# Thomas B BrÃ¼ck

List of Publications by Year
in descending order



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|---|---|---|---|
| 101 papers | 2,329 citations | 236925 25 h-index | 254184 43 g-index |
| 109 all docs | 109 docs citations | 109 times ranked | 2982 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Catalytic deoxygenation of microalgae oil to green hydrocarbons. Green Chemistry, 2013, 15, 1720. | 9.0 | 285 |
| 2 | Cellâ€Free Metabolic Engineering: Production of Chemicals by Minimized Reaction Cascades. ChemSusChem, 2012, 5, 2165-2172. | 6.8 | 219 |
| 3 | Application of light-emitting diodes (LEDs) in cultivation of phototrophic microalgae: current state and perspectives. Applied Microbiology and Biotechnology, 2016, 100, 1077-1088. | 3.6 | 90 |
| 4 | Extraction of microalgae derived lipids with supercritical carbon dioxide in an industrial relevant pilot plant. Bioprocess and Biosystems Engineering, 2017, 40, 911-918. | 3.4 | 83 |
| 5 | Genomics and Transcriptomics Analyses of the Oil-Accumulating Basidiomycete Yeast Trichosporon oleaginosus : Insights into Substrate Utilization and Alternative Evolutionary Trajectories of Fungal Mating Systems. MBio, 2015, 6, e00918. | 4.1 | 63 |
| 6 | Identification of amino acid networks governing catalysis in the closed complex of class I terpene synthases. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E958-67. | 7.1 | 57 |
| 7 | Towards a comprehensive understanding of the structural dynamics of a bacterial diterpene synthase during catalysis. Nature Communications, 2018, 9, 3971. | 12.8 | 57 |
| 8 | Genetic engineering and production of modified fatty acids by the non-conventional oleaginous yeast Trichosporon oleaginosus ATCC 20509. Green Chemistry, 2016, 18, 2037-2046. | 9.0 | 52 |
| 9 | The first structure of a bacterial diterpene cyclase: CotB2. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 1528-1537. | 2.5 | 48 |
| 10 | Diversity of the Bacterial Communities Associated with the Azooxanthellate Deep Water Octocorals Leptogorgia minimata, Iciligorgia schrammi, and Swiftia exertia. Marine Biotechnology, 2007, 9, 561-576. | 2.4 | 47 |
| 11 | Opportunities and challenges in the development of Cutaneotrichosporon oleaginosus ATCC 20509 as a new cell factory for custom tailored microbial oils. Microbial Cell Factories, 2017, 16, 178. | 4.0 | 45 |
| 12 | A sustainable, high-performance process for the economic production of waste-free microbial oils that can replace plant-based equivalents. Energy and Environmental Science, 2019, 12, 2717-2732. | 30.8 | 45 |
| 13 | Chemisorption of CO<sub>2</sub>by chitosan oligosaccharide/DMSO: organic carbamatoâ€“carbonato bond formation. Green Chemistry, 2017, 19, 4305-4314. | 9.0 | 42 |
| 14 | Multi-Factorial-Guided Media Optimization for Enhanced Biomass and Lipid Formation by the Oleaginous Yeast Cutaneotrichosporon oleaginosus. Frontiers in Bioengineering and Biotechnology, 2019, 7, 54. | 4.1 | 42 |
| 15 | Enzymatic Modification of Native Chitin and Conversion to Specialty Chemical Products. Marine Drugs, 2020, 18, 93. | 4.6 | 42 |
| 16 | Comparative Proteomic Analysis of Matched Primary and Metastatic Melanoma Cell Lines. Journal of Proteome Research, 2008, 7, 4107-4118. | 3.7 | 39 |
| 17 | Mechanism of nitrite-stimulated catalysis by lactoperoxidase. FEBS Journal, 2001, 268, 3214-3222. | 0.2 | 38 |
| 18 | Identification of sesquiterpene synthases from the Basidiomycota Coniophora puteana for the efficient and highly selective Î²-copaene and cubebol production in E. coli. Microbial Cell Factories, 2018, 17, 164. | 4.0 | 37 |

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|---|---|---|---|
| 19 | Comparison of the anaerobic microbiota of deep-water Geodia spp. and sandy sediments in the Straits of Florida. ISME Journal, 2010, 4, 686-699. | 9.8 | 35 |
| 20 | The diversity of the bacterial communities associated with the azooxanthellate hexacoral Cirrhipathes lutkeni. ISME Journal, 2007, 1, 654-659. | 9.8 | 31 |
| 21 | Targeted Engineering of Cyclooctatâ€9â€enâ€7â€ol Synthase: A Stereospecific Access to Two New Nonâ€natural Fusicoccaneâ€Type Diterpenes. ChemCatChem, 2013, 5, 3289-3298. | 3.7 | 30 |
| 22 | Rhodococcus erythropolis Oleate Hydratase: a New Member in the Oleate Hydratase Family Treeâ€"Biochemical and Structural Studies. ChemCatChem, 2018, 10, 407-414. | 3.7 | 29 |
| 23 | Modular biomanufacturing for a sustainable production of terpenoid-based insect deterrents. Green Chemistry, 2018, 20, 2637-2650. | 9.0 | 29 |
| 24 | A waste-free, microbial oil centered cyclic bio-refinery approach based on flexible macroalgae biomass. Applied Energy, 2018, 224, 1-12. | 10.1 | 28 |
| 25 | Microbial lipid production by oleaginous yeasts grown on Scenedesmus obtusiusculus microalgae biomass hydrolysate. Bioprocess and Biosystems Engineering, 2020, 43, 1629-1638. | 3.4 | 27 |
| 26 | Oleaginous yeasts- substrate preference and lipid productivity: a view on the performance of microbial lipid producers. Microbial Cell Factories, 2021, 20, 220. | 4.0 | 27 |
| 27 | Microalgae a Superior Source of Folates: Quantification of Folates in Halophile Microalgae by Stable Isotope Dilution Assay. Frontiers in Bioengineering and Biotechnology, 2019, 7, 481. | 4.1 | 24 |
| 28 | Cloning, expression and characterization of the recombinant cold-active type-I pullulanase from Shewanella arctica. Journal of Molecular Catalysis B: Enzymatic, 2015, 116, 70-77. | 1.8 | 23 |
| 29 | Thermal Reactor Model for Large-Scale Algae Cultivation in Vertical Flat Panel Photobioreactors. Environmental Science & Technology, 2016, 50, 3920-3927. | 10.0 | 23 |
| 30 | Carbon Capture and Sustainable Utilization by Algal Polyacrylonitrile Fiber Production: Process Design, Techno-Economic Analysis, and Climate Related Aspects. Industrial & Engineering Chemistry Research, 2018, 57, 7922-7933. | 3.7 | 22 |
| 31 | ChiBio: An Integrated Bio-refinery for Processing Chitin-Rich Bio-waste to Specialty Chemicals. Grand Challenges in Biology and Biotechnology, 2018, , 555-578. | 2.4 | 22 |
| 32 | In Vitro Bioconversion of Pyruvate to n-Butanol with Minimized Cofactor Utilization. Frontiers in Bioengineering and Biotechnology, 2016, 4, 74. | 4.1 | 21 |
| 33 | Modeling Microalgae Productivity in Industrial-Scale Vertical Flat Panel Photobioreactors. Environmental Science & Technology, 2018, 52, 5490-5498. | 10.0 | 21 |
| 34 | Oxidative metabolism of the anti-cancer agent mitoxantrone by horseradish, lacto-and lignin peroxidase. Biochimie, 2011, 93, 217-226. | 2.6 | 20 |
| 35 | Detailed Structureâ€"Function Correlations of Bacillus subtilis Acetolactate Synthase. ChemBioChem, 2015, 16, 110-118. | 2.6 | 20 |
| 36 | Opportunities and challenges for the sustainable production of structurally complex diterpenoids in recombinant microbial systems. Beilstein Journal of Organic Chemistry, 2017, 13, 845-854. | 2.2 | 20 |

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|---|---|---|---|
| 37 | The Impression of a Nonexisting Catalytic Effect: The Role of CotB2 in Guiding the Complex Biosynthesis of Cyclooctat-9-en-7-ol. Journal of the American Chemical Society, 2020, 142, 21562-21574. | 13.7 | 20 |
| 38 | Harvest of the Oleaginous Microalgae Scenedesmus obtusiusculus by Flocculation From Culture Based on Natural Water Sources. Frontiers in Bioengineering and Biotechnology, 2018, 6, 200. | 4.1 | 19 |
| 39 | Engineering Escherichia coli FAB system using synthetic plant genes for the production of long chain fatty acids. Microbial Cell Factories, 2019, 18, 163. | 4.0 | 19 |
| 40 | Molecular dynamics study of taxadiene synthase catalysis. Journal of Computational Chemistry, 2018, 39, 1215-1225. | 3.3 | 18 |
| 41 | A Seagrassâ€Based Biorefinery for Generation of Singleâ€Cell Oils for Biofuel and Oleochemical Production. Energy Technology, 2018, 6, 1026-1038. | 3.8 | 18 |
| 42 | Current understanding and biotechnological application of the bacterial diterpene synthase CotB2. Beilstein Journal of Organic Chemistry, 2019, 15, 2355-2368. | 2.2 | 17 |
| 43 | Characterization of a new, recombinant thermo-active subtilisin-like serine protease derived from Shewanella arctica. Journal of Molecular Catalysis B: Enzymatic, 2015, 116, 16-23. | 1.8 | 16 |
| 44 | Studies on the scale-up of biomass production with Scenedesmus spp. in flat-plate gas-lift photobioreactors. Bioprocess and Biosystems Engineering, 2018, 41, 213-220. | 3.4 | 16 |
| 45 | Energy-Efficient Carbon Fiber Production with Concentrated Solar Power: Process Design and Techno-economic Analysis. Industrial & Engineering Chemistry Research, 2018, 57, 7934-7945. | 3.7 | 16 |
| 46 | Purification and characterization of a cold-adapted pullulanase from a psychrophilic bacterial isolate. Extremophiles, 2014, 18, 1095-1102. | 2.3 | 15 |
| 47 | Investigation of vertical mixing in thin-layer cascade reactors using computational fluid dynamics. Chemical Engineering Research and Design, 2018, 132, 436-444. | 5.6 | 15 |
| 48 | High-Density Microalgae Cultivation in Open Thin-Layer Cascade Photobioreactors with Water Recycling. Applied Sciences (Switzerland), 2020, 10, 3883. | 2.5 | 15 |
| 49 | Purification and kinetic properties of elisabethatriene synthase from the coral Pseudopterogorgia elisabethae. Comparative Biochemistry and Physiology - B Biochemistry and Molecular Biology, 2006, 143, 269-278. | 1.6 | 13 |
| 50 | Structure and mechanism of potent bifunctional Î²-lactam- and homoserine lactone-degrading enzymes from marine microorganisms. Scientific Reports, 2020, 10, 12882. | 3.3 | 13 |
| 51 | A Newly Designed Automatically Controlled, Sterilizable Flat Panel Photobioreactor for Axenic Algae Culture. Frontiers in Bioengineering and Biotechnology, 2021, 9, 697354. | 4.1 | 13 |
| 52 | Towards an understanding of oleate hydratases and their application in industrial processes. Microbial Cell Factories, 2022, 21, 58. | 4.0 | 13 |
| 53 | The effects of TORC signal interference on lipogenesis in the oleaginous yeast Trichosporon oleaginosus. BMC Biotechnology, 2017, 17, 27. | 3.3 | 12 |
| 54 | Strain selection of microalgae isolated from Tunisian coast: characterization of the lipid profile for potential biodiesel production. Bioprocess and Biosystems Engineering, 2018, 41, 1449-1459. | 3.4 | 12 |

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| 55 | Production of Macrocyclic Sesquiâ€•and Diterpenes in Heterologous Microbial Hosts: A Systems Approach to Harness Natureâ€™s Molecular Diversity. ChemCatChem, 2014, 6, 1142-1165. | 3.7 | 11 |
| 56 | The effect of proteolysis on the induction of cell death by monomeric alpha-lactalbumin. Biochimie, 2014, 97, 138-143. | 2.6 | 11 |
| 57 | From microbial upcycling to biology-oriented synthesis: combining whole-cell production and chemo-enzymatic functionalization for sustainable taxanoid delivery. Green Chemistry, 2018, 20, 5374-5384. | 9.0 | 11 |
| 58 | Matrix-free laser desorption ionization mass spectrometry as a functional tool for the analysis and differentiation of complex phenolic mixtures in propolis: a new approach to quality control. Analytical and Bioanalytical Chemistry, 2018, 410, 6187-6195. | 3.7 | 11 |
| 59 | Optimization of protein isolation by proteomic qualification from Cutaneotrichosporon oleaginosus. Analytical and Bioanalytical Chemistry, 2020, 412, 449-462. | 3.7 | 11 |
| 60 | Understanding the role of active site residues in CotB2 catalysis using a cluster model. Beilstein Journal of Organic Chemistry, 2020, 16, 50-59. | 2.2 | 11 |
| 61 | Characterization of a highly thermostable ÃŸ-hydroxybutyryl CoA dehydrogenase from Clostridium acetobutylicum ATCC 824. Journal of Molecular Catalysis B: Enzymatic, 2013, 98, 138-144. | 1.8 | 9 |
| 62 | Identification and optimization of a novel thermo- and solvent stable ketol-acid reductoisomerase for cell free isobutanol biosynthesis. Biochimie, 2015, 108, 76-84. | 2.6 | 9 |
| 63 | Identification, characterization and molecular adaptation of class I redox systems for the production of hydroxylated diterpenoids. Microbial Cell Factories, 2016, 15, 86. | 4.0 | 9 |
| 64 | Rapid salinity measurements for fluid flow characterisation using minimal invasive sensors. Chemical Engineering Science, 2017, 166, 161-167. | 3.8 | 9 |
| 65 | Towards a sustainable generation of pseudopterosin-type bioactives. Green Chemistry, 2020, 22, 6033-6046. | 9.0 | 9 |
| 66 | Identifying carbohydrate-active enzymes of Cutaneotrichosporon oleaginosus using systems biology. Microbial Cell Factories, 2021, 20, 205. | 4.0 | 9 |
| 67 | Isolation and Investigation of Natural Rare Earth Metal Chelating Agents From Calothrix brevissima - A Step Towards Unraveling the Mechanisms of Metal Biosorption. Frontiers in Bioengineering and Biotechnology, 2022, 10, 833122. | 4.1 | 9 |
| 68 | Biotechnological potential and initial characterization of two novel sesquiterpene synthases from Basidiomycota Coniophora puteana for heterologous production of Î´-cadinol. Microbial Cell Factories, 2022, 21, 64. | 4.0 | 9 |
| 69 | Stereoselective chemo-enzymatic oxidation routes for (1R,3E,7E,11S,12S)-3,7,18-dolabellatriene. Frontiers in Microbiology, 2015, 6, 1115. | 3.5 | 8 |
| 70 | FTIR differentiation based on genomic DNA for species identification of Shigella isolates from stool samples. Scientific Reports, 2022, 12, 2780. | 3.3 | 8 |
| 71 | Oxidation of mitoxantrone by lactoperoxidase. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2003, 1649, 154-163. | 2.3 | 7 |
| 72 | Validated numerical fluid simulation of a thinâ€layer cascade photobioreactor in OpenFOAM. Engineering in Life Sciences, 2019, 19, 97-103. | 3.6 | 7 |

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| 73 | Kinetic and Structural Characterization of the First B3 Metallo-Î²-Lactamase with an Active-Site Glutamic Acid. Antimicrobial Agents and Chemotherapy, 2021, 65, e0093621. | 3.2 | 7 |
| 74 | Transcriptome profiling of the Australian arid-land plant Eremophila serrulata (A.DC.) Druce (Scrophulariaceae) for the identification of monoterpene synthases. Phytochemistry, 2017, 136, 15-22. | 2.9 | 6 |
| 75 | Insights Into the Bifunctional Aphidicolan-16-ÃŸ-ol Synthase Through Rapid Biomolecular Modeling Approaches. Frontiers in Chemistry, 2018, 6, 101. | 3.6 | 6 |
| 76 | Species disparity response to mutagenesis of marine yeasts for the potential production of biodiesel. Biotechnology for Biofuels, 2019, 12, 129. | 6.2 | 6 |
| 77 | Towards high-throughput optimization of microbial lipid production: from strain development to process monitoring. Sustainable Energy and Fuels, 2020, 4, 5958-5969. | 4.9 | 6 |
| 78 | Biogas yields and composition from oil-extracted halophilic algae residues in conventional biogas plants operated at high salinities. Bioprocess and Biosystems Engineering, 2019, 42, 1915-1922. | 3.4 | 5 |
| 79 | Additive Analytics: Easy Transformation of Low-Cost Fused Deposition Modeling Three-Dimensional Printers for HPTLC Sample Application. ACS Omega, 2020, 5, 11147-11150. | 3.5 | 5 |
| 80 | Oxidation of thioanisole and p-methoxythioanisole by lignin peroxidase: kinetic evidence of a direct reaction between compound II and a radical cation. Biochemical Journal, 2003, 374, 761-766. | 3.7 | 4 |
| 81 | Meiothermus ruber thiolase â€“ A new process stable enzyme for improved butanol synthesis. Biochimie, 2014, 103, 16-22. | 2.6 | 4 |
| 82 | Catalytic Decomposition of the Oleaginous Yeast Cutaneotrichosporon Oleaginosus and Subsequent Biocatalytic Conversion of Liberated Free Fatty Acids. ACS Sustainable Chemistry and Engineering, 2019, 7, 6531-6540. | 6.7 | 4 |
| 83 | GFP Scaffold-Based Engineering for the Production of Unbranched Very Long Chain Fatty Acids in Escherichia coli With Oleic Acid and Cerulenin Supplementation. Frontiers in Bioengineering and Biotechnology, 2019, 7, 408. | 4.1 | 4 |
| 84 | Greener aromatic antioxidants for aviation and beyond. Sustainable Energy and Fuels, 2020, 4, 2153-2163. | 4.9 | 4 |
| 85 | Non-invasive Raman spectroscopy for time-resolved in-line lipidomics. RSC Advances, 2021, 11, 28565-28572. | 3.6 | 4 |
| 86 | Life cycle greenhouse gas emissions of microalgal fuel from thin-layer cascades. Bioprocess and Biosystems Engineering, 2021, 44, 2399-2406. | 3.4 | 4 |
| 87 | Biosorption of Neodymium by Selected Photoautotrophic and Heterotrophic Species. Journal of Chemical Engineering & Process Technology, 2015, 06, . | 0.1 | 4 |
| 88 | Efficient Green Light Acclimation of the Green Algae Picochlorum sp. Triggering Geranylgeranylated Chlorophylls. Frontiers in Bioengineering and Biotechnology, 2022, 10, 885977. | 4.1 | 4 |
| 89 | A New Prokaryotic Farnesyldiphosphate Synthase from the Octocoral Eunicea Fusca: Differential Display, Inverse PCR, Cloning, and Characterization. Marine Biotechnology, 2009, 11, 62-73. | 2.4 | 3 |
| 90 | Exploring the catalytic cascade of cembranoid biosynthesis by combination of genetic engineering and molecular simulations. Computational and Structural Biotechnology Journal, 2020, 18, 1819-1829. | 4.1 | 3 |

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| 91 | Systems Biology Engineering of the Pantothenate Pathway to Enhance 3HB Productivity in Escherichia coli. Biotechnology and Bioprocess Engineering, 2021, 26, 621-629. | 2.6 | 3 |
| 92 | Identification and characterization of a highly thermostable crotonase from Meiothermus ruber. Journal of Molecular Catalysis B: Enzymatic, 2015, 112, 40-44. | 1.8 | 2 |
| 93 | Enzymatic degradation of synthetic poly(3-hydroxybutyrates) as a tool for combinatorial microstructure determination. Polymer Degradation and Stability, 2017, 143, 176-185. | 5.8 | 2 |
| 94 | Spectrophotometric investigations with hexa-coordinate ferric lignin peroxidase: does water retention at the active site influence catalysis?. Biochemical and Biophysical Research Communications, 2002, 297, 406-411. | 2.1 | 1 |
| 95 | Batch and Continuous Biogas Fermentation of the Fresh Water Algae Chlorella Vulgaris-Detailed Process Analysis. Journal of Bioprocessing & Biotechniques, 2018, 08, . | 0.2 | 1 |
| 96 | PtXâ€Plus: Synergies Through Coupling of PtX Facilities with a Biorefinery. Chemie-Ingenieur-Technik, 2020, 92, 1797-1802. | 0.8 | 1 |
| 97 | Terbium Excitation Spectroscopy as a Detection Method for Chromatographic Separation of Lanthanide-Binding Biomolecules. ACS Omega, 2020, 5, 27050-27056. | 3.5 | 1 |
| 98 | Editorial: Industrial Biotechnology Forum (http://ibf-conference.org). Frontiers in Bioengineering and Biotechnology, 2019, 7, 434. | 4.1 | 0 |
| 99 | Metabolite and transcriptome analysis of an Australian eremohila plant and its correlation to antibacterial effects. Planta Medica, 2015, 81, . | 1.3 | 0 |
| 100 | Ecoefficient production of coral derived pseudopterosin in engineered E. coli. Planta Medica, 2015, 81, . | 1.3 | 0 |
| 101 | 4 Algae symbiosis with eukaryotic partners. , 2012, , 55-86. | | 0 |