Fig. S1. In-situ XRD patterns of Ti/Mg-3/1 precursors with changed temperature from room temperature to 800 °C.

Fig. S2. Raman spectra of Ti/Mg-600 system.

Fig. S3 Pore size distribution profiles of (a) Ti/Mg-500 system and (b) Ti/Mg-600 system.
Fig. S4 (a) Pb$^{2+}$ adsorption and (b) desorption efficiency in 3 cycles, the Pb$^{2+}$ ion concentration is 20 mg·L$^{-1}$ and adsorbent dose is 25 mg /30 mL.

Fig. S5 (a) SEM image and XRD pattern of the used adsorbent Ti/Mg-3/1-500.