Adsorption of ng/L-level Arsenic by ZIF-8 Nanoparticles: Application for the Monitoring of Environmental Water

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Table S1. The concentration of interfering foreign substances for colorimetric estimation of Arsenic using MQuant 117927.

Concentrations of foreign substances in mg/l or %					
Ag^+	**0.5**	Mg^{2+}	1000	EDTA	1000
Al^{3+}	100	MnO_4^-	500	Free chlorine	
Ca^{2+}	1000	Na^+	1000	(hypochlorite)	250
Cl^-	1000	**Ni^{2+}**	**1**	**Polyethylene glycol**	**10**[1)]
CN^-	500	NO_2^-	100	**Anionic**	
CO_3^{2-}	100	NO_3^-	100	**surfactants**[2)]	**1**
CrO_4^{2-}	250	PO_4^{3-}	100	**Cationic**	
Cu^{2+}	**0.5**	**S^{2-}**	**2**	**surfactants**[3)]	**0.1**
F^-	100	**Sb^{3+}**	**1**	**Nonionic**	
Fe^{2+}	500	**SeO_3^{2-}**	**1**	**surfactants**[4)]	**0.05**
Fe^{3+}	500	**SO_3^{2-}**	**2**	NaCl	20 %
K^+	1000	SO_4^{2-}	1000		

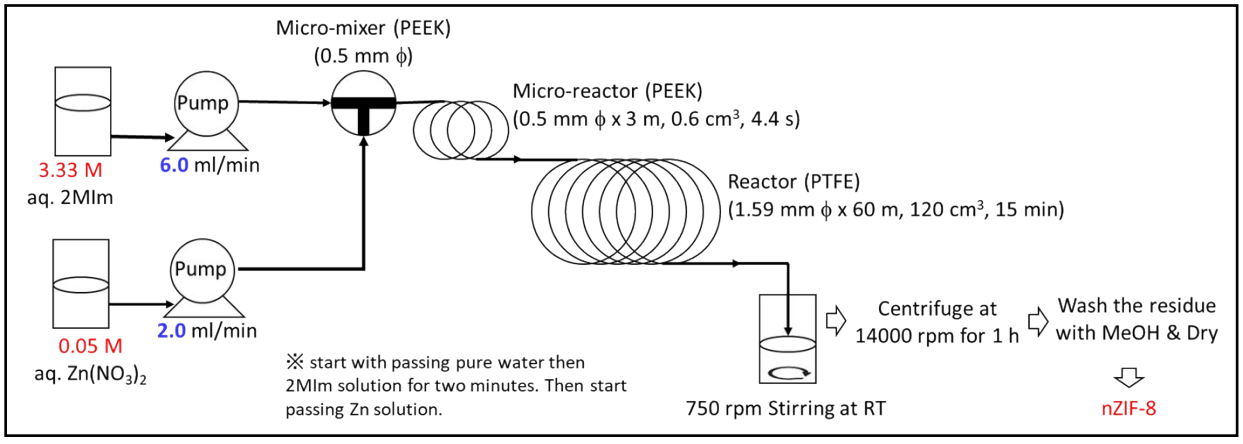


Fig. S1. Scheme showing the micromixing system used for the synthesis of nZIF-8 in flow.

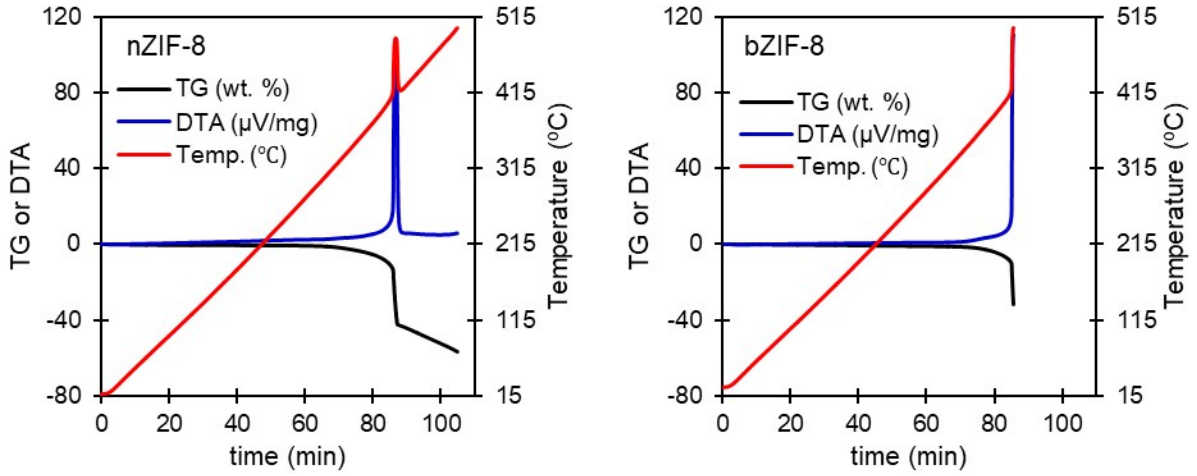


Fig. S2. TG-DTA profile of nZIF-8 and bZIF-8 taken in dry air condition show the exothermic oxidation at 408 ºC and 415 ºC, respectively. Heating range: room temperature to 500 ºC; rate: 5 ºC/min, sample mass: 10 mg.

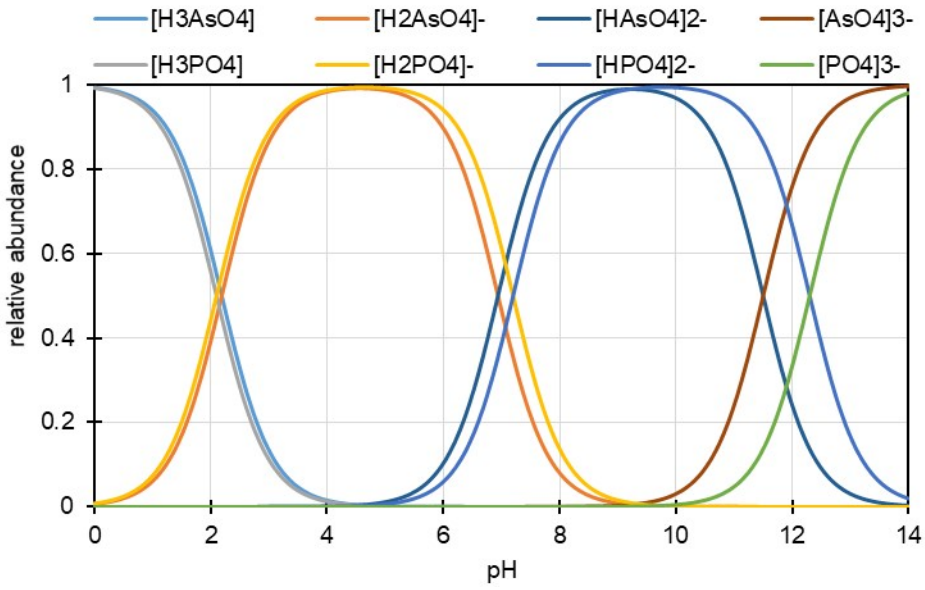


Fig. S3. Ion speciation diagram of H_3AsO_4 and H_3PO_4 with respect to pH.

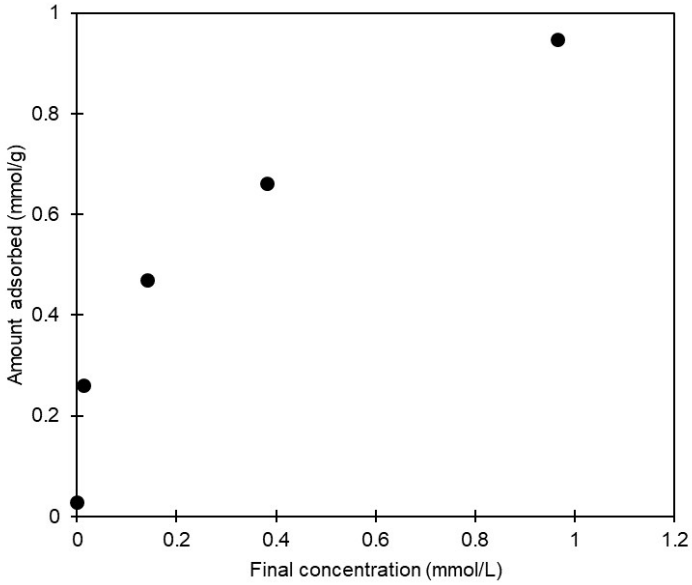
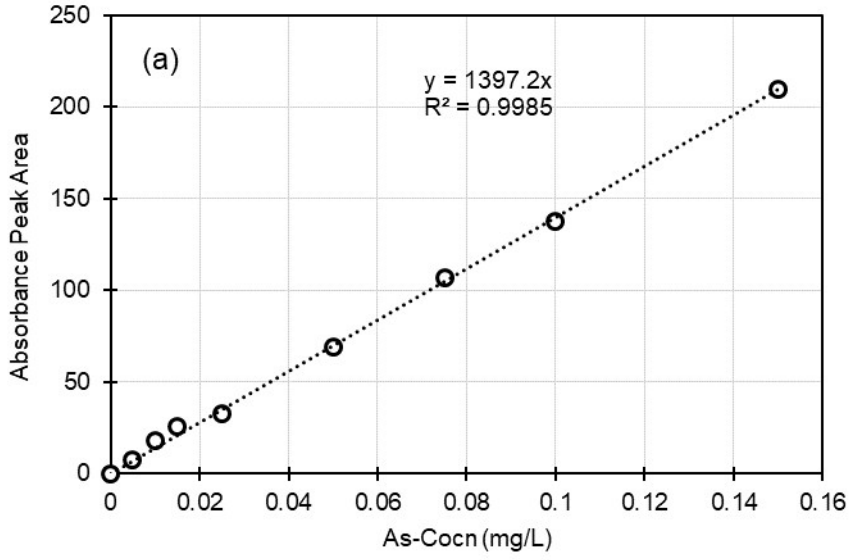
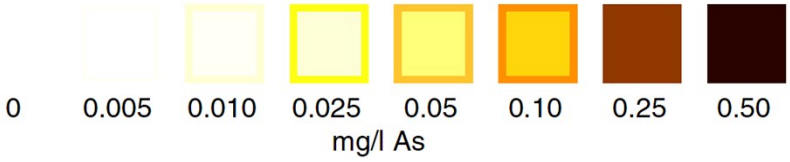


Fig. S4. Adsorption isotherm of AsO_4^{3-} onto nZIF-8. 10 mg nZIF-8 with 20 ml of 1-100 mg/L solution mixed at 600 rpm for 1 h at 25 °C .





(b)

Fig. S5. (a) Graph showing linear correlation between the peak area (between 420 to 800 nm) and Arsenic concentration between 0.005 to 0.15 mg/L range. (b) Color stripe of MQuant™.