Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

For

Design of A New Nanostructure Comprising Mesoporous ZrO_2 Shell and Magnetite Core (Fe_3O_4@mZrO_2) and Study of Its Phosphate Ion Separation Efficiency

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Fig. S1 shows the FTIR spectra of the surfactant (CTAB) and the Fe_3O_4@mZrO_2 core/shell material. Absence of any peak corresponds to the surfactant in the FTIR spectrum of Fe_3O_4@mZrO_2 exhibits that refluxing with acetone removes all the surfactant molecules from the as-synthesized material to give the desired Fe_3O_4@mZrO_2 core/shell compound.

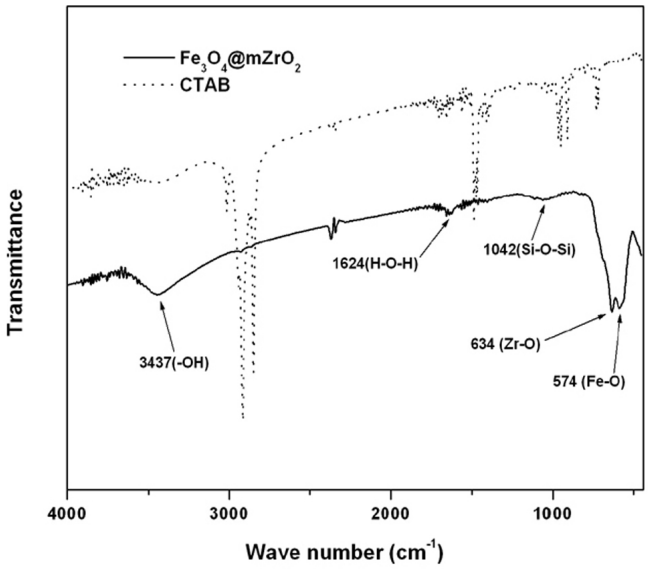

Fig. S1 FTIR spectra of the surfactant (CTAB) and the Fe_3O_4@mZrO_2 after surfactant removal.

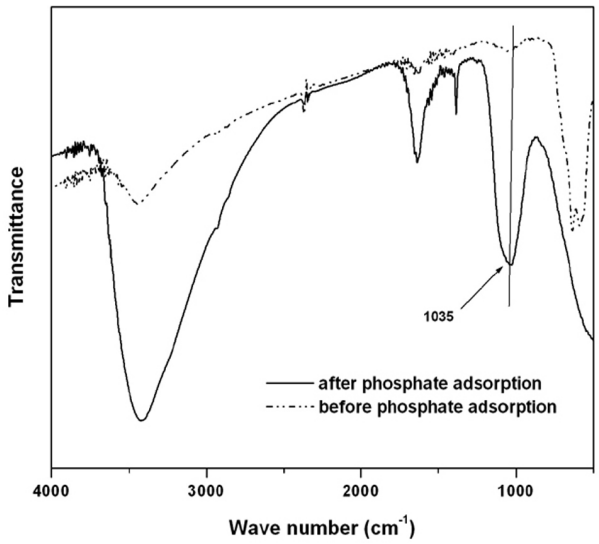

Fig. S2 FTIR spectra of the Fe_3O_4@$mZrO_2$ before and after phosphate adsorption.

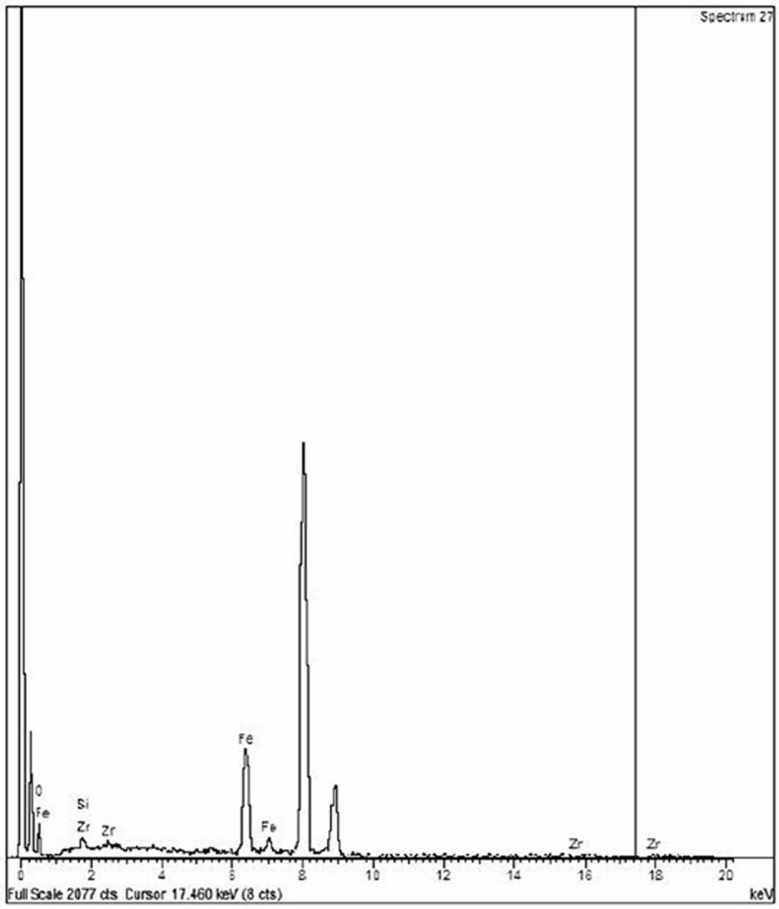

Fig. S3 EDX pattern of the Fe_3O_4@$mZrO_2$.