

The expression CMS - A mass detector designed for chemists

Compact - Fast - Easy



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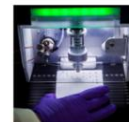
The expression compact mass spectrometer (CMS) is a single quadrupole mass analyzer with an atmospheric pressure interface. It provides both electrospray ionization (ESI) and atmospheric pressure chemical ionization (APCI) capabilities with positive and negative polarity switching within a single analysis. The CMS provides mass measurements with unit mass resolution over a mass range 0 – 2000 m/z units. It is compact enough to fit in a fume hood and offers organic synthetic and medicinal chemists direct access to identify, monitor and confirm compounds rapidly as they are produced in the reactor. (user manual CMS expression Advion)

- Ion Source: ESI, APCI & ASAP
- Polarity: Positive & negative ion switching in single analysis
- Flow rate: ESI: 10 $\mu\text{L}/\text{min}$ to 1 mL/min
APCI: 10 $\mu\text{L}/\text{min}$ to 2 mL/min
- Mass Range: expression L up to m/z 2,000
- Scan Speed: 10,000 m/z units/sec
- Sensitivity: 10 pg Reserpine (FIA – 5 μL injection at 100 $\mu\text{L}/\text{min}$) 100:1 S/N (RMS) with SIM of m/z 609.3
- Resolution: 0.5-0.7 m/z units (FWHM) at 1000 m/z units sec^{-1} over entire acquisition range
- Accuracy: 0.1 m/z units over entire acquisition range

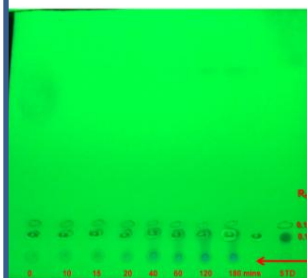
Direct mass analysis of TLC spots

Advion

TLC separation of a Suzuki reaction mixture



Synthesis of 4-aminobiphenyl



- **Reactant:** 4-bromoaniline; $r_f = 0.15$
- **Product:** 4-aminobiphenyl; $r_f = 0.10$
- **Origin:** Spotting of Reaction Mixture

The developed TLC plate with Suzuki reaction mixture under UV 254nm

In addition, the expression CMS allows for rapid compound confirmation and identification in normal and reverse phase chromatographic applications. (user manual CMS expression Advion)

Compound identification by direct injection of coffee with ASAP – coffein mass spectrum in APCI + mode

