



## **Effects of phototransformation of Dissolved Organic Matter on its susceptibility to bacterial mineralization**

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Impact of UV radiation on susceptibility of dissolved organic matter (DOM) to bacterial mineralization was investigated in water bodies of different optical properties. Experimental material consisted of 28 samples of the Vistula River water and 32 samples of water from Bay of Gdansk collected during late spring and early summer. After collection the samples were sterile-filtered and irradiated for 4 h in simulated UV solar radiation. Afterward, the irradiated and control samples were mixed (50:50, v/v) with the “parent” samples filtered through the Whatman GF/C filters. The PC-controlled oxygen electrodes (Clark-type) were used in monitoring bacterial respiration. A conservative estimate of the measurement precision was  $5 \mu\text{M O}_2$ . Oxygen concentration was measured every hour during the 40h long, concurrent incubations containing irradiated and non-irradiated DOM. There was no negative impact of irradiation on biodegradability of DOM. Increase in bacterial oxygen demand (BOD) was observed in all samples of Vistula River water characterized by higher values of absorption coefficient. The  $\text{BOD}_{40h}$  increase ranged from 20 to 90 % relative to control samples. Preliminary data from the longer incubations suggest that irradiation of DOM does not enlarge pool of usable compounds but accelerate their biomineralization.