



Supplementary Materials

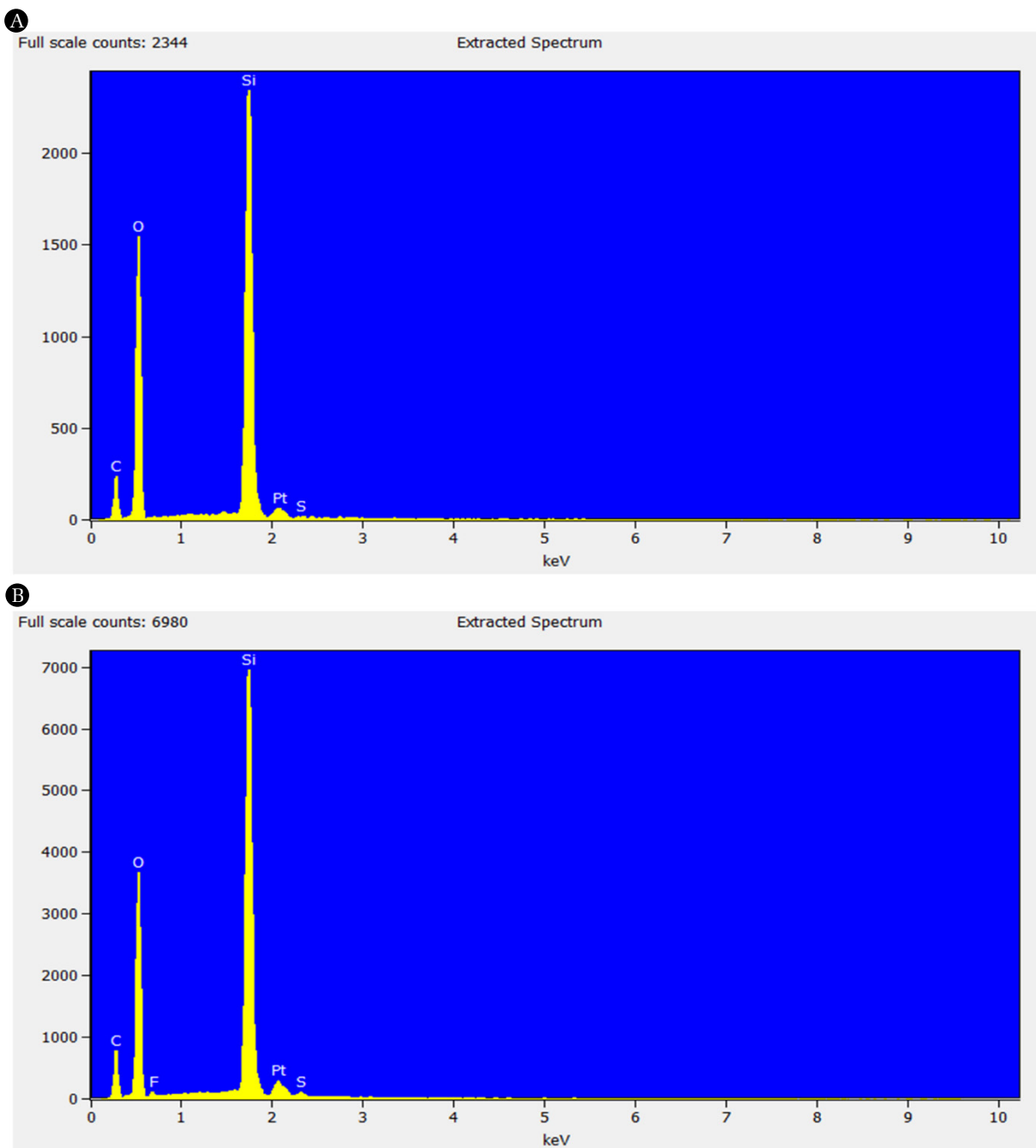


Fig. S1. Surface elements distribution analysis of (A) Silica and (B) MB-Silica using FE-SEM/EDS

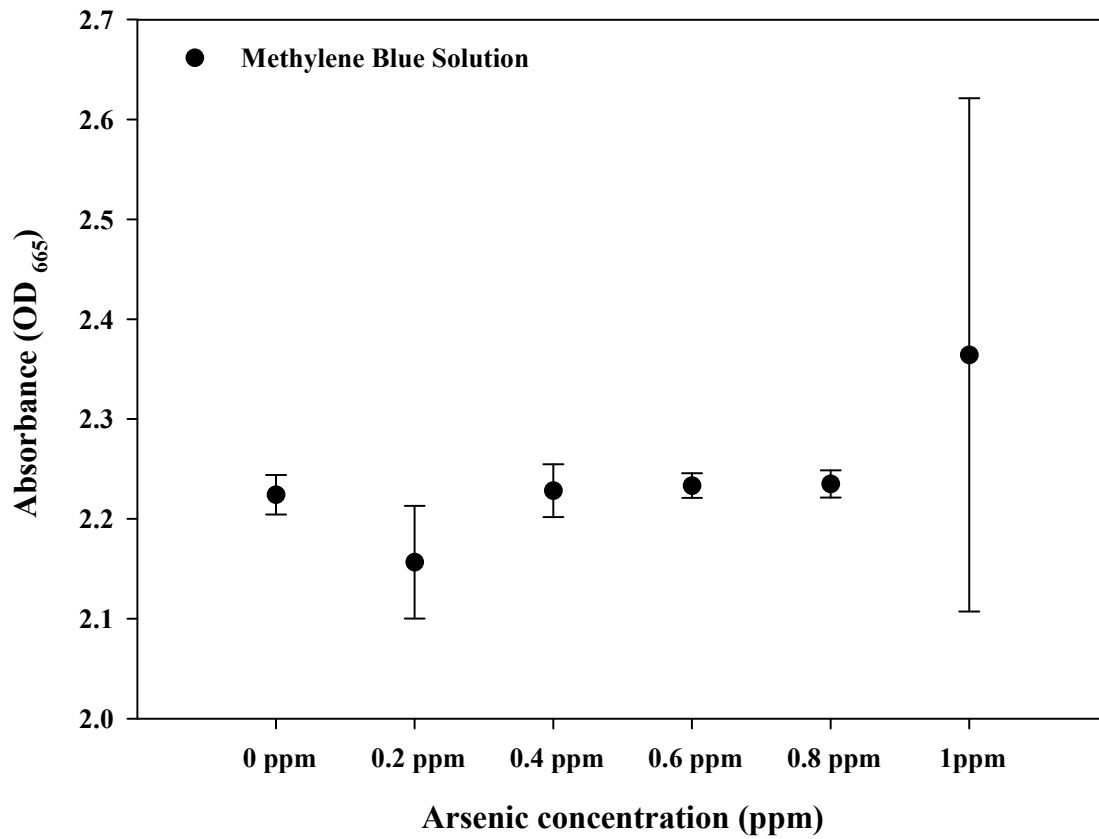


Fig. S2. Verification of arsenic detection potential of 1ppm or less using Methylene blue solution

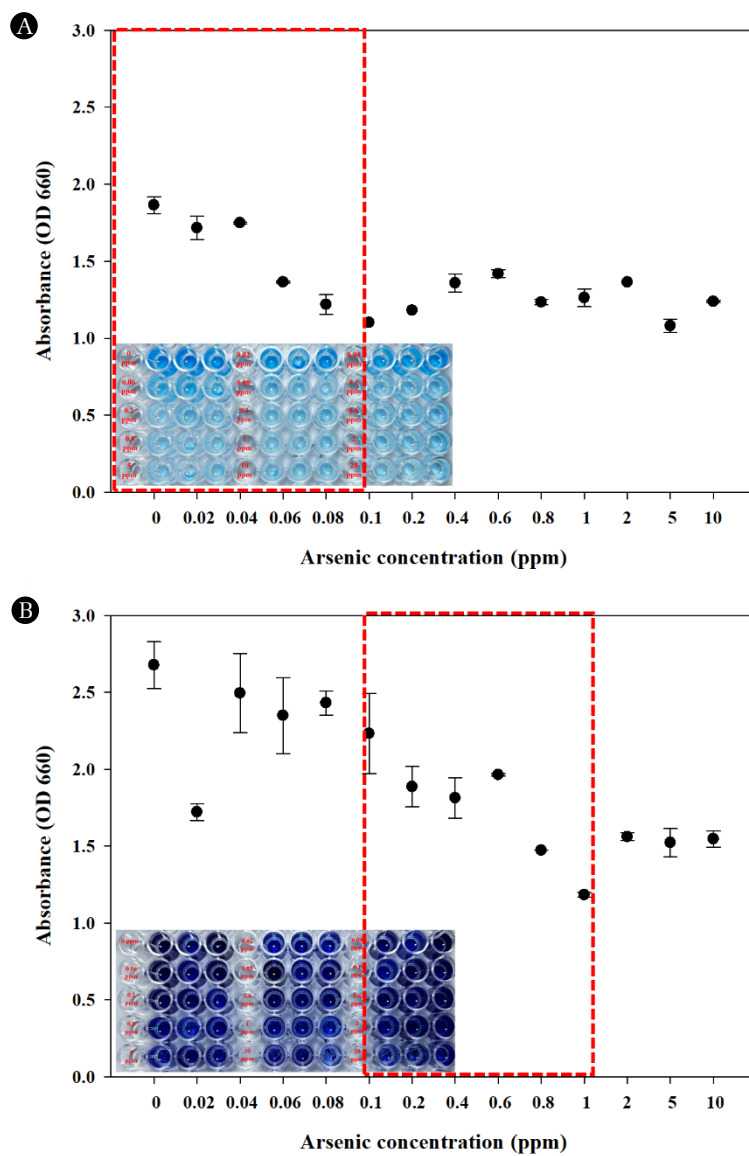


Fig. S3. Absorbance profiling of the MB-Silica (at 660nm) vs. concentration of arsenic standard solution (in ppm) Conditions: (A) [MB] = 2mM (0 to 10ppm range of arsenic) and (B) [MB] = 5mM (0 to 10 ppm range of arsenic)

Table. S1. Distribution of surface elements on silica and MB-silica according to FE-SEM/EDS.

Products	% Atom			
	C	O	Si	S
Silica	11.43 ± 0.36	48.00 ± 0.51	36.06 ± 0.27	0.2 ± 0.06
MB-Silica	13.66 ± 0.23	42.42 ± 0.38	36.57 ± 0.19	0.49 ± 0.06