



# Detection of phospholipid films at the oil-water interface by confocal raman spectroscopy

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## DETECTION OF PHOSPHOLIPID FILMS AT THE OIL-WATER INTERFACE BY CONFOCAL RAMAN SPECTROSCOPY

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The investigation of amphiphilic films at the oil-water interface is difficult due to their low amount per volume unit and the relatively small thickness of these films compared to the size of the dispersed phase. Second-order nonlinear optical processes, such as second harmonic generation and sum-frequency generation are well dedicated to the investigation of these interfaces. However these surface nonlinear optical spectroscopies are hard to perform in terms of equipments and there specificities do not allow to relate what happens at an interface with the exchanges towards the bulk. Here, we demonstrate the feasibility of a new method. Confocal Raman microspectroscopy is shown to be a useful tool to probe the phospholipids films localized at the oil-water interface and to get spectroscopic information at the interface and on both sides of the interface.