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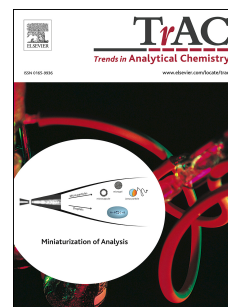
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# Multidetector systems in gas chromatography

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## Abstract

Multidetector systems have been widely used in GC for many years. Even though the mass spectrometer is still the most popular GC detector in the case of complex samples, a multidetector system can provide all the information needed for the confirmation purposes. This review describes various GC setups for multidetector analysis, and modern systems available on the market. An overview of the application of multidetector systems with various detectors in GC is also enclosed. The most popular system involves parallel detectors and a post-injector or post-column effluent splitter. For routine analysis, metal based splitters are available on the market with dedicated software. More economical devices are also available for the testing purposes or short term experiments. Nevertheless, in both cases, manual operator setup of the system remains necessary.

## Highlights

Multidetector systems have been widely used in GC for many years.  
Additional detectors are used as a confirmation tool in GC/MS analysis.  
The outlook of the multidetector systems setup is described.  
The multidetector systems application in GC is overviewed.

## Keywords:

Gas chromatography, multidetector systems, parallel detection, chromatographic detection, chromatographic confirmation

## List of Abbreviations

AED – Atomic Emission Detector;  
Cl-PDED – Cl-selective Pulsed Discharge Emission Detector;  
COC – Cold On Column (Injection);  
DRR – Detector Response Ratio;  
ECD – Electron Capture Detector;  
ELCD – Electrolytic Conductivity Detector;  
FID – Flame Ionization Detector;  
FPD – Flame Photometric Detector;  
FTD – Flame Thermionic Detector;  
GCxGC – Comprehensive (2D) Gas Chromatography;  
He-PDPID – Helium-Pulsed Discharge Photoionization Detector;  
HS – Head Space Analysis;  
LOC – Limit Of Confirmation;  
LOQ – Limit Of Quantitation;  
MSD – Mass Spectrometry Detector;  
NCD – Nitrogen Chemiluminescence Detector;  
NIST – National Institute of Standards and Technology;  
NPD – Nitrogen Phosphorus Detector;

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