

Publication list of D. M. Opris

54. P. Caspari, F. A. Nüesch, **D. M. Opris***, “Synthesis of solvent-free processable and on-demand cross-linkable dielectric elastomers for actuators”, under consideration, **2019**.
52. J. E. Quinsaat*, I. Burda, R. Krämer, D. Häfliger, F. A. Nüesch, M. Dascalu, **D. M. Opris***, “Conductive silicone elastomers electrodes processable by screen printing”, under consideration, **2019**.
52. H. Gao, W. He, Y.-B. Zhao, **D. M. Opris**, G. Xu*, Jing Wang*, “Electret mechanisms and kinetics of electrospun nanofiber membranes and service time in filtration applications in comparison with corona-charged membranes”, under revision, **2019**.
51. Y. Sheima, P. Caspari, **D. M. Opris***, “Artificial muscles: dielectric elastomer actuators responsive at low voltages, *Macromol. Rapid Commun.*, **2019**, 1900205.
50. Y. J. Lee, P. Caspari, **D. M. Opris***, F. A. Nüesch, S. Ham, J.-H. Kim, S.-R. Kim, B.-K. Ju, W. K. Choi*, “Electrical energy generated by silicones filled with nanospring-carbon-nanotubes”, *J Mater. Chem. C* **2019**, 7, 3535.
49. M. D. Contina,* J. E. Quinsaat, R. M. Negri, V. P. Tripodi, **D. M. Opris**, N. B. D’Accorso*, “Development of carbohydrate functionalized magnetic nanoparticles for aminoglycosides magnetic solid phase extraction”, *Analytica Chimica Acta*, **2019**, doi.org/10.1016/j.aca.2019.07.038
48. **D. M. Opris***, “Polar elastomers as novel materials for electromechanical actuator applications”, *Adv. Mater.* **2018**, 30, 1703678.
47. P. Caspari, S. J. Dünki, F. A. Nüesch, **D. M. Opris***, “Dielectric elastomer actuators with increased dielectric permittivity and low leakage current capable of suppressing electromechanical instability”, *J. Mater. Chem. C*, **2018**, 6, 2043-2053.
46. E. Perju, E. Cuervo-Reyes, S. Shova, **D. M. Opris***, “Synthesis of novel cyclosiloxane monomers containing push-pull moieties and their anionic ring opening polymerization”, *RSC Adv.* **2018**, 8, 7569-7578.
45. Y. S. Ko, F. A. Nüesch, **D. M. Opris***, “Charge generation by ultra-stretchable elastomeric electrets”, *J. Mater. Chem. C*, **2017**, 5, 1826-1835.
44. S. J. Dünki, E. Cuervo-Reyes, **D. M. Opris***, “A facile synthetic strategy to polysiloxanes containing sulfonyl side groups with high dielectric permittivity”, *Polym. Chem.* **2017**, 8, 715-724.
43. P. Caspari, F. Nüesch, A. Neels, **D. M. Opris***, “Mild synthesis of mercaptonitriles from vinyl nitriles and their cyclization reactions”, *RSC Adv.*, **2016**, 6, 98059 – 98065.
42. Y. S. Ko, F. A. Nüesch, D. Damjanovic, **D. M. Opris***, “An All-Organic Elastomeric Electret Composite”, *Adv. Mater.*, **2017**, 29, 1603813.
41. S. J. Dünki, F. A. Nüesch, **D. M. Opris***, “Elastomers with tunable dielectric and electromechanical properties”, *J. Mater. Chem. C*, **2016**, 4, 10545-10553.
40. E. Perju, S. J. Dünki, **D. M. Opris***, “A versatile synthetic path to thiol containing polysiloxanes”, *J. Polym. Sci. Part A: Polym. Chem.* **2016**, 56, 2940.

39. J. E. Q. Quinsaat, F. A. Nüesch, H. Hofmann, **D. M. Opris***, “Hydrophobization of Silver Nanoparticles through Surface-Initiated Atom Transfer Radical Polymerization”, *RSC Adv.*, **2016**, 6, 44254 - 44260.
38. Y. S. Ko, E. Cuervo-Reyes, F. A. Nüesch, **D. M. Opris***, “Temperature Dependent Impedance Spectroscopy and Thermally Stimulated Depolarization Current (TSDC) Analysis of Disperse Red 1-co-Poly(methyl methacrylate) Copolymers”, *Proc. SPIE. 9798, Electroactive Polymer Actuators and Devices*, **2016**, 97981I, doi: 10.1117/12.2218803.
37. S. J. Dünki, M. Dascalu, F. A. Nüesch, **D. M. Opris***, “Silicones with enhanced permittivity for dielectric elastomer actuators”, *Proc. SPIE. 9798, Electroactive Polymer Actuators and Devices*, **2016**, 97982K. doi:10.1117/12.2218881.
36. **D. M. Opris***, S. Dünki, “Polysiloxanes with increased permittivity as artificial muscles”, *Chimia*, **2015**, 69, 549.
35. M. Dascalu, S. J. Dünki, J.-E. Q. Quinsaat, Y. S. Ko, F. A. Nüesch, **D. M. Opris***, “Silicone elastomers containing trifluoropropyl groups: From synthesis to application”, *RSC Adv.*, **2015**, 5, 104516-104523.
34. C. Racles*, A. Bele, M. Alexandru, V. Musteata, C. D. Varganici, D. Ionita, S. Vlad, M. Cazacu, S. Dunki, **D. M. Opris***, “Polar-nonpolar interconnected elastic networks with increased permittivity and high breakdown fields for dielectric elastomer transducers”, *RSC Advances*, **2015**, 5, 58428-58438.
33. J. E. Q. Quinsaat, M. Alexandru, F. A. Nüesch, H. Hofmann, A. Borgschulte, **D. M. Opris***, “Highly stretchable dielectric elastomer composites containing high volume fraction of silver nanoparticles”, *J. Mater. Chem. A*, **2015**, 3, 14675-14685.
32. S. J. Dünki, M. Tress, F. Kremer*, S. Y. Ko, F. A. Nüesch, C.-D. Varganici, C. Racles, **D. M. Opris***, “Fine-tuning of the dielectric properties of polysiloxanes by chemical modification”, *RSC Adv.*, **2015**, 5, 50054-50062.
31. Y. S. Ko, F. A. Nüesch, **D. M. Opris***, “Poleable Nanoparticles as Fillers Towards Non-linear Optically Active Actuators”, *Proc. of SPIE*, **2015**, doi:10.1117/12.2085321.
30. **D. M. Opris***, J. E. Q. Quinsaat, S. Dünki, Y. S. Ko, M. Alexandru, C. Racles, F. A. Nüesch, “Dielectric Materials, Design and Realization”, *Proc. of SPIE*, **2015**, 94300A.
29. S. J. Dünki, Y. S. Ko, F. A. Nüesch, **D. M. Opris***, “Self-repairable, high permittivity dielectric elastomers with large actuation strains at low electric fields”, *Adv. Funct. Mater.*, **2015**, 25, 2467-2475.
28. C. Racles*, M. Alexandru, A. Bele, V. E. Musteata, M. Cazacu, **D. M. Opris***, “Chemical modification of polysiloxanes with polar pendant groups by co-hydrosilylation”, *RSC Adv.*, **2014**, 4, 37620–37628.

27. Y. S. Ko, M. V. Circu, T. Geiger, S. Dünki, F. A. Nüesch, **D. M. Opris***, “Synthesis of poly(ethylene-co-butylene)-blockpoly(ethylene oxide) surfactant and its use in the synthesis of polyhydroxyethyl methacrylate nanoparticles containing azo-dye”, *RSC Adv.*, **2014**, 4, 35027–35034.
26. J. E. Q. Quinsaat, A. Testino, S. Pin, T. Huthwelker, F. A. Nüesch, P. Bowen, H. Hofmann, C. Ludwig, **D. M. Opris***, “Continuous Production of Tailored Silver Nanoparticles by Polyol Synthesis and Reaction Yield Measured by X-ray Absorption Spectroscopy: Toward a Growth Mechanism“, *J. Phys. Chem. C*, **2014**, 118, 11093-11103.
25. M. Circu, Y. Ko, F. A. Nüesch, A. C. Gerecke, **D. M. Opris***, “Soft polydimethylsiloxane thin elastomeric films by in-situ polymerization to be used as dielectricum in actuators”, *Macromol. Mater. Eng.*, **2014**, 299, 1126-1133.
24. J. E. Q. Quinsaat, F. A. Nüesch, H. Hofmann, **D. M. Opris***, “Dielectric properties of silver nanoparticles coated with silica shells of different thicknesses”, *RSC Adv.*, **2013**, 3, 6964-6971.
23. C. Racles, M. Cazacu, B. Fischer, **D. M. Opris***, “Synthesis and characterization of silicones containing cyanopropyl groups and their use in dielectric elastomer actuators”, *Smart. Mater. Struct.* **2013**, 22, 104004.
22. S. Michel, B. T. T. Chu, S. Grimm, F. A. Nüesch, A. Borgschulte, **D. M. Opris***, “Self-healing electrodes for dielectric elastomer actuators”, *J. Mater. Chem.*, **2012**, 22, 20736-20741.
21. **D. M. Opris***, M. Molberg, C. Walder, Y. S. Ko, B. Fischer, F. A. Nüesch, “New silicone composites for dielectric elastomer actuator applications in competition with acrylic foil”, *Adv. Funct. Mater.*, **2011**, 21, 3531-3539.
20. **D. M. Opris***, M. Molberg, F. Nüesch, C. Löwe, C. Walder, B. Fischer, “Dielectric elastomer materials for actuators and energy harvesting“, *Proc. of SPIE*, **2011**, 7976, 79760G.
19. M. Molberg, D. Crespy, P. Rupper, F. Nüesch, J.-A. E. Månson, C. Löwe, **D. M. Opris***, “High breakdown field dielectric elastomer actuators using encapsulated polyaniline as high dielectric constant filler”, *Adv. Funct. Mater.*, **2010**, 20, 3280-3291.
18. M. Molberg, Y. Leterrier, C. J. G. Plummer, C. Löwe, **D. M. Opris**, F. Clemens, J.-A. E. Månson, “Elastomer actuators: systematic improvement in properties by use of composite materials“, *Proc. of SPIE*, **2010**, 7642, 76420M.
17. B. Fan, F. Araujo de Castro, **D. M. Opris**, R. Hany, F. Nüesch, “Improved performance of cyanine solar cell with polyaniline anode”, *J. Mater. Chem.*, **2010**, 20, 2952-2955.
16. C. Walder, M. Molberg, **D. M. Opris**, F. A. Nüesch, C. Löwe, C. J. G. Plummer, Y. Leterrier, J.-A. E. Manson, “High k Dielectric Elastomeric Materials for Low Voltage Applications“, *Proc. of SPIE*, **2009**, 7287, 72870Q-1-9.
15. M. Molberg, Y. Leterrier, C. J. G. Plummer, C. Walder, C. Löwe, **D. M. Opris**, F. A. Nüesch, J.-A. E. Manson, “Frequency dependent dielectric and mechanical behavior of elastomers for actuator applications”, *J. Appl. Phys.*, **2009**, 106, 054112.

14. **D. M. Opris***, D. Crespy, C. Löwe, M. Molberg, F. Nüesch, "Phthalocyanines and encapsulated polyaniline nanoparticles as fillers for dielectric elastomers", *Proc. of SPIE*, **2009**, 7287, 72870L1-8.
13. **D. M. Opris***, F. Nüesch, C. Löwe, M. Molberg, M. Nagel, "Synthesis, characterization, and dielectric properties of phthalocyanines with ester and carboxylic acid functionalities", *Chem. Mater.*, **2008**, *20*, 6889-6896.
12. **D. M. Opris**, A. Ossenbach, D. Lentz, A. D. Schlüter, "A set of homologous heteroarylene diene macrocycles by oxidative acetylene-acetylene coupling", *Org. Lett.*, **2008**, *10*, 2091. *Synfacts*, Highlights in current synthetic organic chemistry, **2008**, 820.
11. M. Venturi, F. Marchioni, B. F. Ribera, V. Balzani, **D. M. Opris**, A. D. Schlüter, "Photoinduced energy- and electron-transfer processes in dinuclear Ru(II)-Os(II), Ru(II)-Os(III), and Ru(III)-Os(II) trisbipyridine complexes containing a shape-persistent macrocyclic spacer", *Chem. Phys. Chem.*, **2006**, *7*, 229-239.
10. M. Venturi, V. Balzani, F. Marchioni, **D. M. Opris**, P. Franke, D. Lentz, A. D. Schlüter, "Ru(II) and Os(II) complexes of shape persistent macrocyclic ligand: synthesis, photophysical properties, and electrochemical characterization", *Macrocycles chemistry. Current Trends and Perspectives*, **2005**, 219-234.
9. **D. M. Opris**, P. Franke, A. D. Schlüter, "Shape persistent macrocycles with bipyridine units: progress in accessibility, widening of applicability", *Eur. J. Org. Chem.*, **2005**, *5*, 822-837.
8. **D. M. Opris**, P. Franke, A. D. Schlüter, "Functionalized shape persistent macrocycles: synthesis and first steps towards polymerization", *Am. Chem. Soc., Polym. Mater. Sci. Engin.*, **2004**, *91*, 422-423.
7. A. Terec, I. Grosu, E. Condamine, L. Breau, G. Plé, Y. Ramondenc, F. D. Rochon, V. Peulon-Agasse, **D. M. Opris**, "Pentaspiranes and hexaspiranes with 1,3-dioxane or 1,3-oxathiane rings: synthesis and stereochemistry", *Tetrahedron*, **2004**, *60*, 3173-3189.
6. M. Venturi, F. Marchioni, V. Balzani, **D. M. Opris**, O. Henze, A. D. Schlüter, "A photophysical and electrochemical investigation on a phenylacetylene macrocycle containing two 2,2'-bipyridine units, its protonated forms, and Ru(II) and Os(II) complexes", *Eur. J. Org. Chem.*, **2003**, *21*, 4227-4233.
5. **D. M. Opris**, I. Grosu, L. Toupet, G. Plé, A. Terec, S. Mager, L. Muntean, "Synthesis and stereochemistry of new tetraspiro-1,3-dioxanes", *J. Chem. Soc., Perkin Trans. 1*, **2001**, *19*, 2413-2420.
4. **D. M. Opris**, M. V. Diudea, "Peptide property by Cluj-indices", *SAR/QSAR Environ. Res.*, **2001**, *12*, 159-179.

Patent

3. **D. M. Opris**, S. Dünki, C. Racles, A. Bele, M. Cazacu, "High permittivity polymers based on functionalized silicones", PCT Int. Appl. **2015**, WO 2015135086 A1 20150917.

Book chapters

2. A. L. Skov, Q. Pei, **D. Opris**, R. Spontak, G. Gallone, chapter “Dielectric Elastomers (DEs) as EAPs: Materials” in “EAP Reference Book: Introduction to transducers and artificial muscles based on Electromechanically Active Polymers”, **2016**.

PhD Thesis

1. **D. M. Opris**, “Shape persistent macrocycles with bipyridine units: progress in accessibility, widening of applicability”, *PhD work*, Freie Universität Berlin, **2005**,

<http://www.diss.fu-berlin.de/2005/29/indexe.html>