

MARINOS PITSIKALIS

PERSONAL INFORMATION

- **Address:** 32 Magnisias Str. 18757 Keratsini, Pireaus GREECE
- **Nationality:** Greek
- **Date of Birth:** 17 February 1968
- **Place of Birth:** Pireaus
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http://www.chem.uoa.gr/polymers/pg_polym_index.htm](http://users.uoa.gr/~pitsikalis/index.html/web/http://www.chem.uoa.gr/polymers/pg_polym_index.htm)

EDUCATION

- 1985 – 1989:** B.Sc. in Chemistry, Department of Chemistry, University of Athens, Athens Greece
- 1990 – 1994:** Ph.D. in Chemistry, Department of Chemistry, University of Athens, Athens Greece (Prof. N. Hadjichristidis, supervisor)

RESEARCH EXPERIENCE-ACADEMIC POSITIONS

- **March 1991:** “Structural characterization of star polymers by ^1H - and ^{13}C -NMR spectroscopy” Department of Chemistry, University of Milano, Italy (Collaboration with Prof. M. Farina)
- **September- November 1993:** “Characterization of end-functionalized star polymers by dynamic light scattering” and “Synthesis of poly(2-vinyl pyridine) star polymers” Department of Chemistry, University of Alabama at Birmingham, USA (Collaboration with Prof. J.W. Mays)
- **August 1994:** “Adsorption studies of end-functionalized polymers onto silicon wafers by ellipsometry” Max Planck Institute for Polymer Science, Mainz, Germany (Collaboration with Prof. Dr. M. Stamm)
- **1995-1996:** “Synthesis, characterization, dilute solution and solid state properties of model graft copolymers” **Post-Doctoral Fellow** at the Department of Chemistry, University of Alabama at Birmingham, USA (Collaboration with Prof. J.W. Mays)
- **December 1995:** “Micellization studies of model graft copolymers by neutron scattering techniques” National Institute for Standards and Technology, Maryland USA (Collaboration with Dr. C. Han)
- **February 1996:** “Formation of molecular objects by cross-linking reactions on thin films” IBM, Almaden Research Center, San Jose California USA (Collaboration with Dr. T. Russell)
- **June 1997 – January 1998:** “Development of new camouflage colours having reflectivity at the visible and near IR spectrum similar to the Greek environment” Army Research and Technology Center, Athens, Greece
- **September 1998:** **Lecturer** at the Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, Athens Greece

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- **September 2002:** “Polystyrene, polyisoprene blend dynamics using NMR techniques” Department of Chemistry, University of Wisconsin, Madison, USA (Collaboration with Prof. M. Ediger)
- **October 2002:** Assistant Professor at the Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, Athens Greece
- **August 2003:** “New linking agent for the synthesis of miktoarm star copolymers of the type A_3B_3 ” Department of Chemistry, University of Tennessee, Knoxville, USA (Collaboration with Prof. J.W. Mays)
- **August 2005:** “Characterization of various block copolymers” ” Department of Chemistry, University of Tennessee, Knoxville, USA (Collaboration with Prof. J.W. Mays)
- **February 2006:** Tenure as Assistant Professor at the Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, Athens Greece
- **March 2009: Associate Professor** at the Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, Athens Greece
- **August 2009:** “Micellization Studies of Novel Rod-Coil and Amphiphilic Linear and Non-Linear Block Copolymers” Oak Ridge National Laboratory, Center for Nanophase Materials Sciences and Department of Chemistry, University of Tennessee, Knoxville, USA (συνεργασία με τον Prof. J.W. Mays)
- **October 2010:** Director of the Industrial Chemistry Laboratory
- **December 2011:** Ordination to Deacon and Priest of the Greek Orthodox Church (Metropolis of Nikea). Archimandrite of the Metropolis of Nikea.
- **November 2014: Professor** at the Industrial Chemistry Laboratory, Department of Chemistry, University of Athens, Athens Greece
- **October 2010-October 2013: Director** of the Industrial Chemistry Laboratory
- **December 2017-December 2019: Director** of Sector II of the Chemistry Dept., University of Athens, Athens, Greece

SCIENTIFIC INTERESTS

- Synthesis of model polymers having complex architectures (linear homopolymers, diblock and triblock copolymers, star and graft homo- and block copolymers, miktoarm stars etc.) using anionic polymerization high vacuum techniques.
- Synthesis of homopolymers and copolymers using metallocene catalysts and graft copolymers by combination of anionic and catalytic polymerization techniques using metallocene catalysts.
- Synthesis of homopolymers and copolymers using controlled radical polymerization techniques: atom transfer radical polymerization (ATRP), nitroxide mediated radical polymerization (NMP) and reversible addition fragmentation chain transfer polymerization (RAFT).
- Metallocene-mediated cationic polymerization of lactones, oxazolines and vinyl

ethers.

- Ring opening metathesis polymerization (ROMP) for the synthesis of complex macromolecular architectures.
- Characterization of polymers by size exclusion chromatography, membrane osmometry, vapour pressure osmometry, static and dynamic light scattering techniques, differential refractometry, dilute solution viscometry, differential scanning calorimetry, thermogravimetric analysis, atomic force microscopy, IR and NMR spectroscopy.
- Adsorption studies of end-functionalized polymers by ellipsometry.
- Studies of the aggregation behavior of functionalized polymers in dilute solution and in the melt.
- Micellization studies of block and graft copolymers in selective solvents.
- Study of the thermal properties of homo- and copolymers.
- Study of the kinetics of thermal decomposition of homo- and copolymers.

TEACHING EXPERIENCE

- “Technology of fibres and other polymeric materials” Summer semester course for the 3rd year students.
- Laboratory exercises of the course “Technology of fibres and other polymeric materials” Summer semester course for the 3rd year students.
- Laboratory exercises of the course “Polymer chemistry” Winter semester course for the 3rd year students.
- Laboratory exercises of the course “Chemical technology” Summer semester course for the 3rd year students.
- “Special issues of Polymer Science” Summer semester course for the 4th year students.
- “Polymer synthesis” (in collaboration with other members of the Industrial Chemistry Lab) Winter semester for the 1st year post-graduate students.
- “Polymer characterization” (in collaboration with other members of the Industrial Chemistry Lab) Winter semester for the 1st year post-graduate students.
- Laboratory exercises of the course “Polymer synthesis and characterization” Winter semester course for the 1st year post-graduate students.
- “Polymer spectroscopy-NMR spectroscopy” (in collaboration with other members

of the Industrial Chemistry Lab). Summer semester for the 1st year post-graduate students.

- “Catalytic reactions for the synthesis and modification of polymers” Summer semester for the 1st year post-graduate students.

OTHER DUTIES

- Referee at the following journals: Macromolecules, J. Polym. Sci. Polym. Chem. Ed., Chem. Mater., Macromol. Chem. Phys., Macromol. Rapid Commun., Macromol. Symp., Eur. Phys. J. E, Int. J. Polym. Anal. Charact., Eur. Polym. J., J. Polym. Research, J. Nanostruct. Polym. Nanocomp., React. Funct. Polym., Polym. Chem., Curr. Org. Chem., Soft Matter, Fibers and Polymers, Polymer International και Chem. Commun., RSC Advances, Green Chemistry Letters and Review
- Referee for programs of the National Science Foundation, USA
- Member of the organizing committee of the IUPAC, Ionic Polymerization 2001, conference, which took place at Irakleion Crete (22-26 October 2001).
- President of the organizing committee of the 8th Hellenic Polymer Society Symposium under the auspices of IUPAC and the University of Athens, which took place at Irakleion Crete (24-29 October 2010).
- Associate Editor in Journal of Chemistry and Journal of Materials
- **Guest Editor in Polymers** for the special issue: "**Metal complexes-mediated catalysis in polymerizations**" (2017)
- **Guest Editor in Polymers** for the special issue: "**New Developments in Ring-Opening Polymerization** " (2018)
- **Member of the Editorial Board** of the journal **Polymers** (2018-)
- Supervisor for 61 diploma thesis’
- Supervisor for 43 Master’s thesis’ and 15 Ph.D. thesis’

FOREIGN LANGUAGES

- English
- French (moderately)

BOOK AUTHORSHIP

- “Technology of fibres and other polymeric materials” in Greek

- “Special issues of Polymer Science” in Greek
- “Polymer synthesis” with 5 co-authors in Greek
- “Polymer characterization” with 5 co-authors in Greek
- “Catalytic reactions of polymerization” in Greek

PUBLICATIONS

1. K. Karatasos, S.H. Anastasiadis, A.N. Semenov, G. Fytas, M. Pitsikalis, N. Hadjichristidis "Composition fluctuation effects on dielectric normal-mode relaxation in diblock copolymers. 1. Weak segregation regime." *Macromolecules* **27**, 3543, (1994).
2. S. Pispas, M. Pitsikalis, N. Hadjichristidis, P. Dardani, F. Morandi "Anionic polymerization of styrene, butadiene and isoprene with 3-dimethylaminopropyllithium" *Polymer* **36**, 3005, (1995)
3. M. Pitsikalis, N. Hadjichristidis "Model mono-, di- and tri- ω -functionalized three arm star polybutadienes. Synthesis and association in dilute solution by membrane osmometry and static light scattering" *Macromolecules* **28**, 3904, (1995).
4. A. Borlenghi, M. Pitsikalis, S. Pispas, N. Hadjichristidis "Association behavior of linear ω -functionalized polystyrenes in dilute solutions" *Macromol. Chem. Phys.* **196**, 4025, (1995).
5. G. Floudas, G. Fytas, N. Hadjichristidis, M. Pitsikalis "Metastable states below the order-disorder transition in a symmetric diblock copolymer. A time-resolved depolarized light scattering study" *Macromolecules* **28**, 2359, (1995).
6. M. Pitsikalis, N. Hadjichristidis, G. di Silvestro, P. Sozzani "Direct evidence of star structure from NMR spectroscopy" *Macromol. Chem. Phys.* **196**, 2767, (1995).
7. C. Methenitis, G. Pneumatikakis, M. Pitsikalis, J. Morcellet, M. Morcellet "Polymers with amino acids in their side chain: Conformation of poly(N-methacryloyl-L-methionine)" *J. Polym. Sci. Polym. Chem. Ed.* **33**, 2233, (1995).
8. O. Chiantore, M. Guaita, M. Lazzari, N. Hadjichristidis, M. Pitsikalis "Thermal degradation of model linear and star-shaped polyisoprenes" *Polym. Degrad. Stab.* **49**, 385, (1995)
9. M. Pitsikalis, E. Siakali-Kioulafa, N. Hadjichristidis "Association behavior of linear ω -functionalized polybutadienes in cyclohexane" *J. Polym. Sci. Polym. Phys. Ed.* **34**, 249, (1996).
10. M. Pitsikalis, N. Hadjichristidis, J.W. Mays "Model mono-, di- and tri- ω -functionalized three arm star polybutadienes. Association behavior in dilute solutions by dynamic light scattering and viscometry" *Macromolecules* **29**, 179, (1996).
11. D.F. Siqueira, M. Pitsikalis, N. Hadjichristidis, M. Stamm "Effect of chain-architecture on adsorption from dilute solution: ω -functionalized linear and mono-, di-, and tri- ω -functionalized three arm star polybutadienes" *Langmuir*, **12**, 1631, (1996).
12. G. Floudas, D. Vlassopoulos, M. Pitsikalis, N. Hadjichristidis, M. Stamm "Order-disorder transition and ordering kinetics in binary diblock copolymer mixtures of

- styrene and isoprene" J. Chem. Phys. **104**(5), 2083, (1996).
13. S.H. Anastasiadis, K. Chrissopoulou, G. Fytas, G. Fleischer, S. Pispas, M. Pitsikalis, J.W. Mays, N. Hadjichristidis "Self-diffusivity in diblock copolymer solutions: 2. A₂B simple grafts." Macromolecules **30**, 2445, (1997).
 14. C. Lee, S.P. Gido, M. Pitsikalis, J.W. Mays, N. Beck, S.F. Trevino, N. Hadjichristidis "Asymmetric single graft block copolymers: Effect of molecular architecture on morphology" Macromolecules, **30**, 3732, (1997).
 15. M. Pitsikalis, J. Woodward, J.W. Mays, N. Hadjichristidis "Micellization of model graft copolymers in dilute solution" Macromolecules **30**, 5384 (1997).
 16. C.B. Gell, W.W. Graessley, V. Efstratiadis, M. Pitsikalis, N. Hadjichristidis "Viscoelasticity and self-diffusion in melts of entangled asymmetric star polymers" J. Polym. Sci. Polym. Phys. Ed. **35**, 1943, (1997)
 17. U. Batra, W.B. Russel, M. Pitsikalis, S. Sioula, J.W. Mays, J.S. Huang "Phase behavior and viscoelasticity of AOT microemulsions containing triblock copolymers" Macromolecules **30**, 6120, (1997).
 18. P. Mansky, T.P. Russell, C.J. Hawker, M. Pitsikalis, J.W. Mays "Ordered diblock copolymer films on random copolymer brushes" Macromolecules **30**, 6810, (1997).
 19. N. Hadjichristidis, S. Pispas, M. Pitsikalis "Model polymers with dimethylamine and sulfozwitterionic end-groups. Synthesis and self-assembly in solution and in bulk" Kovine Zlitine Tehnol. **31**, 571, (1997).
 20. N. Hadjichristidis, S. Pispas, M. Pitsikalis "Synthesis and self-assembly of model ω -sulfozwitterionic polymers" Chim. Chronika, New Series **26**, 405, (1997).
 21. M. Pitsikalis, S. Pispas, J.W. Mays, N. Hadjichristidis "Non-linear block copolymer architectures" Adv. Polym. Sci. **135**,1, (1998).
 22. N. Hadjichristidis, M. Pitsikalis, S. Pispas "Functionalized polymers with dimethylamine and sulfozwitterionic end-groups. Synthesis, dilute solution and bulk properties" ACS Symposium Series 704, 96 (1998), A.O. Patil, D.N. Schulz, B.M. Novak Eds.
 23. P. Mansky, J. DeRouchey, T.P. Russell, J.W. Mays, M. Pitsikalis, T. Morkved, H. Jaeger "Large-area domain alignment in block copolymer thin films using electric fields" Macromolecules **31**, 4399, (1998).
 24. N. Hadjichristidis, S. Pispas, M. Pitsikalis, H. Iatrou, C. Vlahos "Asymmetric star polymers: synthesis and properties" Adv. Polym. Sci. **142**, 71, (1999).
 25. D. Vlassopoulos, G. Fytas, M. Pitsikalis, N. Hadjichristidis, T. Pakula "Controlling the self-assembly and dynamic response of star polymers by selective telechelic functionalization" J. Chem. Phys. **111**, 1760, (1999)
 26. N. Hadjichristidis, S. Pispas, M. Pitsikalis "End-functionalized polymers with zwitterionic end-groups" Progr. Polym. Sci. **24**, 875, (1999)
 27. M. Pitsikalis, S. Sioula, S. Pispas, N. Hadjichristidis, D.C. Cook, J. Li and J.W. Mays "Linking reactions of living polymers with bromomethylbenzene derivatives: Synthesis and characterization of star homopolymers and graft copolymers with polyelectrolyte branches". J. Polym. Sci. Polym. Chem. Ed. **37**, 4337, (1999)
 28. N. Hadjichristidis, M. Xenidou, H. Iatrou, M. Pitsikalis, Y. Poulos, A. Avgeropoulos, S. Sioula, S. Paraskeva, G. Velis, D.J. Loshe, D.N. Schulz, L.J. Fetters, P.J. Wright, R.A. Mendelson, C.A. Garcia-Franco, T. Sun, C.J. Ruff "Well-defined model long chain branched polyethylene. 1. Synthesis and characterization "

- Macromolecules, **33**, 2424 (2000)
29. M. Pitsikalis, E. Siakali-Kioulafa, N. Hadjichristidis "Block copolymers of styrene and stearyl methacrylate. Synthesis, characterization and micellization studies in selective solvents" *Macromolecules*, **33**, 5460 (2000).
 30. N. Hadjichristidis, H. Iatrou, S. Pispas, M. Pitsikalis "Anionic polymerization: High vacuum techniques " *J. Polym. Sci. Part A: Polym. Chem.* **38**, 3211 (2000)
 31. C. Batis, G. Karanikolopoulos, M. Pitsikalis, N. Hadjichristidis "Metallocene-catalyzed copolymerization of MMA with anionically synthesized methacryloyl-macromonomers" *Macromolecules* **33**, 8925 (2000)
 32. D. Vlassopoulos, M. Pitsikalis, N. Hadjichristidis "Linear dynamics of end-functionalized polymer melts: linear chains, stars and blends " *Macromolecules* **33**, 9740 (2000).
 33. E. Amariotaki, P. Moudouris, A. Rafeletos, M. Pitsikalis "Hydrodynamic properties of polystyrene in alkyl acetates" *Int. J. Polym. Anal. Charact.* **6**, 465 (2001)
 34. B. Min, X. Qiu, M.D. Ediger, M. Pitsikalis, N. Hadjichristidis "Component dynamics in polyisoprene/polyvinylethylene blends well above Tg" *Macromolecules* **34**, 4466 (2001).
 35. G. Karanikolopoulos, C. Batis, M. Pitsikalis, N. Hadjichristidis "On the polymerization of alkyl methacrylates with the achiral dimethylzirconocene precursor Cp₂ZrMe₂" *Macromolecules* **34**, 4697 (2001).
 36. N. Hadjichristidis, M. Pitsikalis, S. Pispas, H. Iatrou "Polymers with complex architectures by living anionic polymerization" *Chem. Rev.* **101**, 3747 (2001).
 37. N. Hadjichristidis, S. Pispas, H. Iatrou, M. Pitsikalis "Linking chemistry and anionic polymerization" *Curr. Org. Chem.* **6**, 155 (2002).
 38. G. Stergiou, P. Dousikos, M. Pitsikalis "Radical copolymerization of styrene and alkyl methacrylates: Monomer reactivity ratios and thermal properties" *Eur. Polym. J.* **38**, 1963 (2002).
 39. N. Hadjichristidis, S. Pispas, M. Pitsikalis, H. Iatrou, D. Lohse "Graft copolymers" *Encyclopedia of Polymer Science and Engineering*.
 40. D. Charalabidis, M. Pitsikalis, N. Hadjichristidis "Model linear and star-shaped polyisoprenes with phosphatidylcholine analogous end-groups. Synthesis and association behavior in cyclohexane" *Macromol. Chem. Phys.* **203**, 2132 (2002).
 41. K. Kostakis, S. Mourmouris, D. Charalabidis, M. Pitsikalis "Association behavior of polyisoprenes having cholesterol and phosphatidylcholine analogous end-groups" *Eur. Phys. J. E* **10**, 55 (2003)
 42. G. Karanikolopoulos, C. Batis, M. Pitsikalis, N. Hadjichristidis "The influence of the nature of the catalytic systems on the zirconocenes catalyzed polymerization of alkyl methacrylates" *Macromol. Chem. Phys.* **204**, 831 (2003)
 43. A. Vazaios, M. Pitsikalis, N. Hadjichristidis "Triblock copolymers and penatblock terpolymers of n-hexyl isocyanate with styrene and isoprene: synthesis, characterization and thermal properties" *J. Polym. Sci. Polym. Chem. Ed.* **41**, 3094 (2003)
 44. N. Hadjichristidis, M. Pitsikalis, H. Iatrou, S. Pispas "The Strength of the Macromonomer Strategy for Complex Macromolecular Architecture. Molecular Characterization, Properties and Applications of Polymacromonomers" *Macromol. Rapid Comm.* **24**, 979 (2003)

45. H. Chen, D.F. Schmidt, M. Pitsikalis, N. Hadjichristidis, Y. Zhang, U. Wiesner, E.P. Giannelis "Poly(styrene-block-isoprene) nanocomposites : kinetics of intercalation and effects of copolymer on intercalation behaviors" J. Polym. Sci. Polym. Phys. Ed. **41**, 3264 (2003)
46. C. Batis, G. Karanikolopoulos, M. Pitsikalis, N. Hadjichristidis "Complex macromolecular architectures utilizing metallocene catalysts" Macromolecules **36**, 9763 (2003)
47. G. Karanikolopoulos, C. Batis, M. Pitsikalis, N. Hadjichristidis "Zirconocene-catalyzed copolymerization of methyl methacrylate with other methacrylate monomers" J. Polym. Sci. Polym. Chem. Ed. **42**, 3761 (2004)
48. H. Kriegs, W. Steffen, G. Fytas, G. Monaco, C. Dreyfus, P. Fragouli, M. Pitsikalis, N. Hadjichristidis "High frequency acoustic excitations in ordered diblock copolymer studied by inelastic X-ray scattering" J. Chem. Phys. **121**, 2376 (2004)
49. M. Pitsikalis, E. Siakali-Kioulafa, N. Hadjichristidis "Block copolymers of polystyrene and poly(n-alkyl methacrylates) with long alkyl Groups. Micellization behavior in selective solvents" J. Polym. Sci. Polym. Chem. Ed. **42**, 4177 (2004)
50. T.R. Lutz, Y. He, M.D. Ediger, M. Pitsikalis, N. Hadjichristidis "Dilute polymer blends: Are the segmental dynamics of isolated polyisoprene chains slaved to the dynamics of the host polymer?" Macromolecules **37**, 6440 (2004)
51. H. Iatrou, M. Pitsikalis, N. Hadjichristidis "Hyperbranched architectures. Synthesis, characterization , properties" in "Modification and blending of synthetic and natural macromolecules" NATO Science Series II: Mathematics, Physics and Chemistry (Modification and Blending of Synthetic and Natural Macromolecules) pages 73-89 (2004), Kluwer Academic Publishers
52. G. Makrikosta, D. Georgas, E. Siakali-Kioulafa, M. Pitsikalis "Statistical copolymers of styrene and 2-vinylpyridine with trimethylsilyl methacrylate and trimethylsilyloxyethyl methacrylate" Eur. Polym. J. **41**, 47 (2005)
53. N. Hadjichristidis, H. Iatrou, M. Pitsikalis "Macromolecular engineering" McGraw Hill, Yearbook of Science and Technology, (2005) page 181
54. Y. Zaroslav, G. Fytas, M. Pitsikalis, N. Hadjichristidis, O.E. Philippova, A. Khokhlov "Clusters of optimum size formed by hydrophobically associating polyelectrolyte in homogeneous solutions and in supernatant phase in equilibrium with macroscopic physical gel." Macromol. Chem. Phys. **206**, 173 (2005)
55. V. Kotzabasakis, E. Georgopoulou, M. Pitsikalis, N. Hadjichristidis, G. Papadogiannakis "Catalytic conversions in aqueous media: A novel and efficient hydrogenation of polybutadiene-1,4-block-poly(ethylene oxide) catalyzed by rhodium TPPTS complexes [TPPTS=P(C₆H₄-m-SO₃Na)₃] in mixed micellar nanoreactors." J. Mol. Catalysis: A Chemical **231**, 93 (2005)
56. K. Kostakis, S. Mourmouris, K. Kotakis, N. Nikogeorgos, M. Pitsikalis, N. Hadjichristidis "Influence of the cocatalyst structure on the statistical copolymerization of methyl methacrylate with bulky methacrylates using the zirconocene complex Cp₂ZrMe₂" J. Polym. Sci. Polym. Chem. Ed. **43**, 3305 (2005)
57. K. Kostakis, S. Mourmouris, M. Pitsikalis, N. Hadjichristidis "Polymerization of acrylates and bulky methacrylates with the use of zirconocene precursors. Block copolymers with methyl methacrylate" J. Polym. Sci. Polym. Chem. Ed. **43**, 3337 (2005)

58. G. Zorba, A. Vazaios, M. Pitsikalis, N. Hadjichristidis "Anionic polymerization of n-hexyl isocyanate with monofunctional initiators. Application in the synthesis of diblock copolymers with styrene and isoprene" *J. Polym. Sci. Polym. Chem. Ed.* **43**, 3533 (2005)
59. N. Hadjichristidis, H. Iatrou, M. Pitsikalis, S. Pispas, A. Avgeropoulos "Linear and non-linear multiblock terpolymers. Synthesis, self-assembly in selective solvents and in bulk" *Progr. Polym. Sci.* **30**, 725 (2005)
60. Y. He, T.R. Lutz, M.D. Ediger, M. Pitsikalis, N. Hadjichristidis, E.D. von Meerwall "Miscible polyisoprene/polystyrene blends: Distinct segmental dynamics but homogeneous terminal dynamics" *Macromolecules*, **38**, 6216 (2005)
61. S. Mourmouris, K. Kostakis, M. Pitsikalis, N. Hadjichristidis "Polymerization of n-hexyl isocyanate (HIC) with $\text{CpTiCl}_2(\text{OR})$ {R: functional group or macromolecular chain}. A route to ω -functionalized and block co-/terpolymers of HIC" *J. Polym. Sci. Polym. Chem. Ed.* **43**, 6503 (2005)
62. N. Hadjichristidis, M. Pitsikalis, H. Iatrou "Synthesis of block copolymers" *Adv. Polym. Sci.* **189**, 1 (2005)
63. K. Chrissopoulou, I. Altintzi, S.H. Anastasiadis, E.P. Giannelis, M. Pitsikalis, N. Hadjichristidis, N. Theophilou "Controlling the miscibility of polyethylene/layered silicate nanocomposites by altering the polymer/surface interactions" *Polymer* **46**, 12440 (2005)
64. P. Bilalis, M. Pitsikalis, N. Hadjichristidis "Controlled nitroxide-mediated and RAFT polymerization of N-vinylpyrrolidone. Synthesis of block copolymers with styrene and 2-vinylpyridine" *J. Polym. Sci. Polym. Chem. Ed.* **44**, 659 (2006)
65. I. LaRue, M. Adam, M. Pitsikalis, N. Hadjichristidis, M. Rubinstein, S.S. Sheiko "Reversible morphological transitions of polystyrene-b-polyisoprene micelles" *Macromolecules* **39**, 309 (2006)
66. P. Bilalis, G. Zorba, M. Pitsikalis, N. Hadjichristidis "Synthesis of poly(n-hexyl isocyanate-b-N-vinylpyrrolidone) block copolymers by combination of anionic and nitroxide-mediated radical polymerization. Micellization properties in aqueous solutions" *J. Polym. Sci. Polym. Chem. Ed.* **44**, 5719 (2006)
67. A. Karatzas, M. Talelli, T. Vasilakopoulos, M. Pitsikalis, N. Hadjichristidis "Micellization of ω -functionalized diblock copolymers in selective solvent. Study of the effect of hydrogen bonds." *Macromolecules* **39**, 8456 (2006)
68. N. Hadjichristidis, H. Iatrou, M. Pitsikalis, J.W. Mays "Macromolecular architectures by living and controlled/living polymerizations" *Progr. Polym. Sci.* **31**, 1068 (2006)
69. N. Hadjichristidis, M. Pitsikalis, H. Iatrou "Polymers with star-related structures" in *Macromolecular Engineering. Precise Synthesis, Materials Properties, Applications* Chapter 6, Wiley 2007
70. G. Zorba, M. Pitsikalis, N. Hadjichristidis "Novel well-defined star homopolymers and star-block copolymers of poly(n-hexyl isocyanate) by anionic polymerization" *J. Polym. Sci. Polym. Chem. Ed.* **45**, 2387 (2007)
71. N. Karanikolopoulos, M. Pitsikalis, N. Hadjichristidis, K. Georgikopoulou, T. Calogeropoulou, J. R. Dunlap "pH-Responsive aggregates from double hydrophilic block copolymers carrying zwitterionic groups. Encapsulation of antiparasitic compounds for the treatment of leishmaniasis" *Langmuir*, **23**, 4214 (2007)

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73. M. Zamurovic, S. Christodoulou, A. Vazaios, E. Iatrou, M. Pitsikalis, N. Hadjichristidis “Micellization behavior of complex comb-like block copolymer architectures” *Macromolecules* **40**, 5835 (2007)
74. A. T. Lorenzo, A. J. Müller, D. Priftis, M. Pitsikalis, N. Hadjichristidis “Synthesis and morphological characterization of miktoarm star copolymers (PCL)₂(PS)₂ of poly(ϵ -caprolactone) (PCL) and polystyrene (PS)” *J. Polym. Sci. Polym. Chem. Ed.* **45**, 5387 (2007)
75. D. Priftis, M. Pitsikalis, N. Hadjichristidis “Miktoarm star copolymers of poly(ϵ -caprolactone) from a novel heterofunctional initiator” *J. Polym. Sci. Polym. Chem. Ed.* **45**, 5164 (2007)
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PARTICIPATION IN CONFERENCES-LECTURES

1. 2nd Greek Polymer Symposium (Athens, Greece, December 4-7 1991) poster
N. Hadjichristidis, E. Siakali-Kioulafa, H. Iatrou, M. Pitsikalis, S. Pispas, V. Efstratiadis, Y. Tselikas and K. Kafetzopoulos "Synthesis of well defined polymers with anionic and radical polymerization"
2. 6th International Symposium on Polymer Analysis and Characterization (Aghia Pelaghia, Crete, Greece July 11-14 1993) poster
M. Pitsikalis, N. Hadjichristidis, G. di Silvestro, P. Sozzani, and M. Farina "Characterization of star polymers by NMR spectroscopy"
3. University of Alabama at Birmingham (Birmingham, AL, USA, October 22 1993) invited lecture
M. Pitsikalis, N. Hadjichristidis, J.W. Mays "Three-arm polybutadiene stars with polar end-groups. Synthesis and characterization"
4. American Chemical Society (ACS) Meeting (San Diego, CL, USA March 13-18, 1994) poster
S.H. Anastasiadis, K. Karatasos, A.N. Semenov, G. Fytas, S.Pispas, M. Pitsikalis, N. Hadjichristidis, J.E. L. Roovers, T. Pakula "Composition fluctuation effects on dielectric normal mode relaxation in diblock copolymers"
5. American Physical Society Meeting (San Jose, Cl, USA March 20-24, 1995) poster
G. Fytas, K. Karatasos, S.H. Anastasiadis, D. Vlassopoulos, G. Floudas, A.N. Semenov, S. Pispas, M. Pitsikalis, N. Hadjichristidis, H. Watanabe, T. Pakula "Dielectric normal mode relaxation in diblock copolymers in the disordered and in the ordered state"
6. American Physical Society Meeting (San Jose, Cl, USA March 20-24, 1995) oral presentation
T. Jian, K. Karatasos, S.H. Anastasiadis, G. Fytas, K. Chrissopoulou, K. Adamcyk, A.N. Semenov, S. Pispas, M. Pitsikalis, N. Hadjichristidis, J.E.L. Roovers "Relaxation and composition fluctuation in diblock copolymer melts near the order-disorder transition investigated by polarized dynamic light scattering"
7. 8th International Symposium on Polymer Analysis and Characterization (Sanibel Island, FL, USA, May 22-24 1995) invited talk.

N. Hadjichristidis, M. Pitsikalis " Characterization and analysis of block copolymers of unusual architecture"
8. 47th Southeast/51st Southwest ACS Joint Regional Meeting (Memphis, TN, USA Nov. 29-Dec. 1 1995) oral presentation
M. Pitsikalis, J.W. Mays "Graft copolymers of polystyrene and polymethacrylic acid or poly(2-vinyl pyridine). Synthesis and characterization"
9. 47th Southeast/51st Southwest ACS Joint Regional Meeting (Memphis, TN, USA Nov. 29-Dec. 1 1995) oral presentation
M. Pitsikalis, N. Hadjichristidis, and J.W. Mays "Association behavior of three arm polybutadiene stars with different numbers of functional end-groups"
10. 4th Mediterranean School and Symposium on Science and Technology of Advanced

- Polymer Based Materials (Fodele Crete, June 1995) oral presentation
K. Karatasos, S. H. Anastasiadis, G. Fytas, A. N. Semenov, S. Pispas, M. Pitsikalis, N. Hadjichristidis, and T. Pakula "Chain Relaxation in Diblock Copolymer Melts by Dielectric Spectroscopy and Monte Carlo Computer Simulations"
11. 3rd Patras University Euroconference on Complex Materials (Patras, September 1995) oral presentation
K. Karatasos, S. H. Anastasiadis, G. Floudas, G. Fytas, S. Pispas, M. Pitsikalis, N. Hadjichristidis, and T. Pakula
 "Block Relaxation in Disordered and Ordered Diblock Copolymers"
12. Alabama Academy of Sciences Meeting (Tuskegee, AL, USA, March 6-9 1996) oral presentation
M. Pitsikalis, J.W. Mays "Graft copolymers of polystyrene and polymethacrylic acid or poly2vinylpyridine. Synthesis and characterization"
13. American Chemical Society Meeting (New Orleans, USA March 24-28, 1996) oral presentation
C.L. Gettinger, C.L. Jackson, C. Han, M. Pitsikalis, and J.W. Mays "Micelles formed by a model ionic graft copolymer"
14. American Physical Society Meeting (Spring 1996) oral presentation
C.L. Jackson, C.L. Gettinger, C. Han, M. Pitsikalis, and J.W. Mays "Micellar structure of a model ionic graft copolymer"
15. 9th International Symposium on Polymer Analysis and Characterization (Oxford, England July 1-3 1996) invited talk
 S.P. Gido, N. Hadjichristidis, C. Lee, J.W. Mays, S. Pispas, M. Pitsikalis, and D. Pochan "Synthesis and morphology of model poly(isoprene-graft-styrene)s"
16. 6th European Polymer Federation Symposium on Polymeric Materials (Aghia Pelaghia, Crete, October 7-11 1996) invited talk
 K. Chrissopoulou, S.H. Anastasiadis, G. Fytas, G. Fleischer, K. Adachi, J.W. Mays, S. Pispas, M. Pitsikalis, N. Hadjicristidis "Self-diffusion of linear and non-linear block copolymers"
17. 6th European Polymer Federation Symposium on Polymeric Materials (Aghia Pelaghia, Crete, October 7-11 1996) invited talk
G. Floudas, N. Hadjicristidis, H. Iatrou, S. Pispas, M. Pitsikalis, Y. Tselikas, A. Avgeropoulos "Microphase separation in model non-linear block copolymers. Statics, kinetics and dynamics"
18. American Physical Society Meeting (Kansas City, MO, USA March 17-21 1997) oral presentation
 G. Fleischer, S.H. Anastasiadis, K. Chrissopoulou, G. Fytas, S. Pispas, M. Pitsikalis, J.W. Mays, N. Hadjichristidis "Effect of architecture on the self-diffusion in block copolymer solutions: I₂S simple grafts"
19. American Chemical Society National Meeting (San Fransisco, CA, USA April 13-17 1997) invited talk N. Hadjichristidis, M. Pitsikalis, S. Pispas "Functionalized polymers with dimethylamine and sulfozwitterionic end-groups. Synthesis, dilute solution and bulk properties"
20. 5th Conference on Materials and Technology (Portoroz, Slovenia, October 1-3 1997) invited talk

- N. Hadjichristidis, S. Pispas, M. Pitsikalis "Model polymers with dimethylamine and sulfozwitterionic end-groups. Synthesis and self-assembly in solution and in bulk"
21. Twenty First Asilomar Conference on Polymeric Materials (Pacific Grove, CA, USA February 22-25 1998) oral presentation
- J.W. Mays, H. Iatrou, Y. Poulos, S. Pispas, M. Pitsikalis, K. Hong, N. Hadjichristidis, S. Gido, D. Pochan, C. Lee, F. Beyer, N. Beck Tan and S. Trevino "Controlled architecture graft copolymers by anionic polymerization"
22. Samford University (Birmingham AL, USA, February 26 1998) oral presentation
- J.W. Mays, H. Iatrou, Y. Poulos, S. Pispas, M. Pitsikalis, K. Hong, N. Hadjichristidis, S. Gido, D. Pochan, C. Lee and N. Beck Tan "Synthesis and properties of model graft copolymers"
23. European Science Foundation (Heraclion, Crete April 1999) invited talk
- D. Vlassopoulos, G. Fytas, T. Pakula, M. Pitsikalis and N. Hadjichristidis "Controlling the self-assembly and dynamic response of star polymers by selective telechelic functionalization"
24. European Science Foundation (Heraclion, Crete April 1999) poster
- M. Pitsikalis and N. Hadjichristidis "Block copolymers of styrene and searyl methacrylate. Synthesis, characterization and micelle formation in selective solvents"
25. American Chemical Society, National Meeting (New Orleans LU, USA, August 22-26 1999) oral presentation
- D. Vlassopoulos, T. Pakula, G. Fytas, M. Pitsikalis and N. Hadjichristidis "Controlling the self-assembly and dynamic response of star polymers by selective telechelic functionalization"
26. American Chemical Society, National Meeting (New Orleans LU, USA, August 22-26 1999) poster
- M. Pitsikalis and N. Hadjichristidis "Block copolymers of styrene and stearyl methacrylate. Synthesis, characterization and micelle formation in selective solvents"
27. Polymeric Materials: Science and Engineering, Spring Meeting 2000 (San Francisco, CA, USA March 26-30 2000) oral presentation
- D.J. Lohse, M. Xenidou, D.N. Schulz, S.T. Milner, L.J. Fetters, P.J. Wright, N. Hadjichristidis, H. Iatrou, M. Pitsikalis, Y. Poulos, A. Avgeropoulos, S. Sioula, S. Paraskeva, G. Velis, R.A. Mendelson, C.A. Garcia-Franco, M.K. Lyon, T. Sun, C.J. Ruff "Use of well-defined models of polyethylene to determine the effects of long chain branching on rheology"
28. Polymeric Materials: Science and Engineering, Spring Meeting 2001 (San Francisco, CA, USA March 26-30 2001) oral presentation
- N. Hadjichristidis, H. Iatrou, S. Pispas, M. Pitsikalis "High vacuum techniques for the synthesis of macromolecules with complex architectures"
29. European Science Foundation (Potsdam, Germany April 2001) oral presentation
- M. Pitsikalis, N. Hadjichristidis "End-functionalized polymers"
30. 4th International Discussion Meeting on Relaxations in Complex Systems (Heraclion, Crete June 17-24, 2001) oral presentation
- S.H. Anastasiadis, K. Chrissopoulou, E.P. Giannelis, E. Manias, R. Krishnamoorti, M. Pitsikalis, N. Hadjichristidis, B. Frick "Effects of confinement on the local and global chain motion in nanocomposites"
31. IUPAC International Symposium on Ionic Polymerization 2001(Heraclion, Crete

October 22-26, 2001) poster

M. Pitsikalis, N. Hadjichristidis “Block copolymers of polystyrene and poly(alkyl methacrylates). Micellization behavior in various selective solvents”

32. IUPAC International Symposium on Ionic Polymerization 2001(Heraclion, Crete October 22-26, 2001) poster

C. Batis, G. Karanikolopoulos, M. Pitsikalis, N. Hadjichristidis “ Macromolecular engineering via metallocene catalyzed polymerization ”

33. IUPAC International Symposium on Ionic Polymerization 2001(Heraclion, Crete October 22-26, 2001) poster G. Karanikolopoulos, C. Batis, M. Pitsikalis, N. Hadjichristidis “On the polymerization of alkyl methacrylates by group 4 achiral metallocene precatalysts ”

34. IUPAC International Symposium on Ionic Polymerization 2001(Heraclion, Crete October 22-26, 2001) poster

D. Charalabidis, M. Pitsikalis, N. Hadjichristidis “Linear and star polyisoprenes with zwitterionic phosphoric end-groups. Synthesis, characterization and association behavior in dilute solutions”

35. 5th Greek Polymer Symposium (Heraklion, Crete December 15-17 2001) invited talk G. Karanikolopoulos, C. Batis, M. Pitsikalis, N. Hadjichristidis “Polymerization of methacrylates by metallocene catalysts. Macromolecular architectures via metallocene catalyzed polymerization”

36. Dept. of Chemistry, University of Tennessee (Knoxville, August 13, 2003) invited talk

M. Pitsikalis “Macromolecular architectures utilizing metallocene catalysts”

37. 3rd Symposium: Safety in Food Industries (Athens November 6-8, 2003) oral presentation

S. Mastronikoli, A. Bura, A. Karaliota, P. Magiatis, N. Arvanitis, G. Stavroulakis, C. Litos, M. Pitsikalis “Changes of the lipids of *Listeria Monocytogenes* in cold. ”

38. Inorganic reaction mechanisms. Royal Society of Chemistry (Athens 8-10 January 2004) oral presentation

M. Pitsikalis, G. Karanikolopoulos, C. Batis, K. Kostakis, N. Hadjichristidis “On the polymerization of alkyl methacrylates with zirconocene catalytic systems”

39. European Science Foundation, COST Action P12, Structuring of Polymers (Napoli 27-30 October 2004) poster presentation

M. Pitsikalis, A. Vazaios, G. Zorba, S. Mourmouris N. Hadjichristidis “Macromolecular architectures of poly(hexyl isocyanate). Micellization properties in selective solvents”

40. Polymeric Materials: Science and Engineering, ACS Spring Meeting 2005 Symposium on "Polymer Nanocomposites"

I. Altintzi, K. Chrissopoulou, S.H. Anastasiadis, M. Pitsikalis, N. Hadjichristidis, N. Theophilou, E.P. Giannelis “Controlling the miscibility of polyolefin/layered silicates nanocomposites by altering the polymer/surface interactions”

41. American Physical Society 2005 March Meeting

I. Larue, M. Adam, M. Pitsikalis, N. Hadjichristidis, S. Sheiko, E. Zhulina, M. Rubinstein “Effect of the soluble block size on spherical diblock polymer micelles”

42. American Physical Society 2005 March Meeting

Y. He, T. Lutz, M. Ediger, M. Pitsikalis, N. Hadjichristidis, E. von Meerwall “Miscible

- polyisoprene/polystyrene blends: an unusual combination of heterogeneous segmental dynamics and homogeneous diffusion”
43. Kinneret Minerva Days, Ohalo, Israel May 2005, plenary lecture
H. Iatrou, M. Pitsikalis, N. Hadjichristidis “Synthesis of well-defined homo- and block copolymers”
44. University of Ioannina, Materials Department, June 2005, invited lecture
M. Pitsikalis “Catalytic systems of polymerization”
45. Dept. of Chemistry, University of Tennessee (Knoxville, August 26, 2005) invited lecture
M. Pitsikalis “Complex macromolecular architectures of n-hexyl isocyanate. Synthesis, characterization and micellization properties in selective solvents”
46. AERC 2006, 3rd Annual European Rheology Conference (April 27-29 Crete) oral presentation
K. Chrissopoulou, I. Altintzi, I. Andianaki, S.H. Anastasiadis, E.P. Giannelis, M. Pitsikalis, N. Hadjichristidis, “Controlling the miscibility of polyolefins/layered silicate nanocomposites by altering the polymer/surface interactions”
47. 2006 American Physical Society March Meeting, (March 2006, Baltimore, MD) oral presentation
Isaac LaRue, Sergei S. Sheiko, Mireille Adam, Michael Rubinstein, Marinos Pitsikalis, Nikos Hadjichristidis “Reversible morphological transitions of polystyrene-b-polyisoprene micelles”
48. 45th Microsymposium on Structure and dynamics of self-organized macromolecular systems (July 9-13 2006, Prague) oral presentation
N. Karanikolopoulos, M. Pitsikalis, N. Hadjichristidis “Micellar structures from double hydrophilic copolymers as drug carriers for the treatment of leishmaniasis”
49. 45th Microsymposium on Structure and dynamics of self-organized macromolecular systems (July 9-13 2006, Prague) poster presentation
A. Karatzas, M. Pitsikalis, N. Hadjichristidis “Micellization behaviour of block copolymers end-functionalized with hydrogen bond forming groups”
50. 45th Microsymposium on Structure and dynamics of self-organized macromolecular systems (July 9-13 2006, Prague) poster presentation
A. Mavroudis, A. Avgeropoulos, N. Hadjichristidis, M. Pitsikalis, E.L. Thomas, D.J. Lohse “Synthesis and morphological behavior of model 6-miktoarm star copolymers of styrene and 2-methylpenta-1,3-diene”
51. European Science Foundation, COST Action B22 “Drug discovery and development for parasitic diseases” (October 1-4 2006, Athens) oral presentation
N. Karanikolopoulos, M. Pitsikalis, N. Hadjichristidis “pH-responsive micelles from double hydrophilic block copolymers carrying zwitterionic groups. Encapsulation of antiparasitic compounds for the treatment of leishmaniasis”
52. 6th Greek Polymer Conference (November 3-5 2006, Patras) oral presentation
A. Vazaios, G. Zorba, S. Mourmouris, A. Touris, P. Bilalis, E. Siakali-Kioulafa, M. Pitsikalis and N. Hadjichristidis “Complex macromolecular architectures based on poly(n-hexyl isocyanate) by anionic and coordination polymerization”
53. 6th Greek Polymer Conference (November 3-5 2006, Patras) poster presentation
A. Touris, M. Pitsikalis, N. Hadjichristidis “Synthesis of star and graft homopolymers and copolymers of n-hexyl isocyanate with styrene, butadiene and isoprene by titanium

mediated coordination polymerization”

54. 6th Greek Polymer Conference (November 3-5 2006, Patras) poster presentation
D. Priftis, M. Pitsikalis, N. Hadjichristidis “Synthesis and Characterization of Miktoarm Star Polymers with the use of a Multifunctional Initiator”

55. 6th Greek Polymer Conference (November 3-5 2006, Patras) poster presentation
P. Bilalis, M. Pitsikalis, N. Hadjichristidis “Controlled Nitroxide-Mediated and Reversible Addition Fragmentation Chain Transfer Radical Polymerization of N-Vinylpyrrolidone: Synthesis of block Copolymers with Styrene, 2-Vinylpyridine and n-hexyl isocyanate”

56. 6th Greek Polymer Conference (November 3-5 2006, Patras) poster presentation
V. Kotzabasakis, E. Georgopoulou, M. Pitsikalis, N. Hadjichristidis, G. Papadogiannakis “Hydrogenation of polybutadiene-1,4-b-poly(ethylene oxide) catalyzed by Rh/TPPTS complexes in mixed micellar nanoreactors”

57. 9th Figipas in Inorganic Chemistry (July 4-7 2007, Vienna) oral presentation

G. Floros, N. Saragas, I. Xoinopoulos, P. Paraskevopoulou, N. Psaroudakis, M. Pitsikalis, K. Mertis “Metathetical polymerization of alkynes with the quadraply bonded octachloroditungstate [W₂Cl₈]⁴⁻ anion”

58. IUPAC International Symposium on Ionic Polymerization (September 2-7 2007, Kloster Banz, Germany) invited lecture

A. Vazaios, G. Zorba, S. Mourmouris, A. Touris, P. Bilalis, M. Pitsikalis, N. Hadjichristidis “Novel complex macromolecular architectures based on poly(n-hexyl isocyanate) by anionic polymerization and combination of anionic and titanium-mediated coordination polymerization”

59. 20th International Symposium on Polymer Analysis and Characterization, ISPAC (October 1-3 2007, Agios Nikolaos, Crete) poster presentation

A. Touris, A. Vazaios, G. Zorba, M. Echeveria, M. Pitsikalis, N. Hadjichristidis “Micellization behaviour of linear and non-linear block copolymer architectures based on poly(n-hexyl isocyanate)”

60. National Research Foundation (December 2007) invited lecture

M. Pitsikalis “Coordination polymerization of polar and non-polar monomers. From homopolymers to complex macromolecular architectures”

61. 7th Greek Polymer Conference (September 28-October 1 2008, Ioannina) oral presentation

N. Karanikopolpoulos, M. Pitsikalis, N. Hadjichristidis “Synthesis and characterization of amphiphilic block copolymers. Association behaviour in aqueous solutions. Potential use of the micellar structures as drug carriers”

62. 7th Greek Polymer Conference (September 28-October 1 2008, Ioannina) poster

presentation

N. Petzetakis, D. Let, V. Kotzabasakis, M. Pitsikalis, N. Hadjichristidis “Titanium catalyzed ring opening polymerization of lactides. A route to novel macromolecular architectures”

63. 7th Greek Polymer Conference (September 28-October 1 2008, Ioannina) poster presentation

L.F. Arakelian, M. Pitsikalis, N. Hadjichristidis “Synthesis and characterization of triblock copolymers by combination of anionic and atom transfer radical polymerization”

64. 10th Greek Symposium on Catalysis (October 2-4 2008, Metsovo, Greece) oral presentation

N. Saragas, G. Floros, P. Paraskevopoulou, N. Psaroudakis, S. koinis, M. Pitsikalis, K. Mertis “Catalytic polymerization of monosubstituted acetylenes by the binuclear complex $\text{Na}[\text{W}_2(\text{m-Cl})_3\text{C}_{14}(\text{THF})_2](\text{THF})_5$ ”

65. IUPAC International Symposium on Ionic Polymerization (July 26-31 2009, Krakow, Poland) oral presentation

M. Pitsikalis, K. Kostakis, N. Petzetakis, D. Priftis, G. Sakellariou, N. Hadjichristidis “Metallocene-mediated coordination ring opening polymerization. A route to well-defined complex macromolecular architectures based on lactones and lactides”

66. Oak Ridge National Laboratory, Center for Nanophase Materials Sciences (August 2009) invited lecture

M. Pitsikalis “Synthesis of complex macromolecular architectures by metallocene-mediated coordination polymerization”

67. Department of Chemistry, University of Tennessee, Knoxville, USA (August 2009) invited lecture

M. Pitsikalis “Metallocene-mediated coordination ring opening polymerization. A route to well-defined complex macromolecular architectures based on lactones and lactides”

68. Materials Department, University of Crete (April 2010) invited lecture

M. Pitsikalis “Synthesis of complex macromolecular architectures by coordination polymerization”

69. Frontiers in Polymer Chemistry, University of Akron, Akron OH, USA (Μάιος 2010) invited lecture

M. Pitsikalis “Synthesis of complex macromolecular architectures by coordination polymerization”

70. 11th Greek Catalysis Symposium (October 22-23 2010, Athens) poster presentation.
F. Agrafioti, P. Paraskevopoulou, G. Floros, M. Pitsikalis, K. Mertis “Catalytic metathetic polymerization of norbornene and 5-vinyl-2-norbornene”
71. 11th Greek Catalysis Symposium (October 22-23 2010, Athens) poster presentation.
“G. Floros, P. Paraskevopoulou, N. Saragas, N. Psaroudakis, M. Pitsikalis, K. Mertis “Catalytic polymerization of cyclopentadiene and bicyclopentadiene using the dinuclear complex $\text{Na}[\text{W}_2(\mu\text{-Cl})_3\text{Cl}_4(\text{THF})_2]\cdot(\text{THF})_3$ ”
72. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
M. Saridis, M. Pitsikalis “Kinetic studies on the coordination ring polymerization of L-lactide with titanium (IV) complexes”
73. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
M.E. Kourti, M. Pitsikalis “Metallocene-mediated cationic polymerization of 2-methyl oxazoline (MeOx) and 2-phenyl oxazoline (PhOx)”
74. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
A. Giakoumaki, M. Chatzichristidi, E. Makarona, M. Pitsikalis, P. Argitis “Synthesis of P(t-BMA)-b-PEO block copolymers with PEO block as the minor component and investigation of their self-assembled nanostructures”
75. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
P. Driva, P. Bexis, M. Pitsikalis “Radical copolymerization of 2-vinyl pyridine and oligo(ethylene glycol) methyl ether methacrylates: monomer reactivity ratios and thermal properties”
76. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
G. Sakellariou, D. Priftis, M. Gkikas, D. Baskaran, M. Pitsikalis, H. Iatrou, J. Mays, N. Hadjichristidis “A general route for surface polymer grafting on carbon nanotubes”
77. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
F. Agrafioti, P. Paraskevopoulou, G. Floros, M. Pitsikalis, K. Mertis “Ring opening metathesis copolymerization of norbornene and 5-vinyl-2-norbornene”
78. 8th Greek Polymer Conference (October 24-29 2010, Crete) poster presentation
G. Floros, P. Paraskevopoulou, N. Saragas, N. Psaroudakis, M. Pitsikalis, K. Mertis “Catalytic polymerization of cyclopentadiene with the ditungsten complex $\text{Na}[\text{W}_2(\mu\text{-Cl})_3\text{Cl}_4(\text{THF})_2]\cdot(\text{THF})_3$ ”
79. National Research Foundation, Institute of Physical and Theoretical Chemistry (February 2011) invited lecture.

M. Pitsikalis “Recent advances in the ring opening polymerization of lactones, lactides and oxazolines. Synthesis and characterization of complex macromolecular architectures”

80. National Research Foundation, Tribute to the international year of Chemistry (February 2011) invited lecture

M. Pitsikalis “Macromolecular Chemistry: Myth and reality”

81. 9th Greek Polymer Conference (November 29-December 1 2012, Thessaloniki) oral presentation

E. Saridis, S.-D. Maroulas, N. Petzetakis, M. Pitsikalis “Ring Opening Polymerization of L-Lactide Employing Half-Titanocene Complexes. Synthesis, Characterization and Thermal Properties”

82. 9th Greek Polymer Conference (November 29-December 1 2012, Thessaloniki) poster presentation

F. Agrafioti, P. Paraskevopoulou, M. Pitsikalis, E. Batagianni, K. Mertis “Ring opening metathesis copolymerization of norbornene and 5-vinyl-2-norbornene”

83. 9th Greek Polymer Conference (November 29-December 1 2012, Thessaloniki) poster presentation

M.-E. Kourti, E. Batagianni, E. Fenga, G. Foteinogiannopoulou, L. Chiotinis, M. Pitsikalis “Metallocene-Mediated Cationic Ring-Opening Polymerization of 2-Methyl- and 2-Phenyl-oxazoline”

84. 3rd International Symposium on Controlled/Living Polymerization. From Synthesis to Applications (May 1- 4 2014, Antalya Turkey) oral presentation

M.-E. Kourti, G. Foteinogiannopoulou, E. Fenga, M. Pitsikalis “Metallocene-Mediated Cationic Ring-Opening Polymerization of Oxazolines. Synthesis and Characterization of Statistical and Block Copolymers”

85. Polymeric Materials: Science and Engineering, Spring Meeting 2015 (Denver, CO, USA March 23-28 2015) invited presentation

C. Nikovia, A.-P. Maroudas, P. Goulis, P. Paraskevopoulou, M. Pitsikalis “Ring Opening Metathesis Polymerization for the Synthesis of Complex Macromolecular Architectures”

86. International Symposium on Amphiphilic Polymers, Networks, Gels and Membranes (Budapest, Hungary 30 August – 2 September 2015) oral presentation

M. Pitsikalis, M.-E. Kourti, E. Batagianni, G. Theodosopoulos, C. Nikovia, P. Paraskevopoulou “Metal-Mediated Polymerization for the Synthesis of Amphiphilic Copolymers”

87. International Symposium on Amphiphilic Polymers, Networks, Gels and Membranes (30 August – 2 September 2015

Budapest, Hungary) oral presentation

M. Pitsikalis, M.-E. Kourti, E. Batagianni, G. Theodosopoulos, C. Nikovia, P. Paraskevopoulou “Metal-Mediated Polymerization for the Synthesis of Amphiphilic Copolymers”

88. World Congress on living polymerizations and polymers (29 May – 3 June 2016 Budapest, Hungary) oral presentation
G. Theodosopoulos, C. Nikovia, M. Pitsikalis “Synthesis and Characterization of Bottlebrushes by Ring Opening Metathesis Polymerization”
89. Bordeaux Polymer Conference (28-31 May 2018 Bordeaux, France) oral presentation
G. Theodosopoulos, C. Nikovia, K., Tsokos, I. Choinopoulos, M. Pitsikalis “Synthesis and Characterization of Polymer Brushes by Ring Opening Metathesis Polymerization”
90. Bordeaux Polymer Conference (13-16 June 2022 Bordeaux, France) oral presentation N. Roka, O. Kokkorogianni, E. Mitsoni, P.T. Papazoglou, P. Kontoes-Georgoudakis, N. Nomikos, M. Pitsikalis “Poly(N-vinyl pyrrolidone) based amphiphilic statistical and block copolymers via RAFT polymerization. Synthesis, characterization, thermal properties and self-assembly behavior in organic and aqueous solutions”
91. Polymer Meeting 15 (4-8 September 2023, Bratislava, Slovakia) oral presentation S. Zouganelis, N. Plachouras, M. Pitsikalis “Employing poly(vinyl ethers) as scaffolds for the synthesis of complex macromolecular architectures”
92. 14th Greek Polymer Society Conference (22-25 November 2023, Thessaloniki) invited talk N. Roka, O. Kokkorogianni, F. Kontoes-Georgoudakis, E. Mitsoni, P.T. Papazoglou, N. Nomikos, N.V. Plachouras, A. Fokaidis-Psyllas, M. Pitsikalis “Poly(N-vinyl pyrrolidone) based amphiphilic statistical and block copolymers via RAFT polymerization. Synthesis, characterization, thermal properties and self-assembly behavior in organic and aqueous media”.
93. Athens Conference on Advances in Chemistry, ACAC (6-8 November 2024, Athens) Plenary lecture M. Pitsikalis, A. Katara, D. Mantzara, M. Panteli, M. Iatrou, I. Choinopoulos “Inorganic Chemistry/Polymer Chemistry: A Success Story The Case of Coordination Polymerization of Isocyanates Employing Half-Titanocene Complexes”
94. 23rd Panhellenic Chemistry Conference (25-28 September 2024, Athens) Invited Lecture M. Pitsikalis “Synthesis and Characterization of Polymer brushes by Ring Opening Metathesis Polymerization in Combination with Other Polymerization Techniques”
95. 5th International Conference on Advanced Polymer Science and Engineering (23-25 October 2024, Athens) Oral presentation M. Pitsikalis, “Synthesis and Characterization of Statistical and Block Copolymers of Various Isocyanates via Coordination Polymerization”
96. Polymer Meeting 16 (1-4 September 2025, Prague, Czech Republic) invited lecture E. Apostolakis, M. Pitsikalis “Synthesis of star-shaped poly(n-hexyl isocyanate) homopolymers via coordination polymerization and core-first methodology using half-titanocene alkoxy complexes”
97. MEDICTA 2025 (9-11 July 2025, Thessaloniki) E. Apostolakis, A. Katara, D. Mantzara, M. Panteli, M. Iatrou, I. Kontogiannis, I. Kyrkos, M. Pitsikalis “Thermal stability and kinetics of thermal decomposition of linear, and star-shaped polyisocyanates”

98. Bordeaux Polymer Conference (1-4 June 2026 Bordeaux, France) oral presentation A. Katara, E. Apostolakis, A.-M. Golemi, M. Pitsikalis “Synthesis and characterization of complex macromolecular architectures based on polyisocyanates via coordination polymerization chemistry”

RESEARCH GRANTS

Project Title	Funding source	Period	Role of the PI
Development of synthetic strategies for preparing well-defined model long-chain branched polydienes and polyolefins.	ExxonMobil Research and Engineering Co. Annandale, NJ USA	1998-2008	Member of the research group
Post Graduate Studies Program	Ministry of Education	1998-2002	Member of the coordination committee
Micellization behaviour of model block copolymers of polystyrene and polymethacrylates with aliphatic side chains	Research Grant Committee of NKUA	1999-2000	Principal Investigator
Catalytic polymerization of methacrylates employing metallocene catalysts.	Research Grant Committee of NKUA	2001-2002	Principal Investigator
Homo-, co- and terpolymers of polyisocyanates. Synthesis, characterization and properties	Research Grant Committee of NKUA	2002-2003	Principal Investigator
Polyethylene nanocomposite materials for food packaging and agricultural applications	General Sectr. Of Research and Technol.	2001-2003	Member of the research group
Exploitation of Bioactive Metabolites from Marine Alga	General Sectr. Of Research and Technol.	2001-2003	Member of the research group

Therapeutic Interventions Against Protozoan Infections	General Sectr. Of Research and Technol.	2005-2007	Member of the research group
Macromolecular architectures employing macromonomers	Program Herakleitos	2005-2007	Member of the research group
Macromolecular architectures onto inorganic surfaces	Program Pythagoras	2004-2007	Member of the research group
Model linear and star-shaped copolymers of ethylene/propylene	Program Pythagoras	2005-2008	Principal Investigator
Catalytic polymerization of methacrylates employing metallocene catalysts. Effect of the monomer's nature. Applications in the synthesis of block copolymers.	Research Grant Committee of NKUA	2005-2006	Principal Investigator
Micellization Studies of Novel Rod-Coil and Amphiphilic Linear and Non-Linear Block Copolymers	Oak Ridge National Laboratory, Center for Nanophase Materials Sciences	2009-2010	Principal Investigator
Synthesis and characterization of complex macromolecular architectures	European Union, ESMI, European Soft MatterInfrastructure	2011-2013	Member of the research group
Synthesis of novel high technology materials through ROMP	Program Thalys	2012-2015	Principal Investigator
Synthesis and characterization of polymers by step-growth polymerization	Lamda Pharmaceuticals	2012-2014	Principal Investigator
Synthesis and characterization of	Pharmaten Co.	2014-	Principal Investigator

star polymers by ROP		2019	
Macromolecular architectures through hydrogen bonds. Synthesis, characterization, properties.	New researchers	2018-2020	Principal Investigator

Major Contribution to Polymer Science

My research is focused on the synthesis and the characterization of well-defined polymers with complex macromolecular architectures. For this purpose, a variety of living/controlled polymerization techniques have been employed, including anionic, nitroxide-mediated radical, atom transfer radical, reversible addition fragmentation transfer radical, ring opening, ring opening metathesis and metallocene mediated (both catalytic and cationic) polymerization. High vacuum, schlenk and glove-box techniques have been developed over the years in order to achieve the best control in every polymerization method. Using these polymerization methods, a variety of monomers have been polymerized in a controlled manner, such as (meth)acrylates, styrene, isoprene, butadiene, ethylene oxide, 2-vinyl pyridine, lactides, lactones, isocyanates, higher olefins, oxazolines, vinyl ethers, norbornene derivatives, cyclopentene, N-vinyl pyrrolidone etc. Numerous complex macromolecular architectures have been produced employing these polymerization techniques either individually or in combination, leading to the synthesis of functionalized polymers, statistical and block copolymers, star homopolymers, star-block and miktoarm star copolymers, graft copolymers, polymer brushes and hyperbranched structures. The main highlights of my research are given below:

1. Synthesis of end-functionalized polymers: Different series of semitelechelic and telechelic linear polymers and star polymers were prepared by anionic polymerization.

2. Synthesis of complex macromolecular architectures by anionic polymerization: Block copolymers, regular and miktoarm stars, graft copolymers, block-graft copolymers etc.

3. Anionic polymerization of isocyanates: Difunctional and monofunctional anionic

initiators were examined under suitable experimental conditions. For the first time polyisocyanate regular stars, star-blocks and miktoarm stars were synthesized.

4. Coordination polymerization by metallocene complexes:

a. Polymerization of (meth)acrylates: A three-component catalytic system was employed for the polymerization of (meth)acrylates. Complex macromolecular structures were finally prepared for the first time with this methodology.

b. Polymerization of n-hexyl isocyanate, HIC: Half-titanocene complexes were exploited for the polymerization of HIC leading to the synthesis of unique structures that have never been synthesized previously by any polymerization technique

c. Polymerization of L-lactide, LLA: CpTiCl₂(OR) complexes were employed, leading to well-defined block complex structures, even on carbon nanotubes.

d. Polymerization of higher α -olefins: A novel C_s-symmetry hafnocene catalyst was efficiently employed for the polymerization of higher α -olefins leading also to block and graft copolymers

5. Metallocene mediated cationic polymerization:

a. Polymerization of ϵ -caprolactone, ϵ -CL: Cationically charged zirconocenes were successfully employed for the cationic ring opening polymerization, CROP, of ϵ -CL. A variety of complex architectures [block copolymers (PS-b-P ϵ -CL, PI-b-P ϵ -CL), triblock terpolymers (PS-b-PI-b-P ϵ -CL, PI-b-PS-b-P ϵ -CL), graft copolymers (PBd-g-P ϵ -CL), block graft terpolymers [PS-b-(PI-g-P ϵ -CL)] and miktoarm stars, PS(P ϵ -CL)₂] having extremely narrow MWD was prepared.

b. CROP of 2-oxazolines and cationic polymerization of vinyl ethers: Metallocene complexes in combination with fluoroarylborates were employed as initiation systems for the CROP of 2-methyl-2-oxazoline, MeOx, and 2-phenyl-2-oxazoline, PhOx and for the cationic polymerization of various vinyl ethers for the first time.

6. Metathetical polymerization of cyclic olefins: Grubbs catalysts (1st, 2nd and 3rd generation) were employed for the synthesis of statistical and block copolymers of norbornene and cyclopentene. Using the macromonomer technique various series of polymer brushes, bearing polynorbornene main chain and PEO, P ϵ -CL, PLLA, PS, poly(styrene oxide) side chains were synthesized.

7. Polymerization of N-vinyl pyrrolidone, NVP: NVP was polymerized for the first

time by nitroxide mediated radical polymerization. RAFT polymerization was also conducted leading to PNVP-b-P2VP and PHIC-b-PNVP block copolymers for the first time. Combination of NMRP with ROP of amino acid carboxyanhydrides produced PNVP-b-PBLG-b-PBLL triblock terpolymers, where PBLG is poly(γ -benzyl-L-glutamate) and PBLL is poly(tert-butoxycarbonyl-L-lysine). More recently we continued with the synthesis of statistical and block copolymers of NVP with various methacrylates and vinyl alkanoates by RAFT using xanthates as the CTAs.

8. Micellization behavior in selective solvents: The self-assembly behavior of almost all the copolymers that have been prepared was studied in selective solvents in order to trace the effect of the macromolecular architecture, the chemical nature of the substituent blocks, and the composition on the micellar characteristics (degree of micellization, shape and dimensions of micelles, thermal stability of the supramolecular structures, response to external stimuli, such as temperature, pH, ionic strength etc.). Theoretical predictions concerning the transitions of spherical PS-b-PI micelles to cylindrical structures and vesicles were confirmed by our work. In certain cases, hydrophobic substances such as Nile red, pyrene, dipyrindamol (drug used in cardiovascular diseases), miltephosine (drug used against leishmania), curcumin were efficiently encapsulated to micelles, which were formed from amphiphilic block copolymers.

The work of my group is unique in the area of polymer synthesis, mainly because we combine a number of different polymerization techniques and we use a huge variety of monomers, showing that under proper experimental conditions very well-controlled polymerization systems can be obtained. An immediate result of this level of control is the ability to synthesize complex macromolecular architectures. My expertise in anionic as well as in other living/controlled polymerization techniques gave us the possibility to prepare novel structures, many of them for the very first time.

Award from the Academy of Athens

Professors G. Vougioukalakis, M. Pitsikalis as well as the PhD candidate D. Giannopoulos were awarded by the Academy of Athens at the 2024 Solemn Session (19/12/2024) with the Georgios Th. Photinos Award of the 1st Class of Sciences for the original scientific work entitled “A³ polycondensation: A multicomponent step-growth polymerization reaction for the synthesis of polymeric propargylamines”. This work was published in European Polymer Journal, and has been selected as the cover of the specific journal issue.