

Track Record:

- Publications as First Author: 7
- Publications as Last Author: 8 published, 3 in preparation
- Publications as Corresponding Author: 18 published, 3 in preparation
- Publications in High Impact Journals: 1 x *Nature Materials* (Impact factor: 39.737), 3 x *Journal of American Chemical Society* (Impact factor: 13.858), 1 x *ACS Catalysis* (Impact factor: 10.614), 1 x *Journal of Materials Chemistry A* (Impact factor: 9.095)
- Google Scholar: 1139 Citations, H-Index = 15 (status: 14.12.2017)
- Web of Science (Researcher ID: J-3100-2014): 898 Citations, Average Citations per Article = 23.6 H-Index = 14, (status: 14.12.2017)
- Book Chapters: 1
- Patent Applications: 1

Five Most Relevant Publications since Beginning of Independent Career:

1. Schrader, I.; Warneke J.; Backenköhler J.; **Kunz, S.***; Pt Nanoparticles Functionalized with L-Proline – Achieving High Chemoselectivity with Enhanced Activity. *Journal of American Chemical Society*, **2015**, 137, 905-912.
2. Schrader, I.; Neumann, S.; Schmidt, F.; **Kunz, S.***, Asymmetric Heterogeneous Catalysis – Transfer of Molecular Principles to Nanoparticles by Ligand Functionalization. *ACS Catalysis*, **2017**, 7, 3979-3987.
3. Neumann, S.; Grotheer, S.; Tielke, J.; Schrader, I.; Quinson, J.; Zana, A.; Oezaslan, M.; Arenz, M.; **Kunz, S.***, Nanoparticles in a Box: A Concept to Isolate, Store and Re-Use Colloidal Surfactant-Free Precious Metal Nanoparticles. *Journal of Materials Chemistry A*, **2017**, 5, 6140-6145.
4. Schrader, I.; Neumann, S.; Himstedt, S.; Zana, A.; Warneke, J.; **Kunz, S.***; The Effect of Particle Size and Ligand Configuration on the Asymmetric Catalytic Properties of Proline-functionalized Pt-Nanoparticles. *Chemical Communications*, **2015**, 51, 16221-16224.
5. Schrader, I.; Warneke, J.; Neumann, S.; Grotheer, S.; Swane, A. A.; Kirkensgaard, J. J. K.; Arenz, M.; **Kunz, S.***; The Surface Chemistry of “Unprotected” Nanoparticles – A Spectroscopic Investigation on Colloidal Particles. *Journal of Physical Chemistry C*, **2015**, 19, 17655-17661.

Complete List of Publications

43. Schrader, I.; Backenköhler, J.; Feige, F.; **Kunz, S***, Influence of Functionalization Conditions on the Ligand Sphere of Nanoparticles, **2018**, *in preparation*.
42. Quinson, J; Neumann, S.; Wannmacher, T.; Kacenauskaite, L.; Kirkensgaard, J. J. K., Simonsen, S. B.; Kuhn, L. T.; Inaba, M.; Zana, A.; Oezaslan, M.; Arenz, M.; **Kunz, S***, Enhancing the Performance of Supported Heterogeneous and Electrocatalysts by Using a Saleable Synthesis for "Surfactant-Free" Nanoparticles, **2018**, *in preparation*
41. Sulce, A.; Schrader, I.; Delle Piane, M.; Colombi Ciacchi, L.; Kunz, S, Control and Relevance of Ligand-Reactant Interactions on Supported Nanoparticles for Tuning Stereoselectivity in Heterogeneous Catalysis, **2018**, *in preparation*
40. Wilson, N. M.; Priyadarshini, P.; **Kunz, S.**; Flaherty D. W., Direct Synthesis of H₂O₂- on Pd and Au_xPd₁ Clusters: Understanding the Effects of Alloying Pd with Au. **2018**, *357*, 163-175.
39. Kuehne, B.; Vogel, H.; Meusinger, R.; **Kunz, S.**, Kunz M., Mechanistic study on -C-O- and -C-C- hydrogenolysis over Cu catalysts: identification of reaction pathways and key intermediates. **2018**, *Catalysis, Science & Technology*, DOI: 10.1039/C1037CY02426F.
38. Schrader, I.; Neumann, S.; Schmidt, F.; **Kunz, S.***, Asymmetric Heterogeneous Catalysis – Transfer of Molecular Principles to Nanoparticles by Ligand Functionalization. *ACS Catalysis*, **2017**, *7*, 3979-3987.
37. Neumann, S.; Grotheer, S.; Tielke, J.; Schrader, I.; Quinson, J.; Zana, A.; Oezaslan, M.; Arenz, M.; **Kunz, S.***, Nanoparticles in a Box: A Concept to Isolate, Store and Re-Use Colloidal Surfactant-Free Precious Metal Nanoparticles. *Journal of Materials Chemistry A*, **2017**, *5*, 6140-6145.
36. Kacenauskaite, L.; Quinson, J.; Schultz, H.; Kirkensgaard, J. J. K.; **Kunz, S.**; Vosch, T.; Arenz, M., UV-induced Synthesis and Stabilization of "Unprotected" Colloidal Pt Nanoparticles with Controlled Particle Size in Ethylene Glycol. *ChemNanoMat*, **2017**, *3*, 89-93.
35. Sulce, A.; Bulke, F.; Schowalter, M.; Rosenauer, A.; Dringen, R.; **Kunz, S.***, Reactive Oxygen Species (ROS) Formation Ability and Stability of Small Copper (Cu) Nanoparticles (NPs). *RSC Advances*, **2016**, *6*, 76980-76988.
34. **Kunz, S.***, Supported, Ligand-functionalized Nanoparticles - An Attempt to Rationalize the Application and Potential of Ligands in Heterogeneous Catalysis. *Topics in Catalysis*, **2016**, *59*, 1671-1685.
33. Ignatov, S. K.; Okhupkin, A. I.; Gadzhiev, O. B.; Razuvaev, A. G.; **Kunz, S.**; Bäumer, M., Adsorption and Diffusion of Hydrogen on the Surface of the Pt₂₄ Subnanoparticle. A DFT Study. *Journal of Physical Chemistry C*, **2016**, *120*, 18570–18587.

32. Morsbach, E.; **Kunz, S.**; Baumer, M., Novel Nanoparticle Catalysts for Catalytic Gas Sensing. *Catalysis Science & Technology* **2016**, *6*, 339-348.
31. Kacenauskaite L.; Swane A. A.; Kirkensgaard J. J. K.; Fleige M.; **Kunz S.**; Vosch T.; Arenz M.; Synthesis Mechanism and Light Influence on Platinum Nanoparticles Synthesis at Room Temperature. *ChemNanoMat*, **2016**, *2*, 104-107.
30. Schrader, I.; Neumann, S.; Himstedt, S.; Zana, A.; Warneke, J.; **Kunz, S.***; The Effect of Particle Size and Ligand Configuration on the Asymmetric Catalytic Properties of Proline-functionalized Pt-Nanoparticles. *Chemical Communications*, **2015**, *51*, 16221-16224.
29. Schrader, I.; Warneke, J.; Neumann, S.; Grotheer, S.; Swane, A. A.; Kirkensgaard, J. J. K.; Arenz, M.; **Kunz, S.***; The Surface Chemistry of “Unprotected” Nanoparticles – A Spectroscopic Investigation on Colloidal Particles. *Journal of Physical Chemistry C*, **2015**, *19*, 17655-17661.
28. Altmann, L.; Wang, X.; Borchert, H.; Kolny-Olesiak, J.; Zielasek, V.; Parisi, J.; **Kunz, S. ***; Baumer, M.; Influence of Sn Content on the Hydrogenation of Crotonaldehyde Catalysed by Colloidally Prepared PtSn Nanoparticles. *Physical Chemistry Chemical Physics*, **2015**, *17*, 28186-28192.
27. Schrader, I.; Warneke J.; Backenköhler J.; **Kunz, S.***; Pt Nanoparticles Functionalized with L-Proline – Achieving High Chemoselectivity with Enhanced Activity. *Journal of American Chemical Society*, **2015**, *137*, 905-912.
26. Morsbach, E.; Nesselberger, M.; Warneke, J.; Harz, P., Arenz, M.; Bäumer, M.; **Kunz, S***; 1-Naphthylamine functionalized Pt nanoparticles: Electrochemical activity and redox chemistry occurring on one surface. *New Journal of Chemistry*, **2015**, *39*, 2557-2564.
25. Brauns, E.; Morsbach, E.; **Kunz, S.**; Bäumer, M.; Lang, W., Temperature Modulation of a Catalytic Gas Sensor. *Sensors*, **2014**, *14*, 20372-20381.
24. Morsbach, E.; Brauns, E.; Lang, W.; **Kunz, S.***; Bäumer, M; Ligand-stabilized Pt Nanoparticles (NPs) as Novel Materials for Catalytic Gas Sensing: Influence of the Ligand on Important Catalytic Properties. *Physical Chemistry Chemical Physics*, **2014**, *16*, 21243-21251.
23. **Kunz, S.***; Maturi, M. M.; Schrader I.; Backenköhler J.; Tschurl, M.; Heiz, U.; Same Ligand – Different Binding Mode: A Way to Control the Binding of N-acetyl-cysteine (NAC) to Pt Clusters. *Journal of Colloid and Interface Science*, **2014**, *426*, 264-269.
22. Morsbach, E.; Spéder, J.; Arenz, M.; Brauns, E.; Lang, W.; **Kunz, S.***; Bäumer, M.; Stabilizing Catalytically Active Nanoparticles by Ligand-linking: Towards Three-Dimensional Networks with High Catalytic Surface Area. *Langmuir*, **2014**, *30*, 5564-5573.
21. Altmann, L.; **Kunz, S.***; Bäumer, M.; Influence of Organic Amino- and Thiol-Ligands on the Geometric and Electronic Surface Properties of Colloidally Prepared Platinum Nanoparticles. *Journal of Physical Chemistry C*, **2014**, *118*, 8925-8932.

20. **Kunz, S.**; Iglesia, E.; Mechanistic Evidence for Sequential Displacement-Reduction Routes in the Synthesis of Palladium-Gold Nanoparticles with Uniform Size and Clean Surfaces. *Journal of Physical Chemistry C*, **2014**, *118*, 7468-7479.
19. Brauns, E.; Morsbach, E.; **Kunz, S.***; Bäumer, M.; Lang, W.; A Fast and Sensitive Catalytic Gas Sensors for Hydrogen Detection based on Stabilized Nanoparticles as Catalytic Layer. *Sensors & Actuators B – Chemical*, **2014**, *193*, 895-903.
18. **Kunz, S.***; Schreiber, P.; Ludwig, M.; Maturi, M. M.; Ackermann, O.; Tschurl, M.; Heiz, U.; Rational Design, Characterization and Catalytic Application of Metal Clusters Functionalized with Hydrophilic, Chiral Ligands: A Proof of Principle Study. *Physical Chemistry Chemical Physics*, **2013**, *15*, 19253-19261.
17. Nesselberger, M.; **Kunz, S.**; Schweinberger, F. F.; Schlogl, K.; Mayrhofer, K. J. J.; Heiz, U.; Arenz, M.; Size-Selected Platinum Clusters as Electrocatalysts for the Oxygen Reduction Reaction. *ECS Transactions*, **2013**, *50*, 1333.
16. Nesselberger, M.; Roefzaad, M.; Hamou, F.R.; Biedermann, U.P.; Schweinberger, F.F.; **Kunz, S.**; Schloegl, K.; Wiberg, G.K.H.; Ashton, S.; Heiz, U.; Mayrhofer, K.J.J.; Arenz, M.; Enhancement of the Oxygen Reduction Rate due to Reduced Interparticle Distance of Size-Selected Platinum Clusters. *Nature Materials*, **2013**, *12*, 919-924
15. Yoon, B.; Landman, U.; Habibpour, V.; Harding, C.; **Kunz, S.**; Heiz, U.; Moseler, M.; Walter, M.; Oxidation of CO on Magnesia Supported Pd₃₀ Nano-clusters: Size-Selected Experiments and First-Principled Theory. *Journal of Physical Chemistry C*, **2012**, *116*, 9594-9607.
14. Moseler, M.; Walter, M.; Yoon, B.; Landman, U.; Habibpour, V.; Harding, C.; **Kunz, S.**; Heiz, U.; Catalyzed Oxidation of CO at Pd₁₃ Nano-Clusters Supported on Magnesia. *Journal of American Chemical Society*, **2012**, *134*, 7690-7699.
13. Spirkel, F.; **Kunz, S.**; Schweinberger, F.F.; Farnbacher, A.; Schröter, R.; Heiz, U.; Improving MIES and UPS Signals by Means of a Modified Time-of-Flight Separation. *Review of Scientific Instrument*, **2012**, *82*, 13114-13121.
12. **Kunz, S.***; Schweinberger, F.F.; Kwon, G.; Kiermaier, J.; Le Moal, S.; Henry, C.; Heiz, U.; Adsorption Studies of Trichloroethylene (TCE) on MgO/Mo(100). *Surface Science*, **2010**, *610*, 2184-2189.
11. Hartl, K.; Nesselberger, M.; Mayrhofer, K.J.J.; **Kunz, S.**; Schweinberger, F.F.; Kwon, G.; Hanzlik, M.; Heiz, U.; Arenz, M.; On the Influence of Potential Cycling on Size-Selected Pt Nanoclusters. *Electrochimica Acta*, **2010**, *56*, 810-816.
10. **Kunz, S.**; Hartl, K.; Nesselberger, M.; Schweinberger, F.F.; Kwon, G.; Hanzlik, M.; Mayrhofer, K.J.J.; Heiz, U.; Arenz, M.; Size-selected Clusters as Heterogeneous Model Catalysts Under Applied Reaction Conditions. *Physical Chemistry Chemical Physics*, **2010**, *12*, 10288-10291.

9. **Kunz, S.***; Schweinberger, F. F.; Habibpour, V.; Rottgen, M. A.; Harding, C.; Arenz, M.; Heiz, U.; Temperature Dependent CO Oxidation Mechanisms on Size-Selected Clusters. *Journal of Physical Chemistry C*, **2010**, *114*, 1651-1654.
8. Harding, C.; Habibpour, V.; **Kunz, S.**; Farnbacher, A. N.-S.; Heiz, U.; Yoon, B.; Landman, U.; Control and Manipulation of Gold Nanocatalysis: Effects of Metal Oxide Support Thickness and Composition. *Journal of the American Chemical Society*, **2009**, *131*, 538-48.
7. Harding, C. J.; **Kunz, S.**; Habibpour, V.; Heiz, U.; Dual Reverse Spill-Over: Microkinetic simulations of the CO oxidation on Pd nanocatalysts. *Chemical Physics Letters*, **2008**, *461*, 235-237.
6. Harding, C. J.; **Kunz, S.**; Habibpour, V.; Heiz, U.; Microkinetic Simulations of the Oxidation of CO on Pd Based Nanocatalysis: A Model Including Co-Dependent Support Interactions. *Physical Chemistry Chemical Physics*, **2008**, *10*, 5875-5881.
5. Harding, C. J.; **Kunz, S.**; Habibpour, V.; Teslenko, V.; Arenz, M.; Heiz, U.; Dual-Pulsed Beam Controlled Mole Fraction Studies of the Catalytic Oxidation of CO on Supported Pd Nanocatalysts. *Journal of Catalysis*, **2008**, *255*, 234-240.
4. Hartmann, M.; **Kunz, S.**; Himsl, D.; Tangermann, O.; Ernst, S.; Wagener, A.; Adsorptive Separation of Isobutene and Isobutane on $\text{Cu}_3(\text{BTC})_2$. *Langmuir*, **2008**, *24*, 8634-8642.
3. Poppl, A.; **Kunz, S.**; Himsl, D.; Hartmann, M.; CW and Pulsed ESR Spectroscopy of Cupric Ions in the Metal-Organic Framework Compound $\text{Cu}_3(\text{BTC})_2$. *Journal of Physical Chemistry C*, **2008**, *112*, 2678-2684.
2. Hartmann, M.; Himsl, D.; **Kunz, S.**; Tangermann, O.; Olefin/paraffin separation over the Metal Organic Framework material $\text{Cu}_3(\text{BTC})_2$. *Studies in Surface Science and Catalysis*, **2008**, *Volume 174, Part A*, 615-618.
1. Hartmann, M.; **Kunz, S.**; Chandrasekar, G.; Murugesan, V.; Shaping of mesoporous molecular sieves. *Studies in Surface Science and Catalysis*, **2007**, *165*, 181-184.

Book Chapters

1. **Kunz, S.***, Colloidal synthesis methods for the preparation of supported nanoparticles. *Encyclopedia of Interfacial Chemistry*, **2017**, *in print*.

Patent Applications

1. **Kunz, S.**, Quinson, J.; Arenz, M.; **2016**, *submitted in November*.