Supplementary data for the article:

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Supplementary material for

Microwave-hydrothermal method for the synthesis of composite materials for removal of arsenic from water

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S1. Determination of point of zero charge (PZC)

PZC was determined with batch equilibrium technique proposed by Babic et al. (1999). Accordingly, the samples of adsorbent (0.2 g) were dispersed in 40 ml of 0.01 M NaCl solution, at different pH values and equilibrated for 24 h by shaking at room temperature. Initial pH ($pH_{initial}$) values were obtained by adding appropriate amount of NaOH or HCl solution (0.1 M), keeping the ionic strength constant. The pH values of filtrated suspensions (pH_{final}) were measured after equilibration.

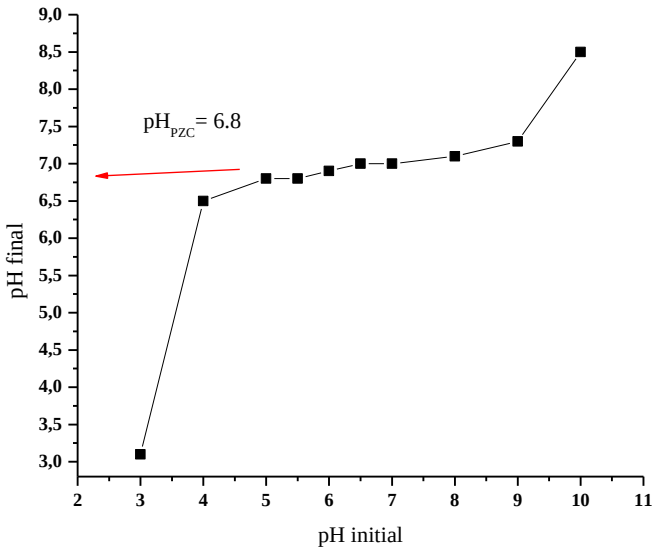

Fig. S1. Determination of PZC of Zr-TiO_2 in 0.01 M NaCl solution

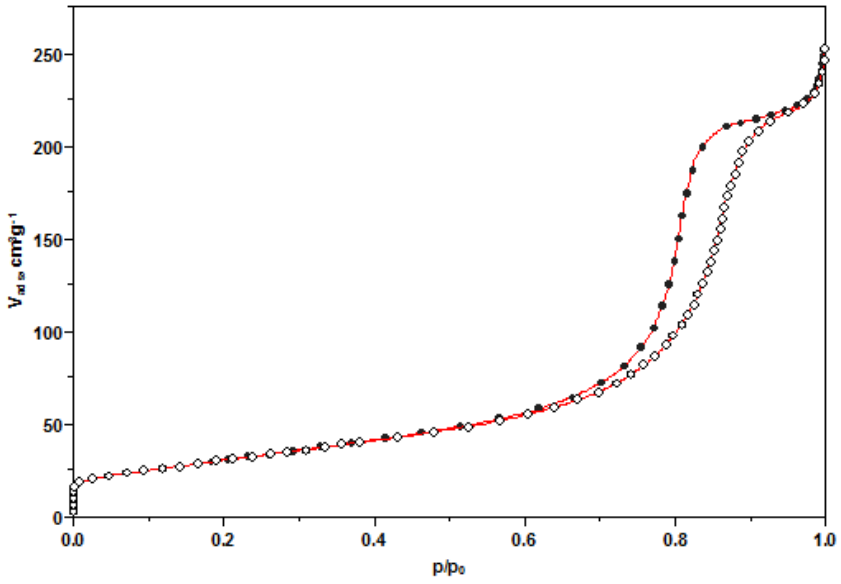

Fig. S2. Nitrogen physisorption isotherm at 77K of Zr-TiO_2

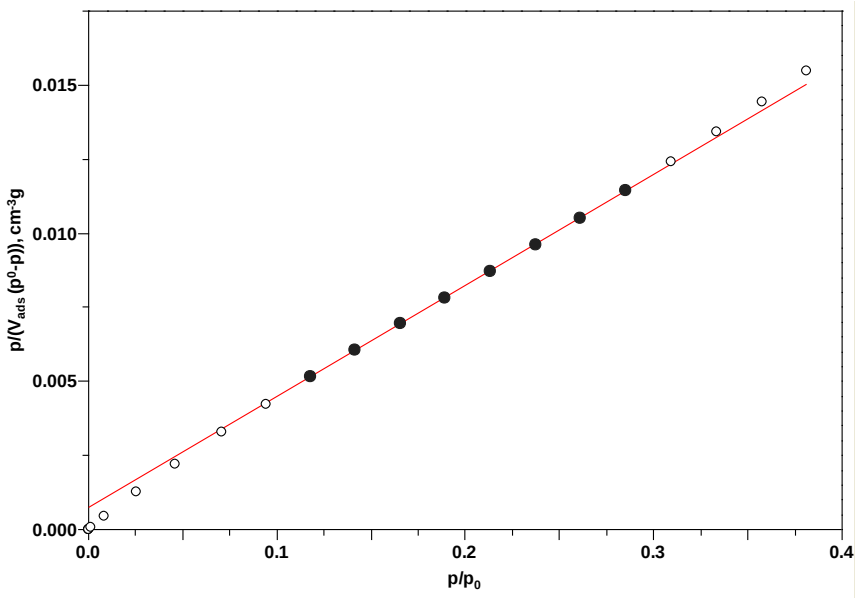

Fig. S3. Surface area (B.E.T.) parameters line for Zr-TiO_2

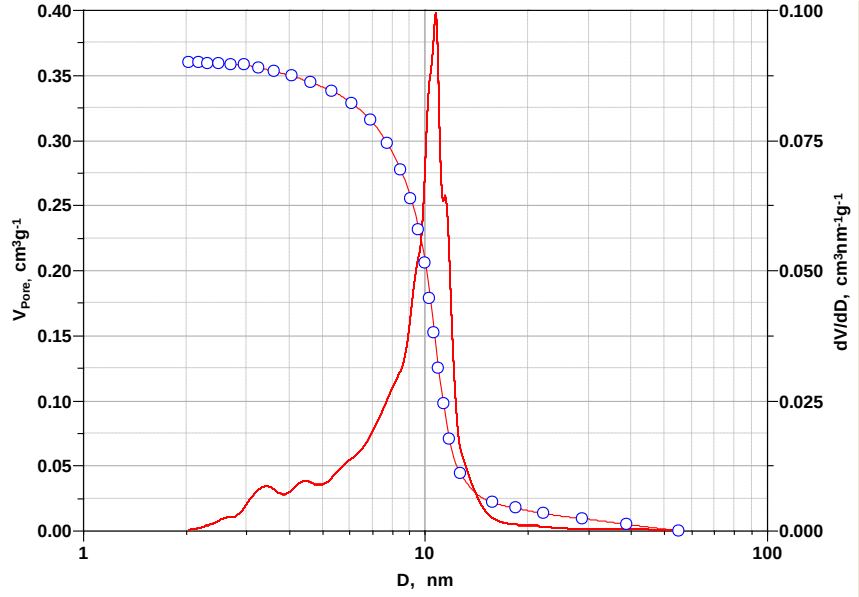

Fig. S4. Mesopore volume and size distibution for Zr-TiO_2 obtained using N_2 physisorption data and B.J.H. method

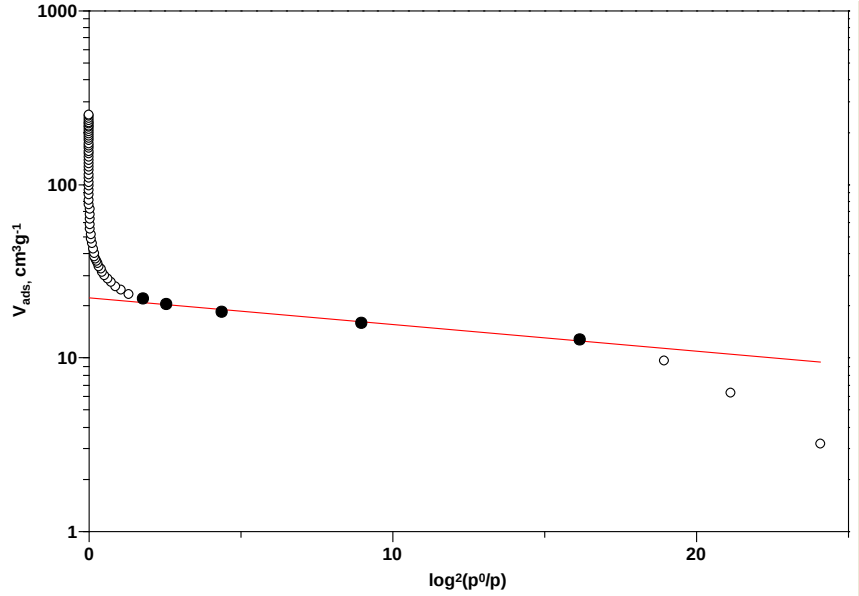

Fig. S5. Micropore volume for Zr-TiO_2 obtained using Dubinin and Raduskevich method

References:

Babic M, Milonjic K, Polovina J, Kaludjerovic V (1999). Point of zero charge and intrinsic equilibrium constants of activated carbon cloth. Carbon 37: 477-481.