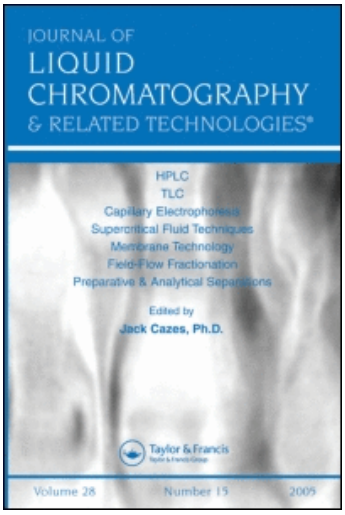

Journal of Liquid Chromatography & Related Technologies
Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713597273

Special TLC Issue of the Journal of Liquid Chromatography & Related Technologies®

To cite this Article (2005) 'Special TLC Issue of the Journal of Liquid Chromatography & Related Technologies®', Journal of Liquid Chromatography & Related Technologies, 28: 16, 2463 — 2465
To link to this Article: DOI: 10.1080/10826070500278332
URL: http://dx.doi.org/10.1080/10826070500278332

Journal of Liquid Chromatography & Related Technologies®, 28: 2463–2465, 2005

ISSN 1082-6076 print/1520-572X online
DOI: 10.1080/10826070500278332

Special TLC Issue of the Journal of Liquid Chromatography & Related Technologies®

FOREWORD

This is the seventh special issue on thin layer chromatography (TLC) that we have guest edited by invitation of the editor, Dr. Jack Cazes, beginning in 1999. We were again fortunate to receive submitted papers from renowned experts in the field working in laboratories around the world, and we are greatly appreciative for their contributions.

The 14 papers in this issue represent some of the most active areas of TLC research, as reported in the latest biennial review of planar chromatography, written by J. Sherma and published in the June, 2004 Fundamental Reviews issue of the ACS journal Analytical Chemistry (volume 76, pages 3251–3261). The following papers in this special issue involve research in some of the most important current areas of TLC.

Matrix solid phase dispersion (MSPD) is a modern sample preparation method with great potential that has not been widely used so far in TLC analyses. Choma and Komaniecka applied MSPD with Chromosorb siliceous sorbent in combination with silica gel TLC and direct bioautographic detection for semiquantification of residues in the antibiotics enrofloxacin and ciprofloxacin in milk.

Overpressured layer chromatography (OPLC) is a forced flow method that has been recommended by some workers as having advantages over classical capillary flow TLC. In their paper, Pieniak et al. compared the effects of mobile phase pressure and velocity on chromatogram development using capillary flow and OPLC.

Kalasz et al. reported results of two-dimensional TLC on cyano-bonded silica layers using a combination of normal phase and reversed phase modes and elution and displacement development. Sajewicz et al. performed one- and two-dimensional chiral separations of enantiomers of the drugs ibuprofen and propranolol on silica gel layers impregnated with L-arginine, with detection and identification of zones by densitometry; mechanistic and thermodynamic studies of compound retention on the layers were also done. Impregnated layers were also used by Soran et al. for the separation of U(VI) and Th(IV) from each other and additional rare

earths; mobile phase containing di (2-ethylhexyl) dithiophosphoric acid was used with layers impregnated with ammonium nitrate.

Various mobile phases were tested by Pyka et al. for the resolution of 15 essential oil components, such as alcohols and phenols, on silica gel and alumina layers; results were evaluated on the basis of R_F values and several separation parameters. The important series of papers on the use of LSChrom software for the automatic selection of optimal TLC mobile phases was extended by Bogdanov et al. to the separation of substituted isochromanones and spiro analogs on silica and alumina.

Two papers deal with determination of hydrophilic vitamins. Cimpoiu et al. separated and identified seven B vitamins and vitamin C on silica gel high performance TLC (HPTLC) plates using programmed multiple development combined with in situ Raman spectrometry. Adachi et al. described the use of TLC and HPLC for purification and characterization of corrinoid compounds in Japanese salmon kidney "Mefun"; the results showed that Mefun is an excellent food source of vitamin B_{12}.

TLC remains one of the main methods for class separation and speciation of neutral and polar lipids. This is due to the availability of layers and reagents providing excellent separation and detection of lipids by use of conventional methodology as well as to the possibility of using the Iatroscan automated instrument combining TLC on rods with a flame ionization (FID), and the absence of a chromophore on these compounds that would allow HPLC analysis with a common UV-vis detector. Four papers in this issue are devoted to studies involving lipid analysis. Maloney et al. compared the neutral lipid, glycolipid, and phospholipid composition of the globotriaosylceramide Gb3–positive Burkitt's lymphoma Daudi cell line and the Gb3–deficient Daudi-derived VT5000 cell line by use of one- and two-dimensional TLC. Indrasena et al. qualitatively and quantitatively analyzed lipid classes in fish oils by Iatroscan TLC-FID and also by HPLC with an evaporative light scattering detector. Martin et al. used silica gel HPTLC with densitometric scanning for the identification and quantification of neutral lipids and phospholipids in leeches that are used worldwide in the treatment of medical and surgical cases. Jarusiewicz et al reported the data obtained in a comprehensive study of the separation of eight biologically important sterols on a great variety of adsorption, reversed phase, and silver-impregnated layers with many mobile phases, together with the results on the use of the best systems to attempt to identify the individual compounds in the sterol fraction obtained from whole bodies of three snail species.

Finally, in a study with significance in drug development, Gere-Paszti et al. used reversed phase TLC (alumina layers impregnated with paraffin) with mobile phases consisting of aqueous alkali metal chloride solutions to study the interactions of hydroxypropyl-β-cyclodextrin with a series of peptides. Effects of the salts and peptide molecular parameters were assessed using various multivariate mathematical-statistical methods, e.g., principal components analysis.

We will begin to solicit papers in the autumn of 2005 for the 2006 special issue on TLC that we will guest edit for this Journal. We invite comments on our past special issues and this current one, as well as suggestions for topics and contributors for the next issue.

Joseph Sherma and Bernard Fried
Lafayette College
Easton, PA 18042, USA
Guest Editors, Thin Layer Chromatography
February, 2005