

Publications and patents of Wolfgang Kern (since 1993)

1993

Kurt Kalcher, Wolfgang Kern, Rudolf Pietsch. *"Cadmium and lead in the smoke of a filter cigarette"*. The Science of the Total Environment **128**, 21 (1993)

Wolfgang Kern, Klaus Hummel. *"Photocrosslinking of 1,4-polybutadiene with α -thiocyanatoketones as photoinitiators"*. Die Makromolekulare Chemie **194**, 2641 (1993)

Wolfgang Kern, Klaus Hummel, Dagmar Koller, Nassim Sadaghiani. *"Photochemical behaviour of α -thiocyanatoketones in a polymer matrix and of thiocyanatoacetyl groups covalently bound to polystyrene"*. Die Makromolekulare Chemie **194**, 2759 (1993)

Rami Awad, Wolfgang Kern, Klaus Hummel. *" α -Thiocyanatoketone als neue Initiatoren für die UV-Härtung von Lacken"*. Farbe + Lack **99**, 991 (1993)

1994

Wolfgang Kern, Klaus Hummel. *"Photoreactive copolymers of 4-(thiocyanatoacetyl)phenyl methacrylate"*. European Polymer Journal **30**, 731 (1994)

1995

Rami Awad, Wolfgang Kern, Klaus Hummel. *"Haftungseigenschaften von UV-Lacken mit α -Thiocyanatoketonen als Photoinitiatoren"*. Farbe + Lack **101**, 11 (1995)

Wolfgang Kern, Klaus Hummel. *"Photoreactive polymers of 4-vinylbenzyl thiocyanate"*. European Polymer Journal **31**, 437 (1995)

1996

Wolfgang Kern, Klaus Hummel. *"Photosensitive copolymers of styrene with 4-vinylbenzyl selenocyanate: synthesis and comparison with similar copolymers"*. Polymer **37**, 2055 (1996)

Wolfgang Kern, Robert Saf, Klaus Hummel, Herwig Kapeller. *"Photocrosslinkable copolymers of 4-vinylbenzyl selenocyanate, 4-vinylbenzyl thiocyanate and 4-vinylbenzyl bromide: experiments with low-molecular-weight model compounds"*. Macromolecular Chemistry and Physics **197**, 329 (1996)

1997

Wolfgang Kern, Josefine Hobisch, Klaus Hummel. *"New monomers and photosensitive polymers: the synthesis and polymerization of 2-, 3- and 4-vinylphenyl thiocyanate"*. Macromolecular Chemistry and Physics **198**, 443 (1997).

Wolfgang Kern, Wolfgang Schwarz, Klaus Hummel. *"Laser-engraving of rubbers: the influence of fillers on the engraving process"*. Kautschuk, Gummi und Kunststoffe **50**, 710 (1997)

Wolfgang Kern, Josefine Hobisch, Klaus Hummel. *"Photochemical reactions of polystyrenes ringsubstituted with thiocyanato groups"*. Macromolecular Chemistry and Physics **198**, 3987 (1997)

1998

Wolfgang Kern, Markus Gobl, Ernst Güttler, Klaus Hummel. *"Laser-engraving of rubbers: the application of microporous materials"*. Kautschuk, Gummi und Kunststoffe **51**, 168 (1998)

Wolfgang Kern, Martin Cifrain, Raymund Schröder, Klaus Hummel, Christof Mayer, Michael Hofstötter. *"Polymers with pendant cyanate ester groups: synthesis, thermal curing and photocrosslinking"*. European Polymer Journal **34**, 987 (1998)

W. Kern, J. Hobisch, K. Hummel, *"Poly(3-vinylphenyl selenocyanate) and poly-(4-vinylphenylselenocyanate): synthesis and photocrosslinking"*, Macromolecular Chemistry and Physics **199**, 1413 (1998)

1999

U. Meyer, W. Kern, K. Hummel, F. Stelzer, *"New positive resists with cycloaliphatic structures in the main chain"*, European Polymer Journal **35**, 69 (1999)

K. Hummel, F.J. Santos Rodriguez, J. Wohlgenannt, W. Kern, *"Investigation of vulcanization reactions by means of electrical current measurements"*, Kautschuk, Gummi, Kunststoffe **52**, 514 (1999)

U. Meyer, W. Kern, R. Svagera, M. Ebel, *"Surface modification of polystyrene by photoinitiated introduction of cyano groups"*, Macromol. Rapid Commun. **20**, p. 515 (1999)

M. Winter, H. Buqa, B. Evers, T. Hodal, Kai-C. Möller, C. Reisinger, M.V.S. Alvarez, I. Schneider, G.H. Wrodnigg, F.P. Netzer, R.I.R. Blyth, M.G. Ramsey, P. Golob, F. Hofer, C. Grogger, W. Kern, R. Saf, J.O. Besenhard, *"The carbon anode / electrolyte interface in lithium ion cells"*, ITE Battery Letters **1** / 2, p. 129-139 (1999)

2000

H. Simbürger, W. Kern, K. Hummel, C. Hagg, *"Photoreactions in polymers containing benzil units: a comparative study under excimer laser and Hg-lamp irradiation"*, Polymer **41**, p. 7883-7898 (2000)

T. Kavc, W. Kern, M.F. Ebel, R. Svagera, P. Pölt, *"Surface modification of polyethylene by photochemical introduction of sulfonic acid groups"*, Chemistry of Materials **12**, p. 1053-1059 (2000)

2001

T. Kavc, W. Kern, Ch. Zenz, G. Leising, G. Kranzelbinder, E. Toussaere, *"Phase gratings in photoreactive polymers: a way to optically pumped organic lasers"*, Chemical Monthly **132**, p. 531 (2001), special issue "Electroactive Materials" (eds. J.O. Besenhard, W. Sitte, F. Stelzer, H. Gamsjäger)

H.S. Voraberger, H. Kreimeier, V. Ribitsch, W. Kern, *"Novel oxygen optrode withstanding autoclavation: technical solutions and performance during implementation"*, Sensors and Actuators B: Chemical **74**, 173 (2001)

P. Feiertag, T. Kavc, U. Meyer, I. Gsoels, W. Kern, I. Rom, F. Hofer, *"Patterned modification of polymer surfaces employing UV sensitive gases"*, Synthetic Metals **121**, 1371 (2001)

T. Kavc, G. Langer, W. Kern, G. Kranzelbinder, E. Toussaere, S. Voß, *"Formation of relief gratings in photoreactive polymers via gas phase reaction"*, Synthetic Metals **121**, 1751 (2001)

G. Langer, T. Kavc, W. Kern, G. Kranzelbinder, E. Toussaere, *"Refractive index changes in polymers induced by deep UV irradiation and subsequent gas phase modification"*, Macromolecular Chemistry and Physics **202**, 3459-3467 (2001)

W. Kern, *"Photochemical modification of polymer surfaces"* (invited review), Trends in Photochemistry and Photobiology, Vol. 7: Light induced polymerization reactions (edited by J.-P. Fouassier), pp. 11-30 (2001)

2002

T. Kavc, G. Langer, P. Pölt, K. Reichmann, W. Kern, *"Image formation and surface relief gratings in photosensitive polymers containing SCN groups"*, Macromol. Chem. Phys. **203**, 1099 – 1105 (2002)

T. Kavc, G. Langer, W. Kern, G. Kranzelbinder, E. Toussaere, G. A. Turnbull, I. D. W. Samuel, K. F. Iskra, T. Neger, A. Pogantsch, *"Index and relief gratings in polymer films for organic DFB lasers"*, Chemistry of Materials **14**, 4178-4185 (2002)

T. Kavc, G. Langer, W. Kern, A. Ruplitsch, K. Mahler, F. Stelzer, G. Hayn, R. Saf, E. J. W. List, E. Zojer, M.T. Ahmed, A. Pogantsch, K. F. Iskra, T. Neger, H.-H. Hörhold, H. Tillmann, G. Kranzelbinder, E. Toussaere, G. Jakopic, *"Reductive Photopatterning of Phenylene-Vinylene-Based Polymers"*, Mat. Res. Soc. Symp. Proc. Vol. **708**, BB11.3.1.-6. (2002)

T. Kavc, G. Langer, W. Kern, G. Kranzelbinder, E. Toussaere, G. A. Turnbull, I. D. W. Samuel, K. F. Iskra, T. Neger, *"Fabrication of Refractive Index and Relief Gratings in Polymer Films for DFB Lasing"*, Mat. Res. Soc. Symp. Proc. Vol. **708**, BB4.7.1. (2002)

A. Pogantsch, G. Trattnig, G. Langer, W. Kern, U. Scherf, H. Tillmann, H.-H. Hörhold, E. Zojer, *"Multicolor organic electroluminescent devices fabricated by a reductive photo-patterning method"*, Advanced Materials **14**, 1722 (2002)

G. Trattnig, A. Pogantsch, G. Langer, W. Kern, E. Zojer, *"Polymer based red, green and blue emitting devices fabricated by reductive photopatterning"*, Applied Physics Letters **81**, 4269 (2002)

2003

G. Langer, A. Pogantsch, K.F. Iskra, T. Neger, W. Kern, *"Lasing action in optically written two-dimensional DFB gratings"*, Synthetic Metals **137**, 997 (2003)

W. Schöffberger, N. Zaami, G. Langer, G. Jakopic, A. Pogantsch, W. Kern, F. Stelzer, *"Photoinduced changes of the refractive index in substituted fluorenyl-p-phenylene copolymers"*, Macromol. Chem. Phys. **204**, 779 (2003)

G.Kranzelbinder, E.Toussaere, J.Zyss, T.Kavc, G.Langer, W.Kern, „An organic surface emitting laser based on a deep ultraviolet photopolymer containing thiocyanate groups“, Applied Physics Letters **82**, 2203 (2003)

B. Wendl, H. Droschl, W. Kern, „Progress in Orthodontic Bonding – Innovations of Adhesives and Polymerization Lamps“, Inf. Orthod. Kieferorthop. **35**, 65 (2003)

B. Wendl, H. Droschl, W. Kern, „Progress in orthodontic bonding“, Deutsche Zahnärztliche Zeitschrift **58**, 180 (2003)

G. Trattnig, G. Langer, A. Pogantsch, W. Kern, H.-H. Hörhold, H. Tillmann, U. Scherf, E. Zojer, „Tuning the emission color of conjugated organic materials by photochemical reactions“, Synth. Met. **137**, 1027 (2003)

A. Pogantsch, G. Trattnig, S. Rentenberger, G. Langer, J. Keplinger, H. Tillmann, H.-H. Hörhold, U. Scherf, W. Kern, E. Zojer, „Photochemical approaches for multicolor polymer light emitting devices“, Mat. Res. Soc. Symp. Proc. **771**, L991-996 (2003)

K.-C. Möller, H.J. Santner, W. Kern, S. Yamaguchi, J.O. Besenhard, M. Winter, „In situ characterization of the SEI formation on graphite in the presence of a vinylene group containing film forming electrolyte additives“, Journal of Power Sources **119**, 561-566 (2003)

2004

D. Wright, E. Brasselet, J. Zyss, G. Langer, W. Kern, „Dye doped organic DFB lasers with index and surface gratings: the role of pump polarization and molecular orientation“, J. Opt. Soc. Am. B **21**, 944-950 (2004)

C. Preininger, U. Sauer, W. Kern, J. Dayteg, „Photoactivatable copolymers of vinylbenzylthiocyanate as immobilization matrix for biochips“, Anal. Chem. **76**, 6130-6136 (2004)

B. Wendl, H. Droschl, W. Kern, „Comparative study of polymerization lamps of various technologies by determining the degree of curing of composite samples using infrared spectroscopy“, Eur. J. Orthodontics **25**, 545 (2004)

D. Wright, E. Brasselet, J. Zyss, G. Langer, A. Pogantsch, F.F. Iskra, T. Neger, W. Kern, „Multiple Grating Organic Distributed Feedback Lasers“, Opt. Express **12**, 325 (2004)

E. Brasselet, D. Wright, J. Zyss, G. Langer, W. Kern, „Spectral encoding of the polarization state of light in spatially multiplexed dye-doped organic distributed feedback lasers“, Opt. Lett. **29**, 1309-1311 (2004)

M. R. Weinberger, G. Langer, A. Pogantsch, A. Haase, E. Zojer, W. Kern, „Continuously color-tunable rubber laser“, Adv. Mater. **16**, 130 (2004)

C. Buchgraber, J. Spanring, A. Pogantsch, M. Turner, W. Kern, „Organosilanes as new reagents for the photopatterning of PPV type polymers“, Synth Met. **147**, 91 – 95 (2004)

2005

- A. Pogantsch, S. Rentenberger, G. Langer, J. Keplinger, W. Kern, E. Zojer, Tuning the electroluminescence color in polymer light emitting devices using the thiol-ene photoreaction, *Adv. Funct. Mater.* 15, 403-409 (2005)
- A. Temel, R. Schaller, M. Höchtel, W. Kern, "Determination of residual vulcanization accelerators in natural rubber latex films using FTIR spectroscopy", *Rubber Chem. Technol.* 78, 28 - 41(2005)
- U. Meyer, W. Kern, V. Ribitsch, M.F. Ebel, R. Svagera, „Photochemical surface modification of poly(tetrafluoroethylene) with hydrazine: characterization of the surface with zeta-potential measurements and spectroscopic techniques“, *Macromol. Chem. Phys.* 206, 210-217 (2005)
- U. Sauer, C. Preininger, G. Krumpel, N. Stelzer, W. Kern, „Signal enhancement of protein chips“, *Sensors and Actuators B* 107, 178-183 (2005)
- S. Temmel, W. Kern, T. Luxbacher, „Zeta potential of photochemically modified polymer surfaces“, *Progr. Colloid Polym. Sci.* 132, 83-90 (2005)
- J. Spanring, Ch. Buchgraber, M.F. Ebel, R. Svagera, W. Kern, „UV assisted surface modification of polystyrene in the presence of trialkylsilanes“, *Macromol. Chem. Phys.* 206, 2248-2256 (2005)
- J. Spanring, Ch. Buchgraber, J. Spanring, W. Kern, A. Pogantsch, „UV-induced modification of conjugated polymers using gaseous organosilanes“, *Macromol. Chem. Phys.* 206, 2362 – 2372 (2005)

2006

- J. Spanring, Ch. Buchgraber, M.F. Ebel, R. Svagera, W. Kern, "Trialkylsilanes as reagents for the UV-induced surface modification of 1,4-polybutadiene", *Polymer* 47, 156-165 (2006)
- T. Höfler, M.R. Weinberger, W. Kern, S. Rentenberger, A. Pogantsch, „Modifying the output characteristics of an organic light emitting device by refractive index modulation“, *Adv. Funct. Mater.* 16, 2369-2373 (2006)
- G. Seyfriedsberger, K. Rametsteiner, W. Kern, „Polymer compounds with antimicrobial surface properties“, *Eur. Polym. J.* 42, 3383-3389 (2006)
- A. Lex, G. Trimmel, W. Kern, F. Stelzer, „Photosensitive polynorbornene containing the benzyl thiocyanate group – synthesis and patterning“, *J. Mol. Catal. A* 254, 174-179 (2006)
- Ch. Buchgraber, A. Pogantsch, St. Kappaun, J. Spanring, W. Kern, „Luminescent copolymers for applications in multi-colour light emitting devices“, *J. Polym. Sci. A* 44, 4317-4327 (2006)

2007

- M. Weinberger, S. Rentenberger, W. Kern, "Selective immobilization of gold nanoparticles on the surface of a photoreactive polymer", *Monatshefte Chemie (Chemical Monthly)* 138, 309-314 (2007)
- T. Höfler, T. Griesser, X. Gstrein, G. Trimmel, G. Jakopic, W. Kern, "UV reactive polymers for refractive index modulation based on the photo-Fries rearrangement", *Polymer* 48, 1930-1939 (2007)

- T. Griesser, T. Rath, H. Stecher, R. Saf, W. Kern, G. Trimmel, „Photoreactive polynorbornene bearing 4-(N,N-diphenylamino)benzoate groups: synthesis and application in electroluminescent devices”, *Monatshefte Chemie (Chemical Monthly)* 138, 269-276 (2007)
- C. Buchgraber, R. Svagera, M.F. Ebel, H. Schröttner, W. Kern, “UV assisted surface modification of polybutadiene with phosphorus containing groups”, *Macromol. Chem. Phys.* 208, 1159 – 1167 (2007)
- U. Daschiel, T. Höfler, W. Kern, G. Jakopic, V. Schmidt, “Selected polymers containing aromatic ester units: synthesis, photoreactions and refractive index modulation”, *Macromol. Chem. Phys.* 208, 1190-1201 (2007)
- S. Temmel, W. Kern, T. Luxbacher, „Surface modification of polyethylene by photosulfonation“, in: *Polymer Surface Modification: Relevance to Adhesion*, Vol. 4 (Ed.: K.L. Mittal), pp. 157-170, VSP / Brill Academic Publishers, Utrecht (NL), 2007
- T. Griesser, T. Höfler, S. Temmel, W. Kern, G. Trimmel, „Photolithographic patterning of polymer surfaces using the photo-Fries rearrangement: selective post-exposure reactions”, *Chem. Mater.* 19, 3011 (2007)
- P. Pacher, A. Lex, V. Proschek, O. Werzer, P. Frank, S. Temmel, W. Kern, R. Resel, A. Winkler, C. Slugovc, R. Schennach, G. Trimmel, E. Zojer, “Characterizing Chemically Reactive Thin Layers: The Surface Reaction of 2-(4-Chlorosulfonylphenyl) ethyltrichlorosilane with Ammonia”, *J. Phys. Chem. C* 111, 12407-12413 (2007)
- C. Korepp, W. Kern, E.A. Lanzer, P.R. Raimann, J.O. Besenhard, M. Yang, K.-C. Möller, D.-T. Shieh, M. Winter, „4-Bromobenzyl isocyanate versus benzyl isocyanate—New film-forming electrolyte additives and overcharge protection additives for lithium ion batteries“, *Journal of Power Sources* 174, 637-642 (2007)
- C. Korepp, W. Kern, E.A. Lanzer, P.R. Raimann, J.O. Besenhard, M.H. Yang, K.-C. Möller, D.-T. Shieh, M. Winter, „Isocyanate compounds as electrolyte additives for lithium-ion batteries“, *Journal of Power Sources* 174, 387-393 (2007)
- C. Korepp, W. Kern, E.A. Lanzer, P.R. Raimann, J.O. Besenhard, M. Yang, K.C. Möller, M. Winter, „Ethyl isocyanate – an electrolyte additive from the large family of isocyanates for PC-based electrolytes in lithium-ion batteries“, *Journal of Power Sources* 174, 628-631 (2007)

2008

- T. Höfler, T. Griesser, M. Gruber, G. Jakopic, G. Trimmel, W. Kern, „Photo-Fries rearrangement in polymeric media: an investigation on fully aromatic esters containing the naphthyl chromophore“, *Macromol. Chem. Phys.* 209, 488-498 (2008)
- A. Lex, P. Pacher, O. Werzer, A. Track, Q. Shen, R. Schennach, G. Koller, G. Hlawacek, E. Zojer, R. Resel, M. Ramsey, Ch. Teichert, W. Kern, G. Trimmel, „Synthesis of a photosensitive thiocyanate-functionalized trialkoxysilane and its application in patterned surface modifications“, *Chem. Mater.* 20, 2009-2015 (2008)
- S. Temmel, T. Höfler, W. Kern, “Modulation of the surface properties of reactive polymers by photo-Fries rearrangement”, in: *Contact Angle, Wettability and Adhesion*, Vol 5, ed. K. L. Mittal, pp 229 – 238, VSP / Brill Academic Publishers, Leiden (NL) 2008

U. Daschiel, J. Spanring, M. F. Ebel, R. Svagera, H. Schröttner, W. Kern, "Surface Modification of Polyethylene by VUV Irradiation in the Presence of Trimethylsilane and Oxygen", *Macromol. Chem. Phys.* 209, 1232-1239 (2008)

B. Rupp, M. Schmuck, A. Balducci, M. Winter, W. Kern, „Polymer Electrolyte for Lithium Batteries based on Photochemically Crosslinked Poly(ethylene oxide) and Ionic Liquid", *Eur. Pol. J.* 44, 2986-2990 (2008) article in print (on-line 25. 06. 2008)

T. Griesser, A. Track, G. Koller, M. Ramsey, W. Kern, G. Trimmel, "Photoreactive self assembled monolayers for tuning the surface polarity", *Springer Proceedings in Physics*, accepted (Spring Meeting of the European Materials Research Society, Symposium on "Interface Controlled and Functionalised Organic Films" 26-30 May 2008, Strasbourg, France)

T. Griesser, J. Adams, J. Wappel, W. Kern, G. J. Leggett, G. Trimmel, "Micrometer- and nanometer scale patterning using the photo-Fries rearrangement: towards selective execution of molecular transformations with nanoscale spatial resolution", *Langmuir* 24, 1242 (2008)

2009

G. Hernandez-Sosa, C. Simbrunner, T. Höfler, A. Moser, O. Werzer, B. Kunert, G. Trimmel, W. Kern, R. Resel, H. Sitter, "Modification of para-sexiphenyl layer growth by UV induced polarity changes of polymeric substrates", *Organic Electronics* 20, 326-332 (2009)

T. Griesser, J.-C. Kuhlmann, M. Wieser, W. Kern, G. Trimmel, "UV induced modulation of the refractive index and the surface properties of photoreactive polymers bearing N-phenylamide groups", *Macromolecules*, 42, 725-731 (2009)

T. Griesser, T. Höfler, G. Jakopic, M. Belzik, W. Kern, G. Trimmel, "Refractive Index Modulation in Polymers Bearing Photoreactive Phenyl and Naphthyl Ester Units Using Different UV Wavelengths", *J. Mater. Chem.* 19, 4557-4565 (2009)

2010

T. Höfler, A. Track, P. Pacher, Q. Shen, H.-G. Flesch, T. Griesser, A. Lex, G. Hlawacek, H. Hoffmann, M. Ramsey, R. Schennach, C. Teichert, G. Trimmel, W. Kern, "Photoreactive molecular layers containing aryl ester units: preparation, UV patterning and post-exposure modification", *Materials Chemistry and Physics* 119, 287-293 (2010)

T. Griesser, A. Wolfberger, M. Edler, M. Belzik, G. Jakopic, G. Trimmel, W. Kern, UV-induced refractive index modulation of photoreactive polymers bearing N-acylcarbazole groups, *Journal of Polymer Science A, Polymer Chemistry* 48, 3507-3514 (2010)

S. Schlögl, W. Kern, N. Aust, R. Schaller, A. Holzner, Survey of chemical residues and biological evaluation of photochemically pre-vulcanized surgical gloves, *Monatshefte für Chemie (Chemical monthly)* 141, 1365-1372 (2010).

S. Schloegl, A. Temel, R. Schaller, A. Holzner, W. Kern, Pre-vulcanization of natural rubber latex by UV techniques: a process towards reducing type IV chemical sensitivity of latex articles, *Rubber Chemistry and Technology* 83, 133-148 (2010)

S. Schloegl, A. Temel, W. Kern, R. Schaller, A. Holzner, Manufacture of non-allergenic surgical gloves via UV-techniques, *Kautschuk, Gummi, Kunststoffe (KGK)*, 2010, 5, 187-192

S. Schlögl, W. Kern, A. Temel, R. Schaller, A. Holzner, Biological evaluation and chemical characterization of photochemically crosslinked surgical gloves, *Rubber World* 243, 17-20 (2010)

2011

S. Schloegl, M. Reischl, V. Ribitsch, W. Kern, UV induced microcellular foaming - A new approach towards the production of 3D structures in offset printing, *Progress in Organic Coatings* 73, 54-61 (2011)

A Wolfberger, B. Rupp, W. Kern, T. Grießer, Ch. Slugovc, Ring Opening Metathesis Polymerisation Derived Polymers as Photoresists: Making Use of Thiol-ene Chemistry, *Macromolecular Rapid Communications* 32, 518-522 (2011)

T. Köpplmayr, M. Cardinale, G. Jakopic, G. Trimmel, T. Grießer, W. Kern, Photosensitive Polymers bearing Fully Aromatic Esters for Multilayer Data Storage Devices, *Journal of Materials Chemistry* 21, 2965-2972 (2011).

S. Schloegl, A. Temel, R. Schaller, A. Holzner, W. Kern, Fluorination of Elastomer Materials, *European Polymer Journal* 47, 2321-2330 (2011)

R. Woods, S. Feldbacher, G. Langer, V. Satzinger, V. Schmidt, W. Kern, Epoxy silicone based matrix materials for two-photon patterning of optical waveguides, *Polymer* 52, 3031-3039 (2011)

E. Kreutzwiesner, N. Noormofidi, F. Wiesbrock, W. Kern, K. Rametsteiner, F. Stelzer, Contact Bactericides and Fungicides on the Basis of Amino-Functionalized Poly(norbornene)s, *Journal of Polymer Science : A, Polymer Chemistry* 48, 4504-4514 (2011)

2012

R. Woods, S. Feldbacher, W. Kern, Functional flexible organic-inorganic hybrid polymer for two photon patterning of optical waveguides, *Optical Materials* 34, 772-780 (2012)

T. Grießer, V. Radl, T. Köpplmayr, A. Wolfberger, M. Edler, A. Pavitschitz, M. Kratzer, C. Teichert, T. Rath, G. Trimmel, C. Schwabegger, C. Simbrunner, H. Sitter, W. Kern, UV-Induced Modulation of the Conductivity of Polyaniline: Towards a Photo-Patternable Charge Injection Layer for Structured Organic Light Emitting Diodes, *Journal of Materials Chemistry* 22, 2922-2928 (2012)

N. Muhr, W. Kern, T. Grießer, Patterned immobilisation of silicon dioxide nanoparticles on the surface of a photosensitive polymer, *Thin Solid Films* 520, 1789-1793 (2012)

R. A. Montaigne, G. Hernandez-Sosa, T. Grießer, C. Simbrunner, T. Höfler, G. Trimmel, W. Kern, Q. Shen, C. Teichert, G. Schwabegger, H. Sitter, S. N. Sariciftci, Photo-Fries-based photosensitive polymeric interlayers for patterned organic devices, *Applied Physics A*, 107, 985-993 (2012)

T. Grießer, S. Radl, A. Paveschitz, C. Teichert, M. Edler, T. Köpplmayer, T. Rath, G. Trimmel, G. Schwabegger, C. Simbrunner, H. Sitter, W. Kern, Patterned Modulation of the Conductivity of Polyaniline by Means of Photolithography, *Chemistry of Materials* 22, 2922 (2012)

E. Ziegler, J. Macher, D. Gruber, P. Pölt, W. Kern, T. Lummersdorfer, C. Feldgitscher, A. Holzner, G. Trimmel, Investigation of the influence of stearic acid on rubber-brass adhesion, *Rubber Chem. Technol.* 85, 264-276 (2012)

Schlögl S, Temel A, Schaller R, Holzner A, Kern W. Characteristics of the Photochemical Prevulcanization in a Falling Film Photoreactor. *Journal of Applied Polymer Science*, 124, 3478–3486 (2012)

Schloegl, S.; Schaller, R.; Holzner, A.; Kern, W.; Pre-vulcanization of natural rubber latex by UV techniques: a process towards reducing type IV chemical sensitivity of latex articles, *Rubber Chemistry and Technology* 83, 133-148 (2012)

Hauser, L.; Knall, A.-C.; Roth, M.; Trimmel, G.; Edler, M.; Grießer, T.; Kern, W.; Reversible photochromism of polynorbornenes bearing spiropyran side groups; *Monatshefte für Chemie (Chemical Monthly)* 143, 1551-1558 (2012)

2013

Woods, R.; Feldbacher, S.; Zidar, D.; Langer, G.; Satzinger, V.; Schmid, G.; Leeb, W.; Kern, W.; Development and characterization of optoelectronic circuit boards produced by two-photon polymerization using a polysiloxane containing acrylate functional groups, *Applied Optics* 52, 388-393 (2013)

Grießer, T.; Wolfberger, A.; Daschiel, U.; Schmidt, V.; Fian, A.; Jerrar, A.; Teichert, C.; Kern, W.; Cross-linking of ROMP derived polymers using the two-photon induced thiol-ene reaction: towards the fabrication of 3D-polymer microstructures. *Polymer Chemistry* 4, 1708-1714 (2013)

Lenko, D.; Schloegl, S.; Schaller, R.; Holzner, A.; Kern, W.; Dual cross-linking of carboxylated nitrile butadiene rubber latex employing the thiol-ene photoreaction; *Journal of Applied Polymer Science* 129, 2735-2743 (2013)

Schauberger, J.; Rieß, G.; Kern, W.; Preparation of UV reactive montmorillonite and characterisation of its nanocomposites with poly(vinyl alcohol); *Journal of Applied Polymer Science* 130, 665-672 (2013)

Schauberger, J.; Rieß, G.; Kern, W., UV crosslinking of Fe³⁺ doped poly(vinyl alcohol) - characterization of optical properties and swelling behaviour. *Journal of Applied Polymer Science* 129, 3623-3628 (2013)

N. Muhr, R. Puchleitner, W. Kern, Nanoparticles Bearing a Photoreactive Shell: Interaction with Polymers and Polymer surfaces, *European Polymer Journal* 49, 3114 – 3124 (2013)

Edler, M.; Mayrbrugger, S.; Fian, A.; Trimmel, G.; Radl, S.; Kern, W.; Grießer, T.: Wavelength selective refractive index modulation in a ROMP derived polymer bearing phenyl-and orthonitrobenzyl ester groups., *Journal of Materials Chemistry* 25, 3931 - 3938 (2013)

2014

Woods, R.; Feldbacher, S.; Zidar, D.; Langer, G.; Satzinger, V.; Schmidt, V.; Pucher, N.; Liska, R.; Kern, W., 3D Optical Waveguides Produced by Two Photon Photopolymerisation of a Flexible Silanol Terminated Polysiloxane Containing Acrylate Functional Groups, *Optical Materials Express*, Vol. 4, pp. 486-498 (2014)

<https://doi.org/10.1364/OME.4.000486>

D. Lenko, S. Schloegl, S. Bichler, G. Lemesch, F. Ramsauer, W. Ladstätter, J. Rosc, W. Kern, New approaches towards the investigation on defects and failure mechanisms of insulating composites used in high voltage applications, *Composites: Part B* 58, 83-90 (2014)

<https://doi.org/10.1016/j.compositesb.2013.10.018>

Schlögl, S.; Trutschel, M.; Chassé, W.; Letofsky-Papst, I.; Schaller, R.; Holzner, A.; Rieß, G.; Kern, W.; Saalwächter, K.: Photo-Vulcanization using thiol-ene chemistry: Film formation, morphology and network characteristics of UV crosslinked rubber latices. *Polymer* 55 (2014), 5584 – 5595

<https://doi.org/10.1016/j.polymer.2014.06.007>

Radl, S. V.; Roth, M.; Gassner, M.; Wolfberger, A.; Lang, A.; Hirschmann, B.; Trimmel, G.; Kern, W.; Grießer, T., Photo-induced crosslinking and thermal decrosslinking in polynorbornenes bearing pendant anthracene groups, *European Polymer Journal* 52 (2014), 98 – 104

<http://dx.doi.org/10.1016/j.eurpolymj.2013.10.024>

Shen, Q., Edler, M., Grießer, T., Knall, A.-C., Trimmel, G., Kern, W. & Teichert, C., Ex situ and In situ Characterization of Patterned Photoreactive Thin Organic Surface Layers Using Friction Force Microscopy, *Scanning*. 36, pp. 590-598 (2014)

<https://doi.org/10.1002/sca.21159>

2015

Radl S, Kreimer M, Oesterreicher A, Griesser T, Moser A, Kern W, Schlögl S, "New strategies towards reversible and mendable epoxy based materials employing [4 π s+4 π s] photocycloaddition and thermal cycloreversion of pendant anthracene groups", *Polymer* (2015) 80, 76-87.

<https://doi.org/10.1016/j.polymer.2015.10.043>

Jölly, I.; Schlögl, S.; Wolfahrt, M.; Pinter, G.; Fleischmann, M.; Kern, W., Chemical functionalization of composite surfaces for improved structural bonded repairs, *Composites / B* 69 (2015), 296 - 303

<https://doi.org/10.1016/j.compositesb.2014.10.020>

Manhart, J., Lenko, D., Mühlbacher, I., Hausberger, A., Schaller, R., Holzner, A., Kern, W., Schlögl, S., "Photo-patterned natural rubber surfaces with tunable tribological properties", *European Polymer Journal*, 2015, Vol. 66, pp 236 – 246

<https://doi.org/10.1016/j.eurpolymj.2015.02.024>

Radl, S., Kreimer, M., Manhart, J., Griesser, T., Moser, A., Pinter, G., Kalinka, G., Kern, W. & Schlögl, S. (2015). Photocleavable epoxy based materials. *Polymer*, 69, 159-168.
<https://doi.org/10.1016/j.polymer.2015.05.055>

Kern, W., Honoring Professor Franz Stelzer: four decades of inspiring research, *Monatshefte für Chemie - Chemical Monthly* 146, Issue 7, pp 1033-1035 (2015)
<https://doi.org/10.1007/s00706-015-1502-z>

Leimgruber, S.; Kern, W.; Hochenauer, R.; Melmer, M.; Holzner, A.; Trimmel, G.: Investigation of the Rubber-Brass Adhesion Layer Using the Olefin-Metathesis Method. - in: *Rubber chemistry and technology* 88 (2015) , S. 219 – 233
<https://doi.org/10.5254/rct.14.85946>

Lenko, D., Schlögl, S., Bichler, S., Lemesch, G., Ramsauer, F., Ladstätter, W. & Kern, W. Flexible Epoxy-Based Composites with Enhanced Delamination Resistance, *Polymer Composites*. 36, 2238-2247 (2015)
<https://doi.org/10.1063/1.4965551>

2016

A. Moser, C. Ganser, C. Teichert, G. Pinter, W. Kern, J. Manhart, S. Ayalur-Karunakaran, S.V. Radl, T. Grießer, S. Schlögl; Design and application of photo-reversible elastomer networks by using the $[4\pi s+4\pi s]$ cycloaddition reaction of pendant anthracene groups, *Polymer* 102, 10-20 (2016)
<https://doi.org/10.1016/j.polymer.2016.08.106>

Kern, W., Andraschek, N., Wanner, A. J., Ebner, C. & Rieß, G., Mica/Epoxy Composites in the Electrical Industry: Applications, Composites for Insulations, and Investigations on Failure Mechanisms for Prospective Optimizations, *Polymers* 8(5), 201 (2016);
<https://doi.org/10.3390/polym8050201>

Sahin, M., Ayalur Karunakaran, S., Manhart, J. C., Wolfahrt, M., Kern, W. & Schlögl, S., Thiol-Ene versus Binary Thiol–Acrylate Chemistry: Material Properties and Network Characteristics of Photopolymers, *Advanced Engineering Materials* 19/4, Special Issue: Materials Science & Engineering at the Montanuniversität Leoben (2016)
<https://doi.org/10.1002/adem.201600620>

A. Moser, C. Ganser, C. Teichert, G. Pinter, W. Kern, J. Manhart, S. Ayalur-Karunakaran, S.V. Radl, T. Grießer, S. Schlögl; Data on synthesis and thermo-mechanical properties of stimuli-responsive rubber materials of pendant anthracene groups, *Data in Brief*, *Polymer* 102, 524–529 (2016)
<https://doi.org/10.1016/j.dib.2016.09.023>

W. Kern, R. Kochetov, I.A. Tsekmes, P.H.F. Morhous, J.J. Smit. A.J. Wanner, F. Wiesbrock, Effect of Water Absorption on Dielectric Spectrum of Nanocomposites, *IEEE Electrical Insulation Conference (EIC)*, Montreal, Canada, Article number 7548669, Pages 579-582 (2016)
<https://doi.org/10.1109/EIC.2016.7548669>

Manhart, J. C., Kramer, R., Schaller, R., Holzner, A., Kern, W. & Schlögl, S., Surface Functionalization of Natural Rubber by UV-Induced Thiol-ene Chemistry, *Macromolecular Symposia*. 365, 32-39 (2016)
<https://doi.org/10.1002/masy.201650016>

2017

R. Puchleitner, G. Rieß, W. Kern, X-ray induced cationic curing of epoxy-bonded composites, *European Polymer Journal* 91, 31-45 (2017)
<https://doi.org/10.1016/j.eurpolymj.2017.03.036>

B. Kaynak, C. Alpan, M. Kratzer, Ch. Ganser, Ch. Teichert, W. Kern, Anti-adhesive layers on stainless steel using thermally stable dipodal perfluoroalkyl silanes, *Applied Surface Science* 416, 824-833 (2017)
<https://doi.org/10.1016/j.apsusc.2017.04.197>

K. Berger, C. Keimel, E. Helfer, B. Haar, H. Mattausch, G. Riess, W. Kern, The effects of e-beam crosslinking of LDPE on the permeation of hydrocarbons, *Journal of Applied Polymer Science* 134, Issue 25 44968 (2017).
<https://doi.org/10.1002/app.44968>

Marx, P., Wanner, A.J., Zhang, Z., Jin, H., Tsekmes, I.-A., Smit, J.J., Kern, W., Wiesbrock, F., Effect of interfacial polarization and water absorption on the dielectric properties of epoxy-nanocomposites, *Polymers*, 9 (6), art. no. 195 (2017)
<https://doi.org/10.3390/polym9060195>

Sahin, M., Ayalur-Karunakaran, S., Manhart, J., Wolfahrt, M., Kern, W., & Schlögl, S. Thiol-ene versus binary Thiol-Acrylate chemistry: Material properties and network characteristics of photopolymers. *Advanced Engineering Materials*, 19(4) (2017)
<https://doi.org/10.1002/adem.201600620>

Radl, S. V., Schipfer, C., Kaiser, S., Moser, A., Kaynak, B., Kern, W., & Schlögl, S. Photo-responsive thiol-ene networks for the design of switchable polymer patterns. *Polymer Chemistry*, 8(9), 1562-1572 (2017)
<https://doi.org/10.1039/c7py00055c>

Urdl, K., Kandelbauer, A., Kern, W., Müller, U., Thebault, M., Zikulnig-Rusch, E. Self-healing of densely crosslinked thermoset polymers—a critical review. *Progress in Organic Coatings*, 104, 232-249 (2017)
<https://doi.org/10.1016/j.porgcoat.2016.11.010>

Sahin, M., Schlögl, S., Kaiser, S., Kern, W., Wang, J., & Grützmacher, H. Efficient initiation of radical-mediated thiol-ene chemistry with photoactive silica particles. *Journal of Polymer Science, Part A: Polymer Chemistry*, 55(5), 894-902 (2017)
<https://doi.org/10.1002/pola.28442>

Radl, S., Roppolo, I., Pölzl, K., Ast, M., Spreitz, J., Griesser, T., Kern W., Schloegl S., Sangermano, M. Light triggered formation of photo-responsive epoxy based networks. *Polymer*, 109, 349-357 (2017)
<https://doi.org/10.1016/j.polymer.2016.12.070>

Roszkowski, P., Sahin, M., Ayalur-Karunakaran, S., Gammer, Ch. Schlögl, S., Kern, W., Krawczyk, K., Synthesis and evaluation of new radical photoinitiators bearing trialkoxysilyl groups for surface immobilization, *Polymer* 129, 2017 – 220 (2017).
<https://doi.org/10.1016/j.polymer.2017.09.054>

G. Riess, K. Berger, W. Kern, Novel silicone thermoplastic elastomers with tailored permeation properties (Conference Paper), AIP Conference Proceedings Volume 1914, International Conference of the Polymer Processing Society, PPS 2016; Lyon (2017)
<https://doi.org/10.1063/1.5016761>

2018

Sahin M, Schlögl S, Kalinka G, Wang J, Kaynak B, Mühlbacher I, Ziegler W, Kern W, Grützmacher H-J Tailoring the interfaces in glass fiber-reinforced photopolymer composites, *Polymer* 141, 221 – 231 (2018)
<https://doi.org/10.1016/j.polymer.2018.03.020>

Sahin, M., Krawczyk, K., Roszkowski, R., Wang, J., Kaynak, B., Kern, W., Schlögl, S., Grützmacher, H., Photoactive Silica Nanoparticles: Influence of Surface Functionalization on the Kinetics of Radical-induced Photopolymerization Reactions, *European Polymer Journal* 98, 430 – 438 (2018)
<https://doi.org/10.1016/j.eurpolymj.2017.11.046>

Nothdurft P., Feldbacher S., Mühlbacher I., Poetz S., Kern W., Surface characterization of copper substrates modified with carboxyl terminated phosphonic acids, *International Journal of Adhesion and Adhesives*, 84, 143 – 152 (2018)
<https://doi.org/10.1016/j.ijadhadh.2018.03.012>

Kaiser, S., Radl, S. V., Manhart, J., Ayalur-Karunakaran, S., Griesser, T., Moser, A., Ganser, C., Teichert, C., Kern, W. & Schlögl, S., Switching "on" and "off" the adhesion in stimuli-responsive elastomers, *Soft Matter* 14, pp 2547-2559 (2018)
<https://doi.org/10.1039/C8SM00284C>

Urdl, K., Weiss, S., Karpa, A., Perić, M., Zikulnig-Rusch, E., Brecht, M., Kandelbauer, A., Müller, U. & Kern, W.; Furan-functionalised melamine-formaldehyde particles performing Diels-Alder reactions; *European Polymer Journal* 108, 225-234 (2018)
<https://doi.org/10.1016/j.eurpolymj.2018.08.023>

Giebler, M., Radl, S. V., Ast, M., Kaiser, S., Griesser, T., Kern, W. & Schlögl, S.; Dual-Responsive Polydimethylsiloxane Networks; *Journal of Polymer Science, Part A: Polymer Chemistry* 56, 20, 2319-2329 (2018)
<https://doi.org/10.1002/pola.29206>

Fleischmann, D. D., Arbeiter, F., Schaller, R., Holzner, A., Kern, W. & Schlögl, S.; Influence of crosslinker and water on cyclic properties of carboxylated nitrile butadiene rubber (XNBR); Polymer Testing 67, 309-321 (2018)

<https://doi.org/10.1016/j.polymertesting.2018.03.021>

Fleischmann, D. D., Ayalur-Karunakaran, S., Arbeiter, F., Schaller, R., Holzner, A., Kern, W. & Schlögl, S.; Influence of crosslinker and water on mechanical properties of carboxylated nitrile butadiene rubber (XNBR); Polymer Testing 66, 24-31 (2018)

[10.1016/j.polymertesting.2018.01.001](https://doi.org/10.1016/j.polymertesting.2018.01.001)

Eibel, A., Marx, P., Jin, H., Tsekmes, I. A., Mühlbacher, I., Smit, J. J., Kern, W. & Wiesbrock, F.; Enhancement of the Insulation Properties of Poly(2-oxazoline)-co-Polyester Networks by the Addition of Nanofillers; Macromolecular Rapid Communications 39, 6, 1700681 (2018)

<https://doi.org/10.1002/marc.201700681>

Ziegler, W., Guttman, P., Kopeinig, St., Dietrich, M., Amirosanloo, S., Riess, G., Kern, W., Influence of different polyol segments on the crystallisation behavior of polyurethane elastomers measured with DSC and DMA experiments, Polymer Testing 71, 18 – 26 (2018)

<https://doi.org/10.1016/j.polymertesting.2018.08.021>

Eibel, A., Marx, P., Jin, H; Tsekmes I.A., Mühlbacher I, Smit J.J., Kern W., Wiesbrock, F.; Enhancement of the Insulation Properties of Poly(2-oxazoline)-co-Polyester Networks by the Addition of Nanofillers, Macromolecular Rapid Communications 39 / 6, Article Number: 1700681 (2018)

<https://doi.org/10.1002/marc.201700681>

Manhart, J., Schlögl, S. & Kern, W., Photo-triggered self-healing of elastomers; Kautschuk, Gummi, Kunststoffe (KGK) 71, 9, 30-32 (2018)

Krempl, N., Bandl, C., Gröger, T., Kern, W. & Friesenbichler, W., Beschichtung mit beschränkter Haftung, Chemiereport.at : Austrian life sciences ; Österreichs Magazin für Chemie, Life Sciences & Materialwissenschaften., 49 - 52 (2018)

2019

Nothdurft, P., Schauburger, J. G., Riess, G. & Kern, W. Preparation of a water-based photoreactive azosulphonate-doped poly(vinyl alcohol) and the investigation of its UV response, Polymers 11, 169 (2019)

<https://doi.org/10.3390/polym11010169>

Nothdurft, N., Riess, G., Kern, W.; Copper/Epoxy Joints in Printed Circuit Boards: Manufacturing and Interfacial Failure Mechanisms, Materials 12(3), 550 (2019); <https://doi.org/10.3390/ma12030550>

<https://doi.org/10.3390/ma12030550>

Kaltenegger-Uray, A., Rieß, G., Lucyshyn, T., Holzer, C. & Kern, W., Physical foaming and crosslinking of polyethylene with modified talcum, *Polymers* 11(9), 1472 (2019)
<https://doi.org/10.3390/polym11091472>.

Kaltenegger-Uray, A., Rieß, G., Lucyshyn, T., Holzer, C. & Kern, W., Modified talcum as crosslinking agent for polyolefins, *AIP Conference Proceedings* 2139, 160001 (2019)
<https://doi.org/10.1063/1.5121690>

Kaltenegger-Uray, A., Rieß, G., Lucyshyn, T., Holzer, C. & Kern, W., Crosslinked polyolefins using a modified filler, *AIP Conference Proceedings* 2065, 030051 (2019)
<https://doi.org/10.1063/1.5088309>

Urdl, K., Weiss, S., Brodbeck, B., Kandelbauer, A., Zikulnig-Rusch, E., Müller, U., Kern, W. (07/2019). Homogeneous, monodispersed furan-melamine particles performing reversible binding and forming networks", *European Polymer Journal*, Vol. 116, pp 158-168 (2019)
<https://doi.org/10.1016/j.eurpolymj.2019.04.006>

Kaiser, S., Wurzer, S., Pilz, G., Kern, W., Schlögl, S., Stress relaxation and thermally adaptable properties in vitrimer-like elastomers from HXNBR rubber with covalent bonds, *Soft Matter*, Vol. 15, pp 6062 – 6072 (2019)
<https://doi.org/10.1039/C9SM00856J>

Marx, P., Romano, A., Roppolo, I., Chemelli, A., Muhlbacher, I., Kern, W., Chaudhary, S., Andritsch, T., Sangermano, M., Wiesbrock, F., 3D-Printing of High-kappa Thiol-Ene Resins with Spiro-Orthoesters as Anti-Shrinkage Additive, *Macromolecular Materials and Engineering*, Article Number 1900515 (2019)
<https://doi.org/10.1002/mame.201900515>

Picu, C. R.; Krawczyk, K.K.; Wang, Z., Pishvazadeh-Moghaddam, H., Sieberer, M., Lassnig, A., Kern, W., Hadar, A., Constantinescu, D.M., *Composites Science and technology* 183, Article Number 107799 (2019)
<https://doi.org/10.1016/j.compscitech.2019.107799>

Urdl, K., Weiss, S., Hesser, G., Kandelbauer, A., Zikulnig-Rusch, E., Müller, U., & Kern, W. (2019). Data on production and characterization of melamine-furan-formaldehyde particles and reversible reactions thereof. *Data in brief*, 25, 104056.
<https://doi.org/10.1016/j.dib.2019.104056>

2020

Bandl, C., Kern, W., Krempel, N. & Friesenbichler, W., Simple and rapid method for restoring anti-adhesive organosilane coatings on metal substrates, *Progress in Organic Coatings* 140, 105490 (2020). <https://doi.org/10.1016/j.porgcoat.2019.105490>

Bandl, C., Kern, W., Schlögl, S., Adhesives for “debonding-on-demand”: triggered release mechanisms and typical applications. *International Journal of Adhesion and Adhesives* 99, 102585 (2020).
<https://doi.org/10.1016/j.ijadhadh.2020.102585>

Urdl, K., Weiss, S., Christöfl, P., Kandelbauer, A., Müller, U., Kern, W., Diels-Alder modified self-healing melamine resin, European Polymer Journal 127, 109601 (2020).

<https://doi.org/10.1016/j.eurpolymj.2020.109601>

Ebner, C., Mitterer, J., Eigruber, P., Stieger, S. Riess, G., Kern, W., Ultra-High Through-Cure of (Meth)Acrylate Copolymers via Photofrontal Polymerization, Polymers 12, 1291 (2020);

<https://doi.org/10.3390/polym12061291>

Patents

W. Kern, AT 400842, granted 25.3.1996, "Vinylbenzylthiocyanate und -selenocyanate und deren strahlungsempfindliche Polymere".

W. Kern, T. Kavc "Verfahren zur Modifizierung von Polymeroberflächen", European patent application EP 1 072 635 (application July 2000), resulting in German patent DE 50011240.1-08 (granted 2006)

W. Kern, C. Preininger, "Verfahren zur Aktivierung einer Zusammensetzung umfassend Vinylbenzylthiocyanat und/oder Vinylbenzylselenocyanat", International PCT application WO 03/082946 A1 (application Oct. 2003), resulting in European patent application EP 1487896

W. Kern, E. Zojer, G. Langer, A. Pogantsch, G. Trattinig, "Lichtemittierendes Bauelement", Austrian Patent AT 413.925 (application 29.05.2002, granted 15.10.2005)

A. Temel, W. Kern, F. Stelzer, R. Ehrenfeldner, A. Holzner, R. Schaller, M. Höchtel, „Verfahren zur Herstellung eines vernetzten Elastomers“, Austrian Patent Application A 1491/2005 (application 12. 09. 2005)

→ European patent application „Verfahren zur Herstellung eines vernetzten Elastomers“, EP 06018832.3-1214 (application 8.9.2006)

→ US patent application „Method for producing cross-linked elastomer“, US 530 338 (application 8.9.2006)

W. Kern, F. Stelzer, G. Seyfriedsberger, X. Gstrein, K. Rametsteiner, „Biozide Polymere“, Austrian Patent Application A 1692 / 2005 (application 17. 10. 2005, granted 2008)

→ W. Kern, F. Stelzer, G. Seyfriedsberger, X. Gstrein, K. Rametsteiner, „Biozide Polymere, International patent application PCT/EP2006/067452 (application 16.10.2006)

G. Trimmel, A. Lex, W. Kern, F. Stelzer, „Photoreaktive Oberflächenbeschichtungen“, Austrian Patent Application A 797 / 2006 (application 09. 05. 2006), AT 503590 (granted 15.01.2009)

Ch. Buchgraber, W. Kern, „Verfahren zur Modifizierung von Kunststoffen sowie damit hergestellte Formkörper“, Austrian Patent Application A1571 / 2006 (application 20.09.2006; published 15.04.2008)

T. Griesser, S.V. Radl, W. Kern, „Photoreaktives Polymer“, Austrian Patent Application A361 / 2010 (application 08. 03. 2010)

S. Feldbacher, R. Woods, W. Kern et al., „Schicht mit einem Lichtwellenleiter und Verfahren zu deren Herstellung“, Austrian Patent Application A1376/2011 (2011)

S. Schlögl, W. Kern et al., „Verfahren zur Modifizierung der Oberfläche eines Elastomerproduktes“, Austrian Patent Application A1086/2012 (2012)

Griesser T., Kern W., Radl S. V., Schlögl S., Verfahren zur Herstellung eines epoxidbasierten Duromers und damit hergestelltes Duromer, 2014, eingereicht am Österreichischen Patentamt: A 50295/2014

Schlögl, S., Holzner, A., Lenko, D., Schaller, R., Manhart, J. & Kern, W. Verfahren zur Modifizierung der Oberfläche eines Elastomerproduktes, 16 Apr 2014 EP20130187837

S. Schlögl, W. Kern et al., „Elastomerprodukt mit kovalent gebundenen Partikeln“, Austrian Patent Application A1087/2012 (2012)

Schlögl, S., Lenko, D., Holzner, A., Kern, W., Schaller, R. & Manhart J., Elastomerprodukt mit kovalent gebundenen Partikeln, 16. 04. 2014, EP20130187847

R. Puchleitner, G. Rieß, W. Kern, G. Deutsch, S. Heid, A. Michelitsch, J. Köhler, Versatz zur Herstellung eines Grünkörpers zur Herstellung eines feuerfesten kohlenstoffgebundenen Erzeugnisses, Verfahren zur Herstellung eines solchen Grünkörpers sowie ein hierdurch hergestellter Grünkörper, 12. 05. 2015, European Patent EP 3 093 305 A1

Bomze, D., Kern, W. & Liska, R. Neues Verfahren zur Frontalpolymerisation von kationisch polymerisierbaren Monomeren, Application PCT/AT2016/060047, 09. 03. 2017 WO 2017035551A1

Holzner, A., Kern, W., Manhart, J., Sahin, M., Schaller, R., Schlögl, S.; Verfahren zur Herstellung eines Prophylaxeartikels, Austrian Patent AT/04.03.16 / ATA 501762016, and European patent application EP 19210944.5 - 1102 (application date 02.03.2017)

Schlemmer, W., Spirk, S., Kern, W., Nothdurft, P., Sahin, M.; Stabile wässrige Zusammensetzungen umfassend Chinone und deren Verwendung in Redox-Flow-Batterien, European Patent Application EP 19212222.4 - 1108 (application date 28.11.2019)