



## Preface

Increasing sensitivity in the field of analytical chemistry is an ongoing process. Every year there are small incremental advances in most instruments. Over time these advances have allowed the investigation of novel scientific issues that were unimaginable even a decade earlier. This is especially true for the field of liquid chromatography mass spectrometry (LC–MS). Fifteen to twenty years ago sensitivities were similar to liquid chromatography using an ultraviolet detector and a throughput of ten samples in a day was considered a significant accomplishment. Advances in methodology and technology have moved LC–MS from a niche technique limited to handful of highly specialized laboratories to a widely used technique for both quantitative and qualitative applications.

Advances in LC–MS sensitivity can be broadly categorized into three areas: (1) instrumental, (2) mobile phase modification and (3) derivatization. These categories could also be considered as different ways to improve the environment surrounding an LC–MS experiment. Improvements to the instrumentation can make the chromatographic or mass spectrometric processes more efficient. Alterations in the solvent composition surround-

ing the analyte can improve the chromatographic properties or the desorption/ionization processes in the source region of the mass spectrometer. Finally, chemistry can be used to improve the properties of the analyte, again improving chromatographic or mass spectrometric properties. Each of these approaches is addressed in an article contained in this issue of the Journal of Chromatography B.

I am grateful to all of the authors who have contributed to this special issue. It is our hope that these manuscripts will form the basis for further improvements in the field of LC–MS. These improvements will open up new research areas and continue to make this field the exciting research area that it is today.

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