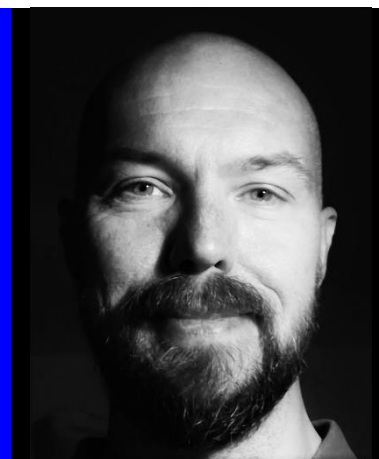


Peter Jeppe Madsen

Curriculum Vitae

February 2020



PH.D. POLYMER CHEMISTRY

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Experience

2017/20/07-Present	http://www.kt.dtu.dk/english/Research/DPC
Technical University of Denmark	See page 2
Post Doctoral Research Associate	
2017/01-2020/06	http://www.kt.dtu.dk/english/Research/DPC
Technical University of Denmark	See page 2
Post Doctoral Research Associate	
2016-Present	http://www.cismi.dk/
CISMI	
Board member	See page 2
2015/01 – 2016/06	http://armesresearch.group.shef.ac.uk/ http://www.leggett.group.shef.ac.uk/
University of Sheffield	See page 2
Post Doctoral Research Associate	
2013/03 - 2014/06	http://www.chempilots.com/
Chempilots a/s	
Senior Research Chemist	See page 3
2012/09 - 2013/02	http://www.battagliaresearchgroup.org/
University of Sheffield	See page 3
Post Doctoral Research Associate	
2009/06 - 2012/08	http://armesresearch.group.shef.ac.uk/ http://www.battagliaresearchgroup.org/
University of Sheffield	See page 3
Post Doctoral Research Associate	
2008/08 - 2009/03	http://armesresearch.group.shef.ac.uk/
University of Sheffield	See page 3
Post Doctoral Research Associate	
2005/05 - 2009/06	http://armesresearch.group.shef.ac.uk/
University of Sheffield	See page 2
Ph. D. Student	
2002/05 - 2005/04	http://www.cismi.dk/
CISMI	
Research Assistant	See page 3
1994/06 - 2001/10	https://www.experimentarium.dk/
Experimentarium	
Lab manager and Exhibition guide	See page 4

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Education

2005/05 - 2009/09

Ph. D. Polymer Chemistry
Thesis: Temperature-responsive
 Biocompatible Block Copolymers based on 2-
 (Methacryloyloxy)ethyl Phosphorylcholine



The
 University
 Of
 Sheffield.

1995/09 - 2002/04

M. Sc. Chemistry
Thesis: Liquid crystalline side chain
 polyacrylates – synthesis and structure.
 Approaches towards chiral nematic lasing
 polymers



UNIVERSITY OF
 COPENHAGEN

Job Details

2020- present

Senior Researcher

Technical University of Denmark, Danish Polymer
 Centre, Lyngby, DK

<http://www.kt.dtu.dk/english/Research/DPC>

I work in preparing and characterising polymers
 for a variety of projects.

I am broadly involved in the activities of the
 center, including supervision, fund raising,
 consultancy for external parties, procurement,
 teaching and day-to-day running of instruments
 and laboratories.

2017-2020

Research Associate

Technical University of Denmark, Danish Polymer
 Centre, Lyngby, DK

<http://www.kt.dtu.dk/english/Research/DPC>

I work in preparing and characterising polymers
 for a variety of projects. These include specialty
 polymers with increased strength and well-
 defined polymers for fundamental studies.

I am broadly involved in the activities of the
 center, including supervision, consultancy for
 external parties, procurement, teaching and day-
 to-day running of instruments and laboratories.

2016-present



Board Member

<http://www.cismi.dk/>

CISMI, Roskilde, DK

CISMI is a foundation that carries out scientific
 investigations of functional materials. The goal is

to bridge fundamental research and industrial
 applications.

I am involved in raising funds, applying for grants
 and initiating contact to potential collaborators.

2015-2016



The
 University
 Of
 Sheffield.

Research Associate

University of Sheffield, Sheffield, UK

<http://armesresearch.group.shef.ac.uk/>

<http://www.leggett.group.shef.ac.uk/>

I was a part of a multidisciplinary research project
 that aimed at mimicking biological processes on a
 surface. My work was primarily based on the
 following topics:

Modification of silicon oxide-based surfaces
 Surface polymerisation using living radical
 polymerisation techniques.

Development of methods for assessing degree of
 protonation of polymer chains on surfaces.

For more information on the project, see:

<http://www ldc.group.shef.ac.uk/>

In addition, my activities involved

Setting up a chemistry laboratory for anhydrous
 synthesis in inert atmosphere.

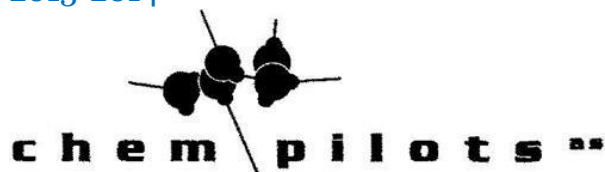
Surface analysis including Atomic Force
 Microscopy (AFM) and Confocal Laser Scanning
 Microscopy (CLSM).

Purchasing and day-to-day running of laboratory.

Involved in planning, teaching and grading a
 module: "BMS6730 Bionanomaterials"

Supervision of students.

2013-2014

**Senior Research Chemist**

<http://www.chempilots.com/>

Chempilots A/S, Farum, DK

In this industrial position I mainly worked with custom medium-scale polymer synthesis (gram to kilogram).

I was involved in the following projects:

Scale-up synthesis and purification on demand.

Development of scaled-up synthesis and characterisation methods of polymers to be used for implants in a large EU-based project: Bioactive Implantable Polymers based on Ureido-Pyrimidinone, BIP-UPy:

<http://www.bipupy.eu/>

Custom polymer synthesis using a variety of polymerisation methods such as condensation polymerisation, oxyanionic-, cationic- and anionic polymerisation.

Development of polymer characterisation methods for in-house and external use.

Development of methods for synthesis and scale-up of small molecules to be used in polymer synthesis, such as monomers, initiators and related compounds. Work under GLP. Work in clean rooms. Analysis of residues and degradation products in polymeric materials.

2012-2013



The
University
Of
Sheffield.

Research Associate

University of Sheffield, Sheffield, UK

<http://www.battagliaresearchgroup.org/>

I was part of an interdisciplinary team that used polymers for drug delivery. My role was mainly the synthesis and characterisation of functional block copolymers.

In addition, my activities involved:

Day-to-day supervision of graduate- and undergraduate students as well as paper and thesis correction.

Administrative duties including purchase of consumables and equipment maintenance.

2009-2012



The
University
Of
Sheffield.

Research Associate

University of Sheffield, Sheffield, UK

<http://armesresearch.group.shef.ac.uk/>

<http://www.battagliaresearchgroup.org/>

I was the Postdoctoral Research Associate responsible for the polymer synthesis and characterisation of functional pH-responsive block copolymers. These were being used to target and deliver drugs to the central nervous system.

My activities involved:

Polymer synthesis and characterisation

Analysis and removal of impurities and degradation products in polymeric materials.

Day-to-day supervision of graduate- and undergraduate students as well as paper and thesis correction.

Day-to-day running of the laboratory, including purchasing consumables and maintaining equipment.

2008 – 2009



The
University
Of
Sheffield.

Research Associate

University of Sheffield, Sheffield, UK

<http://armesresearch.group.shef.ac.uk/>

I was employed to prepare and characterize diblock copolymers for phase-separation studies. Other duties involved general maintenance of instrumentation.

2002 – 2005

**Research Assistant**

<http://www.cismi.dk/>

CISMI, Copenhagen, Roskilde, DK

After graduating, I was employed at CISMI (Center for Interdisciplinary Studies of Molecular Interactions)

I participated in several projects:

Preparation and characterisation of organic lithium salts and polymers there-of for novel battery electrolytes.

Preparation and characterisation of liquid crystalline vinylic monomers.

Ad-hoc organic and polymer synthesis.
 Synthesis in supercritical carbon dioxide.
 In addition I was involved in planning and teaching a practical course in polymer science at University of Copenhagen.
 During my employment, CISMI moved from Copenhagen to Roskilde. I was involved in taking down, moving and setting up laboratory equipment and chemicals.

1995 – 2001



Experimentarium®
 - DU BLIVER SJØVT NOK KLOGERE

“Pilot” (Science Communicator)

Experimentarium, Hellerup, DK
 In this student job, I demonstrated topics of science and technology to the general public. This included auditorium demonstrations (such as of explaining about soap bubbles, colours and different gases) and ‘floor’ presentations (such as dissection of eyes, lungs, hearts, preparation of cheese, demonstrating the concept of pressure and more). In addition, I explained the background of each exhibit to the public on request and I did minor maintenance tasks on the exhibits.

1994



Experimentarium®
 - DU BLIVER SJØVT NOK KLOGERE

“Laboratoriepilot” (Laboratory Manager)

Experimentarium, Hellerup, DK
 I was in charge of the daily running of the laboratory facilities. This included preparing and purchasing various reagents and consumables for the exhibits.

Skills and Techniques

Polymer Synthesis

ATRP
 RAFT Polymerisation
 Free Radical Polymerisation
 Anionic Polymerisation
 Oxyanionic Polymerisation
 Cationic Polymerisation
 Polycondensation

Organic Synthesis

Monomer synthesis
 Dye Functionalisation
 Peptide functionalisation
 Anhydrous techniques

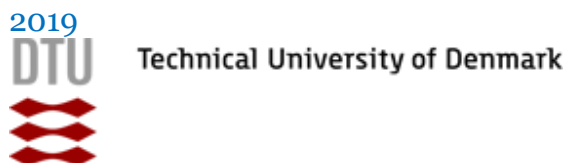
Purification and Work-up

Isolation and purification of polymers for biological applications
 Freeze-drying
 Dialysis
 Precipitation

Characterisation Techniques

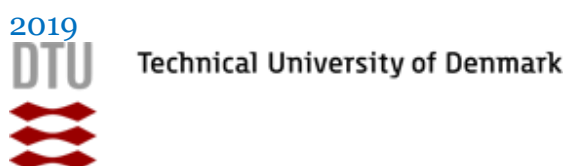
Rheology and mechanical testing
 Chromatography, including TLC, HPLC, GPC, GC
 Spectroscopy, including UV-Vis, IR, Fluorescence, NMR, mass, Atom Absorption Spectroscopy
 Light scattering techniques including SLS and DLS
 Thermal analysis techniques including DSC and TGA
 Atomic Force Microscopy, AFM
 Confocal Laser Scanning Microscopy, CLSM

Teaching Experience and Education



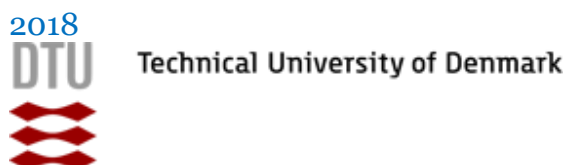
Substitute Lecturer at “28213 Polymer Technology”
Technical University of Denmark, Lyngby, DK

Leave substitute for main lecturer.



Substitute Lecturer at “28212 Polymer Chemistry”
Technical University of Denmark, Lyngby, DK

Leave substitute for main lecturer.

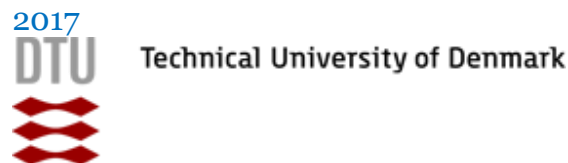


Substitute Lecturer and assessor at “28212 Polymer Chemistry”
Technical University of Denmark, Lyngby, DK

Leave substitute for main lecturer. Assessor at oral exam.

Instructor/Assessor at “28214 Polymer Synthesis and Characterization”
Technical University of Denmark, Lyngby, DK

Support for the student instructor. Assessor at final exam.



Substitute Lecturer and assessor at “28212 Polymer Chemistry”
Technical University of Denmark, Lyngby, DK

Leave substitute for main lecturer. Censor on oral exams

Instructor/Assessor at “28214 Polymer Synthesis and Characterization”
Technical University of Denmark, Lyngby, DK

Support for the student instructor and co-assessor on final student group presentations

2016



Guest Lecturer at “BMS6730 Bionanomaterials”
University of Sheffield, Sheffield, UK

Involved in teaching and grading a module: “BMS6730 Bionanomaterials”

Sheffield Teaching Assistant programme:
University of Sheffield, Sheffield, UK

28/01/2016: “Assessment & Feedback”
01/02/2016: “Large Group Teaching: Lecturing”

2015



Guest Lecturer at “BMS6730 Bionanomaterials”
University of Sheffield, Sheffield, UK

Involved in teaching and grading a module: “BMS6730 Bionanomaterials”

2009-2016 Co-Supervision of M.Sc. and Ph.D. Students



The
University
Of
Sheffield.

University of Sheffield, Sheffield, UK
Day-to-day supervision. Thesis correction

2003-2004



Teaching of Laboratory Course in Polymer Science

University of Copenhagen, Copenhagen, DK
Planning and teaching a laboratory course in
polymer science.

2003-2004



ROSKILDE UNIVERSITY

Co-Supervision of a Student Group

University of Roskilde, Roskilde, DK
Co-supervisor on a student project.

Languages

Danish

Native proficiency

English

Full Professional Proficiency

German

Elementary Knowledge

French

Elementary Knowledge

h-index and Researcher Profiles

h-index:

25 (google scholar, July 2020)

ORCID ID: [0000-0001-7625-9498](https://orcid.org/0000-0001-7625-9498)

ResearcherID: [A-3184-2015](https://pubs.acs.org/author/3184-2015)

Google Scholar: [Jeppe Madsen](https://scholar.google.com/citations?user=JeppeMadsen)

Peer-reviewed Publications

My contributions to each publication are briefly
described after the citation details.

46.

W. Wang, J. Madsen, A. L. Skov, Q. Huang
“[Improvement of Mechanical Properties of
Anisotropic Glassy Polystyrene by Introducing
Heat-Labile Reversible Bonds](#)”

Macromolecules 2019, 52, 23, 9261-9271

Synthesis and characterisation of polymers with
reversible bonds. Write-up and preparation of
manuscript for publication. Co-corresponding
author.

45.

Q. Huang, J. Madsen, L. Yu, A. Borger, S. R.
Johannsen, K. Mortensen, O. Hassager
“[Highly Anisotropic Glassy Polystyrenes Are
Flexible](#)”

ACS Macro Letters 2018, 7, 1126-1130

Development of analysis methods and analysis of
results.

44.

Z. J. Zhang, S. Edmondson, M. Mears, J. Madsen,
S. P. Armes, G. J. Leggett, M. Geoghegan
“[Blob Size Controls Diffusion of Free Polymer in a
Chemically Identical Brush in Semidilute
Solution](#)”

Macromolecules 2018, 51, 6312-6317

Preparation of fluorescently labeled poly(ethylene
glycol).

43.

P. J. Madsen, L. Yu, S. Boucher, A. L. Skov

[“Enhancing the electro-mechanical properties of polydimethylsiloxane elastomers through blending with poly\(dimethylsiloxane- co - methylphenylsiloxane\) copolymers”](#)

RSC Advances 2018, 8, 23077-23088

Development of polymerization protocols and analysis of polymers. Write-up of manuscript. First author.

42.

J. Madsen, G. Madden, E. Themistou, N. J. Warren, S. P. Armes

[“pH-Responsive diblock copolymers with two different fluorescent labels for simultaneous monitoring of micellar self-assembly and degree of protonation”](#) Polymer Chemistry 2018, 9, 2964-2976

Experimental design. Preparation and characterisation of polymers, visible- and fluorescence spectroscopy and microscopy of dyes and dye-labeled polymers. Write-up and preparation of manuscript for submission. Replying to reviewers. First author and co-corresponding author.

41.

D. J. K. Swainsbury, M. S. Proctor, A. Hitchcock, M. L. Cartron, P. Qian, E. C. Martin, P. J. Jackson, J. Madsen, S. P. Armes, C. N. Hunter
[“Probing the local lipid environment of the Rhodobacter sphaeroides cytochrome bc₁ and Synechocystis sp. PCC 6803 cytochrome b₆f complexes with styrene maleic acid”](#) Biochimica et Biophysica Acta (BBA)-Bioenergetics 2018, 1859, 215-225

Preparation of styrene maleic acid copolymer.

40.

J. Madsen, R. Ducker, O. Al-Jaf, M. L. Cartron, A. Alswieleh, C. Smith, N. Hunter, S. P. Armes, G. J. Leggett
[“Fabrication of Microstructured Binary Polymer Brush “Corrals” with Integral pH Sensing for Studies of Proton Transport in Model Membrane Systems”](#) Chemical Science 2018, 9, 2238-2251

Preparation and characterisation of polymer brushes incorporating fluorescent pH indicators, membrane proteins and lipid bilayer in spatially separated, discrete micron-sized domains. First author and co-corresponding author.

39.

Z. J. Zhang, J. Madsen, N. J. Warren, M. Mears, G. J. Leggett, A. L. Lewis, M. Geoghegan
[“Influence of salt on the solution dynamics of a phosphorylcholine-based polyzwitterion”](#) European Polymer Journal 2017, 87, 449-457

Preparation of fluorescently labelled polyzwitterion.

38.

A. Johnson, J. Madsen, P. Chapman, A. Alswieleh, O. Al-Jaf, P. Bao, C. R. Hurley, M. L. Cartron, S. D. Evans, J. K. Hobbs, C. N. Hunter, S. P. Armes, G. J. Leggett
[“Micrometre and nanometre scale patterning of binary polymer brushes, supported lipid bilayers and proteins”](#) Chemical Science 2017, 8, 4517-4526

Optimisation of protection group chemistry.

37.

A. C. Harvey, J. Madsen, C. W. I. Douglas, S. MacNeil, S. P. Armes
[“Antimicrobial Graft Copolymer Gels”](#) Biomacromolecules 2016, 17, 2710-2718

Supervising, data interpretation and formatting

36.

V. Frank, S. Kaufmann, R. Wright, P. Horn, H. Y. Yoshikawa, M. Hörning, P. Wuchter, J. Madsen, A. L. Lewis, S. P. Armes, A. D. Ho, M. Tanaka
[“Frequent mechanical stress suppresses proliferation of mesenchymal stem cells from human bone marrow without loss of multipotency”](#) Scientific Reports 2016, 6, 24264

Preparation and purification of PDPA-PMPC-PDPA triblock copolymers

35.

A. Beloqui, S. Baur, V. Trouillet, A. Welle, J. Madsen, M. Bastmeyer, G. Delaittre
[“Single-Molecule Encapsulation: A Straightforward Route to Highly Stable and Printable Enzymes”](#) Small 2016, 12, 1716-1722

Preparation of fluorescent Rhodamine 6G monomer

34.

C. G. Clarkson, J. R. Lovett, J. Madsen, S. P. Armes, M. Geoghegan ["Characterization of Diblock Copolymer Order–Order Transitions in Semidilute Aqueous Solution Using Fluorescence Correlation Spectroscopy"](#) *Macromolecular Rapid Communications* 2015, 36, 1572-1577

Preparation and characterisation of Rhodamine B dye

33.

C. Monzel, M. Veschgini, J. Madsen, A. L. Lewis, S. P. Armes, M. Tanaka ["Fine Adjustment of Interfacial Potential between pH-Responsive Hydrogels and Cell-Sized Particles"](#) *Langmuir* 2015, 31, 8689-8696

Preparation and purification of PDPA-PMPC-PDPA triblock copolymers

32.

N. J. Warren, J. Rosselgong, J. Madsen, S. P. Armes ["Disulfide-Functionalized Diblock Copolymer Worm Gels"](#) *Biomacromolecules* 2015, 16, 2514-2521

Preparation and characterisation of disulphide CTA

31.

X. Tian, S. Nyberg, P. S. Sharp, J. Madsen, N. Daneshpour, S. P. Armes, J. Berwick, M. Azzouz, P. Shaw, N. J. Abbott, G. Battaglia ["LRP-1-mediated intracellular antibody delivery to the Central Nervous System"](#) *Scientific Reports* 2015, 5, 11990

Preparation and purification of PMPC-PDPA polymers and fluorescently labelled PMPC-PDPA polymers

30.

S. Inoue, V. Frank, M. Hörning, S. Kaufmann, H. Y. Yoshikawa, J. P. Madsen, A. L. Lewis, S. P. Armes, M. Tanaka ["Live cell tracking of symmetry break in actin cytoskeleton triggered by abrupt changes in micromechanical environments"](#) *Biomaterials Science* 2015, 3, 1539-1544

Preparation and purification of PDPA-PMPC-PDPA triblock copolymers

29.

L. Ruiz-Pérez, J. Madsen, E. Themistou, J. Gaitzsch, L. Messenger, S. P. Armes, G. Battaglia ["Nanoscale detection of metal-labeled copolymers in patchy polymersomes"](#) *Polymer Chemistry* 2015, 6, 2065-2068

Preparation of DOTA-labeled polymers. Loading of prepared polymers with Indium. Purification and characterisation of polymers. Co-first author

28.

A. J. Morse, J. Madsen, D. J. Gowney, S. P. Armes, P. Mills, R. Swart ["Microgel Colloidosomes Based on pH-Responsive Poly\(tert-butylaminoethyl methacrylate\) Latexes"](#) *Langmuir* 2014, 30, 12509-12519

Preparation of a fluorescent comonomer

27.

C. Pegoraro, D. Cecchin, J. Madsen, N. Warren, S. P. Armes, S. MacNeil, A. Lewis, G. Battaglia ["Translocation of flexible polymersomes across pores at the nanoscale"](#) *Biomaterials Science* 2014, 2, 680-692

Preparation and purification of PMPC-PDPA polymers and fluorescently labelled PMPC-PDPA polymers

26.

H. E. Colley, V. Hearnden, M. Avila-Olias, D. Cecchin, I. Canton, J. Madsen, S. Macneil, N. Warren, K. Hu, J. A. McKeating, S. P. Armes, C. Murdoch, M. H. Thornhill, G. Battaglia ["Polymersome-mediated delivery of combination anti-cancer therapy to head and neck cancer cells: 2D and 3D in vitro evaluation"](#) *Molecular Pharmaceutics* 2014, 11, 1176-1188

Preparation and purification of PMPC-PDPA polymers and fluorescently labelled PMPC-PDPA polymers

25.

J. Madsen, I. Canton, N. J. Warren, E. Themistou, A. Blanazs, B. Ustbas, X. Tian, R. Pearson, G. Battaglia, A. L. Lewis, S. P. Armes: "[Nile Blue-Based Nanosized pH Sensors for Simultaneous Far-Red and Near-Infrared Live Bioimaging](#)" *Journal of the American Chemical Society* 2013, 135, 14863-14870

Preparation of Nile Blue derivatives, including a method for large-scale synthesis and purification without the use of column chromatography. Preparation of polymers, visible- and fluorescence spectroscopy of dyes and dye-labeled polymers. Write-up and preparation of manuscript for submission. General formatting. Replying to reviewers. Co-first author and co-corresponding author. The prepared methacrylamide dye, as well as a structurally related acrylamide dye is currently being commercialised by an American company, Polysciences, Inc.: <http://www.polysciences.com/Catalog/Department/81/categoryid--270/>

24.

C. Pegoraro, D. Cecchin, L. S. Gracia, N. Warren, J. Madsen, S. P. Armes, A. Lewis, S. Macneil, G. Battaglia: "[Enhanced Drug Delivery to Melanoma Cells using PMPC-PDPA Polymersomes](#)" *Cancer Letters* 2013, 334, 328-337

Preparation and purification of PMPC-PDPA polymers and fluorescently labelled PMPC-PDPA polymers

23.

I. Canton, M. Massignani, N. Patikarnmonthon, L. Chierico, J. Robertson, S. A. Renshaw, N. J. Warren, J. P. Madsen, S. P. Armes, A. L. Lewis, G. Battaglia: "[Fully Synthetic Polymer Vesicles for Intracellular Delivery of Antibodies in Live Cells](#)" *The FASEB Journal* 2013, 27, 98-108

Preparation and purification of PMPC-PDPA block copolymers

22.

J. Rosselgong, A. Blanazs, P. Chambon, M. Williams, M. Semsarilar, J. Madsen, G. Battaglia, S. P. Armes: "[Thiol-Functionalized Block Copolymer Vesicles](#)" *ACS Macro Letters* 2012, 1, 1041-1045

Preparation of thiol-reactive fluorescent dyes

21.

L. Wang, L. Chierico, D. Little, N. Patikarnmonthon, Z. Yang, M. Azzouz, J. Madsen, S. P. Armes, G. Battaglia: "[Encapsulation of Biomacromolecules within Polymersomes by Electroporation](#)" *Angewandte Chemie International Edition* 2012, 51, 11122-11125

Preparation and purification of PMPC-PDPA block copolymers

20.

J. Madsen, S. P. Armes: "[\(Meth\)acrylic Stimulus-Responsive Block Copolymer Hydrogels](#)" *Soft Matter* 2012, 8, 592-605

Review article. Paper selection and writing. Formatting and replies to reviewers. First author, co-corresponding author

19.

A. Blanazs, J. Madsen, G. Battaglia, A. J. Ryan, S. P. Armes: "[Mechanistic Insights for Block Copolymer Morphologies: How do Worms Form Vesicles?](#)" *Journal of the American Chemical Society* 2011, 133, 16581-16587

Quantification and removal of small amounts of bifunctional monomer using HPLC and column chromatography

18.

G. Battaglia, C. LoPresti, M. Massignani, N. J. Warren, J. Madsen, S. Forster, C. Vasilev, J. K. Hobbs, S. P. Armes, S. Chirasatitsin, A. J. Engler: "[Wet Nanoscale Imaging and Testing of Polymersomes](#)" *Small* 2011, 7, 2010-2015

Preparation and purification of biotin-functionalised PMPC-PDPA diblock copolymers

17.

J. Madsen, N. J. Warren, S. P. Armes, A. L. Lewis: ["Synthesis of Rhodamine 6G-Based Compounds for the ATRP Synthesis of Fluorescently Labeled Biocompatible Polymers"](#)

Biomacromolecules 2011, 12, 2225-2234

Synthesis development of several rhodamine 6G initiators and a monomer, including a method for large-scale synthesis and purification without the use of column chromatography. Characterisation of all compounds by NMR, mass, absorption and fluorescence spectroscopy. Polymer preparation and characterization. Write-up and preparation of manuscript for submission. Formatting and replies to reviewers. First author and co-corresponding author

16.

C. LoPresti, M. Massignani, C. Fernyhough, A. Blanz, A. J. Ryan, J. Madsen, N. J. Warren, S. P. Armes, A. L. Lewis, S. Chirasatitsin, A. J. Engler, G. Battaglia: ["Controlling Polymersome Surface Topology at the Nanoscale by Membrane Confined Polymer/Polymer Phase Separation"](#)

ACS Nano 2011, 5, 1775-1784

Preparation and purification of PMPC-PDPA polymers and fluorescently labelled PMPC-PDPA polymers

15.

H. Y. Yoshikawa, F. F. Rossetti, S. Kaufmann, T. Kaindl, J. Madsen, U. Engel, A. L. Lewis, S. P. Armes, M. Tanaka: ["Quantitative Evaluation of Mechanosensing of Cells on Dynamically Tunable Hydrogels"](#)

Journal of the American Chemical Society 2011, 133, 1367-1374

Preparation and purification of PDPA-PMPC-PDPA triblock copolymers

14.

C. Murdoch, K. J. Reeves, V. Hearnden, H. Colley, M. Massignani, I. Canton, J. Madsen, A. Blanz, S. P. Armes, A. L. Lewis, S. Macneil, N. J. Brown, M. H. Thornhill, G. Battaglia: ["Internalization and Biodistribution of Polymersomes into Oral Squamous Cell Carcinoma Cells in vitro and in vivo"](#)

Nanomedicine 2010, 5, 1025-1036

Preparation and purification of PMPC-PDPA and fluorescently labeled PMPC-PDPA vesicle-forming diblock copolymers

13.

H. Lomas, J. Du, I. Canton, J. Madsen, N. Warren, S. P. Armes, A. L. Lewis, G. Battaglia: ["Efficient Encapsulation of Plasmid DNA in pH-Sensitive PMPC-PDPA Polymersomes: study of the Effect of PDPA Block Length on Copolymer-DNA Binding Affinity"](#)

Macromolecular Bioscience 2010, 10, 513-530

Preparation, purification and characterisation of PMPC-PDPA diblock copolymers

12.

J. Madsen, S. P. Armes, K. Bertal, S. MacNeil, A. L. Lewis: ["Preparation and Aqueous Solution Properties of Thermoresponsive Biocompatible AB Diblock Copolymers"](#)

Biomacromolecules 2009, 10, 1875-1887

Preparation, characterization and purification of PMPC-PHPMA diblock copolymers and fluorescently labeled PMPC-PHPMA diblock copolymers. Characterisation of aqueous thermoresponsive properties as a function of the PHPMA hydrophobe block length. Write-up and preparation of manuscript for submission. Formatting and replies to reviewers. First author

11.

K. Yoshimoto, T. Hirase, J. Madsen, S. P. Armes, Y. Nagasaki: ["Non-Fouling Character of Poly\[2-\(methacryloyloxy\)ethyl Phosphorylcholine\]-Modified Gold Surfaces Fabricated by the Grafting to Method: Comparison of its Protein Resistance with Poly\(ethylene glycol\)-Modified Gold Surfaces"](#) Macromolecular Rapid Communications 2009, 30, 2136-2140

Preparation and characterization of disulfide-functional PMPC polymers

10.

K. Bertal, J. Shepherd, C. W. I. Douglas, J. Madsen, A. Morse, S. Edmondson, S. P. Armes, A. Lewis, S. MacNeil: ["Antimicrobial Activity of Novel Biocompatible Wound Dressings based on Triblock Copolymer Hydrogels"](#)

Journal of Materials Science 2009, 44, 6233-6246

Preparation, characterization and purification of PHPMA-PMPC-PHPMA triblock copolymer gelators and fluorescent analogues

9. V. Hearnden, H. Lomas, S. MacNeil, M. Thornhill, C. Murdoch, A. Lewis, J. Madsen, A. Blanazs, S. Armes, G. Battaglia: ["Diffusion Studies of Nanometer Polymersomes Across Tissue Engineered Human Oral Mucosa"](#)
Pharmaceutical Research 2009, 26, 1718-1728
- Preparation and purification of fluorescent PMPC-PDPA diblock copolymers
8. M. Massignani, C. LoPresti, A. Blanazs, J. Madsen, S. P. Armes, A. L. Lewis, G. Battaglia: ["Controlling Cellular Uptake by Surface Chemistry, Size, and Surface Topology at the Nanoscale"](#)
Small 2009, 5, 2424-2432
- Preparation and purification of PMPC-PDPA polymers and fluorescently labelled PMPC-PDPA polymers
7. J. Madsen, S. P. Armes, K. Bertal, H. Lomas, S. MacNeil, A. L. Lewis: ["Biocompatible Wound Dressings based on Chemically Degradable Triblock Copolymer Hydrogels"](#)
Biomacromolecules 2008, 9, 2265-2275
- Preparation, purification and characterization of PHPMA-PMPC-PHPMA triblock copolymers and analogues with a central disulfide group. Characterisation of temperature-dependent self-assembly by rheology and light scattering. Determination of effect of cleaving central disulfide group by rheology. Write-up and preparation of manuscript for submission. Formatting and replies to reviewers. First author
6. H. Lomas, M. Massignani, K. A. Abdullah, I. Canton, C. L. Presti, S. MacNeil, J. Du, A. Blanazs, J. Madsen, S. P. Armes, A. L. Lewis, G. Battaglia: ["Non-cytotoxic Polymer Vesicles for Rapid and Efficient Intracellular Delivery"](#)
Faraday Discussions 2008, 139, 143-159.
- Preparation and purification of PMPC-PDPA diblock copolymers and fluorescently labeled analogues
5. P. Topham, N. Sandon, E. Read, J. Madsen, A. Ryan, S. Armes: ["Facile Synthesis of Well-Defined Hydrophilic Methacrylic Macromonomers using ATRP and Click Chemistry"](#)
Macromolecules 2008, 41, 9542-9547
- Analysis of macromonomers by size exclusion chromatography using a protocol developed in-house
4. H. T. Jespersen, S. Štandeker, Z. Novak, K. Schaumburg, J. Madsen, Ž. Knez: ["Supercritical Fluids Applied to the Sol-gel Process for Preparation of AEROMOSILS/Palladium Particle Nanocomposite Catalyst"](#)
Journal of Supercritical Fluids 2008, 46, 178-184
- Mainly proof-reading, scientific suggestions and general discussion
3. J. Madsen, S. P. Armes, A. L. Lewis: ["Preparation and Aqueous Solution Properties of New Thermoresponsive Biocompatible ABA Triblock Copolymer Gelators"](#)
Macromolecules 2006, 39, 7455-7457
- Synthesis and characterization of PHPMA-PMPC-PHPMA, PMMA-PMPC-PMMA and PHEMA-PMPC-PHEMA triblock copolymers. Investigation of their temperature-responsive gelation behavior. Write-up and preparation of manuscript for submission. Formatting and suggested replies to reviewers. First author
2. C. Li, J. Madsen, S. P. Armes, A. L. Lewis: ["A New Class of Biochemically Degradable, Stimulus-Responsive Triblock Copolymer Gelators"](#)
Angewandte Chemie International Edition 2006, 45, 3510-3513
- Development of a size exclusion chromatography protocol for PNIPAM-PMPC block copolymers. Involved in developing a protocol for rheological experiments
1. P. V. Shibaev, J. Madsen, A. Z. Genack: ["Lasing and Narrowing of Spontaneous Emission from Responsive Cholesteric Films"](#)
Chemistry of Materials 2004, 16, 1397-1399
- Preparation of chiral liquid crystalline monomers and polymers exhibiting a cholesteric LC phase

Other Publications

2001

J. Madsen, S. L. Jensen: "Nobelprisen i kemi 2000: Ledende polymerer"
Kvant, 2001, 12, 10-13

Co-author on news article about the nobel prize in chemistry 2000

Patent Applications

2007

S. P. Armes, P. J. Madsen, C.-D. Vo, C. Li:
"Polymer Gelator", WO/2007/063320

Products

[Nile blue monomers](#)

These have been developed and produced at the University of Sheffield. See publication number [25](#).

They are currently being commercialised by [Polysciences, Inc.](#)

Conferences and Meetings

2018

Annual European Rheology Conference 17-20 April, Sorrento, Italy
Oral presentation: "Exploring the Dependence of Polymer Architecture on Rheology"

2017

DoDyNet Kick-Off Meeting 30 November-1 December
Short presentation on synthetic capabilities of Danish Polymer Centre.

SUPOLEN Final Conference 19-21 September
Attending

Annual European Rheology Conference 3-6 April, Copenhagen, Denmark
Attending

2015

27th European Conference on Biomaterials, 30 August - 3 September 2015, Kraków, Poland
Oral presentation: "Nile blue-based nano-sized pH sensors for simultaneous far-red and near-infrared live bioimaging"

2013

Minisymposium, Institut Charles Gerhardt, l'Ecole Nationale Supérieure de Chimie de Montpellier, 25 February, Montpellier, France.
Oral presentation: "Responsive Polymer Vesicles for use in Biology and Medicine"
Invited speaker

2012

Warwick Polymer Chemistry 2012, MacroGroup UK International Conference on Polymer Synthesis & UKPCF International Conference on Polymer Colloids, 9-12 July, University of Warwick, United Kingdom
Oral presentation: "Preparation of Fluorescent Biocompatible Block Copolymers"

Miami 2012 Winter Symposium: Nanotechnology in Biomedicine, 9-12 February, Miami, Florida, United States of America
Poster presentation: "The Use of Fluorescent Polymers with Low Toxicity as Intracellular Probes"

2011

Bayreuth Polymer Symposium, 11-13 September, Bayreuth, Germany
Poster presentation: "Use of Functional ATRP initiators to Prepare Functional Biocompatible Phosphorylcholine-based Block Copolymers and Block Copolymer Nanostructures for Biological Applications"

High Polymer Research Group Conference, 17-21 April, Pott Shrigley, United Kingdom
Poster presentation: "Synthesis of Rhodamine 6G-based Compounds for the ATRP Synthesis of Fluorescently-labeled Biocompatible Polymers"

2010

Recent Appointees in Materials and Polymer Science Conference, 1-3 September, Leeds, United Kingdom
Poster presentation: "Thermoresponsive Biocompatible Block Copolymers with Antimicrobial Activity"

Macro2010: 43rd World Polymer Congress –
Polymer Science in the Service of Society 11-16
July 2010, Glasgow, United Kingdom
*Poster presentation: “Thermoresponsive
Biocompatible Block Copolymers with
Antimicrobial Activity”*

The 239th ACS National Meeting, March 21-25,
2010, San Francisco, California, United States of
America
*Oral presentation: “Preparation and Aqueous
Solution Properties of Thermoresponsive
Biocompatible AB Diblock Copolymers”*

2009

Quantitative Imaging for Systems Biology,
December 16-18, 2009, Oxford, United Kingdom.
Attending

The 11th Pacific Polymer Conference, December 6-
11, 2009, Cairns, Queensland, Australia
*Oral presentation: “Thermoresponsive Block
Copolymers Based on Poly(2-
(methacryloyloxy)ethyl phosphorylcholine) and
Poly(2-hydroxypropyl methacrylate)”*
Invited speaker

2008

The 82nd ACS Colloid & Surface Science
Symposium, June 15-18, 2008, North Carolina
State University, Raleigh, North Carolina, United
States of America
*Oral presentation: “Thermoresponsive
Biocompatible Chemically Degradable Triblock
Copolymer Hydrogels”*

Frontiers of Research and Young Researchers
Meeting, April 17-18, 2008. University of Warwick,
United Kingdom
*Poster presentation: “Synthesis of Novel
Rhodamine-Based Fluorescent ATRP Initiators
and Their Use in Preparing Responsive
Biocompatible Block Copolymers”*

RSC Biomaterials Chemistry Group 3rd Annual
Meeting, January 15, 2008. The University of
Manchester, United Kingdom
Attending

2007

MRS 2007 Fall Meeting, November 26-30, 2007,
Boston, Massachusetts, United States of America
*Oral presentation: “Synthesis and
Characterization of Stimulus-Responsive
Biocompatible Triblock Copolymer Gelators”*

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Controlled/Living Polymerisation, October 25-29,
2007, Antalya, Turkey
*Oral presentation: “Synthesis and
Characterization of Stimulus-Responsive
Biocompatible Triblock Copolymer Gelators”*

RSC Biomaterials Chemistry Group 2nd Annual
Meeting, January 16, 2007, University of
Nottingham, United Kingdom
*Oral presentation: “Synthesis and
Characterization of Stimulus-Responsive
Biocompatible Block Copolymers”*

2006

Functional and Biological Gels and Networks:
Theory and Experiment, September 3-7, 2006,
University of Sheffield, United Kingdom
*Poster presentation: “Synthesis and
Characterization of Stimulus-Responsive
Biocompatible Block Copolymers”*

Macro Group UK International Conference on
Polymer Synthesis, July 31- August 3, 2006,
University of Warwick, United Kingdom
*Poster presentation: “Synthesis and
Characterization of New Biocompatible ABA
Triblock Copolymers”*

RSC Biomaterials Chemistry, January 18, 2006,
University of Sheffield, United Kingdom
*Oral presentation: “Synthesis and
Characterisation of New Biocompatible ABA
Triblock Copolymers”*

2005

From Molecules to Patients Meeting, June 9,
2005, University of Sheffield, United Kingdom.

Attending