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Introduction

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INTRODUCTION

This is the sixth issue on Countercurrent Chromatography (CCC) published in this journal. There are about six books and monographs published on this rapidly growing field of separation science. There is a growing awareness on the merits of CCC over other chromatographic methods, especially in the field of natural products. This is because the CCC does not require a solid support and the chemical separation is based on the efficiency of the liquid-liquid partition. As a result, CCC can be used for all organic and inorganic compounds, whether they are derived from natural or synthetic sources. However, this technique did not receive the attention of many scientists because, among other reasons, it lacks automation.

The users of other forms of chromatography (GC and HPLC) need not necessarily be experts in chromatographic science, and they use these techniques tools for the analysis or separation of chemical substances. On the other hand, CCC users generally have a thorough understanding and also a keen interest in theory underlying the separation sciences in order to apply CCC to separation and analysis of complex chemical mixtures.

It is very gratifying to note that, since the publication of the fifth special issue in 1992, there have been significant developments in CCC technology which include the introduction of a dual column CCC, foam CCC, and peak focusing and zone refining CCC, as well as the use of the mass spectrometer as a detector for CCC (CCC-MS). It has been demonstrated that CCC can be used for all types of natural products and biopolymers, synthetic mixtures, and enantiomer separations on an analytical and preparative scale.

This special issue contains 21 papers. Five papers are devoted to theory and instrumentation. The remaining papers deal with the applications of CCC to organic and inorganic compounds. In the past, CCC was mostly used in the U.S.A., Japan, and Europe. Now the usefulness of this chromatographic technology is recognized in China and Russia, as evidenced by the papers in this issue.

As many of you know, the CCC technology was developed by Dr. Yoichiro Ito who is still very active and has been the driving force for its growth and development. We wish him the very best in future endeavors.

N. Bhushan Mandava
Guest Editor
Countercurrent Chromatography