

Methane preconcentration in a microtrap using multiwalled carbon nanotubes as sorbents

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Abstract: The GC monitoring of green house gases is a challenging task because the concentration of organic species such as methane are relatively low (ppm to ppb) and their analysis requires some level of preconcentration. Since methane is highly volatile, it is not easily retained on conventional sorbents. In this paper we present multiwalled carbon nanotubes (MWNTs) as an effective sorbent for a microtrap designed for methane preconcentration. Its performance was compared to other commercially available carbon based sorbents, and it was found to be the most effective sorbent in terms of breakthrough volume and enthalpy of adsorption. (C) 2010 Elsevier B.V. All rights reserved.

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