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Determination of the gas-to-liquid partitioning coefficients using a new dynamic absorption method (DynAb Method)

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Abstract

The determination of partitioning coefficients which describes the behavior of a pollutant between phases (gas, liquid, solid) is of fundamental importance in different scientific areas (fate and behavior of pollutants, design of abatement technologies, flavor release). A new and fast method, based on selected ion flow tube mass spectrometry, was developed to determine the gas-to-liquid partitioning coefficients (K_{AW}) of volatile organic compounds (VOC). By using the dynamic absorption method (DynAb method), a gas stream with a known and constant compound concentration is bubbled through a liquid volume. The outlet gas concentration is continuously measured and results in a breakthrough curve. From the