# *Fluorescence spectroscopy in planar chromatography*

Thin-layer Chromatography (TLC) is a versatile tool for organic separations. The method is complementary to HPLC (high performance liquid chromatography) because mainly normal phase systems are used in TLC.
Modern TLC-equipment combines an X/Y-moving system, a diode-array detector, a light-fibre interface and lamps of high intensity to illuminate the TLC-Plate. They detect scattered light offering simultaneous measurement of spectra either in absorption or in fluorescence.

The commonly achievable detection limits of organic molecules, measured in absorption is in the range of 2 to 200 ng per spot.

In fluorescence detection limits can be shifted in the pg range. Although roughly 10% of all compounds only show fluorescence, the method can be often extended to carbonyl compounds simply by using an amino-phase for separation and an additional heating step. Alternatively a vapour reaction on silica-gel plates by use of $(NH_4)_2HCO_3$ can be used to transform carbonyl-compounds into fluorescent molecules.

Modern TLC-equipment in combination with an LED emitting light of high intensity at 365 nm the price of modern TLC-systems is comparable to that of HPLC-systems.

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