# Capillary electrophoresis-mass spectrometry and their application in bioanalysis

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Capillary electrophoresis (CE) is a versatile analytical method that is widely used in various fields for the separation and analysis of numerous substances such as biological macromolecules, neutral molecules, and organic small molecules, especially its lowest sample usage (nanoliters) [1]. Based on the different nature of analytes and detection requirements, researchers have developed different CE separation modes, including capillary electrochromatography, capillary zone electrophoresis, capillary micellar electrokinetic chromatography, and so on. Recently, covalent organic framework materials (COFs) [2,3] and other porous nanomaterials have been developed as OT-CEC stationary phases. We have developed some CE and CE-MS methods for biological samples analysis such as the simultaneous analysis of creatinine and metformin, p-aminohippuric acid, digoxin, and ketoconazole and so on.

**References**

[1] T. Soga, *TrAc- Trends Anal. Chem.* **158** 116883 (2023)
[2] Q. Zhang, S. Xue, A. Li, S.R. Ren, Coord. Chem. Rev. **445** 214108 (2021)
[3] X. Niu, S. Qi, J. Sun, A. Zhu, F. Wang, M. Wu, W. Lv, H. Chen, *J. Sep. Sci.* **47**(2) 2300686 (2024)

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## BIO

Associate Prof. Dr. Shengda QI received his Ph.D. in 2006 from Lanzhou University. He thereafter went to Hong Kong Baptist University as a postdoctoral fellow in Prof. Zhaoxiang Bian' group, developing novel CE methods for the analysis of neurotransmitters. He transferred to Iowa State University in 2010 as a visiting scholar and worked on fluorescent spectroscopy analysis single molecule under the guidance of Prof. Edward S. Yeung. The main topics were focused on the single protein molecule transport inside nanotubes. In 2009, He became an associate professor of chemistry at Lanzhou University. He has published ~ 50 original publications. His current research interests include capillary electrophoresis and Mass spectrometry.