

Supplementary information

Terahertz spectroscopy for the isothermal detection of bacterial DNA by magnetic bead-based rolling circle amplification

Xiang Yang, Ke Yang, Xiang Zhao, Zhongquan Lin, Zhiyong Liu, Sha Luo, Yang
Zhang, Yunxia Wang, Weiling Fu*

Department of Laboratory Medicine, Southwest Hospital, Third Military Medical
University, Chongqing 400038, China

Corresponding Author

*(W.-L.F) E-mail: weiling_fu@126.com

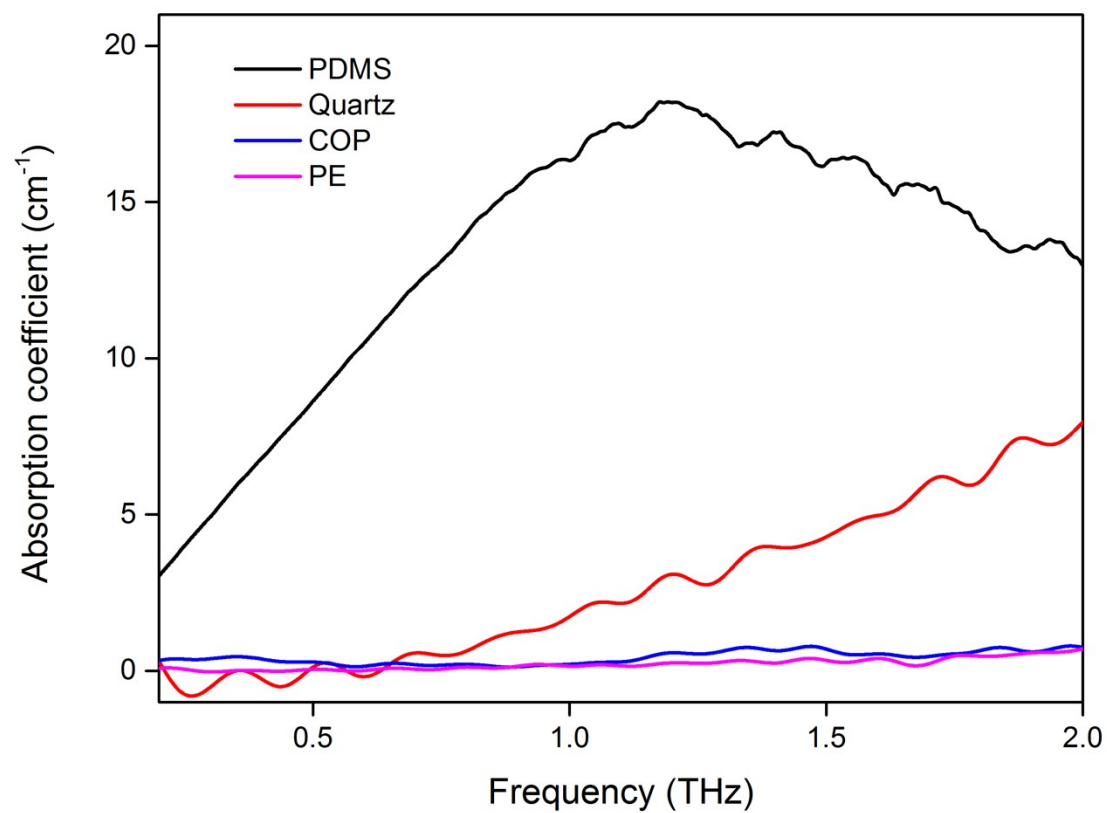


Figure S1. Comparison of the absorption coefficients of PDMS, quartz, COP and PE

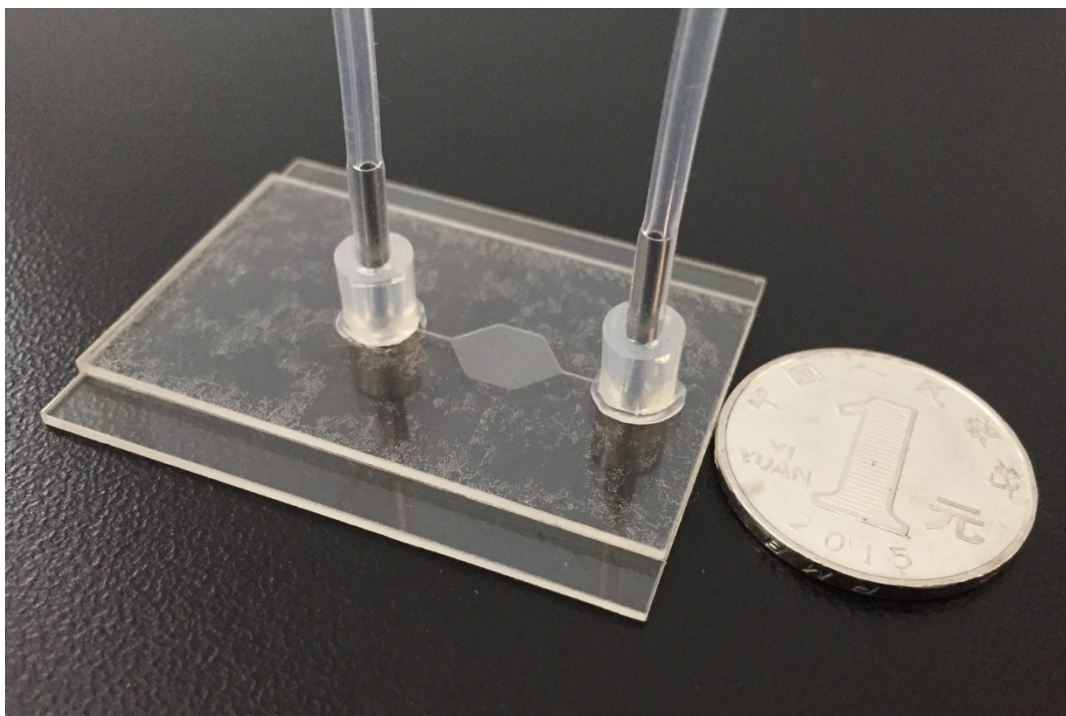


Figure S2. Image of the fluidic chip. The size of the lower layer was designed to be compatible with the sample holder of the THz spectrometer so that the fluidic chip can be directly inserted into the sample chamber after sample loading.

Experimental

The fabrication of the fluidic chip mainly included three steps: (i) cutting two COP layers of different sizes ($30 \times 50 \times 1$ mm and $40 \times 50 \times 1$ mm) to prepare the upper layer and lower layer of the chip by a computerized numerically controlled machine; (ii) using a piece of PET-based, double-sided adhesive layer to adhere the lower COP layer, and processing the designed structure for sample storage and a channel of 0.2 mm width by a high-speed milling cutter; (iii) bonding and heating two COP layers on a hot plate to a certain high temperature to form a total thickness of 2.08 mm. Therefore, the fixed PET layer with a thickness of 80 μm placed between two parallel COP windows was the sample thickness of the fluidic chip.