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Foreword: Special TLC Issue

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Foreword: Special TLC Issue

This is the tenth special issue on thin layer chromatography that we have guest edited by invitation of the editor, Dr. Jack Cazes, beginning in 1999. The papers were submitted by expert, highly productive TLC researchers working in Europe, Japan, and the United States of America, all of whom have contributed to earlier special TLC issues.

The latest biennial survey of the TLC literature, published in 2008 (J. Sherma, *Anal. Chem.*, volume 80, pages 4253–4267), indicates that research in TLC continues at a very high rate, and the papers in this issue represent important current technique and application areas. Papers are included on the analysis of the following compounds and samples: phospholipids (Handlover et al.); neutral lipids in biological samples (Massa et al. and Zani et al.); human and animal drugs (Stolarczyk et al., Choma et al., and Petruczynik et al.); environmentally important compounds (Morlock et al. and Pyka); and foods and beverages (Marekov et al., Jaryj et al., and Tanioka et al.). Other papers report studies of oscillatory transenantiomerization of drugs during TLC (two papers by Sajewicz et al.) and of lipophilicity (Csermely et al.)

Most of the papers in this issue report the use of silica gel TLC or HPTLC plates, but C₁₈ and CN bonded silica gel, silver impregnated silica gel, and paraffin impregnated silica gel were also used. Eleven of the 14 papers involve densitometry using a slit scanning or diode array densitometer, indicating the predominant importance of this method for analyte detection, identification, and quantification in the visible, UV absorption, and fluorescence modes. Two of the papers report bioactivity based compound detection, which is becoming increasingly used relative to physical and chemical detection methods. TLC is the most used method for the analysis of neutral and polar lipids because of the absence of a visible or UV-absorbing chromophore facilitating HPLC analysis and the need for derivatization for analysis by gas chromatography. The analysis of pharmaceuticals and natural, herbal nutritional supplements and medicines is the most active area of TLC research today. The benefits of TLC for validated food analysis in the current regulated environment was highlighted by Morlack and Schwack in a recent review (*J. Planar Chromatogr.-Mod TLC*, volume 20, pages 399–406,

2007). The TLC of enantiomers was covered in a 2007 book edited by Kowalska and Sherma as volume 98 of the Chromatographic Science Series (CRC/Taylor & Francis) edited by Cazes. The paper on lipophilicity is an example of the many studies being published that relate this property to the fate of organic compounds in the body, such as the movement of drugs through cell membranes to reach their receptors.

We will begin to solicit papers in September, 2008 for our 2009 special TLC issue. We invite readers to send us comments on this and past special issues, as well as suggestions for topics and contributors for the next issue. We also encourage scientists to continue submitting papers on TLC and HPTLC to Dr. Cazes for regular issues of this Journal, which is among the leading worldwide outlets for research on liquid chromatography methods.

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