Supplementary Material (ESI) for Journal of Materials Chemistry

Supporting Information

A Template-Free, Thermal Decomposition Method to Synthesize Mesoporous MgO with a Nanocrystalline Framework and Its Application in CO_2 Adsorption

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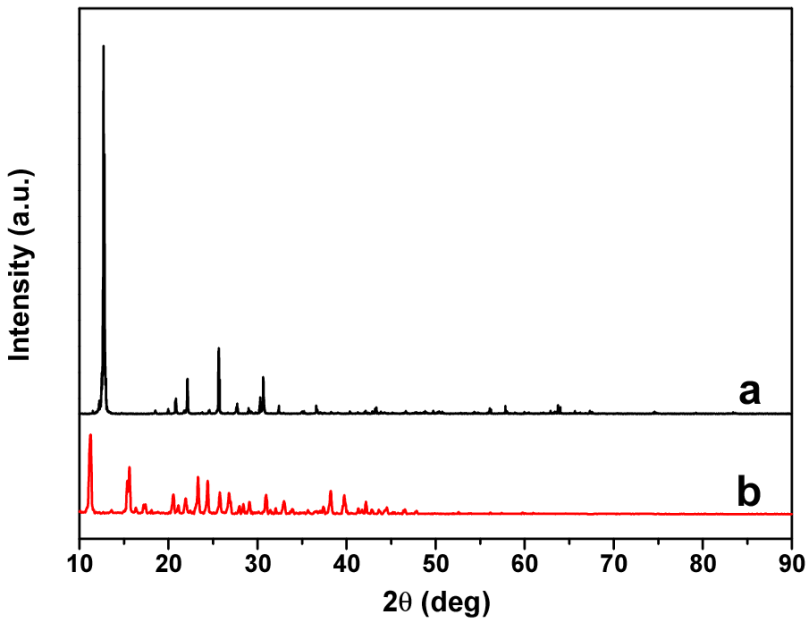

Fig. S1 XRD patterns of (a) magnesium acetate tetrahydrate and (b) anhydrous magnesium acetate after refluxing (a) in ethanol.

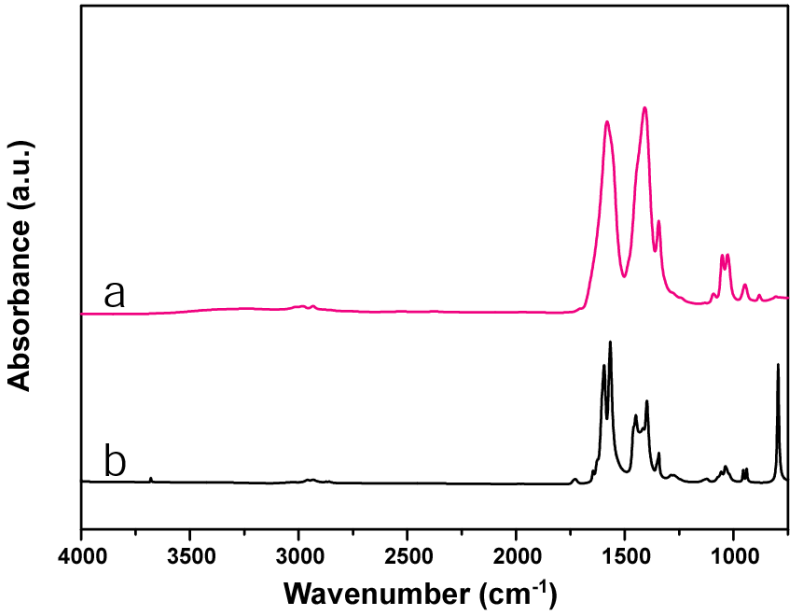

Fig. S2 ATR-FTIR spectra of (a) magnesium acetate tetrahydrate and (b) anhydrous magnesium acetate after refluxing (a) in ethanol.

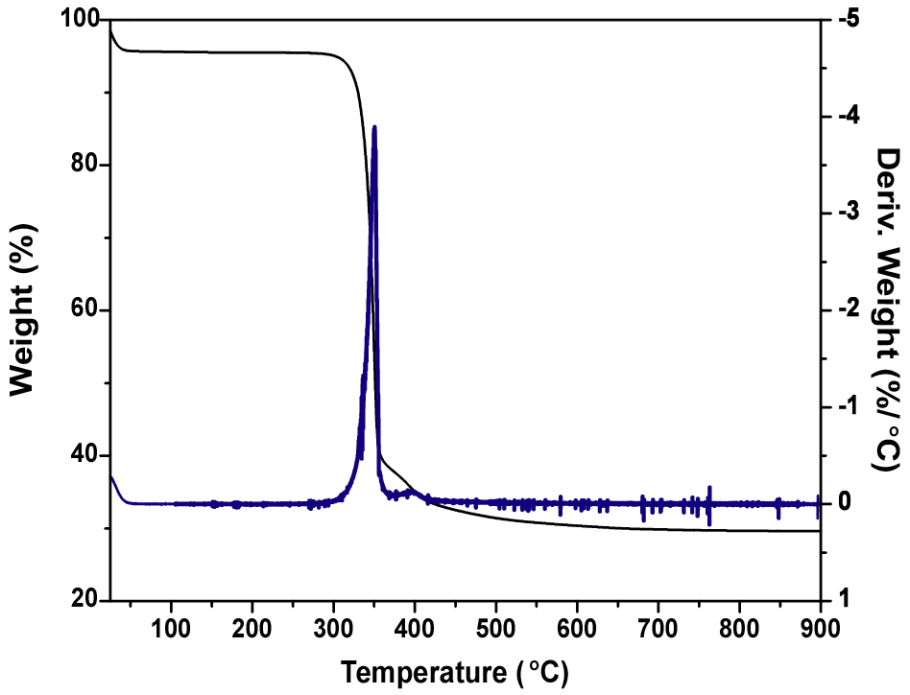

Fig. S3 TGA curves of anhydrous magnesium acetate microrods to mesoporous MgO at T=350^{o}C.

Table S1 The results of elemental analysis and TGA of anhydrous magnesium acetate microrods.

Precursor	Magnesium acetate microrods	Anhydrous magnesium acetate $Mg(O_2C_2H_3)_2$
Elemental analysis of anhydrous magnesium acetate	Experimental: C, 29.53; H, 4.27	Theoretical: C, 33.73; H, 4.21
TGA analysis of anhydrous magnesium acetate to MgO	Experimental: 29.60	Theoretical: 28.32
Elemental composition	$MgC_{3.4}H_{5.8}O_{3.8}$	$MgC_4H_6O_4$

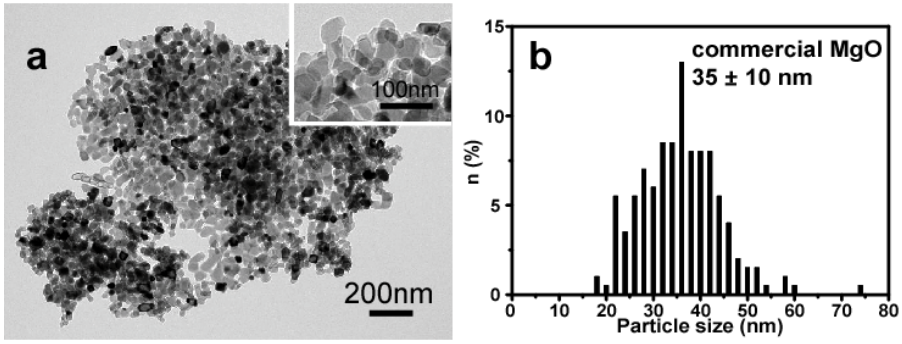

Fig. S4 (a) TEM image and (b) particle size distribution of commercial MgO; the inset in (a) is the high-magnification TEM image of commercial MgO.