**The effect of chemosensitisation on bioaccumulation**

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As a means of protection from harmful toxicants, active cellular efflux mechanisms evolved in a wide range of taxonomic groups. However, so-called chemosensitisers are able to overcome this defence system by blocking the cells’ multixenobiotic resistance (MXR) transport, thus increasing bioaccumulation and the sensitivity of organisms towards pollution. Common environmental contaminants, such as pesticides, pharmaceuticals, fragrances, and surfactants are among the substances identified as chemosensitisers. Although they do effectively inhibit active efflux on the cellular level, the environmental impact of chemosensitisation on the organism level is not yet fully understood.

In order to fill this knowledge gap, we expose zebrafish (*Danio rerio*) embryos to contaminant mixtures in the presence and absence of well characterised chemosensitisers. Thereby, we are able to identify the deviating bioaccumulation patterns or organic pollutants when active cellular efflux is inhibited in a complex test organism. We use a micro QuEChERS (Quick, Easy, Cheap, Effective, Rugged, and Safe) approach for embryo extraction and couple it to the direct injection of 50 µL of ACN extract into a programmable temperature vaporisation inlet gas chromatography tandem mass spectrometer (PTV-GC-MSMS). Our results will help classifying chemonsitisation either as an environmentally relevant process or a process of local importance, but with limited relevance for organisms and ecosystems.