

Publication list:

1. Peer per-reviewed articles

2022

1. Zhou, L.-J., Wang, Y.-Y., Li, S.-L., Cao, L., Jiang, F.-J., **Maskow, T.**, Liu, Y. (2022) Core-Shell Polydopamine/Cu Nanometer Rods Efficiently Deactivate Microbes by Mimicking Chloride-Activated Peroxidases. *ASC Omega* (<https://doi.org/10.1021/acsomega.2c02986>)
2. Duong, H.L., Paufler, S., Harms, H., Schlosser, D., **Maskow, T.**, (2022) Fungal Lignocellulose Utilisation Strategies from a Bioenergetic Perspective: Quantification of Related Functional Traits Using Biocalorimetry. *Microorganisms* (accepted)

2021

3. Duong, H.L., Paufler, S., Harms, H., **Maskow, T.**, Schlosser, D. (2021) Applicability and information value of biocalorimetry for the monitoring of fungal solid-state fermentation of lignocellulosic agricultural by-products. *New Biotechnology* 66, 97-106
4. Fricke, C., Klee, T., Richter, S., Paufler, S., Harms, H., **Maskow, T.** (2021) Numerical heat flow and transport simulation as a development tool for the design of isothermal microcalorimeters. *Thermochimica Acta* 706, 179070
5. Korth, B., Heber, C., Normant-Saremba, M., **Maskow, T.**, Harnisch, F. (2021) Precious data from tiny samples: Revealing the correlation between energy content and the chemical oxygen demand of municipal wastewater using micro-bomb combustion calorimetry. *Frontiers in Energy Research* 9: 705800
6. Held, C., Greinert, T., Vogel, K., **Maskow, T.** (2021) A New Thermodynamic Activity-Based Approach Allows Predicting the Feasibility of Glycolysis. *Scientific Reports* 11:6125
7. Vogel, K., Wei, R., Pfaff, L., Breite, D., Al-Fathi, H., Ortmann, Ch., Estrela-Lopis, I., Venus, T., Schulze, A., Harms, H., Bornscheuer, U., **Maskow, T.** (2021) Enzymatic degradation of polyethylene terephthalate nanoplastics analyzed in real time by isothermal titration calorimetry. *Science of the Total Environment* 773: 145111

2020

8. Vogel, K., Greinert, T., Reichard, M., Held, C., Harms, H., **Maskow, T.** (2020) Thermodynamics and Kinetics of Glycolytic Reactions. Part I: Kinetic modeling based on irreversible thermodynamics and validation by calorimetry *International Journal of Molecular Sciences* 21: 8341
9. Vogel, K., Greinert, T., Reichard, M., Held, C., Harms, H., **Maskow, T.** (2020) Thermodynamics and Kinetics of Glycolytic Reactions. Part II: Influence of Cytosolic Conditions on Thermodynamic State Variables and Kinetic Parameters. *International Journal of Molecular Sciences* 21: 7921
10. Vogel, K., Greinert, T., Harms, H., Sadowski, G, Held, C., **Maskow, T.** (2020) Influence of cytosolic conditions on the reaction equilibrium and the reaction enthalpy of the enolase reaction accessed by calorimetry and van 't Hoff. *BBA – General Subjects* 1864: 129675
11. Fricke, C., Harms, H., **Maskow, T.** (2020) How to speed up the detection of aerobic microbial contaminations by using isothermal microcalorimetry. *Journal of Thermal Analysis and Calorimetry* 142: 1933-1949
12. Vogel, K., Greinert, T., Held, C., Harms, H., **Maskow, T.** (2020) Application of irreversible thermodynamics to determine the influence of cell mimicking conditions on the kinetics of equilibrium reactions of the glycolysis. *Biophys. J.* 118 (3, Suppl. 1), 346a - 347a
13. Greinert, T., Vogel, K., Mühlenweg, J.-K., Sadowski, G., **Maskow, T.**, Held, C. (2020) Standard Gibbs energy of metabolic reactions: VI. Glyceraldehyde 3-phosphate dehydrogenase reaction. *Fluid Phase Equilibria* 517: 112597

14. Greinert, T., Vogel, K., Seifert, A.-I., Seifert, R., Andreeva, I.V., Verevkin, S.P., **Maskow, T.**, Sadowski, G., Held, C. (2020) Standard Gibbs energy of metabolic reactions: V. enolase reaction. *BBA - Proteins and Proteomics* 1868: 140365

15. Fricke, C., Xu, J., Jiang, F.-L., Liu, Y., Harms, H., **Maskow, T.** (2020) Rapid culture-based detection of *Legionella pneumophila* using isothermal microcalorimetry with an improved evaluation method. *Microbial Biotechnology* 13(4): 1262-1272

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16. Fricke, C., Harms, H., **Maskow, T.** (2019) Rapid Calorimetric Detection of Bacterial Contamination: Influence of the Cultivation Technique. *Frontiers in Microbiology* 10: 2530

17. **Maskow, T.**, Rothe, A., Jakob, T., Paufler, S., Wilhelm, C. (2019) Photocalorespirometry (Photo-CR): A novel method for access to photosynthetic energy conversion efficiency. *Scientific Reports* 9: 9298

2018

18. Fiedler, D, **Maskow, T.** (2018) A note of thanks from the guest editors to Professor Wolfgang Babel—An inspiring researcher and highly esteemed teacher. *Engineering in Life Sciences* 18: 412-413

19. Xu, J., He, H., Wang, Y.-Y., Yan, R., Zhou, L.-J., Jiang, F.-L., **Maskow, T.**, Liu, Y. (2018) New Aspects of the Environmental Risks of Quantum Dots: Prophage Activation. *Environmental Science - Nano* 5(7):15561566

20. Russel, M., Marios, S., JiaJia, S., Xu, W., Xiao, L., **Maskow, T.**, Alam, M.M., Georgiou, J. (2018) HighFrequency, dielectric spectroscopy for the detection of electrophysiological/biophysical differences in different bacteria types and concentrations. *Analytica Chimica Acta* 1018: 86-95

21. Xu, J., Jiang, F.-J., Liu, Y., Kiesel, B., **Maskow, T.** (2018) An enhanced bioindicator for calorimetric monitoring of prophage-activating chemicals in the trace concentration range. *Engineering in Life Sciences* 18: 475-483

22. Xu, J., Kiesel, B., Kallies, R., Jiang, F.-L., Liu, Y., **Maskow, T.** (2018) A fast and reliable method for monitoring of prophage-activating chemicals. *Microbial Biotechnology* 11(6): 1112-1120

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23. Korth, B., **Maskow, T.**, Günther, S., Harnisch, F. (2017) Estimating the energy content of wastewater using combustion calorimetry and different drying processes. *Frontiers in Energy Research*, 5:23. DOI 10.3389/fenrg.2017.0.00023

24. Korth, B., **Maskow, T.**, Harnisch, F. (2017) Bioelektrokalorimetrie – der mikrobielle elektrochemische Peltier-Effekt. *Biospektrum* 23(2): 220-222

25. Zhou Z-Q, Yang L-Y, Yan R., Zhao J, Liu Y-Q, Lai L, Jiang F-L, **Maskow T**, Liu Y (2017) Mn-doped ZnSe quantum dots initiated mild and rapid cation exchange for tailoring composition and optical properties of colloid nanocrystals: novel template, new applications. *Nanoscale* 9(8): 2824-2835

26. Altwasser V, Pätz R.R., Lemke T, Paufler S, **Maskow T** (2017) A simple Method for the Measurement of Metabolic Heat Production Rates during Solid-State Fermentations Using β -Carotene Production with *Blakeslea trispora* as a Model System. *Engineering in Life Sciences* 17: 620-628

2016

27. Korth B, **Maskow T**, Picioreanu C, Harnisch F (2016) The microbial electrochemical Peltier heat: an energetic burden and engineering chance for primary microbial electrochemical technologies. *Energy & Environmental Science* 9: 2539-2544

28. Rohde M-T, Paufler S, Harms H, **Maskow T** (2016) Calorespirometric Feeding Control Enhances Bioproduction from Toxic Feedstocks – Demonstration for Biopolymer Production out of Methanol. *Biotechnology and Bioengineering* 113(10): 2113-2121

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29. Herke Z, **Maskow T**, Nemeth ZI (2015) A new method for detecting cross-inhibition effects in the environmental biocatalytic processes. *BioTechnologica* 96(4): 279-284
30. **Maskow T**, Paufler S (2015) What does calorimetry and thermodynamics of living cells tell us? *Methods* 76: 3-10
31. Przybylski D, Rohwerder T, Dilßner C, **Maskow T**, Harms H, Müller RH (2014) Exploiting mixtures of H₂, CO₂ and O₂ for improved production of methacrylate precursor 2-hydroxyisobutyric acid by engineered *Cupriavidus necator* strains. *Applied Microbiology and Biotechnology* 99:2131-2145

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32. Hoffmann P, Held C, **Maskow T**, Sadowski G (2014) A Thermodynamic Investigation of the Glucose-6-phosphate Isomerization. *Biophysical Chemistry* 195: 22-31
33. **Maskow T**, Mariana Morais F, Rosa LFM, Qian YG, Harnisch F (2014). Insufficient Oxygen Diffusion Leads to Distortions of Microbial Growth Parameters Assessed by Isothermal Microcalorimetry, *RSC Advances* 4: 32730-32737
34. Mariana Morais F, Buchholz F, Hartmann T, Lerchner J, Neu TR, Kiesel B, Harms H, **Maskow T** (2014). Chip-calorimetric Monitoring of Biofilm Eradication with Bacteriophages Reveals an Unexpected Infection Related Heat Profile. *Journal of Thermal Analysis and Calorimetry*, 115: 2203-2210

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35. Hartmann T, Mühlhling M, Wolf A, Mariana F, **Maskow T**, Mertens F, Neu T.R., Lerchner J (2013) A Chipcalorimetric Approach to the Analysis of Ag Nanoparticle Caused Inhibition and Inactivation of Beadsgrown Bacterial Biofilms. *Journal of Microbiological Methods* 95: 129-137
36. Paufler S, Weichler M-T, Harms H, **Maskow T** (2013) Simple Improvement of the Sensitivity of a Heat Flux Reaction Calorimeter to Monitor Bioprocesses with Weak Heat Production. *Thermochim. Acta* 569: 71-77
37. Mariana F, Buchholz F, Lerchner J, Neu TR, Harms H, **Maskow T** (2013) Chip-Calorimetric Monitoring of Biofilm Eradication with Antibiotics Provides Mechanistic Information. *International Journal of Medical Microbiology* 303: 158– 165
38. Regestein L, **Maskow T**, Track A, Knabben I, Wunderlich M, Lerchner J, Büchs J (2013) Non-invasive Online Detection of Microbial Lysine Formation in Stirred Tank Bioreactors by Using Calorespirometry. *Biotechnology and Bioengineering* 110(5): 1387-1395

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40. **Maskow T**, Wolf K, Kunze W, Harms H, Enders S (2012) Rapid Analysis of Bacterial Contaminations in Drinking Water Using Isothermal Calorimetry. *Thermochimica Acta* 543: 273-280
41. Buchholz F, Lerchner J, Mariana F, Kuhlicke U, Neu TR, Harms H, **Maskow T** (2012) Chip-calorimetry Provides Real Time Insights into the Inactivation of Biofilms by Predatory Bacteria. *Biofouling* 28(3): 351– 362
42. **Maskow T** (2012) Nano- und Megakalorimetrie, Echtzeiteinblicke in biologische Prozesse. *BIOspektrum* 18: 100 – 101.

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43. **Maskow T**, Schubert T, Wolf A, Buchholz F, Regestein L, Büchs J, Mertens F, Harms H, Lerchner J (2011) Potentials and limitations of Miniaturized Calorimeters for Bioprocess Monitoring. *Applied Microbiology and Biotechnology* 92: 55-66

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45. Buchholz F, Harms H, **Maskow T** (2010) Biofilm Research Using Calorimetry – a Marriage Made in Heaven? *Biotechnology Journal* 5 (12), 1339 - 1350
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48. **Maskow T**, Kiesel B, Schubert T, Yong Z, Harms H, Yao J (2010) Calorimetric Real Time Monitoring of Lambda Prophage Induction. *Journal of Virological Methods* 168 (1-2), 126-132
49. **Maskow T**, Kemp RB, Buchholz F, Schubert T, Kiesel B, Harms H (2010) What Heat is Telling us about Microbial Conversions in Nature and Technology: from Chip- to Megacalorimetry. *Microbial Biotechnology* 3: 269 – 284
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51. Zhou Y, Yao J, He M, Choi M.M.F., Feng L, Chen H, Wang F, Chen K, Zhuang R, **Maskow T**, Wang G, Zaray G (2010) Reduction in Toxicity of Arsenic(III) to *Halobacillus* sp. Y35 by Kaolin and their Related Adsorption Studies. *Journal of Hazardous Materials* 176, 487 -494

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55. Zhou Y, Yao J, Choi MMF, Chen Y, Chen H, Mohammad R, Zhuang R, Chen H, Wang F, **Maskow T**, Zaray G (2009) A combination method to study microbial communities and activities in zinc contaminated soil. *Journal of Hazardous Materials* 169, 875-881
56. Chen H-L, Yao J, Wang L, Wang F, Bramanti E, **Maskow T**, Zaray G (2009) Evaluation of solvent tolerance of microorganisms by microcalorimetry. *Chemosphere* 74, 1407 - 1411

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57. **Maskow T**, Voinovic V, von Stockar U (2008) Kalorimetrie und biothermodynamische Modelle zur Analyse, Steuerung und Vorhersage von Biokatalysen mit ganzen Zellen. *Chemie Ingenieur Technik* 80(9), 1283
58. Pörtner R, **Maskow T** (2008) Von der Zelle zum Prozess. *Transkript* 12 (2008), 58
59. Mothes G, Schubert T, Harms H, **Maskow T** (2008) Biotechnological coproduction of compatible solutes and polyhydroxyalkanoates using the genus *Halomonas*. *Engineering in Life Sciences* 8(6), 658-662

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62. Chen Y, Yao J, Wang F, Zhou Y, Chen H, Gai N, Chen H, Chen K, **Maskow T**, Ceccanti B, Zaray G (2008) Toxic Effect of Inorganic Arsenite [As(III)] on Metabolic Activity of *Bacillus Subtilis* by Combined Methods. *Current Microbiology*, 57, 258 - 263
63. **Maskow T**, Röllich A, Fetzer I, Yao J, Harms H (2008) Observation of non-linear biomass–capacitance correlations: Reasons and implications for bioprocess control. *Biosensors and Bioelectronics* 24, 123–128
64. Chen H, Yao J, Zhou Y, Chen H, Wang F, Gai N, Zhang R, Zaray G, **Maskow T**, Ceccanti B (2008) Investigation of the toxic effect of cadmium on *Candida humicola* and *Bacillus subtilis* using microcalorimetric method. *Journal of Hazardous Material* 159, 465 – 470
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66. **Maskow T**, Röllich A, Fetzer I, Ackermann J-U, Harms H (2008) On-line Monitoring of Lipid Accumulation in Yeast Using Impedance Spectroscopy. *Journal of Biotechnology* 135, 64-70

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71. Liu J-S, Vojinovic V, Patiño R, **Maskow T**, von Stockar U (2007) A Comparison of various Gibbs energy dissipation correlations for predicting microbial growth yields. *Thermochimica Acta* 458, 38-46
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73. Lerchner J, **Maskow T**, Wolf G (2007) Chip calorimetry and its use for biochemical and cell biological investigations. *Chemical Engineering and Processing* 47 (6), 991-999
74. Peitzsch M, Kiesel K, Harms H; **Maskow T** (2007) Real time analysis of *Escherichia coli* biofilms using calorimetry. *Chemical Engineering and Processing* 47 (6), 1000-1006
75. Buchholz F, Wick LY, Harms H, **Maskow T** (2007) Assessment of kinetic biodegradation parameters of hydrophobic polycyclic aromatic hydrocarbons using isothermal titration calorimetry (ITC). *Thermochimica Acta* 458, 47-53
76. von Stockar U, Vojinovic V, **Maskow T**, Liu J (2007) Can microbial growth yield be estimated using simple thermodynamic analogies to technical processes? *Chemical Engineering and Processing* 47 (6), 980-990

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80. **Maskow T**, Lerchner J, Peitzsch M, Harms H, Wolf G (2006) A miniaturized chip-calorimeter for the monitoring of whole cell biotransformation. *Journal of Biotechnology* 122, 431-442
81. Von Stockar U, **Maskow T**, Liu J, Marison IW, Patiño R (2006) THERMODYNAMICS OF MICROBIAL GROWTH AND METABOLISM : An Analysis of the Current Situation. *Journal of Biotechnology* 121, 517-533
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85. **Maskow T**, Kleinstaub S (2004) Carbon- and energy fluxes during haloadaptation of a *Halomonas* sp. EF11 growing on phenol. *Extremophiles* 8, 133-141
86. Alvarez HM, Silva RA, Cesari AC, Silva RA, Zamit AL, Peressutti SR, Reichelt R, Keller U, Malkus U, Rasch Ch, **Maskow T**, Mayer F, Steinbüchel A (2004) Physiological and Morphological Responses of the Soil bacterium *Rhodococcus opacus* Strain PD630 to water stress. *FEMS Microbiology Ecology* 50, 75-86
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88. Riis V, **Maskow T**, Babel W (2003) Highly sensitive determination of ectoine and other compatible solutes by anion exchange chromatography and pulsed amperometric detection. *Analytical and Bioanalytical Chemistry* 377, 203-207
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93. **Maskow T**, Babel W (1998) Calorimetric Investigations of Bacterial Growth on Phenol - Efficiency and Velocity of Growth as a Function of the Assimilation Pathways. *Thermochimica Acta* 309, 97-103
94. Glindemann D, **Maskow T**, Browarzik D, Kehlen H, Kutscha J (1997). Role of Azeotropy in Characterization of Complex Hydrocarbon Mixtures by True-Boiling-Point Distillation. *Fluid Phase Equilibria* 135, 149-167

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2. Book contributions

1. Assael, M. J.; Maitland, G.C.; **Maskow, T.**; von Stockar, U., Wakeham, W.A., Will, S. (2022) *Commonly Asked Questions in Thermodynamics*, Second Edition, CRC Press, Taylor & Francis Group, Boca Raton, London, New York
2. Mariana-Morais F, Buchholz F, **Maskow T** (2014) Chip-calorimetry for evaluation of biofilm treatment with biocides, antibiotics and biological agents. In Gianfranco Donelli (ed.), *Microbial Biofilms: Methods and Protocols*, *Methods in Molecular Biology*, vol. 1147, DOI 10.1007/978-4939-0467-9_19, © Springer Sciences+Business Media New York 2014
3. **Maskow T**, Haynes CA (2013) The Thermodynamics of Electrically Charged Molecules in Solution. In *Biothermodynamics The Role of Thermodynamics in Biochemical Engineering*. von Stockar U (ed). EPFL Press Distributed by CRC Press, pp. 31-61.
4. **Maskow T** (2013) Miniaturization of Calorimetry: Strengths and Weaknesses for Bioprocess Monitoring and Control. In *Biothermodynamics The Role of Thermodynamics in Biochemical Engineering*. von Stockar U (ed). EPFL Press Distributed by CRC Press, pp. 423-442.
5. von Stockar U, **Maskow T**, Vojinovic V (2013) Thermodynamic Analysis of Metabolic Pathways. In *Biothermodynamics The Role of Thermodynamics in Biochemical Engineering*. von Stockar U (ed). EPFL Press Distributed by CRC Press, pp. 581-604.
6. **Maskow T** (2009) Analyse und Steuerung mikrobieller Konversionen mit mikrokalorimetrischen Methoden. In: *Anwendungen der Thermischen Analyse, Mikrokalorimetrie und Rheologie im Bereich der Pharmazie, Biotechnologie, Lebensmitteltechnologie und Kosmetik*; Hrsg. Wolfgang Kunze, Eschborn, ISBN 978-3-940184-04-7
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3. Patents

1. **Maskow, T.**, Harms, H., Effenberger, M. (2008) Verfahren zur kalorimetrischen Untersuchung von wässrigen Flüssigkeiten auf Belastungen mit Mikroorganismen. DE 10 2008 048 229
2. **Maskow, T.**, Harms H., Torsten S., Mothes G. (2008) Verfahren zur simultanen Produktion von PHA und kompatiblen Soluten in halophilen Bakterien DE 10 2008 045 237
3. Babel W, Kleinstauber S und **Maskow, T.** (2002) Method for the Continuous Biotechnological Production of Compatible Solutes from Toxic Substrates. WO 02/50298 A1
4. **Maskow T**, Babel W und Kleinstauber S (2000) Verfahren zur kontinuierlichen biotechnologischen Herstellung von kompatiblen Soluten aus toxischen Substraten. DE 100 65 071.6

5. **Maskow T** und Babel W (1998) Verfahren zur kontinuierlichen Herstellung von Polyhydroxybuttersäure "Process for continuous production of poly-3-hydroxybutyric acid"
Internationale Patentanmeldung PCT/EP99/02803

4. Diploma thesis, PhD thesis, Habilitation

Maskow T (1988). Untersuchung des Siedeverhaltens von Erdölfractionen und Erdölfraction + Alkan1-ol-Systemen mit der Fischer Spaltrohrkolonne. Technischen Hochschule "Carl Schorlemmer" Leuna- Merseburg

Maskow T (1994). Probleme der Charakterisierung von Erdölfractionen mit Hilfe der Blasendestillation. Martin-Luther-Universität Halle-Wittenberg

Maskow T (2005) „Thermodynamische Charakterisierung und kalorimetrische Steuerung mikrobieller Leistungen in Übergangssituationen“ Technische Universität Dresden