Supporting information

Fluorescence-detected Mid-Infrared Photothermal Microscopy

Yi Zhang#[1], Haonan Zong#[2], Cheng Zong[2], Yuying Tan[3], Meng Zhang[2], Yuewei Zhan[3], Ji-Xin Cheng*[1][2][3][4]

[1]Department of Physics, Boston University, Boston, MA 02215, USA
[2]Department of Electrical and Computer Engineering, Boston University, Boston, MA 02215, USA
[3]Department of Biomedical Engineering, Boston University, Boston, MA 02215, USA
[4]Photonics Center, Boston University, Boston, MA 02215, USA

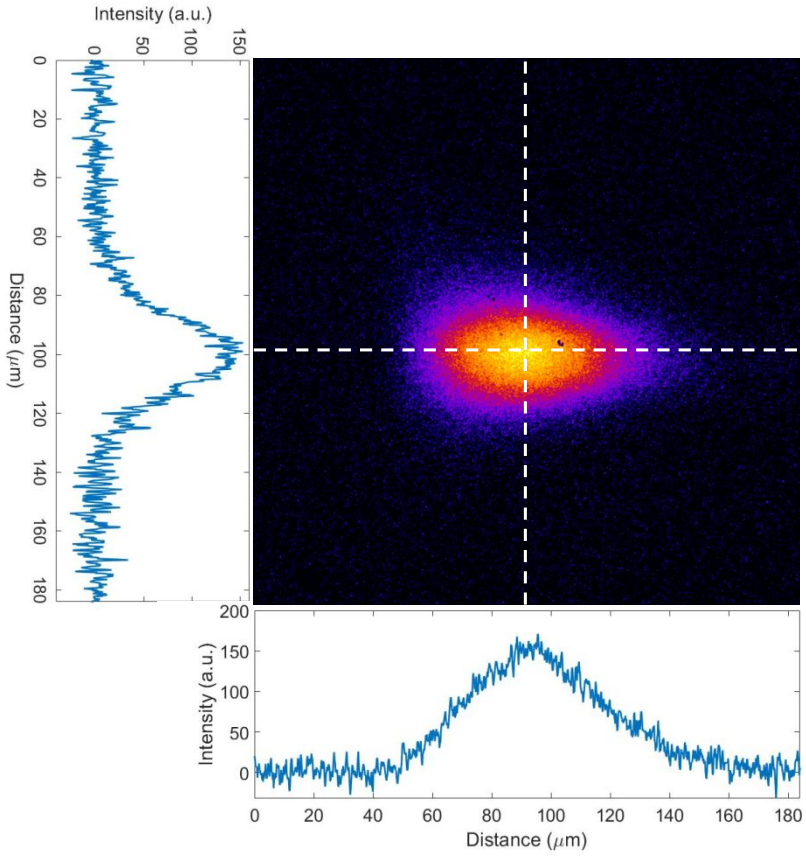

Fig. S1. The mid-IR illumination area. The mid-IR illumination area (around 40 μm by 70 μm) is measured through wide-field mid-infrared photothermal imaging of a PMMA film.

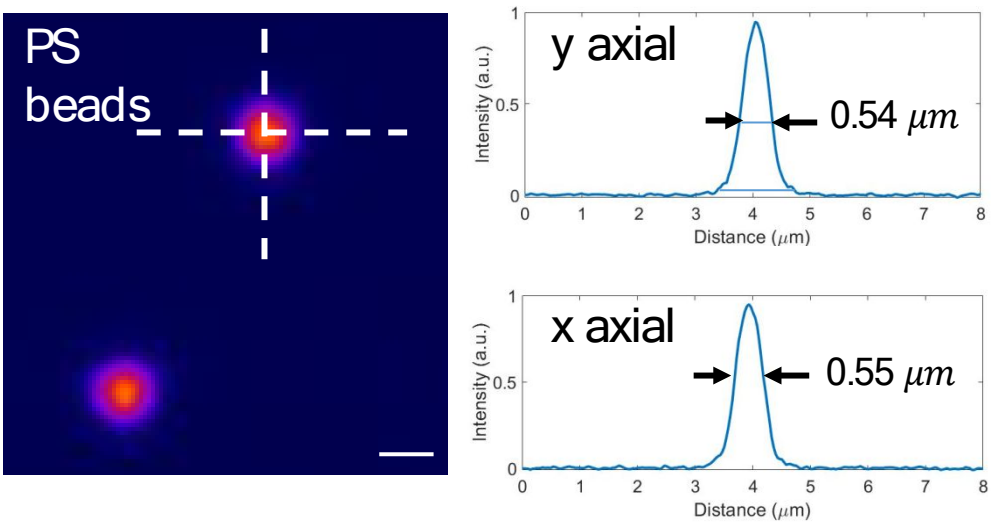

Fig. S2. The spatial resolution of wide-field F-MIP microscopy. The spatial resolution is measured through the F-MIP imaging of 500 nm polystyrene (PS) beads. The scale bar is 1 μm. The x axial and y axial full width at half maximum is measured to be 0.54 and 0.55 μm, respectively. The resolution is calculated as 390 nm through deconvolution.

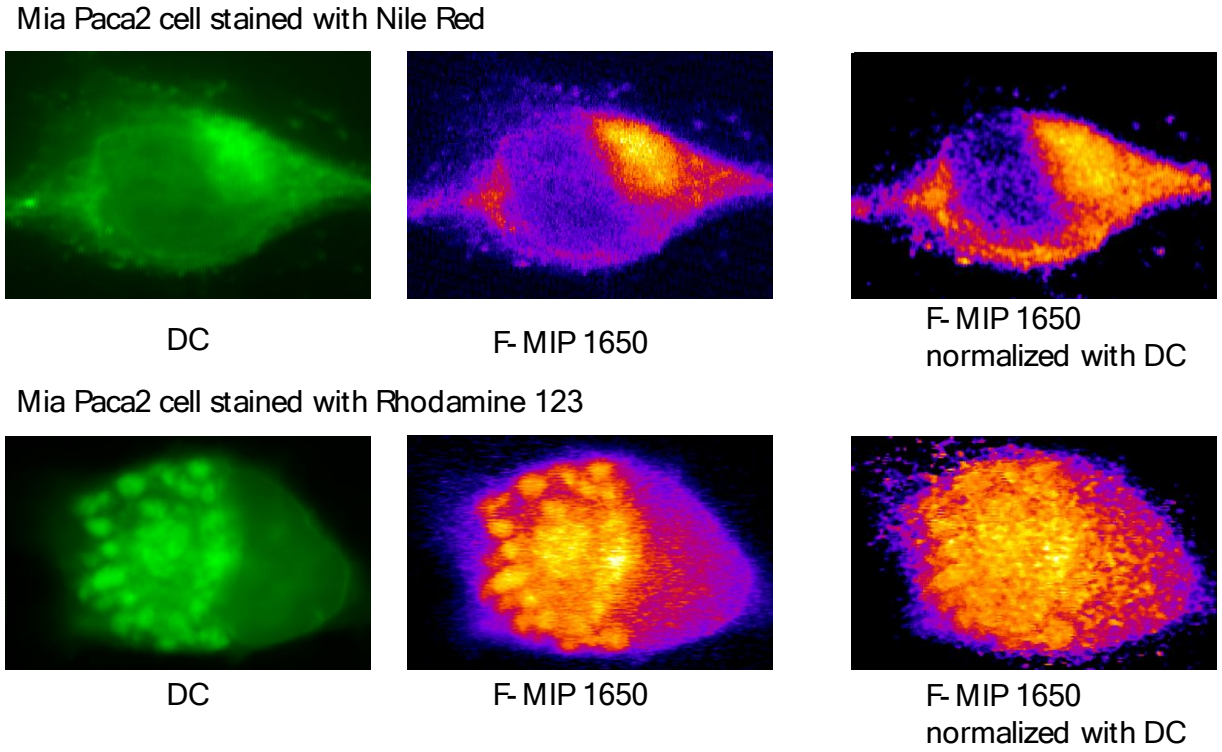

Fig. S3. Contrast of the F-MIP signals normalized by fluorescence intensity. For the Mia Paca2 cell shown in Figure 3, the F-MIP intensity at 1650 cm^{-1} is normalized with the fluorescence intensity (DC). The F-MIP signal after normalization is more evenly distributed.