
CAPILLARY FLOW TECHNOLOGY BASED SOLUTIONS FOR INCREASING FLEXIBILITY IN CAPILLARY GC AND CAPILLARY GC-MS

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Recently microfluidic devices have been introduced in capillary gas chromatography. Different microchannel configurations are available, offering a variety of possibilities, including pre- and post-column splitting, column coupling with mid-pressure control, column back-flushing, Deans' switching and flow modulated comprehensive GC. In combination with state-of-the-art pressure/flow control, a large range of exciting applications become possible.

In this presentation, several configurations are discussed and their applications are illustrated by different examples, including:

- increasing sample throughput in PAH analysis in environmental analysis using capillary column back-flushing.
- optimizing separations in petrochemical analysis using selectivity tuning.
- analysis of coplanar PCBs in PCB mixtures and PAHs in mineral food grade oils using heart-cutting Deans' switching.
- mineral oil analysis using GCxGC.
- determination of genotoxic impurities in pharmaceutical products using heart-cutting and column-back-flush.