Title (en)

A SYSTEM FOR CHEMICAL ANALYSIS BY MEANS OF GAS-CHROMATOGRAPHIC SEPARATION AND PHOTOACOUSTIC SPECTROSCOPY OF SAMPLES MIXTURES

Title (de)

SYSTEM ZUR CHEMISCHEN ANALYSE MITTELS GASCHROMATOGRAFISCHER TRENNUNG UND FOTOAKUSTISCHER SPEKTROSKOPIE VON PROBEN

Title (fr)

SYSTÈME D'ANALYSE CHIMIQUE AU MOYEN D'UNE SÉPARATION PAR CHROMATOGRAPHIE EN PHASE GAZEUSE ET D'UNE SPECTROSCOPIE PHOTOACOUSTIQUE DE MÉLANGES D'ÉCHANTILLONS

Publication

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Application

EP 20735453 A 20200603

Priority

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- IB 2020055226 W 20200603

Abstract (en)

[origin: WO2020250086A1] The present invention relates to a portable chemical analysis system capable of identifying trace chemical substances (sub-ppm concentrations) also in the presence of other interfering substances, by virtue of the two-dimensional selectivity obtained from the combination between the Gas-Chromatographic (GC) separation technique and the photoacoustic (PA) infrared analysis technique, in particular, but not exclusively, in the implementation thereof referred to as Quartz Enhanced Photo Acoustic Spectroscopy (QEPAS). The GC module is preferably implemented as a MEMS device of the FAST type, capable of separating, with reduced thermal budgets and very short elution times (a few minutes), even complex and low-volatile samples. The QEPAS module is preferably constructed around an analysis cell with a microscopic inner volume, capable of processing, with high sensitivity and excellent selectivity, even very small vapor flows, such as those supplied by a FAST-GC column.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

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