

## Publication list

### 2023

641. S. Schötz, B. B. Goerisch, A. Mavroskoufis, M. Dimde, E. Quaas, K. Achazi, R. Haag, *ACS Appl. Nano Mater.*, **2023**, in press. pH-degradable Polyglycerol-based Nanogels for intracellular Protein Delivery.
640. L. Schaupp, A. Addante, M. Völler, K. Fentker, A. Kuppe, M. Bardua, J. Duerr, L. Piehler, J. Röhmel, S. Thee, M. Kirchner, M. Ziehm, D. Lauster, R. Haag, M. Gradzielski, M. Stahl, P. Mertins, S. Boutin, S., M. A. Mall, *Eur Respir J.*, **2023**, 62(2), 2202153. *Longitudinal effects of elexacaftor/tezacaftor/ivacaftor on sputum viscoelastic properties, airway infection and inflammation in patients with cystic fibrosis.*
639. D. Lauster, K. Osterrieder, R. Haag, M. Ballauff, A. Herrmann, *Front. Microbiol.*, **2023**, 14, 1169547. *Respiratory viruses interacting with cells: the importance of electrostatics.*
638. P. Tang, B. Thongrom, S. Arora, R. Haag, *Adv. Healthc. Mater.*, **2023**, just accepted. *Polyglycerol-based biomedical matrix for immunomagnetic circulating tumor cell isolation and their expansion into tumor spheroids for drug screening.*
637. B. Parshad, M. N. Schlecht, M. Baumgardt, K. Ludwig, C. Nie, A. Rimondi, K. Hönzke, S. Angioletti-Uberti, V. Khatri, P. Schneider, A. Herrmann, R. Haag, A. C. Hocke, T. Wolff, S. Bhatia, *Nano Lett.* **2023**, 23, 11, 4844–4853. *Dual-Action Heteromultivalent Glycopolymers Stringently Block and Arrest Influenza A Virus Infection In Vitro and Ex Vivo.*
636. H. Koeppe, D. Horn, J. Scholz, E. Quaas, S. Schötz, F. Reisbeck, K. Achazi, E. Mohammadifar, J. Dervedde, R. Haag, *Int. J. Pharm.*, **2023**, 642, 123158. *Shell-sheddable dendritic polyglycerol sulfates loaded with sunitinib for inhibition of tumor angiogenesis.*
635. F. Zabihi, J. Reissner, A. Friese, M. Schulze, C. Nie, P. Nickl, L. Lehmann, P. Siller, C. Melcher, T. Schneiders, T. Gries, U. Rösler, R. Haag, *Adv. Mater. Technol.*, **2023**, just accepted. *Development of functional filter materials for virus protective face masks.*
634. M. Witt, M. Cherri, M. Ferraro, C. Yapto, K. Vogel, L. Schmidt, R. Haag, K. Danker, H. Dommisch, *ACS Appl. Bio Mater.*, **2023**, 6, 6, 2145–2157. *Anti-inflammatory IL-8 Regulation via an Advanced Drug Delivery System at the Oral Mucosa.*
633. R. Thielhorn, I. Heing-Becker, N. Humpfer, J. Rentsch, R. Haag, K. Licha, H. Ewers, *Angew. Chem. Int. Ed. Engl.*, **2023**, e202302318. *Controlled grafting expansion microscopy.*
632. R. Bej, C. Nie, K. Ludwig, V. Ahmadi, J. Trimpert, J. M. Adler, T. L. Povolotsky, K. Achazi, M. Kagelmacher, R. M. Vidal, J. Dervedde, B. B. Kaufer, R. Haag, *Angew. Chem. Int. Ed. Engl.*, **2023**, e202304010. *Mucin-Inspired Single-Chain Polymer (MIP) Fibers as Potent SARS-CoV-2 Inhibitors.*

Publications (peer review only)

631. P. Tang, G. Ma, P. Nickl, C. Nie, L. Yu, R. Haag, *Adv. Mater. Interfaces*, **2023**, in press. *Mussel-inspired Polyglycerol Coatings for Surface Modification with Tunable Architecture.*
630. X. Fan, Y. Gao, F. Yang, J. Liang Low, L. Wang, B. Paulus, Y. Wang, A. Trampuz, Chong Cheng, R. Haag, *Adv. Funct. Mater.*, **2023**, 2301986. *A Copper Single-Atom Cascade Bionanocatalyst for Treating Multidrug-Resistant Bacterial Diabetic Ulcer.*
629. P. Pouyan, A. Zemella, J. L. Schloßhauer, R. M. Walter, R. Haag, S. Kubick, *Sci. Rep.*, **2023**, 13, 6394. *One to one comparison of cell-free synthesized erythropoietin conjugates modified with linear polyglycerol and polyethylene glycol.*
628. T. Guitton-Spassky, F. Junge, A. K. Singh, B. Schade, K. Achazi, M. Maglione, S. Sigrist, Rashmi, R. Haag, *Nanoscale*, **2023**, 15, 7781-7791. *Fluorinated Dendritic Amphiphiles, their Stomatosome Aggregates and Application in Enzyme Encapsulation.*
627. D. Braatz, J. H. Peter, M. Dimde, E. Quaas, K. Ludwig, K. Achazi, M. Schirner, M. Ballauff, R. Haag, *J. Mater. Chem. B*, **2023**, 11, 3797-3807. *Dendritic Polyglycerolsulfate-SS-Poly(ester amide) Micelles for the Systemic Delivery of Docetaxel: Pushing the Limits of Stability through the Insertion of  $\pi$ - $\pi$  Interactions.*
626. L. H. Urner, F. Junge, F. Fiorentino, T. J. El-Baba, D. Shutin, G. Nolte, R. Haag, C. V. Robinson, *Chem. Eur. J.*, **2023**, e202300159. *Rationalizing the Optimization of Detergents for Membrane Protein Purification.*
625. F. Rancan, K. Rajes, P. Sidiropoulou, S. Hadam, X. Guo, F. Zabihi, U. Mirastschijski, E. Ruhl, R. Haag, U. Blume-Peytavi, A. Vogt, *Int. Immunopharmacol.*, **2023**, 117, 109903. *Efficacy of topically applied rapamycin-loaded redox-sensitive nanocarriers in a human skin/T cell co-culture model.*
624. B. F. Hohlfeld, D. Steen, G. D. Wieland, K. Achazi, N. Kulak, R. Haag, A. Wiehe, *Org. Biomol. Chem.*, **2023**, 21, 3105-3120. *Bromo- and glycosyl-substituted BODIPYs for application in photodynamic therapy and imaging.*
623. D. Maysinger, I. Zhang, P. Y. Wu, M. Kagelmacher, H. D. Luo, J. N. Kizhakkedathu, J. Dervedde, M. Ballauff, R. Haag, A. Shobo, G. Multhaup, R. Anne McKinney, *ACS Chem. Neurosci.* **2023**, 14, 4, 677-688. *Sulfated Hyperbranched and Linear Polyglycerols Modulate HMGB1 and Morphological Plasticity in Neural Cells.*
622. T. M. Page, C. Nie, L. Neander, T. L. Povolotsky, A. K. Sahoo, P. Nickl, J. M. Adler, O. Bawadkji, J. Radnik, K. Achazi, K. Ludwig, D. Lauster, R. R. Netz, J. Trimpert, B. Kaufer, R. Haag, I. S. Donskyi, *Small*, **2023**, 2206154. *Functionalized Fullerene for Inhibition of SARS-CoV-2 Variants*
621. F. Junge, P.-W. Lee, A. K. Singh, J. Wasternack, M. P. Pachnicz, R. Haag, C. Schalley, *Angew. Chem. Int. Ed. Engl.*, **2023**, 62 (12), e202213866. *Interfaces with Fluorinated Amphiphiles: Superstructures and Microfluidics.*

620. P. Nickl, T. Hilal, D. Olal, I. S. Donskyi, J. Radnik, K. Ludwig, R. Haag, Small, **2023**, 19 (8), e2205932. *A new support film for Cryo Electron Microscopy Protein Structure Analysis based on covalently Functionalized Graphene.*

## 2022

619. S. Xu, P. Zhang, I. Heing-Becker, J. Zhang, P. Tang, R. Bej, S. Bhatia, Y. Zhong, R. Haag, Biomaterials, **2022**, 290, 121844. Dual tumor- and subcellular-targeted photodynamic therapy using glucose-functionalized MoS<sub>2</sub> nanoflakes for multidrug-resistant tumor ablation.
618. Y. Wang, Q. Zhao, R. Haag, C. Wu, Angew. Chem. Int. Ed., **2022**, in press. Biocatalytic Synthesis Using Self-Assembled Polymeric Nano- and Microreactors.
617. M. Völler, A. Addante, H. Rulff, B. von Lospichl, S. Y. Gräber, J. Duerr, D. Lauster, R. Haag, M. Gradzielski, M. A. Mall, Front Physiol., **2022**, 13, 912049. An optimized protocol for assessment of sputum macrorheology in health and muco-obstructive lung disease.
616. Y. Kerkhoff, S. Wedepohl, C. Nie, V. Ahmadi, R. Haag, S. Block, MethodsX, **2022**, 9, 101834. A fast open-source Fiji-macro to quantify virus infection and transfection on single-cell level by fluorescence microscopy.
615. D. Verma, R. Rashmi, D. Rathore, K. Achazi, B. Schade, R. Haag, S. Sharma, ACS Appl. Polym. Mater., **2022**, 4, 11, 8269–8276. Evaluation of Transport Potential of Alkylated and Fluoroalkylated Amphiphilic Hybrid Nano-architectures.
614. B. Thongrom, M. Dimde, U. Schedler, R. Haag, Macromol Chem Phys., **2022**, in press. Thiol-Click Based Polyglycerol Hydrogels as Biosensing Platform with in situ Encapsulated Streptavidin Probes.
613. O. Bawadkji, M. Cherri, A. Schäfer, S. Herziger, P. Nickl, K. Achazi, I. S. Donskyi, M. Adeli, R. Haag, Adv. Mater. Interfaces, **2022**, 9, 32, 2201245. One-pot Covalent Functionalization of Two-Dimensional Black Phosphorus by Anionic Ring Opening Polymerization.
612. R. Bej, R. Haag, J. Am. Chem. Soc., **2022**, 144, 44, 20137–20152. Mucus-Inspired Dynamic Hydrogels: Synthesis and Future Perspectives.
611. A. Mittal, Krishna, F. Zabihi, F. Rancan, K. Achazi, C. Nie, A. Vogt, R. Haag, S. Sharma, RSC Adv., **2022**, 12, 23566–23577. Fabrication of Hydrolase Responsive Diglycerol Based Gemini Amphiphiles for Dermal Drug Delivery Applications.

Publications (peer review only)

610. M. Radbruch, H. Pischon, F. Du, R. Haag, F. Schumacher, B. Kleuser, L. Mundhenk, A. D Gruber, J. Control. Release, **2022**, 349, 917-928. Biodegradable core-multishell nanocarrier: Topical tacrolimus delivery for treatment of dermatitis.
609. W. Malicka, R. Haag, M. Ballauff, J. Phys. Chem. B., **2022**, 126, 33, 6250–6260. Interaction of Heparin with Proteins: Hydration Effects.
608. N. Hauptstein, P. Pouyan, K. Wittwer, G. Cinar, O. Scherf-Clavel, M. Raschig, K. Licha, T. Luhmann, I. Nischang, U. S. Schubert, C. K. Pfaller, R. Haag, L. Meinel, J. Control. Release **2022**, 348, 881-892. Polymer selection impacts the pharmaceutical profile of site-specifically conjugated Interferon-alpha2a.
607. P. Pouyan, M. Cherri, R. Haag, Polymers, **2022**, 14 (13), 2684. Polyglycerols as Multi-Functional Platforms: Synthesis and Biomedical Applications.
606. K. Rajes, P. Nölte, C. V. Yapto, K. Danker, H. Dommisch, R. Haag, Pharmaceutics, **2022**, 14, 940. Novel Adhesive Nanocarriers Based on Mussel-Inspired Polyglycerols for the Application onto Mucosal Tissues.
605. S. M. C. Schoenmakers, A. J. H. Spiering, S. Herziger, C. Böttcher, R. Haag, A. R. A. Palmans, E. W. Meijer, **2022**, ACS Macro Lett. 2022, 11, 5, 711–715. Structure and Dynamics of Supramolecular Polymers: Wait and See.
604. A. K. Singh, B. Schade, M. Rosati, Rashmi, V. Dichiarante, G. Cavallo, P. Metrangolo, R. Haag, Macromol. Biosci., **2022**, 22, 11, 2200108. Synthesis and Linker-Controlled Self-Assembly of Dendritic Amphiphiles with Branched Fluorinated Tails.
603. L. H. Urner, I. Liko, K. Pagel, R. Haag, C. V. Robinson, Biochim. Biophys. Acta Biomembr., **2022**, 1864 (9), 183958. Non-ionic hybrid detergents for protein delipidation.
602. D. Braatz, M. Cherri, M. Tully, M. Dimde, G. Ma, E. Mohammadifar, F. Reisbeck, V. Ahmadi, M. Schirner, R. Haag, Angew. Chem. Int. Ed. Engl., **2022**, 61, 49, e202203942. Chemical Approaches to Synthetic Drug Delivery Systems for Systemic Applications.
601. D. Verma, Rashmi, K. Achazi, A. K. Singh, B. Schade, R. Haag, S. K. Sharma, Polym. Adv. Technol., **2022**, 33 (8), 2601-2609. Synthesis of d-glucitolbased Gemini amphiphilic nanotransporters.
600. P. Graff, S. Hönzke, A. Anand Joshi, G. Yealland, E. Fleige, M. Unbehauen, M. Schäfer-Korting, A. Hocke, R. Haag, S. Hedtrich, Mol. Pharmaceutics, **2022**, 19, 6,

- 1795–1802. Preclinical Testing of Dendritic Core-Multishell Nanoparticles in Inflammatory Skin Equivalents.
599. L. Wang, X. Fan, M. Gonzalez Moreno, T. Tkilaishvili, W. Du, X. Zhang, C. Nie, A. Trampuz, R. Haag, *Adv. Sci.*, **2022**, 9, 17, e2105668. Photocatalytic Quantum Dot-Armed Bacteriophage for Combating Drug-Resistant Bacterial Infection.
598. S. Yue, Y. Zhang, Y. Wei, R. Haag, H. Sun, Z. Zhong, *Biomacromolecules*, **2022**, 23, 1, 100–111. Cetuximab–Polymersome–Mertansine Nanodrug for Potent and Targeted Therapy of EGFR-Positive Cancers.
597. I. Heing-Becker, K. Achazi, R. Haag, K. Licha, *Dyes Pigment*, **2022**, 201, 110198. Hydroquinone-functionalized cyanine dye as reduction-sensitive probe for imaging of biological reducing species.
596. Rashmi, H. Hasheminejad, S. Herziger, A. Mirzaalipour, A. K. Singh, R. R. Netz, C. Böttcher, H. Makki, S. K. Sharma, R. Haag, *Macromol. Rapid Commun.*, **2022**, 43 (8) 2100914. Supramolecular Engineering of Alkylated, Fluorinated, and Mixed Amphiphiles.
595. R. Ahmed, A. Vaishampayan, K. Achazi, E. Grohmann, R. Haag, O. Wagner, *Adv. Mater. Interfaces.*, **2022**, 9 (6), 2101917. Graphene-Based Bacterial Filtration via Electrostatic Adsorption.
594. Z. Tu, Y. Zhong, D. Shao, H. Hu, R. Haag, M. Schirner, J. Lee, B. Sullenger, K. Leong, *Nat. Rev. Mater.*, **2022**, 7, 557–574. Design of Therapeutic Biomaterials to Control Inflammation.
593. M. Lallemand, L. Yu, W. Cai, K. Rischka, A. Hartwig, R. Haag, T. Hugel, B. N. Balzer, *Nanoscale*, **2022**, 14, 3768-3776 . Multivalent non-covalent interactions lead to strongest polymer adhesion.
592. L. Gao, Y. Hou, H. Wang, M. Li, L. Ma, Z. Chu, I. S. Donskyi, R. Haag, *Angew. Chem. Int. Ed. Engl.*, **2022**, 61, 21, e202201563. A Metal-Ion-Incorporated Mussel-Inspired Poly(Vinyl Alcohol)-Based Polymer Coating Offers Improved Antibacterial Activity and Cellular Mechanoresponse Manipulation.
591. E. Mohammadifar, M. Gasbarri, V. Cagno, K. Achazi, C. Tapparel, R. Haag, F. Stellacci, *Biomacromolecules*, **2022**, 23, 3, 983–991. Polyanionic Amphiphilic Dendritic Polyglycerols as Broad-Spectrum Viral Inhibitors with a Virucidal Mechanism.
590. B. Thongrom, A. Sharma, C. Nie, E. Quaas, M. Raue, S. Bhatia, R. Haag, *Macromol. Biosci.*, **2022**, 22(5), e2100507. Scaffold Flexibility Controls Binding of Herpes

Simplex Virus Type 1 with Sulfated Dendritic Polyglycerol Hydrogels Fabricated by Thiol-Maleimide Click Reaction.

589. C. Nie, A. K. Sahoo, R. R. Netz, A. Hermann, M. Ballauff, R. Haag, *ChemBioChem* **2022**, 23 (6), e202100681. Charge Matters: Mutations in Omicron variant favor Binding to Cells.
588. Y. Pan, S. Zhou, C. Liu, X. Ma, J. Xing, B. Parshad, W. Li, A. Wu, R. Haag, *Adv. Healthc. Mater.* **2022**, e2102272. Dendritic polyglycerol-conjugated Gold Nanostars for Metabolism Inhibition and Targeted Photothermal Therapy in Breast Cancer Stem Cells.
587. S. Xu, S. Bhatia, X. Fan, P. Nickl, R. Haag, *Adv. Mater. Interfaces*, **2022**, 9 (9), 2102315. Glycosylated MoS<sub>2</sub> sheets for Capturing and Deactivating E. coli Bacteria: Combined Effects of Multivalent Binding and Sheet Size.
586. A. Lang, J. Stefanowski, M. Pfeiffenberger, A. Wolter, A. Damerau, S. Hemmati-Sadeghi, R. Haag, A. Hauser, M. Löhning, G. N. Duda, P. Hoff, K. Schmidt-Bleek, T. Gaber, F. Buttgereit, *Bone*, **2022**, 154, 116247. MIF does only marginally enhance the pro-regenerative capacities of DFO in a mouse-osteotomy-model of compromised bone healing conditions.
585. F. Reisbeck, S. Wedepohl, M. Dimde, A.-C. Schmitt, J. Dervedde, M. Álvaro-Benito C. Freund, R. Haag, *J Mater Chem B.*, **2022**, 10, 96-106. Synthesis and Functionalization of dendritic Polyglycerol-based Nanogels: Application in T Cell Activation.
584. W. Liang, Y. Li, J. L. Cuellar-Camacho, L. Yu, S. Zhou, W. Li, R. Haag, *Biomaterials*, **2022**, 280,121253. Chemically defined stem cell microniche engineering by microfluidics compatible with iPSCs' growth in 3D culture.

## 2021

583. L. H. Urner, E. Mohammadifar, K. Ludwig, D. Shutin, F. Fiorentino, I. Liko, F. G. Almeida, D. Kutifa, R. Haag, C. V. Robinson, *ACS Appl. Polym. Mater.*, **2021**, 3 (1), 5903 - 5911. Anionic dendritic polyglycerol for protein purification and delipidation.
582. D. Böhm, M. Volkmann, R. Haag, M. Moré, K. U. Schuricht, J. Vöster, S. Moré, B. Kohn, *Berl. Münch. Tierärztl. Wochenschr.*, **2021**, 134, 1–13. Treatment of feline hyperthyroidism with thiamazole – A randomised, controlled, multi-centre study to demonstrate the non-inferiority of a transdermal nanocarrier-formulation versus the oral administration of thiamazole tablets.

581. S. Carlson, M. Becker, F. N. Brünig, K. Ataka, R. Cruz, L. Yu, P. Tang, M. Kanduč, R. Haag, J. Heberle, H. Makki, R. R. Netz, *Langmuir*, **2021**, 37, 47, 13846–13858. Hydrophobicity of Self-Assembled Monolayers of Alkanes: Fluorination, Density, Roughness, and Lennard-Jones Cutoffs.
580. Y. Zhang, S. Yue, R. Haag, H. Sun, Z. Zhong, *J. Control Release*, **2021**, 340, 331-341. An intelligent cell-selective polymersome-DM1 nanotoxin toward triple negative breast cancer.
579. N. Yu, Y. Zhang, J. Li, W. Gu, S. Yue, B. Li, F. Meng, H. Sun, R. Haag, J. Yuan, Z. Zhong, *Adv. Mater.* **2021**, 33, 2007787. Daratumumab Immunopolymersome-Enabled Safe and CD38-Targeted Chemotherapy and Depletion of Multiple Myeloma.
578. D. Straßburger, S. Herziger, K. Huth, M. Urschbach, R. Haag, P. Besenius, Beilstein *J. Org. Chem.* **2021**, 17, 97–104. Supramolecular polymerization of sulfated dendritic peptide amphiphiles into multivalent L-selectin binders.
577. F. Rancan, X. Guo, K. Rajes, P. Sidiropoulou, F. Zabihi, L. Hoffmann, S. Hadam, U. Blume-Peytavi, E. Rühl, R. Haag, A. Vogt, *Int. J. Nanomedicine* **2021**, 16, 7137-7151. Topical Delivery of Rapamycin by Means of Microenvironment-Sensitive Core-Multi-Shell Nanocarriers: Assessment of Anti-Inflammatory Activity in an ex vivo Skin/T Cell Co-Culture Model.
576. Y. Pan, X. Ma, C. Liu, J. Xing, S. Zhou, B. Parshad, T. Schwerdtle, W. Li, A. Wu, R. Haag, *ACS Nano*, **2021**, 15, 9, 15069–15084. Retinoic Acid-Loaded Dendritic Polyglycerol-Conjugated Gold Nanostars for Targeted Photothermal Therapy in Breast Cancer Stem Cells.
575. Y. Hou, W. Xie, X. Fan, P. Tang, L. Yu, R. Haag, *ACS Appl. Mater. Interfaces* **2021**, 13, 46, 54840–54849, "Raspberry" Hierarchical Topographic Features Regulate Human Mesenchymal Stem Cell Adhesion and Differentiation via Enhanced Mechanosensing.
574. M. Schulze, S. Adigüzel, P. Nickl, A.-C. Schmitt, J. Dervedde, M. Ballauff, R. Haag, *Adv. Mater. Interfaces*, **2021**, 9 (5), 2102005. A simple and robust method to prepare polyelectrolyte brushes on polymer surfaces.
573. X. Fan, X. Wu, F. Yang, L. Wang, K. Ludwig, L. Ma, A. Trampuz, C. Cheng, R. Haag, *Angew. Chem. Int. Ed.*, **2021**, 61 (8), e202113833. A Nanohook-Equipped Bionanocatalyst for Localized Near-Infrared-Enhanced Catalytic Bacterial Disinfection.

Publications (peer review only)

572. V. Ahmadi, C. Nie, E. Mohammadifar, K. Achazi, S. Wedepohl, Y. Kerkhoff, S. Block, K. Osterrieder, R. Haag, *Chem. Commun.*, **2021**, 57, 11948-11951. One-pot gram-scale synthesis of a virucidal polymer:heparin-mimicking polymers for inhibition of herpes simplex virus 1.
571. M. Tully, N. Hauptstein, K. Licha, L. Meinel, T. Lühmann, R. Haag, *J. Pharm. Sci.*, **2022**, 111 (6), 1642-1651. Linear Polyglycerol for N-terminal-selective Modification of Interleukin-4.
570. B. Tolksdorf, C. Nie, D. Niemeyer, V. Röhrs, J. Berg, D. Lauster, J. M. Adler, R. Haag, J. Trimpert, B. Kaufer, C. Drost, J. Kurreck, *Viruses*, **2021**, 13(10), 2030. Inhibition of SARS-CoV-2 Replication by a Small Interfering RNA Targeting the Leader Sequence.
569. N. Hauptstein, P. Pouyan, J. Kehrein, M. Dirauf, M. Driessen, M. Raschig, K. Licha, M. Gottschaldt, U. Schubert, L. Meinel, R. Haag, C. Sotriffer, T. Lühmann, *Biomacromolecules*, **2021**, 22 (11), 4521–4534. Molecular insights into site-specific interferon- $\alpha$ 2a bioconjugates originated from PEG, LPG and PEtOx.
568. A. Singh, B. Schade, V. Wycisk, C. Böttcher, R. Haag, H. von Berlepsch, *J. Phys. Chem. B.*, **2021**, 125 (37), 10538–10550. Aggregation of Amphiphilic Carbocyanines. Fluorination favors Cylindrical Micelles over Bilayered Tubes.
567. C. Nie, J. Trimpert, S. Moon, R. Haag, K. Gilmore, B. B. Kaufer; P. H. Seeberger, *Virology*, **2021**, 18, 182. In vitro efficacy of Artemisia extracts against SARS-CoV-2.
566. M. N. Stadtmueller, S. Bhatia, P. Kiran, M. Hilsch, V. Reiter-Scherer, L. Adam, B. Parshad, M. Budt, S. Klenk, K. Sellrie, D. Lauster, P. H. Seeberger, C. Hackenberger, A. Herrmann, R. Haag, T. Wolff, *J. Med. Chem.*, **2021**, 64(17), 12774-12789. Evaluation of Multivalent Sialylated Polyglycerols for Resistance and Broad Antiviral Activity against Influenza Viruses.
565. A. Sharma, B. Thongrom, S. Bhatia, B. von Lospichl, A. Addante, S. Y. Graeber, D. Lauster, M. A. Mall, M. Gradzielski, R. Haag, *Macromol Rapid Comm.*, **2021**, 42(20), 2100303. Polyglycerol-based mucus-inspired hydrogels.
564. S. Schötz, F. Reisbeck, A.-C. Schmitt, M. Dimde, E. Quaas, K. Achazi, R. Haag, *Pharmaceutics*, **2021**, 13(8), 1276. Tunable Polyglycerol-Based Redox-Responsive Nanogels for Efficient Cytochrome C Delivery.
563. S. Xu, Y. Zhong, C. Nie, Y. Pan, M. Adeli, R. Haag, *Macromol Biosci*, **2021**, 21 (11), 2100233. Co-Delivery of Doxorubicin and Chloroquine by Polyglycerol Functionalized MoS<sub>2</sub> nanosheets for Efficient Multidrug-Resistant Cancer Therapy.



Publications (peer review only)

562. M. S. Chowdhury, W. Zheng, A. K. Singh, I. L. Hao Ong, Y. Hou, J. A. Heyman, A. Faghani, E. Amstad, D. A. Weitz, R. Haag, *Soft matter*, **2021**, 17, 7260-7267. Linear triglycerol-based fluorosurfactants show high potential for droplet-microfluidics-based biochemical assays.
561. W. J. Liang, S. Bhatia, F. Reisbeck, Y. N. Zhong, A. K. Singh, W. Z. Li, R. Haag, *Adv. Funct. Mater.* **2021**, 2010630. Thermoresponsive Hydrogels as Microniches for Growth and Controlled Release of Induced Pluripotent Stem Cells.
560. V. Ahmadi, F. Zabihi, F. Rancan, A. A. Staszak, C. Nie, M. Dimde, K. Achazi, A. Wiehe, A. Vogt, R. Haag, *ACS Appl. Nano Mater.* **2021**, 4, 7, 6709–6721. Amphiphilic co-Polypeptides Self-Assembled into Spherical Nanoparticles for Dermal Drug Delivery.
559. M. Cherri, M. Ferraro, E. Mohammadifar, E. Quaas, K. Achazi, K. Ludwig, C. Grötzinger, M. Schirner, R. Haag, *ACS Biomater. Sci. Eng.* **2021**, 7, 6, 2569–2579. Biodegradable dendritic polyglycerol sulfate for the delivery and tumor accumulation of cytostatic anticancer drugs.
558. D. Braatz, M. Dimde, G. Ma, Y. Zhong, M. Tully, C. Grötzinger, Y. Zhang, A. Mavroskoufis, M. Schirner, Z. Zhong, M. Ballauff, R. Haag, *Biomacromolecules* **2021**, 22, 6, 2625–2640. A toolbox of biodegradable dendritic (poly glycerol sulfate)-SS-poly(ester) micelles for cancer treatment: stability, drug release, and tumor targeting.
557. M. S. Chowdhury, X. Zhang, L. Amini, P. Dey, A. K. Singh, A. Faghani, M. S. Henneresse, R. Haag, *Nanomicro Lett.* **2021**, 13(1),147. Functional Surfactants for Molecular Fishing, Capsule Creation, and Single-Cell Gene Expression.
556. M. Tully, S. Wedepohl, D. Kutifa, C. Weise, K. Licha, M. Schirner, R. Haag, *Eur. J. Pharm. Biopharm.* **2021**, 164, 105-113. Prolonged Activity of Exenatide: Detailed Comparison of Site-specific linear Polyglycerol- and Poly(ethylene glycol)-Conjugates.
555. S. Bhatia, I. S. Donskyi, S. Block, C. Nie, A. Burdinski, D. Lauster, J. Radnik, A. Herrmann, R. Haag, K. Ludwig, M. Adeli, *Adv. Mater. Interfaces* **2021**, 8 (12), 2100285. Wrapping and blocking of Influenza A Viruses by Sialylated 2D Nanoplatfoms.
554. X. Fan, F. Yang, C. Nie, L. Ma, C. Cheng, R. Haag, *Adv. Mater.* **2021**, 2100637. Biocatalytic Nanomaterials: A New Pathway for Bacterial Disinfection.
553. C. Nie, P. Pouyan, D. Lauster, J. Trimpert, Y. Kerkhoff, G. P. Szekeres, M. Wallert, S. Block, A. K. Sahoo, J. Dervede, K. Pagel, B. B. Kaufer, R. R. Netz, M. Ballauff, R.

- Haag, *Angew. Chem. Int. Ed. Engl.* **2021**, 60(29) 15870-15878. Polysulfates block SARS-CoV-2 uptake via electrostatic interactions.
552. A. Herrmann, R. Haag, U. Schedler, *Adv. Healthc. Mater.* **2021**, 10(11), 2100062. Hydrogels and Their Role in Biosensing Applications.
551. H. Dommisch, KN. Stolte, J. Jager, K. Vogel, R. Müller, S. Hedtrich, M. Unbehauen, R. Haag, K. Danker, *Clin. Oral Investig.* **2021**, 25(10), 5795–5805. Characterization of an ester-based core-multishell (CMS) nanocarrier for the topical application at the oral mucosa
550. K. Rajes, K. A. Walker, S. Hadam, F. Zabihi, J. Ibrahim-Bacha, G. Germer, P. Patoka, B. Wassermann, F. Rancan, E. Ruehl, A. Vogt, R. Haag, *ACS Biomater. Sci. Eng.* **2021**, 7(6), 2485–2495. Oxidation Sensitive Core-Multishell Nanocarriers for the Controlled Delivery of Hydrophobic Drugs.
549. F. Reisbeck, A. Ozimkovski, M. Cherri, M. Dimde, E. Quaas, E. Mohammadifar, K. Achazi, R. Haag, *Polymers* **2021**, 13(6), 982. Gram Scale Synthesis of Dual-Responsive Dendritic Polyglycerol Sulfate as Drug Delivery System.
548. M. Tully, M. Dimde, C. Weise, P. Pouyan, K. Licha, M. Schirner, R. Haag, *Biomacromolecules* **2021**, 22, 4, 1406–1416. Polyglycerol for half-life extension of proteins - alternative to PEGylation?
547. L. Yu, P. Tang, C. Nie, Y. Hou, R. Haag, *Adv. Healthc. Mater.* **2021**, 10 (11), 2002202. Well-defined Nanostructured Biointerfaces: Strengthened Cellular Interaction for Circulating Tumor Cells isolation.
546. E. Mohammadifar, V. Ahmadi, M. F. Gholami, A. Oehrl, O. Kolyvushko, C. Nie, I. S. Donskyi, S. Herziger, J. Radnik, K. Ludwig, C. Böttcher, J. P. Rabe, K. Osterrieder, W. Azab, R. Haag, M. Adeli, *Adv. Funct. Mater.* **2021**, 202009003. Graphene-Assisted Synthesis of Two-Dimensional Polyglycerols as Innovative Platforms for Multivalent Virus Interactions.
545. Y. Xia, H. Yang, S. Li, S. Q. Zhou, L. Y. Wang, Y. J. Tang, C. Cheng, R. Haag, *Adv. Funct. Mater.* **2021**, 2010145. Multivalent Polyanionic 2D Nanosheets Functionalized Nanofibrous Stem Cell-based Neural Scaffolds.
544. P. Pouyan, C. Nie, S. Bhatia, S. Wedepohl, K. Achazi, N. Osterrieder, R. Haag, *Biomacromolecules*, **2021**, 22(4), 1545-1554. Inhibition of Herpes Simplex Virus Type 1 (HSV-1) attachment and infection by sulfated polyglycerols with different architectures.

543. A. Wolde-Kidan, A. Herrmann, A. Prause, M. Gradzielski, R. Haag, S. Block, R. R. Netz, *Biophys. J.*, **2021**, 120 (3), 463-475. Particle Diffusivity and Free-Energy Profiles in Hydrogels from Time-Resolved Penetration Data.
542. Krishna, B. Parshad, K. Achazi, C. Böttcher, R. Haag, S. K. Sharma, *ChemMedChem*, **2021**, 16 (9), 1457-1466. Newer Non-ionic A2B2 Type Enzyme Responsive Amphiphiles for Drug Delivery Applications.
541. M. Wallert, J. Plaschke, M. Dimde, V. Ahmadi, S. Block, R. Haag, *Macromol. Mater. Eng.*, **2021**, 306 (7), 2000688. Automated Solvent-Free Polymerization of Hyperbranched Polyglycerol with Tailored Molecular Weight by Online Torque Detection.
540. I. S. Donskyi, C. Nie, K. Ludwig, J. Trimpert, R. Ahmed, E. Quaas, K. Achazi, J. Radnik, M. Adeli, R. Haag, K. Osterrieder, *Small*, **2021**, 17 (11), 2007091. Graphene Sheets with Defined Dual Functionalities for the Strong SARS-CoV-2 Interactions.
539. Z. Sun, Q. Zhao, R. Haag, C. Wu, *Angew. Chem. Int. Ed. Engl.*, **2021**, 60 (15), 8410-8414. Responsive Emulsions for Sequential Multienzyme Cascades.
538. K. Rajes, K. A. Walker, S. Hadam, F. Zabihi, F. Rancan, A. Vogt, R. Haag, *Pharmaceutics* **2021**, 13(1), 37. Redox-Responsive Nanocarrier for Controlled Release of Drugs in Inflammatory Skin Diseases.
537. M. Li, C. Schlaich, J. Zhang, I. Donskyi, K. Schwibbert, F. Schreiber, Y. Xia, J. Radnik, T. Schwerdtle, R. Haag, *J. Mater. Sci. Technol.*, **2021**, 68, 160-171. Mussel-inspired multifunctional coating for bacterial infection prevention and osteogenic induction.
536. A. Vaishampayan, R. Ahmed, O. Wagner, A. de Jong, R. Haag, J. Kok, E. Grohmann, *Mater. Sci. Eng. C*, **2021**, 119, 111578. Transcriptomic analysis of stress response to novel antimicrobial coatings in a clinical MRSA strain.
535. C. Nie, M. Stadtmüller, B. Parshad, M. Wallert, Y. Kerkhoff, S. Bhatia, S. Block, C. Cheng, T. Wolff, R. Haag, *Sci. Adv.*, **2021**, 7 (1), eabd3803. Heteromultivalent topology-matched nanostructures as potent and broad-spectrum influenza A virus inhibitors.

## 2020

534. S. B. Lohan, S. Saeidpour, M. Colombo, S. Staufienbiel, M. Unbehauen, A. Wolde-Kidan, R. R. Netz, R. Bodmeier, R. Haag, C. Teutloff, R. Bittl, M. C. Meinke,

- Pharmaceutics, 2020, 12(5), 400. Nanocrystals for Improved Drug Delivery of Dexamethasone in Skin Investigated by EPR Spectroscopy.
533. M. Czuban, M. W. Kulka, L. Wang, A. Koliszak, K. Achazi, C. Schlaich, I. S. Donskyi, M. Di Luca, J. M. Mejia Oneto, M. Royzen, R. Haag, A. Trampuz, Mater. Sci. Eng. C, **2020**, 116, 111109. Titanium coating with mussel inspired polymer and bio-orthogonal chemistry enhances antimicrobial activity against Staphylococcus aureus.
532. P. U. Bastian, L. Yu, A. L. de Guereñu, R. Haag, M. U. Kumke, J. Phys. Chem. C, **2020**, 124 (52), 28623–28635. Bioinspired Confinement of Upconversion Nanoparticles for Improved Performance in Aqueous Solution.
531. S. Zhou, Y. Pan, J. Zhang, Y. Li, F. Neumann, T. Schwerdtle, W. Li and R. Haag, Nanoscale, **2020**, 12, 24006-24019. Dendritic polyglycerol-conjugated gold nanostars with different densities of functional groups to regulate osteogenesis in human mesenchymal stem cells.
530. I. Heing-Becker, C. Grötzinger, N. Beindorff, S. Prasad, S. Erdmann, S. Exner, R. Haag, K. Licha, ChemBioChem, **2020**, 22 (7), 1307-1315. Synthesis and Evaluation of a Cyanine-Bridged Somatostatin Hybrid Probe for Multimodal SSTR2-Imaging In Vitro and In Vivo.
529. Y. Pan, S. Zhou, Y. Li, B. Parshad, W. Li, R. Haag, J. Control Release, **2020**, 330, 1106-1117. Novel dendritic polyglycerol-conjugated, mesoporous silica-based targeting nanocarriers for co-delivery of doxorubicin and tariquidar to overcome multidrug resistance in breast cancer stem cells.
528. L. Yu, Y. Hou, W. Xie, J. L. Cuellar-Camacho, Q. Wei, R. Haag, Adv. Mater. **2020**, 32 (52), 2006986. Self-Strengthening Adhesive Force Promotes Cell Mechanotransduction.
527. W. Gu, F. Meng, R. Haag, Z. Zhong, J. Control Release, **2020**, 329, 676-695. Actively targeted nanomedicines for precision cancer therapy: Concept, construction, challenges and clinical translation.
526. L. H. Urner, K. Goltsche, M. Selent, I. Liko, M.-P. Schweder, C. V. Robinson, K. Pagel, R. Haag, Chem. Eur. J., **2020**, 27 (7), 2537-2542. Dendritic oligoglycerol regioisomer mixtures and their utility for membrane protein research.
525. M. Wallert, C. Nie, P. Anilkumar, S. Abbina, S. Bhatia, K. Ludwig, J. N. Kizhakkedathu, R. Haag, S. Block, Small, **2020**, 16 (47), 2004635. Mucin-Inspired,

High Molecular Weight Virus Binding Inhibitors Show Biphasic Binding Behavior to Influenza A Viruses.

524. R. Dahiya, A. Singh, K. Achazi, S. Ehrmann, C. Boettcher, R. Haag, S. Sharma, *Polym. Chem.*, **2020**, 11, 6772-6782. Stimuli-responsive Non-ionic Gemini Amphiphiles for Drug Delivery Applications.
523. M. W. Kulka, C. Nie, P. Nickl, Y. Kerkhoff, A. Garg, D. Salz, J. Radnik, I. Grunwald, R. Haag, *Adv. Mater. Interfaces*, **2020**, 7 (24), 2000931. Surface-Initiated Grafting of Dendritic Polyglycerol from Mussel-Inspired Adhesion-Layers for the Creation of Cell-Repelling Coating.
522. Y. Zhong, J. Zhang, Y. Hou, E. Chen, D. Huang, W. Chen, R. Haag, *Adv. Funct. Mater.*, **2020**, 31(3) 2007544. Tumor Microenvironment-activatable Nanoenzymes for Mechanical Remodeling of Extracellular Matrix and Enhanced Tumor Chemotherapy.
521. R. Lafleur, S. Herziger, S. Schoenmakers, A. Keizer, J. Jahzerah, B. Thota, L. Su, P. Bomans, N. Sommerdijk, A. Palmans, R. Haag, H. Friedrich, C. Böttcher, E. W. Meijer, *J. Am. Chem. Soc.*, **2020**, 142 (41), 17644–17652. Supramolecular Double Helices from Small C3-symmetrical Molecules Aggregated in Water.
520. V. Khatri, S. Bhatia, S. Deep, E. Kohli, R. Haag, N. N. Senapati, A. K. Prasad, *New J. Chem.*, **2020**, 44, 15369-15375. Exploring hydrophobic diastereomeric 2,6-anhydro-glycoheptitols for their enzymatic polymerization with PEG: towards delivery applications.
519. Y. Xia, X. Fan, H. Yang, L. Li, C. He, C. Cheng, R. Haag, *Small*, **2020**, 16 (38), 2003010. ZnO/Nanocarbons-Modified Fibrous Scaffolds for Stem Cell-based Osteogenic Differentiation.
518. L. H. Urner, M. Schulze, Y. B. Maier, W. Hoffmann, S. Warnke, I. Liko, K. Folmert, C. Manz, C. V. Robinson, R. Haag, K. Pagel, *Chem. Sci.*, **2020**, 11, 3538-3546, A new azobenzene-based design strategy for detergents in membrane protein research.
517. K. Achazi, R. Haag, M. Ballauff, J. Dervede, J. N. Kizhakkedathu, D. Maysinger, G. Multhaup, *Angew. Chem. Int. Ed. Engl.*, **2020**, 60 (8), 3882-3904. Understanding the interaction of polyelectrolyte architectures with proteins and biosystems.
516. M. W. Kulka, S. Smatty, F. Hehnen, T. Bierewirtz, K. Silberreis, C. Nie, Y. Kerkhoff, C. Grötzinger, S. Friedrich, L. I. Dahms, J. Dervede, I. Grunwald, M. Schirner, U. Kertzsch, K. Affeld, R. Haag, *Adv. Mater. Interfaces*, **2020**, 7 (21), 200272. The Application of Dual-Layer, Mussel-Inspired, Antifouling Polyglycerol-Based Coatings in Ventricular Assistant Devices.

515. R. Bej, K. Achazi, R. Haag, S. Ghosh, *Biomacromolecules*, **2020**, 21 (8), 3353–3363. Polymersome Formation by Amphiphilic Polyglycerol-b-Polydisulfide-b-Polyglycerol and Glutathione Triggered Intracellular Drug Delivery.
514. A. Faghani, F. M. Gholami, M. Trunk, J. Müller, P. Pachfule, S. Vogl, I. S. Donskyi, P. Nickl, J. Shao, M. Huang, W. E. S. Unger, R. Arenal, C. Koch, B. Paulus, J. P. Rabe, A. Thomas, R. Haag, M. Adeli, *J. Am. Chem. Soc.*, **2020**, 142 (30), 12976–12986. Metal-Assisted and Solvent-Mediated Synthesis of Two-Dimensional Triazine Structures on Gram Scale.
513. I. S. Donskyi, Y. Chen, P. Nickl, G. Guday, H. Qiao, K. Achazi, A. Lippitz, W. E. S. Unger, C. Böttcher, W. Chen, M. Adeli, R. Haag, *Nanoscale*, **2020**, 12, 14222-14229 . Self-Degrading Graphene Sheets for Tumor Therapy.
512. J. L. Cuellar-Camacho, S. Bhatia, V. Reiter-Scherer, D Lauster, S Liese, J. P. Rabe, A. Herrmann, R. Haag, *J. Am. Chem. Soc.*, **2020**, 142 (28), 12181–12192. Quantification of Multivalent Interactions between Sialic Acid and Influenza A Virus Spike Proteins by Single-Molecule Force Spectroscopy.
511. P. Manchanda, K. Achazi , D. Verma, C. Böttcher, R. Haag, S. K. Sharma, *Polymers* **2020**, 12, 1421. Chemoenzymatic Synthesis of D-Glucitol-Based Non-Ionic Amphiphilic Architectures as Nanocarriers.
510. D. Wischer, A. Poehlein, F. Herrmann, H. Oric, J. Meinhardt, D. Schneider, O. Wagner, S. Kharin, N. Novikova, R. Haag, R. Daniel, E. Grohmann, *Front Microbiol.*, **2020**, 11, 1626. Novel antimicrobial cellulose fleece inhibits growth of human-derived biofilm-forming Staphylococci during the SIRIUS19 simulated space mission.
509. S. Gholami, M. Dimde, D. Braatz, J. Müller, R. Haag, O. Wagner, *Environ. Technol. Inno.*, **2020**, 19, 101005. Reusable Biopolymer based Heavy Metal Filter as Plant Protection for Phytoremediation.
508. L. Yu, Y. Hou, W. Xie, J. L. Cuellar Camacho, C. Cheng, A. Holle, J. Young, B. Trappmann, W. Zhao, M. F. Melzig, E. A. Cavalcanti-Adam, C. Zhao, J. P. Spatz, Q. Wei, R. Haag, *Adv. Mater.*, **2020**, 32 (29), 2002566. Ligand Diffusion Enables Force-Independent Cell Adhesion via Activating  $\alpha 5\beta 1$  Integrin and Initiating Rac and RhoA Signaling.
507. R. Dahiya, F. Zabihi, A. K. Singh, K. Achazi, B. Schade, S. Hedtrich, R. Haag, S. K. Sharma, *Int. J. Pharm.*, **2020**, 580, 119212. Non-ionic PEG-oligoglycerol dendron conjugated nano-carriers for dermal drug delivery.

506. R. Ahmed, A. Vaishampayan, J. L. Cuellar-Camacho, D. J. Wight, I. Donskyi, W. E. S. Unger, E. Grohmann, R. Haag, O. Wagner, *Adv. Mater. Interfaces*, **2020**, 7 (15), 1902066. Multivalent bacteria binding by flexible polycationic micro-sheets matching their surface charge density.
505. Z. Tu, I.S. Donskyi, H. Qiao, Z. Zhu, W.E.S. Unger, C.P.R. Hackenberger, W. Chen,\* M. Adeli,\* R. Haag, *Adv. Funct. Mater.*, **2020**, 30 (35), 2000933. Graphene Oxide-Cyclic R10 Peptide Nuclear Translocation Nanoplatforms for the Surmounting of Multiple-Drug Resistance.
504. A. Oehrl, S. Schötz, R. Haag, *Colloid Polym. Sci.*, **2020**, 298, 719–733. Synthesis of pH-Degradable Polyglycerol-Based Nanogels by iEDDA-Mediated Crosslinking for Encapsulation of Asparaginase Using Inverse Nanoprecipitation.
503. S. Bhatia, M. Hilsch, J. L. Cuellar Camacho, K. Ludwig, C. Nie, B. Parshad, M. Wallert, S. Block, D. Lauster, C. Böttcher, A. Herrmann, R. Haag, *Angew. Chem. Int. Ed. Engl.*, **2020**, 59 (30), 12417-12422. Adaptive flexible sialylated nanogels as highly potent influenza A virus inhibitors.
502. C. Nie, M. Stadtmüller, H. Yang, Y. Xia, T. Wolff, C. Cheng, R. Haag, *Nano Lett.*, **2020**, 20 (7), 5367–5375. Spiky nanostructures with geometry-matching topology for virus inhibition.
501. C. Nie, B. Parshad, S. Bhatia, C. Cheng, M. Stadtmüller, A. Oehrl, Y. Kerkhoff, T. Wolff, R. Haag, *Angew. Chem. Int. Ed. Engl.*, **2020**, 132 (36), 15662-15666. Reverse design of an influenza neutralizing spiky nano-inhibitor with a dual mode of action.
500. L.H. Urner, I. Liko, H.-Y. Yen, K.-K. Hoi, J. R. Bolla, J. Gault, F. G. Almeida, M.-P. Schweder, D. Shutin, S. Ehrmann, R. Haag, C. V. Robinson, K. Pagel, *Nat. Commun.*, **2020**, 11, 564. Modular detergents tailor the purification and structural analysis of membrane proteins including G-protein coupled receptors.
499. R. Randriantsilefisoa, C. Nie, B. Parshad, Y. Pan, S. Bhatia and R. Haag, *Chem. Commun.*, **2020**, 56, 3547-3550. Double trouble for viruses: a hydrogel nanocomposite catches the influenza virus while shrinking and changing color.
498. A. Mittal, A. K. Singh, A. Kumar, Parmanand, K. Achazi, R. Haag, S. K. Sharma, *Polym. Adv. Technol.*, **2020**, 31(6), 1208-1217. Fabrication of oligo-glycerol based hydrolase responsive amphiphilic nanocarriers.
497. B. Schade, A. K. Singh, V. Wycisk, J. L. Cuellar-Camacho, H. v. Berlepsch, R. Haag, C. Böttcher, *Chem. Eur. J.*, **2020**, 26(30), 6919-6934. Stereochemistry controlled

supramolecular architectures of novel tetrahydroxy functionalized amphiphilic carbocyanine dyes.

496. G. Guday, P. Nickl, M. Adeli, R. Haag, *ACS Appl. Nano Mater.*, **2020**, 2020, 3(2), 1139–1146. Reversible Photothermal Homogenization of Fluorous Biphasic Systems with Perfluoroalkylated Nanographene.
495. Y. Hou, L. Yu, M. Zhang, W. Xie, J. L. Cuellar-Camacho, Z. Chu, Q. Wei, R. Haag, *Nano Lett.* **2020**, 20(1), 748-757. Surface Roughness and Substrate Stiffness Synergize to Drive Cellular Mechanoresponse.
494. A. Oehrl, S. Schötz, R. Haag, *Macromol Rapid Comm.*, **2020**, 41 (1), 1900510. Systematic Screening of Different Polyglycerin-Based Dienophile Macromonomers for Efficient Nanogel Formation through IEDDA Inverse Nanoprecipitation.
493. K. Pant, C. Neuber, K. Zarschler, J. Wodtke, S. Meister, R. Haag, J. Pietzsch, H. Stephan, *Small* **2020**, 16 (7), 1905013. Active Targeting of Dendritic Polyglycerols for Diagnostic Cancer Imaging.
492. Y. Hou, W. Xie, L. Yu, J. L. Cuellar Camacho, C. Nie, M. Zhang, R. Haag and Q. Wei, *Small* **2020**, 16(10), 1905422. Surface roughness gradients reveal topography-specific mechanosensitive responses in human mesenchymal stem cells
491. Q. Zhao, M. B. Ansorge-Schumacher, R. Haag, C. Wu, *Bioresour. Technol.*, **2020**, 295, 122221. Living Whole-cell Catalysis in Compartmentalized Emulsion.
490. R. Randriantsilefisoa, Y. Hou, Y. Pan, J. L. Cuellar Camacho, M. W. Kulka, J. Zhang and R. Haag, *Adv. Funct. Mater.*, **2020**, 30(1), 1905200. Interaction of Human Mesenchymal Stem Cells with Soft Nanocomposite Hydrogels Based on Polyethylene Glycol and Dendritic Polyglycerol.

## 2019

489. C. Hiepen, J. Jatzlau, S. Hildebrandt, B. Kampfrath, M. Goktas, A. Murgai, J. L. Cuellar Camacho, R. Haag, C. Ruppert, G. Sengle, E. A. Cavalcanti-Adam, K. G. Blank, P. Knaus, *PLOS Biology* **2019**, 17(12), e3000557. BMPR2 acts as a gatekeeper to protect endothelial cells from increased TGF $\beta$  responses and altered cell mechanics
488. J. Frombach, M. Unbehauen, I. Nurita Kurniasih, F. Schumacher, P. Volz, S. Hadam, F. Rancan, U. Blume-Peytavi, B. Kleuser, R. Haag, U. Alexiev, A. Vogt, *J. Control Release*, **2019**, 299, 138-148. Core-multishell nanocarriers enhance drug



penetration and reach keratinocytes and antigen-presenting cells in intact human skin.

487. K. Ober, P. Volz-Rakebrand, J. Stellmacher, R. Brodewolf, K. Licha, R. Haag, U. Alexiev, *Langmuir* **2019**, 35(35), 11422-11434. Expanding the Scope of Reporting Nanoparticles: Sensing of Lipid Phase Transitions and Nanoviscosities in Lipid Membranes.
486. K. Silberreis, N. Niesler, N. Rades, R. Haag, J. Dervedde, *Biomacromolecules* **2019**, 20(10), 3809-3818. Sulfated Dendritic Polyglycerol Is a Potent Complement Inhibitor.
485. H. Wu, S. Reimann, S. Siddiqui, R. Haag, B. Siegmund, J. Dervedde, R. Glauben, *Macromol Biosci.*, **2019**, 19(12), e1900184. dPGS regulates the phenotype of macrophages via metabolic switching.
484. M. W. Kulka, I. S. Donskyi, N. Wurzler, D. Salz, Ö. Özcan, W. E.S. Unger, R. Haag, *ACS Appl. Bio Mater.*, **2019**, 2, 12, 5749-5759. Mussel-Inspired Multivalent Linear Polyglycerol Coatings Outperform Monovalent Polyethylene Glycol Coatings in Antifouling Surface Properties.
483. P. Kiran, S. Kumari, J. Dervedde, R. Haag and S. Bhatia, *New J. Chem.*, **2019**, 43, 16012-16016. Synthesis and comparison of linear and hyperbranched multivalent glycosides for C-type lectin binding.
482. I. S. Donskyi, W. Azab, J. L. Cuellar-Camacho, G. Guday, A. Lippitz, W. E.S. Unger, K. Osterrieder, M. Adeli and R. Haag, *Nanoscale*, **2019**, 11, 15804-15809. Functionalized Nanographene Sheets with High Antiviral Activity Through Synergistic Electrostatic and Hydrophobic Interactions.
481. M. S. Chowdhury, W. Zheng, S. Kumari, J. Heyman, X. Zhang, P. Dey, D. Weitz, R. Haag, *Nat. Commun.*, **2019**, 10, 4546. Dendronized fluorosurfactant for highly stable water-in-fluorinated oil emulsions with minimal inter-droplet transfer of small molecules.
480. D. Maysinger, M. Lalancette-Hébert, J. Jia, K. Jabboura, J. Dervedde, K. Silberreis, R. Haag, J. Kriz, *Future Neurol.*, **2019**, 14, 4. Dendritic polyglycerols are modulators of microglia-astrocyte crosstalk.
479. Y. Xia, S. Li, C. Nie, J. Zhang, S. Zhou, H. Yang, M. Li, W. Li, C. Cheng,\* and R Haag,\* *Appl Mater Today*, **2019**, 16, 518-528. A Multivalent Polyanion-Dispersed Carbon Nanotube towards Highly Bioactive Nanostructured Fibrous Stem Cell Scaffolds.

Publications (peer review only)

478. B. Parshad, P. Yadav, Y. Kerkhoff, A. Mittal, K. Achazi, R. Haag, S. K. Sharma, *New J. Chem*, **2019**, 1901920. Dendrimer-based Micelles as Cyto-compatible Nanocarriers.
477. A. G. Godin, A. Setaro, M. Gandil, R. Haag, M. Adeli, S. Reich and L. Cognet, *Sci. Adv.* **2019**, 5 (9), eaax1166. Photoswitchable Single-Walled Carbon Nanotubes for Super-Resolution Microscopy in the Near-Infrared.
476. J. G. Zhang, H. Yang, B. E. Abali, M. Li, Y. Xia, R. Haag, *Small* **2019**, 15(30), e1901920. Dynamic Mechanics-Modulated Hydrogels to Regulate the Differentiation of Stem-Cell Spheroids in Soft Microniches and Modeling of the Nonlinear Behavior.
475. L. H. Urner, B. Schade, M. Schulze, K. Folmert, R. Haag, K. Pagel, *ChemPhysChem*, **2019**, 20, 1690. Switchable Solubility of Azobenzene-Based Bolaamphiphiles.
474. J. Chen, L. Yu, Y. Li, J. L. Cuellar Camacho, Y. Chai, D. Li, Y. Li, H. Liu, L. Ou, W. Li, R. Haag, *Adv. Funct. Mater.* **2019**, 1808961. Biospecific Monolayer Coating for Multivalent Capture of Circulating Tumor Cells with High Sensitivity.
473. X. Fan, F. Yang, J. Huang, Y. Yang, C. Nie, W. Zhao, L. Ma, C. Cheng, C. Zhao, R. Haag, *Nano Lett.*, **2019**, 19(9), 5885-5896. Metal-Organic-Framework-Derived 2D Carbon Nanosheets for Localized Multiple Bacterial Eradication and Augmented Anti-Infective Therapy.
472. P. Ray, M. Ferraro, R. Haag, M. Quadir, *Macromol. Biosci.*, **2019**, 19 (7), e1900073. Dendritic Polyglycerol-derived nano-architectures as delivery platforms of gemcitabine for pancreatic cancer
471. F. Zabihi, H. Koeppe, K. Achazi, S. Hedtrich, R. Haag, *Biomacromolecules*, **2019**, 20(5), 1867-1875. One-Pot Synthesis of Poly(glycerol-co-succinic acid) Nanogels for Dermal Delivery.
470. M. Li, C. Schlaich, M. W. Kulka, I. S. Donskyi, T. Schwerdtle, W. E. S. Unger and R. Haag, *J. Mater. Chem. B*, **2019**, 7, 3438-3445. Mussel-inspired coatings with tunable wettability, for enhanced antibacterial efficiency and reduced bacterial adhesion.
469. R. Randriantsilefisoa, J. L. Cuellar-Camacho, M. S. Chowdhury, P. Dey, U. Schedler, R. Haag, *J. Mater. Chem. B*, **2019**, 7, 3220-3231. Highly Sensitive Detection of Antibodies in a Soft but Robust Bioactive Three-Dimensional Bioorthogonal Hydrogel.

468. K. H. Tan, S. Sattari, S. Beyranvand, A. Faghani, K. Ludwig, K. Schwibbert, C. Böttcher, R. Haag, M. Adeli, *Langmuir*, **2019**, 35 (13), 4736–4746. Thermoresponsive Amphiphilic Functionalization of Thermally Reduced Graphene Oxide to Study Graphene/Bacteria Hydrophobic Interactions.
467. V. Reiter-Scherer, J. L. Cuellar-Camacho, S. Bhatia, R. Haag, A. Herrmann, D. Lauster, J. P. Rabe, *Biophys. J.*, **2019**, 116 (6), 1037-1048. Force Spectroscopy Shows Dynamic Binding of Influenza Hemagglutinin and Neuraminidase to Sialic Acid.
466. L. Gao, F. Zabihi, S. Ehrmann, S. Hedtrich, R. Haag, *J. Control. Release*, **2019**, 300, 64-72. Supramolecular nanogels fabricated via host-guest molecular recognition as penetration enhancer for dermal drug delivery.
465. L. Gao, M. Li, S. Ehrmann, Z. Tu, R. Haag, *Angew. Chem. Int. Ed. Engl.*, **2019**, 131 (11), 3684-3688. Positively Charged Nanoaggregates Based on Zwitterionic Pillar[5]arene that Combat Planktonic Bacteria and Disrupt Biofilms.
464. D. Haksar, E. de Poel, L. H.C. Quarles van Ufford, S. Bhatia, R. Haag, J. M. Beekman, R. J. Pieters, *Bioconjug Chem.*, **2019**, 30 (3), 785-792. Strong inhibition of cholera toxin B subunit by affordable, polymer-based multivalent inhibitors.
463. S. Kumari, K. Achazi, P. Dey, R. Haag, J. Dervedde, *Biomacromolecules*, **2019**, 20 (3), 1157-1166. Design and Synthesis of PEG-Oligoglycerol Sulfates as Multivalent Inhibitors for the Scavenger Receptor LOX-1.
462. G. Guday, I. S. Donskyi, M. F. Gholami, G. Algara-Siller, F. Witte, A. Lippitz, W. E. S. Unger, B. Paulus, J. P. Rabe, M. Adeli, R. Haag, *Small*, **2019**, 15 (11), 1805430. Scalable Production of Nanographene and Doping via Non-destructive Covalent Functionalization.
461. M. L. Unbehauen, D. Łabuz, R. Schwarzl, S. Moré, R. R. Netz, C. Stein, H. Machelska, R. Haag, *Adv. Therap.*, **2019**, 2 (5), 1900007. Tailor-made Core-multishell Nanocarriers for the Delivery of Cationic Analgesics to Inflamed Tissue.
460. N. Rades, K. Achazi, M. Qiu, C. Deng, R. Haag, Z. Zhong, K. Licha, *J. Control. Release*, **2019**, 300, 13-21. Reductively cleavable polymer-drug conjugates based on dendritic polyglycerol sulfate and monomethyl auristatin E as anticancer drugs.

Publications (peer review only)

459. S. Bhatia, B. Ziem, R. Haag, Eds. J. Huskens, L. Prins, R. Haag, B. J. Ravoo. Multivalency concepts, research, and applications. Wiley and Sons Ltd. 2018, 207-228.
458. P. Dong, F. F. Sahle, S. B. Lohan, S. Saeidpour, S. Albrecht, C. Teutloff, R. Bodmeier, M. Unbehauen, C. Wolff, R. Haag, J. Lademann, A. Patzelt, M. Schäfer-Korting, M. C. Meinke, J. Control. Release, **2018**, 295, 214-222. pH-sensitive Eudragit® L 100 nanoparticles promote cutaneous penetration and drug release on the skin.
457. M. Ferraro, K. Silberreis, E. Mohammadifar, F. Neumann, J. Dervede, R. Haag, Biomacromolecules, **2018**, 19(12), 4524–4533. Biodegradable Polyglycerol Sulfates Exhibit Promising Features for Anti-inflammatory Applications
456. P. Kiran, S. Bhatia, D. Lauster, S. Aleksić, C. Fleck, N. Peric, W. Maison, S. Liese, B. G. Keller, A. Herrmann, R. Haag, Chem. Eur. J. **2018**, 24, 19373-19385. Exploring Rigid and Flexible Core Trivalent Sialosides for Influenza Virus Inhibition.
455. R. Balansin Rigon, S. Kaessmeyer, C. Wolff, C. Hausmann, N. Zhang, M. Sochorová, A. Kováčik, R. Haag, K. Vávrová, M. Ulrich, M. Schäfer-Korting, C. Zoschke, Int. J. Mol. Sci., **2018**, 19(11), E3521. Ultrastructural and molecular analysis of glycosylated reconstructed human skin
454. R. Dahiya, A. K. Singh, K. Achazi, B. Schade, C. Böttcher, R. Haag and S. K. Sharma, RSC Adv., **2018**, 8, 31777. Synthesis of non-ionic bolaamphiphiles and study of their self-assembly and transport behaviour for drug delivery applications
453. Y. Hou, W. Xie, K. Achazi, J. L. Cuellar-Camacho, M. F. Melzig, W. Chen, R. Haag, Acta Biomater. **2018**, 77, 28-37. Injectable degradable PVA microgels prepared by microfluidic technology for controlled osteogenic differentiation of mesenchymal stem cells
452. J. Zhang, C. Cheng, J. L. Cuellar-Camacho, M. Li, Y. Xia, W. Li, R. Haag, Adv. Funct. Mater. **2018**, 28(47), 1804773. Thermally Responsive Microfibers Mediated Stem Cell Fate via Reversibly Dynamic Mechanical Stimulation
451. F. Zabihi, P. Graff, F. Schumacher, B. Kleuser, S. Hedtrich and R. Haag, Nanoscale **2018**, 10, 16848-16856. Synthesis of Poly(lactide-co-glycerol) as a Biodegradable and Biocompatible Polymer with High Loading Capacity for Dermal Drug Delivery
450. D. Stöbener, F. Paulus, A. Welle, C. Wöll, R. Haag, Langmuir **2018**, 34(35), 10302-10308. Dynamic Protein Adsorption onto Dendritic Polyglycerol Sulfate Self-Assembled Monolayers

449. F. Fenaroli, U. Repnik, Y. Xu, K. Johann, S. Van Herck, P. Dey, F. M. Skjeldal, D. Miltzow Frei, S. Bagherifam, A. Kocere, R. Haag, B. G. De Geest, M. Barz, D. G. Russell, G. Griffiths, *ACS Nano* **2018**, 12(8), 8646-8661. Enhanced Permeability and Retention-Like Extravasation of Nanoparticles from the Vasculature into Tuberculosis Granulomas in Zebrafish and Mouse Models.
448. Q. Ran, X. Xu, P. Dey, S. Yu, Y. Lu, J. Dzubiella, R. Haag, M. Ballauff, *J. Chem. Phys.* **2018**, 149, 163324. Interaction of human serum albumin with dendritic polyglycerol sulfate: Rationalizing the thermodynamics of binding.
447. B. N. S. Thota, X. Lou, D. Bochicchio, T. F. E. Paffen, R. P. M. Lafleur, J. L. J. van Dongen, S. Ehrmann, R. Haag, G. M. Pavan, A. R. A. Palmans, E. W. Meijer, *Angew. Chem. Int. Ed. Engl.* **2018**, 57(23), 6843-6847. Supramolecular Copolymerization as a Strategy to Control the Stability of Self-Assembled Nanofibers.
446. G. Tiram, S. Ferber, P. Ofek, A. Eldar-Boock, D. Ben-Shushan, E. Yeini, A. Krivitsky, R. Blatt, N. Almog, J. Henkin, O. Amsalem, E. Yavin, G. Cohen, P. Lazarovici, J. S. Lee, E. Ruppin, M. Milyavsky, R. Grossman, Z. Ram, M. Calderón, R. Haag, R. Satchi-Fainaro, *FASEB J.*, **2018**, 32 (11), 5835-5850. Reverting the molecular fingerprint of tumor dormancy as a therapeutic strategy for glioblastoma.
445. Z. Tu, H. Qiao, Y. Yan, G. Guday, W. Chen, M. Adeli, R. Haag, *Angew. Chem.*, **2018**, 57(35), 11198-11202. Directed Graphene-Based Nanoplatfoms for Hyperthermia-Overcoming Multiple Drug Resistance.
444. C. Cheng, S. Li, Y. Xia, L. Ma, C. Nie, C. Roth, A. Thomas, R. Haag, *Adv. Mater.*, **2018**, 1802669. Atomic Fe-Nx Coupled Open-Mesoporous Carbon Nanofibers for Efficient and Bio-Adaptable Oxygen Electrode in Mg-Air Batteries.
443. P. Dey, T. Bergmann, J. L. Cuellar Camacho, S. Ehrmann, M. S. Chowdhury, M. Zhang, I. Dahmani, R. Haag, W. Azab, *ACS Nano*, **2018**, 12(7), 6429-6442. Multivalent Flexible-Nanogels Exhibit Broad-Spectrum Antiviral Activity by Blocking Virus Entry.
442. L. H. Urner, Y. B. Maier, R. Haag and K. Pagel, *J. Am. Soc. Mass Spectrom.*, **2018**, 30(1), 174-180. Exploring the Potential of Dendritic Oligoglycerol Detergents for Protein Mass Spectrometry.
441. Q. Zhao, M. B. Ansorge-Schumacher, R. Haag, C. Wu, *Chem. Eur. J.*, **2018**, 24, (43), 10966-10970, Compartmentalized Aqueous-organic Emulsion for Efficient Biocatalysis.

440. S. Prasad, K. Achazi, B. Schade, R. Haag, S. K. Sharma, *Macromol. Biosci.*, **2018**,18(7), e1800019. Nonionic Dendritic and Carbohydrate Based Amphiphiles: Self-Assembly and Transport Behavior.
439. E. Kapourani, F. Neumann, K. Achazi, J. Dervede and R. Haag, *Macromol. Biosci.*, **2018**, 18(10), 1800116. Droplet-Based Microfluidic Templating of Polyglycerol-Based Microgels for the Encapsulation of Cells: A Comparative Study.
438. M. Quadir, S. Fehse, G. Multhaupt and R. Haag, *Molecules*, **2018**, 23(6), 1281. Hyperbranched Polyglycerol Derivatives As Prospective Copper Nanotransporter Candidates.
437. N. Rades, K. Licha, R. Haag, *Polymers*, **2018**, 10, 595. Dendritic Polyglycerol Sulfate for Therapy and Diagnostics.
436. K. H. Tan, S. Sattari, I. S. Donskyi, J. L. Cuellar-Camacho, C. Cheng, K. Schwibbert, A. Lippitz, W. E. S. Unger, A. Gorbushina, M. Adeli and R. Haag, *Nanoscale*, **2018**, 10, 9525-9537. Functionalized 2D nanomaterials with switchable binding to investigate graphene–bacteria interactions.
435. S. Hemmati-Sadeghi, J. Ringe, T. Dehne, R. Haag, M. Sittinger, *Int. J. Mol. Sci.*, **2018**, 19(5), 1519. Hyaluronic Acid Influence on Normal and Osteoarthritic Tissue-Engineered Cartilage.
434. S. Ehrmann, C.-W. Chu, S. Kumari, K. Silberreis, C. Böttcher, J. Dervede, B. J. Ravoo, R. Haag, *J. Mater. Chem. B*, **2018**, 6, 4216-4222. A Toolbox Approach for Multivalent Presentation of Ligand-Receptor Recognition on a Supramolecular Scaffold.
433. K. Huth, M. Gläske, K. Achazi, G. Gordeev, S. Kumar, R. Arenal, S. K. Sharma, M. Adeli, A. Setaro, S. Reich, R. Haag, *Small*, **2018**, 14 (28) 1800796. Synthesis and Characterization of Fluorescent Polymer - Single-Walled Carbon Nanotubes Complexes with Noncharged and Charged Dendronized Perylene Bisimides for Bioimaging Studies.
432. L. Yu, C. Schlaich, Y. Hou, J. Zhang, P.-L. M. Noeske, R. Haag, *Chem. Eur. J.*, **2018**, 24(30), 7531-7780. Photoregulating Antifouling and Bioadhesion Functional Coating Surface Based on Spiropyran.
431. K. A. Walker, M. L. Unbehauen, S. B. Lohan, S. Saeidpour, M. C. Meinke, R. Zimmer, R. Haag, *Z. Phys. Chem.*, **2018**, 232 (5-6), 883-892. Spin-labeling of Dexamethasone: Radical Stability vs. Temporal Resolution of EPR-Spectroscopy on Biological Samples.

Publications (peer review only)

430. H. v. Berlepsch, B. N. S. Thota, M. Wyszogrodzka, S. de Carlo, R. Haag and C. Böttcher, *Soft Matter*, **2018**, 14, 5256-5269. Controlled self-assembly of stomatosomes by use of single-component fluorinated dendritic amphiphiles
429. S. Hemmati-Sadeghi, P. Dey, J. Ringe, R. Haag, M. Sittinger, T. Dehne, J. Biomed. Mater. Res. B, **2018**, Biomimetic sulfated polyethylene glycol hydrogel inhibits proteo-glycan loss and tumor necrosis factor- $\alpha$ -induced expression pattern in an osteoarthritis in vitro model. DOI:10.1002/jbm.b.34139
428. J. Zhang, W. Chen, L. Yu, M. Li, F. Neumann, W. Li, R. Haag, *ACS Appl. Nano Mater.* **2018**, 1(4), 1513-1521. Selective Endothelial Cell Adhesion Via Mussel-Inspired Hybrid Microfibrous Scaffold.
427. Y. Li, K. Huth, E. Garcia, B. J. Pedretti, Y. Bai, G. Vincil, R. Haag and S. C. Zimmerman, *Polym. Chem.*, **2018**, 9, 2040-2047. Linear Dendronized Polyols as a Multifunctional Platform for a Versatile and Efficient Fluorophore Design
426. C. Goroncy, P. E. J. Saloga, M. Gruner, M. Schmudde, J. Vonnemann, E. Otero, R. Haag and C. Graf, *Z. Phys. Chem.*, **2018**, 232 (5–6), 819–844. Influence of Organic Ligands on the Surface Oxidation State and Magnetic Properties of Iron Oxide Particles.
425. P. Volz, R. Brodewolf, C. Zoschke, R. Haag, M. Schäfer-Korting and U. Alexiev, *Z. Phys. Chem.*, **2018**, 232(5–6), 671–688. White-Light Supercontinuum Laser-Based Multiple Wavelength Excitation for TCSPC-FLIM of Cutaneous Nanocarrier Uptake.
424. Z. Tu, G. Guday, M. Adeli, R. Haag, *Adv. Mater.*, **2018**, 27(15), 160647. Multivalent Interactions between 2D Nanomaterials and Biointerfaces.
423. A. Herrmann, L. Kaufmann, P. Dey, R. Haag, U. Schedler, *ACS Appl. Mater. Interfaces*, **2018**, 10(13), 11382-11390. Bioorthogonal in situ Hydrogels based on Polyether-Polyols for new Biosensor Materials with high Sensitivity
422. I. Donskyi, M. Drüke, K. Silberreis, D. Lauster, K. Ludwig, C. Kühne, W. Unger, C. Böttcher, A. Herrmann, J. Dervede, M. Adeli, R. Haag, *Small*, **2018**, 14(17), e1800189. Interactions of Fullerene-Polyglycerol Sulfates at Viral and Cellular Interfaces.
421. X. Xu , Q. Ran, P. Dey, R. Nikam, R. Haag, M. Ballauf, J. Dzubiella, *Biomacromolecules*, **2018**, 19(2), 409-416. Counterion-Release Entropy Governs the Inhibition of Serum Proteins by Polyelectrolyte Drugs.
420. H. Juch, L. Nikitina, S. Reimann, M. Gauster, G. Dohr, B. Obermayer-Pietsch, D. Hoch, K. Kornmueller, R. Haag, *Nanotoxicology*, **2018**, 12(2), 90-103. Dendritic

polyglycerol nanoparticles show charge dependent bio-distribution in early human placental explants and reduce hCG secretion.

419. C. Schlaich, Y. Fan, P. Dey, J. Cui, Q. Wei, R. Haag, X. Deng, *Adv Mater Interfaces*, **2018**, 5(7), 1701536. Universal, Surfactant-Free Preparation of Hydrogel Beads on Superamphiphobic and Slippery Surfaces.
418. A. Edlich, P. Volz, R. Brodewolf, M. Unbehauen, L. Mundhenk, A. D. Gruber, S. Hedtrich, R. Haag, U. Alexiev, B. Kleuser, *Biomaterials*, **2018**, 162, 60-70. Crosstalk between core-multishell nanocarriers for cutaneous drug delivery and antigen-presenting cells of the skin
417. C. Cheng, J. Zhang, S. Li, Y. Xia, C. Nie, Z. Shi, J. L. Cuellar-Camacho, N. Ma, R. Haag, *Adv. Mater.*, **2018**, 30(5), 1705452. A Water-Processable and Bioactive Multivalent Graphene Nano-Ink for Highly Flexible Bio-Electronic Films and Nanofibers
416. N. Hadesfandiari, M. Weinhart, J. N. Kizhakkedathu, R. Haag, D. E. Brooks, *Adv Healthc Mater.* **2018**, 7, 1700839. Development of Antifouling and Bactericidal Coatings for Platelet Storage Bags Using Dopamine Chemistry

## 2017

415. L. Yu, Y. Hou, C. Cheng, C. Schlaich, P.-L. M. Noeske, Q. Wei, R. Haag, *ACS Appl. Mater. Interfaces*, **2017**, 9(51), 44281-44292. High-antifouling Polymer Brush Coatings on Nonpolar Surfaces via Adsorption-Crosslinking Strategy
414. F. Müller, S. Hönzke, W.-O. Luthardt, E. L. Wong, M. Unbehauen, J. Bauer, R. Haag, S. Hedtrich, E. Rühl, J. Rademann, *Eur. J. Pharm. Biopharm.* **2017**, 116, 31-37. Rhamnolipids form drug-loaded nanoparticles for dermal drug delivery
413. M. Staegemann, S. Gräfe, B. Gitter, K. Achazi, E. Quaas, R. Haag, A. Wiehe, *Biomacromolecules* **2017**, 19(1), 222-238. Hyperbranched Polyglycerol Loaded with (Zinc-) Porphyrins - Photosensitizer Release Under Reductive and Acidic Conditions for Improved Photodynamic Therapy
412. S. Saeidpour, S. B. Lohan, A. Solik, V. Paul, R. Bodmeier, G. Zoubari, M. Unbehauen, R. Haag, R. Bittl, M. C. Meinke, C. Teutloff, *Eur. J. Pharm. Biopharm.* **2017**, 110, 19-23. Drug distribution in nanostructured lipid particles
411. Z. Tu, V. Wycisk, C. Cheng, W. Chen, M. Adeli, R. Haag, *Nanoscale*, **2017**, 9, 18931-18939. Functionalized Graphene Sheets for Intracellular Controlled Release of Therapeutic Agents.



Publications (peer review only)

410. M. Dimde, F. Neumann, F. Reisbeck, S. Ehrmann, J. L. Cuellar-Camacho, D. Steinhilber, N. Ma and R. Haag, *Biomater. Sci.*, **2017**, 5, 2328-2336. Defined pH-sensitive nanogels as gene delivery platform for siRNA mediated in vitro gene silencing
409. C. Schlaich, M. Li, C. Cheng, I. S. Donskyi, L. Yu, G. Song, E. Osorio, Q. Wei, R. Haag, *Adv Mater Interfaces*, **2017**, 5(5), 1701254. Mussel-Inspired Polymer-based Universal Spray Coating for Surface Modification: Fast Fabrication of Antibacterial and Superhydrophobic Surface Coatings
408. D. Maysinger, J. Ji, A. Moquin, S. Hossain, M. A. Hancock, I. Zhang, P. K. Y. Chang, M. Rigby, M. Anthonisen, P. Grutter, J. C. S. Breitner, R. A. McKinney, S. Reimann, R. Haag, G. Multhaupt, *ACS Chem Neurosci*. **2017**, 9(2), 260-271. Dendritic Polyglycerol Sulfates in the Prevention of Synaptic Loss and Mechanism of Action on Glia.
407. C. Cheng, S. Li, A. Thomas, N. A. Kotov, R. Haag, *Chem. Rev.*, **2017**, 117 (3), 1826–1914. Functional Graphene Nanomaterials Based Architectures: Biointeractions, Fabrications, and Emerging Biological Applications
406. C. Schlaich, Q. Wei, R. Haag, *Langmuir*, **2017**, 33 (38), 9508–9520. Mussel-Inspired Polyglycerol Coatings with Controlled Wettability: From Superhydrophilic to Superhydrophobic Surface Coatings
405. M. Li, L. Gao, C. Schlaich, J. Zhang, I. S. Donskyi, G. Yu, W. Li, Z. Tu, J. Rolff, T. Schwerdtle, N. Ma, R. Haag, *ACS Appl. Mater. Interfaces*, **2017**, 9 (40), 35411–35418. Construction of Functional Coatings with Durable and Broad-Spectrum Antibacterial Potential Based on Mussel-Inspired Dendritic Polyglycerol and in Situ-Formed Copper Nanoparticles
404. E. Mohammadifar, F. Zabihi, Z. Tu, S. Hedtrich, A. Nemati, M. Adeli, R. Haag, *Polym. Chem.*, **2017**, 8, 7375-7383. One-pot and gram-scale synthesis of biodegradable polyglycerol at ambient conditions; nanocarriers for intradermal drug delivery
403. S. Ferber, G. Tiram, A. Sousa-Herves, A. Eldar-Boock, A. Krivitsky, P. Ofek, A. Scomparin, E. Yeini, L. Vossen, K. Licha, R. Grossman, Z. Ram, J. Henkin, E. Ruppin, N. Auslander, R. Haag, M. Calderón, R. Satchi-Fainaro, *elife* **2017**, 6, e25281. Co-targeting the tumor endothelium and P-selectin-expressing glioblastoma cells leads to a remarkable therapeutic outcome
402. J. Jager, K. Obst, S. B. Lohan, J. Viktorov, S. Staufenbiel, H. Renz, M. Unbehauen, R. Haag, S. Hedtrich, C. Teutloff, M. C. Meinke, K. Danker, H. Dommisch, *J Periodont*

- Res. **2017**, 1–9. Characterization of hyperbranched core-multishell nanocarriers as an innovative drug delivery system for the application at the oral mucosa
401. F. Ernst, Z. Gao, R. Arenal, T. Heek, A. Setaro, R. Fernandez-Pacheco, R. Haag, L. Cognet, S. Reich, *J. Phys. Chem. C*, **2017**, 121 (34), 18887-18891. Noncovalent Stable Functionalization Makes Carbon Nanotubes Hydrophilic and Biocompatible
400. B. von Lospichl, S. Hemmati-Sadeghi, P. Dey, T. Dehne, R. Haag, M. Sittinger, J. Ringe, M. Gradzielski, *Colloids Surf., B* **2017**, 159, 477-483. Injectable Hydrogels for Treatment of Osteoarthritis - A Rheological Study
399. V. Khatri, S. Bhatia, K. Achazi, S. Deep, E. Kohli, S. Sharma, R. Haag, A. Prasad, *RSC Adv.* **2017**, 7, 37534-37541. Lipase-mediated Synthesis of Sugar-PEG-based Amphiphiles for Encapsulation and Stabilization of Indocyanine Green
398. M. L. Unbehauen, E. Fleige, F. Paulus, B. Schemmer, S. Mecking, S. D. Moré, R. Haag, *Polymers* **2017**, 9, 316. Biodegradable Core–Multishell Nanocarriers: Influence of Inner Shell Structure on the Encapsulation Behavior of Dexamethasone and Tacrolimus
397. V. Wycisk, K. Achazi, O. Hirsch, C. Kuehne, J. Dervedde, R. Haag, K. Licha, *ChemistryOpen* **2017**, 6, 437. Heterobifunctional Dyes: Highly Fluorescent Linkers Based on Cyanine Dyes
396. Y. Yang, A. Wang, Q. Wei, C. Schlesener, R. Haag, Q. Li, J. Li, *ChemistryOpen* **2017**, 6, 158-164. Hyperbranched Polyglycerol-Induced Porous Silica Nanoparticles as Drug Carriers for Cancer Therapy In Vitro and In Vivo
395. K. Obst, G. Yealland, B. Balzus, E. Miceli, M. Dimde, C. Weise, M. Eravci, R. Bodmeier, R. Haag, M. Calderón, N. Charbaji, S. Hedtrich, *Biomacromolecules* **2017**, 18 (6), 1762–1771. Protein Corona Formation on Colloidal Polymeric Nanoparticles and Polymeric Nanogels: Impact on Cellular Uptake, Toxicity, Immunogenicity, and Drug Release Properties
394. S. González-Rodríguez, M. A. Quadir, S. Gupta, K. A. Walker, X. Zhang, V. Spahn, D. Labuz, A. Rodriguez-Gaztelumendi, M. Schmelz, J. Joseph, M. K. Parr, H. Machelska, R. Haag, C. Stein, *elife* **2017**, 6, e27081. Polyglycerol-opioid conjugates – a novel generation of painkillers designed to preclude side effects
393. X. Xu, Q. Ran, R. Haag, M. Ballauff, J. Dzubiella, *Macromolecules* **2017**, 50 (12), 4759–4769. Charged dendrimers revisited: Effective charge and surface potential of dendritic polyglycerol sulfate

392. Z. Tu, K. Achazi, A. Schulz, R. Mülhaupt, S. Thierbach, E. Rühl, M. Adeli, R. Haag, *Adv. Funct. Mater.* **2017**, 27 (33), 1701837. Combination of Surface Charge and Size Controls the Cellular Uptake of Functionalized Graphene Sheets
391. K. Pant, J. Pufe, K. Zarschler, R. Bermann, J. Steinbach, S. Reimann, R. Haag, J. Pietzsch and H. Stephan, *Nanoscale* **2017**, 9 (25), 8723-8739. Surface charge and particle size determine the metabolic fate of dendritic polyglycerols
390. S. Reimann, T. Schneider, P. Welker, F. Neumann, K. Licha, G. Schulze-Tanzil, W. Wagermaier, P. Fratzl and R. Haag, *J. Mater. Chem. B* **2017**, 5, 4754-4767. Dendritic polyglycerol anions for the selective targeting of native and inflamed articular cartilage
389. S. Bhatia, D. Lauster, M. Bardua, K. Ludwig, S. Angioletti-Uberti, N. Popp, U. Hoffmann, F. Paulus, M. Budt, M. Stadtmüller, T. Wolff, A. Hamann, C. Böttcher, A. Herrmann, R. Haag, *Biomaterials* **2017**, 138, 22-34. Linear polysialoside outperforms dendritic analogs for inhibition of influenza virus infection in vitro and in vivo
388. A. K. Singh, B. N. S. Thota, B. Schade, A. Khan, C. Böttcher, S. K. Sharma, R. Haag, *Chem. Asian J.* **2017**, 12(14), 1796-1806. Aggregation behaviour of non-ionic twinned amphiphiles and their application as biomedical nanocarriers
387. R. Nguyen, N. Galy, A. Singh, F. Paulus, D. Stoebener, C. Schlessler, S. K. Sharma, R. Haag, C. Len, *Catalysts* **2017**, 7, 123. Simple and Efficient Process for Large Scale Glycerol Oligomerization by Microwave Irradiation
386. S. Prasad, K. Achazi, C. Böttcher, R. Haag, S. K. Sharma. *RSC Advances* **2017**, 7, 22121-22132. Fabrication of Nanostructures Through Self-assembly of Non-ionic Amphiphiles for Biomedical Applications
385. S. Kumar, K. Achazi, K. Licha, P. Manchanda, R. Haag, S. K. Sharma. *Adv. Polymer Tech.* **2017**, 1–9. Chemo-enzymatic Synthesis of Dendronized Polymers for Cyanine dye Encapsulation.
384. I. Donskyi, K. Achazi, V. Wycisk, K. Licha, M. Adeli, R. Haag, *Langmuir* **2017**, 33 (26), 6595–6600. Fullerene Polyglycerol Amphiphiles as Unimolecular Transporters
383. D. Lauster, M. Glanz, M. Bardua, K. Ludwig, M. Hellmund, Ute Hoffmann, A. Hamann, C. Böttcher, R. Haag, C. Hackenberger, A. Herrmann, *Angew. Chem. Int. Ed.* **2017**, 56(21), 5931-5936. Multivalent Peptide-Nanoparticle-Conjugates for Influenza Virus Inhibition

382. M. Dimde, F. F. Sahle, V. Wycisk, D. Steinhilber, L. Cuellar, K. Licha, J. Lademann, R. Haag, *Macromol. Biosci.* **2017**, 17, (10), 1600505, Synthesis and Validation of Functional Nanogels as pH-Sensors in the Hair Follicle.
381. B. Ziem, W. Azab, M. F. Gholami, J. P. Rabe, N. Osterrieder, R. Haag, *Nanoscale* **2017**, 9 (11), 3774-3783. Size-dependent inhibition of herpesvirus cellular entry by polyvalent nanoarchitectures
380. B. Ziem, J. Rahn, I. S. Donskyi, K. Silberreis, L. Cuellar, J. Dervede, G. Keil, T. C. Mettenleiter, R. Haag, *Macromol. Biosci.* **2017**, 17 (6). Polyvalent 2D Entry Inhibitors for Pseudorabies and African Swine Fever Virus
379. M. Fardin Gholami, D. Lauster, K. Ludwig, J. Storm, B. Ziem, N. Severin, C. Böttcher, J. P. Rabe, A. Herrmann, M. Adeli, R. Haag, *Adv. Funct. Mater.* **2017**, 27 (15), 1606477. Functionalized Graphene as Extracellular Matrix Mimics: Toward Well-Defined 2D Nanomaterials for Multivalent Virus Interactions
378. L. Yu, C. Cheng, Q. Ran, C. Schlaich, P.-L. Noeske, W. Li, Q. Wei, R. Haag, *ACS Appl. Mater. Interfaces* **2017**, 9 (7), 6624-6633. Bioinspired Universal Monolayer Coatings by Combining Concepts from Blood Protein Adsorption and Mussel Adhesion
377. K. Huth, T. Heek, K. Achazi, C. Kühne, L. H. Urner, K. Pagel, J. Dervede and R. Haag, *Chem. Eur. J.*, **2017**, 23(20), 4849-4862. Noncharged and Charged Monodendronised Perylene Bisimides as Highly Fluorescent Labels and their Bioconjugates
376. T. Bewersdorff, J. Vonnemann, A. Kanik, R. Haag, A. Haase, *Int. J. Nanomed.*, **2017**, 12, 2001–2019. The influence of surface charge on serum protein interaction and cellular uptake: studies with dendritic polyglycerols and dendritic polyglycerol coated gold nanoparticles
375. E. Mohammadifar, M. Adeli, A. Nemati Kharat, H. Namazid, R. Haag, *Macromol. Chem. Phys.*, **2017**, 218 (8), 1600525. Stimuli-Responsive Core Multi-shell Dendritic Nanocarriers
374. A. Faghani, I. S. Donskyi, M. F. Gholami, B. Ziem, A. Lippitz, W. E. S. Unger, C. Böttcher, J. P. Rabe, R. Haag and M. Adeli, *Angew. Chem. Int. Ed.*, **2017**, 56 (10), 2675–2679. Controlled Covalent Functionalization of Thermally Reduced Graphene Oxide under Mild Conditions as Defined Bifunctional 2D Nanomaterials
373. S. Lohan, S. Saeidpour, A. Solik, S. Schanzer, H. Richter, P. Dong, M. E. Darvin, R. Bodmeier, A. Patzelt, G. Zoubari, M. Unbehauen, R. Haag, J. Lademann, C. Teutloff, R. Bittl, M. C. Meinke, *Eur. J. Pharm. Biopharm.*, **2017**, 116, 102-110.

Investigation of the cutaneous penetration behavior of dexamethasone loaded to nano-sized lipid particles by EPR spectroscopy, and confocal Raman and laser scanning microscopy

372. M. H. Staegemann, B. Gitter, J. Dervede, C. Kuehne, R. Haag, A. Wiehe, *Chem. Eur. J.*, **2017**, 23 (16), 3918–3930. Mannose-Functionalized Hyperbranched Polyglycerol Loaded with Zinc-Porphyrin: Investigation of the Multivalency Effect in Antibacterial Photodynamic Therapy
371. M. Radbruch, H. Pischon, A. Ostrowski, P. Volz, R. Brodwolf, F. Neumann, M. Unbehauen, B. Kleuser, R. Haag, N. Ma, U. Alexiev, L. Mundhenk, A. D. Gruber *Nanoscale Res. Lett.*, **2017**, 12, 64. Dendritic Core-Multishell Nanocarriers in Murine Models of Healthy and Atopic Skin
370. E. Mohammadifar, A. Bodaghi, A. Dadkhah Tehrani, A. Nemati Kharat, M. Adeli, R. Haag, *ACS Macro Lett.*, **2017**, 6, 35–40. Green Synthesis of Hyperbranched Polyglycerol at Room Temperature
369. C. Wu, K. Schwibbert, K. Achazi, P. Landsberger, A. Gorbushina, R. Haag, *Biomacromolecules*, **2017**, 18 (1), 210–216. Active Antibacterial and Antifouling Surface Coating via a Facile One-step Enzymatic Cross-linking
368. W. Chen, Y. Zou, Z. Zhong, R. Haag, *Small*, **2017**, 13, 1601997. Cyclo(RGD)-decorated Reduction-responsive Nanogels Mediate Targeted Chemotherapy of Integrin Over-expressing Human Glioblastoma In Vivo
367. A. Setaro, M. Adeli, M. Glaeske, D. Przyrembel, T. Bisswanger, G. Gordeev, F. Maschietto, A. Faghani, B. Paulus, M. Weinelt, R. Arenal, R. Haag, S. Reich, *Nat. Commun.*, **2017**, 8, 14281. Preserving  $\pi$ -conjugation in covalently functionalized carbon nanotubes for optoelectronic applications
366. R. Schwarzl, F. Du, R. Haag, R. R. Netz, *Eur. J. Pharm. Biopharm.*, **2017**, 116, 131–137. General method for the quantification of drug loading and release kinetics of nanocarriers.

## 2016

365. M. Khani, E. Mehdipour, A. Faghani, G. Guday, I. S. Donskyi, W. E. S. Unger, R. Haag and Mohsen Adeli, *RSC Adv.*, **2016**, 6, 115055. Preparation of graphene oxide by cyanuric chloride as an effective and non-corrosive oxidizing agent
364. Z. Beiranvand, A. Kakanejadifard, I. S. Donskyi, A. Faghani, Z. Tu, A. Lippitz, P. Sasanpour, F. Maschietto, B. Paulus, W. E. S. Unger, R. Haag and M. Adeli, *RSC*

- Adv., **2016**, 6, 112771. Functionalization of fullerene at room temperature: toward new carbon vectors with improved physicochemical properties
363. O. Wagner, B. N. S. Thota, B. Schade, F. Neumann, J. L. Cuellar, C. Böttcher and R. Haag, *Polym. Chem.*, **2016**, 7, 2222-2229. Perfluoroalkylated linear polyglycerols and their supramolecular assemblies in aqueous solution
362. C. Schlaich, L. Yu, L. Cuellar, Q. Wei and R. Haag, *Polym. Chem.*, **2016**, 7, 7446-7454. Fluorine-Free Super-Wetting Systems: Construction of Environmentally-Friendly Superhydrophilic, Superhydrophobic, and Slippery Surfaces on Various Substrates.
361. W. Chen, Y. Hou, Z. Tu, L. Gao, R. Haag, *J. Controlled Release*, **2016**, 259, 160-167. pH-Degradable PVA-Based Nanogels via Photo-Crosslinking of Thermo-Preinduced Nanoaggregates for Controlled Drug Delivery
360. Y. Yang, K. Achazi, Y. Jia, Q. Wei, R. Haag and J. Li, *Langmuir*, **2016**, 32(47), 12453–12460. Complex Assembly of Polymer Conjugated Mesoporous Silica Nanoparticles for Intracellular pH-Responsive Drug Delivery
359. V. Wycisk, K. Achazi, P. Hillmann, O. Hirsch, C. Kuehne, J. Dervedde, R. Haag, K. Licha, *ACS Omega*, **2016**, 1(5), 808–817. Responsive contrast agents: Synthesis and characterization of a tunable series of pH-sensitive near-infrared pentamethines
358. S. Saeidpour, S. B. Lohan, M. Anske, M. Unbehauen, E. Fleige, R. Haag, M.C. Meinke, R. Bittl, C. Teutloff, *Eur. J. Pharm. Biopharm.*, **2016**, 110, 19-23. Localization of dexamethasone within dendritic core-multishell (CMS) nanoparticles and skin penetration properties studied by multi-frequency electron paramagnetic resonance (EPR) spectroscopy.
357. H. Pischon, M. Radbruch, A. Ostrowski, P. Volz, C. Gerecke, M. Unbehauen, S. Hönzke, S. Hedtrich, J. W. Fluhr, R. Haag, B. Kleuser, U. Alexiev, A. D. Gruber, L. Mundhenk, *Nanomedicine*, **2016**, 13(1), 317-327. Stratum corneum targeting by dendritic core-multishell-nanocarriers in a mouse model of psoriasis
356. Y. Zhong, M. Dimde, D. Stöbener, F. Meng, C. Deng, Z. Zhong, R. Haag, *ACS Appl. Mater. Interfaces*, **2016**, 8(41), 27530–27538. Micelles with Sheddable Dendritic Polyglycerol Sulfate Shells Show Extraordinary Tumor Targetability and Chemotherapy in Vivo
355. C. Schlaich, L. Cuellar Camacho, L. Yu, K. Achazi, Q. Wei, R. Haag, *ACS Appl. Mater. Interfaces*, **2016**, 8 (42), 29117–29127. Surface-Independent Hierarchical Coatings with Superamphiphobic Properties

354. A. Kumar, A. Khan, S. Malhotra, R. Mosurkal, A. Dhawan, M. Pandey, R. Kumar, A. Prasad, S. Sharma, L. Samuelson, A. Cholli, C. Len, J. Kumar, A. C. Watterson, V. Parmar, B. Singh, R. Haag, *Chem. Soc. Rev.*, **2016**, 45, 6855-6887. Synthesis of Macromolecular Systems via Lipase Catalyzed Biocatalytic Reactions: Applications and Future Perspectives
353. M. H. Staegemann, S. Gräfe, R. Haag and A. Wiehe. *Org. Biomol. Chem.*, **2016**, 14, 9114-9132. A toolset of functionalized porphyrins with different linker strategies for application in bioconjugation
352. Z. Shatsberg, X. Zhang, P. Ofek, S. Malhotra, A. Krivitsky, A. Scomparin, G. Tiram, M. Calderón, R. Haag, R. Satchi-Fainaro. *J. Controlled Release* **2016**, 239, 159-168. Functionalized nanogels carrying an anticancer microRNA for glioblastoma therapy
351. K. Yamamoto, A. Klossek, R. Flesch, T. Ohigashi, E. Fleige, F. Rancan, J. Frombach, A. Vogt, U. Blume-Peytavi, P. Schrade, S. Bachmann, R. Haag, S. Hedtrich, M. Schäfer-Korting, N. Kosugi, E. Rühl, *J. Controlled Release* **2016**, 242, 64-70. Core-multishell nanocarriers: Transport and release of dexamethasone probed by soft X-ray spectromicroscopy
350. B. Parshad, M. Kumari, K. Achazi, C. Böttcher, R. Haag, S. Sharma, *Polymers*, **2016**, 8(8), 311. Chemo-enzymatic Synthesis of Perfluoroalkyl-functionalized Dendronized Polymers as Cyto-compatible Nanocarriers for Drug Delivery Applications
349. A. Singh, R. Nguyen, N. Galy, R. Haag, S. Sharma, C. Len, *Molecules*, **2016**, 21(8), 1038. Chemo-Enzymatic Synthesis of Oligoglycerol Derivatives
348. B. Ziem, H. Thien, K. Achazi, C. Yue, D. Stern, K. Silberreis, M. Fardin Gholami, F. Beckert, D. Gröger, R. Mülhaupt, J. P. Rabe, A. Nitsche, R. Haag, *Adv. Healthcare Mater.*, **2016**, 5(22), 2922-2930. Highly Efficient Multivalent 2D Nanosystems for Inhibition of Orthopoxvirus Particles
347. F. Du, S. Hönzke, F. Neumann, J. Keilitz, W. Chen, N. Ma, S. Hedtrich and R. Haag, *J. Controlled Release* **2016**, 242, 42-49. Development of biodegradable hyperbranched core-multishell nanocarriers for efficient topical drug delivery.
346. F. Zabihi, S. Wiczorek, M. Dimde, S. Hedtrich, H. G. Börner and R. Haag, *J. Controlled Release* **2016**, 242, 35-41. Intradermal drug delivery by nanogel-peptide conjugates; specific and efficient transport of temoporfin.
345. S. Bhatia, J. L. Cuellar Camacho and R. Haag, *J. Am. Chem. Soc.*, **2016**, 138 (28), 8654-8666. Pathogen Inhibition by Multivalent Ligand Architectures.

Publications (peer review only)

344. B. Voit, R. Haag, D. Appelhans, P. Welzel, Wiley & Sons Ltd. **2016**. Bio- and Multifunctional Polymer Architectures, Preparation, Analytical Methods, and Applications.
343. M. Dimde, D. Steinhilber, F. Neumann, Y. Li, F. Paulus, N. Ma, R. Haag, *Macromol. Biosci.* **2017**, 17, 1600190. Synthesis of pH-Cleavable dPG-Amines for Gene Delivery Application.
342. S. Hönzke, C. Gerecke, A. Elpelt, N. Zhang, M. Unbehauen, V. Kral, E. Fleige, F. Paulus, R. Haag, M. Schäfer-Korting, B. Kleuser, S. Hedtrich, J. *Controlled Release* **2016**, 242, 50-63. Tailored dendritic core-multishell nanotransporters for efficient dermal drug delivery: A systematic top-down approach from synthesis to preclinical testing.
341. P. Ofek, M. Calderón, F. Sheikhi Mehrabadi, A. Krivitsky, S. Ferber, G. Tiram, N. Yerushalmi, S. Kredon-Russo, R. Grossman, Z. Ram, R. Haag, R. Satchi-Fainaro, *Nanomedicine: NBM*, **2016**, 12(7), 2201-2214. Restoring the Oncosuppressor Activity of MicroRNA-34a in Glioblastoma Using a Polyglycerol-based Polyplex.
340. C. Dong, Z. Liu, J. Liu, C. Wu, F. Neumann, H. Wang, M. Schäfer-Korting, B. Kleuser, J. Chang, W. Li, N. Ma, R. Haag, *Adv. Healthcare Mater.*, **2016**, 5(17), 2214-26. A Highly Photostable Hyperbranched Polyglycerol-Based NIR Fluorescence NanoplatforM for Mitochondria-Specific Cell Imaging
339. K. A. Walker, J.-F. Stumbé, R. Haag, *Polymers* **2016**, 8(5), 192. Polyester-based, biodegradable core-multishell nanocarriers for the transport of hydrophobic drugs.
338. S. Stefani, S. K. Sharma, R. Haag, P. Servin, *Eur. Polym. J.* **2016**, 80, 158-168. Core-shell nanocarriers based on PEGylated hydrophobic hyperbranched polyesters.
337. S. Stefani, S. Hönzke, J. L. Cuellar Camacho, F. Neumann, A. K. Prasad, S. Hedtrich, R. Haag, P. Servin, *Polymer*, **2016**, 96, 156–166. Hyperbranched glycerol-based core-amphiphilic branched shell nanotransporters for dermal drug delivery.
336. T Heek, C. Kuehne, H. Depner, K. Achazi, J. Dervedde, R. Haag, *Bioconjugate Chem.* **2016**, 27(3), 727–736. Synthesis, photophysical and biological evaluation of sulfated polyglycerol dendronized perylenebisimides (PBIs) – a promising platform for anti-inflammatory theranostic agents?
335. F. Sheikhi-Mehrabadi, J. Adelman, S. Gupta, S. Wedepohl, M. Calderón, U. Brinkmann, R. Haag, *Curr Cancer Drug Targets* **2016**, 16(7), 639-49. Bispecific Antibodies for Targeted Delivery of Dendritic Polyglycerol (dPG) Prodrug Conjugates.



334. S. B. Lohan, N. Icken, C. Teutloff, S. Saeidpour, R. Bittl, J. Lademann, E. Fleige, R. Haag, S. F. Haag, S. F. Haag, M. C. Meinke, *Int. J. Pharm.* **2016**, 501, 271-277. Investigation of cutaneous penetration properties of stearic acid loaded to dendritic core-multi-shell (CMS) nanocarriers.
333. R. Albrecht, S. Fehse, K. Pant, S. Nowag, H. Stephan, R. Haag, C. C. Tzschucke, *Macromol. Biosci.* **2016**, 16, 412–419. Polyglycerol based copper chelators for the transport and release of copper ions in biological environments.
332. G. Tiram, E. Segal, A. Krivitsky, R. Shreberk-Hassidim, P. Ofek, S. Ferber, T. Udagawa, L. Edry, N. Shomron, M. Roniger, B. Kerem, Y. Shaked, S. Aviel-Ronen, I. Barshack, M. Calderon, R Haag, R Satchi-Fainaro, *ACS Nano* **2016**, 10(2), 2028–2045. Identification of Dormancy-Associated MicroRNAs for the Design of Osteosarcoma-Targeted Dendritic Polyglycerol Nanopolyplexes.
331. Y. Zhong, K. Goltsche, L. Cheng, F. Xie, F. Meng, C. Deng, Z. Zhong, R. Haag, *Biomaterials* **2016**, 84, 250-61. Hyaluronic acid-shelled acid-activatable paclitaxel prodrug micelles effectively target and treat CD44-overexpressing human breast tumor xenografts in vivo.
330. S. Kumar, K. Ludwig, B. Schade, H. v. Berlepsch, I. Papp, R. Tyagi, M. Gulia, R. Haag, C. Böttcher, *Chem. Eur. J.* **2016**, 22, 5629-5636. Introducing chirality into nonionic dendritic amphiphiles and studying their supramolecular assembly.
329. A. Boreham, J. Pikkemaat, P. Volz, R. Brodewolf, C. Kuehne, R. Haag, J. Dervedde, U. Alexiev, *Molecules* **2016**, 21(1), 22. Detecting and quantifying biomolecular interactions of a dendritic polyglycerol sulfate nanoparticle using fluorescence lifetime measurements.
328. A. Tschiche, B. N. S. Thota, F. Neumann, A. Schäfer, N. Ma, R. Haag, *Macromol. Biosci.* **2016**, 16(6), 811-23. Crosslinked Redox-Responsive Micelles Based on Lipoic Acid-Derived Amphiphiles for Enhanced siRNA Delivery.
327. P. Dey, T. Schneider, L. Chiappisi, M. Gradzielski, G. Schulze-Tanzil, R. Haag, *Macromol. Biosci.* **2016**, 16(4), 580-90. Mimicking of chondrocyte microenvironment using in situ forming dendritic Polyglycerol based synthetic polyanionic hydrogels.
326. O. Wagner, J. Thiele, M. Weinhart, L. Mazutis, D. A. Weitz, W. T. S. Huck and R. Haag, *Lab Chip* **2016**, 16, 65-69. Biocompatible fluorinated polyglycerols for droplet microfluidics as an alternative to PEG-based copolymer surfactants.

325. S. Stefani, I. N. Kurniasih, C. Böttcher, S. K. Sharma, R. Haag and P. Servin, *Polym. Chem.* **2016**, 7, 887-898. Triglycerol-based hyperbranched polyesters with an amphiphilic branched shell as novel biodegradable drug delivery systems.
324. B. Thota, L. H. Urner, R. Haag, *Chem. Rev.* **2016**, 116, 2079–2102. Supramolecular Architectures of Dendritic Amphiphiles in Water.
323. M. Quadir, R. Haag, in *Dendrimers in Nanomedicine*, eds. D. Felder, Pan Stanford Publishing Pte Ltd., **2016**. Polyglycerols in Nanomedicine.
322. P. Dey, S. Hemmati, R. Haag, *Polym. Chem.*, **2016**, 7, 375-383. Hydrolytically Degradable, Dendritic Polyglycerol Sulfate based Injectable Hydrogels using Strain Promoted Azide-Alkyne Cycloaddition Reaction.
321. M. Jäger, T. Becherer, J. Bruns, R. Haag, *Sensors & Actuators: B. Chemical* **2016**, 223, 400–405. Antifouling coatings on SOI microring resonators for bio sensing applications.

## 2015

320. T. Schneider, P. Welker, K. Licha, R. Haag, G. Schulze-Tanzil, *BMC Musculoskeletal Disord.* **2015**, 16, 387. Influence of dendritic polyglycerol sulfates on knee osteoarthritis: an experimental study in the rat osteoarthritis model.
319. H. Zeng, C. Schlesener, O. R. Cromwell, M. Hellmund, R. Haag, Z. Guan, *Biomacromolecules* **2015**, 16(12), 3869-3877. Amino Acid Functionalized Dendritic Polyglycerol for Safe and Effective siRNA Delivery.
318. V. Wycisk, J. Pauli, P. Welker, A. Justies, U. Resch-Genger, R. Haag, K. Licha, *Bioconjugate Chem.* **2015**, 26, 773–781. Glycerol-Based Contrast Agents: A Novel Series of Dendronized Pentamethine Dyes.
317. Y. Ma, B. N. S. Thota, R. Haag, N. Budisa, *Bioorg. Med. Chem. Lett.*, **2015**, 25(22), 5247-5249. Dendronylation: Residue-specific chemoselective attachment of oligoglycerol dendrimers on proteins with noncanonical amino acids.
316. T. Becherer, S. Heinen, Q. Wei, R. Haag, M. Weinhart, *Acta Biomater.* **2015**, 25 43–55. In-depth analysis of switchable glycerol based polymeric coatings for cell sheet engineering.
315. F. Sheikhi Mehrabadi, O. Hirsch, R. Zeisig, P. Posocco, E. Laurini, S. Pricl, R. Haag, W. Kemmner, M. Calderon, *RSC Adv.*, **2015**, 5, 78760–78770. Structure–activity relationship study of dendritic polyglycerolamines for efficient siRNA transfection.

314. A. M. Staedtler, M. Hellmund, F. Sheikhi Mehrabadi, B. N. S. Thota, T. M. Zollner, M. Koch, R. Haag, N. Schmidt, J. Mater. Chem. B, **2015**, 3, 8993-9000. Optimized effective charge density using polyglycerol amines leads to strong and target specific knockdown efficacy.
313. T. Schneider, P. Welker, R. Haag, J. Dervedde, T. Hug, K. Licha, B. Kohl, S. Arens, W. Ertel, G. Schulze-Tanzil, Inflamm. Res., **2015**, 64, 917–928. Effects of dendritic polyglycerol sulfate on human articular chondrocytes inflammation research.
312. Q. Wei and R. Haag, Mater. Horiz., **2015**, 2, 567-577. Universal Polymer Coatings and Their Representative Biomedical Applications.
311. O. Wagner, M. Zieringer, W. J. Duncanson, D. A. Weitz, R. Haag, Int. J. Mol. Sci. **2015**, 16, 20183-20194. Perfluoroalkyl-functionalized hyperbranched polyglycerol as pore forming agents and supramolecular hosts in polymer microspheres.
310. Z. Qi, P. Bharate, C.-H. Lai, B. Ziem, C. Böttcher, A. Schulz, F. Beckert, B. Hatting, R. Mülhaupt, P. H. Seeberger and R. Haag, Nano Lett., **2015**, 15, 6051–6057. Multivalency at Interfaces: Supramolecular Carbohydrate-Functionalized Graphene Derivatives for Bacterial Capture, Release, and Disinfection.
309. A. Setaro, C. S. Popeney, M. U. Witt, P. Bluemmel, M. Glaeske, R. Haag, S. Reich, Phys. Status Solidi B, **2015**, 252, 2536–2540. Chiral selectivity of polyglycerol-based amphiphiles incorporating different aromatic cores.
308. D. Maysinger, D. Gröger, A. Lake, K. Licha, M. Weinhart, P. K.-Y. Chang, R. Mulvey, R. Haag, A. McKinney, Biomacromolecules, **2015**, 16, 3073-3082. Dendritic polyglycerol sulfate inhibits microglial activation and reduces hippocampal CA1 dendritic spine morphology deficits.
307. X. Zhang, K. Zhang and R. Haag, Biomaterials Science, **2015**, 3, 1487-1496. Multi-stage, charge conversional, stimuli-responsive nanogels for therapeutic protein delivery.
306. M. Hellmund, K. Achazi, F. Neumann, B. N. S. Thota, N. Ma and R. Haag, Biomaterials Science, **2015**, 3, 1459-1465. Systematic adjustment of charge densities and size of polyglycerol amines reduces cytotoxic effects and enhances cellular uptake.
305. S. Reimann, D. Gröger, C. Kühne, S. B. Riese, J. Dervedde, R. Haag, Adv. Healthc. Mater., **2015**, 4, 2154–2162. Shell Cleavable Dendritic Polyglycerol Sulfates Show High Anti-Inflammatory Properties by Inhibiting L-Selectin Binding and Complement Activation.

Publications (peer review only)

304. S. Kumar, K. Achazi, C. Böttcher, K. Licha, R. Haag, S. K. Sharma, *European Polymer Journal*, **2015**, 69, 416–428. Encapsulation and cellular internalization of cyanine dye using amphiphilic dendronized polymers.
303. M. Kumari, M. Billamboz, E. Leonard, C. Len, C. Böttcher, A. K. Prasad, R. Haag and S. K. Sharma, *RSC Advances*, **2015**, 5, 48301-48310. Self-assembly, photoresponsive behavior and transport potential of azobenzene grafted dendronized polymeric amphiphiles.
302. Z. Qi, K. Achazi, S. Dong, C. Schalley, R. Haag, *Chem. Commun.*, **2015**, 51, 10326-10329. Supramolecular hydrophobic guest transport system based on pillar[5]arene.
301. I. N. Kurniasih, J. Keilitz, R. Haag, *Chem. Soc. Rev.*, **2015**, 44, 4145-4164. Dendritic Nanocarriers Based on Hyperbranched Polymers.
300. K. Koschek, V. Durmaz, O. Krylova, M. Wiczorek, S. Gupta, M. Richter, A. Bujotzek, C. Fischer, R. Haag, C. Freund, M. Weber and J. Rademann, *Beilstein J. Org. Chem.*, **2015**, 11, 837–847. Peptide-polymer ligands for a Tandem WW-Domain, an adaptive multivalent protein-Protein interaction: lessons on the thermodynamic fitness of flexible ligands.
299. S. Krysiak, Q. Wei, K. Rischka, A. Hartwig, R. Haag and T. Hugel, *Beilstein J. Org. Chem.*, **2015**, 11, 828–836. Adsorption mechanism and valency of catechol functionalized hyperbranched polyglycerols.
298. T. Becherer, M. Vieira Nascimento, J. Sindram, P.-L. M. Noeske, Q. Wei, R. Haag, I. Grunwald, *Prog. Org. Coat.*, **2015**, 87, 146–154. Fast and easily applicable glycerol based nonfouling spray-coating
297. T. Pecchioli, M. K. Muthyala, R. Haag and M. Christmann, *Beilstein J. Org. Chem.*, **2015**, 11, 730–738, Multivalent polyglycerol supported imidazolidin-4-one organocatalysts for enantioselective Friedel–Crafts alkylations.
296. L. M. Henning, S. Bhatia, M. Bertazzon, M. Marczyneke, O. Seitz, R. Volkmer, R. Haag and C. Freund, *Beilstein J. Org. Chem.*, **2015**, 11, 701–706, Exploring monovalent and multivalent peptides for the inhibition of FBP21-tWW
295. F. Sheikhi Mehrabadi, H. Zeng, M. Johnson, C. Schlesener, Z. Guan, R. Haag, *Beilstein J. Org. Chem.*, **2015**, 11, 763–772, Multivalent dendritic polyglycerolamine with arginine and histidine end groups for efficient siRNA transfection.

294. K. Pant, D. Gröger, R. Bergmann, J. Pietzsch, J. Steinbach, B. Graham, L. Spiccia, F. Berthon, B. Czarny, L. Devel, V. Dive, H. Stephan, R. Haag, *Bioconjugate Chem.*, **2015**, 26(5), 906–918. Synthesis and biodistribution studies of <sup>3</sup>H- and <sup>64</sup>Cu-labeled dendritic polyglycerol and dendritic polyglycerol sulfate
293. L. H. Urner, B. N. S. Thota, O. Nachtigall, S. Warnke, G. von Helden, R. Haag and K. Pagel, *Chem. Commun.*, **2015**, 51, 8801-8804, Online monitoring the isomerization of an azobenzene-based dendritic bolaamphiphile using ion mobility-mass spectrometry.
292. M. C. Lukowiak, B. N. S. Thota and R. Haag, *Biotechnol. Adv.*, **2015**, S0734-9750(15)00067-1. Dendritic core-shell systems as soft drug delivery nanocarriers.
291. B. N. S. Thota, H. v. Berlepsch, C. Böttcher and R. Haag, *Chem. Commun.*, **2015**, 51, 8648-8651, Towards engineering of self-assembled nanostructures using non-ionic dendritic amphiphiles.
290. C. Holzhausen, D. Gröger, L. Mundhenk, C. K. Donat, J. Schnorr, R. Haag, A. D. Gruber, *J. Nanopart. Res.*, **2015**, 17, 116, Biodistribution, cellular localization, and in vivo tolerability of <sup>35</sup>S-labeled antiinflammatory dendritic polyglycerol sulfate amine.
289. O. Redy-Keisar, K. Huth, U. Vogel, B. Lepenies, P. H. Seeberger, R. Haag and D. Shabat, *Org. Biomol. Chem.*, **2015**, 13(16), 4727-32, Enhancement of fluorescent properties of near-infrared dyes using clickable oligoglycerol dendrons.
288. S. Gupta, J. Pfeil, S. Kumar, C. Poulsen, U. Lauer, A. Hamann, U. Hoffmann, R. Haag, *Bioconjugate Chem.*, **2015**, 26(4), 669–679, Tolerogenic modulation of the immune response by oligoglycerol- and polyglycerol-peptide conjugates
287. T. Becherer, C. Grunewald, V. Engelschalt, G. Multhaup, T. Risse, R. Haag, *Anal. Chim. Acta*, **2015**, 867, 47-55, Polyglycerol Based Coatings to Reduce Nonspecific Protein Adsorption in Sample Vials and on SPR Sensors
286. J. Vonnemann, S. Liese, C. Kuehne, K. Ludwig, J. Dervede, C. Böttcher, R. R. Netz and R. Haag, *J. Am. Chem. Soc.*, **2015**, 137(7), 2572–2579, Size-dependence of steric shielding and multivalency effects for globular binding inhibitors
285. M. Adeli, H. Namazi, F. Du, S. Hönzke, S. Hedtrich, J. Keilitz, R. Haag, *RSC Advances*, **2015**, 5, 14958 - 14966, Synthesis of Multiarm Star Copolymers Based on Polyglycerol Cores with Polylactide Arms and Their Application as Nanocarriers

284. X. Zhang, S. Malhotra, M. Molina and R. Haag, *Chem. Soc. Rev.*, **2015**, 44(7), 1948 - 1973, Micro- and nanogels with labile crosslinks — from synthesis to biomedical applications
283. X. Zhang, K. Achazi, R. Haag, *Adv. Healthcare Mat.*, **2015**, 4(4), 585-92, Boronate Cross-linked ATP- and pH-Responsive Nanogels for Intracellular Delivery of Anticancer Drugs
282. M. C. Lukowiak, S. Wettmarshausen, G. Hidde, P. Landsberger, V. Boenke, K. Rodenacker, U. Braun, J. F. Friedrich, A. Gorbushina, R. Haag, *Polymer Chemistry*, **2015**, 6, 1350-1359, Polyglycerol coated polypropylene surfaces for protein and bacteria resistance
281. A. Sousa-Herves, P. Würfel, P. Welker, K. Licha, J. Khandare, R. Haag, M. Calderón, *Nanoscale*, **2015**, 7, 3923 - 3932, Dendritic polyglycerol sulfate as a novel platform for paclitaxel delivery: pitfalls of ester linkage
280. W. Chen, K. Achazi, B. Schade, R. Haag, *J. Controlled Release*, **2015**, 205, 15-24, Charge-conversional and reduction-sensitive poly(vinyl alcohol) nanogels for enhanced cell uptake and efficient intracellular doxorubicin release
279. S. Bhatia, R. Haag, in *Targeted Drug Delivery: Concepts and Design*, eds. P. V. Devarajan, S. Jain for *Advances in Delivery Science and Technology*, Springer Verlag, **2015**, 543-569, Dendritic polymers in targeted drug delivery
278. M. Kumari, S. Gupta, K. Achazi, C. Böttcher, J. Khandare, S. K. Sharma, R. Haag, *Macromol Rapid Comm.* **2015**, 36, 254–261, Dendronized multifunctional amphiphilic polymers as efficient nanocarriers for biomedical applications
277. M. C. Lukowiak, B. Ziem, K. Achazi, G. Gunkel-Grabole, C. S. Popeney, B. N. S. Thota, C. Böttcher, A. Krueger, Z. Guan and R. Haag, *J. Mater. Chem. B*, **2015**, 3, 719-722, Carbon-based cores with polyglycerol shells – The importance of core flexibility for encapsulation of hydrophobic guests
276. C. Wu, C. Böttcher, R. Haag, *Soft Matter*, **2015**, 11, 972-980, Enzymatically crosslinked dendritic polyglycerol nanogels for encapsulation of catalytically active proteins

## 2014

275. C. Rabe, E. Fleige, K. Vogtt, N. Szekely, P. Lindner, W. Burchard, R. Haag, M. Ballauff, *Polymer*, **2014**, 55, 6735-6742, The multi-domain nanoparticle structure of a universal core-multishell nanocarrier

274. A. S. de Leon, S. Malhotra, M. Molina, R. Haag, M. Calderon, J. Rodríguez-Hernández, A. Muñoz-Bonilla, J. Colloid Interface Sci., **2014**, 440 (2015) 263–271, Dendritic amphiphiles as additives for honeycomb-like patterned surfaces by breath figures: role of the molecular characteristics on the pore morphology
273. A. Campo Rodrigo, S. Malhotra, C. Böttcher, M. Adeli and R. Haag, RSC Advances, **2014**, 4, 61656-61659, Dendritic polyglycerol cyclodextrin amphiphiles and their self-assembled architectures to transport hydrophobic guest molecules
272. M. Richter, D. Steinhilber, R. Haag, R. von Klitzing, Macromol Rapid Comm., **2014**, 35, 2018-2022, Visualization of real time degradation of pH-responsive polyglycerol nanogels via atomic force microscopy
271. Q. Wei, C. Schlaich, S. Prévost, A. Schulz, C. Böttcher, M. Gradzielski, Z. Qi, R. Haag and C. A. Schalley, Adv. Mater., **2014**, 26, 7358–7364. Supramolecular polymers as surface coatings: rapid fabrication of healable superhydrophobic and slippery surfaces
270. C. Wu, C. Strehmel, K. Achazi, L. Chiappisi, J. Dervede, M. Lensen, M. Gradzielski, M. Ansoerge-Schumacher, R. Haag, Biomacromolecules, **2014**, 15(11), 3881–3890. Enzymatically Crosslinked Hyperbranched Polyglycerol Hydrogels as Scaffolds for Living Cells
269. R. Tyagi, C. Witte, R. Haag, L. Schröder, Org. Lett., **2014**, 16 (17), 4436–4439, Dendronized cryptophanes as water soluble xenon hosts for <sup>129</sup>Xe magnetic resonance imaging
268. M. Dommaschk, F. Gutzeit, S. Boretius, R. Haag and R. Herges, Chem. Commun., **2014**, 50, 12476-12478, Coordination-induced spin-state-switch (CISSS) in water
267. N. Do, G. Weindl, E. Fleige, M. Salwiczek, B. Kokschi, R. Haag and M. Schäfer-Korting, Polym. Adv. Technol., **2014**, 25, 1337–1341, Core-multishell nanotransporters enhance skin penetration of the cell-penetrating peptide low molecular weight protamine
266. Q. Wei, S. Krysiak, K. Achazi, T. Becherer, P.-L. M. Noeske, F. Paulus, H. Liebe, I. Grunwald, J. Dervede, A. Hartwig, T. Hugel, R. Haag, Colloids Surf., B, **2014**, 122, 684-92, Multivalent anchored and crosslinked hyperbranched polyglycerol monolayers as antifouling coating for titanium oxide surfaces
265. Q. Wei, K. Achazi, H. Liebe, A. Schulz, P.-L. M. Noeske, I. Grunwald, R. Haag, Angew. Chem. Int. Ed., **2014**, 53, 11650–11655, Mussel-inspired dendritic polymers as universal multifunctional coatings

Publications (peer review only)

264. K. Neuthe, C. Popeney, K. Bialodka, A. Hinsch, A. Sokolowski, W. Veurmann, R. Haag, *Polyhedron*, **2014**, 81, 583–587, Simple NIR complexes and their applicability in dye-sensitized solar cells
263. K. Neuthe, H. Brandt, A. Hinsch, C. C. Tzschucke, W. Veurman, B. Ziem, R. Haag, *ChemElectroChem*, **2014**, 1 (10), 1656–1661, Thiocyanate-Free versus Thiocyanate-Containing Dyes for TiO<sub>2</sub>-Based Dye-Sensitized Solar Cells
- 262b. O. Nachtigall, C. Kördel, L. H. Urner, R. Haag, *Angew. Chem.*, **2014**, 126, 9824–9828, Lichtgesteuertes Schalten von Azobenzol-Oligoglycerin-Konjugaten auf supramolekular funktionalisierten Oberflächen
- 262a. O. Nachtigall, C. Kördel, L. H. Urner, R. Haag, *Angew. Chem. Int. Ed.*, **2014**, 53, 9669–9673, Photoresponsive switches at surfaces based on supramolecular functionalization with azobenzene–oligoglycerol conjugates
261. D. Nordmeyer, P. Stumpf, D. Groeger, A. Hofmann, S. Enders, S. B. Riese, J. Dervedde, M. Taupitz, U. Rauch, R. Haag, E. Rühl, C. M. Graf, *Nanoscale*, **2014**, 6, 9646, Iron oxide nanoparticles stabilized with dendritic polyglycerols as selective MRI contrast agents
260. D. Bernsmeier, E. Ortel, J. Polte, B. Eckhardt, S. Nowag, R. Haag, R. Kraehnert, J. Mater. Chem. A., **2014**, 2, 13075–13082, Versatile control over size and spacing of small mesopores in metal oxide films and catalytic coatings via templating with hyperbranched core-multishell polymers
259. M. C. Lukowiak, M. Meise and R. Haag, *Synlett*, **2014**, 25, 2161–2165, Synthesis and application of N-Heterocyclic Carbene-Pd-Ligands with glycerol dendrons for Suzuki-Miyaura cross coupling in water
258. Q. Wei, T. Becherer, R. Mutihac, P.-L. M. Noeske, F. Paulus, R. Haag, I. Grunwald, *Biomacromolecules*, **2014**, 15, 3061–3071, Multivalent Anchoring and Crosslinking of mussel-inspired antifouling surface coatings
257. S. Bhatia, M. Dimde and R. Haag, *Med. Chem. Commun.*, **2014**, 5 (7), 862 - 878, Multivalent glycoconjugates as vaccines and potential drug candidates
256. P. Dey, M. Adamovski, S. Friebe, A. Badalyan, R. Mutihac, F. Paulus, S. Leimkühler, U. Wollenberger, R. Haag, *ACS Appl. Mater. Interfaces*, **2014**, 6 (12) 8937–8941, Dendritic polyglycerol–poly(ethylene glycol)-based polymer networks for biosensing application
255. A. Tschiche, S. Malhotra and R. Haag, *Nanomedicine* **2014**, 9 (5), 667–693, Nonviral gene delivery with dendritic self-assembling architectures



Publications (peer review only)

254. M. Hellmund, H. Zhou, O. Samsonova, Th. Kissel, R. Haag, *Macromolecular Bioscience*, **2014**, 14, 1215–1221, Functionalized polyglycerol amine nanogels as nanocarriers for DNA
253. F. Paulus, D. Steinhilber, P. Welker, D. Mangoldt, K. Licha, H. Depner, St. Sigrist, R. Haag, *Polym. Chem.*, 2014, 5, 5020-5028, Structure related transport properties and cellular uptake of hyperbranched polyglycerol sulfates with hydrophobic cores
252. S. Nowag, C. Frangville, G. Multhaupt, J.-D. Marty, C. Mingotaud, R. Haag, *J. Mater. Chem. B*, **2014**, 2, 3915 - 3918, Biocompatible, hyperbranched nanocarriers for the transport and release of copper ions
251. A. T. Neffe, M. von Ruesten-Lange, S. Braune, K. Lützwow, T. Roch, K. Richau, A. Krüger, T. Becherer, A. F. Thünemann, F. Jung, R. Haag, A. Lendlein, *J. Mater. Chem. B*, **2014**, 2, 3626–3635, Multivalent grafting of hyperbranched oligo- and polyglycerols shielding rough membranes to mediate hemocompatibility
250. S. Fehse, S. Nowag, M. Quadir, K. S. Kim, R. Haag, G. Multhaupt, *Biomacromolecules* **2014**, 15, 1910–1919, Copper transport mediated by nanocarrier systems in a blood-brain barrier in vitro model
249. E. Fleige, K. Achazi, K. Schaletzki, Th. Triemer, R. Haag, *J. Control. Release* **2014**, 185, 99–108, pH-Responsive dendritic core-multishell nanocarriers
248. N. Alnasif, Chr. Zoschke, E. Fleige, R. Brodewolf, A. Boreham, E. Rühl, K.-M. Eckle, H.-F. Merk, U. Alexiev, R. Haag, S. Küchler, M. Schäfer-Korting, *J. Control. Release* **2014**, 185, 45–50, Penetration of normal, damaged and diseased skin - an in vitro study on dendritic core-multishell nanotransporters
247. A. Tschiche, A. M. Städtler, S. Malhotra, H. Bauer, C. Böttcher, S. Sharbati, M. Calderon, M. Koch, T. M. Zollner, A. Barnard, D. K. Smith, R. Einspanier, N. Schmidt, R. Haag, *J. Mater. Chem. B*, **2014**, 2, 2153-2167, Polyglycerol-based amphiphilic dendrons as potential siRNA carriers for in vivo applications
246. M. Kumari, A. K. Singh, S. Kumar, K. Achazi, S.i Gupta, R. Haag, S K. Sharma, *Polym. Adv. Technol.* **2014**, 25 (11), 1208–1215, Synthesis of amphiphilic dendronized polymers to study their self-assembly and encapsulation potential
- 245b. Q. Wei, T. Becherer, S. Angioletti-Uberti, J. Dzubiella, C. Wischke, A. T. Neffe, A. Lendlein, M. Ballauff, R. Haag, *Angew. Chem.* **2014**, 126, 8138 – 8169, Wechselwirkungen von Proteinen mit Polymerbeschichtungen und Biomaterialien

Publications (peer review only)

- 245a. Q. Wei, T. Becherer, S. Angioletti-Uberti, J. Dzubiella, C. Wischke, A. T. Neffe, A. Lendlein, M. Ballauff, R. Haag, *Angew. Chem. Int. Ed.* **2014**, 53, 8004 – 8031, Protein interactions with polymer surfaces and biomaterials
244. Q. Wei, T. Becherer, P.-L. M. Noeske, I. Grunwald, R. Haag, *Adv. Mater.* **2014**, 26, 2688–2693, A universal approach to crosslinked hierarchical polymer multilayers as stable and highly efficient antifouling coatings
243. H. v. Berlepsch, K. Ludwig, B. Schade, R. Haag, C. Böttcher, *Adv. in Colloid and Interface Sci.* **2014**, 208, 279-292, Progress in the direct structural characterization of fibrous amphiphilic supramolecular assemblies in solution by transmission electron microscopic techniques
242. J. Vonnemann, N. Beziere, C. Böttcher, S. B. Riese, C. Kuehne, J. Dervedde, K. Licha, C. von Schacky, Y. Kosanke, M. Kimm, R. Meier, V. Ntziachristos, R. Haag, *Theranostics* **2014**, 4, 629-641, Polyglycerolsulfate functionalized gold nanorods as optoacoustic signal nanoamplifiers for in vivo bioimaging of rheumatoid arthritis
241. A. Boreham, M. Pfaff, E. Fleige, R. Haag, U. Alexiev, *Langmuir* **2014**, 30, 1686–1695, Nanodynamics of Dendritic Core–Multishell Nanocarriers
240. K. Neuthe, F. Bittner, F. Stiemke, B. Ziem, J. Du, M. Zellner, M. Wark, T. Schubert, R. Haag, *Dyes and Pigments*, **2014**, 104, 24-33, Phosphonic acid anchored ruthenium complexes for ZnO-based dye-sensitized solar cells
239. S. Malhotra, R. Haag, in *Hyperbranched, Star, Dendritic Polymers*, eds. D. Schlüter, A. Khan for the *Encyclopedia of Polymeric Nanomaterials*, eds. S. Kobayashi, K. Muellen, Springer Verlag, **2014**, Dendrimers and hyperbranched polymers in medicine
238. X. Zhang, K. Achazi, D. Steinhilber, F. Kratz, J. Dervedde, R. Haag, *J Control Release* **2014**, 174, 209-216, A facile approach towards dual-responsive prodrug nanogels based on dendritic polyglycerols with minimal leaching
237. T. S. Venkatakrisnan, J. Keilitz, R. Haag, *Inorganica Chimica Acta* **2014**, 408, 179–184, Hyperbranched polyglycerol supported ruthenium catalysts for ring-closing metathesis
236. M. Calderon, S. Reichert, P. Welker, K. Licha, F. Kratz, R. Haag, *Journal of Biomedical Nanotechnology* **2014**, 10, 92-99, Receptor mediated cellular uptake of low molecular weight dendritic polyglycerols

235. J. Vonnemann, C. Sieben, C. Wolff, K. Ludwig, C. Böttcher, A. Herrmann, R. Haag, *Nanoscale* **2014**, 6, 2353-2360, Virus inhibition induced by polyvalent nanoparticles of different sizes
234. F. Paulus, R. Schulze, D. Steinhilber, I. Steinke, P. Welker, K. Licha, S. Wedepohl, J. Dervedde, R. Haag, *Macromolecular Bioscience*, **2014**, 14, 643-654, The effect of polyglycerol sulfate branching on inflammation processes
- 233a. S. Nowag and R. Haag, *Angew. Chem. Int. Ed.* **2014**, 52, 2-5, ph-Responsive, biocompatible micro- and nano-release systems
- 233b. S. Nowag and R. Haag, *Angew. Chem.* **2014**, 125, 2-5, ph-Spaltbare Mikro- und Nanoträgersysteme
232. D. Gröger, M. Kerschnitzki, M. Weinhart, S. Reimann, T. Schneider, B. Kohl, W. Wagermaier, G. Schultz-Tanzil, P. Fratzi, R. Haag, *Advanced Healthcare Materials* **2014**, 3, 375-385, Selectivity in bone targeting with different polyanionic dendritic dye conjugates

## 2013

- 231a. D. Steinhilber, T. Rossow, S. Wedepohl, F. Paulus, S. Seiffert, R. Haag, *Angew. Chem. Int. Ed.* **2013**, 52, 13538-13543, A Microgel Construction Kit for Bioorthogonal Encapsulation and pH-Controlled Release of Living Cells
- 231b. D. Steinhilber, T. Rossow, S. Wedepohl, F. Paulus, S. Seiffert, R. Haag, *Angew. Chem.* **2013**, 125, 13780-13785, Ein Mikrogelbaukasten für die bioorthogonale Verkapselung und pH-gesteuerte Freisetzung von lebenden Zellen
230. F. Paulus, M. E. R. Weiss, D. Steinhilber, A. N. Nikitin, C. Schütte, R. Haag, *Macromolecules* **2013**, 46, 8458-8466, Anionic ring-opening polymerization simulations for hyperbranched polyglycerols with defined molecular weights
229. T. Heek, F. Würthner, R. Haag, *Chem. Eur. J.* **2013**, 19, 10911–10921, Synthesis and optical properties of water-soluble polyglycerol-dendronized rylene bisimide dyes
228. D. Gröger, F. Paulus, K. Licha, P. Welker, M. Weinhart, C. Holzhausen, L. Mundhenk, U. Abram, A. D. Gruber, R. Haag, *Bioconjugate Chemistry* **2013**, 24, 1507-1514, Synthesis and biological evaluation of radio and dye labeled amino functionalized dendritic polyglycerol sulfates as multivalent antiinflammatory compounds

227. E. Fleige, R. Tyagi, R. Haag, *Nanocarriers* **2013**, 1, 1-9, Dendronized core-multishell nanocarriers solubilization of guest molecules
226. K. Höger, T. Becherer, W. Qiang, R. Haag, W. Frieß, S. Kuchler, *Eur. Jour. of Pharm. and Biopharm.* **2013**, 85, 756-764, Polyglycerol coatings of glass vials for protein resistance
225. A. Hussain, H. R. Krüger, F. Kampmeier, T. Weissbach, K. Licha, F. Kratz, R. Haag, M. Calderón, S. Barth, *Biomacromolecules* **2013**, 14, 2510–2520, Targeted delivery of dendritic polyglycerol-doxorubicin conjugates by scFv-SNAP fusion protein suppresses EGFR+ cancer cell growth
224. Z. Qi, C. Wu, P. Malo de Molina, H. Sun, A. Schulz, C. Griesinger, M. Gradzielski, R. Haag, M. B. Ansorge-Schumacher, C. A. Schalley, *Chem. Eur. Jour.* **2013**, 19, 10150-10159, Fibrous networks with incorporated macrocycles: A chiral stimuli-responsive supramolecular supergelator and its application to biocatalysis in organic media
223. I. N. Kurniasih, H. Liang, S. Kumar, A. Mohr, S. K. Sharma, J. P. Rabe, R. Haag, *J. Mater. Chem. B* **2013**, 1, 3569-3577, A bifunctional nanocarrier based on amphiphilic hyperbranched polyglycerol derivatives
222. F. Ernst, T. Heek, A. Setaro, R. Haag, S. Reich, *physica status solidi RRL* **2013**, 8, 546-549, Selective interaction between nanotubes and perylene based surfactant
221. A. Sousa, D. Gröger, M. Calderon, E. Fernandez-Megia, R. Haag, *Dendrimers in Biomedical Applications* **2013**, 56-72, eds. B. Klajnert. L. Peng, V. Cena, RSC Publishing, Anionic dendritic polymers for biomedical applications
220. R. Tyagi, S. Malhotra, A. F. Thunemann, A. Sedighi, M. Weber, A. Schäfer, R. Haag, *J. Phys. Chem. C* **2013**, 117, 12307–12317, Investigations of host–guest interactions with shape-persistent nonionic dendritic micelles
219. C. Holzhausen, D. Gröger, L. Mundhenk, P. Welker, R. Haag, A. D. Gruber, *Nanomedicine NBM* **2013**, 9, 465-468, Tissue and cellular localization of nanoparticles using <sup>35</sup>S labeling and light microscopic autoradiography
218. F. Ernst, T. Heek, A. Setaro, R. Haag, S. Reich, *Appl. Phys. Lett.* **2013**, 102, 233105, 5 pp., Excitation characteristics of different energy transfer in nanotube-peryene complexes
217. M. Zieringer, M. C. Cartagena, E. Burakowska, J. Taktikos, F.-G. Klärner, R. Haag, *Eur. Jour. Org. Chem.* **2013**, 2, 362-367, Polyglycerol tagged molecular chips as receptors in protic solvents

216. M. Shan, K. E. Carlson, A. Bujotzek, A. Wellner, R. Gust, M. Weber, J. A. Katzenellenbogen, R. Haag, *ACS Chem. Biol.* **2013**, 8, 707-15, Nonsteroidal bivalent estrogen ligands - an application of the bivalent concept to the estrogen receptor
215. F. Ernst, T. Heek, A. Setaro, R. Haag, S. Reich, *J. Phys. Chem. C* **2013**, 117, 1157–1162, Functional surfactants for carbon nanotubes: Effects of design
214. D. Steinhilber, M. Witting, X. Zhang, M. Steagemann, W. Friess, S. Kuchler, R. Haag, *Journal of Controlled Release* **2013**, 169, 289-95, Surfactant free preparation of biodegradable dendritic polyglycerol nanogels by inverse nanoprecipitation for encapsulation and release of pharmaceutical enzymes
213. T. Heek, J. Nikolaus, R. Schwarzer, C. Fasting, P. Welker, K. Licha, A. Herrmann, R. Haag, *Bioconjugate Chemistry* **2013**, 24, 153–158, An amphiphilic perylene imido diester for selective cellular imaging
212. S. Gupta, B. Schade, S. Kumar, C. Böttcher, S. K. Sharma, R. Haag, *Small* **2013** 9, 894–904, Non-ionic dendronized multiamphiphilic polymers as nanocarriers for biomedical applications
211. A. Berkessel, J. Krämer, F. Mummy, J.-M. Neudörfl, R. Haag, *Angew. Chem.* **2013**, 125, 767-771, Dendritische Fluoralkohole als Katalysatoren für die Epoxidierung von Olefinen mit Wasserstoffperoxid, *Angew. Chem. Int. Ed.* **2013**, 52, 739-743, Dendritic fluoroalcohols as catalysts for alkene epoxidation with hydrogen peroxide
210. F. Sheikhi Mehrabadi, W. Fischer, R. Haag, *Current Opinion in Solid State and Materials Science* **2013**, 16, 310-322, Dendritic and lipid-based carriers for gene/siRNA delivery

## 2012

209. F. Ernst, T. Heek, R. Haag, S. Reich, A. Setaro, *Phys. Status Solidi B* **2012**, 12, 2465–2468, Chirally enhanced solubilization through perylene-based surfactant
208. D. Steinhilber, F. Paulus, A. T. Zill, S. C. Zimmerman, R. Haag, *MRS Proceedings* **2012**, 1403, Calix[8]arene functionalized polyglycerol nanogels for encapsulation and stabilization of fluorescent dyes, [dx.doi.org/10.1557/opl.2012.419](https://doi.org/10.1557/opl.2012.419)
207. H. Zhou, M. Richter, R. von Klitzing, R. Haag, *MRS Proceedings* **2012**, 1403, Multifunctional dendritic architectures: An investigation of their mechanical properties, [dx.doi.org/10.1557/opl.2012.370](https://doi.org/10.1557/opl.2012.370)

206. F. Ernst, T. Heek, A. Setaro, R. Haag, S. Reich, *Adv. Funct. Mater.* **2012**, 22, 3921–3926, Energy Transfer in Nanotube-Perylene Complexes
205. E. Fleige, B. Ziem, M. Grabolle, R. Haag, U. Resch-Genger, *Macromolecules* **2012**, 45, 4452-4459, Aggregation phenomena of host and guest upon the loading of dendritic core-multishell nanoparticles with salvatochromic dyes
204. S. Gupta, S. Jalal, S. Kumar, R. Haag, S. K. Sharma, *Indian Journal of Chemistry* **2012**, 51B, 1376-1387, A simple and convenient chemoenzymatic approach for the synthesis of valuable triacylglycerol-based dendritic building blocks
203. A. Barnard, M. Calderon, A. Tschiche, R. Haag, D. K. Smith, *Org. Biomol. Chem.* **2012**, 10, 8403–8409, Effects of a PEG additive on the biomolecular interactions of self-assembled dendron nanostructures
202. S. Malhotra, H. Bauer, A. Tschiche, A. Staedtler, A. Mohr, M. Calderon, V. Parmar, L. Hoeke, S. Sharbati, R. Einspanier, R. Haag, *Biomacromolecules* **2012**, 13, 3087–3098, Glycine-terminated dendritic amphiphiles for nonviral gene delivery
201. F. Mummy, R. Haag, *Synlett* **2012**, 23, 2672-2676, Dendritic HMPA as promoter for the Mukaiyama aldol- and allylation reaction
200. C. Fasting, C. A. Schalley, M. Weber, O. Seitz, S. Hecht, B. Kokschi, J. Dervedde, C. Graf, E.-W. Knapp, R. Haag, *Angew. Chem.* **2012**, 124, 10622-10650, Multivalenz als chemisches Organisations- und Wirkprinzip; *Angew. Chem. Int. Ed.* **2012**, 51, 10472-10498, Multivalency as a chemical organization and action principle
199. M. Weber, A. Bujotzek, R. Haag, *The Journal of Chemical Physics* **2012**, 173, 05411 (10 pp), Quantifying the rebinding effect in multivalent chemical ligand-receptor systems
198. J. I. Paez, V. Brunetti, M. C. Strumia, T. Becherer, T. Solomun, J. Miguel, C. F. Hermanns, M. Calderon, R. Haag, *J. Mater. Chem.*, **2012**, 22, 19488-19497, Dendritic polyglycerolamine as a functional antifouling coating of gold surfaces
197. V. Boehrsch, T. Mathew, M. Zieringer, R. J. Vallée, L. M. Artner, J. Dervedde, R. Haag, C. P. R. Hackenberger, *Org. & Biomol. Chem.* **2012**, 10, 6211-6216, Chemoselective Staudinger-phosphite reaction of symmetrical glycosyl-phosphites with azido-peptides and polyglycerols
196. W. J. Duncanson, M. Zieringer, O. Wagner, J. N. Wilking, A. Abbaspourrad, R. Haag and D. A. Weitz, *Soft Matter* **2012**, 8, 10636-10640, Microfluidic synthesis of monodisperse porous microspheres with size-tunable pores

Publications (peer review only)

195. S. Gupta, R. Tyagi, S. K. Sharma and R. Haag, *Polymer* **2012**, 53, 3053-3078  
Polyether based amphiphiles for delivery of active components
194. C. S. Popeney, M. C. Lukowiak, C. Böttcher, B. Schade, P. Welker, D. Mangoldt, G. Gunkel, Z. Guan, R. Haag, *ACS Macro Lett.*, **2012**, 1, 564–567, Tandem coordination, ring-opening, hyperbranched polymerization for the synthesis of water-soluble core-shell unimolecular transporters
193. Ch. Lotze, Y. Luo, M. Corso, K.J. Franke, R. Haag, J.I. Pascual, *Journal of Physics: Condensed Matter* **2012**, 24, 394016 (8 pp), Reversible electron-induced cis-trans isomerization stabilized by intermolecular interactions
192. M. Lange, S. Braune, K. Luetzow, K. Richau, N. Scharnagl, M. Weinhart, A. T. Neffe, F. Jung, R. Haag, A. Lendlein, *Macromol. Rapid Commun.* **2012**, 33, 1487-1492, Surface functionalization of poly(ether imide) membranes with linear, methylated oligoglycerols for reducing thrombogenicity
191. M. E. R. Weiss, F. Paulus, D. Steinhilber, A. Nikitin, R. Haag, C. Schütte, *Macromolecular Theory and Simulations* **2012**, 21, 470-481, Estimating kinetic parameters for the spontaneous polymerization of glycidol at elevated temperatures
190. T. Rossow, J. A. Heyman, A. J. Ehrlicher, A. Langhoff, D. A. Weitz, R. Haag, S. Seiffert, *J. Am. Chem. Soc.* **2012**, 134, 4983-4989, Controlled synthesis of cell-laden microgels by radical-free gelation in droplet microfluidics
189. C. Kördel, A. Setaro, C. S. Popeney, P. Blümmel, S. Reich, R. Haag, *Nanoscale* **2012**, 4, 3029-3031, Controlled reversible debundling of single-walled carbon nanotubes by photo-switchable dendritic surfactants
188. K. Wan, B. Ebert, J. Voigt, R. Haag, W. Kemmner, *Nanomedicine: Nanotechnology, Biology, and Medicine* **2012**, 8, 393-398, In-vivo tumor imaging using a novel RNAi-based detection mechanism
187. E. Fleige, M. A. Quadir, R. Haag, *Advanced Drug Delivery Reviews* **2012**, 64, 866-884 Stimuli-responsive Polymeric Nanocarriers for the Controlled Transport of Active Compounds: Concepts and Applications
186. M. A. Quadir, R. Haag, *Journal of Controlled Release* **2012**, 161, 484-495, Biofunctional nanosystems based on dendritic polymers
185. S. Reichert, M. Calderón, K. Licha, R. Haag, in *Multifunctional Nanoparticles for Medical Applications: Imaging, Targeting, and Drug Delivery*, eds. Sonke Svenson, Robert K. Prud'homme, Springer New York **2012**, 315-344, Multivalent Dendritic

Architectures in Theranostics In Multifunctional Nanoparticles for Drug Delivery Applications: Imaging, Targeting, and Delivery

184. Y. Luo, M. Bernien, A. Krüger, C. Felix Hermanns, J. Miguel, Y.-M. Chang, S. Jaekel, W. Kuch, R. Haag, *Langmuir* **2012**, 28, 358-366, In-situ hydrolysis of imine derivatives on Au(III) for the formation of aromatic mixed self-assembled monolayers: Multi-technique analysis of this tunable surface modification
183. C. S. Popeney, A. Setario, R.-C. Mutihac, P. Bluemmel, B. Trappmann, J. Vonnemann, S. Reich, R. Haag, *ChemPhysChem* **2012**, 13, 203-211, Polyglycerol-derived amphiphiles for the solubilization of single-walled carbon nanotubes in water: A structure-property study
182. A. Mohr, R. Haag, in *Applications of Supramolecular Chemistry* **2012**, 341-362, Taylor & Francis publishers, ed. Jörg Schneider, Supramolecular drug delivery systems
181. J. Khandare, M. Calderon, N. Dagia, R. Haag, *Chem. Soc. Rev.* **2012**, 41, 2824-2848, Multifunctional dendritic polymers in nanomedicine: opportunities and challenges
180. A. T. Zill, K. Licha, R. Haag, S. C. Zimmermann, *New J. Chem.* **2012**, 36, 419-427, Synthesis and properties of fluorescent dyes conjugated to hyperbranched polyglycerols
179. I. N. Kurniasih, H. Liang, V. D. Möschwitzer, M. A. Quadir, M. Radowski, J. P. Rabe, R. Haag, *New J. Chem.* **2012**, 36, 371-379, Synthesis and transport properties of new dendritic core-shell architectures based on hyperbranched polyglycerol with biphenyl-PEG shells
178. M. Zieringer, M. Wyszogrodzka, K. Biskup, R. Haag, *New J. Chem.* **2012**, 36, 402-406, Supramolecular behavior of fluoruous polyglycerol dendrons and polyglycerol dendrimers in water
177. K. Licha, P. Welker, M. Weinhardt, N. Wegner, S. Kern, S. Reichert, I. Gemeinhardt, C. Weissbach, B. Ebert, R. Haag, M. Schirner, *Bioconjugate Chemistry* **2012**, 22, 2453-2460, Fluorescence imaging with multifunctional polyglycerol sulfates: novel polymeric near-IR probes targeting inflammation

## 2011

176. M. Shan, A. Bujotzek, F. Abendroth, A. Wellner, R. Gust, O. Seitz, M. Weber, R. Haag, *ChemBioChem* **2011**, 12, 2587-2598, Conformational analysis of bivalent estrogen receptor-ligands: From intramolecular to intermolecular binding



Publications (peer review only)

175. C. S. Popeney, A. Setario, R.-C. Mutihac, P. Bluemmel, B. Trappmann, J. Vonnemann, S. Reich, R. Haag, *Phys. Status Solidi B* **2011**, *11*, 2532–2535, Amphiphile replacement on carbon nanotube surfaces: Effect of aromatic groups on the interaction strength
174. G. Gunkel, M. Weinhart, T. Becherer, R. Haag, W. T. S. Huck, *Biomacromolecules* **2011**, *12*, 4169-4172, Effect of polymer brush architecture on antibiofouling properties
173. A. Barnard, P. Posocco, S. Pricl, M. Calderon, R. Haag, M. E. Hwang, V. W.T. Shum, D. W. Pack, D. K. Smith, *J. Am. Chem. Soc.* **2011**, *133*, 20288–20300 Degradable self-assembling dendrons for gene-delivery - experimental and theoretical insights into the barriers to cellular uptake
172. M. Weinhart, T. Becherer, N. Schurbusch, K. Schwibbert, H. J. Kunte, R. Haag, *Adv. Eng. Mat.* **2011**, *13*, B501-B510, Linear and hyperbranched polyglycerol derivatives as excellent biocomparable glass coating materials
171. W. Fischer, M. A. Quadir, A. Barnard, D. K. Smith, R. Haag, *Macromol. Biosci.* **2011**, *11*, 1736–1746, Controlled release of DNA from photoresponsive hyperbranched polyglycerols with oligoamine shells
170. J. Dervedde, I. Papp, S. Enders; S. Wedepohl, F. Paulus, R. Haag, *Journal of Carbohydrate Chemistry* **2011**, *30*, 347–360, Synthesis and evaluation of non-sulfated and sulfated glycopolymers as L- and P-selectin inhibitors
169. A. Boreham, Tai-Yang Kim, V. Spahn, C. Stein, L. Mundhenk, A. D. Gruber, R. Haag, P. Welker, K. Licha, U. Alexiev, *ACS Med. Chem. Lett.* **2011**, *2*, 724–728, Exploiting fluorescence lifetime plasticity in FLIM: Target molecule localisation in cells and tissues
168. S. Bhatia, A. D. Mathur, V S. Parmar, R. Haag, A. K. Prasad, *Biomacromolecules* **2011**, *12*, 3487-3498, Biocatalytic route to sugar-PEG based polymers for drug delivery applications
167. S. Prévost, S. Riemer, W. Fischer, R. Haag, C. Böttcher, J. Gummel, I. Grillo, M.-S. Appavou, M. Gradzielski, *Biomacromolecules* **2011**, *12*, 4272–4282, Colloidal structure and stability of DNA/polycations polyplexes investigated by small angle scattering
166. F. Abendroth, A. Bujotzek, M. Shan, R. Haag, M. Weber, O. Seitz, *Angew. Chem. Int. Ed.* **2011**, *50*, 8592–8596, DNA-gesteuerte bivalente Präsentation von Liganden für den Östrogenrezeptor; DNA-controlled bivalent presentation of ligands for the estrogen receptor

Publications (peer review only)

165. S.F. Haag, E. Fleige, M. Chen, A. Fahr, R. Bittl, C. Teutloff, J. Lademann, M. Schäfer-Korting, R. Haag, M.C. Meinke, *Int J Pharm.* **2011**, 416, 223-228, Skin penetration enhancement of core-multishell nanotransporters and invasomes measured by electron paramagnetic resonance spectroscopy
164. H. Zhou, D. Steinhilber, H. Schlaad, A. L. Sisson, R. Haag, *Reactive and Functional Polymers* **2011**, 71, 356-361, Glycerol based polyether-nanogels with tunable properties via acid-catalyzed epoxide-opening in miniemulsion
163. J. Dimroth, U. Schedler, J. Keilitz, R. Haag, R. Schomäcker, *Adv. Synth. Catal.* **2011**, 353, 1335-1344, New polymer-supported catalysts for the asymmetric transfer hydrogenation of acetophenone in water - kinetic and mechanistic investigations
162. M. Calderon, R. Haag, F. Kratz, *Journal Onkologie* **2011**, 3, 152-155, Säurelabile Nanotransporter als neuartige Drug-Delivery-Systeme zur Behandlung von Krebserkrankungen
161. M. Weber, A. Bujotzek, K. Andrae, M. Weinhart, R. Haag, *Molecular Simulation* **2011**, 37, 2011, 899-906, Computational entropy estimation of linear polyether modified surfaces and correlation with protein resistant properties of such surfaces
160. A. Bujotzek, M. Shan, R. Haag, M. Weber, *J. Comput. Aided. Mol. Des.* **2011**, 25, 253-262, Towards a rational spacer design for bivalent inhibition of estrogen receptor
159. M. Weinhart, D. Gröger, S. Enders, J. Dervedde, R. Haag, *Biomacromolecules* **2011**, 12, 2502-2511, Synthesis of dendritic polyglycerol anions and their efficiency toward L-selectin inhibition
158. C. Kördel, C. Popeney, R. Haag, *Chem. Comm.* **2011**, 47, 6584-6586, Photoresponsive amphiphiles based on azobenzene-dendritic glycerol conjugates show switchable transport behavior
157. M. Weinhart, D. Gröger, S. Enders, S. B. Riese, J. Dervedde, R. K. Kainthan, D. E. Brooks, R. Haag, *Macromol. Biosci.* **2011**, 11, 1088-1098, The role of dimension in multivalent binding events: Structure-activity relationship of dendritic polyglycerol sulfate binding to L-selectin in correlation with size and surface charge density
156. M. Schwarze, J. Keilitz, S. Nowag, R. Y. Parapat, R. Haag, R. Schomäcker, *Langmuir* **2011**, 27, 6511-6518, Quasi-homogeneous hydrogenation with platinum and palladium nanoparticles stabilized by dendritic core-multishell architectures

Publications (peer review only)

155. I. Papp, J. Dervedde, S. Enders, S. B. Riese, T. C. Shiao, R. Roy, R. Haag, *ChemBioChem* **2011**, 12, 1075-1083, Multivalent Presentation of Mannose on Hyperbranched Polyglycerol and their Interaction with Concanavalin A Lectin
154. Y. Luo, M. Utecht, S. Korchak, J. Dokić, H.-M. Vieth, R. Haag, P. Saalfrank, *ChemPhysChem* **2011**, 12, 2311–2321, Cis-trans isomerization of substituted aromatic imines: A comparative experimental and theoretical study
153. M. A. Quadir, M. Calderón, R. Haag, (Eds. F. Kratz, H. Steinhagen) in *Cancer Drug Delivery*, Wiley-VCH Books **2011**, 513-553, Dendritic Polymers in Oncology: Facts, Features, and Applications
152. D. Steinhilber, R. Haag, A. L. Sisson, *Int. J. Artif. Organs* **2011**, 34, 118-122, Multivalent, biodegradable polyglycerol hydrogels
151. J. Mielke, F. Leyssner, M. Koch, S. Meyer, Y. Luo, S. Selvanathan, R. Haag, P. Tegeder, L. Grill, *ACS Nano*. **2011**, 5, 2090–2097, Imine derivatives on Au(111): Evidence for “inverted” thermal isomerization
150. I. Papp, C. Sieben, A. L. Sisson, J. Kostka, C. Böttcher, K. Ludwig, A. Herrmann, R. Haag, *ChemBioChem* **2011**, 12, 887-895, Inhibition of influenza virus activity by multivalent glycoarchitectures with matched sizes
149. M. Calderón, P. Welker, K. Licha, I. Fichtner, R. Graeser, R. Haag, F. Kratz, J. Controlled Release **2011**, 151, 295–301, Development of efficient acid cleavable multifunctional prodrugs derived from dendritic polyglycerol with a poly(ethylene glycol) shell
148. S. Reichert, P. Welker, M. Calderón, J. Khandare, D. Mangoldt, K. Licha, R.K. Kainthan, D. Brooks, R. Haag, *Small* **2011**, 7, 820-829, Size-dependant cellular uptake of dendritic polyglycerol
147. S. Malik, A. Mohr, A. Kumar, S. K. Sharma, R. Haag, *Int. J. Artif. Organs* **2011**, 34, 84-92, Synthesis of biodegradable amphiphilic nanocarriers by chemo-enzymatic transformations for the solubilization of hydrophobic compounds
146. D. Steinhilber, S. Seiffert, J. A. Heyman, F. Paulus, D. A. Weitz, R. Haag, *Biomaterials* **2011**, 32, 1311-1316, Hyperbranched polyglycerols on the nanometer and micrometer scale
145. Y. Luo, S. Korchak, H.-M. Vieth, R. Haag, *ChemPhysChem* **2011**, 12, 132-135, Effective reversible photo-induced switching of self-assembled monolayers of functional imines on gold nanoparticles

- 144 M. Weinhart, T. Becherer, R. Haag, Chem. Commun. **2011**, 47, 1553-1555, Switchable, biocompatible surfaces based on glycerol copolymers

## 2010

143. A. Setaro, C. S. Popeney, B. Trappmann, R. Haag, S. Reich, Phys. Status Solidi B **2010**, 247, 2758–2761, Interaction between single-walled carbon nanotubes and alkylpolyglycerol derivatives
142. M. Merschky, M. Wyszogrodzka, R. Haag, C. Schmuck, Chem. Eur. J. **2010**, 16, 14242-14246, pH Triggered self-assembly of zwitterionic polyglycerol dendrons into discrete and highly stable supramolecular dendrimers in water
141. A. Lendlein, M. Rehahn, M. R. Buchmeiser, R. Haag, Macromol. Rapid Commun. **2010**, 31, 1487–1491, Polymers in Biomedicine and Electronics
140. R. Freudenberger, A. Zielonka, M. Funk, P. Servin, R. Haag, T. Valkova, U. Landau, Gold Bulletin **2010**, 43, 169-180, Recent developments in the preparations of nano-gold composite coatings
139. S. Saliba, C. Valverde-Serrano, J. Keilitz, M. L. Kahn, C. Mingotaud, R. Haag, J.-D. Marty, Chem. Mater. **2010**, 22, 6301–6309, Hyperbranched Polymers for the Formation and Stabilization of ZnO Nanoparticles
138. J. Dervedde, A. Rausch, M. Weinhart, S. Enders, R. Tauber, K. Licha, M. Schirner, U. Zügel, A. von Bonin, R. Haag, Proc. Nat. Aca. Sci. USA **2010**, 107, 19679-19684, Dendritic polyglycerol sulfates as multivalent inhibitors of inflammation
137. I. Papp, C. Sieben, K. Ludwig, M. Roskamp, C. Böttcher, S. Schlecht, A. Herrmann, R. Haag, small, **2010**, 6, 2900–2906, Inhibition of influenza virus infection by multivalent sialic acid functionalized gold particles
136. S. Hagen, Y. Luo, R. Haag, M. Wolf, P. Tegeder, New. J. Phys. **2010**, 12, 125022, Electronic structure and electron dynamics at an organic molecule/metal interface: Interface states of tetra-tert-butyl-imine/Au(111)
135. B. Trappmann, K. Ludwig, M. R. Radowski, A. Shukla, A. Mohr, H. Rehage, C. Böttcher and R. Haag, J. Am. Chem. Soc. **2010**, 132, 11119–11124, A new family of nonionic dendritic amphiphiles displaying unexpected packing parameters in micellar assemblies

Publications (peer review only)

134. D. Steinhilber, A. L. Sisson, D. Mangoldt, P. Welker, K. Licha, R. Haag, *Adv. Funct. Mater.* **2010**, 20, 4133-4138, Synthesis, reductive cleavage, and cellular interaction studies of biodegradable, polyglycerol nanogels
133. P. Blümmel, A. Setaro, C. S. Popeney, R. Haag, S. Reich, *Phys. Status Solidi B* **2010**, 247, 2891-2894, Dispersion of carbon nanotubes using an azobenzene derivative
132. W. Fischer, M. Calderón, A. Schulz, I. Andreou, M. Weber, R. Haag, *Bioconjugate Chem.* **2010**, 21, 1744-1752, Dendritic polyglycerols with oligoamine shells show low toxicity and high transfection efficiency in vitro
131. U. Kemelbekov, Y. Luo, Z. Orynbekova, Zh. Rustembekov, R. Haag, W. Saenger, K. Praliyev, *J. Incl. Phenom. Macrocycl. Chem.* **2010**, 69, 181-190, IR, UV and NMR studies of  $\beta$ -cyclodextrin inclusion complexes of kazcaine and prosidol bases
130. J. Dimroth, J. Keilitz, U. Schedler, R. Schomäcker, R. Haag, *Adv. Syn. Cat.* **2010**, 352, 2497-2506, Immobilization of a Modified Tethered Rhodium(III)-p-Toluenesulfonyl-1,2-diphenylethylenediamine Catalyst on Soluble and Solid Polymeric Supports and Successful Application to Asymmetric Transfer Hydrogenation of Ketones
129. A. L. Sisson, R. Haag, *Softmatter* **2010**, 6, 4968-4975, Polyglycerol nanogels: Highly functional scaffolds for biomedical applications
128. W. Fischer, M. Calderon, R. Haag, "Hyperbranched Polyamines for Transfection," in *Nucleic Acid Transfection* **2010**, Vol. 296 (Top Curr Chem) Springer-Verlag Berlin Heidelberg
127. M. Zieringer, A. Garcia-Bernabé, B. Costisella, H. Glatz, W. Bannwarth and R. Haag, *ChemPhysChem* **2010**, 11, 2617–2622, Size-tunable micron bubbles based on fluororous-fluororous interactions of dendrimers
126. A. Setaro, C.S. Popeney, B. Trappmann, V. Datsyuk, R. Haag, S. Reich, *Chemical Physics Letters* **2010**, 493, 147–150, Polyglycerol-derived amphiphiles for single walled carbon nanotube suspension
125. J. Keilitz, S. Nowag, J.-D. Marty, R. Haag, *Adv. Synth. Catal.* **2010**, 352, 1503-1511, Chirally Modified Platinum Nanoparticles Stabilized by Dendritic Core-Multishell Architectures for the Asymmetric Hydrogenation of Ethyl Pyruvate
124. M. Weinhart, I. Grunwald, M. Wyszogrodzka, L. Gaetjen, A. Hartwig, R. Haag, *Chemistry, An Asian Journal* **2010**, [5](#), 1992–2000, Linear poly(methyl glycerol and linear polyglycerol as potent protein and cell resistant alternatives to poly(ethylene glycol)

123. L. Óvári, Y. Luo, F. Leyssner, R. Haag, M. Wolf, P. Tegeder, *Journal of Chemical Physics* **2010**, 133, 044707, Adsorption and switching properties of a N-benzylideneaniline based molecular switch on a Au(111) surface
122. W. Fischer, B. Brissault, S. Prévost, M. Kopaczynska, I. Andreou, A. Janosch, M. Gradzielski, R. Haag, *Macromol. Biosci.* **2010**, 10, 1073-1083, Synthesis of linear polyamines with different amine spacings and their ability to form dsDNA/siRNA complexes suitable for transfection
121. S. Nowag, X.-S. Wang, J. Keilitz, A. Thomas, R. Haag, *ChemCatChem* **2010**, 2, 807–811, Dendritic core-multishell-polymer templates for the synthesis of Pt-nanoparticle loaded porous silica and their application in catalysis
120. S. Gupta, M. K. Pandey, K. Levon, R. Haag, A. C. Watterson, V. S. Parmar, S. Sharma, *Macromol. Chem. Phys.* **2010**, 211, 239-244, Biocatalytic approach for the synthesis of glycerol-based macroamphiphiles and their self-assembly to micellar nanotransporters
119. J. Khandare, R. Haag, "Pharmaceutically used Polymers: Principles, structures, and applications of pharmaceutical delivery systems" in *Drug Delivery, Handbook of experimental Pharmacology*, M. Schäfer-Korting (ed.) **2010**, 221-250, Springer-Verlag, Berlin
118. I. N. Kurniasih, H. Liang, J. P. Rabe, R. Haag, *Rapid. Macromol. Commun.* **2010**, 31, 1516–1520, Supramolecular aggregates of water soluble dendritic polyglycerol architectures with hydrophobic cores
117. J. Keilitz, M. Schwarze, S. Nowag, R. Schomäcker, R. Haag, *ChemCatChem* **2010**, 2, 863-870, Homogeneous Stabilization of Pt Nanoparticles in Dendritic Core-Multishell Architectures: Application in Catalytic Hydrogenation Reactions and Recycling
116. O. Germershaus, G. Pickaert, J. Konrad, U. Krüger, T. Kissel, R. Haag, *Macromol. Biosci.* **2010**, 10, 1055-1062, Imidazole and dimethyl aminopropyl-functionalized hyperbranched polymers for nucleic acid transfection
115. A. Richter, A. Wiedekind, M. Krause, T. Kissel, R. Haag, C. Olbrich, *Eur. J. Pharm. Sci.* **2010**, 40, 48-55, Non-ionic dendritic glycerol-based amphiphiles: Novel excipients for the solubilization of poorly water-soluble anticancer drug sagopilone
114. P. Ofek, W. Fischer, M. Calderon, R. Haag, R. Satchi-Fainaro, *FASEB J.* **2010**, 3122-3134, In vivo delivery of siRNA to tumors and their vasculature by novel dendritic nanocarriers

113. S. Malhotra, M. Calderon, A. K. Prasad, V. S. Parmar and R. Haag, *Org. and Biomol. Chem.* **2010**, 8, 2228-2237, Novel chemoenzymatic methodology for the regioselective glycine loading on polyhydroxy compounds
112. T. Heek, C. Fasting, C. Rest, X. Zhang, F. Würthner, R. Haag, *Chem. Commun.* **2010**, 11, 1884-1886, Highly fluorescent water-soluble polyglycerol-dendronized perylene bisimide dyes
111. J. Khandare, A. Mohr, M. Calderon, P. Welker, K. Licha, R. Haag, *Biomaterials* **2010**, 31, 4268-4277, Structure-biocompatibility relationship of dendritic polyglycerol derivatives
110. M. Calderon, M. A. Quadir, M. Strumia, R. Haag, *Biochimie*, **2010**, 92, 1242-1251, Functional dendritic polymer architectures as stimuli responsive nanocarriers
109. M. Calderon, M. A. Quadir, S. K. Sharma, R. Haag, *Adv. Mater.* **2010**, 22, 190-218, Dendritic Polyglycerols for Biomedical Applications

## 2009

108. E. Burakowska, J. R. Quinn, S. C. Zimmerman, R. Haag, *J. Am. Chem. Soc.* **2009**, 131, 10574-10580, Cross-linked hyperbranched polyglycerols as hosts for selective binding of guest molecules
107. M. Avi, G. Steinkellner, J. Keilitz, C. Hajji, R. Haag, K. Gruber, H. Grieng, *Journal of Mol. Cat. B: Enzymatic* **2009**, 61, 268-273,  $\alpha$ - and  $\beta$ -oxygenated aldehydes derived from Diels-Alder reactions as substrates for hydroxynitrile lyases
106. A. L. Sisson, D. Steinhilber, T. Rossow, P. Welker, K. Licha, R. Haag, *Angew. Chemie Int. Ed.* **2009**, 48, 7540-7545, Biocompatible functionalized polyglycerol microgels with cell penetrating properties; A. L. Sisson, D. Steinhilber, T. Rossow, P. Welker, K. Licha, R. Haag, *Angew. Chem.*, **2009**, 121, 7676-7681, Biokompatible funktionalisierte zellgängige Polyglycerinmikrogele
105. M. Wyszogrodzka, R. Haag, *Biomacromolecules* **2009**, 10, 1043-1054, Synthesis and characterization of glycerol dendrons, self-assembled monolayers on gold: A detailed study of their protein resistance
104. J. Keilitz, R. Haag, *Eur. J. Org. Chem.* **2009**, 19, 3272-3278, Intramolecular acceleration of asymmetric epoxide ring-opening by dendritic polyglycerol salen<sub>2</sub>Cr<sup>III</sup> complexes

Publications (peer review only)

103. E. Burakowska, S.C. Zimmerman, R. Haag, *Small* **2009**, 5, 2199-2204, Photoresponsive cross-linked hyperbranched polyglycerols as smart nanocarriers for guest binding and controlled release
102. E. Burakowska, R. Haag, *Macromolecules* **2009**, 42, 5545-5550, Dendritic polyglycerol core-double-shell architectures: Synthesis and transport properties
101. N. B. Wolf, S. Kuchler, M. R. Radowski, K. D. Kramer, G. Weindl, B. Kleuser, R. Haag, M. Schäfer-Korting, *Eur. J. Pharm. Biopharm.* **2009**, 73, 34-42, Influences of opioids and nanoparticles on in vitro wound healing models
100. M. Calderon, R. Graeser, F. Kratz, R. Haag, *Biorg. Med. Chem. Lett.* **2009**, 14, 3725-3728, Development of enzymatically cleavable prodrugs derived from dendritic polyglycerol
99. S. Kuchler, M. Adbel-Mottaleb, A. Lamprecht, M. Radowski, R. Haag, M. Schäfer-Korting, *Int. J. Pharm.* **2009**, 377, 169-172, Influence of nanocarrier type and size on skin delivery of hydrophilic agents
98. C. Treiber, M.A. Quadir, P. Voigt, M. Radowski, S. Xu, L. M. Munter, T.A. Bayer, M. Schaefer, R. Haag, G. Multhaup, *Biochemistry* **2009**, 48, 4273-4284, Cellular copper import by nanocarrier systems, intracellular availability, and effects on amyloid beta peptide secretion
97. A. L. Sisson, I. Papp, K. Landfester, R. Haag, *Macromolecules* **2009**, 42, 556-559, Functional nanoparticles from dendritic precursors: Hierarchical assembly in miniemulsion
96. M. Wyszogrodzka, R. Haag, *Langmuir* **2009**, 25, 5703-5712, Study of single protein adsorption onto monoamino oligoglycerol derivatives: A structure-activity relationship
95. S. Kuchler, M. R. Radowski, T. Blaschke, M. Dathe, J. Plendl, R. Haag, M. Schäfer-Korting, K. D. Kramer, *Eur. J. of Pharm. Biopharm.* **2009**, 71, 243-50, Nanoparticles for skin penetration enhancement - A comparison of a dendritic core-multishell-nanotransporter and solid lipid nanoparticles
94. C. Siegers, B. Olàh, U. Würfel, J. Hohl-Ebinger, A. Hinsch, R. Haag, *Solar Energy Materials and Solar Cells* **2009**, 93, 552-563, Donor-acceptor functionalized polymers for efficient light-harvesting in the dye solar cell
93. S. Xu, Y. Luo, R. Graeser, A. Warnecke, F. Kratz, P. Hauff, K. Licha, R. Haag, *Biorg. Med. Chem. Lett.* **2009**, 19, 1030-1034, Development of pH-responsive core-shell nanocarriers for delivery of therapeutic and diagnostic agents



92. D. Appelhans, H. Komber, M. A. Quadir, S. Richter, S. Schwarz, J. van der Vlist, A. Aigner, M. Müller, K. Loos, J. Seidel, K.-F. Arndt, R. Haag, B. Voit, *Biomacromolecules* **2009**, 10, 1114-1124, Hyperbranched PEI with various oligosaccharide architectures: Synthesis, characterization, ATP complexation and cellular uptake properties

## 2008

91. M. Wyszogrodzka, K. Möws, S. Kamlage, J. Wodzinska, B. Plietker, R. Haag, *Eur. J. Org. Chem.* **2008**, 53-63. New Approaches Towards Monoamino Polyglycerol Dendrons and Dendritic Triblock Amphiphiles
90. J. Keilitz, M. R. Radowski, J.-D. Marty, R. Haag, F. Gauffre, C. Mingotaud, *Chem. Mater.* **2008**, 20, 2423-2425, Dendritic Polymers with a Core-Multishell Architecture: A Versatile Tool for the Stabilization of Nanoparticles
89. S. Xu, Y. Luo, R. Haag, *Macromol. Rapid Comm.* **2008**, 29, 171-174. Structure-Transport Relationship of Dendritic Core-Shell Nanocarriers for Polar Dyes
88. M. Wyszogrodzka and R. Haag, *Chem. Eur. J.* **2008**, 14, 9202-9214, A Convergent Approach to Biocompatible Polyglycerol "Click" Dendrons for the Synthesis of Modular Core-Shell Architectures and Their Transport Behavior
87. I. Papp, J. Dervedde, S. Enders, R. Haag, *Chem. Comm.* **2008**, 44, 5851-5853, Modular Synthesis of Multivalent Glycoarchitectures and their Unique Selectin Binding Behavior
86. M. A. Quadir, M. Radowski, F. Kratz, K. Licha, P. Hauff, R. Haag, *J. Controlled Release* **2008**, 132, 289-294, Dendritic Multishell Architectures for Drug and Dye Transport
85. M. Meise, R. Haag, *ChemSusChem.* **2008**, 1, 637-642. Highly Active Water-soluble Cross-coupling Catalyst Based on Dendritic Polyglycerol NHC-Palladium Complexes
84. A. Hinsch, S. Behrens, M. Berginc, H. Bönemann, H. Brandt, A. Drewitz, F. Einsele, D. Faßler, D. Gerhard, H. Gores, R. Haag, T. Herzig, S. Himmler, G. Khelashvili, D. Koch, G. Nazmutdinova, U. Opara-Krasovec, P. Putyra, U. Rau, R. Sastrawan, T. Schauer, C. Schreiner, S. Sensfuss, C. Siegers, K. Skupien, P. Wachter, J. Walter, P. Wasserscheid, U. Würfel, M. Zistler. *Prog. Photovolt: Res. Appl.* **2008**, 16, 489–501, Material development for dye solar modules; results from an integrated approach

83. Y. Xu, S. Xu, T. Emmler, F. Roelofs, C. Böttcher, R. Haag, G. Buntkowsky, *Chem. Eur. J.* **2008**, 14, 3311-3315, A Novel Green Template for the Synthesis of Mesoporous Silica
82. Y. Luo, M. Piantek, J. Miguel, M. Bernien, W. Kuch, R. Haag, *Appl. Phys. A* **2008**, 93, 293-301, In-situ formation and detailed analysis of imine bonds for the construction of conjugated aromatic monolayers on Au(111)
81. C. Siegers, R. Haag, A. Hinsch, J. Hohl-Ebinger, H. Gores, M. Zistler, U. Würfel, *ChemPhysChem* **2008**, 9, 793-798. Overcoming Kinetic Limitations of Electron Injection in the Dye Solar Cell via Coadsorption and FRET
80. M. Beigi, S. Roller, R. Haag, A. Liese, *Eur. J. Org. Chem.* **2008**, 2135-2141. Polyglycerol supported Co- and Mn-Salen complexes as efficient and recyclable homogeneous catalysts for the hydrolytic kinetic resolution of terminal epoxides and asymmetric olefin epoxidation

## 2007

79. A. Garcia-Bernabé, F. Dominguez-Espinosa, R. Diaz-Calleja, E. Riande, R. Haag, *J. Chem. Phys.* **2007**, 127, 124901, Secondary and primary relaxations in hyperbranched polyglycerol: A comparative study in the frequency and time domains
78. M. Adeli, R. Haag, Z. Zarnegar, *J. Nanoparticle Res.* **2007**, 9, 1957-1065. Effect of the shell on the transport properties of poly(glycerol) and poly(ethylene imine) nanoparticles
77. C. Siegers, J. Hohl-Ebinger, B. Zimmermann, U. Würfel, R. Mülhaupt, A. Hinsch, R. Haag, *ChemPhysChem.* **2007**, 8, 1548-1556, A dyadic sensitizer for dye solar cells with high energy-transfer efficiency in the device
76. S. C. Zimmerman, J. R. Quinn, E. Burakowska, R. Haag, *Angew. Chem.* **2007**, 119, 8312-8315; *Angew. Chem. Int. Ed.* **2007**, 46, 8164-8167. Cross-linked glycerol dendrimers and hyperbranched polymers as ionophoric, organic nanoparticles soluble in water and organic solvents
75. S. Xu, Y. Luo, R. Haag, *Macromol. Biosci.* **2007**, 7, 968-974, Water-soluble pH-responsive dendritic core-shell nanocarriers for polar dyes based on poly(ethylene imine)

74. M. Wyszogrodzka, M. Weinhart, R. Haag, *Poly. Mat. Sci. Eng.* **2007**, 48, 760-761. Protein resistant properties of bifunctional glycerol dendrons
73. M. Krämer, M. Kopaczynska, S. Krause, R. Haag, *Journal of Polymer Science Part A: Polymer Chemistry* **2007**, 45/11, 2287-2303, Dendritic polyamine architectures with lipophilic shells as nanocompartments for polar guest molecules: A comparative study of their transport behavior
72. H. Türk, A. Shukla, P. C. Alves Rodrigues, H. Rehage, R. Haag, *Chem. Eur. J.* **2007**, 13, 4187-4196, Water-soluble dendritic core-shell-type architectures based on polyglycerol for solubilization of hydrophobic drugs
71. M. R. Radowski, A. Shukla, H. v. Berlepsch, C. Böttcher, G. Pickaert, H. Rehage, R. Haag, *Angew. Chem.* **2007**, 119, 1287-1292, Supramolekulare Aggregate auf Basis dendritischer Multischalenarchitekturen als universelle Nanotransporter; *Angew. Chem. Int. Ed.* **2007**, 46, 1265-1292, Supramolecular Aggregates of Dendritic Multishell Architectures as Universal Nanocarriers

## 2006

70. A. Garcia-Bernabé, R. Díaz-Calleja, R. Haag, *Macromol. Chem. Phys.* **2006**, 207, 970-977, Broadband Dielectric Spectroscopy Studies of Hyperbranched Polyglycerols
69. M. Adeli, R. Haag, *J. Polym. Sci. A* **2006**, 44, 5740-5749, Multiarm Star Nanocarriers Containing a Poly(ethylene imine) Core and Polylactic Arms
68. C. Hajji, S. Roller, M. Beigi, A. Liese, R. Haag, *Adv. Synth. Catal.* **2006**, 348, 1760-1771 Polyglycerol Cr-Salen as a High-loading Dendritic Catalyst for Stereoselective Diels-Alder Reactions
67. S. Ricken, P. W. Osinski, P. Eilbracht, R. Haag, *J. Mol. Catal. A* **2006**, 257, 78-88, A New Approach to Dendritic Supported Nixanthphos-Based Hydroformylation Catalysts
66. C. Hajji, R. Haag, *Top. in Organomet. Chem.* **2006**, 20, 149-176, Hyperbranched Polymers as Platforms for Catalysts
65. R. Haag, G. Pickaert, *Smart Nano and Microparticles, MML Series, Vol. 7* (Ed. R. Arshady, K. Kono), Kentus Books, London, **2006**, 153-210, Smart Dendrimers and Dendritic Architectures

64. S. Roller, H. Türk, J.-F. Stumbé, W. Rapp, R. Haag, *J. Combinatorial Chem.* **2006**, *8*, 350-354, Polystyrene-graft-Polyglycerol: A New Type of High-Loading Hybrid Support for Organic Synthesis
63. S. Xu, M. Krämer, R. Haag, *J. Drug Targeting* **2006**, *14*, 367-374, pH-Responsive Dendritic Core-shell Architectures as Amphiphilic Nanocarriers for Polar Drugs
62. S. Nad, S. Roller, R. Haag, R. Breinbauer, *Org. Lett.* **2006**, *8*, 403-406, Electrolysis as an Efficient Key Step in Homogeneous Polymer Supported Synthesis of N-substituted Pyrroles
61. R. Haag, F. Kratz, *Angew. Chem.* **2006**, *118*, 1218-1237, Polymere Therapeutika: Konzepte und Anwendungen; *Angew. Chem. Int. Ed.* **2006**, *45*, 1198-1215, Polymer Therapeutics: Concepts and applications

## 2005

60. F. Koç, F. Michalek, L. Rumi, W. Bannwarth, R. Haag, *Synthesis* **2005**, *19*, 3362-3372, Catalysts on Functionalized Polymer Chips (PC) as Recyclable Entities
59. S. Roller, H. Zhou, R. Haag, *Molecular Diversity* **2005**, *9*, 305-316, High-loading polyglycerol supported reagents for Mitsunobu and acylation reactions and other useful polyglycerol derivatives
58. M. Krämer, N. Pérignon, R. Haag, J.-D. Marty, R. Thomann, N. Lauth-de Viguier, C. Mingotaud, *Macromolecules* **2005**, *38*, 8308-8315, Water Soluble Dendritic Architectures with Carbohydrate Shells for the Templatation and Stabilization of Catalytically Active Metal Nanoparticles
57. A. Garcia-Bernabé, C. C. Tzschucke, W. Bannwarth, R. Haag, *Adv. Synth. Catal.* **2005**, *347*, 1389-1394, Supramolecular Immobilization of a Perfluoro-tagged Pd-Catalyst with Dendritic Architectures and Application in Suzuki Reactions
56. F. Koç, M. Wyszogrodzka, P. Eilbracht, R. Haag, *J. Org. Chem.* **2005**, *70*, 2021-2025, Highly Regioselective Synthesis of Amino-Functionalized Dendritic Polyglycerols by a One-Pot Hydroformylation/Reductive Amination Sequence
55. P. W. Osinski, M. Schürmann, H. Preut, R. Haag, *Acta Cryst.* **2005**, *E61*, 03115-0311610-(tert-butylidimethylsilyl)-4,6-bis(diphenyl-phosphino)phenoxazine
54. Y. Thomann, R. Haag, R. Brenn, R. Delto, H. Weickman, R. Thomann, R. Mülhaupt, *Macromol. Chem. Phys.* **2005**, *206*, 135-141, PMMA Gradient Materials and in situ Nanocoating via Self-Assembly of Semifluorinated Hyperbranched Amphiphiles

## 2004

53. R. Haag, S. Roller, *Top. Curr. Chem.* **2004**, 242, 1-42, Polymeric Supports for the Immobilisation of Catalysts
52. A. Garcia-Bernabé, H. Glatz, W. Bannwarth, R. Haag, *Poly. Mat. Sci. Eng.* **2004**, 91, 64-65, Immobilization of Perfluoro-Tagged Small Molecules in the Shell of Dendritic Architectures by Non-Covalent Interactions
51. S. Roller, C. Siegers, R. Haag, *Tetrahedron* **2004**, 60, 8711-8720, Dendritic Polyglycerol as High-loading Support for Parallel Multistep Synthesis of GABA Lactam Analogues
50. C. Siegers, M. Biesalski, R. Haag, *Chem. Eur. J.* **2004**, 10, 2831-2838, Self-assembled monolayers of dendritic polyglycerol derivatives on gold that resist the adsorption of proteins
49. M. Krämer, J.-F. Stumbé, G. Grimm, U. Krüger, B. Kaufmann, M. Weber, R. Haag, *ChemBioChem* **2004**, 5, 1081-1087, Dendritic Polyamines: A Simple Access to New Materials with Defined Tree-like Structures for Application in Non-viral Gene Delivery
48. A. Garcia-Bernabé, M. Krämer, B. Olah, R. Haag, *Chem. Eur. J.* **2004**, 10, 2822-2830, Phase Transfer Properties of Perfluorinated Dendritic Core-Shell Architectures
47. H. Türk, R. Haag, S. Alban, *Bioconjugate Chem.* **2004**, 15, 162-167, Dendritic Polyglycerol Sulfates as New Heparin Analogues and Potent Inhibitors of the Complement System
46. R. Haag, *Angew. Chem.* **2004**, 116, 280-284, Supramolekulare Wirkstoff-Transportsysteme auf der Basis polymerer Kern-Schale-Architekturen; *Angew. Chem. Int. Ed.* **2004**, 43, 278-282, Supramolecular Drug-Delivery Systems Based on Polymeric Core-Shell Architectures
45. R. Haag, F. Vögtle, *Angew. Chem.* **2004**, 116, 274-275, Hochverzweigte Makromoleküle an der Schnittstelle zwischen Chemie, Biologie, Physik und Medizin; *Angew. Chem. Int. Ed.* **2004**, 43, 272-273, Highly Branched Macromolecules in the Interface between Chemistry, Biology, Physics and Medicine

## 2002-2003

44. R. Haag, S. Roller, in *Polymeric Materials in Organic Chemistry and Catalysis*, (Ed. M. Buchmeiser) Wiley-VCH, Weinheim, **2003**, 305-344, Dendritic Polymers as High-Loading Supports for Organic Synthesis and Catalysis
43. M. L. Chabinyk, R. E. Holmlin, R. Haag, X. Chen, R. F. Ismagilov, M. A. Rampi, G. M. Whitesides, in *Molecular Electronic Devices*, ACS Symposium Series **2003**, 844, 16-35, Molecular Electronics with a Metal-Insulator-Metal Junction Based on Self-Assembled Monolayers
42. S. P. Verevkin, M. Kummerlin, E. Hickl, H.-D. Beckhaus, C. Ruchardt, S. I. Kozhushkov, R. Haag, R. Boese, J. Benet-Bucholz, K. Nordhoff, A. de Meijere, *Eur. J. Org. Chem.* **2002**, 2280-2287, Thermochemical and X-ray crystallographic investigations of some (CH)<sub>10</sub> hydrocarbons: basketene, nenitzescu's hydrocarbon, and snoutene
41. A. Hebel, R. Haag, *J. Org. Chem.* **2002**, 67, 9452-9455, Polyglycerol as High-Loading Support for Boronic Acids with Application in Solution-Phase Suzuki Cross-Couplings
40. M. Krämer, J.-F. Stumbé, H. Türk, S. Krause, A. Komp, L. Delineau, S. Prokohova, H. Kautz, R. Haag, *Angew. Chem.* **2002**, 114, 4426-4431, pH-spaltbare molekulare Nanotransporter auf der Basis dendritischer Kern-Schale-Architekturen; *Angew. Chem. Int. Ed.* **2002**, 41, 4252-4256, pH-Responsive Molecular Nanocarriers Based on Dendritic Core-Shell-Architectures
39. C. Tzschucke, C. Markert, W. Bannwarth, A. Hebel, S. Roller, R. Haag, *Angew. Chem.*, **2002**, 114, 4136-4173, Moderne Trennverfahren zur effizienten Aufarbeitung in der organischen Synthese; *Angew. Chem. Int. Ed.* **2002**, 41, 3694-4001, Modern Separation Techniques for the Efficient Workup in Organic Synthesis
38. D. J. Wold, R. Haag, M. A. Rampi, C. D. Fisbie, *J. Phys. Chem. B* **2002**, 106, 2813-2816, Distance Dependence of Electron Tunneling through Self-Assembled Monolayers Measured by Conducting Probe Atomic Force Microscopy: Unsaturated versus Saturated Molecular Junctions
37. R. Haag, M. Krämer, J.-F. Stumbé, S. Krause, A. Komp, S. Prokhorova, *Polymer Preprints* **2002**, 43, 328, Dendritic Polymers as Multifunctional Supports and Nanocarriers for Drugs
36. R. Haag, A. de Meijere, in *Modern Arene Chemistry* (Ed. D. Astruc) Wiley-VCH, Weinheim, **2002**, 32-52, Oligounsaturated Five-membered Carbocycles - Aromatic and Antiaromatic Compounds in the Same Family

35. S.-E. Stiriba, H. Frey, R. Haag, *Angew. Chem.* **2002**, 114, 1385-1390, Dendritische Polymere für medizinische Anwendungen: auf dem Weg zum Einsatz in Diagnostik und Therapie; *Angew. Chem. Int. Ed.* **2002**, 41, 1329-1334, Dendritic Polymers in Biomedical Applications: From Potential to Clinical Use in Diagnostics and Therapy
34. R. Haag, A. Sunder, A. Hebel, S. Roller, *J. Combinatorial Chem.* **2002**, 112-119, Dendritic Aliphatic Polyethers as High-loading Soluble Supports for Carbonyl Compounds and Parallel Membrane Separation Techniques
33. H. Frey, R. Haag, *Rev. Mol. Biotech.* **2002**, 90, 257-267, Dendritic Polyglycerol: A New Versatile Biocompatible Material

## 2000-2001

32. J.-F. Stumbé, R. Haag, *Entropie* **2001**, 235/236, 22-27, Applications Potentielles des Polyglycérols Hyperbranchés
31. R. Haag, A. Hebel, J.-F. Stumbé, in *Handbook of Combinatorial Chemistry*, (Eds. K.C. Nicolaou, R. Hanco, W. Hartwig) Wiley-VCH, Weinheim, **2002**, 24-58, Solid Phase and Soluble Polymers for Combinatorial Synthesis
30. R. Haag, A. Leach, S. V. Ley, M. Nettekoven, J. Schnaubelt, *Syn. Commun.* **2001**, 31, 2965-2977, New Polyethylene Glycol Polymers as Ketal Protecting Groups - A Polymer Supported Approach to Symmetrically Substituted Spiroketals
29. R. E. Homlin, R. F. Ismagilov, R. Haag, V. Mujica, M. A. Ratner, M. A. Rampi, G. M. Whitesides, *Angew. Chem.*, **2001**, 113, 2378-2382, Correlating Electron Transport and Molecular Structure in Organic Thin Films; *Angew. Chem. Int. Ed. Engl.* **2001**, 40, 2316-2320, Correlating Electron Transport and Molecular Structure in Organic Thin Films
28. R. E. Holmlin, R. Haag, M. L. Chabinyk, R. F. Ismagilov, A. E. Cohen, A. Terfort, M. A. Rampi, G. M. Whitesides, *J. Am. Chem. Soc.* **2001**, 123, 5075-5085, Electron Transport through Thin Organic Films in Metal-Insulator-Metal Junctions Based on Self-Assembled Monolayers
27. S. Meier, H. Reisinger, R. Haag, S. Mecking, R. Mülhaupt, F. Stelzer, *Chem. Commun.* **2001**, 855-856, Carbohydrate Analogue Polymers by Ring Opening Metathesis Polymerization (ROMP) and Subsequent Catalytic Dihydroxylation
26. R. Haag, M. Krämer, J.-F. Stumbé, H. Kautz, *Poly. Mat. Sci. Eng.* **2001**, 84, 69, Polymeric Nanocapsules based on Core-Shell-Type Architectures in Hyperbranched Polyglycerols

Publications (peer review only)

25. J.-F. Stumbé, A. Sunder, R. Haag, Poly. Mat. Sci. Eng. **2001**, 84, 1023-1024, Pseudo-Dendrimers as an Alternative to Perfect Dendrimers: A General Concept
24. H. Frey, R. Haag, In Encyclopedia of Materials, Science and Technology, (eds. K. H. J. Buschow, R. H. Cahn, M. C. Flemings, B. Ilshner, E.J. Kramer and S. Majahan) Elsevier Science Ltd., Oxford, **2001**, 3997-4000, Hyperbranched Polymers in Industry
23. R. Haag, Chem. Eur. J. **2001**, 7, 327-335, Dendrimers and Hyperbranched Polymers as High-Loading Supports for Organic Synthesis
22. A. Sunder, H. Türk, R. Haag, H. Frey, Poly. Mat. Sci. Eng. **2000**, 82, 15-16. Copolymers of Glycidol and Allylglycidyl ether: Hyperbranched Polymers with Orthogonal End-Groups
21. B. Grzybnowski, D. Qin, R. Haag, G. M. Whitesides, Sensors and Actuators **2000**, 86, 81-85, Elastomeric optical elements with deformable surface topologies: application to force measurements, tunable light transmission and light focusing
20. R. Haag, J.-F. Stumbé, A. Sunder, H. Frey, A. Hebel, Macromolecules **2000**, 33, 8158-8166, An Approach to Core-Shell-Type Architectures in Hyperbranched Polyglycerols by Selective Chemical Differentiation
19. A. Sunder, H. Türk, R. Haag, H. Frey, Macromolecules **2000**, 33, 7682-7692, Copolymers of Glycidol and Glycidyl ether: Design of branched polyether-polyols by combination of latent AB<sub>2</sub> and ABR monomers
18. R. Haag, A. Sunder, J.-F. Stumbé, J. Am. Chem. Soc. **2000**, 122, 2954-2955, An approach to glycerol dendrimers and pseudo-dendritic polyglycerols
17. A. Sunder, R. Mülhaupt, R. Haag, H. Frey, Adv. Mater. **2000**, 12, 235-239, Hyperbranched Polyether Polyols: A Modular Approach to Complex Polymer Architectures
16. A. Sunder, R. Mülhaupt, R. Haag, H. Frey, Macromolecules **2000**, 33, 253-254. Chiral Hyperbranched Dendron-Analogs

**1993-1999**



Publications (peer review only)

15. W. T. Huck, L. Yan, A. Stroock, R. Haag, G. M. Whitesides, *Langmuir* **1999**, 15, 6862-6867, Patterned Polymer Multilayers as Etch Resists
14. A. de Meijere, R. Haag, S. I. Kozhushkov, I. Emme, F. M. Schüngel, *Pure & Appl. Chem*, **1999**, 71, 253-264, News about Acepentalene, Cyclopentadienyl Cations and other Elusive Aromatic and Antiaromatic Compounds
13. R. Haag, M. A. Rampi, R. E. Holmlin, G. M. Whitesides, *J. Am. Chem. Soc.*, **1999**, 121, 7895-7906, Electrical Breakdown of Aliphatic and Aromatic Self-Assembled Monolayers Used as Nanometer-Thick Organic Dielectrics
12. S. P. Verevkin, H.-D. Beckhaus, C. Rüchardt, R. Haag, S. I. Kozhushkov, T. Zywietz, A. de Meijere, H. Jiao, P. V. R. Schleyer, *J. Am. Chem. Soc.* **1998**, 120, 11120-11135, An Experimental Thermochemical and Theoretical Study of Triquinacene: Definitive Disproof of Its Neutral Homoaromaticity
11. B. Grzybnowski, R. Haag, N. Bowden, G. M. Whitesides, *Anal. Chem.* **1998**, 70, 4645-4652, Generation of Micrometer-Sized Patterns for Microanalytical Applications using a Laser Direct-Write Method and Micro-Contact Printing
10. R. Haag, A. de Meijere, *Top. Curr. Chem.* **1998**, 196, 137-165, Unsaturated Oligoquinanes and Related Systems
9. R. Haag, F.-M. Schüngel, B. Ohlhorst, T. Lendvai, H. Butenschön, T. Clark, M. Noltemeyer, T. Haumann, R. Boese, A. de Meijere, *Chem. Eur. J.* **1998**, 4, 1192-1200, Syntheses, Structures and Reactions of Highly Strained Dihydro- and Tetrahydro-acepentalene Derivatives
8. R. Haag, R. Zuber, S. Donon, C. H. Lee, M. Noltemeyer, A. de Meijere, *J. Org. Chem.* **1998**, 63, 2544-2547, Highly exo-Selective Epoxidation and Hydroxylation of Triquinacene and its Derivatives: all-exo-Hexahydroxytriquinane
7. R. Haag, D. Schröder, T. Zywietz, H. Jiao, H. Schwarz, P. v. R. Schleyer, A. de Meijere, *Angew. Chem.* **1996**, 108, 1413-1416; *Angew. Chem. Int. Ed. Engl.* **1996**, 35, 1317-1319, The Long Elusive Acepentalene - Experimental and theoretical Evidence for its Existence
6. R. Zuber, G. Carlens, R. Haag, A. de Meijere, *Synlett* **1996**, 542-544, Unexpected Pd-Catalyzed Substitution on the Triquinanedione System - An Approach to centro-Substituted Triquinanes

Publications (peer review only)

5. R. Haag, Nach. Chem. Tech. Lab. **1995**, 43, 1300-1301, Solare Chemie und Materialforschung
  
4. R. Haag, B. Ohlhorst, M. Noltemeyer, R. Fleischer, D. Stalke, A. Schuster, D. Kuck, A. de Meijere, J. Am. Chem. Soc. **1995**, 117, 10474-10485, Tribenzacepentalene Dianion and 4,7-Dihydrotribenzoacepentalene Derivatives: Formation, Reactions and Structural Properties of Potential Tribenzacepentalene Precursors
  
- 3a. R. Haag, R. Fleischer, D. Stalke, A. de Meijere, Angew. Chem. **1995**, 107, 1642-1644;  
3b. Angew. Chem. Int. Ed. Engl. **1995**, 34, 1492-1495, Dilithium acepentalenediide: An unusual dimer of contact ion triplets with bowl-shaped dianions
  
2. R. Haag, D. Kuck, X.-Y. Fu, J. M. Cook, A. de Meijere, Synlett **1994**, 340-342, Facile Formation of Dihydroacepentalene Dianions from centro-Substituted Tribenzotriquinacenes with C-C Bond Cleavage
  
1. R. Haag, B. Ohlhorst, A. Schuster, D. Kuck, A. de Meijere, J. Chem. Soc., Chem. Commun. **1993**, 1727-1729. Structural and Chemical Properties of Tribenzo-4,7-dihydroacepentalene Derivatives and Their Central Pyramidalized Double Bonds