Miniaturized metabolomics methods for enabling the study of biomass-restricted samples

He, B.

Curriculum vitae

Bingshu He was born on October 3rd, 1993, in Chifeng, China. After graduating from Ningcheng High School in Inner Mongolia in 2011, she was admitted to the Biology program at Minzu University of China in Beijing. In 2016, she began her master's studies in the group of Prof. Dr. Zeper Abliz under the supervision of Dr. Zhonghua Wang. During these three years, she focused on diabetic nephropathy metabolomics and drug metabolomics in animal models using liquid chromatography–mass spectrometry and air-flow-assisted desorption electrospray ionization mass spectrometry imaging. This research led to her first scientific publication in 2018, titled "A rapid, sensitive, and selective liquid chromatography–mass spectrometry method for simultaneous quantification of astragaloside IV and cycloastragenol in mouse plasma and its application to a pharmacokinetic study". In 2019, she obtained her master's degree and was awarded the Outstanding Graduate Award of Beijing.

In September 2019, she began her PhD project under the supervision of Prof. Dr. Thomas Hankemeier, Dr. Rawi Ramautar, and Dr. Amy Harms at Leiden University. Between 2019 and 2023, she dedicated her research to developing micro-flow LC-MS and CE-MS methods for metabolomics studies in biomass-restricted samples.

List of publications

1. He, B.; Zhang, W.; Guled, F.; Harms, A.; Ramautar, R.; Hankemeier, T. Analytical Techniques for Biomass-Restricted Metabolomics: An Overview of the State-of-the-Art. Microchemical Journal 2021, 171, 106794.

2. He, B.; Di, X.; Guled, F.; Harder, A. V. E.; van den Maagdenberg, A. M. J. M.; Terwindt, G. M.; Krekels, E. H. J.; Kohler, I.; Harms, A.; Ramautar, R.; Hankemeier, T. Quantification of Endocannabinoids in Human Cerebrospinal Fluid Using a Novel Micro-Flow Liquid Chromatography-Mass Spectrometry Method. Analytica Chimica Acta 2022, 1210, 339888.

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Not part of this thesis

1. He, B.; Wang, Z.; Chen, L.; Zhou, Z.; Abliz, Z. A Rapid, Sensitive, and Selective Liquid Chromatography–Mass Spectrometry Method for Simultaneous Quantification of Astragaloside IV and Cycloastragenol in Mouse Plasma and Its Application to a Pharmacokinetic Study. International Journal of Mass Spectrometry 2018, 434, 130–135.

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3. Wang, Z.; Fu, W.; Huo, M.; He, B.; Liu, Y.; Tian, L.; Li, W.; Zhou, Z.; Wang, B.; Xia, J.; Chen, Y.; Wei, J.; Abliz, Z. Spatial-Resolved Metabolomics Reveals Tissue-Specific Metabolic Reprogramming in Diabetic Nephropathy by Using Mass Spectrometry Imaging. Acta Pharmaceutica Sinica B 2021, 11 (11), 3665–3677.

Acknowledgements

I would like to express my gratitude to everyone who has supported me in completing this thesis. This achievement would not have been possible without your guidance, encouragement, and assistance.

First and foremost, I extend my deepest appreciation to my supervisors for their invaluable mentorship, insightful discussions, constructive feedback, and unwavering motivation, all of which have been instrumental in shaping this research. Prof. Dr. Thomas Hankemeier, thank you for giving me the opportunity to learn and conduct research in a state-of-the-art lab and for encouraging me to explore new techniques. Dr. Rawi Ramautar, I am truly grateful for your continuous support, patience, and expert guidance throughout my PhD journey. Dr. Amy Harms, your encouragement and expertise have profoundly contributed to the success of this work.

I sincerely appreciate the support and camaraderie of my colleagues. Special thanks to Faisa for teaching me how to work with micro-flow from the very beginning. I could not have achieved this without your technical assistance and valuable advice. Xinyu and Wei Yang, thank you for sharing all the crucial information that helped me set up my miniaturization method. Wei Zhang, I deeply appreciate your guidance in CE; your thorough explanations allowed me to truly appreciate its intricacies. Marlien, collaborating with you has been a delightful experience, and I am grateful for the wonderful times we shared both in and outside the CE room. I also extend my thanks to everyone who contributed to the warm and supportive atmosphere in the lab, which made my research journey truly enjoyable.

Having one true friend is already a blessing, meeting a whole group of incredible friends is beyond words. Pingping, thank you for sharing countless moments of laughter and stress with me throughout these years. Wei Zhang, Zhengzheng, Wei Yang, Xinyu, Yupeng, Luojiao, Congrou, Mengle, Lu, Yu, Xiaoyue, and Yiwei, your companionship and encouragement have brought so much joy to my life. The memories we have created together will be treasured for a lifetime.

Xiaotian, thank you for always being there for me. Your constant support has been my source of strength and motivation.

Last but not least, I am deeply thankful to my parents and family for their unwavering support and love throughout this journey.

我由衷地感激我的父母和家人，在这段旅程中给予我坚定不移的支持和深深的爱。