



## Veröffentlichungen

des Helmholtz-Zentrums für Umweltforschung – UFZ

Programm-Topic 7

„Towards a Sustainable Bioeconomy – Resources, Utilization, Engineering and AgroEcosystems“

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## Vorbemerkung

Das vorliegende Veröffentlichungsverzeichnis umfasst die im Jahr 2021 erschienenen Publikationen des Programm-Topics 7 „Towards a Sustainable Bioeconomy – Resources, Utilization, Engineering and AgroEcosystems“ des Helmholtz-Programms „Changing Earth – Sustaining our Future“ des Forschungsbereichs Erde und Umwelt, die von Beschäftigten des Helmholtz-Zentrums für Umweltforschung – UFZ verfasst, mitverfasst oder herausgegeben wurden.

Ist eine Publikation zusätzlich noch weiteren Programm-Topics zugeordnet, wird dies durch einen Hinweis auf Haupt- und Nebenzuordnungen ersichtlich.

Redaktionsschluss für diese Publikationsliste war der 31.01.2022.

UFZ-Beschäftigte sind im Unterschied zu Externen bei allen Publikationen durch **fette Schrift** hervorgehoben.

Das anschließende Autorenregister verzeichnet alle UFZ-Namen in alphabetischer Reihenfolge mit den laufenden Nummern der zugehörigen Publikationen.

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## Veröffentlichungen in ISI/Scopus-gelisteten Zeitschriften/Schriftenreihen

1. Abu Quba, A.A., Schaumann, G.E., **Karagulyan, M.**, Diehl, D. (2021):  
Quality control of direct cell-mineral adhesion measurements in air and liquid using inverse AFM imaging  
*RSC Advances* **11** (10), 5384 - 5392
2. Álvarez-Barragán, J., Cravo-Laureau, C., **Wick, L.Y.**, Duran, R. (2021):  
Fungi in PAH-contaminated marine sediments: Cultivable diversity and tolerance capacity towards PAH  
*Mar. Pollut. Bull.* **164** , art. 112082
3. **Baleeiro, F.C.F.**, **Ardila, M.S.**, **Kleinsteuber, S.**, **Sträuber, H.** (2021):  
Effect of oxygen contamination on propionate and caproate formation in anaerobic fermentation  
*Front. Bioeng. Biotechnol.* **9** , art. 725443
4. **Baleeiro, F.C.F.**, **Kleinsteuber, S.**, **Sträuber, H.** (2021):  
Hydrogen as a co-electron donor for chain elongation with complex communities  
*Front. Bioeng. Biotechnol.* **9** , art. 650631
5. Bitzenhofer, N.L., Kruse, L., Thies, S., Wynands, B., Lechtenberg, T., Rönitz, J., Kozaeva, E., Wirth, N.T., **Eberlein, C.**, Jaeger, K.-E., Nickel, P.I., **Heipieper, H.J.**, Wierckx, N., Loeschke, A. (2021):  
Towards robust *Pseudomonas* cell factories to harbour novel biosynthetic pathways  
*Essays Biochem.* **65** (2), 319 - 336
6. **Bolay, P.**, Muro-Pastor, M.I., Rozbeh, R., Timm, S., Hagemann, M., Florencio, F.J., Forchhammer, K., **Klähn, S.** (2021):  
The novel P<sub>II</sub>-interacting protein PirA controls flux into the cyanobacterial ornithine-ammonia cycle  
*mBio* **12** (2), e00229-21
7. **Brandenburg, F.**, **Theodosiou, E.**, **Bertelmann, C.**, **Grund, M.**, **Klähn, S.**, **Schmid, A.**, **Krömer, J.O.** (2021):  
Trans-4-hydroxy-L-proline production by the cyanobacterium *Synechocystis* sp. PCC 6803  
*Metab. Eng. Commun.* **12** , e00155
8. Braune, M., Yuan, B., **Sträuber, H.**, Mcdowall, S.C., Nitzsche, R., Gröngröft, A. (2021):  
A downstream processing cascade for separation of caproic and caprylic acid from maize silage-based fermentation broth  
*Front. Bioeng. Biotechnol.* **9** , art. 725578

9. **Bretschneider, L., Heuschkel, I., Ahmed, A., Bühler, K., Karande, R., Bühler, B.** (2021):  
Characterization of different biocatalyst formats for BVMO-catalyzed cyclohexanone oxidation  
*Biotechnol. Bioeng.* **118** (7), 2719 - 2733
10. **Bretschneider, L., Wegner, M., Bühler, K., Bühler, B., Karande, R.** (2021):  
One-pot synthesis of 6-aminohexanoic acid from cyclohexane using mixed-species cultures  
*Microb. Biotechnol.* **14** (3), 1011 - 1025
11. **Budhraj, R., Karande, S., Ding, C., Ullrich, M.K., Wagner, S., Reemtsma, T., Adrian, L.** (2021):  
Characterization of membrane-bound metalloproteins in the anaerobic ammonium-oxidizing bacterium “*Candidatus* Kuenenia stuttgartiensis” strain CSTR1  
*Talanta* **223** (Part 2), art. 121711  
Hauptzuordnung T9; Nebenzuordnung T7
12. **Bühler, K., Krömer, J.O., Klähn, S., Bühler, B., Dusny, C., Schmid, A.** (2021):  
Weißer Wasserstoff made in Leipzig  
*Biospektrum* **27** (3), 335
13. Burot, C., Amiraux, R., Bonin, P., Guasco, S., Babin, M., Joux, F., Marie, D., Vilgrain, L., **Heipieper, H.J.**, Rontani, J.-F. (2021):  
Viability and stress state of bacteria associated with primary production or zooplankton-derived suspended particulate matter in summer along a transect in Baffin Bay (Arctic Ocean)  
*Sci. Total Environ.* **770** , art. 145252
14. **Butkovskiy, A., Jing, Y.**, Bergheim, H., Lazar, D., Gulyaeva, K., Odenmarck, S.R., Norli, H.R., **Nowak, K.M., Miltner, A., Kästner, M.**, Eggen, T. (2021):  
Retention and distribution of pesticides in planted filter microcosms designed for treatment of agricultural surface runoff  
*Sci. Total Environ.* **778** , art. 146114
15. **Calabrese, F., Stryhanyuk, H.**, Moraru, C., Schlömann, M., **Wick, L.Y., Richnow, H.H., Musat, F., Musat, N.** (2021):  
Metabolic history and metabolic fitness as drivers of anabolic heterogeneity in isogenic microbial populations  
*Environ. Microbiol.* **23** (11), 6764 - 6776

16. **Cárdenas Espinosa, M.J., Colina Blanco, A., Heipieper, H.J., Eberlein, C.** (2021):  
Screening and cultivating microbial strains able to grow on building blocks of polyurethane  
In: Weber, G., Bornscheuer, U.T., Wei, R. (eds.)  
*Enzymatic plastic degradation*  
Methods Enzymol. 648  
Elsevier, p. 423 - 434
17. **Cárdenas Espinosa, M.J., Schmidgall, T., Wagner, G., Kappelmeyer, U., Schreiber, S., Heipieper, H.J., Eberlein, C.** (2021):  
An optimized method for RNA extraction from the polyurethane oligomer degrading strain *Pseudomonas capeferrum* TDA1 growing on aromatic substrates such as phenol and 2,4-diaminotoluene  
*PLOS One* **16** (11), e0260002  
Hauptzuordnung T7; Nebenzuordnung T9
18. Ceballos-Escalera, A., Pous, N., Chiluzza-Ramos, P., **Korth, B., Harnisch, F.**, Bañeras, L., Balaguer, M.D., Puig, S. (2021):  
Electro-bioremediation of nitrate and arsenite polluted groundwater  
*Water Res.* **190** , art. 116748
19. Chakaroun, R.M., Massier, L., **Heintz-Buschart, A., Said, N.**, Fallmann, J., Crane, A., Schütz, T., Dietrich, A., Blüher, M., Stumvoll, M., **Musat, N.**, Kovacs, P. (2021):  
Circulating bacterial signature is linked to metabolic disease and shifts with metabolic alleviation after bariatric surgery  
*Genome Med.* **13** , art. 105  
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20. **Chen, S.-C., Budhraj, R., Adrian, L., Calabrese, F., Stryhanyuk, H., Musat, N., Richnow, H.-H.**, Duan, G.-L., Zhu, Y.-G., **Musat, F.** (2021):  
Novel clades of soil biphenyl degraders revealed by integrating isotope probing, multi-omics, and single-cell analyses  
*ISME J.* **15** (12), 3508 - 3521
21. **Chen, Y., Georgi, A., Zhang, W., Kopinke, F.-D., Yan, J., Saeidi, N., Li, J., Gu, M., Chen, M.** (2021):  
Mechanistic insights into fast adsorption of perfluoroalkyl substances on carbonate-layered double hydroxides  
*J. Hazard. Mater.* **408** , art. 124815

22. **Clark, A.T.**, Arnoldi, J.-F., Zelnik, Y.R., Barabas, G., Hodapp, D., **Karakoç, C.**, **König, S.**, Radchuk, V., Donohue, I., **Huth, A.**, Jacquet, C., de Mazancourt, C., Mentges, A., **Nothaaß, D.**, Shoemaker, L.G., **Taubert, F.**, **Wiegand, T.**, Wang, S., Chase, J.M., Loreau, M., **Harpole, S.** (2021):  
General statistical scaling laws for stability in ecological systems  
*Ecol. Lett.* **24** (7), 1474 - 1486  
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23. Cohen, Y., Pasternak, Z., **Müller, S.**, **Hübschmann, T.**, **Schattenberg, F.**, Sivakala, K.K., Abed-Rabbo, A., **Chatzinotas, A.**, Jurkevitch, E. (2021):  
Community and single cell analyses reveal complex predatory interactions between bacteria in high diversity systems  
*Nat. Commun.* **12**, art. 5481
24. da Rosa Braun, P.H., Canuto de Almeida e Silva, T., **Rodrigo Quejigo, J.**, **Kuchenbuch, A.**, Rezwan, K., **Harnisch, F.**, Wilhelm, M. (2021):  
Impact of surface properties of porous SiOC-based materials on the performance of *Geobacter* biofilm anodes  
*ChemElectroChem* **8** (5), 850 - 857
25. Dalby, F.R., **Nikolausz, M.**, Hansen, M.J., Feilberg, A. (2021):  
Effects of combined tannic acid/fluoride on sulfur transformations and methanogenic pathways in swine manure  
*PLOS One* **16** (9), art. e0257759
26. **Decelle, J.**, Veronesi, G., LeKieffre, C., Gallet, B., Chevalier, F., **Stryhanyuk, H.**, Marro, S., Ravanel, S., Tucoulou, R., Schieber, N., Finazzi, G., Schwab, Y., **Musat, N.** (2021):  
Subcellular architecture and metabolic connection in the planktonic photosymbiosis between Collodaria (radiolarians) and their microalgae  
*Environ. Microbiol.* **23** (11), 6569 - 6586
27. Dumke, R., **de la Cruz Barron, M.**, Oertel, R., Helm, B., **Kallies, R.**, Berendonk, T.U., Dalpke, A. (2021):  
Evaluation of two methods to concentrate SARS-CoV-2 from untreated wastewater  
*Pathogens* **10** (2), art. 195  
Hauptzuordnung T7; Nebenzuordnung T5
28. **Dusny, C.**, **Schmid, A.** (2021):  
The metabolic flux probe (MFP)—Secreted protein as a non-disruptive information carrier for <sup>13</sup>C-based metabolic flux analysis  
*Int. J. Mol. Sci.* **22** (17), art. 9438

29. **Dzofou Ngoumelah, D., Harnisch, F.,** Kretzschmar, J. (2021):  
Benefits of age-Improved resistance of mature electroactive biofilm anodes in anaerobic digestion  
*Environ. Sci. Technol.* **55** (12), 8258 - 8266
30. **Eziuzor, S.C., Schmidt, M., Vogt, C.** (2021):  
Anaerobic benzene mineralization by natural microbial communities from Niger Delta  
*Biodegradation* **32** (1), 37 - 52
31. **Frenzel, L.-M., Roland, U., Kopinke, F.-D.** (2021):  
Coating of solid substrates with carbon via hydrothermal carbonization  
*Mater. Lett.* **288** , art. 129315
32. **Giannopoulos, K., Benettoni, P., Holbrook, T.R., Reemtsma, T., Wagner, S., Lechtenfeld, O.J.** (2021):  
Direct analysis of fulvic acids adsorbed onto capped gold nanoparticles by laser desorption ionization Fourier-transform ion cyclotron resonance mass spectrometry  
*Environ. Sci.-Nano* **8** (8), 2336 - 2346  
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33. Gilevska, T., Sullivan Ojeda, A., **Kuettel, S., Gehre, M.,** Seger, E., West, K., Morgan, S.A., Mack, E.E., Sherwood Lollar, B. (2021):  
Multi-element isotopic evidence for monochlorobenzene and benzene degradation under anaerobic conditions in contaminated sediments  
*Water Res.* **207** , art. 117809
34. **Golparvar, A., Kästner, M., Thullner, M.** (2021):  
Pore-scale modeling of microbial activity: What we have and what we need  
*Vadose Zone J.* **20** (1), e20087
35. González-González, S., Astorga-Eló, M., Campos, M., **Wick, L.Y.,** Acuña, J.J., Jorquera, M.A. (2021):  
Compost fungi allow for effective dispersal of putative PGP bacteria  
*Agronomy-Basel* **11** (8), art. 1567
36. Greinert, T., **Vogel, K., Maskow, T.,** Held, C. (2021):  
New thermodynamic activity-based approach allows predicting the feasibility of glycolysis  
*Sci. Rep.* **11** , art. 6125

37. Guerra, C.A., Bardgett, R.D., Caon, L., Crowther, T.W., Delgado-Baquerizo, M., Montanarella, L., Navarro, L.M., Orgiazzi, A., Singh, B.K., Tedersoo, L., Vargas-Rojas, R., Briones, M.J.I., **Buscot, F.**, Cameron, E.K., Cesarz, S., **Chatzinotas, A.**, Cowan, D.A., Djukic, I., van der Hoogen, J., Lehmann, A., Maestre, F.T., Marín, C., **Reitz, T.**, Rillig, M.C., Smith, L.C., de Vries, F.T., Weigelt, A., Wall, D.H., Eisenhauer, N. (2021):  
Tracking, targeting, and conserving soil biodiversity - A monitoring and indicator system can inform policy  
*Science* **371** (6526), 239 - 241  
Hauptzuordnung T5; Nebenzuordnung T7
38. **Harnisch, F., Chávez Morejón, M.** (2021):  
Hydrogen from water is more than a fuel: Hydrogenations and hydrodeoxygenations for a biobased economy  
*Chem. Rec.* **21** (9), 2277 - 2289
39. **Harnisch, F., Korth, B.** (2021):  
First settlers persist  
*Joule* **5** (6), 1316 - 1319
40. Hartner, N.T., Wink, K., Raddatz, C.-R., Thoben, C., **Schirmer, M.**, Zimmermann, S., Belder, D. (2021):  
Coupling droplet microfluidics with ion mobility spectrometry for monitoring chemical conversions at nanoliter scale  
*Anal. Chem.* **93** (40), 13615 - 13623
41. Heeger, F., Bourne, E.C., Wurzbacher, C., Funke, E., Lipzen, A., He, G., Ng, V., Grigoriev, I.V., **Schlosser, D.**, Monaghan, M.T. (2021):  
Evidence for lignocellulose-decomposing enzymes in the genome and transcriptome of the aquatic hyphomycete *Clavariopsis aquatica*  
*J. Fungi* **7** (10), art. 854
42. **Helbig, C., Ueberham, M.**, Becker, A.M., Marquart, H., **Schlink, U.** (2021):  
Wearable sensors for human environmental exposure in urban settings  
*Curr. Pollut. Rep.* **7** (3), 417 - 433  
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43. Herrero, J., Puigserver, D., **Nijenhuis, I., Kuntze, K.**, Parker, B.L., Carmona, J.M. (2021):  
The role of ecotones in the dehalogenation of chloroethenes in alluvial fan aquifers  
*Environ. Sci. Pollut. Res.* **28** (21), 26871 - 26884

44. **Heuschkel, I., Hanisch, S.,** Volke, D.C., Löfgren, E., **Hoschek, A.,** Nickel, P.I., **Karande, R., Bühler, K.** (2021):  
*Pseudomonas taiwanensis* biofilms for continuous conversion of cyclohexanone in drip flow and rotating bed reactors  
*Eng. Life Sci.* **21** (3-4), 258 - 269
45. Heyse, J., **Schattenberg, F.,** Rubbens, P., **Müller, S.,** Waegeman, W., Boon, N., Props, R. (2021):  
Predicting the presence and abundance of bacterial taxa in environmental communities through flow cytometric fingerprinting  
*mSystems* **6** (5), e00551-21
46. **Hofmann, P.,** Clark, A., **Hoffmann, P.,** Chatzinotas, A., **Harpole, W.S.,** **Dunker, S.** (2021):  
Beyond nitrogen: phosphorus - estimating the minimum niche dimensionality for resource competition between phytoplankton  
*Ecol. Lett.* **24** (4), 761 - 771  
Hauptzuordnung T5; Nebenzuordnung T7
47. **Jing, Y., Krauss, M., Zschieschang, S., Miltner, A., Butkovskyi, A.,** Eggen, T., **Kästner, M., Nowak, K.M.** (2021):  
Superabsorbent polymer as a supplement substrate of constructed wetland to retain pesticides from agricultural runoff  
*Water Res.* **207** , art. 117776  
Hauptzuordnung T7; Nebenzuordnung T9
48. Kahsay, B.N., Ziegler, J., Imming, P., Gebre-Mariam, T., Neubert, R.H.H., **Moeller, L.** (2021):  
Free amino acid contents of selected Ethiopian plant and fungi species: a search for alternative natural free amino acid sources for cosmeceutical applications  
*Amino Acids* **53** (7), 1105 - 1122
49. **Kasmanas, J.C.,** Bartholomäus, A., **Borim Corrêa, F., Tal, T., Jehmlich, N., Herberth, G., von Bergen, M.,** Stadler, P.F., de Carvalho, A.C.P.L.F., **Nunes da Rocha, U.** (2021):  
HumanMetagenomeDB: a public repository of curated and standardized metadata for human metagenomes  
*Nucleic Acids Res.* **49** (D1), D743 - D750  
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50. **Kästner, M., Miltner, A.,** Thiele-Bruhn, S., Liang, C. (2021):  
Microbial necromass in soils—Linking microbes to soil processes and carbon turnover  
*Front. Environ. Sci.* **9** , art. 756378

51. Keller-Costa, T., Lago-Lestón, A., **Saraiva, J.P., Toscan, R.**, Silva, S.G., Gonçalves, J., Cox, C.J., Kyrpides, N., **Nunes da Rocha, U.**, Costa, R. (2021): Metagenomic insights into the taxonomy, function, and dysbiosis of prokaryotic communities in octocorals  
*Microbiome* **9** , art. 72
52. Khan, N., **Brizola Toscan, R.**, Lunayo, A., Wamalwa, B., Muge, E., Mulaa, F.J., **Kallies, R., Harms, H., Wick, L.Y., Nunes da Rocha, U.** (2021): Draft genome sequence of *Fusarium equiseti* K3, a fungal species isolated from hexachlorocyclohexane-contaminated soil  
*Microbiol. Resour. Announc.* **10** (47), e00885-21
53. **Khurelbaatar, G.**, Al Marzuqi, B., **van Afferden, M., Müller, R.A., Friesen, J.** (2021): Data reduced method for cost comparison of wastewater management scenarios - case study for two settlements in Jordan and Oman  
*Front. Environ. Sci.* **9** , art. 626634  
Hauptzuordnung T7; Nebenzuordnung T5
54. **Khurelbaatar, G., van Afferden, M., Sullivan, C.M., Fühner, C.**, Amgalan, J., Londong, J., **Müller, R.A.** (2021): Wastewater treatment and wood production of willow system in cold climate  
*Water* **13** (12), art. 1630
55. **Khurelbaatar, G., van Afferden, M., Ueberham, M., Stefan, M., Geyler, S., Müller, R.A.** (2021): Management of Urban STormwater at Block-level (MUST-B): A new approach for potential analysis of decentralized stormwater management systems  
*Water* **13** (3), art. 378
56. **Klähn, S.**, Mikkat, S., Riediger, M., Georg, J., Hess, W.R., Hagemann, M. (2021): Integrative analysis of the salt stress response in cyanobacteria  
*Biol. Direct* **16** , art. 26
57. Kochan, O., Chornodolskyy, Y., Selech, J., Karnaushenko, V., Przystupa, K., Kotlov, A., Demkiv, T., Vistovskyy, V., **Stryhanyuk, H.**, Rodnyi, P., Gektin, A., Voloshinovskii, A. (2021): Energy structure and luminescence of CeF<sub>3</sub> crystals  
*Materials* **14** (15), art. 4243
58. **Kohlheb, N.**, Wluka, M., **Bezama, A., Thrän, D., Aurich, A., Müller, R.A.** (2021): Environmental-economic assessment of the pressure swing adsorption biogas upgrading technology  
*BioEnergy Res.* **14** (3), 901 - 909  
Hauptzuordnung T7; Nebenzuordnung T5

59. **Kopinke, F.-D.** (2021):  
Comments on “Highly selective removal of perfluorinated contaminants by adsorption on all-silica zeolite Beta”  
*Angew. Chem.-Int. Edit.* **60** (25), 13708 - 13709
60. **Kopinke, F.-D., Frenzel, L.-M.** (2021):  
Comment on “Thermal stability and decomposition of perfluoroalkyl substances on spent granular activated carbon”  
*Environ. Sci. Technol. Lett.* **8** (4), 362 - 363
61. **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  
*Front. Energy Res.* **9** , art. 705800
62. Krafft, B., Tycova, A., Urban, R.D., **Dusny, C.**, Belder, D. (2021):  
Microfluidic device for concentration and SERS-based detection of bacteria in drinking water  
*Electrophoresis* **42** (1-2), 86 - 94
63. Kretzschmar, J., **Harnisch, F.** (2021):  
Electrochemical impedance spectroscopy on biofilm electrodes – conclusive or euphonious?  
*Curr. Opin. Electrochem.* **29** , art. 100757
64. **Krömer, J.O.** (2021):  
Buchrezension zu: Industrial Microbiology  
*Biospektrum* **27** (4), 452
65. Kruse, S., **Türkowsky, D., Birkigt, J., Maturro, B., Franke, S., Jehmlich, N., von Bergen, M., Westermann, M., Rossetti, S., Nijenhuis, I., Adrian, L., Diekert, G., Goris, T.** (2021):  
Interspecies metabolite transfer and aggregate formation in a co-culture of *Dehalococcoides* and *Sulfurospirillum* dehalogenating tetrachloroethene to ethene  
*ISME J.* **15** (6), 1794 - 1809  
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66. **Lai, B., Schneider, H., Tschörtner, J., Schmid, A., Krömer, J.O.** (2021):  
Inside front cover image, Volume 118, Number 7, July 2021  
*Biotechnol. Bioeng.* **118** (7), ii - ii

67. **Lai, B., Schneider, H., Tschörtner, J., Schmid, A., Krömer, J.O.** (2021):  
Technical-scale biophotovoltaics for long-term photo-current generation  
from *Synechocystis* sp. PCC6803  
*Biotechnol. Bioeng.* **118** (7), 2637 - 2648
68. Li, D., Zhang, H., Xiang, H., Rasul, S., Fontmorin, J.-M., **Izadi, P.**, Roldan, A., Taylor, R., Feng, Y., Banerji, L., Cowan, A., Yu, E.H., Xuan, J. (2021):  
How to go beyond C<sub>1</sub> products with electrochemical reduction of CO<sub>2</sub>  
*Sustain. Energ. Fuels* **5** (23), 5893 - 5914
69. **Liess, M., Liebmann, L., Vormeier, P., Weisner, O., Altenburger, R., Borchardt, D., Brack, W., Chatzinotas, A., Escher, B., Foit, K., Gunold, R., Henz, S., Hitzfeld, K.L., Schmitt-Jansen, M., Kamjunke, N., Kaske, O., Knillmann, S., Krauss, M., Küster, E., Link, M., Lück, M., Möder, M., Müller, A., Paschke, A., Schäfer, R.B., Schneeweiss, A., Schreiner, V.C., Schulze, T., Schüürmann, G., von Tümpling, W., Weitere, M., Wogram, J., Reemtsma, T.** (2021):  
Pesticides are the dominant stressors for vulnerable insects in lowland streams  
*Water Res.* **201** , art. 117262  
Hauptzuordnung T9; Nebenzuordnung T5, T7
70. **Liu, X., Bonhomme, J., Merbach, I., Kümmel, S., Richnow, H.H.** (2021):  
Uptake of  $\alpha$ -HCH by wheat from the gas phase and translocation to soil analyzed by a stable carbon isotope labeling experiment  
*Chemosphere* **264** (Part 2), art. 128489  
Hauptzuordnung T7; Nebenzuordnung T5
71. **Liu, X., Li, W., Kümmel, S., Merbach, I., Sood, U., Gupta, V., Lal, R., Richnow, H.H.** (2021):  
Soil from a hexachlorocyclohexane contaminated field site inoculates wheat in a pot experiment to facilitate the microbial transformation of  $\beta$ -hexachlorocyclohexane examined by compound-specific isotope analysis  
*Environ. Sci. Technol.* **55** (20), 13812 - 13821  
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