Supplementary Materials: Miniaturized Sample Preparation and Rapid Detection of Arsenite in Contaminated Soil Using a Smartphone

Mohd Farhan Siddiqui¹, Soocheol Kim², Hyoil Jeon¹, Taeho Kim¹, Chulmin Joo^{2*}, Seungkyung Park^{1*}

¹School of Mechanical Engineering, Korea University of Technology and Education, Cheonan, 31253, South Korea

²School of Mechanical Engineering, Yonsei University, Seoul, 03722, South Korea

*Corresponding authors: cjoo@yonsei.ac.kr, Tel. +82-2-2123-5822, Fax. +82-2-312-2159; spark@koreatech.ac.kr, Tel. +82-41-560-1149, Fax. +82-41-560-1253



Figure S1: I) a) Dimensions of PDMS chip b) Fabricated PDMS chip. **II)** Different chip designs with control(C) and test (T) wells, showing diameter, length, breadth and thickness: a) 2.5,22,22, and 8 mm. b) 4,22,22, and 6mm c) 6,22,22, and 4mm d) 8,22,22, and 4mm. **III)** Images of chips tested on the device, representing: 1) Reflection with shadow effect 2) Shadow effect at the corners 3) High intensity with no reflection and shadow effect 4) Reflection with poor intensity