

# **Detection and manipulation of methylation in blood cancer DNA using terahertz radiation**

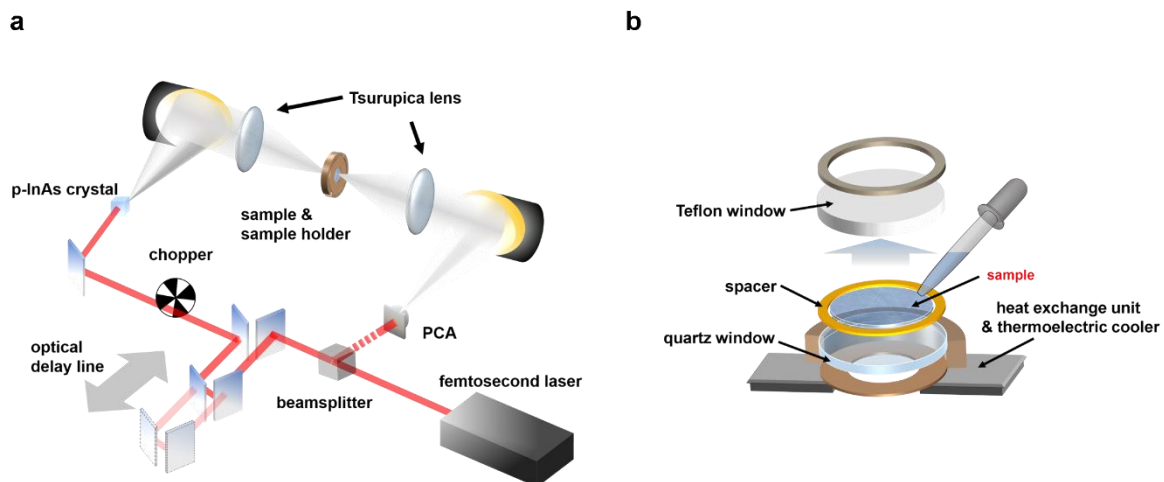
Hwayeong Cheon<sup>1</sup>, Jin Ho Paik<sup>2</sup>, Moran Choi<sup>3</sup>, Hee-jin Yang<sup>3†</sup>, and Joo-Hiuk Son<sup>1†</sup>

<sup>1</sup>Department of Physics, University of Seoul, Seoul 02504, Republic of Korea

<sup>2</sup>Department of Pathology, Seoul National University Bundang Hospital, Seoul 13620, Republic of Korea

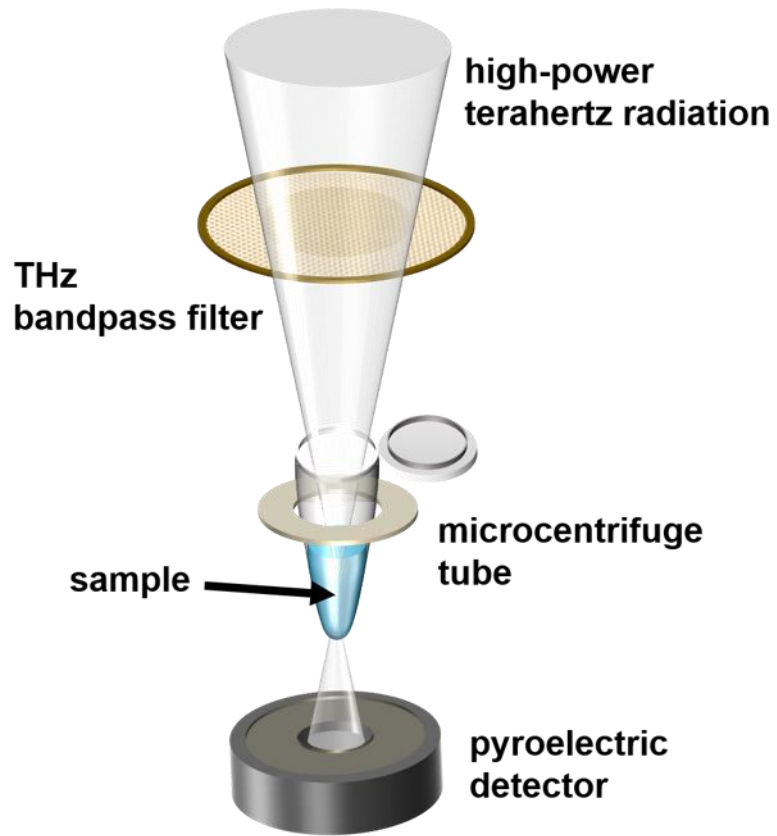
<sup>3</sup>Department of Neurosurgery, SMG-SNU Boramae Medical Centre, Seoul 07061, Republic of Korea

†To whom correspondence should be addressed: [joohiuk@uos.ac.kr](mailto:joohiuk@uos.ac.kr), [nsyangdr@gmail.com](mailto:nsyangdr@gmail.com)

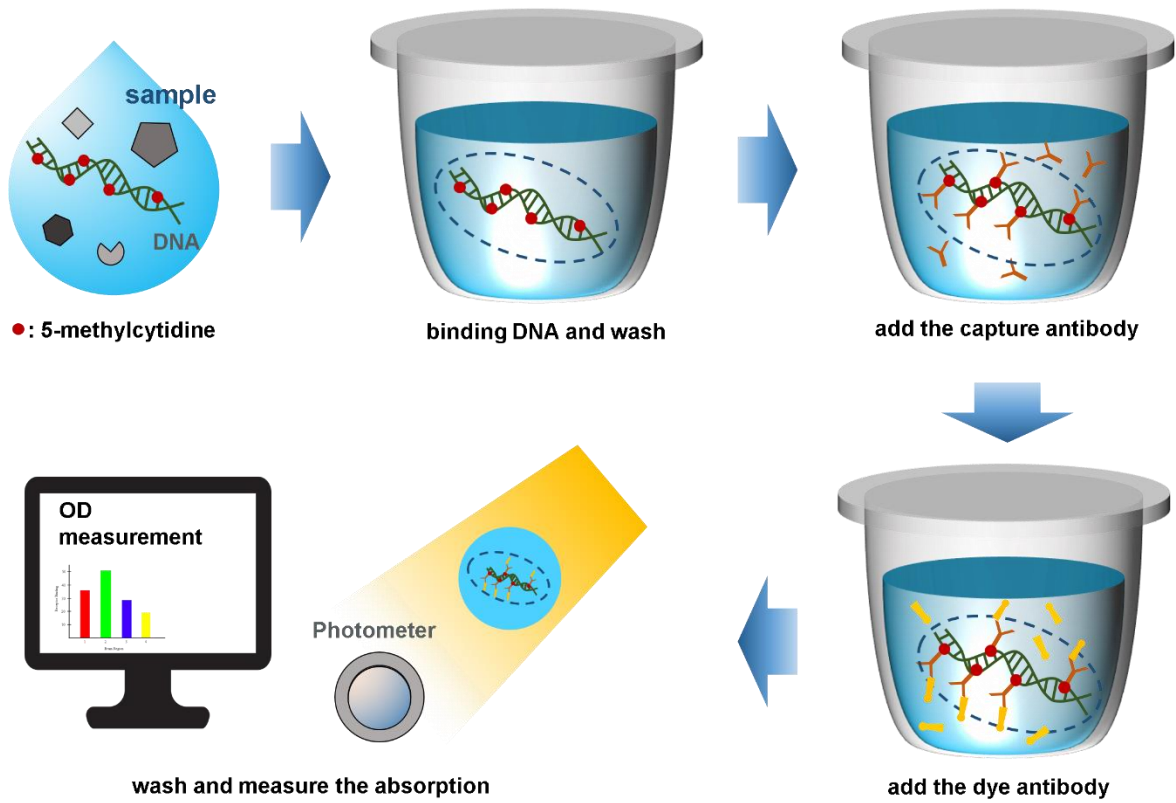


**Supplementary Figure 1** THz-TDS setup and the customized sample holder. (a)

Schematic of the THz-TDS setup. (b) The detailed structure of the sample holder.



**Supplementary Figure 2** The detailed scheme of the sample holder for DNA demethylation, where the bandpass filter limits the bandwidth of terahertz radiation.



**Supplementary Figure 3** The ELISA method using the Methylamp Global DNA Methylation Quantification Ultra Kit.