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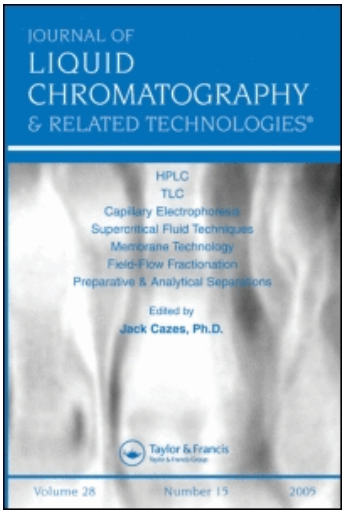

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INTRODUCTION

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INTRODUCTION

This is the fourth special issue on thin layer chromatography (TLC) that we have guest edited by invitation of the Editor, Dr. Jack Cazes; the first two were in 1999 (Volume 22, Nos. 1 and 10) and the third was in 2001 (Volume 24, No. 10). As for these earlier issues, we invited submissions from recognized experts in TLC, and we appreciate greatly the excellent cooperation from the authors whose papers make up this issue.

TLC and high performance TLC (HPTLC) are very important techniques worldwide for purposes ranging from rapid qualitative screening to accurate and precise quantitative analysis using densitometry. This is shown by the fact that a computerized search of the keywords "thin layer chromatography or TLC" on the ISI Web of Science for the year 2001 produced more than 800 papers describing various aspects of the method.

The continuing popularity of TLC can be explained by its many advantages, including the ability to cope with highly contaminated samples, thereby reducing the need for time consuming cleanup steps; a very large number of available stationary phases and applicable mobile phases; an extremely wide range of detecting devices and modes of detection, identification approaches, and quantification techniques; and high sample throughput and corresponding low cost per sample because multiple samples can be analyzed along with standards under identical conditions on a single plate and solvent volumes used are small. The latest techniques and applications of TLC are covered in the third edition of the *Handbook of Thin Layer Chromatography*, which we are currently preparing for publication, probably in early 2003, as a part of Dr. Cazes' Chromatographic Science Series.

The aim of this Special Issue is to provide the reader with a group of papers that illustrate currently important areas of research in the theory, techniques, and applications of TLC. It begins with a fundamental study of lateral analyte–analyte interactions among adsorbed dicarboxylic acid molecules, by Kaczmarski et al., followed by a description of new visualization reagents for phenolic drugs by

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Pyka et al. New scanning approaches in TLC-densitometry are described by Stroka et al. in the third paper, followed by a description of the use of TLC coupled with electronic paramagnetic resonance (EPR) by Cimpoiu et al. Forgacs and Cserhati present a review of recent advances in TLC pigment analysis in the fifth paper and Durrani et al. a retrospective of research in the separation of natural products by liquid chromatography, including TLC, in the sixth paper. The next paper, by Watanabe and Miyamoto, reports methodology for separation and identification of Vitamin B-12 and related compounds in foods, followed by a description of a TLC-bioautography screening technique for the antibiotic flumequine in milk by Choma et al. The ninth paper, by Kalász et al., describes the method for determination of formaldehyde produced by rat liver microsomal metabolism of (–)-deprenyl using thin layer radiochromatography with displacement and elution development. A paper by Zakrzewski et al. discusses the application of the iodine-azide procedure for amino acid detection. The final three papers involve quantitative analysis using TLC with optical densitometry: neutral lipids and phospholipids in *Schistosoma mansoni* cercariae from *Biomphalaria glabrata* snails by Schariter et al., triacylglycerols in sesame seeds by Nikolova-Damyanova et al., and the amino acid lysine in tablets and capsules by Pachuski and Sherma. The last paper is in the field of dietary supplement (nutraceutical) analysis, which is one of the most active current areas of TLC method development as well as other analytical methods such as gas chromatography, high performance liquid column chromatography (HPLC), GC/MS, and HPLC/MS. The continuing international character of TLC research is demonstrated by the diversity of countries represented by the authors of the papers: Poland, Italy, Germany, Hungary, Romania, Japan, Bulgaria, the United Kingdom, and the United States.

In order to keep readers abreast of the progress in TLC on a continuing basis, we will begin to solicit papers in late 2002 for another special issue on TLC that we will guest edit for publication in 2003. We would be pleased to receive comments and suggestions for improvements related to our past special issues and this current one, as well as offers of contributions for the next TLC issue.

Joseph Sherma and Bernard Fried
Lafayette College
Easton, PA 18042, USA

Guest Editors, Thin Layer Chromatography
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