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(54) **NANO-MICROFLUIDIC APPARATUS FOR
CONTINUOUS REAL-TIME ANALYSIS OF
TARGETS IN THIN LIQUID FILMS**

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(57) **ABSTRACT**

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Nano-microfluidic devices and uses thereof are described. In particular, systems and methods are described for continuous real-time monitoring and analysis of targets in thin liquid films; such targets can include living cells and tissues. In some embodiments, nano-microfluidic devices can be utilized to observe living cells in layers of thin liquid media by IR-spectroscopy.