

# Evaluating Anthropogenic Origin of Unknown Chemical Compounds in the River Rhine

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## Abstract

Surface water of rivers like the Rhine is a highly relevant environmental and logistic compartment and an important source of the Dutch drinking water. To improve protection of the environment and drinking water supply, it is important to have a continuous overview of the chemical composition of the river. Such an overview may be obtained with contemporary, untargeted analytical platforms like Gas Chromatography-Mass Spectrometry (GC-MS). Interpretation of such untargeted data is however challenged by the presence of many compounds of biological origin. We have developed a novel approach to screen for anthropogenic compounds using statistical tests on the time-trends of ions that are not (yet) chemically identified. This approach filters out many naturally occurring compounds, leaving more resources available for wet-lab identification of anthropogenic compounds).

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