

HOW WELL ARE WE DOING WITH PPT-LEVEL DETECTION OF EMERGING MICROPOLLUTANTS?

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ABSTRACT: There is increasing concern about the presence of organic micropollutants, such as endocrine disruptors, pharmaceutical residues, personal care products or household chemicals, occurring at the ppt level in the environment. The properties and occurrence level of these compounds vary widely and requires different analytical methods for their quantification. As of today, none of these methods are standardized and analytical protocols currently employed vary widely among laboratories. This paper represents the results of Round Robin sampling events among five different laboratories, representing three research, one utility and one commercial laboratory employing GC/MS, GC/MS-MS and LC/MS-MS methodologies. Spiked and unspiked water samples as well as blanks were provided to each laboratory by an independent party. Findings of this study represent the challenges, QA/QC issues, and uncertainties associated with the analysis of compounds at the ppt level in environmental samples.

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