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2019

Transparent, High-Thermal-Conductivity Ultradrawn Polyethylene/Graphene Nanocomposite Films.

Pan X, Shen L, Schenning APHJ and Bastiaansen CWM. *Advanced Materials* vol. 31, (40). Wiley.

Transparent, Lightweight, and High Strength Polyethylene Films by a Scalable Continuous Extrusion and Solid-State Drawing Process.

Lin Y, Tu W, Verpaalen RCP, Zhang H, Bastiaansen CWM and Peijs T. *Macromolecular Materials and Engineering*.

Glass-like transparent high strength polyethylene films by tuning drawing temperature.

LIN Y, Patel R, CAO J, TU W, ZHANG H, BILOTTI E, BASTIAANSEN C and PEIJS AA. *Polymer* vol. 171, 180-191. Elsevier.

Rewritable Optical Patterns in Light-Responsive Ultrahigh Molecular Weight Polyethylene.

Lafleur SSD, Severn JR, Verpaalen RCP, Schenning APHJ and Bastiaansen CWM. *Acs Applied Polymer Materials* vol. 1, (3) 392-396. American Chemical Society.

Optical patterns on drawn polyethylene by direct laser writing.

BASTIAANSEN CWM. *Journal of Communication. Oxford University Press (Oup)*.

Rheological properties of bimodal polyethylenes produced with silica nanoparticle supported catalysts.

Liu H, Troisi EM, Goossens JGP, Severn JR and Bastiaansen CWM. *Journal of Applied Polymer Science* vol. 136, (21). Wiley.

2018

Programmable helical twisting in oriented humidity-responsive bilayer films generated by spray-coating of a chiral nematic liquid crystal.

Verpaalen RCP, Debije MG, Bastiaansen CWM, Halilović H, Engels TAP and Schenning APHJ. *Journal of Materials Chemistry A* vol. 6, (36) 17724-17729. Royal Society of Chemistry.

Tailored bimodal ultra-high molecular weight polyethylene particles.

Lafleur S, Berthoud R, Ensink R, Cordier A, De Cremer G, Philippaerts A, Bastiaansen K, Margossian T and Severn JR. *Journal of Polymer Science Part a: Polymer Chemistry* vol. 56, (15) 1645-1656. Wiley.

PA6 nanofibre production: A comparison between rotary jet spinning and electrospinning.

Rogalski JJ, Bastiaansen CWM and Peijs T. *Fibers* vol. 6, (2). Mdpi Ag.

Drawing behavior and mechanical properties of ultra-high molecular weight polyethylene blends with a linear polyethylene wax.

Shen L, Severn J and Bastiaansen CWM. *Polymer* vol. 153, 354-361. Elsevier.

2017

Degradation and biocompatibility of photoembossed PLGA-acrylate blend for improved cell adhesion.

Hughes-Brittain NF, Qiu L, Wang W, Peijs T and Bastiaansen CWM. *J Biomed Mater Res B Appl Biomater* vol. 106, (1) 163-171.

Surface micropatterning of uniaxially oriented polyethylene films using interference holography for strain sensors.

Shen L, Lafleur SSD, Houben SJA, Murphy JN, Severn JR and Bastiaansen CWM. *Langmuir: The Acs Journal of Surfaces and Colloids* vol. 33, (51) 14592-14598. American Chemical Society.

Rotary jet spinning review-a potential high yield future for polymer nanofibers.

Rogalski JJ, Bastiaansen CWM and Peijs T. *Nanocomposites* vol. 3, (4) 97-121.

Photonic Shape Memory Polymer with Stable Multiple Colors.

Moirangthem M, Engels TAP, Murphy J, Bastiaansen CWM and Schenning APHJ. *Acs Applied Materials and Interfaces* vol. 9, (37) 32161-32167. American Chemical Society.

Surface texturing of electrospun fibres by photoembossing using pulsed laser interference holography and its effects on endothelial cell adhesion.

Hughes-Brittain NF, Qiu L, Picot OT, Wang W, Peijs T and Bastiaansen CWM. *Polymer (United Kingdom)* vol. 125, 40-49.

Improving Visible-Light Transparency of Drawn Melt-Crystallized Linear Polyethylenes: Influence of Molecular Weight Distribution.

Shen L, Severn J and Bastiaansen CWM. *Macromolecular Materials and Engineering* vol. 302, (6).

New Insights into the regulation of cell-surface signaling activity acquired from a mutagenesis screen of the *Pseudomonas putida* IutY sigma/anti-sigma factor.

Bastiaansen KC, Civantos C, Bitter W and Llamas MA. *Frontiers in Microbiology* vol. 8, (MAY).

Bimodal Ultrahigh Molecular Weight Polyethylenes Produced from Supported Catalysts: The Challenge of Using a Combined Catalyst System.

Liu H, Bastiaansen CWM, Goossens JGP, Schenning APHJ and Severn JR. *Macromolecular Chemistry and Physics* vol. 218, (5).

Switchable surface structured hydrogel coatings.

Kommeren S, Dongmo J and Bastiaansen CWM. *Soft Matter* vol. 13, (11) 2239-2245. Royal Society of Chemistry.

Chiral nematic liquid crystalline sensors containing responsive dopants.

Cachelin P and Bastiaansen CWM. *Liquid Crystal Sensors*.

2016

Fabrication and properties of poly(tetrafluoroethylene) nanofibres via sea-island spinning.

Zhang Z, Tu W, Peijs T and Bastiaansen CWM. *Polymer (United Kingdom)* vol. 109, 321-331.

Responses of Vascular Endothelial Cells to Photoembossed Topographies on Poly(Methyl Methacrylate) Films.

Qiu L, Hughes-Brittain NF, Bastiaansen CWM, Peijs T and Wang W. *J Funct Biomater* vol. 7, (4).

Electrospinning of reactive mesogens.

Yao J, Picot OT, Hughes-Brittain NF, Bastiaansen CWM and Peijs T. *European Polymer Journal* vol. 84, 642-651.

Diffraction flat panel solar concentrators of a novel design.

De Jong TM, De Boer DKG and Bastiaansen CWM. *Optics Express* vol. 24, (14) A1138-A1147.

Improving the Transparency of Ultra-Drawn Melt-Crystallized Polyethylenes: Toward High-Modulus/High-Strength Window Application.

Shen L, Nickmans K, Severn J and Bastiaansen CWM. *Acs Appl Mater Interfaces* vol. 8, (27) 17549-17554.

Polarization-Selective Patterning in an Anisotropic Smectic B Film.

Van MP, Bastiaansen CWM and Broer DJ. *Advanced Optical Materials* vol. 4, (5) 677-681.

Optical Acetone Vapor Sensors Based on Chiral Nematic Liquid Crystals and Reactive Chiral Dopants.

Cachelin P, Green JP, Peijs T, Heeney M and Bastiaansen CWM. *Advanced Optical Materials* vol. 4, (4) 592-596.

Tunable surface topography in fluoropolymers using photo-embossing.

Kommeren S, Sullivan T and Bastiaansen CWM. *Rsc Advances* vol. 6, (73) 69117-69123.

Ligand exchange as a tool to improve quantum dot miscibility in polymer composite layers used as luminescent down-shifting layers for photovoltaic applications.

Draaisma GJJ, Reardon D, Schenning APHJ, Meskers SCJ and Bastiaansen CWM. *Journal of Materials Chemistry C* vol. 4, (24) 5747-5754.

2015

Electrospinning of p-Aramid Fibers.

Yao J, Jin J, Lepore E, Pugno NM, Bastiaansen CWM and Peijs T. *Macromolecular Materials and Engineering* vol. 300, (12) 1238-1245.

High-performance electrospun co-polyimide nanofibers.

Yao J, Pantano MF, Pugno NM, Bastiaansen CWM and Peijs T. *Polymer* vol. 76, 105-112.

High performance co-polyimide nanofiber reinforced composites.

Yao J, Li G, Bastiaansen CWM and Peijs T. *Polymer* vol. 76, 46-51.

Enhanced lithographic resolution using longitudinal polarization state of light.

Van MP, Ushakova K, Bastiaansen CWM, Pereira SF, Urbach HP and Broer DJ. *Journal of Micro/Nanolithography, Mems, and Moems* vol. 14, (4).

Stimuli-responsive materials based on interpenetrating polymer liquid crystal hydrogels.

Stumpel JE, Gil ER, Spoelstra AB, Bastiaansen CWM, Broer DJ and Schenning APHJ. *Advanced Functional Materials* vol. 25, (22) 3314-3320.

Electrospinning of p-Aramid Fibers.

Yao J, Jin J, Lepore E, Pugno NM, Bastiaansen CWM and Peijs T. *Macromolecular Materials and Engineering*.

2014

Chiral-nematic liquid crystals as one dimensional photonic materials in optical sensors.

Mulder DJ, Schenning APHJ and Bastiaansen CWM. *Journal of Materials Chemistry C* vol. 2, (33) 6695-6705.

Humidity-responsive liquid crystalline polymer actuators with an asymmetry in the molecular trigger that bend, fold, and curl.

De Haan LT, Verjans JMN, Broer DJ, Bastiaansen CWM and Schenning APHJ. *Journal of The American Chemical Society* vol. 136, (30) 10585-10588.

High strength and high modulus electrospun nanofibers.

Yao J, Bastiaansen CWM and Peijs T. *Fibers* vol. 2, (2) 158-187.

Photoembossing of surface relief structures in polymer films for biomedical applications.

Hughes-Brittain NF, Qiu L, Wang W, Peijs T and Bastiaansen CWM. *Journal of Biomedical Materials Research - Part B Applied Biomaterials* vol. 102, (2) 214-220.

An Optical Sensor for Volatile Amines Based on an Inkjet-Printed, Hydrogen-Bonded, Cholesteric Liquid Crystalline Film.

Stumpel JE, Wouters C, Herzer N, Ziegler J, Broer DJ, Bastiaansen CWM and Schenning APHJ. *Advanced Optical Materials* vol. 2, (5) 459-464.

The role of supramolecular chemistry in stimuli responsive and hierarchically structured functional organic materials.

Schenning APHJ, Bastiaansen CMW, Broer DJ and Debije MG. *Chimica Oggi/Chemistry Today* vol. 32, (3) 78-80.

Thermoresponsive scattering coating for smart white LEDs.

Bauer J, Verbunt PPC, Lin WY, Han Y, Van MP, Cornelissen HJ, Yu JJH, Bastiaansen CWM and Broer DJ. *Optics Express* vol. 22, (25) A1868-A1879.

Polarization-selective polymerization in a photo-crosslinking monomer film.

Van MP, Schuurmans CCL, Bastiaansen CWM and Broer DJ. *Rsc Advances* vol. 4, (107) 62499-62504.

2013

A real time optical strain sensor based on a cholesteric liquid crystal network.

Picot OT, Dai M, Billoti E, Broer DJ, Peijs T and Bastiaansen CWM. *Rsc Advances* vol. 3, (41) 18794-18798.

Dual waveguide patterned luminescent solar concentrators.

Albers PTM, Bastiaansen CWM and Debije MG. *Solar Energy* vol. 95, 216-223.

New approach toward reflective films and fibers using cholesteric liquid-crystal coatings.

Picot OT, Dai M, Broer DJ, Peijs T and Bastiaansen CWM. *Acs Appl Mater Interfaces* vol. 5, (15) 7117-7121.

Patterned silver nanoparticles embedded in a nanoporous smectic liquid crystalline polymer network.

Dasgupta D, Shishmanova IK, Ruiz-Carretero A, Lu K, Verhoeven M, van Kuringen HPC, Portale G, Leclère P, Bastiaansen CWM, Broer DJ and Schenning APHJ. *J Am Chem Soc* vol. 135, (30) 10922-10925.

Phosphate starvation relayed by PhoB activates the expression of the *Pseudomonas aeruginosa* σ ^{vreI} ECF factor and its target genes.

Faure LM, Llamas MA, Bastiaansen KC, Bentzmann SD and Bigot S. *Microbiology (United Kingdom)* vol. 159, (PART7) 1315-1327.

Humidity-responsive bilayer actuators based on a liquid-crystalline polymer network.

Dai M, Picot OT, Verjans JMN, De Haan LT, Schenning APHJ, Peijs T and Bastiaansen CWM. *Acs Applied Materials and Interfaces* vol. 5, (11) 4945-4950.

Engineered complex molecular order in liquid crystals towards unusual optics and responsive mechanics.

Sánchez-Somolinos C, De Haan LT, Schenning APHJ, Bastiaansen CWM and Broer DJ. *Proceedings of Spie - The International Society For Optical Engineering* vol. 8642,.

A printable optical time-temperature integrator based on shape memory in a chiral nematic polymer network.

Davies DJD, Vaccaro AR, Morris SM, Herzer N, Schenning APHJ and Bastiaansen CWM. *Advanced Functional Materials* vol. 23, (21) 2723-2727.

Polarization selective photoresist based on reactive liquid crystals doped with a dichroic photoinitiator.

Van MP, Bastiaansen CWM and Broer DJ. *Proceedings of Spie - The International Society For Optical Engineering* vol. 8682,.

Influence of solid-state microstructure on the electronic performance of 5,11-Bis(triethylsilylethynyl) anthradithiophene.

Yu L, Li X, Pavlica E, Koch FPV, Portale G, Da Silva I, Loth MA, Anthony JE, Smith P, Bratina G, Kjellander BKC, Bastiaansen CWM, Broer DJ, Gelinck GH and Stingelin N. *Chemistry of Materials* vol. 25, (9) 1823-1828.

(Photo-)thermally induced formation of dynamic surface topographies in polymer hydrogel networks.

Liu D, Bastiaansen CWM, Den Toonder MJM and Broer DJ. *Langmuir* vol. 29, (18) 5622-5629.

Using lenses to improve the output of a patterned luminescent solar concentrator.

Tsoi S, Broer DJ, Bastiaansen CWM and Debije MG. *Advanced Energy Materials* vol. 3, (3) 337-341.

Anisotropic wetting and de-wetting of drops on substrates patterned with polygonal posts.

Vrancken RJ, Blow ML, Kusumaatmaja H, Hermans K, Prenen AM, Bastiaansen CWM, Broer DJ and Yeomans JM. *Soft Matter* vol. 9, (3) 674-683.

Single-composition three-dimensionally morphing hydrogels.

Liu D, Bastiaansen CWM, Den Toonder MJM and Broer DJ. *Soft Matter* vol. 9, (2) 588-596.

Manufacturing of surface relief structures in moving substrates using photoembossing and pulsed-interference holography.

Picot OT, Alcalá R, Sánchez C, Dai M, Hughes-Brittain NF, Broer DJ, Peijs T and Bastiaansen CWM. *Macromolecular Materials and Engineering* vol. 298, (1) 33-37.

2012

Engineering of complex order and the macroscopic deformation of liquid crystal polymer networks.

De Haan LT, Sánchez-Somolinos C, Bastiaansen CWM, Schenning APHJ and Broer DJ. *Angewandte Chemie - International Edition* vol. 51, (50) 12469-12472.

Surface structuring of bi-component fibres with photoembossing.

Dai M, De Jong TM, Sánchez C, Picot OT, Broer DJ, Peijs T and Bastiaansen CWM. *Rsc Advances* vol. 2, (26) 9964-9968.

Light-induced formation of dynamic and permanent surface topologies in chiral-nematic polymer networks.

Liu D, Bastiaansen CWM, Den Toonder JMJ and Broer DJ. *Macromolecules* vol. 45, (19) 8005-8012.

Increased efficiency of luminescent solar concentrators after application of organic wavelength selective mirrors.

Verbunt PPC, Tsoi S, Debije MG, Broer DJ, Bastiaansen CWM, Lin CW and De Boer DKG. *Optics Express* vol. 20, (105) A655-A668.

Effect of polymer binder on surface texturing by photoembossing.

Hughes-Brittain NF, Picot OT, Dai M, Peijs T and Bastiaansen CWM. *Applied Surface Science* vol. 258, (22) 8609-8612.

Manufacturing of fibres with new reflective properties and their application in textiles.

Picot OT, Dai M, Peijs T and Bastiaansen CWM. *Materials Research Society Symposium Proceedings* vol. 1403, 113-118.

Photoembossing for surface texturing of films and fibres for biomedical applications.

Hughes-Brittain NF, Picot OT, Qiu L, Sanchez C, Peijs T and Bastiaansen K. *Materials Research Society Symposium Proceedings* vol. 1418, 127-132.

Functional organic materials based on polymerized liquid-crystal monomers: Supramolecular hydrogen-bonded systems.

Broer DJ, Bastiaansen CMW, Debije MG and Schenning APHJ. *Angewandte Chemie - International Edition* vol. 51, (29) 7102-7109.

Alcohol-responsive, hydrogen-bonded, cholesteric liquid-crystal networks.

Chang CK, Bastiaansen CMW, Broer DJ and Kuo HL. *Advanced Functional Materials* vol. 22, (13) 2855-2859.

Discrimination of alcohol molecules using hydrogen-bridged cholesteric polymer networks.

Chang CK, Bastiaansen CWM, Broer DJ and Kuo HL. *Macromolecules* vol. 45, (11) 4550-4555.

Printable optical sensors based on H-bonded supramolecular cholesteric liquid crystal networks.

Herzer N, Guneyasu H, Davies DJD, Yildirim D, Vaccaro AR, Broer DJ, Bastiaansen CWM and Schenning APHJ. *Journal of The American Chemical Society* vol. 134, (18) 7608-7611.

Two-dimensional pH-responsive printable smectic hydrogels.

Shishmanova IK, Bastiaansen CWM, Schenning APHJ and Broer DJ. *Chemical Communications* vol. 48, (38) 4555-4557.

Irreversible visual sensing of humidity using a cholesteric liquid crystal.

Saha A, Tanaka Y, Han Y, Bastiaansen CMW, Broer DJ and Sijbesma RP. *Chemical Communications* vol. 48, (38) 4579-4581.

Photo-switchable surface topologies in chiral nematic coatings.

Liu D, Bastiaansen CWM, Den Toonder JMJ and Broer DJ. *Angewandte Chemie - International Edition* vol. 51, (4) 892-896.

2011

Formation of relief structures on fibres by photo-embossing.

Dai M, Picot OT, Hughes-Brittain NF, Peijs T and Bastiaansen CWM. *Journal of Materials Chemistry* vol. 21, (39) 15527-15531.

Surface-relief and polarization gratings for solar concentrators.

De Jong TM, De Boer DKG and Bastiaansen CWM. *Optics Express* vol. 19, (16) 15127-15142.

In-situ fabrication of polymer microsieves for μ TAS by slanted angle holography.

Prenen AM, Knopf A, Bastiaansen CWM and Broer DJ. *Microfluidics and Nanofluidics* vol. 10, (6) 1299-1304.

Polymer MEMS.

Van Oosten CL, Bastiaansen CWM and Broer DJ. *Cross-Linked Liquid Crystalline Systems: From Rigid Polymer Networks to Elastomers*.

2010

Patterned dye structures limit reabsorption in luminescent solar concentrators.

Tsoi S, Broer DJ, Bastiaansen CWM and Debije MG. *Opt Express vol. 18, A536-A543. Optical Soc Amer.*

Optical monitoring of gases with cholesteric liquid crystals.

Han Y, Pacheco K, Bastiaansen CWM, Broer DJ and Sijbesma RP. *Journal of The American Chemical Society vol. 132, (9) 2961-2967.*

Fully reversible transition from wenzel to cassie-baxter states on corrugated superhydrophobic surfaces.

Vrancken RJ, Kusumaatmaja H, Hermans K, Prenen AM, Pierre-Louis O, Bastiaansen CWM and Broer DJ. *Langmuir vol. 26, (5) 3335-3341.*

Effect on the output of a luminescent solar concentrator on application of organic wavelength-selective mirrors.

Debije MG, Van MP, Verbunt PPC, Kastelijm MJ, Van Der Blom RHL, Broer DJ and Bastiaansen CWM. *Applied Optics vol. 49, (4) 745-751.*

Room temperature preparation of conductive silver features using spin-coating and inkjet printing.

Valeton JJP, Hermans K, Bastiaansen CWM, Broer DJ, Perelaer J, Schubert US, Crawford GP and Smith PJ. *Journal of Materials Chemistry vol. 20, (3) 543-546.*

2009

Azeotropic binary solvent mixtures for preparation of organic single crystals.

Li X, Kjellander BKC, Anthony JE, Bastiaansen CWM, Broer DJ and Gelinck GH. *Advanced Functional Materials vol. 19, (22) 3610-3617.*

Controlling light emission in luminescent solar concentrators through use of dye molecules aligned in a planar manner by liquid crystals.

Verbunt PPC, Kaiser A, Hermans K, Bastiaansen CWM, Broer DJ and Debije MG. *Advanced Functional Materials vol. 19, (17) 2714-2719.*

Photo-embossed surface relief structures with an increased aspect ratio by addition of kinetic interfering compounds.

Perelaer J, Hermans K, Bastiaansen CWM, Broer DJ and Schubert US. *Journal of Photopolymer Science and Technology vol. 22, (5) 667-670.*

The effect of a scattering layer on the edge output of a luminescent solar concentrator.

Debije MG, Teunissen JP, Kastelijm MJ, Verbunt PPC and Bastiaansen CWM. *Solar Energy Materials and Solar Cells vol. 93, (8) 1345-1350.*

Monodisperse, polymeric nano- and microsieves produced with interference holography.

Prenen AM, Van der Werf JCAH, Bastiaansen CWM and Broer DJ. *Advanced Materials vol. 21, (17) 1751-1755.*

Nanostructured smectic networks toward integrated nanomembranes.

Broer DJ, Luengo C, Bastiaansen CWM and Lub J. *Abstr Pap Am Chem S vol. 237,.*

Printed artificial cilia from liquid-crystal network actuators modularly driven by light.

Van Oosten CL, Bastiaansen CWM and Broer DJ. *Nature Materials vol. 8, (8) 677-682.*

Influence of waveguide material on light emission in luminescent solar concentrators.

Kastelijm MJ, Bastiaansen CWM and Debije MG. *Optical Materials vol. 31, (11) 1720-1722.*

2008

Rapid, direct fabrication of antireflection-coated microlens arrays by photoembossing.

Hermans K, Hamidi SZ, Spelstra AB, Bastiaansen CWM and Broer DJ. *Applied Optics vol. 47, (35) 6512-6517.*

Bending dynamics and directionality reversal in liquid crystal network photoactuators.

Van Oosten CL, Corbett D, Davies D, Warner M, Bastiaansen CWM and Broer DJ. *Macromolecules* vol. 41, (22) 8592-8596.

Highly efficient surface relief formation via photoembossing of a supramolecular polymer.

Hermans K, Tomatsu I, Matecki M, Sijbesma RP, Bastiaansen CWM and Broer DJ. *Macromolecular Chemistry and Physics* vol. 209, (20) 2094-2099.

An in situ sealing method for liquid-filled micro-cavities based on photoembossing.

Hermans K, Van Delden M, Bastiaansen CWM and Broer DJ. *Journal of Micromechanics and Microengineering* vol. 18, (9).

Photo-embossed surface relief structures with an increased aspect ratios by addition of a reversible addition-fragmentation chain transfer agent.

Perelaer J, Hermans K, Bastiaansen CWM, Broer DJ and Schubert US. *Adv Mater* vol. 20, (16) 3117-3121.

Anisotropic drop morphologies on corrugated surfaces.

Kusumaatmaja H, Vrancken RJ, Bastiaansen CWM and Yeomans JM. *Langmuir* vol. 24, (14) 7299-7308.

Nanoporous membranes of hydrogen-bridged smectic networks with nanometer transverse pore dimensions.

Gonzalez CL, Bastiaansen CWM, Lub J, Loos J, Lu K, Wondergem HJ and Broer DJ. *Advanced Materials* vol. 20, (7) 1246-1252.

Nano-and Microstructuring of Polymers.

De Witz C, Sánchez C, Bastiaansen C and Broer DJ. *Handbook of Polymer Reaction Engineering*.

Printing of monolithic polymeric microstructures using reactive mesogens.

Sanchez C, Verbakel F, Escuti MJ, Bastiaansen CWM and Broer DJ. *Adv Mater* vol. 20, (1) 74-+.

2007

Improved microcontact printing of proteins using hydrophilic thermoplastic elastomers as stamp materials.

Trimbach DC, Stapert H, Van Orselen J, Jandt KD, Bastiaansen CWM and Broer DJ. *Advanced Engineering Materials* vol. 9, (12) 1123-1128.

A design-based structural test method for a switched-resistor DAC.

Ma L, Seuren G, Rijsing RV, Bastiaansen C and Dussen LVD. *Journal of Electronic Testing: Theory and Applications (Jetta)* vol. 23, (6) 559-567.

High aspect ratio surface relief structures by photoembossing.

Hermans K, Wolf FK, Perelaer J, Janssen RAJ, Schubert US, Bastiaansen CWM and Broer DJ. *Applied Physics Letters* vol. 91, (17).

POLY 544-Functionalized liquid crystal networks: Toward soft actuators and organic zeolites.

Broer DJ, Gonzalez CL, Oosten CL, Harris KD, Bastiaansen CWM and Lub J. *Abstr Pap Am Chem S* vol. 234,.

Glassy photomechanical liquid-crystal network actuators for microscale devices.

Van Oosten CL, Harris KD, Bastiaansen CWM and Broer DJ. *European Physical Journal E* vol. 23, (3) 329-336.

Physical properties of anisotropically swelling hydrogen-bonded liquid crystal polymer actuators.

Harris KD, Bastiaansen CWM and Broer DJ. *J Microelectromech S* vol. 16, (2) 480-488.

2006

Simplified spectropolarimetry using reactive mesogen polarization gratings.

Escuti MJ, Oh C, Sánchez C, Bastiaansen C and Broer DJ. *Proceedings of Spie - The International Society For Optical Engineering* vol. 6302,.

Two-dimensional photonic crystals from semiconductor material with polymer filled holes.

Van Heijden RD, Kjellander C, Carlström CF, Snijders J, Van Der Heijden RW, Bastiaansen K, Broer D, Karouta F, Nötzel R, Van Drift ED and Salemink HWM. *Proceedings of Spie - The International Society For Optical Engineering* vol. 6182,.

A glassy bending-mode polymeric actuator which deforms in response to solvent polarity.

Harris KD, Bastiaansen CWM and Broer DJ. *Macromolecular Rapid Communications* vol. 27, (16) 1323-1329.

Isotropic Islands in a cholesteric Sea: Patterned thermal expansion for responsive surface topologies.

Sousa ME, Broer DJ, Bastiaansen CWM, Freund LB and Crawford GP. *Advanced Materials* vol. 18, (14) 1842-1845.

Template induced chiral ordering in nematic liquid crystalline materials: A deuterium nuclear magnetic resonance study.

Elias AL, Brett MJ, Sousa ME, Woltman SJ, Crawford GP, Bastiaansen CWM and Broer DJ. *J Appl Phys* vol. 99, (11).

InP-based two-dimensional photonic crystals filled with polymers.

Van Der Heijden R, Carlström CF, Snijders JAP, Van Der Heijden RW, Karouta F, Nötzel R, Salemink HWM, Kjellander BKC, Bastiaansen CWM, Broer DJ and Van Der Drift E. *Applied Physics Letters* vol. 88, (16).

Nanomotor rotates microscale objects.

Eelkema R, Pollard MM, Vicario J, Katsonis N, Ramon BS, Bastiaansen CWM, Broer DJ and Feringa BL. *Nature* vol. 440, (7081).

High-throughput screening and optimization of photoembossed relief structures.

Adams N, De Gans BJ, Kozodaev D, Sánchez C, Bastiaansen CWM, Broer DJ and Schubert US. *Journal of Combinatorial Chemistry* vol. 8, (2) 184-191.

Optimizing photo-embossed gratings: A gradient library approach.

De Gans BJ, Sánchez C, Kozodaev D, Wouters D, Alexeev A, Escuti MJ, Bastiaansen CWM, Broer DJ and Schubert US. *Journal of Combinatorial Chemistry* vol. 8, (2) 228-236.

Large area liquid crystal monodomain field-effect transistors.

Van Breemen AJJM, Herwig PT, Chlon CHT, Sweelssen J, Schoo HFM, Setayesh S, Hardeman WM, Martin CA, De Leeuw DM, Valetton JJP, Bastiaansen CWM, Broer DJ, Popa-Merticaru AR and Meskers SCJ. *Journal of The American Chemical Society* vol. 128, (7) 2336-2345.

Use of lyotropic liquid crystals for patterned polarizer and retarder applications.

Sousa ME, Crawford GP, Bastiaansen CWM and Broer DJ. *Digest of Technical Papers - Sid International Symposium* vol. 37, (2) 836-839.

Photopatterned liquid crystalline polymers for microactuators.

Elias AL, Harris KD, Bastiaansen CWM, Broer DJ and Brett MJ. *J Mater Chem* vol. 16, (28) 2903-2912.

Engineering education on the 'fuzzy' front end: A high-technology entrepreneurship model.

Crawford GP, Broer DJ and Bastiaansen CWM. *European Journal of Engineering Education* vol. 31, (2) 145-153.

2005

Large amplitude light-induced motion in high elastic modulus polymer actuators.

Harris KD, Cuypers R, Scheibe P, Van Oosten CL, Bastiaansen CWM, Lub J and Broer DJ. *Journal of Materials Chemistry* vol. 15, (47) 5043-5048.

Photoembossing of periodic relief structures using polymerization-induced diffusion: A combinatorial study.

Sanchez C, de Gans BJ, Kozodaev D, Alexeev A, Escuti MJ, van Heesch C, Bel T, Schubert US, Bastiaansen CWM and Broer DJ. *Adv Mater* vol. 17, (21) 2567-+.

TiO₂ nanoparticle-photopolymer holographic recording.

Sanchez C, Escuti MJ, van Heesch C, Bastiaansen CWM, Broer DJ, Loos J and Nussbaumer R. *Adv Funct Mater* vol. 15, (10) 1623-1629.

Self-assembled polymer films for controlled agent-driven motion.

Harris KD, Bastiaansen CWM, Lub J and Broer DJ. *Nano Lett* vol. 5, (9) 1857-1860.

An efficient illumination system for liquid crystal displays incorporating an anisotropic hologram.

Sánchez C, Escuti MJ, Van Heesch C, Bastiaansen CWM and Broer DJ. *Applied Physics Letters* vol. 87, (9).

Thermo-mechanical responses of liquid-crystal networks with a splayed molecular organization.

Mol GN, Harris KD, Bastiaansen CWM and Broer DJ. *Adv Funct Mater* vol. 15, (7) 1155-1159.

High pretilt four-domain twisted nematic liquid crystal display by microrubbing: Process, characterization, and optical simulation.

Varghese S, Crawford GP, Bastiaansen CWM, De Boer DKG and Broer DJ. *Journal of Applied Physics* vol. 97, (5).

Four-domain twisted vertically aligned liquid crystal pixels using microrubbing.

Varghese S, Crawford GP, Bastiaansen CWM, De Boer DKG and Broer DJ. *Applied Physics Letters* vol. 86, (18) 1-3.

Multidomain twisted vertically aligned display by microrubbing and its simulations.

Varghese S, Bastiaansen CWM, Crawford GP, De Boer DKG and Broer DJ. *Digest of Technical Papers - Sid International Symposium* vol. 36, (1) 788-791.

Improving the brightness and daylight contrast of organic light-emitting diodes.

Ren VV, Wegh T, Teunissen JP, Lub J, Bastiaansen CWM and Broer DJ. *Advanced Functional Materials* vol. 15, (1) 138-142.

Polarized light out-coupling from lightguides for LCDs.

Van Heesch CM, Jagt H, Sanchez C, Cornelissen HJ, Broer DJ and Bastiaansen CWM. *Chem Rec* vol. 5, (2) 59-69.

Large-area microfabrication of three-dimensional, helical polymer structures.

Elias AL, Harris KD, Bastiaansen CWM, Broer DJ and Brett MJ. *Journal of Micromechanics and Microengineering* vol. 15, (1) 49-54.

2004

Transparent slanted phase gratings in emissive waveguides.

Jagt HJB, Cornelissen HJ, Bastiaansen CWM and Broer DJ. *Adv Mater* vol. 16, (23-24) 2108-+.

Patterned alignment of liquid crystals by mu-rubbing.

Varghese S, Narayanankutty S, Bastiaansen CWM, Crawford GP and Broer DJ. *Adv Mater* vol. 16, (18) 1600-+.

Orientational properties and dynamics of nematic liquid crystals mixed with dendrimers for electro-optical switches.

Van Boxtel MCW, Wubbenhorst M, Van Turnhout J, Bastiaansen CWM and Broer DJ. *Liq Cryst* vol. 31, (9) 1207-1218.

Microrubbing technique to produce high pretilt multidomain liquid crystal alignment.

Varghese S, Crawford GP, Bastiaansen CWM, De Boer DKG and Broer DJ. *Applied Physics Letters* vol. 85, (2) 230-232.

Hydrophilic elastomers for microcontact printing of polar inks.

Trimbach DC, Al-Hussein M, De Jeu WH, Decr M, Broer DJ and Bastiaansen CWM. *Langmuir* vol. 20, (11) 4738-4742.

2003

Block copolymer thermoplastic elastomers for microcontact printing.

Trimbach D, Feldman K, Spencer ND, Broer DJ and Bastiaansen CWM. *Langmuir* vol. 19, (26) 10957-10961.

A 128f, multi-bit ?? CMOS audio DAC with real-time DEM and 115dB SFDR.

Van Tuijl E, Van Den Homberg J, Reefman D, Bastiaansen C and Van Der Dussen L. *Digest of Technical Papers - Ieee International Solid-State Circuits Conference* vol. 47, 298-299+584.

Patterned alignment of liquid crystals on selectively thiol-functionalized photo-orientation layers.

Wilderbeek HTA, Teunissen JP, Bastiaansen CWM and Broer DJ. *Adv Mater* vol. 15, (12) 985-+.

A dielectric study on the relaxation and switching behaviour of liquid crystals confined within a colloidal network.

Van Boxtel MCW, Wubbenhorst M, Van Turnhout J, Bastiaansen CWM and Broer DJ. *Liquid Crystals* vol. 30, (2) 235-249.

Synthesis and properties of phenyl benzoate-based and biphenyl-based liquid crystalline thiol-ene monomers.
Wilderbeek HTA, van der Meer MGM, Jansen MAG, Nelissen L, Fischer HR, van Es JJGS, Bastiaansen CWM, Lub J and Broer DJ. *Liq Cryst* vol. 30, (1) 93-108.

2002

Photo-initiated polymerization of liquid crystalline thiol-ene monomers in isotropic and anisotropic solvents.
Wilderbeek HTA, van der Meer MGM, Bastiaansen CWM and Broer DJ. *J Phys Chem B* vol. 106, (50) 12874-12883.

Photoinitiated bulk polymerization of liquid crystalline thiolene monomers.
Wilderbeek HTA, Goossenst JGP, Bastiaansen CWM and Broer DJ. *Macromolecules* vol. 35, (24) 8962-8968.

Alignment of liquid crystals on self-assembled monolayers using ultra-thin gold films.
Wilderbeek HTA, Van Der Meer FJA, Feldman K, Broer DJ and Bastiaansen CWM. *Advanced Materials* vol. 14, (9) 655-658.

Photo-polymerization of liquid crystalline monomers in anisotropic solvents under dynamic conditions.
Wilderbeek H, De Koning H, Vorstenbosch J, Chlon C, Bastiaansen K and Broer DJ. *Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers* vol. 41, (4) 2128-2138.

Influence of laser writing of polyimides on the alignment of liquid crystals.
Versteeg DJ, Bastiaansen CWM and Broer DJ. *Journal of Applied Physics* vol. 91, (7) 4191-4195.

Linearly polarized light-emitting backlight.
Jagt HJB, Cornelissen HJ, Broer DJ and Bastiaansen CWM. *Journal of The Society For Information Display* vol. 10, (1) 107-112.

2001

The influence of laser writing of polyimides on the alignment of liquid crystals.
Versteeg DJ, Bastiaansen CWM and Broer DJ. *Sid Conference Record of The International Display Research Conference* 65-68.

Novel polarized light emitting illumination systems for LCDs.
Stutzmann N, Sele CW, Jagt H, Bastiaansen C, Tervoort TA and Smith P. *Sid Conference Record of The International Display Research Conference* 529-532.

Novel polarized-light emitting polymer systems.
Stutzmann N, Jagt H, Tervoort TA, Bastiaansen CWM and Smith P. *Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers* vol. 40, (10) 5966-5971.

Cholesteric thermo-reversible liquid-crystal gels: Phase behaviour and electro-optical response.
Janssen RHC, Teunissen JP, Picken SJ, Bastiaansen CWM, Broer DJ, Tervoort TA and Smith P. *Jpn J Appl Phys 1* vol. 40, (4A) 2372-2377.

Embossed Polymeric Relief Structures as a Template for the Growth of Periodic Inorganic Microstructures.
Dick B, Sit JC, Brett MJ, Votte IMN and Bastiaansen CWM. *Nano Letters* vol. 1, (2) 71-73.

Viscoelastic liquid crystal colloids for the continuous processing of twisted nematic electro-optical cells.
van Bortel MCW, Janssen RHC, Bastiaansen CWM and Broer DJ. *J Appl Phys* vol. 89, (2) 838-842.

Novel polarized-light emitting polymer systems: II. Use of form birefringent polarization-selective mirrors.
Stutzmann N, Sele CW, Tervoort TA, Bastiaansen CWM and Smith P. *Japanese Journal of Applied Physics, Part 1: Regular Papers and Short Notes and Review Papers* vol. 40, (10) 5972-5975.

Progress in liquid crystal displays by new developments in functional polymers.
Broer DJ, Van Haaren JAMM and Bastiaansen CWM. *E-Polymers* vol. 1, (1).