

Publication list Prof. Dr. Michael Bott

2021

219. **Ramp, P., Lehnert, A., Matamouros, S., Wirtz, A., Baumgart, M. and Bott, M. (2021)**
Metabolic engineering of *Corynebacterium glutamicum* for production of scyllo-inositol, a drug candidate against Alzheimer's disease
Metab. Eng. 67: 173-185 (<https://doi.org/10.1016/j.ymben.2021.06.011>)
218. **Wolf, S., Becker J., Tsuge, Y., Kawaguchi, H., Kondo, A., Marienhagen, J., Bott, M., Wendisch, V.F., and Wittmann, C. (2021)**
Advances in metabolic engineering of *Corynebacterium glutamicum* to produce high-value active ingredients for food, feed, human health, and well-being
Essays Biochem. 65: 197-212 (<https://doi.org/10.1042/EBC20200134>)
217. **Schweikert, S., Kranz, A., Yakushi, T., Filipchyk, A., Polen, T., Etterich, H., Bringer, S. and Bott, M. (2021)**
The FNR-type regulator GoxR of the obligatory aerobic acetic acid bacterium *Gluconobacter oxydans* affects expression of genes involved in respiration and redox metabolism
Appl. Environm. Microbiol. 87: e00195-21 (<https://doi.org/10.1128/AEM.00195-21>)
216. **Fricke, P.M., Klemm, A., Bott, M., and Polen, T. (2021)**
On the way toward regulatable expression systems in acetic acid bacteria: target gene expression and use cases
Appl. Microbiol. Biotechnol. 105: 3423–3456 (<https://doi.org/10.1007/s00253-021-11269-z>)
215. **Zelle, E., Pflzer, N., Oldiges, M., Koch-Koerfges, A., Bott, M., Nöh, K., and Wiechert, W. (2021)**
An energetic profile of *Corynebacterium glutamicum* underpinned by measured biomass yield on ATP
Metab. Eng. 65: 66–78 (<https://doi.org/10.1016/j.ymben.2021.03.006>)
214. **Maeda, T., Koch-Koerfges, A. and Bott, M. (2021)**
Relevance of NADH dehydrogenase and alternative two-enzyme systems for growth of *Corynebacterium glutamicum* with glucose, lactate, and acetate
Front. Biotechnol. Bioeng. 8: 621213 (<https://doi.org/10.3389/fbioe.2020.621213>)

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213. **Zhu, L., Mack, C., Wirtz, A., Kranz, A., Polen, T., Baumgart, M. and Bott, M. (2020)**
Regulation of γ -aminobutyrate (GABA) utilization in *Corynebacterium glutamicum* by the PucR-type transcriptional regulator GabR and by alternative nitrogen and carbon sources
Front. Microbiol. 11: 544045 (<https://doi.org/10.3389/fmicb.2020.544045>)
212. **Bakkes, P.J., Ramp, P., Bida, A., Dohmen-Olma, A., Bott, M. and Freudl, R. (2020)**
Improved pEKEx2-derived expression vectors for tightly controlled production of recombinant proteins in *Corynebacterium glutamicum*
Plasmid 112: 102540 (<https://doi.org/10.1016/j.plasmid.2020.102540>)
211. **Fricke, P.M., Link, T., Gätgens, J., Sonntag, C., Otto, M., Bott, M. and Polen, T. (2020)**
A tunable L-arabinose-inducible expression plasmid for the acetic acid bacterium *Gluconobacter oxydans*
Appl. Microbiol. Biotechnol. 104: 9267-9282 (<https://doi.org/10.1007/s00253-020-10905-4>)
210. **Keppel, M., Hünnefeld, M., Filipchyk, A., Viets, U., Davoudi, C.-F., Krüger, A., Mack, C., Pfeifer, E., Polen, T., Baumgart, M., Bott, M. and Frunzke, J. (2020)**

- HrrSA orchestrates a systemic response to heme and determines prioritization of terminal cytochrome oxidase expression
Nucleic Acids Res. 48: 6547-6562 (<https://dx.doi.org/10.1093/nar/gkaa415>)
209. **Kircher, M., Bott, M., and Marienhagen, J. (2020)** The importance of biotechnology for the bioeconomy. In: Bioeconomy for beginners. J. Pietzsch (ed.), Springer-Verlag, Heidelberg, pp. 105-128 (http://dx.doi.org/10.1007/978-3-662-60390-1_5)
 208. **Bott, M. (2020)**
Nutzung mikrobieller und pflanzlicher Diversität in der Biotechnologie
In: Spree, D., Kandarr, J. (Eds.), Biodiversität im Meer und an Land. Vom Wert biologischer Vielfalt. Potsdam: Deutsches Geoforschungszentrum GFZ, 50 - 53
(<https://dx.doi.org/10.2312/eskp.2020.1.2.3>)
 207. **Küberl, A., Mengus-Kaya, A., Polen, T. and Bott, M. (2020)**
The iron deficiency response of *Corynebacterium glutamicum* and a link to thiamine biosynthesis. Appl. Environm. Microbiol. 86: e00065-20 (<https://dx.doi.org/10.1128/AEM.00065-20>)
 206. **Battling, S., Wohlers, K., Igwe, C., Kranz, A., Pesch, M., Wirtz, A., Baumgart, M., Büchs, J. and Bott, M. (2020)**
Novel plasmid-free *Gluconobacter oxydans* strains for production of the natural sweetener 5-ketofructose
Microb. Cell Fact. 19: 54 (<https://dx.doi.org/10.1186/s12934-020-01310-7>)
 205. **Wolf, N., Bussmann, M., Koch-Koerfges, A., Katcharav, N., Schulte, J., Polen, T., Hartl, J., Vorholt, J.A., Baumgart, M. and Bott, M. (2019)**
Molecular basis of growth inhibition by acetate of an adenylate cyclase-deficient mutant of *Corynebacterium glutamicum*
Front. Microbiol. 11: 87 (<http://dx.doi.org/10.3389/fmicb.2020.00087>)
 204. **Spielmann, A., Brack, Y., van Beek, H., Flachbart, L., Sundermeyer, L., Baumgart, M. and Bott, M. (2020)**
NADPH biosensor-based identification of an alcohol dehydrogenase variant with improved catalytic properties caused by a single charge reversal at the protein surface
AMB Expr 10: 14 (<http://dx.doi.org/10.1186/s13568-020-0946-7>)
- 2019 -----
203. **Rohweder, B., Lehmann, G., Eichner, N., Polen, T., Rajendran, C., Linde, M., Treiber, T., Jung, O., Dettmer, K., Meister, G., Bott, M., Gronwald, W., and Sterner, R. (2019)**
Library selection with a randomized repertoire of ($\beta\alpha$)₈-barrel enzymes results in unexpected induction of gene expression
Biochemistry 58: 4207-4217 (<http://dx.doi.org/10.1021/acs.biochem.9b00579>)
 202. **Davoudi, C., Ramp, P., Baumgart, M., and Bott, M. (2019)**
Identification of Surf1 as an assembly factor of the cytochrome *bc*₁-aa₃ supercomplex of *Actinobacteria*.
BBA Bioenergetics 1860: 148033 (<https://dx.doi.org/10.1016/j.bbabo.2019.06.005>)
 201. **Kraxner, K.J., Polen, T., Baumgart, M., and Bott, M. (2019)**
The conserved actinobacterial transcriptional regulator FtsR controls expression of *ftsZ* and further target genes and influences growth and cell division in *Corynebacterium glutamicum*
BMC Microbiology 19: 179 (<http://dx.doi.org/10.1186/s12866-019-1553-0>)
 200. **Kortmann, M., Baumgart, M. and Bott, M. (2019)**
Pyruvate carboxylase from *Corynebacterium glutamicum*: purification and characterization
Appl. Microbiol. Biotechnol. 103: 6571-6580 (<http://dx.doi.org/10.1007/s00253-019-09982-x>)
 199. **Milke, L., Ferreira, P., Kallscheuer, N., Braga, A., Vogt, M., Kappelmann, J., Oliveira, J., Silva, R., Rocha, I., Bott, M., Noack, S., Faria, N., and Marienhagen, J. (2019)**

- Modulation of the central carbon metabolism of *Corynebacterium glutamicum* improves malonyl-CoA availability and increases plant polyphenol synthesis
Biotechnol. Bioeng. 116:1380–1391 (<http://dx.doi.org/10.1002/bit.26939>)
198. **Kallscheuer, N., Menezes, R., Foito, A., da Silva, M.H., Braga, A., Decker, W., Sevillano, D.M., Rosado-Ramos, R., Jardim, C., Oliveira, J., Ferreira, P., Rocha, I., Silva, A.R., Sousa, M., Allwood, J., Bott, M., Faria, N., Stewart, D., Ottens, M., Naesby, M., Santos, C. and Marienhagen, J. (2019)** Identification of a phenol against Huntington's disease in raspberries and its microbial production
Plant Physiol. 179: 969–985 (<http://dx.doi.org/10.1104/pp.18.01074>)
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 200. **Kortmann, M., Baumgart, M. and Bott, M. (2019)** Pyruvate carboxylase from *Corynebacterium glutamicum*: purification and characterization. Appl. Microbiol. Biotechnol. 108: 6571–6580 (<http://dx.doi.org/10.1007/s00253-019-09982-x>)
 199. **Milke, L., Ferreira, P., Kallscheuer, N., Braga, A., Vogt, M., Kappelmann, J., Oliveira, J., Silva, R., Rocha, I., Bott, M., Noack, S., Faria, N., and Marienhagen, J. (2019)** Modulation of the central carbon metabolism of *Corynebacterium glutamicum* improves malonyl-CoA availability and increases plant polyphenol synthesis. Biotechnol. Bioeng. 116:1380–1391 (<http://dx.doi.org/10.1002/bit.26939>)
 198. **Kallscheuer, N., Menezes, R., Foito, A., da Silva, M.H., Braga, A., Decker, W., Sevillano, D.M., Rosado-Ramos, R., Jardim, C., Oliveira, J., Ferreira, P., Rocha, I., Silva, A.R., Sousa, M., Allwood, J., Bott, M., Faria, N., Stewart, D., Ottens, M., Naesby, M., Santos, C. and Marienhagen, J. (2019)** Identification of a phenol against Huntington's disease in raspberries and its microbial production. Plant Physiol. 179: 969–985 (<http://dx.doi.org/10.1104/pp.18.01074>)
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196. **Spielmann, A., Baumgart, M. and Bott, M. (2018)** NADPH-related processes studied with a SoxR-based biosensor in *Escherichia coli*. MicrobiologyOpen e785(<http://dx.doi.org/10.1002/mbo3.785>)
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 194. **Kranz, A., Steinmann, A., Degner, U., Mengus-Kaya, A., Matamouros, S., Bott, M. and Polen, T. (2018)** Global mRNA decay and 23S rRNA fragmentation in *Gluconobacter oxydans* 621H. BMC Genomics 19:753 (<http://dx.doi.org/10.1186/s12864-018-5111-1>)
 193. **Morosov, X., Davoudi, C., Baumgart, M., Brocker, M., and Bott, M. (2018)** The copper-deprivation stimulon of *Corynebacterium glutamicum* comprises proteins for biogenesis of the actinobacterial cytochrome *bc*₁-aa₃ supercomplex. J. Biol. Chem. 293: 15628–15640 (<http://dx.doi.org/10.1074/jbc.RA118.004117>)

192. **Alderwick, L., Birch, H.L., Krumbach, K., Bott, M., Eggeling, L. and Besra, G.S. (2018)** AftD functions as an a1? 5 arabinofuranosyltransferase involved in the biosynthesis of the mycobacterial cell wall core. *Cell Surface* 1: 2-14 (<http://dx.doi.org/10.1016/j.tcs.2017.10.001>)
191. **Kranz, A., Busche, T., Vogel, A., Usadel, B., Kalinowski, J., Bott, M. and Polen, T. (2018)** RNAseq analysis of α -proteobacterium *Gluconobacter oxydans* 621H. *BMC Genomics* 19:24 (<http://dx.doi.org/10.1186/s12864-017-4415-x>)
190. **Dudnik, A., Almeida, A.F., Andrade, R., Avila, B., Bañados, P., Barbay, D., Bassard, J.-E., Benkoulouche, M., Bott, M. et al. (2018).** BachBerry: BACterial Hosts for production of Bioactive phenolics from bERRY fruits. *Phytochem. Rev.* 17: 291–326 (<http://dx.doi.org/10.1007/s11101-017-9532-2>)

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189. **Kleine, B., Chattopadhyay, A., Polen, T. Pinto, D., Mascher, T., Bott, M., Brocker, M., and Freudl, R. (2017)** The three-component system EsrISR regulates a cell envelope stress response in *Corynebacterium glutamicum*. *Mol. Microbiol.* 106: 719-741 (<http://dx.doi.org/10.1111/mmi.13839>)
188. **Bott, M., Jäger, K.-E., Pietruszka, J., and Wiechert, W. (2017)** 40 Years of Biotechnology Research at Forschungszentrum Jülich. *J. Biotechnol.* 258: 1 (<http://dx.doi.org/10.1016/j.jbiotec.2017.08.014>)
187. **Baumgart, M., Unthan, S., Kloß, R., Radek, A., Polen, T., Tenhaef, N., Küberl, A., Siebert, D., Brühl, N., Marin, K., Hans, S., Krämer, R., Bott, M., Kalinowski, J., Wiechert, W., Seibold, G., Frunzke, J., Rückert, C., Wendisch, V.F. and Noack, S. (2017)** *Corynebacterium glutamicum* chassis C1*: Building and testing a novel platform host for synthetic biology and industrial biotechnology. *ACS Synth. Biol.* 7:132-144 (<http://dx.doi.org/10.1021/acssynbio.7b00261>)
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185. **Kallscheuer, N., Polen, T., Bott, M. and Marienhagen, J. (2017)** Reversal of β -oxidative pathways for the microbial production of chemicals and polymer building blocks. *Metab. Eng.* 42:33-42 (<http://dx.doi.org/10.1016/j.ymben.2017.05.004>)
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183. **Kiefler, I., Bringer, S. and Bott, M. (2017)** Metabolic engineering of *Gluconobacter oxydans* 621H for improved biomass yield. *Appl. Microbiol. Biotechnol.* 101: 5453-5467 (<http://dx.doi.org/10.1007/s00253-017-8308-3>)
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181. **Kallscheuer, N., Vogt, M., Bott, M., and Marienhagen, J. (2017)** Functional expression of plant-derived O-methyltransferase, flavanone 3-hydroxylase, and flavonol synthase in *Corynebacterium glutamicum* for production of pterostilbene, kaempferol, and quercetin. *J. Biotechnol.* 258:190-196 (<http://dx.doi.org/10.1016/j.jbiotec.2017.01.006>)
180. **Kallscheuer, N., Gätgens, J., Lübcke, M., Pietruszka, J., Bott, M., and Polen, T. (2017)** Improved production of adipic acid with *Escherichia coli* by reversal of β -oxidation. *Appl. Microbiol. Biotechnol.* 101: 2371-2382. (<http://dx.doi.org/10.1007/s00253-016-8033-3>)

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178. **Schulte, J., Baumgart, M. and Bott, M. (2017)** Identification of the cAMP phosphodiesterase CpdA as novel key player in cAMP-dependent regulation in *Corynebacterium glutamicum*. Mol. Microbiol. 103: 534-552 (<http://dx.doi.org/10.1111/mmi.13574>)
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176. **Limberg, M.H., Aryani, T., Schulte, J., Mahr, R., Baumgart, M., Bott, M., Wiechert, W. and Oldiges, M. (2017)** Metabolic profile of 1,5-diaminopentane producing *Corynebacterium glutamicum* under scale-down conditions: Blueprint for robustness to bioreactor inhomogeneities. Biotechnol. Bioeng. 114: 560-575 (<http://dx.doi.org/10.1002/bit.26184>)

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170. **Kallscheuer, N., Vogt, M., Stenzel, A., Gätgens, J., Bott, M. and Marienhagen, J. (2016)** Construction of a *Corynebacterium glutamicum* platform strain for the production of stilbenes and (2S)-flavanones. Metab. Eng. 38: 47-55 (<http://dx.doi.org/10.1016/j.ymben.2016.06.003>)
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glutamicum. Appl. Microbiol. Biotechnol. 100: 1871-1881 (<http://dx.doi.org/10.1007/s00253-015-7165-1>)

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