



Editorial

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Dear Colleagues,

This issue of JPC is the fifth in 2021 and contains ten original research papers. All publications have been authored by leading scientists in the field of high-performance thin-layer chromatography (HPTLC) and thin-layer chromatography (TLC). In addition to one review, seven topics from the field of phytochemical analysis are presented and two publications deal with the analysis of synthetic drugs.

The first paper, entitled “**Applications of thin-layer chromatography and thin-layer electrophoresis in the analysis of inorganic anions: a review**”, is by *Qasim Ullah*. A limited number of papers have been published on the use of TLC and thin-layer electrophoresis (TLE) for the analysis of inorganic anions. The review highlights the application of TLC and TLE as analytical techniques in the examination of inorganic anions. The historical background of TLC and TLE is also briefly presented.

The following work is labeled as an “Original Research Paper” entitled “**Comparative qualitative analysis of different classes of compounds in selected Australian and Indian *Eucalyptus* and *Corymbia* species: a convenient de-replication method for the eucalypts**”, but can also be treated as a review paper. Responsible for this work are *Isha Saraf, Karen J. Marsh, Vineet Kumar, William J. Foley and Inder Pal Singh*. For quality assessment, the group developed HPTLC methods for a large number of secondary metabolites (flavonoids, glycosides, triterpenoids, phloroglucinols) from fifteen eucalypt species (13 *Eucalyptus* and two *Corymbia*) collected in Australia and India. The HPTLC fingerprints from 87 compounds from the above-mentioned chemical classes of natural products are presented.

The paper “**Bioautography and liquid chromatography–mass spectrometry studies of *Meyna spinosa* Roxb. ex Link leaf methanolic extracts**” by *S. Kadirvelu, S.*

Damle, and A. Pillai presents bioautographic results from six plant extracts.

The following paper, a study of *K. Anagnostopoulos et al.*, presents a TLC method for the quantification of sphingomyelin from erythrocyte membranes of patients with non-alcoholic fatty liver disease. For quantification, lipids were separated on silica gel 60 and stained in a chamber containing iodine. The plate was scanned using a flatbed scanner with color scanning mode and a resolution of 300 dpi. The intensities of the red and green colors were analyzed. The method is linear over a wide concentration range, had acceptable precision, good accuracy, and excellent limit of detection and limit of quantification. The title of the paper is “**Validation and application of a protocol for the extraction and quantitative analysis of sphingomyelin in erythrocyte membranes of patients with non-alcoholic fatty liver disease**”.

The study “**A novel thin-layer chromatography-based method for Brazilin quantification**” is by *H. Zhang et al.* and describes the HPTLC analysis of brazilin. Brazilin, which is derived from the heartwood of *Lignum sappan*, belongs to the group of tetracyclic homoisoflavanoids. High-performance liquid chromatography (HPLC) is usually used for the quantification of brazilin, but is not accurate enough due to the easily oxidizable structure of brazilin. The paper describes that, after separation and vaporization with ammonia, an AlCl_3 solution was sprayed on the plate to form a stable complex. Detection was performed at 508 nm using a dual-beam TLC scanner.

The following paper entitled “**A validated high-performance thin-layer chromatography method for the determination of two bioactive lignans, phyllanthin and hypophyllanthin, in the seasonal variation study of *Phyllanthus amarus***” is by *Sayyada Khatoon and Saba Irshad*. They present a validated HPTLC method for the determination of two bioactive lignans, phyllanthin and hypophyllanthin, in the ethanolic extracts of *P. amarus*.

The paper “**Quantitative phytochemical and chromatographic analysis of phenolic compounds in methanolic leaf extract of *Costus pictus* D. Don**” by *G. M. Radha Devi*

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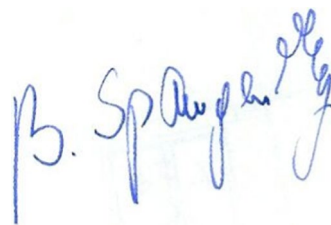
describes the identification of three phenolic compounds, oleuropein glucoside, isorhamnetin-3-O-glucoside and caffeic acid, which exhibit the best antioxidant activity.

The work “**A validated quantification of gallic acid and ellagic acid in Triphala using a high-performance thin-layer chromatography method**” by *Runjhun Pallavi* and *Shivesh Jha* describes a validated HPTLC quantification of gallic acid and ellagic acid as biomarkers for standardization of a marketed herbal formulation.

The publication “**Greenness assessment of a stability indicating simple inexpensive high-performance thin-layer chromatography–dual wavelength method for simultaneous determination of mometasone furoate and salicylic acid in complex matrix using analytical eco-scale**” by *Amira Fawzy El-Yazbi* et al. describes the determination of mometasone furoate and salicylic acid in an ointment. The proposed method has several advantages: it uses a simple and rapid procedure to extract the two compounds from the ointment base, requires low analytical and maintenance costs, a short analysis time, an easy-to-use technique, and requires minimal or no sample pretreatment.

The last paper in this JPC issue, “**A versatile high-performance thin-layer chromatographic method for the simultaneous determination of five antihypertensive drugs: method validation and application to different pharmaceutical formulations**”, comes from the group of *A. H. Nadim*. They describe a validated HPTLC method for the determination of the five antihypertensive drugs: atenolol, amlodipine, losartan, hydrochlorothiazide and telmisartan.

All in all, ten interesting articles worth reading.



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(Editor-in-Chief)

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