

## Effect-directed Analysis with HPTLC



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Dear reader,

Biological tests can be performed directly on the HPTLC plate, providing an additional mode of evaluation of the chromatogram and adding to the flexibility of HPTLC as a method.

This effect-directed analysis is attracting a growing interest in the fields of toxicity screening for environmental and food-related applications, risk assessment and monitoring of drinking water, wastewater and natural attenuation processes as well as in the identification of biological activity in natural product extracts.

In this context, CAMAG organized a workshop "Effect-directed analysis with HPTLC" at their premises in Muttenz, on August 22. Over 20 people attended the workshop during which several scientists presented their work and latest results in this field.

After the presentations, participants were invited to join a live demo and to test their own HPTLC plates for bioactivity. The workshop continued with a mixer giving all participants room for lively discussion. We are sure that many attendees left with exciting new ideas.

To further promote the promising concept of effect-directed analysis with HPTLC, we are planning similar events in other countries. Details will be published on [www.camag.com](http://www.camag.com). We look forward to welcome you in one of the upcoming workshops.



## News & Events

### Fresh from the press:

CBS 99 featuring "Analysis of herbals using Planar Chromatography – one step ahead due to its image feature".

Order at [www.camag.com/cbs](http://www.camag.com/cbs)

### New application notes:

F-36 HPTLC Identification of Triphala

### Events:

- LAB 07, Oslo/NOR, 16–18 Oct 2007
- Club de Chromatographie sur Couche Mince, Lyon/FRA, 18 Oct 2007, [www.clubdeccm.com](http://www.clubdeccm.com) pour programme
- Beijing Conference and Exhibition of Instrumental Analysis (BCEIA), 18–21 Oct 2007

### Courses in Muttenz:

- "Modern TLC" (English) 22–25 Oct 2007, CAMAG Muttenz
- "Grundlagen der modernen Dünnschicht-Chromatographie" (German) 26–27 Oct 2007
- "HPTLC zur Analyse von Heilpflanzen und Phytopharmaka" (German) 28–29 Oct 2007

# CAMAG

Flash

October 2007

## HPTLC as orthogonal technique to HPLC

Modern instrumental HPTLC is a powerful analytical method equally suitable for qualitative and quantitative analytical tasks. This has been demonstrated by many publications and research projects presented also in CAMAG's CBS.

We are convinced that HPTLC is playing an important role in today's analytical world, not in competition to HPLC but as a complementary method.

The perception of HPTLC as orthogonal technique to HPLC was presented at the 7th Balaton Symposium on high-performance separation methods in Siofok, Hungary in early September and can be summarized as follows:

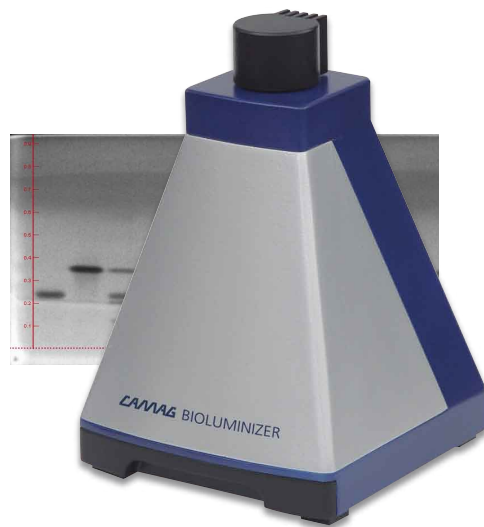
One of the most obvious orthogonal features of the two techniques is the primary use of reversed phases in HPLC versus unmodified silica gel in HPTLC, resulting in partition chromatography and adsorption chromatography respectively.

Unlike other methods, HPTLC produces visible chromatograms: complex information about the entire sample is available at a glance. Multiple samples are seen simultaneously, so that reference and test samples can be compared for identification. Similarities and differences are immediately apparent and with the help of the Image Comparison Viewer software, several chromatograms can be compared directly, even from different plates.

In addition to the visible chromatograms, analog peak data are also available from the chromatogram. They can be evaluated either by the image based software Videoscan or by scanning densitometry with TLC Scanner 3, measuring the absorption and/or fluorescence of the substances on the plate.

HPTLC is an offline technique: the subsequent steps are relatively independent, allowing parallel treatment of multiple samples during chromatography, derivatization and detection.

Some of the steps can be repeated independently of others, for example in post-chromatographic derivatization, some reagents can be applied in sequence allowing multiple derivatization and thus multiple detection of the same sample.



Following chromatography a biological test can be performed directly on the HPTLC plate, allowing a fast screening of the separated sample components for toxicity or bioactivity.

In addition, zones of interest can be transferred from the plate to a mass spectrometer for identification. Suitable interfaces are now available.

For the complete information click [www.camag.com/free/HPTLC\\_orthogonal.pdf](http://www.camag.com/free/HPTLC_orthogonal.pdf)

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