.4.1.1385.xml>)
7. Idowu, S.O., Adegoke, A.O., Idowu, A. and Olaniyi, A.A. (2007). Computational models for structure-hydrophobicity relationships of 4-carboxyl-2, 6-dinitrophenyl azo hydroxynaphthalenes. Journal of Association of Official Analytical Chemists International 90(1): 291-298.
8. Idowu, S.O., Fasanmade, A.A. and Olaniyi, A.A. (2002). Evaluation of dimethylformamide (DMF) as an organic modifier in hydrophobicity index (R_m) determination. Tropical Journal of Pharmaceutical Research 1(2):83-89 (Available on: <http://www.tjpr.freehosting.net>)

B. Assay technologies - reagent design, assay development and validation

1. Idowu, S.O. (2012) pH-dependent molecular behaviours of a new potential color additive: 4-[[6-(1-carboxyethyl)-2-hydroxy-1-naphthyl]diazonyl]-3,5-dinitro benzoic acid. Journal of Applied Solution Chemistry and Modeling, 1(2):105-112
2. Adegoke, A.O., Xiang, L.L., Idowu, S.O., and Chen, D.Y. (2012). Highly sensitive liquid chromatographic analysis of artemisinin and its derivatives after pre-column derivatization with 4-carboxyl-2,6-dinitrobenzene diazonium ion. Acta Chromatographica 24(3): 445-462.

3. Aderibigbe, S.A., Adegoke, A.O., Idowu, S.O., and Olaleye, S.O. (2012). Sensitive spectrophotometric determination of aceclofenac following azo dye formation with 4-carboxyl-2,6-dinitrobenzene diazonium ion Acta Pol Pharm, 69 (2): 203-211.
4. Aderibigbe, S.A., Adegoke, A.O., and Idowu, S.O. (2012). A new colorimetric method for the determination of nifedipine tablets by derivatization using 4-carboxyl-2,6-dinitrobenzene diazonium ion. International Journal of Industrial Chemistry,3(5):1-8
5. Adegoke, A.O., Ogunleye, A.O., Lawal, O.T., Idowu, S.O. and Adeniyi-Akee, M.A. (2010). Antimicrobial properties of 4-carboxyl-2,6-dinitrophenyl azo hydroxynaphthalenes. African Journal of Microbiology Research, 4(22):2444-2450.
6. Adegoke, A.O., Idowu, S.O., Daramola, O.P. and Ogunsanya, O.S. (2010). Derivatization of artemisinin derivatives using 4-carboxyl-2,6-dinitrobenzenediazonium (CDNBD) ion Acta Pharmaceutica Scientia, 52(3):269-280.
7. Adegoke A.O. and Idowu, S.O. (2010). Solvatochromic behaviours and structure-spectra relationships of 4-carboxyl-2,6-dinitrophenylazohydroxynaphthalenes. Spectrochimica Acta Part A: Molecular and Biomelecular Spectroscopy; 75:719-727.
8. Idowu, S.O., Adegoke, A.O., Adeniji, A.O. and Olaniyi, A.A. (2009). Colorimetric assay of naproxen tablets by derivatization using 4-carboxyl-2,6-dinitrobenzenediazonium ion East and Central African Journal of Pharmaceutical Sciences, 12:8-14
9. Adegoke, A.O., Idowu, S.O., and Olaniyi, A.A. (2008). Synthesis and spectroscopic characterization of 4-carboxyl-2,6-dinitrophenylazo hydroxynaphthalenes. Dyes and Pigments 77: 111-117
10. Adegoke A.O., Idowu, S.O. and Olaniyi, A.A. (2007). Novel determination of nabumetone, a cox-2 inhibitor precursor via it's 4-carboxyl-2,6-dinitrobenzene diazonium (CDNBD) derived azo dye. Afr J Med Med Sci, 2007 Sep;36 (3):249-57.
11. Adegoke A.O., Idowu, S.O. and Olaniyi, A.A. (2007). Improved Colorimetric determination of reserpine in tablets using 4-carboxyl-2,6-dinitrobenzene diazonium ion (CDNBD). Tropical Journal of Pharmaceutical Research, 6(2):695-703
12. Idowu, S.O., Adegoke, A.O., Oderinu, B.A. and Olaniyi, A.A. (2006). Rapid colorimetric assay of diclofenac sodium tablets using 4-carboxyl-2,6-dinitrobenzenediazonium ion (CDNBD) Pakistan Journal of Pharmaceutical Sciences 19(2): 141-148
13. Adegoke, A.O., Idowu, S.O. and Olaniyi, A.A. (2006). A new spectrophotometric method for the determination of Nadolol. Journal of the Iranian Chemical Society 3(3): 277-284
14. Adegoke, A.O., Idowu, S.O. and Olaniyi, A.A. (2006). Novel colorimetric assay of indomethacin using 4-carboxyl-2, 6-dinitrobenzenediazonium ion. Acta Pharmaceutica, 56: 189-202.
15. Kolade, Y.T., Adegbolagun, O.M., Idowu, S.O., Babalola, C.P. and Olaniyi, A.A. (2006). Comparative determination of Halofantrine by Titrimetry, Spectrophotometry and Liquid Chromatography. African Journal of Medicine and Medical Sciences 35(1):79-84.

16. Adegoke, A.O., Idowu, S.O., M.O. Lawal and A.A. Olaniyi (2005). 4-Carboxyl-2, 6 dinitrobenzenediazonium ion (CDNBD): a new diazonium for the detection of phenol ether homologues. Journal of Pharmacy and Bioresources 2(2): 146-161.
 17. Idowu, S.O., Kolawole, A.O., Adegoke, A.O., Kolade, Y.T., Fasanmade, A.A. and Olaniyi, A.A. (2005). Kinetics of thermal decomposition of 4-carboxyl-2, 6-dinitrobenzenediazonium ion (CDNBD). Journal of Association of Official Analytical Chemists International 88 (4): 1108-1113.
 18. Idowu, S.O., Adegoke, A.O. and Olaniyi, A.A. (2004). Colorimetric assay of Propranolol tablets by derivatization: Novel Application of diazotized 4-amino-3, 5-dinitrobenzoic acid (ADBA). Journal of Association of Official Analytical Chemists International 87(3):573-578.
 19. Idowu, S.O. and Olaniyi, A.A. (2003). Some physicochemical properties of 4-amino-3, 5-dinitrobenzoic acid (ADBA). African Journal of Medicine and medical sciences 32:17-21.
 20. Idowu, S.O., Tambo, S.C., Adegoke, A.O and Olaniyi, A.A. (2002). Novel colorimetric assay of mefenamic acid using 4-amino-3, 5-dinitrobenzoic acid (ADBA). Tropical Journal of Pharmaceutical Research 1(1):15-22 (Available on: <http://www.tjpr.freehosting.net>)
 21. Idowu, S.O. and Olaniyi, A.A. (2001) Evaluation of diazotized 4-amino-3, 5-dinitrobenzoic acid (ADBA) as a new derivatizing reagent. African Journal of Medicine and Medical Sciences 30: 217-220.
 22. Idowu, S.O. and Olaniyi, A.A. (2001).1- (4-carboxyl-2,6-dinitrophenylazo)- 2-hydroxynaphthalene as a new pH indicator Journal of Phytomedicine and Therapeutics 6(2):108-115
- C. **Veterinary Pharmacy & ethnopharmacology (anthelmintic phytomedicine development) - collaborative research at the Chemistry/Biology Interface**
1. Ademola, I.O., Fagbemi, B.O. and Idowu, S.O. (2009). Bioseparation and activity of *Khaya senegalensis* fractions against infective larvae of *Haemonchus contortus*. Vet. Parasitology; 165(1-2):170-4.
 2. Adaramoye, O.A., Farombi, E.O., Nssien, M., Idowu, S.O., Ademowo, O.G. and Adeyemi, E.O. (2008). Hepatoprotective activity of purified fractions from *Garcinia kola* seeds in mice intoxicated with carbon tetrachloride. J Med Food, 11:544-50
 3. Ademola, I.O., Fagbemi, B.O. and Idowu, S.O. (2007). Anthelmintic activity of *Spigelia anthelmia* extract against gastrointestinal nematodes of sheep. Parasitol Res. 101(1):63-9.
 4. Ademola, I.O., Fagbemi, B.O. and Idowu, S.O. (2007). Anthelmintic efficacy of *Nauclea latifolia* extract against gastrointestinal nematodes of sheep: *in vitro* and *in vivo* studies. African Journal of Traditional, Complimentary and Alternative Medicines. 4(2):148-156.
 5. Ademola, I.O. and Idowu, S.O. (2006). Anthelmintic activity of *Leucaena leucocephala* Seed Extract against *Haemonchus contortus* infective larvae Veterinary Record 158 (14):485-486

6. Adedapo, A.A., Abatan, M.O., Idowu, S.O. and Olorunsogo, O.O. (2005). Toxic effects of Chromatographic Fractions of *Phyllanthus amarus* on the serum Biochemistry of Rats. Phytotherapy Research 19:812-815.
7. Ademola, I.O., Fagbemi, B.O. and Idowu, S.O. (2005). Anthelmintic activity of *Spondias mombin* against Gastrointestinal Nematodes of sheep: Studies in vitro and in vivo. Tropical Animal Health and Production 37: 223-235.
8. Ademola, I.O., Akanbi, A.I. and Idowu, S.O. (2005). Comparative Nematocidal activity of Chromatographic fractions of *Leucaena leucocephala* seed against Gastrointestinal Sheep Nematodes, Pharmaceutical Biology 43 (7): 599-604.
9. Ademola, I.O., Fagbemi, B.O. and Idowu, S.O. (2004). Evaluation of the anthelmintic activity of *Khaya senegalensis* extract against gastrointestinal nematodes of sheep: in vitro and in vivo studies. Veterinary Parasitology 122:151-164.
10. Ademola, I. O., Fagbemi, B.O. and Idowu, S.O. (2003). Comparative *in vitro* studies on the efficacy of ivermectin against gastrointestinal sheep nematode. Tropical Journal of Pharmaceutical Research 2(2):235-238.

D Book /Book Chapters

1. Babalola, C.P. and Idowu, S.O. (2005). Drugs and Mankind. In: Science, Industry and Mankind, pp 39-54, Okonjo, K.O. and Bolarinwa, A.T. (Eds.) General Studies Programme, University of Ibadan.
2. Olaniyi, A. A. and Idowu, S.O. (Ed.) (1998). Detection and Identification of Counterfeit and substandard pharmaceutical products-Proceedings of a training workshop (6-10 July, 1998) Department of Pharmaceutical Chemistry, Faculty of Pharmacy, University of Ibadan.

E. Published Conference Abstracts

1. S.O. Idowu (2014). Computational Antioxidant Capacity Simulation (CAOCS): A new look at antioxidant capacity profiling. Conference Programme and Book of Abstracts, Biotechnology for Health and Sustainable Development, 4th Unibadan Conference of Biomedical Research, Plenary Lecture 11, July 1- 4, University of Ibadan, Ibadan, Nigeria.
2. S.O. Idowu, M.A. Adeyemo, and A.A. Fatokun (2012). Biomimetic attributes of novel lipophilicity assay affords reliable prediction of biopharmaceutical profile of small-molecule drugs. Conference Programme and Book of Abstracts, Biotechnology for Health and Sustainable Development, 3rd Unibadan Conference of Biomedical Research, Plenary Lecture 6, p33, July 24 – 27, University of Ibadan, Ibadan.
3. M.A. Adeyemo, and Idowu, S.O. (2012). Film thickness consistency of an engineered planar artificial membrane biodevice for novel lipophilicity assay. Conference Programme and Book of Abstracts, Biotechnology for Health and Sustainable Development, 3rd Unibadan Conference of Biomedical Research, Abstract OPB10, p56, July 24 – 27, 2012, University of Ibadan, Ibadan, Nigeria

4. A.N. Ogedengbe, S.A. Aderibigbe, I.O. Ademola and S.O. Idowu (2012). A new anthelmintic assay using mathematical modelling of *Haemonchus placei* adult worm motility test data. Conference Programme and Book of Abstracts, Biotechnology for Health and Sustainable Development, 3rd Unibadan Conference of Biomedical Research, Abstract OPC 29, p83, July 24 – 27, University of Ibadan, Ibadan, Nigeria.
5. S.A. Aderibigbe, A.N. Ogedengbe, I.O. Ademola, and S.O. Idowu. (2012). Optimizing solvating power-predicting variables of incubation medium in *Haemonchus placei* adult worm motility anthelmintic assay. Conference Programme and Book of Abstracts, Biotechnology for Health and Sustainable Development, 3rd Unibadan Conference of Biomedical Research, Abstract PP17, p93, July 24 – 27, University of Ibadan, Ibadan, Nigeria.
6. S.O. Idowu and M. A. Adeyemo (2010). Engineering a biomimetic artificial membrane for lipophilicity profiling of drugs and xenobiotics. 2nd Unibadan Biomedical Conference (July, 2010), Biotechnology for Health and Development; Conference Programme and Book of Abstracts, Abstract A1-1, University of Ibadan, Ibadan, Nigeria, p46.
7. S.O. Idowu and G. Domchak (2009). Prediction of Pharmacokinetic drug-herb interaction using a Physicochemical Mechanistic model of Ciprofloxacin-Biflavonoid interaction. PhysChem and ADMET Profiling in Drug Research, The 4th Log P Symposium (February, 8-11, 2009), Programme and Abstracts, , Abstract PC-22, ETH, Zurich, Switzerland.
8. S.O. Idowu, M. A. Adeyemo, and A. J. Itiola. (2008) Computational models for antioxidant efficiency using real-time proton release kinetics data., 1st Unibadan Biomedical Conference (August, 2008) Biotechnology for Health and Development; Conference Programme and Book of Abstracts, Abstract A15, University of Ibadan, Ibadan, Nigeria, p44.
9. S.O. Idowu, U.I. Ogbonna, and M. A. Adeyemo. (2007). Engineering a phosphatide-enriched planar lipid layer for membrane permeability modeling, 121st AOAC International Annual Meeting and Exposition (September, 2007), Final Program, Abstract P-1014, Hyatt Regency Orange County, Anaheim, California U.S.A.

MANUSCRIPTS UNDER REVIEW / IN PREPARATION

1. Computational antioxidant capacity simulation (CAOCS) assay of *Garcinia kola* seed extracts. (*Under review*).
2. Computational antioxidant capacity simulation (CAOCS) and the prospects of two-dimensional (2D) assay (*In Preparation*).
3. Enhanced throughput of a screening anthelmintic assay using adult *Haemonchus placei* motility (*In preparation*).