List of publications

- 1. Mokkapati VRSS, Pandit S, Kim J, Lovmar M, Westerlund F, **Mijakovic I** (2018) Antibacterial activity of graphene oxide and reduced graphene oxide integrated in agar plates. Royal Soc Open Sci in press.
- 2. Ravikumar V, Nalpas N, Anselm V, Krug K, Lenuzzi M, Šestak MS, Domazet-Lošo T, **Mijakovic I**, Macek B (2018) In-depth analysis of Bacillus subtilis proteome identifies new ORFs and traces the evolutionary history of modified proteins. Sci Rep in press.
- 3. Singh P, Pandit S, Beshay M, Mokkapati VRRS, Garnæs J, Olsson M, Sultan A, Mackevica A, Mateiu RV, Lütken HV, Daugaard A, Baun A, **Mijakovic I** (2018) Anti-biofilm effects of gold and silver nanoparticles synthesized by the *Rhodiola rosea* rhizome extracts. Artif Cells Nanomed Biotechnol in press.
- 4. Motwalli O, Essack M, Salhi A, Hanks J, **Mijakovic I**, Bajic VB (2018) BioPS: System for screening and assessment of biofuel-production potential of cyanobacteria. PLoS One 13: e0202002.
- 5. Merlo A, Mokkapati VRSS, Pandit S, **Mijakovic I** (2018) Boron nitride nanomaterials: biocompatibility and bio-applications. Biomater Sci 6: 2298-2311.
- 6. Singh P, Pandit S, Mokkapati VRSS, Garg A, Ravikumar V, **Mijakovic I** (2018) Gold nanoparticles in diagnostics and therapeutics for human cancer. Int J Mol Sci 19: 1979.
- 7. Cantatore V, Pandit S, Mokkapati VRSS, Schindler S, Eigler S, **Mijakovic I**, Panas I (2018) Modeling of a novel graphene based selective bio-sensor for glucose. Carbon 137: 343-348.
- 8. Singh P, Pandit S, Garnaes J, Tunjic S, Mokkapati VRSS, Thygesen A, Mateiu RV, Baun A, Daugaard AE, Sultan A, **Mijakovic I** (2018) Green synthesis of gold and silver nanoparticles from industrial hemp and their capacity for biofilm inhibition. Int J Nanomed 13: 3571-3591.
- 9. Othoum GK, Bougouffa S, Razali RM, Bokhari A, Alamoudi S, Antunes A, Gao X, Hoehndorf R, Arold ST, Gojobori T, Hirt H, **Mijakovic I**, Bajic VB, Lafi FF, Essack M (2018) In silico exploration of Red Sea Bacillus genomes for natural product biosynthetic gene clusters. BMC Genomics 19: 382.
- 10. García TG, Ventroux M, Derouiche A, Bidnenko V, Correia Santos SF, Henri C, **Mijakovic I**, Noirot-Gros MF, Poncet S (2018) Phosphorylation of the *Bacillus subtilis* replication controller YabA plays a role in regulation of sporulation and biofilm formation. Front Microbiol 9: 486.
- 11. Pandit S, Cao Z, Mokkapati VRSS, Celauro E, Yurgens A, Lovmar M, Westerlund F, Sun J, **Mijakovic I** (2018) Vertically aligned graphene coating is bactericidal and prevents the formation of bacterial biofilms. Adv Mater Interfaces 5: 1701331.
- 12. Jers C, Ravikumar V, Lezyk M, Sultan A, Sjöling A, Wai SN, **Mijakovic I** (2018) The global acetylome of the human pathogen Vibrio cholerae V52 reveals lysine acetylation of major transcriptional regulators. Front Cell Infect Microbiol 7: 537.
- Stancik IA, Sestak MS, Ji B, Axelson-Fisk M, Franjevic D, Jers C, Domazet-Loso T, Mijakovic I (2018) Serine/Threonine protein kinases from bacteria, archaea and eukarya share a common evolutionary origin deeply rooted in the tree of life. J Mol Biol 2836: 30542-30549.
- 14. Pandit S, Ravikumar V, Abdel Haleem AM, Derouiche A, Mokkapati VRSS, Sihlbom C, Mineta K, Gojobori T, Gao X, Westerlund F, **Mijakovic I** (2017) Low concentrations of vitamin C reduce the synthesis of extracellular polymers and destabilize bacterial biofilms. Front Microbiol 8: 2599.
- 15. Pandit S, Mokkapati VRSS, Helgadóttir S, Westerlund F, **Mijakovic I** (2017) Combination of cold atmospheric plasma and vitamin C effectively disrupts bacterial biofilms. Clin Microbiol 6: 3.
- 16. Nielsen J, Archer J, Essack M, Bajic VB, Gojobori T, **Mijakovic I** (2017) Building a biobased industry in the Middle East through harnessing the potential of the Red Sea biodiversity. Appl Microbiol Biotechnol 101: 4837–4851.

- 17. Avaz S, Roy RB, Mokkapati VRSS, Bozkurt A, Pandit S, **Mijakovic I**, Menceloglu YZ (2017) Graphene based nanosensor for aqueous phase detection of nitroaromatics. RSC Adv 7: 25519-25527.
- Kalantari A, Chen T, Ji B, Stancik IA, Ravikumar V, Franjevic D, Saulou-Bérion C, Goelzer A,
 Mijakovic I (2017) Conversion of glycerol to 3-hydroxypropanoic acid by genetically engineered Bacillus subtilis. Front Microbiol 8: 638.
- 19. Helgadóttir S, Pandit S, Mokkapati VRSS, Westerlund F, Apell P, **Mijakovic I** (2017) Vitamin C pretreatment enhances the antibacterial effect of cold atmospheric plasma. Front Cell Infect Microbiol 7: 43.
- 20. Derouiche A, Petranovic D, Macek B, **Mijakovic I** (2017) Bacillus subtilis single-stranded DNA-binding protein SsbA is phosphorylated at threonine 38 by the serine/threonine kinase YabT. Period Biol 118: 399-404.
- 21. Mokkapati VRSS, Yuksel D, Imerbc K, Yilmazd N, **Mijakovic I**, Koyuncu I (2017) Membrane properties and antibacterial activity of polysulfone-graphene oxide composite membranes phase inversed in graphene oxide anti-solvent. RSC Adv 7: 4378-4386.
- 22. Motwalli O, Essack M, Jankovic BR, Ji B, Liu X, Ansari HR, Hoehndorf R, Gao X, Arold ST, Mineta K, Archer JAC, Gojobori T, **Mijakovic I**, Bajic VB (2017) In silico screening for candidate chassis strains of free fatty acid-producing cyanobacteria. BMC Genomics 18:33.
- 23. Wang N, Pandit S, Ye L, Edwards M, Mokkapati VRSS, Murugesan M, Kuzmenko V, Zhao C, Westerlund F, **Mijakovic I**, Liu J (2017) Efficient surface modification of carbon nanotubes for fabricating high performance CNT based hybrid nanostructures. Carbon 111: 402-410.
- 24. Derouiche A, Shi L, Kalantari A, **Mijakovic I** (2016) Substrate specificity of the Bacillus subtilis BY-kinase PtkA is controlled by alternative activators: TkmA and SalA. Front Microbiol 7: 1525.
- 25. Shi L, Ravikumar V, Derouiche A, Macek B, **Mijakovic I** (2016) Tyrosine 601 of Bacillus subtilis DnaK undergoes phosphorylation and is crucial for chaperone activity and heat shock survival. Front Microbiol 7: 533.
- 26. Zhao C, Pandit S, Fu Y, **Mijakovic I**, Jesorka A, Liu J (2016) Graphene oxide based coatings on nitinol for biomedical implant applications: effectively promote mammalian cell growth but kill bacteria. RSC Adv 6: 38124.
- 27. **Mijakovic I**, Grangeasse C, Turgay K (2016) Exploring the diversity of protein modifications: special bacterial phosphorylation systems. FEMS Microbiol Rev 40: 398-417.
- 28. Garcia-Garcia T, Poncet S, Derouiche A, Shi L, **Mijakovic I**, Noirot-Gros MF (2016) Role of Protein Phosphorylation in the Regulation of Cell Cycle and DNA-Related Processes in Bacteria. Front Microbiol 7: 184.
- 29. Ravikumar V, Macek B, **Mijakovic I** (2016) Resources for assignment of phosphorylation sites on peptides and proteins. Methods Mol Biol 1355: 293-306.
- 30. Derouiche A, Shi L, Kalantari A, **Mijakovic I** (2016) Evolution and tinkering: what do a protein kinase, a transcriptional regulator and chromosome segregation/cell division proteins have in common? Curr Genet 62: 67-70.
- 31. Ravikumar V, Jers C, **Mijakovic I** (2015) Elucidating host-pathogen interactions based on post-translational modifications using proteomics approaches. Front Microbiol 6: 1312.
- 32. Kalantari A, Derouiche A, Shi L, **Mijakovic I** (2015) Serine/threonine/tyrosine phosphorylation regulates DNA-binding of bacterial transcription regulators. Microbiology 161: 1720-1729.
- 33. Derouiche A, Shi L, Bidnenko V, Ventroux M, Pigonneau N, Franz-Wachtel M, Kalantari A, Nessler, S, Noirot-Gros MF, **Mijakovic I** (2015) Bacillus subtilis SalA is a phosphorylation-dependent transcription regulator which represses scoC and activates the production of the exoprotease AprE. Mol Microbiol 97: 1195-1208.

- 34. Grangeasse C, Stülke J, **Mijakovic I** (2015) Regulatory potential of post-translational modifications in bacteria. Front Microbiol 6: 500.
- 35. **Mijakovic I**, Deutscher J (2015) Protein-tyrosine phosphorylation in Bacillus subtilis: a 10-year retrospective. Front Microbiol 6: 18.
- 36. Shi L, Pigeonneau N, Ventroux M, Derouiche A, Bidnenko V, **Mijakovic I**, Noirot-Gros MF (2014) Protein-tyrosine phosphorylation interaction network in Bacillus subtilis reveals new substrates, kinase activators and kinase cross-talk. Front Microbiol 5: 538.
- 37. Shi L, Pigeonneau N, Ravikumar V, Dobrinic P, Macek B, Franjevic D, Noirot-Gros MF, **Mijakovic I** (2014) Cross-phosphorylation of bacterial serine/threonine and tyrosine protein kinases on key regulatory residues. Front Microbiol 5: 495.
- 38. Sohoni SV, Lieder S, Bapat P, **Mijakovic I**, Lantz AE (2014) Low molecular weight protein tyrosine phosphatases control antibiotic production in Streptomyces coelicolor A3(2). Enz Eng 3: 122.
- 39. Sohoni SV, Fazio A, Workman CT, **Mijakovic I**, Eliasson Lantz A (2014) Synthetic promoter library for modulation of actinorhodin production in Streptomyces coelicolor A3(2). PLoS One 9: e99701.
- Kobir A, Poncet S, Bidnenko V, Delumeau O, Jers C, Zouhir S, Grenha R, Nessler S, Noirot P, Mijakovic I (2014) Phosphorylation of Bacillus subtilis gene regulator AbrB modulates its DNAbinding properties. Mol Microbiol 92: 1129-1141.
- 41. Shi L, Ji B, Kolar-Znika L, Boskovic A, Jadeau F, Combet C, Grangeasse C, Franjevic D, Talla E, **Mijakovic I** (2014) Evolution of bacterial protein-tyrosine kinases and their relaxed specificity towards substrates. Genome Biol Evol 6: 800-817.
- 42. Ravikumar V, Shi L, Krug K, Derouiche A, Jers C, Cousin C, Kobir A, **Mijakovic I**, Macek B (2014) Quantitative phosphoproteome analysis of Bacillus subtilis reveals novel substrates of the kinase PrkC and phosphatase PrpC. Mol Cell Proteom 13: 1965-1978.
- 43. Derouiche A, Bidnenko V, Grenha R, Pigonneau N, Ventroux M, Franz-Wachtel M, Nessler S, Noirot-Gros MF, **Mijakovic I** (2013) Interaction of bacterial fatty-acid-displaced regulators with DNA is interrupted by tyrosine phosphorylation in the helix-turn-helix domain. Nucleic Acids Res 41: 9371-9381.
- 44. Cousin C, Derouiche A, Shi L, Pagot Y, Poncet S, **Mijakovic I** (2013) Protein-serine/threonine/tyrosine kinases in bacterial signaling and regulation. FEMS Microbiol Lett 346: 11-19.
- 45. Bidnenko V, Shi L, Kobir A, Ventroux M, Pigeonneau N, Henry C, Trubuil A, Noirot-Gros MF, **Mijakovic I** (2013) Bacillus subtilis serine/threonine protein kinase YabT is involved in spore development via phosphorylation of a bacterial recombinase. Mol Microbiol 88: 921-935.
- 46. Grangeasse C, Nessler S, **Mijakovic I** (2012) Bacterial tyrosine-kinases: evolution, biological function and structural insights. Philos Trans R Soc Lond B Biol Sci 367: 2640-2655.
- 47. Derouiche A, Coussin C, **Mijakovic I** (2012) Protein phosphorylation from the perspective of systems biology. Curr Opin Biotechnol 23: 585-590.
- 48. **Mijakovic I**, Macek B (2012) Impact of phosphoproteomics on studies of bacterial physiology. FEMS Microbiol Rev 36: 877-892.
- 49. Jadeau F, Grangeasse C, Shi L, **Mijakovic I**, Deléage G, Combet C (2012) BYKdb: The Bacterial protein tYrosine Kinase database. Nucleic Acids Res 40: D321-324.
- 50. Misra S, Milohanic E, Ake F, **Mijakovic I**, Deutscher J, Monnet V, Henry C (2011) Analysis of the Serine/Threonine/Tyrosine phosphoproteome of the pathogenic bacterium Listeria monocytogenes reveals phosphorylated proteins related to virulence. Proteomics 11: 4155-4165.
- 51. Macek B, **Mijakovic I** (2011) Site specific analysis of bacterial phosphoproteomes. Proteomics 11: 3002-3011.

- 52. Kobir A, Shi L, Boskovic A, Grangeasse C, Franjevic D, **Mijakovic I** (2011) Protein phosphorylation in bacterial signal transduction. Biochim Biophys Acta 1810: 989-994.
- 53. Jers C, Kobir A, Sondergaard EO, Jensen PR, **Mijakovic I** (2011) Bacillus subtilis two-component system sensory kinase DegS is regulated by serine phosphorylation in its input domain. PLoS One 6: e14653.
- 54. Soufi B, Kumar C, Gnad F, Mann M, **Mijakovic I**, Macek B (2010) Stable Isotope Labeling by Amino Acids in Cell Culture (SILAC) applied to quantitative proteomics of Bacillus subtilis. J Proteome Res 9: 3638-3646.
- 55. Shi L, Kobir A, Jers C, **Mijakovic I** (2010) Bacterial protein-tyrosine kinases. Curr Proteomics 7: 188-194.
- 56. Jers C, Pedersen MM, Paspaliari DK, Schutz W, Johnsson C, Soufi B, Macek B, Jensen PR, **Mijakovic I** (2010) Bacillus subtilis BY-kinase PtkA controls enzyme activity and protein localization of its protein substrates. Mol Microbiol 77: 287-299.
- 57. Nielsen AK, Breuner A, Krzystanek M, Andersen JT, Poulsen TA, Olsen B, **Mijakovic I**, Rasmussen MD (2010) Global transcriptional analysis of Bacillus licheniformis reveals an overlap between heat shock stimulon and iron uptake regulon. J Mol Microbiol Biotechnol 18: 162-173.
- 58. Solem C, Petranovic D, Koebmann B, **Mijakovic I**, Jensen PR (2010) Phosphoglycerate mutase is a highly efficient enzyme without flux control in Lactococcus lactis. J Mol Microbiol Biotechnol 18: 174-180.
- 59. **Mijakovic**, I (2010) Protein phosphorylation in bacteria. Microbe 5, 21-25.
- 60. Hansen ME, Wangari R, Hansen EB, **Mijakovic I**, Jensen PR (2009) Engineering of Bacillus subtilis 168 for increased nisin resistance. Appl Environ Microbiol 75: 6688-6695.
- 61. Petranovic D, Grangeasse C, Macek B, Abdfillatef M, Gueguen-Chaignon V, Nessler S, Deutscher J, **Mijakovic I** (2009) Activation of Bacillus subtilis Ugd by the tyrosine kinase PtkA proceeds via phosphorylation of its residue tyrosine 70. J Mol Microbiol Biotechnol 17: 83-89.
- 62. Bechet E, Guiral S, Torres S, **Mijakovic I**, Cozzone AJ, Grangeasse C (2009) Tyrosine-kinases in bacteria: from a matter of controversy to the status of key regulatory enzymes. Amino Acids 37: 499-507.
- 63. Miller M, Soufi B, Jers C, Pedersen TN, Macek B, Blom N, **Mijakovic I** (2009) NetPhosBac Prediction of protein phosphorylation sites in bacteria. Proteomics 9: 116-125.
- 64. Jers C, Soufi B, Grangeasse C, Deutscher J, **Mijakovic I** (2008) Phosphoproteomics in bacteria towards a systemic understanding of bacterial pathogens. Expert Rev Proteomics 5: 619-627.
- 65. Lacour S, Bechet E, Cozzone AJ, **Mijakovic I**, Grangeasse C (2008) Tyrosine phosphorylation of the UDP-glucose dehydrogenase of Escherichia coli is at the crossroads of colanic acid synthesis and polymyxin resistance. PLoS One 3: e3053.
- 66. Olivares-Illana V, Meyer P, Gueguen-Chaignon V, Soulat D, **Mijakovic I**, Deutscher J, Cozzone AJ, Morera S, Grangeasse C, Nessler S (2008) Structural basis for the regulation mechanism of the tyrosine kinase CapB from Staphylococcus aureus. PLoS Biology 6: e143.
- 67. Soufi B, Gnad F, Petranovic D, Jensen PR, Mann M, **Mijakovic I**, Macek B (2008) The Ser/Thr/Tyr phosphoproteome of Lactococcus lactis IL1403 reveals multiply phosphorylated proteins. Proteomics 8: 3486-3493.
- 68. Macek B, Gnad F, Soufi B, Kumar C, Olsen JV, **Mijakovic I**, Mann M (2008) Phosphoproteome of Escherichia coli reveals high conservation of bacterial serine/threonine/ tyrosine phosphorylation. Mol Cell Proteom 7: 299-307.
- 69. Soufi B, Jers C, Macek N, Hansen M, Petranovic D, **Mijakovic I** (2008) Insights from site-specific phosphoproteomics in bacteria. Biochim Biophys Acta 1784: 186-192.

- 70. Petranovic D, Michelsen O, Zahradka K, Silva C, Petranovic M, Jensen PR, **Mijakovic I** (2007) Bacillus subtilis strain deficient for the protein-tyrosine kinase PtkA exhibits impaired DNA replication. Mol Microbiol 63: 1797-1805.
- 71. Macek B, **Mijakovic I**, Olsen JV, Gnad F, Kumar C, Jensen PR, Mann M (2007) The serine/threonine/tyrosine phosphoproteome of the model bacterium Bacillus subtilis. Mol Cell Proteom 6: 697-707.
- 72. Grangeasse C, Cozzone AJ, Deutscher J, **Mijakovic I** (2007) Tyrosine phosphorylation: an emerging regulatory device of bacterial physiology. Trends Biochem Sci 32: 86-94.
- 73. **Mijakovic I**, Petranovic D, Macek B, Cepo T, Mann M, Davies J, Jensen PR, Vujaklija D (2006) Bacterial single-stranded DNA-binding proteins are phosphorylated on tyrosine. Nucleic Acids Res 34: 1588-1596.
- 74. Hammer K, **Mijakovic I**, Jensen PR (2006) Synthetic promoter libraries tuning of gene expression. Trends Biotechnol 24: 53-55.
- 75. **Mijakovic I**, Petranovic D, Bottini N, Deutscher J, Jensen PR (2005) Protein-tyrosine phosphorylation in Bacillus subtlis. J Mol Microbiol Biotechnol 9: 189-197.
- 76. Deutscher J, Herro R, Bourand A, **Mijakovic I**, Poncet S (2005) P-Ser-HPr a link between carbon metabolism and the virulence of some pathogenic bacteria. Biochim Biophys Acta 1754: 118-125.
- 77. **Mijakovic I**, Petranovic D, Jensen PR (2005) Tunable promoters in systems biology. Curr Opin Biotechnol 16: 329-335.
- 78. **Mijakovic I**, Musumeci L, Tautz L, Petranovic D, Edwards RA, Jensen PR, Mustelin T, Deutscher J, Bottini, N (2005) In vitro characterization of B. subtilis protein tyrosine phosphatase YwqE. J Bacteriol 187: 3384-3390.
- 79. **Mijakovic I**, Petranovic D, Deutscher J (2004) How tyrosine phosphorylation affects the UDP-glucose dehydrogenase activity of Bacillus subtilis YwqF. J Mol Microbiol Biotechnol 8: 19-25.
- 80. Maze A, Boel G, Poncet S, **Mijakovic I**, Le Breton Y, Benachour A, Monedero V, Deutscher J, Hartke A (2004) The Lactobacillus casei ptsHI47T mutation causes overexpression of a LevR-regulated but RpoN-independent operon encoding a mannose class phosphotransferase system. J Bacteriol 186: 4543-4555.
- 81. Poncet S, **Mijakovic I**, Nessler S, Gueguen-Chaignon V, Chaptal V, Galinier A, Boel G, Maze A, Deutscher J (2004) HPr kinase/phosphorylase, a Walker motif A-containing bifunctional sensor enzyme controlling catabolite repression in Gram-positive bacteria. Biochim Biophys Acta 1697: 123-135.
- 82. Boel G, Pichereau V, **Mijakovic I**, Maze A, Poncet S, Gillet S, Giard JC, Hartke A, Auffray Y, Deutscher J (2004) Loss of substrate dependent automodification of enolase prevents its export from bacteria. J Mol Biol 337: 485-496.
- 83. Petranovic D, **Mijakovic I** (2004) Photometric assay for measuring the intracellular concentration of branched-chain amino acids in bacteria. J Meth Microbiol 56: 133-136.
- 84. **Mijakovic I**, Poncet S, Boel G, Maze A, Gillet S, Decottignies P, Grangeasse C, Doublet P, Le Marechal P, Deutscher J (2003) Transmembrane modulator-mediated regulation of UDP-glucose DH, the first substrate of a bacterial tyrosine kinase. EMBO J 22, 4709-4718.
- 85. Grangeasse C, Obadia B, **Mijakovic I**, Deutscher J, Cozzone AJ, Doublet P (2003) Autophosphorylation of the Escherichia coli protein kinase Wzc regulates tyrosine phosphorylation of Ugd, a UDP-glucose dehydrogenase. J Biol Chem 278: 39323-39329.
- 86. Boel G, **Mijakovic I**, Maze A, Poncet S, Taha MK, Larribe M, Galinier A, Deutscher J (2003) Transcriptional regulators as potential targets for HPr kinase/phosphorylase and proteins of the phosphotransferase system in Gram-negative bacteria, J Mol Microbiol Biotechnol 5: 206-215.

- 87. **Mijakovic I**, Poncet S, Galinier A, Monedero V, Fieulaine S, Janin J, Nessler S, Marquez HA, Scheffzek K, Hasenbein S, Hengstenberg W, Deutscher J (2002) Pyrophosphate-producing protein dephosphorylation by HPr kinase/phosphorylase: a relic of early life? Proc Natl Acad Sci USA 99: 13442-13347.
- 88. Fieulaine S, Morera S, Poncet S, **Mijakovic I**, Galinier A, Janin J, Deutscher J, Nessler S (2002) X-ray structure of a bifunctional protein kinase in complex with its protein substrate HPr. Proc Natl Acad Sci USA 99: 13437-13441.
- 89. Rokov-Plavec J, Lesjak S, Landeka I, **Mijakovic I**, Weygand-Durasevic I (2002) Maize seryl-tRNA synthetase: specificity of substrate recognition by the organellar enzyme. Arch Biochem Byophys 397: 40-50.
- 90. Monedero V, Poncet S, **Mijakovic I**, Fieulaine S, Dossonet V, Martin-Verstraete I, Nessler S, Deutscher J (2001) Mutations lowering the phosphatase activity of HPr kinase/phosphatase switch off carbon metabolism. EMBO J 20: 3928-3937.
- 91. Weygand-Durasevic I, Lenhard B, Filipic-Rocak S, Rokov J, Landeka I, **Mijakovic I** (2000) Organellar and cytosolic seryl-tRNA synthetases: structural, functional and evolutionary aspects. Acta Biol. Slovenica 43: 109-116.
- 92. **Mijakovic I**, Lenhard B, Weygand-Durasevic I (1999) Evolutionary relationships of seryl-tRNA synthetases based on 3D-modelling. Period Biol 101: 319-324.