

Plant drugs analysis by Optimum Performance Laminar Chromatography™

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Optimum Performance Laminar Chromatography™ (OPLC) is a planar chromatography technique that appeared in the 1980's. The aim of this work is to show the benefits of OPLC in plant drug analysis. Therefore, this method was applied to the analysis and characterization of numerous natural compounds found in plant material having therapeutic activity or addictive properties and belonging to different chemical classes of secondary metabolism i.e. heterocyclic oxygen compounds (coumarins, flavonoids, and anthocyanins), alkaloids and quaternary ammonium salts, cannabinoids, essential oils and cardiac heterosides. All the analyses were carried out on crude plant extracts and compared to reference substances.

OPLC opens up new possibilities in the field of plant extracts analysis versus classical TLC such as:

- Fast analysis of multiple samples in parallel in a single run
- Easy scale-up to semi-preparative to purify products by direct elution
- Prediction of elution of the compounds of interest with high precision
- No need for scraping the sorbent bed to collect the compounds as opposed to TLC
- Efficiency
- Reproducibility
- Low consumption of developing eluent

1. Wagner H and Bladt S., 1996, *Plant Drug Analysis*, 2nd ed. Springer, Berlin, Germany pp.359-64
2. Galand N. et al. 2002, *J.Chromatogr. Sci.*, **40**, 585-597
3. Galand N. et al. , 1999, *Pharmazie*, **54**, 468-71
4. Fried B., and Sherma J. 1996, *Practical Thin-Layer Chromatography*, pp.34-46