## **Supplementary Material**

## Detection of particulate matters with a field-portable microscope using side illuminated total internal reflection

Haechang Yang<sup>1,\*</sup>, Sanghoon Shin<sup>1,\*</sup>, Dongmin Seo<sup>2,\*</sup>, Jaewon Park<sup>3,†</sup>, and Sungkyu Seo<sup>1,†</sup>

- <sup>1</sup> Department of Electronics and Information Engineering, Korea University, Sejong, Republic of Korea
- <sup>2</sup> Maritime Safety Research Division, Korea Research Institute of Ships & Ocean Engineering, Daejeon, Republic of Korea
- <sup>3</sup> School of Microelectronics, Southern University of Science and Technology, Shenzhen, China
- \* These authors equally contributed to this study.

## † Correspondence to:

- (S. Seo) E-mail; sseo@korea.ac.kr, Tel; +82-44-860-1427, Fax; +82-44-860-1585, Address; #415, Accelerator and ICT Bldg., Korea University, Sejong 30019, Republic of Korea
- (J. Park) Email; <a href="mailto:jwpark@sustech.edu">jwpark@sustech.edu</a>, Tel; +86-755-8801-8574, Address; Southern University of Science and Technology, 1088 Xueyuan Avenue, Shenzhen, Guangdong, 518055, China

**Figure S1.** Side illuminated TIR system yielded more clear and identifiable images than traditional illumination when same experiment was done using ISO 12103-1 A1 ultrafine test dusts.

