

Publications

Harnisch F, Deutzmann JS, Boto ST, Rosenbaum MA (2024) Microbial electrosynthesis: opportunities for microbial pure cultures. *Trends Biotechnol* S0167-7799(24), 00033. (Review)

Schlembach I, Bardl B, Regestein L, Rosenbaum MA (2024) Nonengineered fungus provides a shortcut from cellulose to bulk *Erythro*-isocitric acid. *ACS Sustainable Chem Eng* 12(9), 3408-3418.

Tiso T, Demling P, Karmainski T, Oraby A, Eiken J, Liu L, Bongartz P, Wessling M, Desmond P, Schmitz S, Weiser S, Emde F, Czech H, Merz J, Zibek S, Blank LM, Regestein L (2024) Foam control in biotechnological processes—challenges and opportunities. *Discov Chem Eng* 4(2),

Boto ST, Bardl B, Harnisch F, Rosenbaum MA (2023) Microbial electrosynthesis with *Clostridium ljungdahlii* benefits from hydrogen electron mediation and permits a greater variety of products. *Green Chem* 25(11), 4375-4386.

Franco A, Chukwubuike A, Meiners C, Rosenbaum MA (2023) Exploring phenazine electron transfer interaction with elements of the respiratory pathways of *Pseudomonas putida* and *Pseudomonas aeruginosa*. *Bioelectrochemistry* 157, 108636.

Götze S, Vij R, Burow K, Thome N, Ubat L, Schlosser N, Pflanze S, Müller R, Hänsch VG, Schlabach K, Fazlikhani L, Walther G, Dahse HM, Regestein L, Brunke S, Hube B, Hertweck C, Franken P, Stallforth P (2023) Ecological niche-inspired genome mining leads to the discovery of crop-protecting nonribosomal lipopeptides featuring a transient amino acid building block. *J Am Chem Soc* 145(4), 2342-2353.

Munser AS, Trost M, Schröder S, Graf M, Rosenbaum MA, Tünnermann A (2023) Analysis of very low bacterial counts in small sample volumes using angle-resolved light scattering. *Appl Opt* 62(2), 411-418.

Peng CC, Dormanns N, Regestein L, Beemelmans C (2023) Isolation of sulfonosphingolipids from the rosette-inducing bacterium *Zobellia uliginosa* and evaluation of their rosette-inducing activity. *RSC Adv* 13(39), 27520-27524.

Pflanze S, Mukherji R, Ibrahim A, Günther M, Götze S, Chowdhury S, Reimer L, Regestein L, Stallforth P (2023) Nonribosomal peptides protect *Pseudomonas nunensis* 4A2e from amoebal and nematodal predation. *Chem Sci* 14(41), 11573-11581.

Pourmasoumi F, Hengoju S, Beck K, Stephan P, Klopffleisch L, Hoernke M, Rosenbaum MA, Kries H (2023) Analysing megasynthetase mutants at high throughput using droplet microfluidics. *Chembiochem* 24(24), e202300680.

Yang Z, Qiao Y, Konakalla NC, Ströbech E, Harris P, Peschel G, Agler-Rosenbaum M, Weber T, Andreasson E, Ding L (2023) *Streptomyces* alleviate abiotic stress in plant by producing pteridic acids. *Nat Commun* 14(1), 7398.

Abdollahi M, Al Sbei S, Rosenbaum MA, Harnisch F (2022) The oxygen dilemma: The challenge of the anode reaction for microbial electrosynthesis from CO₂. *Front Microbiol* 13, 947550. (Review)

Bissell AU, Rautschek J, Hoefgen S, Raguz L, Mattern DJ, Saeed N, Janevska S, Jojić K, Huang Y, Kufs JE, Herboeck B, Guo H, Hillmann F, Beemelmans C, Valiante V (2022) Biosynthesis of the sphingolipid inhibitors sphingofungins in filamentous fungi requires aminomalonate as a metabolic precursor. *ACS Chem Biol* 17(2), 386-394.

Cao H, Dauben TJ, Helbing C, Jia Z, Zhang Y, Huang M, Müller L, Gu S, Zhang X, Qin H, Martin K, Bossert J, Jandt KD (2022) The antimicrobial effect of calcium-doped titanium is activated by fibrinogen adsorption. *Mater Horiz* 9(7), 1962-1968.

Finger M, Palacio-Barrera AM, Richter P, Schlembach I, Büchs J, Rosenbaum MA (2022) Tunable population dynamics in a synthetic filamentous coculture. *MicrobiologyOpen* 11(5), e1324.

Finger M, Sentek F, Hartmann L, Palacio-Barrera AM, Schlembach I, Rosenbaum MA, Büchs J (2022) Insights into *Streptomyces coelicolor* A3(2) growth and pigment formation with high-throughput online monitoring. *Eng Life Sci* 23(1), e2100151.

Franco A, Elbahnasy M, Rosenbaum MA (2022) Screening of natural phenazine producers for electroactivity in bioelectrochemical systems. *Microb Biotechnol* 16(3), 579-594.

Günther M*, Reimer C*, Herbst R*, Kufs JE, Rautschek J, Ueberschaar N, Zhang S, Peschel G, Reimer L, Regestein L, Valiante V, Hillmann F#, Stallforth P# (2022) Yellow polyketide pigment suppresses premature hatching in social amoeba. *Proc Natl Acad Sci U S A* 119(43), e2116122119.

Kufs JE, Reimer C, Stallforth P, Hillmann F, Regestein L* (2022) The potential of amoeba-based processes for natural product syntheses. *Curr Opin Biotechnol* 77, 102766. (Review)

Kufs JE, Reimer C, Steyer E, Valiante V, Hillmann F, Regestein L (2022) Scale-up of an amoeba-based process for the production of the cannabinoid precursor olivetolic acid. *Microb Cell Fact* 21(1), 217.

Moghaddam Amri J, Guo H, Willing K, Wichard T, Beemelmans C (2022) Identification of the new prenyltransferase Ubi-297 from marine bacteria and elucidation of its substrate specificity. *Beilstein J Org Chem* 18, 722-731.

Palacio-Barrera AM, Schlembach I, Finger M, Büchs J, Rosenbaum MA (2022) Reliable online measurement of population dynamics for filamentous co-cultures. *Microb Biotechnol* 15(11), 2773-2785.

Paquete C, Rosenbaum MA, Baneras L, Rotaru AE, Puig S (2022) Let's chat: Communication between electroactive microorganisms. *Bioresour Technol* 347, 126705. (Review)

Reimer C*, Kufs JE*, Rautschek J, Regestein L, Valiante V#, Hillmann F# (2022) Engineering the amoeba *Dictyostelium discoideum* for biosynthesis of a cannabinoid precursor and other polyketides. *Nat Biotechnol* 40(5), 751-758.

Stein J, Schlosser N, Bardl B, Peschel G, Meyer F, Kloss F, Rosenbaum MA, Regestein L (2022) Scalable downstream method for the cyclic lipopeptide jagaricin. *Eng Life Sci* 22(12), 811-817.

Virdis B, D Hoelzle R, Marchetti A, Boto ST, Rosenbaum MA, Blasco-Gómez R, Puig S, Freguia S, Villano M (2022) Electro-fermentation: Sustainable bioproductions steered by electricity.

Weber T, Hengoju S, Samimi A, Roth M, Tovar M, Rosenbaum MA (2022) Recovery and isolation of individual microfluidic picoliter droplets by triggered deposition. *Sens Actuators B Chem* 369, 132289.

Weiser S, Tiso T, Willing K, Bardl B, Eichhorn L, Blank LM, Regestein L (2022) Foam-free production of the rhamnolipid precursor 3-(3-hydroxyalkanoyloxy) alkanolic acid (HAA) by *Pseudomonas putida* *DChE*,

Berger C, Rückert C, Blom J, Rabaey K, Kalinowski J, Rosenbaum MA (2021) Estimation of pathogenic potential of an environmental *Pseudomonas aeruginosa* isolate using comparative genomics. *Sci Rep* 11(1), 1370.

Chukwubuikem A, Berger C, Mady A, Rosenbaum MA (2021) Role of phenazine-enzyme physiology for current generation in a bioelectrochemical system. *Microb Biotechnol* 14(4), 1613-1626.

Hengoju S, Shvydkiv O, Tovar M, Roth M, Rosenbaum MA (2021) Advantages of optical fibers for facile and enhanced detection in droplet microfluidics. *Biosens Bioelectron* 200, 113910. (Review)

Kästner B, Hengoju S, Svensson CM, Figge MT, Rosenbaum MA (2021) Mit Tropfenmikrofluidik zu Hochgeschwindigkeits-Biotechnologie. *BIOspektrum* 27(3), 260-262. (Review)

Lechnitz D, Peng CC, Raguž L, Rutaganira FUN, Jautzus T, Regestein L, King N, Beemelmans C (2021) Structural and functional analysis of bacterial sulfonolipids and rosette-inducing factor 2 (RIF-2) by mass spectrometry-guided isolation and total synthesis. *Chemistry* 28(8), e202103883.

Mahler L, Niehs SP, Martin K, Weber T, Scherlach K, Hertweck C, Roth M, Rosenbaum MA (2021) Highly parallelized droplet cultivation and prioritization of antibiotic producers from natural microbial communities. *eLife* 10, e64774.

Ramírez-Morales JE, Czichowski P, Besirlioglu V, Regestein L, Rabaey K, Blank L, Rosenbaum MA* (2021) Lignin aromatics to PHA polymers: Nitrogen and oxygen are the Key factors for *Pseudomonas*. *ACS Sustain Chem Eng* 9(31), 10579-10590.

Reddersen K, Güllmar A, Tonndorf-Martini S, Sigusch BW, Ewald A, Dauben TJ, Martin K, Wiegand C (2021) Critical parameters in cultivation of experimental biofilms using the example of *Pseudomonas fluorescens*. *J Mater Sci Mater Med* 32(9), 96.

Scharf DH, Chankhamjon P, Scherlach K, Dworschak J, Heinekamp T, Roth M, Brakhage AA, Hertweck C (2021) N-heterocyclization in gliotoxin biosynthesis is catalyzed by a distinct cytochrome P450 monooxygenase. *Chembiochem* 22(2), 336-339.

Schlembach I, Grünberger A, Rosenbaum M, Regestein L (2021) Measurement techniques to resolve and control population dynamics of mixed-culture processes. *Trends Biotechnol* 39(10), 1093-1109. (Review)

Schlosser N, Espino-Martínez J, Kloss F, Meyer F, Bardl B, Rosenbaum MA, Regestein L (2021) Host nutrition-based approach for biotechnological production of the antifungal cyclic lipopeptide

jagaricin. *J Biotechnol* 336, 1-9.

Agostino V, Lenic A, Bardl B, Rizzotto V, Phan A, Blank L, Rosenbaum M (2020) Electrophysiology of the facultative autotrophic bacterium *Desulfosporosinus orientis*. *Front Bioeng Biotechnol* 8, 457.

Askitosari T, Berger C, Tiso T, Harnisch F, Blank L, Rosenbaum M (2020) Coupling an electroactive *Pseudomonas putida* 2 KT2440 with bioelectrochemical rhamnolipid production. *Microorganisms* 8(12), 1959.

Benndorf R, Martin K, Küfner M, de Beer ZW, Vollmers J, Kaster AK, Beemelmans C (2020) *Actinomadura rubteroloni* sp. nov. and *Actinomadura macrotermitis* sp. nov., isolated from the gut of the fungus growing-termite *Macrotermes natalensis*. *Int J Syst Evol Microbiol* 70(10), 5255-5262.

Benndorf R, Schwitalla JW, Martin K, de Beer ZW, Vollmers J, Kaster AK, Poulsen M, Beemelmans C (2020) *Nocardia macrotermitis* sp. nov. and *Nocardia aurantia* sp. nov., isolated from the gut of the fungus-growing termite *Macrotermes natalensis*. *Int J Syst Evol Microbiol* 70(10), 5226-5234.

Edenhardt S, Denner M, Spohn M, Dostkocil E, Kavsek M, Amon T, Kosec G, Smole J, Bardl B, Biermann M, Roth M, Wohlleben W, Stegmann E (2020) Metabolic engineering of *Amycolatopsis japonicum* for optimized production of [S,S]-EDDS, a biodegradable chelator. *Metab Eng* 60, 148-156.

Farber P, Bastian D, Gräbel J, Klasen H, Molls C, Kroppen N, Pötschke L, Rosenbaum AM, Stegshuster G, Ueberholz P (2020) Numerical analysis of mass transfer to the anode in a microbial fuel cell. In: Numerical analysis of mass transfer to the anode in a microbial fuel cell 2293, pp. 030036. AIP Chemical Physics Reviews.

Fricke J, Kargbo R, Regestein L, Lenz C, Peschel G, Rosenbaum MA, Sherwood A, Hoffmeister D (2020) Scalable hybrid synthetic/biocatalytic route to psilocybin. *Chem Eur J* 37(26), 8281-8285.

Guo H, Schwitalla JW, Benndorf R, Baunach M, Steinbeck C, Görls H, de Beer ZW, Regestein L, Beemelmans C (2020) Gene cluster activation in a bacterial symbiont leads to halogenated angucyclic maduralactomycins and spirocyclic actinospirols. *Org Lett* 22(7), 2634-2638.

Hengoju S, Wohlfeil S, Munser AS, Shvydkiv O, Boehme S, Beckert E, Tovar M, Roth M, Rosenbaum MA (2020) Optofluidic detection setup for multi-parametric analysis of microbiological samples in droplets. *Biomicrofluidics* 14(2), 024109.

Ishida K, Shabuer G, Schieferdecker S, Pidot SJ, Stinear TP, Knuepfer U, Cyrulies M, Hertweck C (2020) Oak-associated negativicute equipped with ancestral aromatic polyketide synthase produces antimycobacterial dendrubins. *Chem Eur J* 26(58), 13147-13151.

Klapper M, Schlabach K, Paschold A, Zhang S, Chowdhury S, Menzel KD, Rosenbaum MA, Stallforth P (2020) Biosynthesis of *pseudomonas*-derived butenolides. *Angew Chem Int Ed* 59(14), 5607-5610.

Kufs JE, Hoefgen S, Rautschek J, Bissell AU, Graf C, Fiedler J, Braga D, Regestein L, Rosenbaum MA, Thiele J, Valiante V (2020) Rational design of flavonoid production routes using combinatorial and precursor-directed biosynthesis. *ACS Synth Biol* 9(7), 1823-1832.

Munch G, Schulte A, Mann M, Dinger R, Regestein L, Rehmann L, Büchs J (2020) Online measurement of CO₂ and total gas production in parallel anaerobic shake flask cultivations. *Biochem Eng J* 153, 107418.

Neupane S, Ghosh A, Gunther S, Martin K, Zurek L (2020) *Culicoidibacter larvae* gen. nov., sp. nov., from the gastrointestinal tract of the biting midge (*Culicoides sonorensis*) larva, belongs to a novel lineage *Culicoidibacteraceae* fam. nov., *Culicoidibacterales* ord. nov. and *Culicoidibacteria* classis nov. of the phylum *Firmicutes*. *Int J Syst Evol Microbiol* 70(12), 6482-6490.

Neuwirth T, Letzel AC, Tank C, Ishida K, Cyrulies M, Schmölz L, Lorkowski S, Hertweck C (2020) Induced production, synthesis and immunomodulatory action of clostrisulfone, a diarylsulfone from *Clostridium acetobutylicum*. *Chemistry* 26(68), 15855-15858.

Pasternak G, Askitosari TD, Rosenbaum MA (2020) Biosurfactants and synthetic surfactants in bioelectrochemical systems: A mini-review. *Front Microbiol* 11, 358. (Review)

Peña-Ortiz L, Graça AP, Guo H, Braga D, Köllner TG, Regestein L, Beemelmans C, Lackner G (2020) Structure elucidation of the redox cofactor mycofactocin reveals oligo-glycosylation by MftF. *Chem Sci* 11, 5182-5190.

Peña-Ortiz L, Schlembach I, Lackner G, Regestein L (2020) Impact of oxygen supply and scale up on *Mycobacterium smegmatis* cultivation and mycofactocin formation. *Front Bioeng Biotechnol* 8(1399), 593781.

Schlembach I, Tehrani H, Blank LM, Büchs J, Wierckx N, Regestein L, Rosenbaum MA (2020) Consolidated bioprocessing of cellulose to itaconic acid by a co-culture of *Trichoderma Reesei* and *Ustilago Maydis*. *Biotechnol Biofuels* 13(1), 207.

Schlembach I, Uebachs A, Caspers T, Fragoulis A, Slusarenko A, Gruhlke M (2020) Effect of prooxidative natural products: Comparison of the OSI1 (YKL071w) promoter luciferase construct from yeast with an Nrf2/Keap reporter system. *Appl Sci* 10(10), 3520.

Schmitz S, Rosenbaum MA (2020) Controlling the production of *Pseudomonas* phenazines by modulating the genetic repertoire. *ACS Chem Biol* 15(12), 3244-3252.

Schwitalla JW, Benndorf R, Martin K, Vollmers J, Kaster AK, de Beer ZW, Poulsen M, Beemelmans C (2020) *Streptomyces smaragdinus* sp. nov. isolated from the gut of fungus growing-termite *Macrotermes natalensis*. *Int J Syst Evol Microbiol* 70(11), 5806-5811.

Tovar M, Mahler L, Buchheim S, Roth M, Rosenbaum M (2020) Monitoring and external control of pH in microfluidic droplets during microbial culturing. *Microb Cell Fact* 19(1), 16.

Askitosari TD, Boto S, Blank LM, Rosenbaum MA (2019) Boosting heterologous phenazine production in *Pseudomonas putida* KT2440 through the exploration of the natural sequence space. *Front Microbiol* 10, 1990.

Farber P, Gräbel J, Kroppen N, Pötschke L, Roos D, Rosenbaum M, Stegshuster G, Ueberholz P (2019) Electricity generation in a microbial fuel cell with textile carbon fibre anodes. *Comput Math Appl* 83, 4-23.

Geinitz B, Rehman L, Büchs J, Regestein L (2019) Noninvasive tool for optical online monitoring of individual biomass concentrations in a defined coculture. *Biotechnol Bioeng* 117(4), 999-1011.

Götze S, Arp J, Lackner G, Zhang S, Kries H, Klapper M, García-Altare M, Willing K, Günther M, Stallforth P (2019) Structure elucidation of the syringafactin lipopeptides provides insight in the evolution of nonribosomal peptide synthetases. *Chem Sci* 10(48), 10979-10990.

Heyman B, Lamm R, Tulke H, Regestein L, Büchs J (2019) Shake flask methodology for assessing the influence of the maximum oxygen transfer capacity on 2,3-butanediol production. *Microb Cell Fact* 18(1), 78.

Kirchner K, Brückner I, Klaer K, Hammers-Wirtz M, Pinnekamp J, Rosenbaum MA (2019) Microbial counts and antibiotic resistances during conventional wastewater treatment and wastewater ozonation. *Ozone: Science & Engineering* 42(2), 108-119.

Pötschke L, Huber P, Schriever S, Rizzotto V, Gries T, Blank LM, Rosenbaum M (2019) Rational selection of carbon fiber properties for high-performance textile electrodes in bioelectrochemical systems. *Front Energy Res* 7, 100.

Schieferdecker S, Shabuer G, Knuepfer U, Hertweck C (2019) Clostrindolin is an antimycobacterial pyrone alkaloid from *Clostridium beijerinckii*. *Org Biomol Chem* 17(25), 6119-6121.

Schieferdecker S, Shabuer G, Letzel AC, Urbansky B, Ishida-Ito M, Ishida K, Cyrulies M, Dahse HM, Pidot S, Hertweck C (2019) Biosynthesis of diverse antimicrobial and antiproliferative acylolins in anaerobic bacteria. *ACS Chem Biol* 14(7), 1490-1497.

Svensson C-M*, Shydkiv O*, Dietrich S, Mahler L, Weber T, Choudhary M, Tovar M, Figge MT**, Roth M** ; * authors contributed equally; * corresponding authors; ** authors contributed equally (2019) Coding of experimental conditions in microfluidic droplet assays using colored beads and machine learning supported image analysis. *Small* 15(4), e1802384.

Tovar M, Hengoju S, Weber T, Mahler L, Choudhary M, Becker T, Roth M (2019) One sensor for multiple colors: Fluorescence analysis of microdroplets in microbiological screenings by frequency-division multiplexing. *Anal Chem* 91(4), 3055-3061.

Trottmann F, Franke J, Richter I, Ishida K, Cyrulies M, Dahse HM, Regestein L, Hertweck C (2019) Cyclopropanol warhead in malleicyprol confers virulence of human- and animal-pathogenic *Burkholderia* species. *Angew Chem Int Ed* 58(40), 14129-14133.

Agostino V, Rosenbaum M (2018) Sulfate-reducing electroautotrophs and their applications in bioelectrochemical systems. *Front Energy Res* 6, 55. (Review)

Arp J, Götze S, Mukherji R, Mattern DJ, Garcia-Altare M, Klapper M, Brock DA, Brakhage AA, Strassmann JE, Queller DC, Bardl B, Willing K, Peschel G, Stallforth P (2018) Synergistic activity of co-secreted natural products from amoebae-associated bacteria. *Proc Natl Acad Sci USA* 115(15), 3758-3763.

Benndorf R, Guo H, Sommerwerk E, Weigel C, Garcia-Altare M, Martin K, Hu H, Kuefner M, de Beer ZW, Poulsen M, Beemelmanns C (2018) Natural products from Actinobacteria associated with fungus-growing termites. *Antibiotics* 7(3), 83.

Brückner I, Kirchner K, Müller Y, Schiwy S, Klaer K, Dolny R, Wendt L, Könemann S, Pinnekamp J, Hollert H, Rosenbaum MA (2018) Status quo report on wastewater treatment plant, receiving water's biocoenosis and quality as basis for evaluation of large-scale ozonation process. *Water Sci*

- Brückner I, Stepkes H, Reichert J, Kirschner K, Rosenbaum M, Glasen S, Hammers-Wittrich M, Schiwy S, Müller Y, Shuliakovich A, Hollert H, Kohlgruber V, Klaer K, Pinnekamp J. (2018) Abwasserozonung - Evaluierung des Nutzens für die aquatische Umwelt. *wwt*, 41-44. (Review)
- Dewald C, Lüdecke C, Firkowska-Boden I, Roth M, Bossert J, Jandt KD (2018) Gold nanoparticle contact point density controls microbial adhesion on gold surfaces. *Colloids Surf B Biointerfaces* 163, 201-208.
- Guo H, Benndorf R, König S, Lechnitz D, Weigel C, Peschel G, Berthel P, Kaiser M, Steinbeck C, Werz O, Poulsen M, Beemelmans C (2018) Expanding the rubterolone family: Intrinsic reactivity and directed diversification of PKS-derived pyrans. *Chem Eur J* 24(44), 11319-11324.
- Kock F, Hauptmann M, Osterloh A, Schäberle TF, Poppert S, Frickmann H, Menzel KD, Peschel G, Pfarr K, Schiefer A, König GM, Hoerauf A, Fleischer B, Keller C (2018) *Orientia tsutsugamushi* is highly susceptible to the RNA polymerase switch region Inhibitor Coralopyronin A *in vitro* and *in vivo*. *Antimicrob Agents Chemother* 62(4), e01732-17.
- Kreyenschulte D, Heyman B, Eggert A, Maßmann T, Kalvelage C, Kossack R, Regestein L, Jupke A, Büchs J. (2018) *In situ* reactive extraction of itaconic acid during fermentation of *Aspergillus terreus*. *Biochem Eng J* 135, 133-141.
- Mahler L, Wink K, Beulig RJ, Scherlach K, Tovar M, Zang E, Martin K, Hertweck C, Belder D, Roth M (2018) Publisher Correction: Detection of antibiotics synthesized in microfluidic picolitre-droplets by various actinobacteria. *Sci Rep* 8(1), 15859.
- Mohr KI, Wolf C, Nübel U, Szafrńska AK, Steglich M, Hennessen F, Gemperlein K, Kämpfer P, Martin K, Müller R, Wink J (2018) A polyphasic approach leads to seven new species of the cellulose-decomposing genus *Sorangium*, *Sorangium ambruticinum* sp. nov., *Sorangium arenae* sp. nov., *Sorangium bulgaricum* sp. nov., *Sorangium dawidii* sp. nov., *Sorangium kenyense* sp. nov.... *Int J Syst Evol Microbiol* 68(11), 3576-3586.
- Niehs SP, Dose B, Scherlach K, Roth M, Hertweck C (2018) Genomics-driven discovery of a symbiont-specific cyclopeptide from bacteria residing in the rice seedling blight fungus. *ChemBioChem* 19(20), 2167-2172.
- Regestein L, Klement T, Grande P, Kreyenschulte D, Heyman B, Maßmann T, Eggert A, Sengpiel R, Wang Y, Wierckx N, Blank LM, Spiess A, Leitner W, Bolm C, Wessling M, Jupke A, Rosenbaum M, Büchs J (2018) From beech wood to itaconic acid: Case study on biorefinery process integration. *Biotechnol Biofuels* 11, 279. (Review)
- Schmitz S, Rosenbaum M (2018) Boosting mediated electron transfer in bioelectrochemical systems with tailored defined microbial cocultures. *Biotech Bioeng* 115(9), 2183-2193.
- Tovar M, Weber T, Hengoju S, Lovera A, Munser AS, Shvydkiv O, Roth M (2018) 3D-glass molds for facile production of complex droplet microfluidic chips. *Biomicrofluidics* 12(2), 024115.
- Wiegand C, Völpele A, Ewald A, Remesch M, Kuever J, Bauer J, Griesheim S, Hauser C, Thielmann J, Tonndorf-Martini S, Sigusch BW, Weisser J, Wyrwa R, Elsner P, Hipler UC, Roth M, Dewald C, Lüdecke-Beyer C, Bossert J (2018) Critical physiological factors influencing the outcome of antimicrobial testing according to ISO 22196 / JIS Z 2801. *PLOS One* 13(3),

- Wink K, Mahler L, Beulig J, Piendl S, Roth M, Belder D (2018) An integrated chip-mass spectrometry and epifluorescence approach for online monitoring of bioactive metabolites from incubated Actinobacteria in picoliter droplets. *Anal Bioanal Chem* 410(29), 7679-7687.
- Guo H, Benndorf R, Lechnitz D, Klassen JL, Vollmers J, Görls H, Steinacker M, Weigel C, Dahse HM, Kaster AK, de Beer ZW, Poulsen M, Beemelmans C (2017) Isolation, biosynthesis and chemical modifications of rubterolones A–F, rare tropolone alkaloids from *Actinomadura* sp. 5-2. *Chem Eur J* 23(39), 9338-9345.
- Guo H, Rischer M, Sperfeld M, Weigel C, Menzel KD, Clardy J, Beemelmans C (2017) Natural products and morphogenic activity of γ -Proteobacteria associated with the marine hydroid polyp *Hydractinia echinata*. *Bioorg Med Chem* 25(22), 6088-6097.
- Pan X, Domin N, Schieferdecker S, Kage H, Roth M, Nett M (2017) Herpetopanone, a diterpene from *Herpetosiphon aurantiacus* discovered by isotope labeling. *Beilstein J. Org. Chem.* 13, 2458-2465.
- Pan X, Kage H, Martin K, Nett M (2017) *Herpetosiphon poelensis* sp. nov., a filamentous predatory bacterium isolated from sandy soil and *Herpetosiphon giganteus*. *Int J Syst Evol Microbiol* 67(7), 2476-2481.
- Rosenbaum MA, Berger C, Schmitz S, Uhlig R (2017) Microbial Electrosynthesis I: Pure and Defined Mixed Culture Engineering. *Adv Biochem Eng Biotechnol* 167, 181-202.
- Wink J, Schumann P, Atasayar E, Klenk HP, Zaburannyi N, Westermann M, Martin K, Glaeser SP, Kämpfer P (2017) '*Streptomyces caelicus*', an antibiotic-producing species of the genus *Streptomyces*, and *Streptomyces canchipurensis* Li et al. 2015 are later heterotypic synonyms of *Streptomyces muensis* Ningthoujam et al. 2014. *Int J Syst Evol Microbiol* 67(3), 548-556.
- Antonov E, Wirth S, Gerlach T, Schlembach I, Rosenbaum MA, Regestein L, Büchs J (2016) Efficient evaluation of cellulose digestibility by *Trichoderma reesei* Rut-C30 cultures in online monitored shake flasks. *Microb Cell Fact* 15(1), 164.
- Bosire EM, Blank LM, Rosenbaum MA (2016) Strain- and Substrate-Dependent Redox Mediator and Electricity Production by *Pseudomonas aeruginosa*. *Appl Environ Microbiol* 82(16), 5026-5038.
- Chankhamjon P, Tsunematsu Y, Ishida-Ito M, Sasa Y, Meyer F, Boettger-Schmidt D, Urbansky B, Menzel KD, Scherlach K, Watanabe K, Hertweck C (2016) Regioselective Dichlorination of a Non-Activated Aliphatic Carbon Atom and Phenolic Bismethylation by a Multifunctional Fungal Flavoenzyme. *Angew Chem Int Ed* 55(39), 11955-11959.
- Funk J, Schaarschmidt B, Slesiona S, Hallström T, Horn U, Brock M (2016) The glycolytic enzyme enolase represents a plasminogen-binding protein on the surface of a wide variety of medically important fungal species. *Int J Med Microbiol* 306(1), 59-68.
- Garvey M, Baumann M, Wulff M, Kumar ST, Markx D, Morgado I, Knüpfer U, Horn U, Mawrin C, Fändrich M, Balbach J (2016) Molecular architecture of A β fibrils grown in cerebrospinal fluid solution and in a cell culture model of A β plaque formation. *Amyloid* 23(2), 76-85.

Heine D, Sundaram S, Beudert M, Martin K, Hertweck C (2016) A widespread bacterial phenazine forms conjugates with biogenic thiols and crosslinks proteins. *Chem Sci* 7, 4848-4855.

Horn F, Linde J, Mattern DJ, Walther G, Guthke R, Scherlach K, Martin K, Brakhage AA, Petzke L, Valiante V (2016) Draft genome sequences of fungus *Aspergillus calidoustus*. *Genome Announc* 4(2), e00102-16.

Kämpfer P, Glaeser SP, Kloepper JW, Hu CH, McInroy JA, Martin K, Busse HJ (2016) *Isopterocola cucumis* sp. nov., isolated from the root tissue of cucumber (*Cucumis sativus*). *Int J Syst Evol Microbiol* 66(8), 2784-2788.

Klapper M, Götze S, Barnett R, Willing K, Stallforth P (2016) Bacterial alkaloids prevent amoebal predation. *Angew Chem Int Ed* 55(31), 8944-8947.

Kollmer M, Meinhardt K, Haupt C, Liberta F, Wulff M, Linder J, Handl L, Heinrich L, Loos C, Schmidt M, Syrovets T, Simmet T, Westermarck P, Westermarck GT, Horn U, Schmidt V, Walther P, Fändrich M (2016) Electron tomography reveals the fibril structure and lipid interactions in amyloid deposits. *Proc Natl Acad Sci U S A* 113(20), 5604-5609.

Lüdecke C, Roth M, Yu W, Horn U, Bossert J, Jandt KD (2016) Nanorough titanium surfaces reduce adhesion of *Escherichia coli* and *Staphylococcus aureus* via nano adhesion points *Colloids Surf B Biointerfaces* 145, 617-625.

Molitor B, Kirchner K, Henrich AW, Schmitz S, Rosenbaum MA (2016) Expanding the molecular toolkit for the homoacetogen *Clostridium ljungdahlii*. *Sci Rep* 6, 31518.

Schröder U, Greiner A, Rosenbaum MA, Harnisch F (2016) Mikrobielle Elektrochemie: Wie Mikroorganismen und Elektroden interagieren *Nachrichten aus der Chemie* 64(7-8), 732-737.

Walther E, Boldt S, Kage H, Lauterbach T, Martin K, Roth M, Hertweck C, Sauerbrei A, Schmidtke M, Nett M (2016) Zincophorin – biosynthesis in *Streptomyces griseus* and antibiotic properties *GMS Infect Dis* 4, Doc08.

Wulff M, Baumann M, Thümmeler A, Yadav JK, Heinrich L, Knüpfer U, Schlenzig D, Schierhorn A, Rahfeld JU, Horn U, Balbach J, Demuth HU, Fändrich M (2016) Enhanced Fibril Fragmentation of N-Terminally Truncated and Pyroglutamyl-Modified A β Peptides. *Angew Chem Int Ed* 55(16), 5081-5084.

Baunach M, Ding L, Willing K, Hertweck C (2015) Bacterial synthesis of unusual sulfonamide and sulfone antibiotics by flavoenzyme-mediated sulfur dioxide capture. *Angew Chem Int Ed Engl*. 54(45), 13279-13283.

Elschner T, Lüdecke C, Kalden D, Roth M, Löffler B, Jandt KD, Heinze T (2015) Zwitterionic cellulose carbamate with regioselective substitution pattern: a coating material possessing antimicrobial activity *Macromol Biosci* 16(4), 522-534.

Kämpfer P, Martin K, McInroy JA, Glaeser SP (2015) Proposal of *Novosphingobium rhizosphaerae* sp. nov., isolated from the rhizosphere. *Int J Syst Evol Microbiol* 65(1), 195-200.

Mahler L, Tovar M, Weber T, Brandes S, Rudolph MM, Ehgartner J, Mayr T, Figge MT, Roth M, Zang E (2015) Enhanced and homogeneous oxygen availability during incubation of microfluidic droplets. *RSC Advances* 5, 101871-101878.

- Phieler R, Merten D, Roth M, Büchel G, Kothe E (2015) Phytoremediation using microbially mediated metal accumulation in *Sorghum bicolor* *Environ Sci Pollut Res* 22(24), 19408-19416.
- Schäberle TF, Schmitz A, Zocher G, Schiefer A, Kehraus S, Neu E, Roth M, Vassilyev DG, Stehle T, Bierbaum G, Hoerauf A, Pfarr K, König GM (2015) Insights into Structure–Activity Relationships of Bacterial RNA Polymerase Inhibiting Corallopyronin Derivatives *J Nat Prod* 78(10), 2505-2509.
- Schieferdecker S, Domin N, Hoffmeier C, Bryant DA, Roth M, Nett M (2015) Structure and absolute configuration of auriculamide, a natural product from the predatory bacterium *Herpetosiphon aurantiacus*. *Eur J Org Chem* 14, 3057-3062.
- Schmitz S, Nies S, Wierckx N, Blank LM, Rosenbaum MA (2015) Engineering mediator-based electroactivity in the obligate aerobic bacterium *Pseudomonas putida* KT2440. *Front Microbiol* 6, 284.
- Shabuer G, Ishida K, Pidot SJ, Roth M, Dahse HM, Hertweck C (2015) Plant pathogenic anaerobic bacteria use aromatic polyketides to access aerobic territory. *Science* 350(6261), 670-674.
- van Dissel D, Claessen D, Roth M, van Wezel GP (2015) A novel locus for mycelial aggregation forms a gateway to improved *Streptomyces* cell factories *Microbial Cell Factories* 14:44,
- Heine D, Martin K, Hertweck C (2014) Genomics-guided discovery of endophenazines from *Kitasatospora* sp. HKI 714. *J Nat Prod* 77(4), 1083-1087.
- Hillmann F, Linde J, Beckmann N, Cyrulies M, Strassburger M, Heinekamp T, Haas H, Guthke R, Kniemeyer O, Brakhage AA (2014) The novel globin protein fungoglobulin is involved in low oxygen adaptation of *Aspergillus fumigatus*. *Mol Microbiol* 93(3), 539-553.
- Kämpfer P, Dott W, Martin K, Glaeser SP (2014) *Rhodococcus defluvii* sp. nov., isolated from wastewater of a bioreactor and formal proposal to reclassify [*Corynebacterium hoagii*] and *Rhodococcus equi* as *Rhodococcus hoagii* comb. nov. *Int J Syst Evol Microbiol* 64(Pt 3), 755-761.
- Kroll K, Pähitz V, Hillmann F, Vaknin Y, Schmidt-Heck W, Roth M, Jacobsen ID, Osherov N, Brakhage AA, Kniemeyer O (2014) Identification of hypoxia-inducible target genes of *Aspergillus fumigatus* by transcriptome analysis reveals cellular respiration as important contributor to hypoxic survival. *Eukaryot Cell* 13(9), 1241-1253.
- Lüdecke C, Jandt KD, Siegismund D, Kujau MJ, Zang E, Rettenmayr M, Bossert J, Roth M (2014) Reproducible biofilm cultivation of chemostat-grown *Escherichia coli* and investigation of bacterial adhesion on biomaterials using a non-constant-depth film fermenter. *PLOS One* 9(1), e84837.
- Otzen C, Bardl B, Jacobsen ID, Nett M, Brock M (2014) *Candida albicans* utilizes a modified β -oxidation pathway for the degradation of toxic propionyl-CoA. *J Biol Chem* 289(12), 8151-8169.
- Pidot S, Ishida K, Cyrulies M, Hertweck C (2014) Discovery of clostrubin, an exceptional polyphenolic polyketide antibiotic from a strictly anaerobic bacterium. *Angew Chem Int Ed Engl* 53(30), 7856-7859.
- Rosenbaum MA, Franks AE (2014) Microbial catalysis in bioelectrochemical technologies: status quo, challenges and perspectives. *Appl Microbiol Biotechnol* 98(2), 509-518.

Rosenbaum MA, Henrich AW (2014) Engineering microbial electrocatalysis for chemical and fuel production. *Curr Opin Biotechnol* 29, 93-98.

Schieferdecker S, Exner TE, Gross H, Roth M, Nett M (2014) New myxothiazols from the predatory bacterium *Myxococcus fulvus*. *J Antibiot* 67(7), 519-525.

Schmitz A, Kehraus S, Schäberle TF, Neu E, Almeida C, Roth M, König GM (2014) Corallorazines from the myxobacterium *Corallococcus coralloides*. *J Nat Prod* 77(1), 159-163.

Schütze E, Ahmed E, Voit A, Klose M, Greyer M, Svatoš A, Merten D, Roth M, Holmström SJ, Kothe E (2014) Siderophore production by streptomycetes-stability and alteration of ferrihydroxamates in heavy metal-contaminated soil. *Environ Sci Pollut Res Int* 22(24), 19376-19383.

Schütze E, Klose M, Merten D, Nietzsche S, Senftleben D, Roth M, Kothe E (2014) Growth of streptomycetes in soil and their impact on bioremediation. *J Hazard Mater* 267, 128-135.

Schwenk D, Nett M, Dahse H-M, Horn U, Blanchette RA, Hoffmeister D (2014) Injury-induced biosynthesis of methyl-branched polyene pigments in a white-rotting basidiomycete *J Nat Prod* 77, 2658-2663.

TerAvest MA, Rosenbaum MA, Kotloski NJ, Gralnick JA, Angenent LT (2014) Oxygen allows *Shewanella oneidensis* MR-1 to overcome mediator washout in a continuously fed bioelectrochemical system *Biotechnology* 111(4), 692-699.

Venkataraman A, Rosenbaum MA, Werner JJ, Winans SC, Angenent LT (2014) Metabolite transfer with the fermentation product 2,3-butanediol enhances virulence by *Pseudomonas aeruginosa*. *ISME J* 8(6), 1210-1220.

Wacker J, Röncke R, Westermann M, Wulff M, Reymann KG, Dobson CM, Horn U, Crowther DC, Luheshi LM, Fändrich M (2014) Oligomer-targeting with a conformational antibody fragment promotes toxicity in A β -expressing flies. *Acta Neuropathol Commun* 2:43,

Wink J, Schumann P, Spöer C, Eisenbarth K, Glaeser SP, Martin K, Kämpfer P (2014) Emended description of *Actinoplanes friuliensis* and description of *Actinoplanes nipponensis* sp. nov., antibiotic-producing species of the genus *Actinoplanes*. *Int J Syst Evol Microbiol* 64(Pt 2), 599-606.

Angenent LT, Rosenbaum M (2013) Microbial electrocatalysis to guide biofuel and biochemical bioprocessing *Biofuels* 4(2), 131-134.

Biermann M, Bardl B, Vollstädt S, Linnemann J, Knüpfer U, Seidel G, Horn U (2013) Simultaneous analysis of the non-canonical amino acids norleucine and norvaline in biopharmaceutical-related fermentation processes by a new ultra-high performance liquid chromatography approach. *Amino Acids* 44(4), 1225-1231.

Biermann M, Linnemann J, Knüpfer U, Vollstädt S, Bardl B, Seidel G, Horn U (2013) Trace element associated reduction of norleucine and norvaline accumulation during oxygen limitation in a recombinant *Escherichia coli* fermentation. *Microb Cell Fact* 12, 116.

Cao J, Goldhan J, Martin K, Köhler JM (2013) Investigation of mixture toxicity of widely used drugs caffeine and ampicillin in the presence of an ACE inhibitor on bacterial growth using droplet-

based microfluidic technique. *Green Process Synth* 2(6), 591-601.

Cao J, Kürsten D, Krause K, Kothe E, Martin K, Roth M, Köhler JM (2013) Application of micro-segmented flow for two-dimensional characterization of the combinatorial effect of zinc and copper ions on metal-tolerant *Streptomyces* strains. *Appl Microbiol Biotechnol* 97(20), 8923-8930.

Galatis H, Martin K, Kämpfer P, Glaeser SP (2013) *Devosia epidermidihirudinis* sp. nov. isolated from the surface of a medical leech. *Antonie Van Leeuwenhoek* 103(5), 1165-1171.

Gebhardt P, Würbach L, Heidrich A, Heinrich L, Walther M, Opfermann T, Sørensen B, Saluz HP (2013) Dynamic behaviour of selected PET tracers in embryonated chicken eggs. *Rev Esp Med Nucl Imagen Mol.* 32(6), 371-377.

Glaeser SP, Bolte K, Martin K, Busse HJ, Grossart HP, Kämpfer P, Glaeser J (2013) *Novosphingobium fuchskuhlense* sp. nov., isolated from the north-east basin of Lake Grosse Fuchskuhle. *Int J Syst Evol Microbiol* 63(Pt 2), 586-592.

Glaeser SP, Falsen E, Martin K, Kämpfer P (2013) *Alicyclobacillus consociatus* sp. nov., isolated from a human clinical specimen. *Int J Syst Evol Microbiol* 63(Pt 10), 3623-3627.

Glaeser SP, Galatis H, Martin K, Kämpfer P (2013) *Niabella hirudinis* and *Niabella drilacis* sp. nov., isolated from the medicinal leech *Hirudo verbana*. *Int J Syst Evol Microbiol* 63(Pt 9), 3487-3493.

Glaeser SP, Galatis H, Martin K, Kämpfer P (2013) *Kaistia hirudinis* sp. nov., isolated from the skin of *Hirudo verbana*. *Int J Syst Evol Microbiol* 63(Pt 9), 3209-3213.

Glaeser SP, Galatis H, Martin K, Kämpfer P (2013) *Castellaniella hirudinis* sp. nov., isolated from the skin of *Hirudo verbana*. *Int J Syst Evol Microbiol* 63(Pt 2), 521-525.

Glaeser SP, Galatis H, Martin K, Kämpfer P (2013) *Flavobacterium cutihirudinis* sp. nov., isolated from the skin of the medical leech *Hirudo verbana*. *Int J Syst Evol Microbiol* 63(Pt 8), 2841-2847.

Gurovic VMS, Müller S, Domin N, Seccareccia I, Nietzsche S, Martin K, Nett M (2013) *Micromonospora schwarzwaldensis* sp. nov., a producer of telomycin, isolated from soil. *Int J Syst Evol Microbiol* 63(Pt 10), 3812-3817.

Kämpfer P, Glaeser SP, Schäfer J, Lodders N, Martin K, Schumann P (2013) *Ornithinimicrobium murale* sp. nov., isolated from an indoor wall colonized by moulds. *Int J Syst Evol Microbiol* 63(Pt 1), 119-123.

Kämpfer P, Martin K, Dott W (2013) *Gordonia phosphorivorans* sp. nov., isolated from a wastewater bioreactor with phosphorus removal. *Int J Syst Evol Microbiol* 63(Pt 1), 230-235.

Kämpfer P, Martin K, Glaeser SP (2013) *Lysinibacillus contaminans* sp. nov., isolated from surface water. *Int J Syst Evol Microbiol* 63(Pt 9), 3148-3153.

Kämpfer P, Wellner S, Lohse K, Lodders N, Martin K (2013) *Rhodococcus cerastii* sp. nov. and *Rhodococcus trifolii* sp. nov., two novel species isolated from leaf surfaces. *Int J Syst Evol Microbiol* 63(Pt 3), 1024-1029.

Lüdecke C, Bossert J, Roth M, Jandt KD (2013) Physical vapor deposited titanium thin films for

biomedical applications: Reproducibility of nanoscale surface roughness and microbial adhesion properties. *Applied Surface Science* 280, 578-589.

Scharf DH, Chankhamjon P, Scherlach K, Heinekamp T, Willing K, Brakhage AA, Hertweck C (2013) Epidithiodiketopiperazine biosynthesis: A four-enzyme cascade converts glutathione conjugates into transannular disulfide bridges. *Angew Chem Int Ed* 52(42), 11092-11095.

Schütze E, Miltner A, Nietzsche S, Achtenhagen J, Klose M, Merten D, Greyer M, Roth M, Kästner M, Kothe E (2013) Live and death of streptomycetes in soil - what happens to the biomass? *Journal of Plant Nutrition and Soil Science* 176, 665-673.

Zang E*, Brandes S*, Tovar M, Martin K, Mech F, Horbert P, Henkel T, Figge MT, Roth M (2013) Real-time image processing for label-free enrichment of Actinobacteria cultivated in picolitre droplets. *Lab Chip* 13(18), 3707-3713, *authors contributed equally.

Ding L, Maier A, Fiebig HH, Lin WH, Peschel G, Hertweck C (2012) Kandenols A-E, eudesmenes from an endophytic Streptomyces sp. of the mangrove tree Kandelia candel. *J Nat Prod* 75(12), 2223-2227.

Ding L, Peschel G, Hertweck C (2012) Biosynthesis of archetypal plant self-defensive oxylipins by an endophytic fungus residing in mangrove embryos. *Chembiochem* 13(18), 2661-2664.

Glaeser SP, Galatis H, Martin K, Kämpfer P (2012) Luteolibacter cuticulihirudinis sp. nov., isolated from *Hirudo medicinalis*. *Antonie Van Leeuwenhoek* 102(2), 319-324.

Graupner K, Scherlach K, Bretschneider T, Lackner G, Roth M, Gross H, Hertweck C (2012) Imaging mass spectrometry and genome mining reveal highly antifungal virulence factor of mushroom soft rot pathogen. *Angew Chem Int Ed Engl* 51(52), 13173-13177.

Kämpfer P, Arun AB, Young CC, Rekha PD, Martin K, Busse HJ, Chen WM (2012) Microbulbifer taiwanensis sp. nov., isolated from coastal soil. *Int J Syst Evol Microbiol* 62(Pt 10), 2485-2489.

Kämpfer P, Falsen E, Lodders N, Martin K, Kassmannhuber J, Busse HJ (2012) Paenibacillus chartarius sp. nov., isolated from a paper mill. *Int J Syst Evol Microbiol* 62(Pt 6), 1342-1347.

Kämpfer P, Lai WA, Arun AB, Young CC, Rekha PD, Martin K, Busse HJ, Chen WM (2012) Paracoccus rhizosphaerae sp. nov., isolated from the rhizosphere of the plant *Crossostephium chinense* (L.) Makino (Seremban). *Int J Syst Evol Microbiol* 62(Pt 11), 2750-2756.

Kämpfer P, Lodders N, Grün-Wollny I, Martin K, Busse HJ (2012) Nocardia grenadensis sp. nov., isolated from sand of the Caribbean Sea. *Int J Syst Evol Microbiol* 62(Pt 3), 693-697.

Kämpfer P, Lodders N, Martin K, Avendaño-Herrera R (2012) Flavobacterium chilense sp. nov. and Flavobacterium araucanum sp. nov., isolated from farmed salmonid fish. *Int J Syst Evol Microbiol* 62(Pt 6), 1402-1408.

Kämpfer P, Lodders N, Martin K, Falsen E (2012) Massilia oculi sp. nov., isolated from a human clinical specimen. *Int J Syst Evol Microbiol* 62(Pt 2), 364-369.

Kämpfer P, Schäfer J, Lodders N, Martin K (2012) Microbacterium murale sp. nov., isolated from an indoor wall. *Int J Syst Evol Microbiol* 62(Pt 11), 2669-2673.

Kämpfer P, Wellner S, Lohse K, Martin K, Lodders N (2012) *Duganella phyllosphaerae* sp. nov., isolated from the leaf surface of *Trifolium repens* and proposal to reclassify *Duganella violaceinigra* into a novel genus as *Pseudoduganella violaceinigra* gen. nov., comb. nov. *Syst Appl Microbiol* 35(1), 19-23.

Moebius N, Ross C, Scherlach K, Rohm B, Roth M, Hertweck C (2012) *Biosynthesis of the respiratory toxin bongkrekic acid in the pathogenic bacterium Burkholderia gladioli*. *Chem Biol* 19(9), 1164-1174.

Morgado I, Wieligmann K, Bereza M, Röncke R, Meinhardt K, Annamalai K, Baumann M, Wacker J, Hortschansky P, Malešević M, Parthier C, Mawrin C, Schiene-Fischer C, Reymann KG, Stubbs MT, Balbach J, Görlach M, Horn U, Fändrich M (2012) Molecular basis of β -amyloid oligomer recognition with a conformational antibody fragment. *Proc Natl Acad Sci U S A* 109(31), 12503-12508.

Roth M, Martin K, Zang E, Nett M, Henkel T (2012) A microfluidics-based approach to drug discovery. *Biomed Tech (Berl)* 57(S1-1 Track-B), 270.

Sarkar A, Funk AN, Scherlach K, Horn F, Schroeckh V, Chankhamjon P, Westermann M, Roth M, Brakhage AA, Hertweck C, Horn U (2012) Differential expression of silent polyketide biosynthesis gene clusters in chemostat cultures of *Aspergillus nidulans*. *J Biotechnol* 160(1-2), 64-71.

Scharf DH, Chankhamjon P, Scherlach K, Heinekamp T, Roth M, Brakhage AA, Hertweck C (2012) Epithiol formation by an unprecedented twin carbon-sulfur lyase in the gliotoxin pathway. *Angew Chem Int Ed* 51(40), 10064-10068.

Funfak A, Cao J, Knauer A, Martin K, Köhler JM (2011) Synergistic effects of metal nanoparticles and a phenolic uncoupler using microdroplet-based two-dimensional approach. *J Environ Monit* 13(2), 410-415.

Garvey M, Tepper K, Haupt C, Knüpfer U, Klement K, Meinhardt J, Horn U, Balbach J, Fändrich M (2011) Phosphate and HEPES buffers potentially affect the fibrillation and oligomerization mechanism of Alzheimer's A β peptide. *Biochem Biophys Res Commun* 409(3), 385-388.

Haupt C, Bereza M, Kumar ST, Kieninger B, Morgado I, Hortschansky P, Fritz G, Röcken C, Horn U, Fändrich M (2011) Pattern recognition with a fibril-specific antibody fragment reveals the surface variability of natural amyloid fibrils. *J Mol Biol* 408(3), 529-540.

Haupt C, Morgado I, Kumar ST, Parthier C, Bereza M, Hortschansky P, Stubbs MT, Horn U, Fändrich M (2011) Amyloid fibril recognition with the conformational B10 antibody fragment depends on electrostatic interactions. *J Mol Biol* 405(2), 341-348.

Kämpfer P, Lodders N, Martin K, Falsen E (2011) Revision of the genus *Massilia* La Scola et al. 2000, with an emended description of the genus and inclusion of all species of the genus *Naxibacter* as new combinations, and proposal of *Massilia consociata* sp. nov. *Int J Syst Evol Microbiol* 61(Pt 7), 1528-1533.

Kämpfer P, Matthews H, Glaeser SP, Martin K, Lodders N, Faye I (2011) *Elizabethkingia anophelis* sp. nov., isolated from the midgut of the mosquito *Anopheles gambiae*. *Int J Syst Evol Microbiol* 61(Pt 11), 2670-2675.

Kämpfer P, Schäfer J, Lodders N, Martin K (2011) *Jiangella muralis* sp. nov., from an indoor

environment. *Int J Syst Evol Microbiol* 61(Pt 1), 128-131.

Kämpfer P, Wellner S, Lohse K, Lodders N, Martin K (2011) *Williamsia phyllosphaerae* sp. nov., isolated from the surface of *Trifolium repens* leaves. *Int J Syst Evol Microbiol* 61(Pt 11), 2702-2705.

Rekha PD, Young CC, Kämpfer P, Martin K, Arun AB, Chen WM, Lai WA, Chao JH, Shen FT (2011) *Jhaorihella thermophila* gen. nov., sp. nov., a moderately thermophilic bacterium isolated from a coastal hot spring. *Int J Syst Evol Microbiol* 61(Pt 7), 1544-1548.

Scherlach K, Sarkar A, Schroeckh V, Dahse HM, Roth M, Brakhage AA, Horn U, Hertweck C (2011) Two induced fungal polyketide pathways converge into antiproliferative spiroanthrones. *Chembiochem* 12(12), 1836-1839.

Schild L, Heyken A, de Groot PW, Hiller E, Mock M, de Koster C, Horn U, Rupp S, Hube B (2011) Proteolytic cleavage of covalently linked cell wall proteins by *Candida albicans* Sap9 and Sap10. *Eukaryot Cell* 10(1), 98-9109.

Vödisch M, Scherlach K, Winkler R, Hertweck C, Braun HP, Roth M, Haas H, Werner ER, Brakhage AA, Kniemeyer O (2011) Analysis of the *Aspergillus fumigatus* proteome reveals metabolic changes and the activation of the pseurotin A biosynthesis gene cluster in response to hypoxia. *J Proteome Res* 10(5), 2508-2524.

Bergmann S, Funk AN, Scherlach K, Schroeckh V, Shelest E, Horn U, Hertweck C, Brakhage AA (2010) Activation of a silent fungal polyketide biosynthesis pathway through regulatory cross talk with a cryptic nonribosomal peptide synthetase gene cluster. *Appl Environ Microbiol* 76(24), 8143-8149.

Gomes PB, Nett M, Dahse H-M, Sattler I, Martin K, Hertweck C (2010) Bezerramycins A-C, antiproliferative phenoxazinones from *Streptomyces griseus* featuring carboxy, carboxamide or nitrile substituents *Eur J Org Chem* , 231-235.

Kämpfer P, Schäfer J, Lodders N, Martin K (2010) *Microlunatus parietis* sp. nov., isolated from an indoor wall. *Int J Syst Evol Microbiol* 60(Pt 10), 2420-2423.

Kämpfer P, Schäfer J, Lodders N, Martin K (2010) *Murinocardiopsis flavida* gen. nov., sp. nov., an actinomycete isolated from indoor walls. *Int J Syst Evol Microbiol* 60(Pt 8), 1729-1734.

Kusebauch B, Busch B, Scherlach K, Roth M, Hertweck C (2010) Functionally distinct modules operate two consecutive alpha,beta-->beta,gamma double-bond shifts in the rhizoxin polyketide assembly line. *Angew Chem Int Ed Engl* 49(8), 1460-1464.

Lincke T, Behnken S, Ishida K, Roth M, Hertweck C (2010) Closthioamide: an unprecedented polythioamide antibiotic from the strictly anaerobic bacterium *Clostridium cellulolyticum*. *Angew Chem Int Ed Engl* 49(11), 2011-2013.

Lüdecke C, Reiche M, Eusterhues K, Nietzsche S, Küsel K (2010) Acid-tolerant microaerophilic Fe(II)-oxidizing bacteria promote Fe(III)-accumulation in a fen. *Environ Microbiol* 12(10), 2814-2825.

Martin K, Schäfer J, Kämpfer P (2010) *Promicromonospora umidemergens* sp. nov., isolated from moisture from indoor wall material. *Int J Syst Evol Microbiol* 60(Pt 3), 537-541.

Schachtschabel D, Menzel KD, Krauter G, David A, Roth M, Horn U, Boland W, Wöstemeyer J, Schimek C (2010) Production and derivate composition of trisporoids in extended fermentation of *Blakeslea trispora*. *Appl Microbiol Biotechnol* 88(1), 241-249.

Schäfer J, Martin K, Kämpfer P (2010) *Citricoccus parietis* sp. nov., isolated from a mould-colonized wall and emended description of *Citricoccus alkalitolerans* Li et al. 2005. *Int J Syst Evol Microbiol* 60(Pt 2), 271-274.

Schäfer J, Martin K, Kämpfer P (2010) *Prauserella muralis* sp. nov., from the indoor environment. *Int J Syst Evol Microbiol* 60(Pt 2), 287-290.

Siurkus J, Panula-Perälä J, Horn U, Kraft M, Rimseliene R, Neubauer P (2010) Novel approach of high cell density recombinant bioprocess development: optimisation and scale-up from microliter to pilot scales while maintaining the fed-batch cultivation mode of *E. coli* cultures. *Microb Cell Fact* 9, 35.

Tchize Ndejoung Ble S, Sattler I, Maier A, Kelter G, Menzel KD, Fiebig HH, Hertweck C (2010) Hygrobafilomycin, a cytotoxic and antifungal macrolide bearing a unique monoalkylmaleic anhydride moiety, from *Streptomyces varsoviensis*. *J Antibiot (Tokyo)* 63(7), 359-363.

Werneburg M, Busch B, He J, Richter ME, Xiang L, Moore BS, Roth M, Dahse HM, Hertweck C (2010) Exploiting enzymatic promiscuity to engineer a focused library of highly selective antifungal and antiproliferative aureothin analogues. *J Am Chem Soc* 132(30), 10407-10413.

Funfak A, Cao J, Wolfbeis OS, Martin K, Köhler J-M (2009) Monitoring cell cultivation in microfluidic segments by optical pH sensing with a micro flow-through fluorometer using dye-doped polymer particles *Microchimica Acta* 164(3-4), 279-286.

Kämpfer P, Martin K, Schäfer J, Schumann P (2009) *Kytococcus aerolatus* sp. nov., isolated from indoor air in a room colonized with moulds. *Syst Appl Microbiol* 32(5), 301-305.

Kawe M, Horn U, Plückthun A (2009) Facile promoter deletion in *Escherichia coli* in response to leaky expression of very robust and benign proteins from common expression vectors. *Microb Cell Fact* 8, 8.

Kusebauch B, Busch B, Scherlach K, Roth M, Hertweck C (2009) Polyketide-chain branching by an enzymatic Michael addition. *Angew Chem Int Ed Engl* 48(27), 5001-5004.

Schäfer J, Trautmann C, Dill I, Fischer G, Gabrio T, Groth I, Jäckel U, Lorenz W, Martin K, Miljanic T, Szewzyk R, Weidner U, Kämpfer P (2009) Vorkommen von Actinomyceten in Innenräumen. *Gefahrstoffe-Reinhaltung der Luft* 9, 335-341.

Schroeckh V, Scherlach K, Nützmann HW, Shelest E, Schmidt-Heck W, Schuemann J, Martin K, Hertweck C, Brakhage AA (2009) Intimate bacterial-fungal interaction triggers biosynthesis of archetypal polyketides in *Aspergillus nidulans*. *Proc Natl Acad Sci U S A* 106(34), 14558-14563.

Borowski A, Kuepper M, Horn U, Knüpfer U, Zissel G, Höhne K, Luttmann W, Krause S, Virchow JC, Friedrich K (2008) Interleukin-13 acts as an apoptotic effector on lung epithelial cells and induces pro-fibrotic gene expression in lung fibroblasts. *Clin Exp Allergy* 38(4), 619-628.

Huang X, He J, Niu X, Menzel KD, Dahse HM, Grabley S, Fiedler HP, Sattler I, Hertweck C (2008) Benzopyrenomycin, a cytotoxic bacterial polyketide metabolite with a benzo[a]pyrene-type

carbocyclic ring system. *Angew Chem Int Ed Engl* 47(21), 3995-3998.

Li L, Sattler I, Deng Z, Groth I, Walther G, Klaus-Dieter Menzel G, Peschel S, Grabley W, Lin (2008) A-seco-oleane-type triterpenes from *Phomopsis* sp. (strain HKI0458) isolated from the mangrove plant *Hibiscus tiliaceus*. *Phytochemistry* 69(2), 511-517.

Li LY, Ding Y, Groth I, Menzel KD, Peschel G, Voigt K, Deng ZW, Sattler I, Lin WH (2008) Pyrrole and indole alkaloids from an endophytic *Fusarium incarnatum* (HKI00504) isolated from the mangrove plant *Aegiceras corniculatum*. *J Asian Nat Prod Res* 10(7-8), 765-770.

Li YQ, Huang XS, Ishida K, Maier A, Kelter G, Jiang Y, Peschel G, Menzel KD, Li MG, Wen ML, Xu LH, Grabley S, Fiebig HH, Jiang CL, Hertweck C, Sattler I (2008) Plasticity in gilvocarcin-type C-glycoside pathways: discovery and antitumoral evaluation of polycarcin V from *Streptomyces polyformus*. *Org Biomol Chem* 6(19), 3601-3605.

Niu X, Dahse HM, Menzel KD, Lozach O, Walther G, Meijer L, Grabley S, Sattler I (2008) Butyrolactone I derivatives from *Aspergillus terreus* carrying an unusual sulfate moiety. *J Nat Prod* 71(4), 689-692.

Ozegowski JH, Presselt N, Härtl A, Bocker T, Sängner J, Schmidt A, Willing K, Müller PJ (2008) Anti-atherosclerotic effect of microbial hyaluronate lyase from group B streptococci. *Pharmazie* 63(8), 601-605.

Peschel G, Dahse HM, Konrad A, Wieland GD, Mueller PJ, Martin DP, Roth M (2008) Growth of keratinocytes on porous films of poly(3-hydroxybutyrate) and poly(4-hydroxybutyrate) blended with hyaluronic acid and chitosan. *J Biomed Mater Res A* 85(4), 1072-1081.

Richter ME, Traitcheva N, Knüpfer U, Hertweck C (2008) Sequential asymmetric polyketide heterocyclization catalyzed by a single cytochrome P450 monooxygenase (AurH). *Angew Chem Int Ed Engl* 47(46), 8872-8875.

Schachtschabel D, David A, Menzel KD, Schimek C, Wöstemeyer J, Boland W (2008) Cooperative biosynthesis of Trisporoids by the (+) and (-) mating types of the zygomycete *Blakeslea trispora*. *Chembiochem* 9(18), 3004-3012.

Habicht G, Haupt C, Friedrich RP, Hortschansky P, Sachse C, Meinhardt J, Wieligmann K, Gellermann GP, Brodhun M, Götz J, Halbhuber KJ, Röcken C, Horn U, Fändrich M (2007) Directed selection of a conformational antibody domain that prevents mature amyloid fibril formation by stabilizing Aβ protofibrils. *Proc Natl Acad Sci U S A* 104(49), 19232-19237.

He J, Roemer E, Lange C, Huang X, Maier A, Kelter G, Jiang Y, Xu LH, Menzel KD, Grabley S, Fiebig HH, Jiang CL, Sattler I (2007) Structure, derivatization, and antitumor activity of new griseusins from *Nocardia* sp. *J Med Chem* 50(21), 5168-5175.

Kraft M, Knüpfer U, Wenderoth R, Kacholdt A, Pietschmann P, Hock B, Horn U (2007) A dual expression platform to optimize the soluble production of heterologous proteins in the periplasm of *Escherichia coli*. *Appl Microbiol Biotechnol* 76(6), 1413-1422.

Kraft M, Knüpfer U, Wenderoth R, Pietschmann P, Hock B, Horn U (2007) An online monitoring system based on a synthetic sigma32-dependent tandem promoter for visualization of insoluble proteins in the cytoplasm of *Escherichia coli*. *Appl Microbiol Biotechnol* 75(2), 397-406.

Kraft M, Radke D, Wieland GD, Zipfel PF, Horn U (2007) A fluorogenic substrate as quantitative in vivo reporter to determine protein expression and folding of tobacco etch virus protease in *Escherichia coli*. *Protein Expr Purif* 52(2), 478-484.

Niu XM, Li SH, Görls H, Schollmeyer D, Hilliger M, Grabley S, Sattler I (2007) Abyssomicin E, a highly functionalized polycyclic metabolite from *Streptomyces* species. *Org Lett* 9(13), 2437-2440.

Partida-Martinez LP, de Looss CF, Ishida K, Ishida M, Roth M, Buder K, Hertweck C (2007) Rhizonin, the first mycotoxin isolated from the zygomycota, is not a fungal metabolite but is produced by bacterial endosymbionts. *Appl Environ Microbiol* 73(3), 793-797.

Partida-Martinez LP, Groth I, Schmitt I, Richter W, Roth M, Hertweck C (2007) *Burkholderia rhizoxinica* sp. nov. and *Burkholderia endofungorum* sp. nov., bacterial endosymbionts of the plant-pathogenic fungus *Rhizopus microsporus*. *Int J Syst Evol Microbiol* 57(Pt 11), 2583-2590.

Xu M, Gessner G, Groth I, Lange C, Christner A, Bruhn T, Deng Z, Li X, Heinemann SH, Bringmann G, Grabley S, Sattler I, Lin W (2007) Shearinines D–K, new indole triterpenoids from an endophytic *Penicillium* sp. (strain HKI0459) with blocking activity on large-conductance calcium-activated potassium channels *Tetrahedron* 63(2), 435-444.

Herold K, Gollmick FA, Groth I, Roth M, Menzel KD, Möllmann U, Gräfe U, Hertweck C (2005) Cervimycin A-D: a polyketide glycoside complex from a cave bacterium can defeat vancomycin resistance. *Chemistry* 11(19), 5523-5530.

Köhler JM, Henkel T, Grodrian A, Kirner T, Roth M, Martin K, Metze J (2004) Digital reaction technology by micro segmented flow—components, concepts and applications *Chemical Engineering Journal* 101, 201-216.

Martin K, Henkel T, Baier V, Grodrian A, Schön T, Roth M, Michael Köhler J, Metze J (2003) Generation of larger numbers of separated microbial populations by cultivation in segmented-flow microdevices. *Lab Chip* 3(3), 202-207.

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