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Multi-dimensional separation of proteins and peptides

Chromatography based methods coupled to mass spectrometry for the separation of components of complex proteins are powerful tools in the field of proteomics. Proteins and peptides constitute the majority of the working parts of living systems. In order to understand cellular processes like cell division and energy metabolism, the analysis of protein complexes is necessary. The goal of the study is to investigate how Cytochrome-C, which functions as a redox protein involved in cell apoptosis and respiration, interacts with 4-hydroxy-2-nonenal. The methodology involves 2-dimensional chromatography coupled with mass spectrometry.