Realistic environmental mixtures of hydrophobic compounds do not alter growth of a marine diatom (published in the Marine Pollution Bulletin (2016), 102, 58-64)

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In this paper we determine whether a realistic mixture of hydrophobic chemicals affects the growth dynamics of a marine diatom and how this effect compares to the effect of temperature, light regime and nutrient conditions. To do so, we examine the specific growth rate of *Phaeodactylum tricornutum* in a 72 h algal growth inhibition test using a full factorial design with three nutrient regimes, two test temperatures, three light intensities and three chemical exposures. Passive samplers were used to achieve exposure to realistic mixtures of organic chemicals close to ambient concentrations. Nutrient regime, temperature and time interval (24, 48 and 72 h) explained 85% of the observed variability in the experimental data. The variability explained by chemical exposure was about 1%. Overall, ambient concentrations of hydrophobic compounds present in Belgian coastal waters, and for which the passive samplers have affinity, are too low to affect the intrinsic growth rate of *P. tricornutum*.

This paper illustrates the beneficial effects of interdisciplinary research in marine sciences. The novelty of the paper not only relates to the use of passive samplers which are complementary to the conventional spot sampling campaigns. The true novelty relates to the process that all collaborators went through when performing the research. An inspiring series of interactions between field workers (deployment of the passive samplers), technical personnel (support of the laboratory experiments), chemists (characterization of the chemicals), statisticians (statistical analyzes) and engineers (interpretation of results) occurred within the scope of this research. Furthermore, the results described in this paper, i.e. that ambient concentrations of organic chemicals do not affect the growth of a marine diatom, moved the field of multiple stressor marine ecotoxicology forward. The latter is one of the reasons why this paper was published in the Marine Pollution Bulletin which is a high-ranked peer-reviewed scientific journal in the field of Marine and Freshwater Biology (6/104). The paper is published since January 2016 and has already been cited twice in other peer-reviewed scientific journals.