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UV induced emissions of volatile organic compounds from dry leaf litter

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UV induced emissions of several hydrocarbons and methyl chloride from dry leaf litter are measured for different plant species. The emission rates of both hydrocarbons and methyl chloride increase with increasing UV intensity. The dependence of the emissions on the wavelength of the UV radiation is determined, as well as the influence of humidity on the emission rates. UV induced emissions of hydrocarbons and methyl chloride from dry leaf litter can continue at a constant rate for weeks to months at natural UV intensities. Emissions from dry leaf litter are possibly significant for the global budgets of several VOCs. Experiments in the absence of oxygen show that oxygen is required for the formation of hydrocarbons from the dry leaf material.