SUPPORTING INFORMATION

Understanding and Controlling the Depth Sensitivity of Infrared Imaging and Nanospectroscopy for Bilayer Polymeric Thin Films
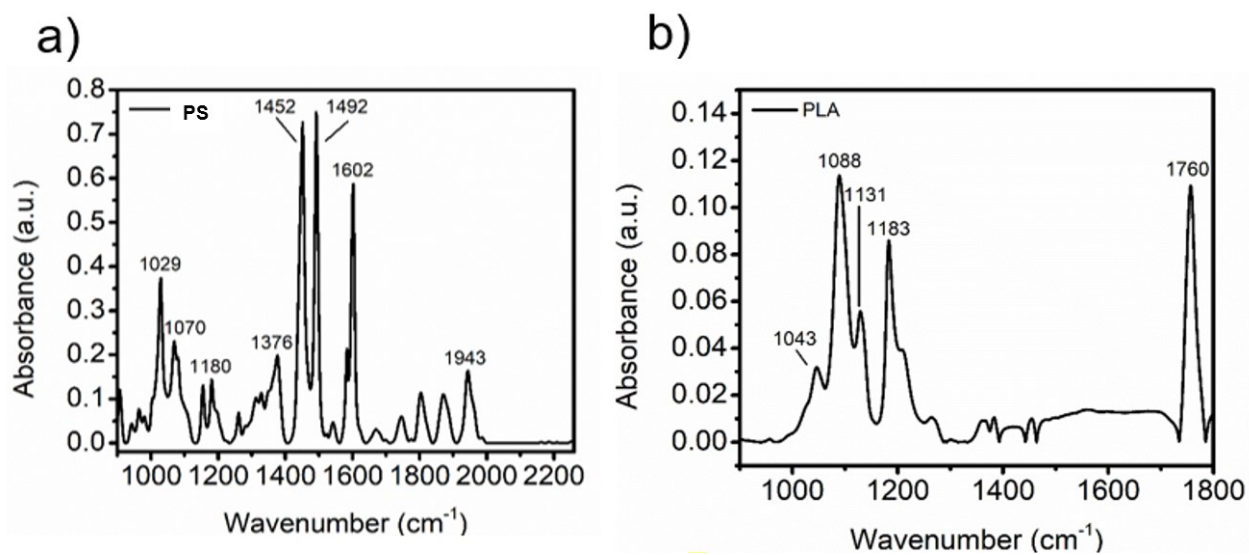
Nathaniel Prine, Camille Cardinal, Xiaodan Gu*

School of Polymer Science and Engineering, Center for Optoelectronic Materials and Devices,

The University of Southern Mississippi, Hattiesburg, MS 39406, USA.
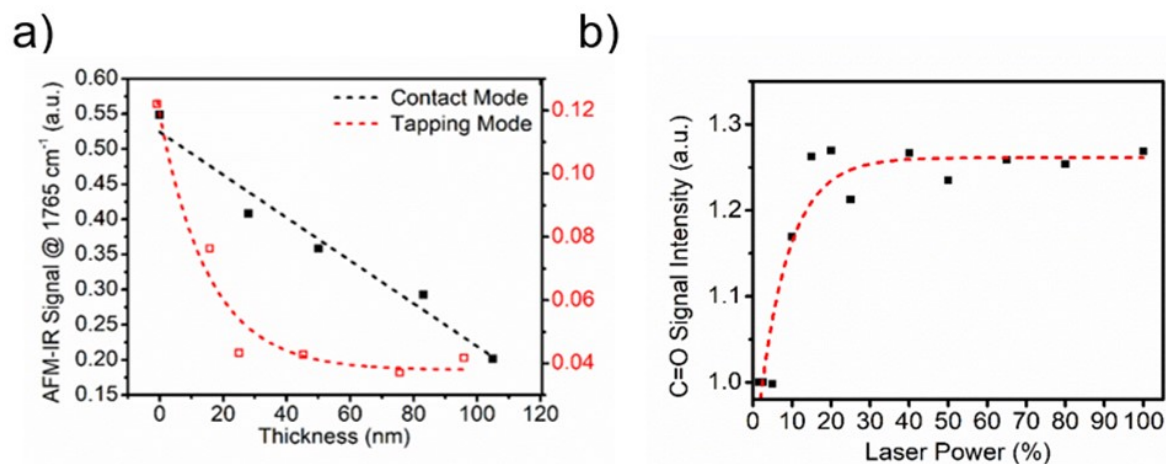
Corresponding author

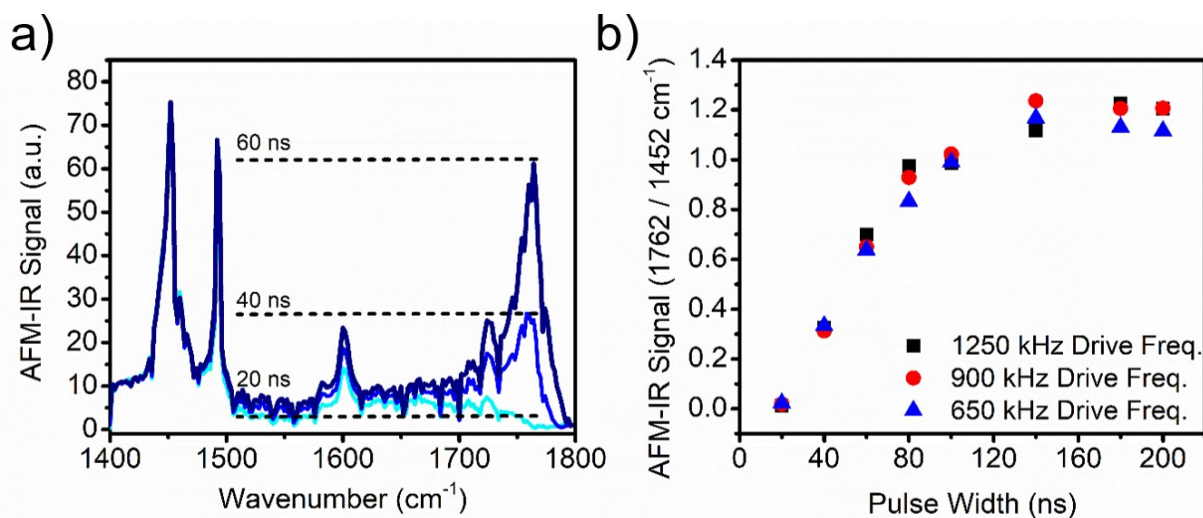Correspondence to: Xiaodan Gu. *E-mail: xiaodan.gu@usm.edu*
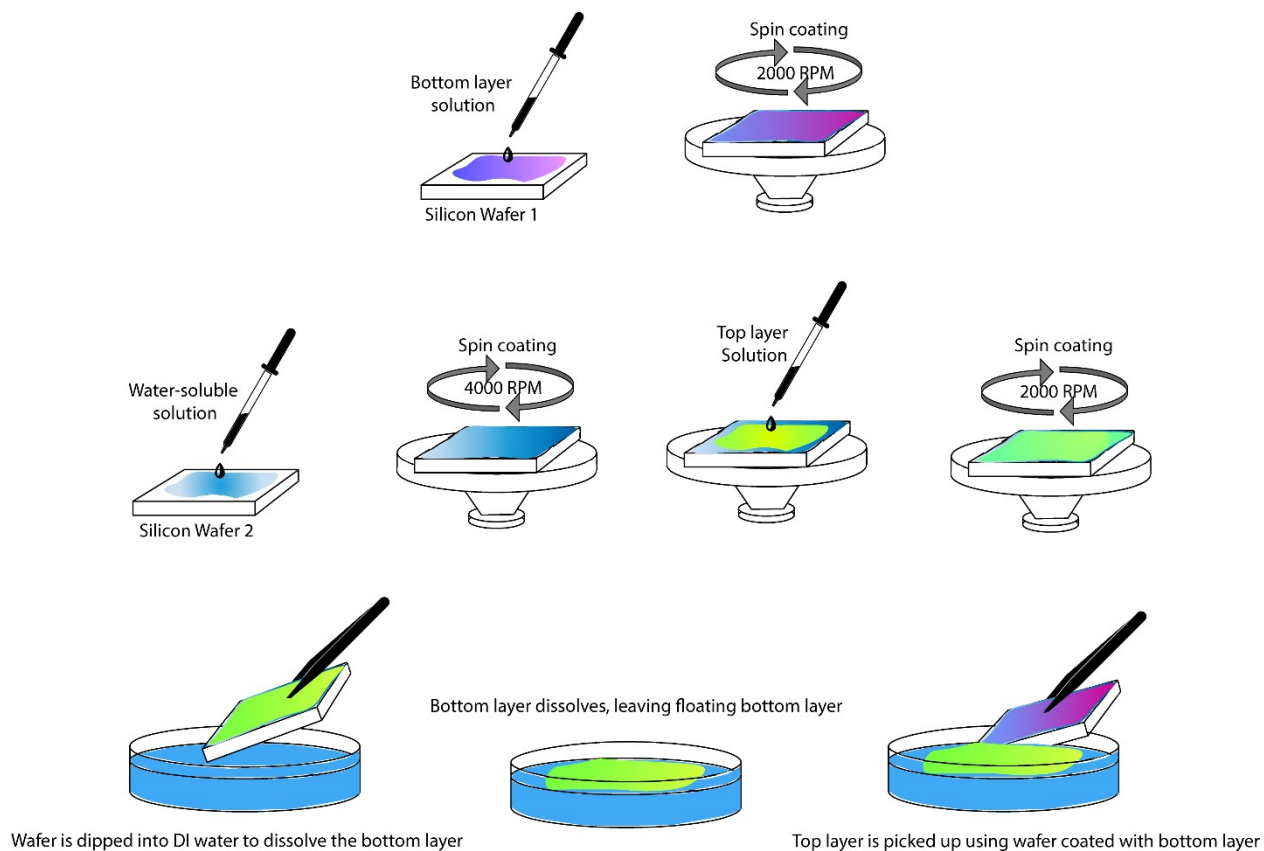
Figure S1. Complete sample preparation process for bilayer samples.

Figure S2. Bulk FTIR spectra of (**a**) PS and (**b**) PLA.

Figure S3. (a) Difference in AFM-IR signal acquired at 1765 cm^{-1} using both contact mode and tapping mode. (b) AFM-IR signal intensity at 1765 cm^{-1} as a function of laser power used.

Figure S4. (a) AFM-IR spectra acquired on a PS/PLA bilayer sample using a 20, 40, and 60 ns pulse width. (b) The AFM-IR Signal ratio of the PLA/PS signal as a function of laser pulse width (acquired in tapping mode).