

Comparison of Different Sample Preparation Techniques for the Analysis of Small Molecules in Biological Fluids

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Biological matrices consisting of high molecular weight matrices i.e. endogenous substances, metabolites, proteins, blood cells and coexisting drugs are often difficult to handle for chromatographic analysis. To purify and enrich the target analytes and drugs in these complex matrices an effective sample pretreatment step is essential. Biological sample pretreatment has always been a forgotten part of the biopharmaceutical analysis. Among the sample pretreatment techniques, traditional off-line sample processing like liquid-liquid extraction, protein precipitation, and solid phase extraction are gradually becoming a limiting bottleneck in the chromatographic analysis. On-line and fully automated techniques have been in demand recently.

For this purpose, new systems and coupled devices put on the market by several companies. In this presentation, importance of sample pretreatment in chromatography, manual and automated sample preparation techniques, comparison of these techniques and chromatographic method development steps will be discussed. Some applications of drug determination in complex bio-fluids will be presented under the consideration of current publications. Current trends and the future prospects of sample preparation will be overviewed.

Biography

Sena Caglar Andac has completed her PhD from Istanbul University and Postdoctoral studies from Medical Center of Munich University, Laboratory of Bio-Separation. Currently, she is working as an Associate Professor at Istanbul University, Faculty of Pharmacy. She has researches published in liquid chromatography mass spectrometry for biological fluid analysis of drugs, on-line solid phase extraction coupled liquid chromatography, determination of drugs and degradation studies by high performance liquid chromatography, spectrophotometry and spectrofluorimetry.

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