



## Editorial

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*Dear Colleagues,*

In the sixth issue of Journal of Planar Chromatography (JPC) 2022, ten topics on high-performance thin-layer chromatography (HPTLC) and a review of eutectic solvents are presented by leading scientists in the field of planar chromatography. The review paper **"Development and applications of deep eutectic solvents in different chromatographic techniques"** is by *M. F. Ahmer* and *Q. Ullah*. The use of deep eutectic solvents as mobile phases in HPTLC is often unsuccessful, but they are generally used as mobile phase additives. An increasing number of publications are expected in this field in the near future.

HPTLC is an advanced method of thin-layer chromatography (TLC) and is strongly represented in phyto- and chemical drug analysis. Quantification of bioactive markers using advanced analytical methods is very important for establishing the authenticity and credibility of the prescription and use of herbal drug formulations. The following five contributions focus on the quantification of bioactive markers in various plants. A substance is suitable as a bioactive marker for the evaluation of herbal medicinal products if it is present in sufficient quantity and is analytically easily accessible. In the second paper of this issue by *N. K. Sethiya* et al. with the title **"Development and validation of a high-performance thin-layer chromatography method for the simultaneous quantification of rosmarinic acid, quercetin, glycyrrhizin and betulinic acid in polyherbal immunostimulant formulation,"** quantification methods for four bioactive markers are described. *P. C. Tatkare* and *A. P. Jadhav* are responsible for the third paper in this issue, entitled **"Development and validation of a novel high-performance thin-layer chromatography method for the quantitative estimation of neohesperidin from *Citrus aurantium* peel extract."**

The group of *A. Sareen* published the following paper: **"Estimation of betulinic acid from wild fruit extracts of *Ziziphus mauritiana* and *Ziziphus nummularia* from different regions of North India by a validated high-performance thin-layer chromatography method."** The fifth paper of this issue, entitled **"Rapid separation of lactucin and lactucopicrin from *Cichorium glandulosum* by medium-pressure preparative liquid chromatography and quantitative analyses by high-performance thin-layer chromatography"** is by *X. Ma* et al. and describes the isolation of lactucin and lactucopicrin from the whole herb of *Cichorium glandulosum* and an HPTLC quantification method for both compounds. The sixth paper of this issue, entitled **"Development of a validated high-performance thin-layer chromatography method for the standardization of an Ayurvedic formulation using berberine and ursolic acid"** is from *V. Khanvilkar*, *S. Mandle* and *P. Hande* and quantifies berberine and ursolic acid in herbal preparation. Phytoanalysis using HPTLC can also be performed without quantification by simply chromatographically profiling the various samples. The work from *S. K. Pradhan* and *V. Sharma* entitled **"Simultaneous high-performance thin-layer chromatography analysis of phytoconstituents and antioxidant potential of *Inula grandiflora* Willd. from India"** is an example for such work.

HPTLC is not only strong in phytoanalysis, but also in the quantification of chemical drugs in complicated matrices. The group of *A. A. Khorshed* contributes to the present issue with the paper **"Concurrent estimation of montelukast and loratadine mixture in spiked human plasma utilizing high-performance thin-layer chromatography with ultraviolet detection"** and *V. Jain* et al. published a paper entitled **"Development and validation of a high-performance thin-layer chromatography method for the estimation of bromfenac in ophthalmic solution."**

Identification of degradation products is a broad field of analysis and is best done by HPTLC in combination with mass spectroscopy. The title of the second to last paper is **"Identification of 5-methylisoxazole-4-carboxylic acid and 4-(trifluoromethyl)aniline degradation products for**

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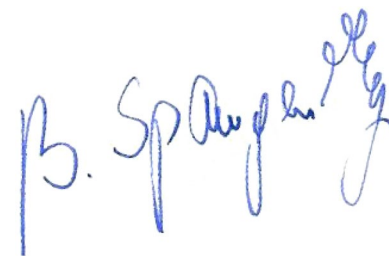
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**leflunomide by high-performance thin-layer chromatography coupled with high-resolution mass spectrometry.”**

The group of *M. R. Ghante* is responsible. The last paper in this issue is by *K. B. Mulani* et al. entitled “**Detection of amitraz, a formamidine-based pesticide using chromogenic spray reagent by thin-layer chromatography.**” In this study, dimethyl aniline is considered as the key molecule for the identification of the pesticide amitraz. Dimethyl aniline is formed from amitraz by hydrolysis under basic condition. Dimethyl aniline is then treated with an acidic sodium nitrite solution, and the diazonium cation reacts readily with an alkaline solution of curcumin to form brick-red colored products specific for amitraz.

All eleven peer-reviewed papers are worth reading. In the peer-review process, scientists with many years of publication experience help the authors to bring their work to a high scientific level. It is a learning process for the authors because it is so difficult to recognize the errors in one’s own text. One’s own text is a part of oneself and only a colleague from the same research field can help correct any shortcomings. Science in general is not a competition in which everyone works against everyone else. The opposite is true. Science is strong where scientists help each other. For this reason, the international association for the advancement of high-performance thin-layer chromatography (HPTLC Association) was founded as a platform for help and as a forum for education in planar chromatography (<https://www.hptlc-association.org/home.cfm>). We in Germany, with the help of the international HPTLC Association, have established a regional chapter addressing scientists in German-speaking countries. The first training event was held in November 2022 via the internet, with a topic on HPTLC basics and a topic from current HPTLC research. I would

like to encourage all colleagues worldwide to start their own regional chapter (if not already done) to support other scientists in our research field and to continuously improve the quality of HPTLC works.



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(Editor-in-Chief)

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