

List of publications:

Refereed publications (*h-index=34*):

1. Mohanakumar, S and S. Wiegand, *Towards understanding specific ion effects in aqueous media using thermodiffusion*, The Eur. Phys. J. E 45 (2022) 10.
2. Lee, N., Afanasenkau, D., Rinklin, P., Wolfrum, B., Wiegand, S. *Temperature profile characterization with fluorescence lifetime imaging microscopy in a thermophoretic chip*. The Eur. Phys. J. E 44 (2021) 130.
3. Mohanakumar, S., Luettmer-Strathmann, J., and S. Wiegand, *Thermodiffusion of aqueous solutions of various potassium salts*, J Chem Phys, 154 (2021) 84506.
4. Lee, N.; Wiegand, S. *Thermophoretic Micron-Scale Devices: Practical Approach and Review*. Entropy 2020, 22, 950.
5. Niether, D.; Sarter, M.; Koenig, B. W.; Fitter, J.; Stadler, A. M.; Wiegand, S. *Thermophoresis: The Case of Streptavidin and Biotin*. Polymers, 12 (2020) 376:1-15.
6. Sarter, M., Niether, D., Koenig, B.W., Lohstroh, W., Zamponi, M., Jalarvo, N.H., Wiegand, S., Fitter, J. and Stadler, A., *Strong Adverse Contribution of Conformational Dynamics to Streptavidin-Biotin Binding*, The Journal of Physical Chemistry B, vol 124 (2019) 324-335.
7. Niether, D. and S. Wiegand, *Thermophoresis of biological and biocompatible compounds in aqueous solution*, Journal of Physics – Condensed Matter, 31 (2019) 503003:1-25.
8. Niether, D. and S. Wiegand, *Thermodiffusion and hydrolysis of 1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide (EDC)*, The European Physical Journal E, 42 (2019) 68:1-7.
9. Junker, N.O., F. Vaghefikia, A. Albarghash, H. Höfig, D. Kempe, J. Walter, J. Otten, M. Pohl, A. Katranidis, S. Wiegand and J. Fitter, *The Impact of Molecular Crowding on Translational Mobility and Conformational Properties of Biological Macromolecules*, The Journal of Physical Chemistry B, 123 (2019) 4477–4486.
10. Bjelčić, M., D. Niether and S. Wiegand, *Correlation between thermophoretic behavior and hydrophilicity for various alcohols*, The European Physical Journal E, 42 (2019) 68:1-7.
11. Wang, Z., D. Niether, J. Buitenhuis, Y. Liu, Y., P.R. Lang, J.K.G. Dhont and S. Wiegand, *Thermophoresis of a colloidal rod: Steric and Charge contributions*, Langmuir, 35 (2019) 1000-1007.
12. Sehnem, A.L., A.M. Figueiredo Neto, D. Niether, and S. Wiegand, *Diffusiophoresis as the Ruling Effect of the Thermodiffusion of Iron Oxide Nanoparticles Dispersed in Aqueous Solutions Containing Organic Salts*, Physical Review E, 98 (2018) 989.
13. Niether, D., H. Kriegs, J.K.G. Dhont, and S. Wiegand, *Peptide model systems: Correlation between thermophilicity and hydrophilicity*. J. Chem. Phys., 149 (2018) 044506:1-8.
14. Dang, K.M., P. Rinklin, D. Afanasenkau, G. Westmeyer, T. Schürholz, S. Wiegand and B. Wolfrum, *Chip-based heat stimulation for modulating signal propagation in HL-1 cell networks*, Advanced Biosystems 39 (2018) 180013.

15. Sehnem, A.L., D. Niether, S. Wiegand, and A.M. Figueiredo Neto, Thermodiffusion of Monovalent Organic Salts in Water. *The Journal of Physical Chemistry B*, 122 (2018) 4093-4100.
16. Niether, D., M. Sarter, B. König, M. Zamponi, J. Fitter, A. Stadler and S. Wiegand, *Thermodiffusion as a Probe of Protein Hydration for Streptavidin and the Streptavidin-Biotin Complex*, AIP Conference Proceedings, 1929, (2018) 020001.
17. Niether, D., S. Di Lecce, F. Bresme, and S. Wiegand, *Unravelling the hydrophobicity of urea in water using thermodiffusion: implications for protein denaturation*, *Physical Chemistry Chemical Physics*, 20, (2018) 1012-1020.
18. Niether, D., T. Kawaguchi, J. Hovancova, K. Eguchi, J.K.G. Dhont, R. Kita, and S. Wiegand, Role of Hydrogen Bonding of Cyclodextrin-Drug Complexes Probed by Thermodiffusion. *Langmuir*, 33 (2017) 8483-8492.
19. Niether, D. and S. Wiegand, *Heuristic approach to understand the accumulation process in hydrothermal pores*, *Entropie*, 19 (2017) 33.
20. Syshchyk, O., D. Afanasenkau, Z. Wang, H. Kriegs, J. Buitenhuis, and S. Wiegand, *Influence of temperature and charge effects on thermophoresis of polystyrene beads*. *E. Phys. J. E.*, 39 (2016) 129.
21. Eguchi, K., D. Niether, S. Wiegand, and R. Kita, *Thermophoresis of cyclic oligosaccharides in polar solvents*. *The European Physical Journal E*, 39 (2016) 86.
22. Niether, D., D. Afanasenkau, J.K.G. Dhont, and S. Wiegand, *Accumulation of formamide in hydrothermal pores to form prebiotic nucleobases*. *Proceedings of the National Academy of Sciences*, 113 (2016) 4272-4277.
23. Maeda, K., N. Shinyashiki, S. Yagihara, S. Wiegand, and R. Kita, *Ludwig-Soret effect of aqueous solutions of ethylene glycol oligomers, crown ethers, and glycerol: Temperature, molecular weight, and hydrogen bond effect*. *The Journal of Chemical Physics*, 143 (2015) 124504.
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25. *Thermodiffusion, Molecular Diffusion and Soret Coefficient for Some Binary and Ternary Mixtures*, D. Alonso de Mezquia, Z. Wang, E. Lapeira, M. Klein, S. Wiegand, M.M. Bou-Ali, *The European Physical Journal E*, 37 (2014) 106.
26. *Molar mass and temperature dependence of the thermodiffusion of polyethylene oxide in water/ethanol mixtures*, Z. Wang, D. Afanasenkau, M. Dong, D. Huang, S. Wiegand, *J. Chem. Phys.*, 141 (2014) p. 064904-1-064904-7.
27. *Isothermal Behavior of the Soret Effect in Nonionic Microemulsions: Size Variation by Using Different n-Alkanes*, Naumann, P., S. Datta, T. Sottmann, H. Frielinghaus, and S. Wiegand, *J. Chem. Phys. B*, 118 (2014) p. 3451-3460.
28. *Thermophoresis of charged colloidal rods*, Wang, Z., H. Kriegs, J. Buitenhuis, J.K.G. Dhont, and S. Wiegand, *Soft Matter*, 9 (2013), p. 8697-8704.
29. *Alkali Halide Solutions under Thermal Gradients: Soret Coefficients and Heat Transfer Mechanisms*, Römer, F., Z. Wang, S. Wiegand, and F. Bresme, *J. Phys. Chem. B*, 117 (2013) p. 8209-8222.

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32. *Thermal Diffusion of Nucleotides*, Wang, Z., H. Kriegs, and S. Wiegand, J. Phys. Chem. B, 116 (2012) p. 7463-7469.
33. *Temperature dependence of thermal diffusion for aqueous solutions of monosaccharides, oligosaccharides, and polysaccharides*, Kishikawa, Y., H. Shinohara, K. Maeda, Y. Nakamura, S. Wiegand, and R. Kita, Phys. Chem. Chem. Phys., 14 (2012) p. 10147-10153.
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35. *The Soret effect of mono-, di- and tri-glycols in ethanol*, M. Klein and S. Wiegand, Phys. Chem. Chem. Phys., 13 (2011) p.7090-7094.
36. *Thermal diffusion of oligosaccharide solutions: the role of chain length and structure*, P. Blanco, H. Kriegs, B. Arlt and S. Wiegand, Journal of Physical chemistry B, 114(2010) p. 10740-10747
37. *Study of the Soret effect in monosaccharide solutions*, Pablo Blanco and Simone Wiegand, Journal of Physical chemistry B, 114(2010) p. 2807-2813
38. *Temperature Dependence of Soret Coefficient in Aqueous and Non-aqueous Solutions of Pullulan*, Yuki Kishikawa, Simone Wiegand and Rio Kita, Biomacromolecules, 11(2010) p.740-747
39. *Soret effect of n-octyl β -D-glucopyranoside C₈G₁ in water around the critical micelle concentration*, Bastian Arlt, Sascha Datta, Thomas Sottmann and Simone Wiegand, Journal of Physical chemistry B, 114 (2010), p.2118-2123
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41. *Investigation of the Soret effect in aqueous and non-aqueous mixtures by the thermal lens technique*, P. Polyakov and S. Wiegand, Phys. Chem. Chem. Phys., 11 (2009), p. 864-871.
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43. *Soret effect of nonionic surfactants in water studied by different transient grating setups*, H. Ning, S. Datta, T. Sottmann and Simone Wiegand, Journal of Physical Chemistry B, 112 (2008), p. 10927-10934

44. *Thermal diffusion and molecular diffusion values for some alkane mixtures: A comparison between thermogravitational column and thermal diffusion forced Rayleigh scattering*, P. Blanco, P. Polyakov, M.M. Bou-Ali and Simone Wiegand, Journal of Physical Chemistry B, 112 (2008), p. 8340-8345.
45. *Thermal-diffusive behavior of a dilute solution of charged colloids*, H. Ning, J.K.G. Dhont and S. Wiegand, Langmuir, 24 (2008), p. 2426-2432.
46. *Systematic study of the thermal diffusion in associated mixtures*, P. Polyakov and S. Wiegand, Journal of Chemical Physics, 128(2008), 034505.
47. *Thermal diffusion forced Rayleigh scattering setup optimized for aqueous mixtures*, S. Wiegand, H. Ning and H. Kriegs, Journal of Physical Chemistry B, 111 (2007), 14169-14174.
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58. *Characterization of the grain size in ferromagnetic Colloids: Comparing torsional-pendulum measurements with standard complementary methods*, J. Embs, H.W.

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 64. *Investigation of the Soret effect in binary liquid mixtures by TDFRS- contribution to the benchmark test*, C. Leppla, S. Wiegand, *Philosophical Magazine*, 83(2003), p.1989-1999.
 65. *Benchmark values for the Soret, thermal diffusion, and diffusion coefficients of three binary organic liquid mixtures*, J.K. Platten, M.M. Bou-Ali, P. Costesèque, J.F. Dutrieux, W. Köhler, C. Leppla, S. Wiegand, G. Wittko, *Philosophical Magazine*, 83(2003), p.1965-1971.
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95. *Dynamical Lightscattering of Pretransitional Phenomena in Liquid Mixtures*, W. Schröer, S. Wiegand, W. Staude, Ber. Bunsenges. Physik. Chemie, 95 (1991), p.1126-1130

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100. W. Köhler, S. Wiegand, *Thermal Nonequilibrium Phenomena in Fluid Mixtures*, LNP 584, Springer, Berlin, (2002)
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103. *Introduction to Rheology*, S. Wiegand, in *Macromolecular Systems in Soft and Living Matter*, Ed. J.K.G. Dhont, G. Gompper, P.R. Lang, D. Richter, D. Willbold and R. Zorn, Forschungszentrum Jülich, (2011), p. A6.1-A6.19
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108. *Experimental study of the thermal diffusion behaviour of mixtures consisting of simple and chain like molecules using thermal diffusion forced Rayleigh Scattering*, P. Polyakov and S. Wiegand, in *Thermodiffusion: Basics & Applications*, Ed. M.M.

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