Biological Imaging with Cluster Time-of-Flight Secondary Ion Mass Spectrometry

A. Brunelle, O. Laprévote

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This brief article provides an overview of the current state of the art in biological imaging mass spectrometry using cluster time-of-flight secondary ion mass spectrometry (TOF–SIMS). Recent and spectacular improvements in terms of sensitivity of TOF–SIMS imaging methods have allowed many biological applications to recently be successfully tested, such as mapping of lipid disorders in human muscles of a patient suffering from dystrophy, localization of surfactins after the swarming of bacteria on a surface, or lipid mapping over whole-body animal sections.

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