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Affinity and Immunoaffinity CE and CEC

Terry M. Phillips

Since the late 1980s, there has been increasing interest in the application of affinity isolation procedures as a pre-cleanup procedure prior to capillary electrophoretic separations. The advantage of such an approach was demonstrated in 1992 by the Whitesides group, who coined the abbreviation ACE (affinity capillary electrophoresis). Since that time, a growing number of investigators have applied ACE to study a variety of research problems ranging from drug-ligand interactions to receptor interactions and chemometrics. The marriage of the selectivity of antibodies to capillary electrophoretic separations has added a new dimension to separation sciences. The incorporation of immobilized antibodies has led to the development of specific pre-analysis concentrators by the Guzman group providing specific selection of defined analytes from complex biological matrices prior to analysis. Further, capillary electrophoresis has become a useful platform for performing liquid and solid-phase immunoassays for important markers in basic and clinical research. Capillary electrophoresis itself can be considered a miniaturized technique but it also lends well to the development of chip-based systems, especially the design and development of “labs-on-a-chip”.

The 23 papers that comprise this Special Issue are divided into five sections including a series of reviews followed by a selection of papers on the application of affinity CE and CEC. The third section comprises of a series of papers on more specialized applications of ACE and the fourth section deals with immunoaffinity applications. Finally, the fifth section is a collection of chip-based applications. Although this is the first Special Issue devoted to Affinity and Immunoaffinity CE and CEC, I feel sure that others will follow as these techniques become more widely used and popular.

“...capillary electrophoresis has become a useful platform for performing liquid and solid-phase immunoassays for important markers in basic and clinical research.”

As editor of this Special Issue, I would like to express my sincere thanks to all of the authors for their valuable contributions, the referees for their valuable time and expertise in evaluating these manuscripts and especially to Professor El Rassi, the Editor-in-Chief of *ELECTROPHORESIS*, for his continuous support during the preparation of this issue.

A handwritten signature in blue ink, appearing to read 'T. Phillips', with a long horizontal stroke extending to the right.

Terry M. Phillips

Guest Editor

Biography