

Harm-Anton Klok

Full Professor
Ecole Polytechnique Fédérale de Lausanne (EPFL)
Institute of Materials and Institute of Chemical Sciences and Engineering
Polymers Laboratory
STI - IMX - LP
MXD 112 (Bâtiment MXD), Station 12
CH-1015 Lausanne (Switzerland)

CURRICULUM VITAE

PERSONAL DATA

Name : Harm-Anton Klok
Home address : Chemin des Mémises 17
1024 Ecublens
Switzerland
Date of birth : June 21, 1971
Place of birth : Hoogezand-Sappemeer, The Netherlands
Nationality : Dutch
Marital status : Married, three children
Languages spoken : Dutch, German, English, French



EDUCATION

August 1989 – October 1993 Studies of Chemical Technology, University of Twente (Enschede, The Netherlands)
November 1993 – January 1997 Research and teaching assistant in the group of Prof. M. Möller (Organische Chemie III/Makromolekulare Chemie, Universität Ulm, Ulm, Germany)
Topic of PhD Thesis: “*Supramolecular and polymeric building blocks for the development of optical ion sensors*”
November 10th, 2004 Habilitation on “*Protein-mimetic polypeptides and protein-inspired hybrid block copolymers*” and *venia legendi* in macromolecular chemistry (RWTH Aachen, Aachen, Germany)

EMPLOYMENT HISTORY

December 1992 – March 1993 Research stay at the Central Polymer Research Laboratory of BASF AG (Ludwigshafen, Germany)
February 1997 – November 1997 Postdoc in the group of Prof. D. N. Reinhoudt (Laboratory of Supramolecular Chemistry and Technology, Department of Chemical Technology), University of Twente (Enschede, The Netherlands)
December 1997 – January 1999 Postdoc in the group of Prof. S. I. Stupp (Departments of Materials Science and Engineering and Chemistry), University of Illinois at Urbana-Champaign (Urbana-Champaign, USA)
February 1999 – February 2003 Project-leader in the group of Prof. K. Müllen, Max Planck Institute for Polymer Research (Mainz, Germany)
March 2003 – September 2008 Assistant Professor (tenure track) and director of the Polymers Laboratory (Institute of Materials), Ecole Polytechnique Fédérale de Lausanne (EPFL) (Lausanne, Switzerland)
October 2008 – July 2009 Associate Professor and director of the Polymers Laboratory (Institute of Materials), Ecole Polytechnique Fédérale de Lausanne (EPFL) (Lausanne, Switzerland)
August 2009 – Full Professor and director of the Polymers Laboratory (Institute of Materials and Institute of Chemical Sciences and Engineering), Ecole Polytechnique Fédérale de Lausanne (EPFL) (Lausanne, Switzerland)
July 2012 – Director, Institute of Materials (EPFL) (~ Department head elsewhere).

RESEARCH INTERESTS

Materials & synthetic strategies: Peptide/protein-based materials and peptide/protein-polymer hybrids; Surface-initiated polymerization and polymer brushes; Controlled/"living" polymerization and macromolecular engineering; Dendritic and hyperbranched polymers.

Fields of application: Polymer therapeutics/Nanomedicine; Smart hydrogels; Controlled drug delivery and release systems; Polymer surface modification; Biomaterials coatings; Protein microarrays; Biom mineralization; Environmental sensors.

BOARD AND COMMITTEE MEMBERSHIP

- 1) Board member of the Polymer Group Switzerland. (2005 - 2007). As of 08.06.2007, the Polymer Group Switzerland was terminated and merged as a new Division with the Swiss Chemical Society.
- 2) Board member of the Division Polymers and Colloids of the Swiss Chemical Society (2007 -).
- 3) Steering committee member of the European Science Foundation's (ESF) Research Networking Programmes "Experimental and theoretical design of stimuli-sensitive materials (STIPOMAT)". (2005 - 2009) and "Precision Polymer Materials" (P2M) (2011 - 2015).
- 4) Swiss representative at the European Polymer Federation (EPF). (2006 -)
- 5) Member of the Editorial (Advisory) Board of the journals: *Biomacromolecules* (01.2007 – 03.2007); *Eur. Polym. J.* (08.2008 -); *J. Polym. Sci. A: Polym. Chem.* (06.2011 -); *Macromolecules* (01.2012 – 12.2014); *ACS Macro Letters* (01.2012 – 12.2014); *Macromol. Rapid Commun.* (11.2012 -); *Macromol. Biosci.* (11.2012 -); *Chimia* (01.08.2015 -); *ACS Applied Bio Materials* (06-2018 –).
- 6) Associate Editor of the American Chemical Society journal *Biomacromolecules* (04.2007 –)
- 7) Member of the external advisory board of The Graduate School of Excellence "Materials science IN mainZ" (MAINZ) (2013 -).
- 8) Member of the evaluation committee of the Leibniz Institute of Polymer Research Dresden (IPF) (03.2015), Dresden (Germany).
- 9) Member of the review committee Chemical Engineering 2015 (The Netherlands). This committee was asked to perform an assessment of research in chemical engineering conducted by Delft University of Technology Delft (TUD), Eindhoven University of Technology (TU/e) and the University of Twente (UT) (09.2015).
- 10) Member of the Natural Sciences and Engineering Research Council of Canada (NSERC) Materials and Chemical Engineering Evaluation Group (2016 - 2019).

AWARDS, ACADEMIC HONOURS

- 1) Talent-postdoctoral fellowship of the Netherlands Organization for Scientific Research (NWO). (01.12.1997 – 01.12.1998).
- 2) Emmy Noether Fellowship of the Deutsche Forschungsgemeinschaft (DFG). (01.09.1999 – 30.04.2003).
- 3) Thieme Journal Award, 2002.
- 4) Arthur K. Doolittle Award, American Chemical Society (Polymeric Materials: Science and Engineering Division), 2007.
- 5) Visiting Professor, University of Bordeaux, Bordeaux (France), July 2010.
- 6) Chair Professor, College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou (China), 2011 – .
- 7) Visiting Professor, Department of Polymer Science and Engineering, University of Massachusetts Amherst, Amherst (USA), July 2012 and July 2014.
- 8) Chinese Academy of Sciences visiting professorship for senior international scientists, Institute of Chemistry, Chinese Academy of Sciences, Beijing (China), 2012 - 2013.
- 9) Guest Professor, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun (China), 2012 – .

- 10) Visiting Professor, School of Environmental and Chemical Engineering, Shanghai University, Shanghai (China), 2014 – 2017.
- 11) Visiting Professor, School of Materials Science and Engineering, Nanyang Technological University, Singapore, 2015 - .

LIST OF PUBLICATIONS

Articles in peer-reviewed journals

- 1) G. J. J. Out, H.-A. Klok, L. Schwegler, H. Frey, M. Möller, Hydrosilylation of 1-alkenes with dichlorosilane, *Macromol. Chem. Phys.* **1995**, *196*, 185 – 194.
- 2) G. J. J. Out, H.-A. Klok, M. Möller, D. Oelfin, Hexa-n-alkylcyclotrisiloxanes - Synthesis, melting behaviour and polymerization, *Macromol. Chem. Phys.* **1995**, *196*, 195 – 210.
- 3) A. Turetskii, G. J. J. Out, H.-A. Klok, M. Möller, Structural transformations in poly(di-n-alkylsiloxane)s with alkyl side groups containing 7 to 10 carbon atoms, *Polymer* **1995**, *36*, 1303 – 1308.
- 4) H.-A. Klok, M. Möller, Polymer bound chromogenic crown-ethers as the cladding material for polymer optical waveguides, *Macromol. Symp.* **1996**, *102*, 363 – 370.
- 5) H.-A. Klok, M. Möller, Polymer bound chromogenic crown-ethers for optical ion-detection devices, *Macromol. Chem. Phys.* **1996**, *197*, 1395 – 1409.
- 6) A. Roescher, M. Hempenius, H.-A. Klok, M. Möller, Stabilization of colloidal palladium particles by a block copolymer of polystyrene and a block containing amide sidegroups, *Acta Polymer.* **1996**, *47*, 481 – 484.
- 7) A. Molenberg, H.-A. Klok, M. Möller, S. Boileau, D. Teyssié, Controlled polymerization of hexa-n-alkylcyclotrisiloxanes with long alkyl groups, *Macromolecules* **1997**, *30*, 792 – 794.
- 8) H.-A. Klok, P. Eibeck, M. Möller, D. N. Reinhoudt, Synthesis and characterization of polysiloxane-bound receptor molecules for ion-selective supported polymeric membranes, *Macromolecules* **1997**, *30*, 795 – 802.
- 9) M. Möller, J. P. Spatz, A. Roescher, S. Mößmer, S. T. Selvan, H.-A. Klok, Mineralization of gold in block copolymer micelles, *Macromol. Symp.* **1997**, *117*, 207 – 218.
- 10) H.-A. Klok, P. Eibeck, M. Schmid, A. S. Abu-Surrah, M. Möller, B. Rieger, Novel benzo-15-crown-5 functionalized α -olefin/CO terpolymers for membrane applications, *Macromol. Chem. Phys.* **1997**, *198*, 2759 – 2768.
- 11) H.-A. Klok, P. Eibeck, H. Gankema, R. J. Nieuwhof, M. Möller, D.N. Reinhoudt, Ion-transport across membranes prepared by gel-crystallization, *J. Polym. Sci., Part B: Polym. Phys.* **1998**, *36*, 383 – 394.
- 12) S. T. Selvan, J. P. Spatz, H.-A. Klok, M. Möller, Gold-poly(pyrrole) core-shell particles in diblock copolymer micelles, *Adv. Mater.* **1998**, *10*, 132 – 134.
- 13) H.-A. Klok, E. A. Rebrov, A. M. Muzafarov, W. Michelberger, M. Möller, Reversible gelation of poly(dimethylsiloxane) with ionic and hydrogen-bonding substituents, *J. Polym. Sci., Part B: Polym. Phys.* **1999**, *37*, 485 – 495.
- 14) H.-A. Klok, K. A. Jolliffe, C. L. Schauer, L. J. Prins, J. P. Spatz, M. Möller, P. Timmerman, D. N. Reinhoudt, Self-assembly of rodlike hydrogen-bonded nanostructures, *J. Am. Chem. Soc.* **1999**, *121*, 7154 – 7155.
- 15) H.-A. Klok, J. F. Langenwalter, S. Lecommandoux, Self-assembly of peptide-based diblock oligomers, *Macromolecules* **2000**, *33*, 7819 – 7826.
- 16) H.-A. Klok, J. Rodríguez-Hernández, S. Becker, K. Müllen, Star-shaped fluorescent polypeptides, *J. Polym. Sci., Part A: Polym. Chem.* **2001**, *39*, 1572 – 1583.
- 17) S. Lecommandoux, M.-F. Achard, J. F. Langenwalter, H.-A. Klok, Self-assembly of rod-coil diblock oligomers based on α -helical peptides, *Macromolecules* **2001**, *34*, 9100 – 9111.
- 18) H.-A. Klok, J. J. Hwang, S. N. Iyer, S. I. Stupp, Cholesteryl-(L-lactic acid)_n building blocks for self-assembling biomaterials, *Macromolecules* **2002**, *35*, 746 – 759.
- 19) F. Chécot, S. Lecommandoux, Y. Gnanou, H.-A. Klok, Water soluble stimuli-responsive vesicles from peptide-based diblock copolymers, *Angew. Chem.* **2002**, *114*, 1395 – 1399; *Angew. Chem. Int. Ed.* **2002**, *41*, 1339 – 1343.
- 20) H.-A. Klok, S. Becker, F. Schuch, T. Pakula, K. Müllen, Fluorescent star-shaped polystyrenes: „core-first“ synthesis from perylene-based ATRP initiators and dynamic mechanical properties, *Macromol. Chem. Phys.* **2002**, *203*, 1106 – 1113.
- 21) H.-A. Klok, J. J. Hwang, J. D. Hartgerink, S. I. Stupp, Self-assembling biomaterials: L-lysine dendron substituted cholesteryl-(L-lactic acid)_n, *Macromolecules* **2002**, *35*, 6101 – 6111.

- 22) H.-A. Klok, J. Rodríguez-Hernández, Dendritic-graft polypeptides, *Macromolecules* **2002**, *35*, 8718 – 8723.
- 23) J. S. Crespo, S. Lecommandoux, R. Borsali, H.-A. Klok, V. Soldi, Small-angle neutron scattering from diblock copolymer poly(styrene-d8)-b-poly(γ -benzyl-L-glutamate) solutions: Rod-coil to coil-coil transition, *Macromolecules* **2003**, *36*, 1253 – 1256.
- 24) J. Rodríguez-Hernández, H.-A. Klok, Synthesis and ring-opening (co)polymerization of L-lysine N-carboxyanhydrides with labile side-chain protective groups, *J. Polym. Sci., Part A: Polym. Chem.* **2003**, *41*, 1167 – 1187.
- 25) J. Rodríguez-Hernández, M. Gatti, H.-A. Klok, Highly-branched poly(L-lysine), *Biomacromolecules* **2003**, *4*, 249 – 258.
- 26) F. Chécot, S. Lecommandoux, H.-A. Klok, Y. Gnanou, From supramolecular polymersomes to stimuli-responsive nano-capsules based on poly(diene-*b*-peptide) diblock copolymers, *Eur. Phys. J. E* **2003**, *10*, 25 – 35.
- 27) G. Floudas, P. Papadopoulos, H.-A. Klok, G. W. M. Vandermeulen, J. Rodríguez-Hernández, Hierarchical self-assembly of poly(γ -benzyl-L-glutamate)-poly(ethylene glycol)-poly(γ -benzyl-L-glutamate) rod-coil-rod triblock copolymers, *Macromolecules* **2003**, *36*, 3673 – 3683.
- 28) A. Herrmann, G. Mihov, G. W. M. Vandermeulen, H.-A. Klok, K. Müllen, Lysine functionalized polyphenylene dendrimers, *Tetrahedron* **2003**, *59*, 3925 – 3935.
- 29) G. W. M. Vandermeulen, C. Tziatzios, H.-A. Klok, Reversible self-organization of poly(ethylene glycol)-based hybrid block copolymers mediated by a de novo four-stranded α -helical coiled-coil motif, *Macromolecules* **2003**, *36*, 4107 – 4114.
- 30) A. Rösler, H.-A. Klok, I. W. Hamley, V. Castelletto, O. O. Mykhaylyk, Nanoscale structure of poly(ethylene glycol) hybrid block copolymers containing amphiphilic β -strand peptide sequences, *Biomacromolecules* **2003**, *4*, 859 - 863.
- 31) S. Lecommandoux, H.-A. Klok, M. Sayar, S.I. Stupp, Synthesis and self-organization of rod-dendron and dendron-rod-dendron molecules, *J. Polym. Sci., Part A: Polym. Chem.* **2003**, *41*, 3501 – 3518.
- 32) H.-A. Klok, S. Becker, F. Schuch, T. Pakula, K. Müllen, Synthesis and solid state properties of fluorescent polyester star polymers, *Macromol. Biosci.* **2003**, *3*, 729 – 741.
- 33) G. W. M. Vandermeulen, C. Tziatzios, D. Schubert, P. R. Andres, A. Alexeev, U. S. Schubert, H.-A. Klok, Metal ion assisted folding and supramolecular organization of a de novo designed metalloprotein, *Aust. J. Chem.* **2004**, *57*, 33 – 39.
- 34) P. Papadopoulos, G. Floudas, H.-A. Klok, I. Schnell, T. Pakula, Self-assembly and dynamics of poly(γ -benzyl-L-glutamate) (PBLG) peptides, *Biomacromolecules* **2004**, *5*, 81 – 91.
- 35) G. W. M. Vandermeulen, D. Hinderberger, H. Xu, S. S. Sheiko, G. Jeschke, H.-A. Klok, Structure and dynamics of self-assembled poly(ethylene glycol) based coiled coil nano-objects, *ChemPhysChem* **2004**, *5*, 488 – 494.
- 36) J. Rodríguez-Hernández, J. Qu, E. Reuther, H.-A. Klok, K. Müllen, Synthesis and optical properties of water-soluble NIR absorbing star polypeptides based on functional rylene dyes, *Polym. Bull.* **2004**, *52*, 57 – 64.
- 37) H.-A. Klok, A. Rösler, G. Götz, E. Mena-Osteritz, P. Bäuerle, Synthesis of a silk-inspired peptide-oligothiophene conjugate, *Org. Biomol. Chem.* **2004**, *2*, 3541 – 3544.
- 38) H.-A. Klok, G. W. M. Vandermeulen, H. Nuhn, A. Rösler, I. W. Hamley, V. Castelletto, H. Xu, S. S. Sheiko, Peptide mediated formation of hierarchically organized solution and solid state polymer nanostructures, *Faraday Discuss.* **2005**, *128*, 29 – 41.
- 39) J. Babin, J. Rodríguez-Hernández, S. Lecommandoux, H.-A. Klok, M.-F. Achard, Self-assembled nanostructures from peptide-synthetic hybrid block copolymers: complex, stimuli-responsive rod-coil architectures, *Faraday Discuss.* **2005**, *128*, 179 – 192.
- 40) G. W. M. Vandermeulen, C. Tziatzios, R. Duncan, H.-A. Klok, PEG-based hybrid block copolymers containing α -helical coiled coil peptide sequences: control of self-assembly and preliminary biological evaluation, *Macromolecules* **2005**, *38*, 761 - 769.
- 41) A. Lübbert, T. Q. Nguyen, F. Sun, S. S. Sheiko, H.-A. Klok, L-Lysine dendronized polystyrene, *Macromolecules* **2005**, *38*, 2064 – 2071.

- 42) G. Mihov, D. Grebel-Koehler, A. Lübbert, G. W. M. Vandermeulen, A. Herrmann, H.-A. Klok, K. Müllen, Polyphenylene dendrimers as scaffolds for shape-persistent multiple peptide conjugates, *Bioconjugate Chem.* **2005**, *16*, 283 – 293.
- 43) I. W. Hamley, I. A. Ansari, V. Castelletto, H. Nuhn, A. Rösler, H.-A. Klok, Solution self-assembly of hybrid block copolymers containing poly(ethylene glycol) and amphiphilic β -strand peptide sequences, *Biomacromolecules* **2005**, *6*, 1310 – 1315.
- 44) S. Tugulu, A. Arnold, I. Sielaff, K. Johnsson, H.-A. Klok, Protein functionalized polymer brushes, *Biomacromolecules* **2005**, *6*, 1602 – 1607.
- 45) A. Lübbert, V. Castelletto, I. W. Hamley, H. Nuhn, M. Scholl, L. Bourdillon, C. Wandrey, H.-A. Klok, Non-spherical assemblies generated from polystyrene-*b*-poly(L-lysine) polyelectrolyte block copolymers, *Langmuir* **2005**, *21*, 6582 – 6589.
- 46) P. Papadopoulos, G. Floudas, I. Schnell, H.-A. Klok, T. Aliferis, H. Iatrou, N. Hadjichristidis, “Glass transition” in peptides. Temperature and pressure effects, *J. Chem. Phys.* **2005**, *122*, 224906.
- 47) J. Groll, J. Fiedler, E. Engelhard, T. Ameringer, S. Tugulu, H.-A. Klok, R. E. Brenner, M. Möller, A novel star PEG-derived surface coating for specific cell adhesion, *J. Biomed. Mater. Res.* **2005**, *74A*, 607 – 617.
- 48) P. Parras, V. Castelletto, I. W. Hamley, H.-A. Klok, Nanostructure formation in poly(γ -benzyl-L-glutamate)-poly(ethylene glycol)-poly(γ -benzyl-L-glutamate) triblock copolymers in the solid state, *Soft Matter* **2005**, *1*, 284 – 291.
- 49) I. Sielaff, A. Arnold, G. Godin, S. Tugulu, H.-A. Klok, K. Johnsson, Protein function microarrays based on self-immobilizing and self-labeling fusion proteins, *ChemBioChem* **2006**, *7*, 194 – 202.
- 50) P. Papadopoulos, G. Floudas, I. Schnell, I. Lieberwirth, T. Q. Nguyen, H.-A. Klok, Thermodynamic confinement and α -helix persistence length in poly(γ -benzyl-L-glutamate)-*b*-poly(dimethyl siloxane)-*b*-poly(γ -benzyl-L-glutamate) triblock copolymers, *Biomacromolecules* **2006**, *7*, 618 – 626.
- 51) G. Kreutzer, C. Ternat, T. Q. Nguyen, C. J. G. Plummer, J.-A. E. Månson, V. Castelletto, I. W. Hamley, F. Sun, S. S. Sheiko, A. Herrmann, L. Ouali, H. Sommer, W. Fieber, M. I. Velazco, H.-A. Klok, Water-soluble, unimolecular containers based on amphiphilic multiarm star block copolymers, *Macromolecules* **2006**, *39*, 4507 - 4516.
- 52) V. Castelletto, I. W. Hamley, S. L. H. Kerstens, S. Deacon, C. D. Thomas, A. Lübbert, H.-A. Klok, Spontaneous condensation in DNA – polystyrene-*b*-poly(L-lysine) polyelectrolyte block copolymer mixtures, *Eur. Phys. J. E* **2006**, *20*, 1 – 6.
- 53) S. Tugulu, M. Harms, M. Fricke, D. Volkmer, H.-A. Klok, Polymer brushes as ionotropic matrices for the directed fabrication of microstructured calcite thin films, *Angew. Chem.* **2006**, *118*, 7619 – 7623; *Angew. Chem. Int. Ed.* **2006**, *45*, 7458 – 7461.
- 54) S. Tugulu, R. Barbey, M. Harms, M. Fricke, D. Volkmer, A. Rossi, H.-A. Klok, Synthesis of poly(methacrylic acid) brushes via surface-initiated atom transfer radical polymerization of sodium methacrylate and their use as substrates for the mineralization of calcium carbonate, *Macromolecules* **2007**, *40*, 168 – 177.
- 55) C. Ternat, G. Kreutzer, C. J. G. Plummer, T. Q. Nguyen, A. Herrmann, L. Ouali, H. Sommer, W. Fieber, M. I. Velazco, H.-A. Klok, J.-A. E. Månson, Amphiphilic multi-arm star-block copolymers for encapsulation of fragrance molecules, *Macromol. Chem. Phys.* **2007**, *208*, 131 – 145.
- 56) S. Tugulu, P. Silacci, N. Stergiopoulos, H.-A. Klok, RGD-functionalized polymer brushes as substrates for the integrin specific adhesion of human umbilical vein endothelial cells, *Biomaterials* **2007**, *28*, 2536 – 2546.
- 57) M. Danial, H.-A. Klok, W. Norde, M. A. Cohen Stuart, Complex coacervate core micelles with a lysozyme-modified corona, *Langmuir* **2007**, *23*, 8003 – 8009.
- 58) W. Fieber, A. Herrmann, L. Ouali, M. I. Velazco, G. Kreutzer, H.-A. Klok, C. Ternat, C. J. G. Plummer, J.-A. E. Månson, H. Sommer, NMR diffusion and relaxation studies of the encapsulation of fragrances by amphiphilic multiarm star block copolymers, *Macromolecules* **2007**, *40*, 5372 – 5378.
- 59) M. Scholl, T. Q. Nguyen, B. Bruchmann, H.-A. Klok, Controlling polymer architecture in the thermal hyperbranched polymerization of L-lysine, *Macromolecules* **2007**, *40*, 5726 – 5734.

- 60) M. Scholl, T. Q. Nguyen, B. Bruchmann, H.-A. Klok, The thermal polymerization of amino acids revisited; Synthesis and structural characterization of hyperbranched polymers from *L*-lysine, *J. Polym. Sci. Part A: Polym. Chem.* **2007**, *45*, 5494 – 5508.
- 61) N. Canilho, M. Scholl, H.-A. Klok, R. Mezzenga, Thermotropic ionic liquid crystals via self-assembly of cationic hyperbranched polypeptides and anionic surfactants, *Macromolecules* **2007**, *40*, 8374 – 8383.
- 62) M. R. Hammond, H.-A. Klok, R. Mezzenga, Self-organization on multiple length scales in “hairy rod”-coil block copolymer supramolecular complexes, *Macromol. Rapid. Commun.* **2008**, *29*, 299 – 303.
- 63) S. Tugulu, H.-A. Klok, Stability and nonfouling properties of poly(poly(ethylene glycol) methacrylate) brushes under cell culture conditions, *Biomacromolecules* **2008**, *9*, 906 – 912.
- 64) C. Ternat, L. Ouali, H. Sommer, W. Fieber, M. I. Velazco, C. J. G. Plummer, G. Kreutzer, H.-A. Klok, J.-A. E. Månson, A. Herrmann, Investigation of the release of bioactive volatiles from amphiphilic multiarm star-block copolymers by thermogravimetry and dynamic headspace analysis, *Macromolecules* **2008**, *41*, 7079 – 7089.
- 65) H. Nuhn, H.-A. Klok, Secondary structure formation and LCST behaviour of short, elastin-like peptides, *Biomacromolecules* **2008**, *9*, 2755 – 2763.
- 66) B. Apostolovic, H.-A. Klok, pH-Sensitivity of the E3/K3 heterodimeric coiled coil, *Biomacromolecules* **2008**, *9*, 3173 – 3180.
- 67) S. Tugulu, H.-A. Klok, Surface modification of polydimethylsiloxane substrates with nonfouling poly(poly(ethylene glycol)methacrylate) brushes, *Macromol. Symp.* **2009**, *279*, 103 – 109.
- 68) J. Wang, M. I. Gibson, R. Barbey, S.-J. Xiao, H.-A. Klok, Nonfouling polypeptide brushes via surface-initiated polymerization of N^ε-oligo(ethylene glycol)succinate-*L*-lysine N-carboxyanhydride, *Macromol. Rapid Commun.* **2009**, *30*, 845 – 850.
- 69) M. I. Gibson, E. Fröhlich, H.-A. Klok, Postpolymerization modification of poly(pentafluorophenyl methacrylate): synthesis of a diverse water-soluble polymer library, *J. Polym. Sci. Part A: Polym. Chem.* **2009**, *47*, 4332 – 4345.
- 70) V. Scheper, M. Wolf, M. Scholl, Z. Kadlecova, T. Perrier, H.-A. Klok, P. Saulnier, T. Lenarz, T. Stöver, Potential novel drug carriers for inner ear treatment: hyperbranched polylysine and lipid nanocapsules, *Nanomedicine* **2009**, *4*, 623 – 635.
- 71) N. Franz, L. Menin, H.-A. Klok, A post-modification strategy for the synthesis of uniform, hydrophilic/hydrophobic patterned α -hydroxy acid oligomers, *Eur. J. Org. Chem.* **2009**, 5390 - 5405.
- 72) C. Riachi, N. Schüwer, H.-A. Klok, Degradable polymer brushes prepared via surface-initiated controlled radical polymerization, *Macromolecules* **2009**, *42*, 8076 – 8081.
- 73) N. Franz, L. Menin, H.-A. Klok, A post-modification approach to peptide foldamers, *Org. Biomol. Chem.* **2009**, *7*, 5207 - 5218.
- 74) L. Lavanant, B. Pullin, J. A. Hubbell, H.-A. Klok, A facile strategy for the modification of polyethylene substrates with nonfouling, bioactive poly(poly(ethylene glycol)methacrylate) brushes, *Macromol. Biosci.* **2010**, *10*, 101 – 108.
- 75) N. Franz, H.-A. Klok, Synthesis of functional polydepsipeptides via direct ring-opening polymerization and post-polymerization modification, *Macromol. Chem. Phys.* **2010**, *211*, 809 – 820.
- 76) B. Apostolovic, S. P. E. Deacon, R. Duncan, H.-A. Klok, Hybrid polymer therapeutics incorporating bioresponsive, coiled coil peptide linkers, *Biomacromolecules* **2010**, *11*, 1187 - 1195.
- 77) B. Apostolovic, H.-A. Klok, Copolymerization behavior of N-(2-hydroxypropyl)methacrylamide and a methacrylated coiled coil peptide derivative, *Biomacromolecules* **2010**, *11*, 1891 – 1895 .
- 78) N. Schüwer, H.-A. Klok, A potassium-selective quartz crystal microbalance sensor based on crown-ether functionalized polymer brushes, *Adv. Mater.* **2010**, *22*, 3251 – 3255.
- 79) M. I. Gibson, D. Paripovic, H.-A. Klok, Size dependent LCST transitions of polymer-coated gold nanoparticles: cooperative aggregation and surface assembly, *Adv. Mater.* **2010**, *22*, 4721 – 4725.
- 80) R. Barbey, H.-A. Klok, Room temperature, aqueous post-polymerization modification of glycidyl methacrylate-containing polymer brushes prepared via surface-initiated atom transfer radical polymerization, *Langmuir* **2010**, *26*, 18219 – 18230.
- 81) R. Barbey, E. Kauffmann, M. Ehrat, H.-A. Klok, Protein microarrays based on polymer brushes prepared via surface-initiated atom transfer radical polymerization, *Biomacromolecules* **2010**, *11*, 3467 – 3479.

- 82) B. Apostolovic, S. P. E. Deacon, R. Duncan, H.-A. Klok, Cell uptake and trafficking behavior of non-covalent, coiled-coil based polymer-drug conjugates, *Macromol. Rapid Commun.* **2011**, 32, 11 – 18.
- 83) S. P. E. Deacon, B. Apostolovic, R. J. Carbajo, A.-K. Schott, K. Beck, M. J. Vicent, A. Pineda-Lucena, H.-A. Klok, R. Duncan, Polymer coiled-coil conjugates: potential for development as a new class of therapeutic "molecular switch", *Biomacromolecules* **2011**, 12, 19 – 27.
- 84) M. A. Gauthier, H.-A. Klok, Arginine-specific modification of proteins with polyethylene glycol, *Biomacromolecules* **2011**, 12, 482 – 493.
- 85) H. Nuhn, H.-A. Klok, Aqueous solution self-assembly of polystyrene-b-poly(L-lysine) diblock oligomers, *Eur. Polym. J.* **2011**, 47, 782 – 791.
- 86) D. Paripovic, H.-A. Klok, Polymer brush guided formation of thin gold and palladium/gold bimetallic films, *ACS Appl. Mater. Interfaces* **2011**, 3, 910 – 917.
- 87) D. Paripovic, H.-A. Klok, Improving the stability in aqueous media of polymer brushes grafted from silicon oxide substrates by surface-initiated atom transfer radical polymerization, *Macromol. Chem. Phys.* **2011**, 212, 950 – 958.
- 88) N. Schüwer, H.-A. Klok, Tuning the pH sensitivity of poly(methacrylic acid) brushes, *Langmuir* **2011**, 27, 4789 – 4796.
- 89) M. I. Gibson, M. Danial, H.-A. Klok, Sequentially modified, polymer-stabilized gold nanoparticle libraries: convergent synthesis and aggregation behavior, *ACS Comb. Sci.* **2011**, 13, 286 – 297.
- 90) M. A. Gauthier, M. Ayer, J. Kowal, F. R. Wurm, H.-A. Klok, Arginine-specific protein modification using α -oxo-aldehyde functional polymers prepared by atom transfer radical polymerization, *Polymer Chemistry* **2011**, 2, 1490 – 1498.
- 91) P. C. Griffiths, A. Paul, B. Apostolovic, H.-A. Klok, E. de Luca, S. M. King, R. K. Heenan, Conformational consequences of cooperative binding of a coiled-coil peptide motif to poly(N-(2-hydroxypropyl)methacrylamide) HPMA copolymers, *J. Control. Rel.* **2011**, 153, 173 – 179.
- 92) S. Ji, B. Bruchmann, H.-A. Klok, Synthesis of side-chain functional polyesters via Baylis-Hillman polymerization, *Macromolecules* **2011**, 44, 5218 – 5226.
- 93) N. K. Singha, M. I. Gibson, B. P. Koiry, M. Danial, H.-A. Klok, Side-chain peptide-synthetic polymer conjugates via tandem, "ester-amide/thiol-ene" post-polymerization modification of poly(pentafluorophenyl methacrylate) obtained using ATRP, *Biomacromolecules* **2011**, 12, 2908 – 2913.
- 94) N. Schüwer, T. Geue, J. P. Hinstrosa, H.-A. Klok, Neutron reflectivity study on the postpolymerization modification of poly(2-hydroxyethyl methacrylate) brushes, *Macromolecules* **2011**, 44, 6868 – 6874.
- 95) S. Ji, B. Bruchmann, H.-A. Klok, Exploring the scope of the Baylis-Hillman reaction for the synthesis of side-chain functional polyesters, *Macromol. Chem. Phys.* **2011**, 212, 2612 – 2618.
- 96) S. Ji, B. Bruchmann, F. Wurm, H.-A. Klok, Functional, hyperbranched polyesters via Baylis-Hillman polymerization, *J. Polym. Sci. Part A: Polym. Chem.* **2012**, 50, 25 – 34.
- 97) F. Wurm, C. Dingels, H. Frey, H.-A. Klok, Squaric acid mediated synthesis and biological activity of a library of linear and hyperbranched poly(glycerol)-protein conjugates, *Biomacromolecules* **2012**, 13, 1161 – 1171.
- 98) Z. Kadlecova, S. Nallet, D. L. Hacker, L. Baldi, H.-A. Klok, F. M. Wurm, Poly(ethyleneimine)-mediated large-scale transient gene expression: Influence of molecular weight, polydispersity and N-propionyl groups, *Macromol Biosci.* **2012**, 12, 628 – 636.
- 99) M. Danial, M. J. Root, H.-A. Klok, Polyvalent side chain peptide – synthetic polymer conjugates as HIV-1 entry inhibitors, *Biomacromolecules* **2012**, 13, 1438 – 1447.
- 100) C. Freese, M. I. Gibson, H.-A. Klok, R. E. Unger, C. J. Kirkpatrick, Size- and coating-dependent uptake of polymer-coated gold nanoparticles in primary human dermal microvascular endothelial cells, *Biomacromolecules* **2012**, 13, 1533 – 1543.
- 101) Z. Kadlecova, Y. Rajendra, M. Matasci, D. Hacker, L. Baldi, F. M. Wurm, H.-A. Klok, Hyperbranched polylysine: a versatile, biodegradable transfection agent for the production of recombinant proteins by transient gene expression and the transfection of primary cells, *Macromol. Biosci.* **2012**, 12, 794 – 804.
- 102) K. A. Günay, N. Schüwer, H.-A. Klok, Synthesis and post-polymerization modification of poly(pentafluorophenyl methacrylate) brushes, *Polym. Chem.* **2012**, 3, 2186 – 2192.

- 103) M. Danial, T. H. H. van Dulmen, J. Aleksandrowicz, A. J. G. Pötgens, H.-A. Klok, Site-specific PEGylation of HR2 peptides: Effects of PEG conjugation position and chain length on HIV-1 membrane fusion inhibition and proteolytic degradation, *Bioconjugate Chem.* **2012**, *23*, 1648 – 1660.
- 104) D. Paripovic, H. Hall-Bozic, H.-A. Klok, Osteoconductive surfaces generated from peptide functionalized poly(2-hydroxyethyl methacrylate-co-2-(methacryloyloxy)ethyl phosphate) brushes, *J. Mater. Chem.* **2012**, *22*, 19570 – 19578.
- 105) N. Schüwer, M.-L. Tercier-Waeber, M. Danial, H.-A. Klok, Voltammetric detection of Hg²⁺ using peptide-functionalized polymer brushes, *Aust. J. Chem.* **2012**, *65*, 1104 – 1109.
- 106) M. Geissbuehler, Z. Kadlecova, H.-A. Klok, T. Lasser, Assessment of transferrin recycling by triplet lifetime imaging in living cells, *Biomed. Opt. Express* **2012**, *3*, 2526 – 2536.
- 107) Z. Kadlecova, L. Baldi, D. Hacker, F. M. Wurm, H.-A. Klok, A comparative study on the in vitro cytotoxicity of linear, dendritic and hyperbranched polylysine analogues, *Biomacromolecules* **2012**, *13*, 3127 – 3137.
- 108) C. Dingels, F. Wurm, M. Wagner, H.-A. Klok, H. Frey, Squaric acid mediated chemoselective PEGylation of proteins: reactivity of single-step-activated α -amino poly(ethylene glycol)s, *Chem. Eur. J.* **2012**, *18*, 16828 – 16835.
- 109) Z. Kadlecova, Y. Rajendra, M. Matasci, L. Baldi, D. L. Hacker, F. M. Wurm, H.-A. Klok, DNA delivery with hyperbranched polylysine: A comparative study with linear and dendritic polylysine, *J. Control. Release* **2013**, *169*, 276 – 288.
- 110) C. Sugnaux, L. Lavanant, H.-A. Klok, Aqueous fabrication of pH-gated, polymer-brush-modified alumina hybrid membranes, *Langmuir* **2013**, *29*, 7325 – 7333.
- 111) C. Freese, R. E. Unger, R. C. Deller, M. I. Gibson, C. Brochhausen, H.-A. Klok, C. J. Kirkpatrick, Uptake of poly(2-hydroxypropylmethacrylamide)-coated gold nanoparticles in microvascular endothelial cells and transport across the blood–brain barrier, *Biomater. Sci.* **2013**, *1*, 824 – 833.
- 112) F. Wurm, T. Steinbach, H.-A. Klok, One-pot squaric acid diester mediated aqueous protein conjugation, *Chem. Commun.* **2013**, *49*, 7815 – 7817.
- 113) R. Barbey, V. Laporte, S. Alnabulsi, H.-A. Klok, Postpolymerization modification of poly(glycidyl methacrylate) brushes: An XPS depth-profiling study, *Macromolecules* **2013**, *46*, 6151 – 6158.
- 114) M. Nassajian Moghadam, V. Kolesov, A. Vogel, H.-A. Klok, D. P. Pioletti, Controlled release from a mechanically-stimulated thermosensitive self-heating composite hydrogel, *Biomaterials* **2014**, *35*, 450 – 455.
- 115) H. Wutzel, F. H. Richter, Y. Li, S. S. Sheiko, H.-A. Klok, Poly[N-(2-hydroxypropyl)methacrylamide] nanogels by RAFT polymerization in inverse emulsion, *Polym. Chem.* **2014**, *5*, 1711 – 1719.
- 116) T. Steinbach, F. Wurm, H.-A. Klok, Squaric acid mediated bioconjugation expanded to polymers prepared by ATRP, *Polym. Chem.* **2014**, *5*, 4039 – 4047.
- 117) B. R. Coad, T. Bilgic, H.-A. Klok, Polymer brush gradients grafted from plasma-polymerized surfaces, *Langmuir* **2014**, *30*, 8357 – 8365.
- 118) C. Sugnaux, H.-A. Klok, Glucose-sensitive QCM-sensors via direct surface RAFT polymerization, *Macromol. Rapid Commun.* **2014**, *35*, 1402 – 1407.
- 119) B. P. Koiry, H.-A. Klok, N. K. Singha, Copolymerization of 2,2,3,3,4,4,4-heptafluorobutyl acrylate with butyl acrylate via RAFT polymerization, *J. Fluorine Chem.* **2014**, *165*, 109 – 115.
- 120) S. Desseaux, H.-A. Klok, Temperature-controlled masking/unmasking of cell-adhesive cues with poly(ethylene glycol) methacrylate based brushes, *Biomacromolecules* **2014**, *15*, 3859 – 3865.
- 121) T. N. Gevrek, T. Bilgic, H.-A. Klok, A. Sanyal, Maleimide-functionalized thiol reactive copolymer brushes: fabrication and post-polymerization modification, *Macromolecules* **2014**, *47*, 7842 – 7851.
- 122) S. Desseaux, H.-A. Klok, Fibroblast adhesion on ECM-derived peptide modified poly(2-hydroxyethyl methacrylate) brushes: ligand co-presentation and 3D-localization, *Biomaterials* **2015**, *44*, 24 – 35.
- 123) N. Fortin, H.-A. Klok, Glucose monitoring using a polymer brush modified polypropylene hollow fiber-based hydraulic flow sensor, *ACS Appl. Mater. Interfaces* **2015**, *7*, 4631 – 4640.
- 124) J. Moraes, I.-M. Simionca, H. Ketari, H.-A. Klok, Avoiding compositional drift during the RAFT copolymerization of N-(2-hydroxypropyl)methacrylamide and N-acryloxysuccinimide: towards uniform platforms for post-polymerization modification, *Polym. Chem.* **2015**, *6*, 3245 – 3251. [correction: *Polymer. Chem.* **2015**, *6*, 7480 – 7483]

- 125) Y. Shen, S. Desseaux, B. Aden, B. S. Lokitz, S. M. Kilbey, II, Z. Li, H.-A. Klok, Shape-persistent, thermoresponsive polypeptide brushes prepared by vapor deposition surface-initiated ring-opening polymerization of α -amino acid N-carboxyanhydrides, *Macromolecules* **2015**, *48*, 2399 – 2406.
- 126) C. Sugnaux, A. Dalmau Mallorquí, J. Herriman, H.-A. Klok, A. Fontcuberta i Morral, Polymer brush guided formation of conformal, plasmonic nanoparticle-based electrodes for microwire solar cells, *Adv. Funct. Mater.* **2015**, *25*, 3958 – 3965.
- 127) T. Bilgic, H.-A. Klok, Oligonucleotide immobilization and hybridization on aldehyde-functionalized poly(2-hydroxyethyl methacrylate) brushes, *Biomacromolecules* **2015**, *16*, 3657 – 3665.
- 128) K. A. Günay, H.-A. Klok, Synthesis of cyclic peptide disulfide-PPMA conjugates via sequential active ester aminolysis and CuAAC coupling, *Polym. Chem.* **2016**, *7*, 970 - 978.
- 129) J. O. Zoppe, X. Xu, C. Känel, P. Orsolini, G. Siqueira, P. Tingaut, T. Zimmermann, H.-A. Klok, Effect of surface charge on surface-initiated atom transfer radical polymerization from cellulose nanocrystals in aqueous media, *Biomacromolecules* **2016**, *17*, 1404 – 1414.
- 130) S.-A. Ibanescu, J. Nowakowska, N. Khanna, R. Landmann, H.-A. Klok, Effects of grafting density and film thickness on the adhesion of *staphylococcus epidermidis* to poly(2-hydroxyethyl methacrylate) and poly(poly(ethylene glycol)methacrylate) brushes, *Macromol. Biosci.* **2016**, *16*, 676 – 685.
- 131) S. Desseaux, J. P. Hinestrosa, N. Schüwer, B. S. Lokitz, J. F. Ankner, S. M. Kilbey, II, K. Voitchovsky, H.-A. Klok, Swelling behavior and nanomechanical properties of (peptide-modified) poly(2-hydroxyethyl methacrylate) and poly(polyethylene glycol methacrylate) brushes, *Macromolecules* **2016**, *49*, 4609 – 4618.
- 132) L. Anspach, R. E. Unger, C. Brochhausen, M. I. Gibson, H.-A. Klok, J. C. Kirkpatrick, C. Freese, Impact of polymer-modified gold nanoparticles on brain endothelial cells: exclusion of endoplasmic reticulum stress as a potential risk factor, *Nanotoxicology* **2016**, *10*, 1341 – 1450.
- 133) N. Cavusoglu Ataman, H.-A. Klok, Degrafting of poly(poly(ethylene glycol) methacrylate) brushes from planar and spherical silicon substrates, *Macromolecules* **2016**, *49*, 9035 – 9047.
- 134) J. Moraes, R. Peltier, G. Gody, M. Blum, S. Recalcati, H.-A. Klok, S. Perrier, Influence of block versus random monomer distribution on the cellular uptake of hydrophilic copolymers, *ACS Macro Lett.* **2016**, *5*, 1416 – 1420.
- 135) K. A. Günay, D. Benczédi, A. Herrmann, H.-A. Klok, Peptide-enhanced selective surface deposition of polymer-based fragrance delivery systems, *Adv. Funct. Mater.* **2017**, *27*, 1603843.
- 136) M. Danial, A. N. Stauffer, F. R. Wurm, M. J. Root, H.-A. Klok, Site-specific polymer attachment to HR2 peptide fusion inhibitors against HIV-1 decreases binding association rates and dissociation rates rather than binding affinity, *Bioconjugate Chem.* **2017**, *28*, 701 – 712.
- 137) C. Battistella, H.-A. Klok, Reversion of P-gp-mediated drug resistance in ovarian carcinoma cells with PHPMA-Zosuquidar conjugates, *Biomacromolecules* **2017**, *18*, 1855 – 1865.
- 138) K. A. Günay, D. L. Berthier, H. A. Jerri, D. Benczédi, H.-A. Klok, A. Herrmann, Selective peptide-mediated enhanced deposition of polymer fragrance delivery systems on human hair, *ACS Appl. Mater. Interfaces*, **2017**, *9*, 24238 – 24249. (ACS Press release: <https://www.acs.org/content/acs/en/pressroom/presspacs/2017/acs-presspac-july-26-2017/longer-lasting-fragrance-is-just-a-shampoo-away-thanks-to-peptides.html>)
- 139) J. O. Zoppe, A. V. M. Dupire, T. G. G. Lachat, P. Lemal, L. Rodriguez-Lorenzo, A. Petri-Fink, C. Weder, H.-A. Klok, Cellulose nanocrystals with tethered polymer chains: chemically patchy versus uniform decoration, *ACS Macro Lett.* **2017**, *6*, 892 – 897.
- 140) T. D. Michl, C. Giles, P. Mocny, K. Futrega, M. R. Doran, H.-A. Klok, H. J. Griesser, B. R. Coad, Caspofungin on ARGET-ATRP grafted PHEMA brushes: enhancement and selectivity of prevention of attachment of *Candida albicans*, *Biointerphases* **2017**, *12*, 05G602.
- 141) S. Berndt, I. Konz, D. Colin, S. Germain, B. Pittet-Cuénod, H.-A. Klok, A. Modarressi, Micro-computed tomography technique for *in vivo* three-dimensional fat tissue volume evaluation after polymer injection, *Tissue Eng. Part C Methods* **2017**, *23*, 964 – 970.
- 142) L. Ding, Y. Jiang, J. Zhang, H.-A. Klok, Z. Zhong, pH-Sensitive coiled-coil peptide-crosslinked hyaluronic acid nanogels: synthesis and targeted intracellular protein delivery to CD44 positive cancer cells, *Biomacromolecules* **2018**, *19*, 555 – 562.

- 143) L.-A. Stern, P. Mocny, H. Vrabel, T. Bilgic, H.-A. Klok, X. Hu, A polymer-brush-templated three-dimensional molybdenum sulfide catalyst for hydrogen evolution, *ACS Appl. Mater. Interfaces* **2018**, *10*, 6253 – 6261.
- 144) T. D. Michl, D. Jung, A. Pertoldi, A. Schulte, P. Mocny, H.-A. Klok, H. Schönherr, C. Giles, H. J. Griesser, B. R. Coad, An acid test; facile SI-ARGET-ATRP of methacrylic acid, *Macromol. Chem. Phys.* **2018**, 1800182.
- 145) C. Battistella, Y. Yang, J. Chen, H.-A. Klok, Synthesis and post-polymerization modification of fluorine-end-labeled poly(pentafluorophenyl methacrylate) obtained via RAFT polymerization, *ACS Omega* **2018**, *3*, 9710 – 9721.

Peer-reviewed review and feature articles

- 146) H.-A. Klok, S. Lecommandoux, Supramolecular materials via block copolymer self-assembly, *Adv. Mater.* **2001**, *13*, 1217 – 1229.
- 147) A. Rösler, G. W. M. Vandermeulen, H.-A. Klok, Advanced drug delivery devices via self-assembly of amphiphilic block copolymers, *Adv. Drug Delivery Rev.* **2001**, *53*, 95 – 108. This article is amongst the top-30 most cited papers in the history of Advanced Drug Delivery Reviews (1987-2012) and was reprinted as part of a Special Issue as: A. Rösler, G. W. M. Vandermeulen, H.-A. Klok, Advanced drug delivery devices via self-assembly of amphiphilic block copolymers, *Adv. Drug Delivery Rev.* **2012**, *64*, 270 – 279.
- 148) H.-A. Klok, Protein-inspired materials: synthetic concepts and potential applications, *Angew. Chem.* **2002**, *114*, 1579 – 1583; *Angew. Chem. Int. Ed.* **2002**, *41*, 1509 – 1513.
- 149) G. W. M. Vandermeulen, H.-A. Klok, Peptide/protein hybrid materials: enhanced control of structure and improved performance through conjugation of biological and synthetic polymers, *Macromol. Biosci.* **2004**, *4*, 383 – 398.
- 150) H.-A. Klok, Biological - synthetic hybrid block copolymers: Combining the best from two worlds, *J. Polym. Sci., Part A: Polym. Chem.* **2005**, *43*, 1 – 17.
- 151) H.-A. Klok, S. Lecommandoux, Solid-state structure, organization and properties of peptide – synthetic hybrid block copolymers, *Adv. Polym. Sci.* **2006**, *202*, 75 – 111.
- 152) N. Franz, G. Kreutzer, H.-A. Klok, Synthesis of uniform, non-natural oligomers, *Synlett.* **2006**, 1793 – 1815.
- 153) M. A. Gauthier, H.-A. Klok, Peptide/protein – polymer conjugates: synthetic strategies and design concepts, *Chem. Commun.* **2008**, 2591 – 2611.
- 154) L. Lavanant, H.-A. Klok, Biofunctional and biomimetic polymer brushes prepared via surface-initiated atom transfer radical polymerization, *Chimia* **2008**, *62*, 793 – 798.
- 155) M. A. Gauthier, M. I. Gibson, H.-A. Klok, Synthesis of functional polymers by post-polymerization modification, *Angew. Chem.* **2009**, *121*, 50 – 60; *Angew. Chem. Int. Ed.* **2009**, *48*, 48 – 58.
- 156) M. Scholl, Z. Kadlecova, H.-A. Klok, Dendritic and hyperbranched polyamides, *Progr. Polym. Sci.* **2009**, *34*, 24 – 61.
- 157) H.-A. Klok, Peptide/protein – synthetic polymer conjugates – *Quo vadis*, *Macromolecules* **2009**, *42*, 7990 – 8000.
- 158) R. Barbey, L. Lavanant, D. Paripovic, N. Schüwer, C. Sugnaux, S. Tugulu, H.-A. Klok, Polymer brushes via surface-initiated controlled radical polymerization: synthesis, characterization, properties and applications, *Chem. Rev.* **2009**, *109*, 5437 – 5527.
- 159) B. Apostolovic, M. Danial, H.-A. Klok, Coiled coils: attractive protein folding motifs for the fabrication of self-assembled, responsive and bioactive materials, *Chem. Soc. Rev.* **2010**, *39*, 3541 – 3575.
- 160) M. A. Gauthier, H.-A. Klok, Polymer-protein conjugates: an enzymatic activity perspective, *Polym. Chem.* **2010**, *1*, 1352 – 1373.
- 161) N. Schüwer, R. Barbey, H.-A. Klok, Diagnostic and sensory polymer brushes, *Chimia* **2011**, *65*, 276.
- 162) F. Wurm, H.-A. Klok, Polymers interfacing with biology, *Chimia* **2011**, *65*, 659 – 662.
- 163) K. A. Günay, P. Theato, H.-A. Klok, Standing on the shoulders of Hermann Staudinger: Post-polymerization modification from past to present, *J. Polym. Sci. Part A: Polym. Chem.* **2013**, *51*, 1 – 28.

- 164) R. Cheng, F. Meng, C. Deng, H.-A. Klok, Z. Zhong, Dual and multi-stimuli responsive polymeric nanoparticles for programmed site-specific drug delivery, *Biomaterials* **2013**, *34*, 3647 – 3657.
- 165) F. R. Wurm, H.-A. Klok, Be squared: Expanding the horizon of squaric acid-mediated conjugations, *Chem. Soc. Rev.* **2013**, *42*, 8220 – 8236.
- 166) L. Chen, H.-A. Klok, “Multifaceted” polymer coated, gold nanoparticles, *Soft Matter* **2013**, *9*, 10678 – 10688.
- 167) C. Deng, J. Wu, R. Cheng, F. Meng, H.-A. Klok, Z. Zhong, Functional polypeptide and hybrid materials: Precision synthesis via α -amino acid N-carboxyanhydride polymerization and emerging biomedical applications, *Progr. Polym. Sci.* **2014**, *39*, 330 – 364.
- 168) T. Bilgic, H.-A. Klok, Surface-initiated controlled radical polymerization enhanced DNA biosensing, *Eur. Polym. J.* **2015**, *62*, 281 - 291.
- 169) M. Danial, H.-A. Klok, Polymeric anti-HIV therapeutics, *Macromol. Biosci.* **2015**, *15*, 9 – 35.
- 170) Y. Shen, Z. Li, H.-A. Klok, Polypeptide brushes grown via surface-initiated ring-opening polymerization of α -amino acid N-carboxyanhydrides, *Chin. J. Polym. Sci.* **2015**, *33*, 931 – 946.
- 171) H.-A. Klok, J. Genzer, Expanding the polymer mechanochemistry toolbox through surface-initiated polymerization, *ACS Macro Lett.* **2015**, *4*, 636 – 639.
- 172) K. A. Günay, H.-A. Klok, Identification of soft matter binding peptide ligands using phage display, *Bioconjugate Chem.* **2015**, *26*, 2002 – 2015.
- 173) P. Mocny, H.-A. Klok, Tribology of surface-grafted polymer brushes, *Mol. Syst. Des. Eng.* **2016**, *1*, 141- 154.
- 174) J. Zoppe, N. Cavusoglu Ataman, P. Mocny, J. Wang, J. Moraes, H.-A. Klok, Surface-initiated controlled radical polymerization: state-of-the-art, opportunities and challenges in surface and interface engineering with polymer brushes, *Chem. Rev.* **2017**, *117*, 1105 – 1318.
- 175) M. Graciotti, C. Berti, H.-A. Klok, L. Kandalajt, The era of bioengineering: how will this affect the next generation of cancer immunotherapy? *J. Transl. Med.* **2017**, *15*, 142. DOI 10.1186/s12967-017-1244-2.
- 176) M. Ayer, H.-A. Klok, Cell-mediated delivery of synthetic nano- and microparticles, *J. Control. Release* **2017**, *259*, 92 – 104.
- 177) C. Battistella, H.-A. Klok, Controlling and monitoring intracellular delivery of anticancer polymer nanomedicines, *Macromol. Biosci.* **2017**, *17*, 1700022.

Books and book chapters

- 178) J. J. Hwang, D. A. Harrington, H.-A. Klok, S. I. Stupp, Cell-synthetic surface interactions: self-assembling biomaterials, Chapter 65 in *Methods of Tissue Engineering* (A. Atala, R. P. Lanza Eds.), Academic Press **2002**.
- 179) H.-A. Klok, Chemical approaches for the preparation of biologically-inspired supramolecular architectures and advanced polymeric materials, Chapter 6.6 in *Highlights in Bioorganic Chemistry: Methods and Applications* (C. Schmuck, H. Wennemers, eds.), Wiley-VCH Verlag, **2004**.
- 180) H.-A. Klok, Polypeptide synthesis, Ring-opening polymerization of α -amino acid N-carboxyanhydrides, in *Encyclopedia of Polymer Science and Technology*, 3rd edition, John Wiley and Sons, **2004**. (DOI: 10.1002/0471440264.pst283).
- 181) S. Lecommandoux, H.-A. Klok, H. Schlaad, Self-assembly of linear polypeptide-based block copolymers, Chapter 6 in *Block Copolymers in Nanoscience* (M. Lazzari, G. Liu, S. Lecommandoux, eds.), Wiley-VCH Verlag, **2006**.
- 182) H.-A. Klok, T. J. Deming, Macromolecular engineering of polypeptides using the ring-opening polymerization of α -amino acid N-carboxyanhydrides, in *Macromolecular Engineering. Precise Synthesis, Materials Properties, Applications* (K. Matyjaszewski, Y. Gnanou, L. Leibler, eds.), Volume 1 (Synthetic Techniques), Chapter 12, Wiley-VCH Verlag, **2007**.
- 183) A. Carlsen, H.-A. Klok, S. Lecommandoux, Bulk and solution properties of peptide-polymer conjugates, Chapter 5 in *Biologically Responsive Hybrid Biomaterials* (E. Jabbari, A. Khademhosseini, eds.), World Scientific Publishing Co. Pte Ltd, **2010**.

- 184) S. Lecommandoux, H.-A. Klok, H. Schlaad, Self-assembly of linear polypeptide-based block copolymers, Chapter 27 in *Advanced Nanomaterials* (K. E. Geckeler, H. Nishide, eds.), Wiley-VCH Verlag, **2010**.
- 185) K. A. Günay, P. Théato, H.-A. Klok, History of post-polymerization modification, Chapter 1 in: *Functional Polymers by Post-Polymerization Modification: Concepts, Guidelines, and Applications* (P. Theato, H.-A. Klok, eds.), Wiley-VCH Verlag, **2013**.
- 186) M. Danial, H.-A. Klok, Combating HIV-1 entry and fusion with peptide – synthetic polymer conjugates, Chapter 8 in *Tailored Polymer Architectures for Pharmaceutical and Biomedical Applications* (C. Scholz, J. Kressler, eds), American Chemical Society, **2013** (*ACS Symp. Series* **2013**, 1135, 105 – 125).
- 187) N. Cavusoglu Ataman, J. Genzer, H.-A. Klok, Mechanochemistry of polymer brushes, Chapter 6 in *Mechanochemistry in Materials* (Y. C. Simon, S. L. Craig eds.), Polymer Chemistry Series **2018**, 26.