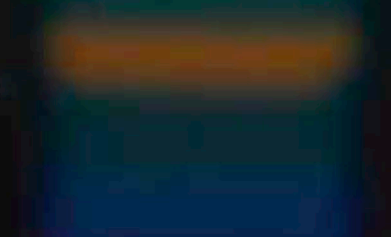
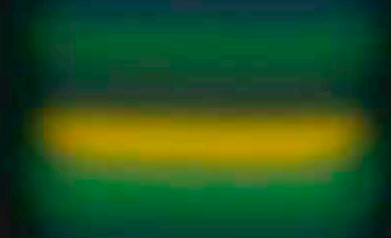


# Derivatization



## Derivatization

The possibility of straight forward derivatization is a special feature of thin-layer chromatography

## Pre- and Postchromatographic Derivatization

020 05

It is an inherent advantage of TLC/HPTLC that all fractions remain stored on the plate and can be readily derivatized after chromatography. Substances that do not respond to visible or UV light can be rendered detectable. In many cases, substances or classes of substances can be identified by specific reagents, enabling their selective detection.

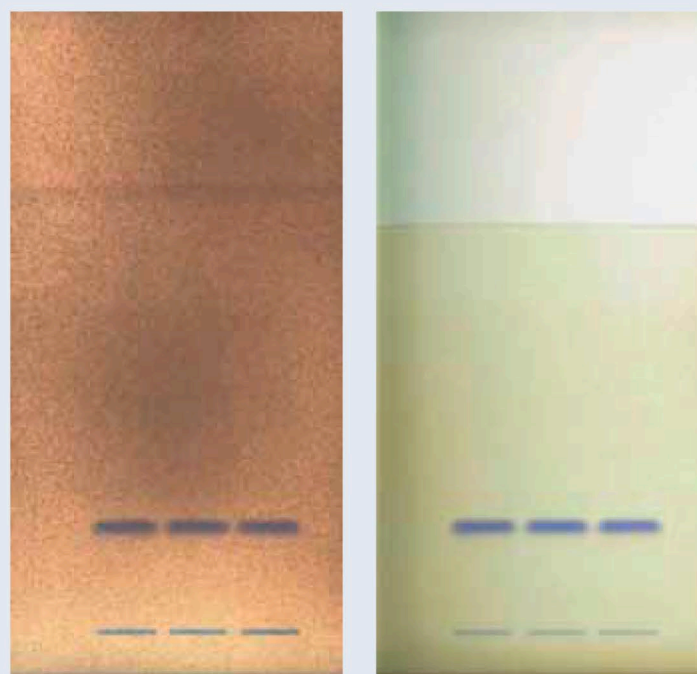
Pre-chromatographic derivatization is possible by overspraying the sample application zones with the Linomat or ATS 4.

For the transfer of liquid reagents for postchromatographic derivatization, one can choose between spraying or dipping. Provided the reagent is suitable, dipping is the preferred technique, particularly when a quantitative evaluation is intended. Usually reagent transfer by spraying can not be circumvented when two reagent solutions have to be applied in sequence without intermediate drying, for instance diazotation followed by coupling.

Whenever reagents are transferred by spraying, an efficient reagent mist removing device should be used to protect laboratory personnel against poisonous or irritating sprays or solvent vapors.

In most cases the derivatization reaction needs to be completed by heat treatment. Heating the chromatogram plate at the desired temperature with a plate heater specifically designed for this purpose is highly recommended. An oven used for this purpose will become permanently contaminated.

### Comparison of reagent transfer by spraying and dipping



Derivatization of capsaicin with dichloroquinone-chloroimide-reagent/ammonia by spraying (1 g/L left side) and by dipping (0.25 g/L right side)



## CAMAG Chromatogram Immersion Device

For proper execution of the dipping technique, the chromatogram plate must be immersed and withdrawn at a controlled uniform speed; otherwise tide marks may be left which interfere with densitometric evaluation. By maintaining a well defined vertical speed and immersion time, derivatization conditions can be standardized. The immersion device can also be used for the pre-washing of plates.

### Key features

- Uniform vertical speed, freely selectable between 30 mm/s and 50 mm/s
- Immersion time selectable between 1 and 8 seconds and indefinitely (upward movement at another touch of the button)
- The device can be set to accommodate 10 cm and 20 cm plate height.
- Battery operated

### Ordering information

- 022.6606 Chromatogram Immersion Device** for plates up to 20 × 20 cm, without dip tank  
**022.6627 Dip tank** for plates 20×20 cm, with lid  
**022.6628 Dip tank** for plates 20×10 cm, with lid  
**022.6619 Bench top rack** for three dip tanks

## CAMAG TLC/HPTLC Sprayer

The function is electro-pneumatic. Reagents are atomized into a fine aerosol spray with particles in the range of 0.3 to 10 µm. This ensures a homogeneous distribution over the layer at a low reagent consumption.

The TLC Sprayer consists of the charger and a pump unit with two kinds of spray heads, type A for spray solutions of normal viscosity (organic solvents), and type B for liquids of higher viscosity (e.g. sulfuric acid containing reagents).

## Glass Reagent Sprayer

This all glass reagent sprayer is a low cost alternative to the TLC/HPTLC Sprayer. It comes with a rubber pump but may also be operated from a compressed air or nitrogen supply. The Erlenmeyer flask may be closed with a standard glass stopper.

- 022.6530 TLC/HPTLC Sprayer** comprised of charger, pump unit with one each spray head type A and B, and one each reagent bottle 100 mL and 50 mL with cap

- 022.6535 Pack of 5 spray heads** type A and 1 type B  
**022.6538 Pack of 6 spray heads** type B  
**022.6536 Reagent bottle 100 mL** with cap, pack of 6  
**022.6537 Reagent bottle 50 mL** with cap, pack of 6  
**022.6539 Service kit** for TLC sprayer  
**022.6100 Glass reagent spray** with 100 mL Erlenmeyer flask



## CAMAG TLC Plate Heater

The TLC Plate Heater is designed for heating a TLC/HPTLC plate to a selected temperature after a staining reagent has been applied.

The Plate Heater has a CERAN® heating surface which is resistant to all common reagents and is easily cleaned. The 20 x 20 cm heating surface has a grid to facilitate correct positioning of the TLC plate.

Programmed and actual temperature are digitally displayed. The temperature is selectable between 25 and 200 °C. The plate heater is protected from overheating.

## CAMAG TLC Spray Cabinet

The TLC Spray Cabinet is designed for the complete removal of excessive spray mist while spraying a TLC plate with reagent.

There is no deflection of the spray jet before it reaches the plate, an effect often encountered in a normal laboratory fume hood. Particles rebounding from the plate are completely removed. The Spray Cabinet is also useful for drying plates after development, with or without the assistance of a hair dryer.

The cabinet is made of PVC. The blower, a radial fan driven by a motor outside of the fume duct, produces an airflow of 130 cubic feet (3.7 cubic meter) per minute. The bottom of the spray cabinet has a built in tray, which is removable for easy cleaning.

Dimensions: 470 x 490 x 490 mm (width x height x depth)

### Ordering information

022.3306 TLC Plate Heater

022.6230 TLC Spray Cabinet with blower and 1.5 m flexible exhaust hose

022.6232 TLC Spray Cabinet with 1.5 m flexible exhaust hose for connection to an existing exhaust duct

022.6226 Exhaust hose extension 1.5 m, with adapter

Further information can be found under [www.camag.com/derivatization](http://www.camag.com/derivatization)