

## NATASSA PIPPA

### PUBLICATIONS –JULY 2016

#### **A. Ph.D. THESIS**

“Pharmaceutical Nanotechnology: Study on the morphology of advanced Drug Delivery nano Systems” Department of Pharmaceutical technology, School of Pharmacy, National and Kapodistrian University of Athens, Greece (7/2015)

#### **B. CHAPTERS IN BOOKS**

- 1) “Physicochemical characterization and basic research principles of advanced Drug Delivery nano Systems (aDDnSs)”  
N. Pippa\*, S. Pispas, C. Demetzos, In: “Intelligent Nanomaterials (2<sup>nd</sup> Ed.), (Chapter 5), Advanced Materials Book Series, Editors: A. Tiwari, YK Misha, H. Kobayashi and A.P.F. Turner, WILEY-Scrivener Publishing LLC, USA
- 2) “Bioinspired drug nanocarriers based on chimeric/mixed nanosystems”, N. Pippa\*, S. Pispas, C. Demetzos, Encyclopedia of Nanoscience and Nanotechnology, Editor: Dr. Hari Singh Nalwa, American Scientific Publishers, Valencia, California 91381-0751, USA
- 3) “Mixed biocompatible block copolymer/ lipid nanostructures as drug nanocarriers: advantages and pharmaceutical perspectives”  
N. Pippa, S. Pispas, Costas Demetzos Handbook of Polymers for Pharmaceutical Technologies, Vijay Kumar Thakur and Manju Kumari Thakur (eds.) Volume 4 (257–284) © 2015 Scrivener Publishing LLC, Wiley
- 4) “Bio-Inspired Chimeric Drug Delivery Nano Systems (chi-DDnSs): Their Fractal Morphology and Regulatory Aspects”  
N. Pippa, S. Pispas, C. Demetzos. (Chapter 4) In: Recent Advances in Drug Delivery Research. Nova Science Publishers, Inc. New York, USA.

### **C. PAPERS IN REFEREED JOURNALS**

- 1) “Design and development of pH-responsive HSPC:C<sub>12</sub>H<sub>25</sub>-PAA chimeric liposomes.”  
N. Naziris, N. Pippa, A. Meristoudi, S. Pispas, C. Demetzos, Journal of Liposome Research, In press (2016).
- 2) “Innovative Excipients and Formulation Platforms in Cosmetic Product Series for Acne (ACNOFIX®): The Physicochemical Characteristics of Cosmeceutical Vehicle”  
N. Pippa, I. Tseti, C. Demetzos, Advanced Science, Engineering and Medicine, 8, 284 (2016).
- 3) “Polymer self-assembled nanostructures as innovative drug nanocarrier platforms”,  
N. Pippa, S. Pispas, C. Demetzos, Curr. Pharm. Des., 22, 2788 (2016)
- 4) “Efficacy of a new heparan sulfate mimetic dressing in the healing of foot and lower-extremity ulcerations in type 2 diabetes: A case series.” N. Papanas, C. Demetzos, N. Pippa, E.Maltezos, N. Tentolouris, Int. J. Low Extrem. Wounds., 15, 63 (2016)
- 5) “The modulation of physicochemical characterization of innovative liposomal platforms: The role of the grafted thermosensitive polymers”, M. Chountoulesi, A. Kyrili, N. Pippa, A. Meristoudi, S. Pispas, C. Demetzos, Pharmaceutical Development and Technology, In press, (2015).
- 6) “A dual stimuli-responsive polymer into phospholipid membranes: a thermotropic approach”, I. Kolman, N. Pippa, A. Meristoudi, S. Pispas, C. Demetzos. Journal of Thermal Analysis and Calorimetry, 123, 2257 (2016).
- 7) “Cerasomes as innovative excipients in cosmetic product: “Preganderm extreme hydration body cream”: a physicochemical study”, N. Pippa, G. Mountrichas, I. Tseti, C. Demetzos, Advanced Science, Engineering and Medicine, 8, 26 (2016).
- 8) “Calorimetric study on pH-responsive block copolymer grafted lipid bilayers: Rational design and development of liposomes”, N. Pippa, M. Chountoulesi, A. Kyrili, A. Meristoudi, S. Pispas, C. Demetzos, Journal of Liposome Research, 23, 211(2016).

- 9) “Delivery nanoparticle platform of liposomes – incorporated dendrimers: physicochemical, and thermotropic characterization”, N. Pippa, S. Pispas, C. Demetzos, *Advanced Science, Engineering and Medicine*, 7,805 (2015)
- 10) “Complexation of cationic-neutral block polyelectrolyte with insulin and in vitro release studies”, N. Pippa, M. Karayianni, S.Pispas, C.Demetzos, *Int. J. Pharm.*, 491, 136 (2015).
- 11) “Insulin/Poly(ethylene glycol)-*block*-poly(L-lysine) Complexes: Physicochemical Properties and Protein Encapsulation”, N. Pippa, R. Kalinova, I. Dimitrov, S.Pispas, C.Demetzos, *J. Phys. Chem. B.* 119, 6813(2015).
- 12) “Temperature-dependent drug release from DPPC:C<sub>12</sub>H<sub>25</sub>-PNIPAM-COOH liposomes: control of the drug loading / release by modulation of the nanocarriers' components”, N. Pippa, A. Meristoudi, S. Pispas, C. Demetzos, *International Journal of Pharmaceutics*, 485, 374 (2015)
- 13) “Fractal geometry as a new approach for proving nanosimilarity: a reflection note”, C. Demetzos, N. Pippa, *International Journal of Pharmaceutics*, 483, 1 (2015).
- 14) “Antibody-Drug conjugates: a mini-review. The synopsis of two approved drugs”, A. Papachristos, N. Pippa, C. Demetzos, G. Sivolapenko, *Drug Delivery*, 23, 1662 (2016)
- 15) “The metastable phases as modulators of biophysical behavior of liposomal membranes: The role of biomolecular sculpture of polymeric guest”, N. Pippa, S. Pispas, C. Demetzos, *Journal of Thermal Analysis and Calorimetry*, 120, 937 (2015).
- 16) “Liposomal forms of anticancer agents beyond anthracyclines: Present and Future perspectives”, A. Papachristos, N. Pippa, K. Ioannidis, G. Sivolapenko, C. Demetzos, *Journal of Liposome Research*, 25, 166 (2015).
- 17) “The contribution of “omics” to the development of new medicines’, N. Pippa, C. Demetzos, *Pharmakeftiki*, 26, 128 (2014)

- 18) “The alliance between nanotechnology, biosciences and regulatory agencies promotes innovative medicines”, *The signaling pathways from Greece*. C. Demetzos and N. Pippa, *Pharakeftiki*, 26, 57, (2014)
- 19) “Fractal analysis as a complementary approach to predict the stability of drug delivery nano systems in aqueous and biological media: A regulatory proposal or a dream?” C. Demetzos, N. Pippa, *International Journal of Pharmaceutics*, 473, 213 (2014).
- 20) “Preparation, development and in vitro release evaluation of Amphotericin B-loaded amphiphilic block copolymer vectors”, N. Pippa, M. Mariaki, S. Pispas, C. Demetzos, *International Journal of Pharmaceutics*, 473, 80 (2014).
- 21) “The interplay between the rate of the release from polymer grafted liposomes and their fractal morphology”, N. Pippa, A. Dokoumetzidis, S. Pispas, C. Demetzos, *International Journal of Pharmaceutics*, 465, 63 (2014).
- 22) “The imaging and the fractal metrology of chimeric liposomal Drug Delivery nano Systems: The role of macromolecular architecture of polymeric guest”, N. Pippa, S. Pispas, C. Demetzos, *Journal of Liposome Research*, 24, 223 (2014)
- 23) “Gradient block copolymer structures as drug nanocarriers”, N. Pippa, E. Kaditi, S. Pispas, C. Demetzos, *Advanced Science, Engineering and Medicine*, 6,642 (2014).
- 24) “PEO-b-PCL grafted DPPC liposomes: physicochemical characterization and stability studies of novel bio-inspired advanced Drug Delivery nano Systems (aDDnSs)”, N. Pippa, E. Deli, E. Mentzali, S. Pispas, C. Demetzos, *Journal of Nanoscience and Nanotechnology*, 14, 5676 (2014).
- 25) “The physicochemical/thermodynamic balance of advanced drug liposomal delivery systems”, N. Pippa, K. Gardikis, S. Pispas, C. Demetzos, *Journal of Thermal Analysis and Calorimetry*, 116, 99 (2014).
- 26) “Advanced Drug Delivery nano Systems (aDDnSs): A Mini-Review”, C. Demetzos and N. Pippa, *Drug Delivery*, 21,250 (2014).

- 27) "Preparation of liposomal nanoparticles incorporating TBH. *In vitro* drug release studies", C. Koutsoulas, N. Pippa, C. Demetzos, M. Zabka, *Journal of Nanoscience and Nanotechnology*, 14, 4529 (2014).
- 28) "Advanced nanocarriers for an antitumor peptide", N. Pippa, S. Pispas, C. Demetzos, G. Sivolapenko, *J Nanopart Res*, 15, 2062 (2013).
- 29) "The thermotropic behavior of chimeric liposomes as the mechanistic explanation of drug release", N. Pippa, S. Pispas, K. Gardikis, C. Demetzos, *Pharakeftiki*, 25, 94 (2013).
- 30) "On the ubiquitous presence of fractals and fractal concepts in Pharmaceutical Sciences: A Review", N. Pippa, A. Dokoumetzidis, C. Demetzos, P. Macheras, *International Journal of Pharmaceutics*, 456, 340 (2013).
- 31) "Advanced therapies: New guidelines and the approval process", C. Demetzos, N. Pippa, Y. Tountas, *Pharakeftiki*, 25, 49 (2013)
- 32) "DPPC/poly(2-methyl-2-oxazoline)-grad-poly(2-phenyl-2-oxazoline) chimeric nanostructures as potential drug nanocarriers", N.Pippa, E. Kaditi, S. Pispas, C. Demetzos, *J. Nanopart. Res.* 15,1685 (2013).
- 33) "The shape/morphology balance: A study of stealth liposomes via fractal analysis and drug encapsulation", N.Pippa, F. Psarommati, S. Pispas, C. Demetzos, *Pharmaceutical Research*, 30, 2385 (2013)
- 34) "The role of  $\zeta$ -potential on the stability of nanocolloidal systems" C. Koutsoulas, N. Pippa, C.Demetzos, M. Zabka, *Pharmakeftiki*, 24, 106 (2012)
- 35) "Incorporation of dimethoxycurcumin into charged liposomes and the formation kinetics of fractal aggregates of uncharged vectors", M. Hadjidemetriou, N. Pippa, S. Pispas, C. Demetzos, *Journal of Liposome Research*, 23, 94 (2013).
- 36) "PEO-b-PCL/DPPC chimeric nanocarriers: self-assembly aspects in aqueous and biological media and drug incorporation", N.Pippa, E. Kaditi, S. Pispas, C. Demetzos *Soft Matter*, 9, 4073 (2013).

- 37) “DPPC:MPOx chimeric advanced Drug Delivery nanosystems (chi-aDDnSs): physicochemical and structural characterization, stability and drug release studies”, N.Pippa, M. Merkouraki, S. Pispas, C. Demetzos, *International Journal of Pharmaceutics*, 450,1 (2013).
- 38) “Fractal analysis of liposomal aggregation”, N. Pippa, C. Demetzos, *Pharakeutiki*, 24,57 (2012).
- 39) “The delineation of the morphology of charged liposomal vectors via a fractal analysis in aqueous and biological media: physicochemical and self-assembly studies”, N. Pippa, S. Pispas, C. Demetzos, *International Journal of Pharmaceutics*, 437, 264 (2012).
- 40) “The fractal hologram and elucidation of the structure of liposomal carriers in aqueous and biological media”, N. Pippa, S.Pispas, C. Demetzos, *International Journal of Pharmaceutics*, 430,65 (2012).
- 41) “The Formalism of Fractal Aggregation Phenomena of Colloidal Drug Delivery Systems”, N. Pippa, C. Demetzos, E. Danezis, *Journal of Liposomes Research*, 22, 55 (2012).
- 42) “Preparation and Thermal Behavior of Liposomal Nanoparticles Incorporating Bioactive Labdane Epimers”, N. Pippa, S. Hatziantoniou, E.A. Mourelatou, J. M. Amaro-Luis, D. Villalobos-Osorio, C. Demetzos, *Advanced Science Letters*, 16, 336 (2012)

#### **D. PRESENTATIONS IN INTERNATIONAL CONFERENCES**

- 1) “Controlled release from advanced Drug Delivery nano Systems: the physicochemical, morphological and thermodynamic characteristics of the vesicle” N. Pippa S. Pispas and C. Demetzos. *International Liposome Society 2015 Meeting. Liposome Advances: Progress in Drug and Vaccine Delivery*, 19-22 December 2015, UCL School of Pharmacy, London, UK. (Oral presentation)
- 2) “Chimeric biocompatible block copolymer/ lipid nanostructures: innovative therapeutic devices for controlled release” N. Pippa S. Pispas and C. Demetzos. 6<sup>th</sup>

- BBBB Conference on pharmaceutical sciences to improve the quality and performance of modern drug delivery systems, September 10-12, 2015, Helsinki, Finland (Oral presentation)
- 3) “Pharmaceutical Fractal-omics: The application of –omics in design and development of advanced Drug Delivery nano Systems” N. Pippa and C. Demetzos. 306<sup>th</sup> OMICS International Conference. International Conference on Medical Physics, 03-05 August, 2015, Birmingham, UK (Oral presentation)
  - 4) “Fractal analysis as an analytical tool for bridging the gaps from biosimilars to nanosimilars” C. Demetzos and N. Pippa, EUFEPS Annual Meeting, June 15-17, 2015, Geneva, Switzerland (Oral presentation)
  - 5) “Functional Macromolecular Nanostructures Based on Cationic Amphiphilic Block Polyelectrolyte Aggregates with Insulin” N. Pippa, Maria Karayianni, Stergios Pispas, Costas Demetzos, Proteins in the World of Synthetic Polymers (workshop), 19-20 March 2015, NHRF, Athens, Greece (Oral presentation)
  - 6) “Chimeric biocompatible block copolymer/lipid nanostructures as drug nanocarriers: from bio-inspiration to in vitro evaluation” N. Pippa, S. Pispas, C. Demetzos, 1<sup>st</sup> International Congress: from drug discovery to drug delivery. 13-15 November, 2014, Athens, Greece (Oral presentation)
  - 7) “Bio-inspired chimeric Drug Delivery nano Systems (chi-DDnSs): their fractal hologram and regulatory aspects” N. Pippa, S. Pispas, C. Demetzos, 1<sup>st</sup> World Congress on Geriatrics and Neurodegenerative Disease Research, 10-13 April, 2014, Corfu, Greece (Oral presentation)
  - 8) “The fractal analysis as a complementary approach to predict the stability of Drug Delivery nano Systems (DDnSs) in aqueous and biological media: a regulatory proposal or a dream?” C. Demetzos, N. Pippa, 1<sup>st</sup> World Congress on Geriatrics and Neurodegenerative Disease Research, 10-13 April, 2014, Corfu, Greece (Oral presentation)
  - 9) “The fractal analysis as a complementary approach to predict the stability of Liposomal Drug Delivery nano Systems (LDDnSs) in aqueous and biological media: a regulatory proposal?” C. Demetzos, N. Pippa. ILS 2013 MEETING Liposome advances: progress in drug and vaccine delivery, School of Pharmacy, University of London, London, *December 14-17, 2013. (Oral presentation)*
  - 10) “Studies on the Self Assembly of Sterically Stabilized Liposomal Drug Delivery nano Systems (LDDnSs) via fractal analysis” N. Pippa, S. Pispas and C. Demetzos, ILS 2013 MEETING Liposome advances: progress in drug and vaccine delivery, School of Pharmacy, University of London, London, *December 14-17, 2013. (Oral presentation)*

- 11) “PEO-b-PCL:DPPC chimeric nanocarriers: self-assembly aspects in aqueous and biological media and drug release studies” N. Pippa, S. Pispas, A. Dokoumetzidis, C. Demetzos, 5<sup>th</sup> BBBB International Conference, 26-28 September, Athens, Greece (Oral Presentation)

## **E. PROCEEDINGS IN INTERNATIONAL CONFERENCES**

- 1) “Bio-inspired chimeric Drug Delivery nano Systems (chi-aDDnSs): Their fractal hologram and regulatory aspects” N. Pippa, S. Pispas, C. Demetzos. (Chapter 23) In: Advances in Experimental Medicine and Biology, Springer International Publishing Switzerland 2015.
- 2) “The fractal analysis as a complementary approach to predict the stability of Drug Delivery nano Systems (DDnSs) in aqueous and biological media: a regulatory proposal or a dream?” C. Demetzos and N. Pippa, (Chapter 27) In: Advances in Experimental Medicine and Biology, Springer International Publishing Switzerland 2015.