

Electronic Supplementary Information (ESI)

**High surface area LaMO₃ (M=Co, Mn) hollow spheres:
synthesis, characterization and catalytic properties in
methane combustion**

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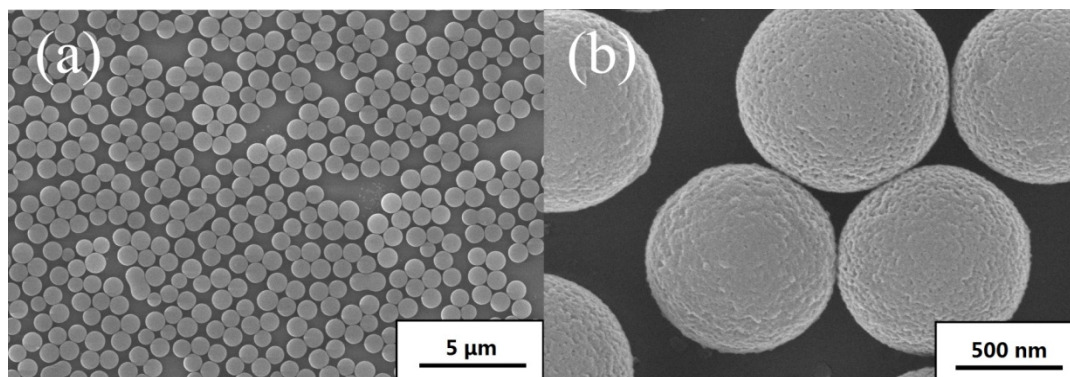


Figure S1. SEM images of carbon sphere templates: (a) low magnification; (b) high magnification.

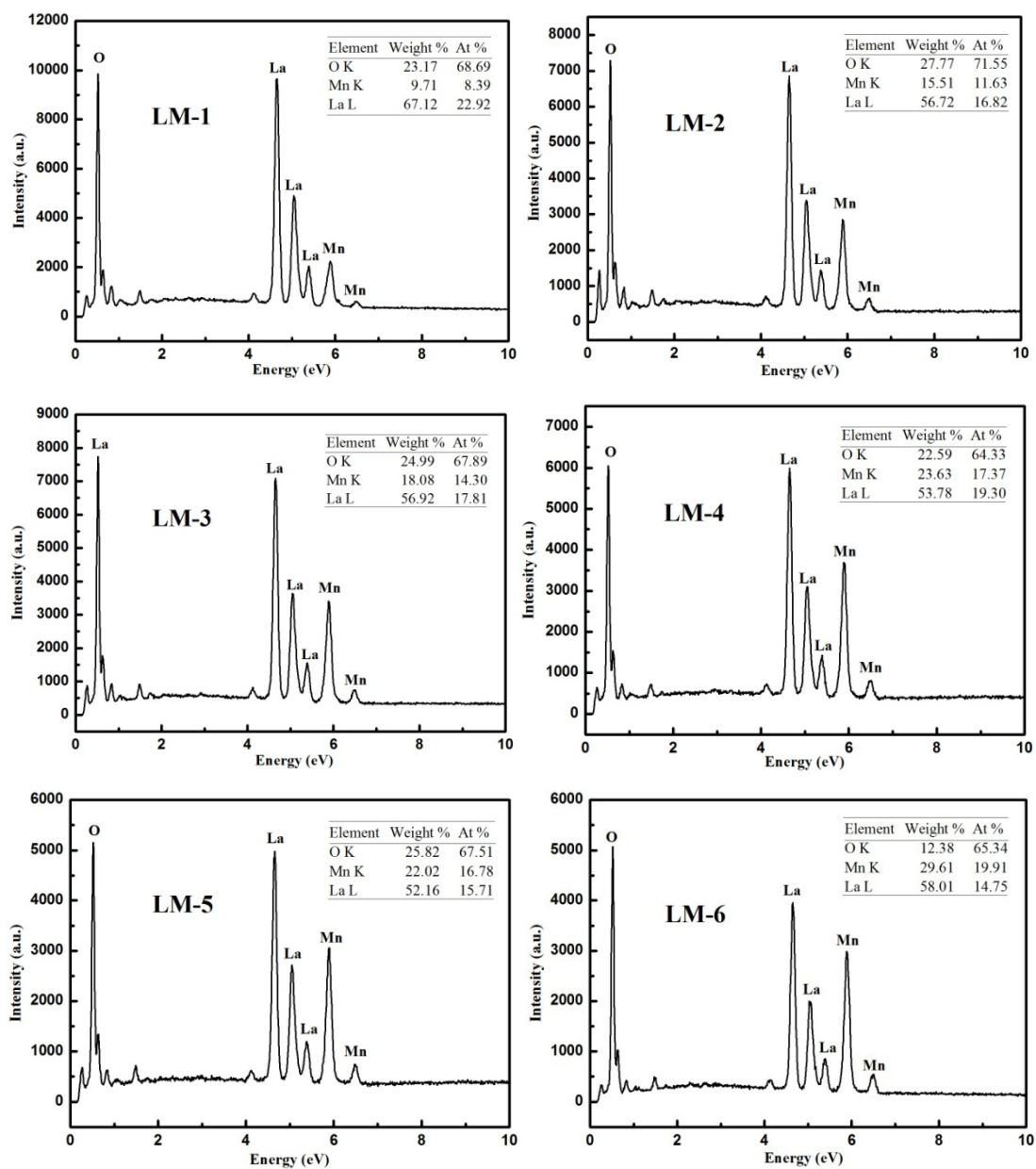


Figure S2. EDX images of LM-1, LM-2, LM-3, LM-4, LM-5 and LM-6

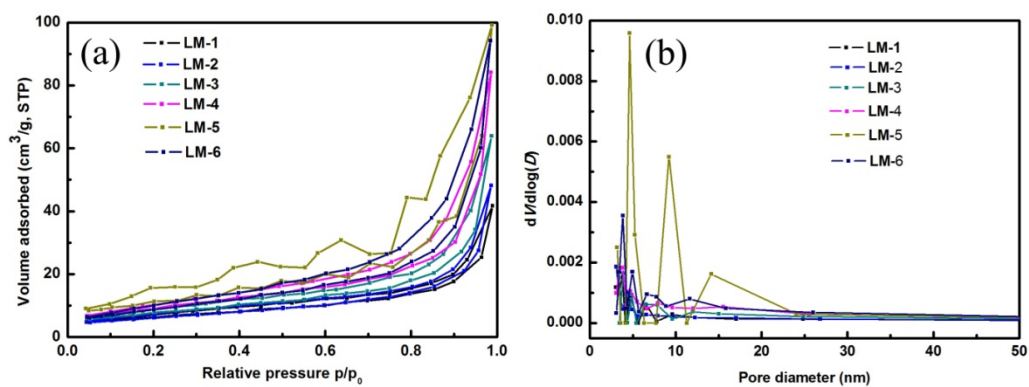


Figure S3. Nitrogen adsorption-desorption isotherms (a) and pore-size distributions (b) of LaMnO_3 .

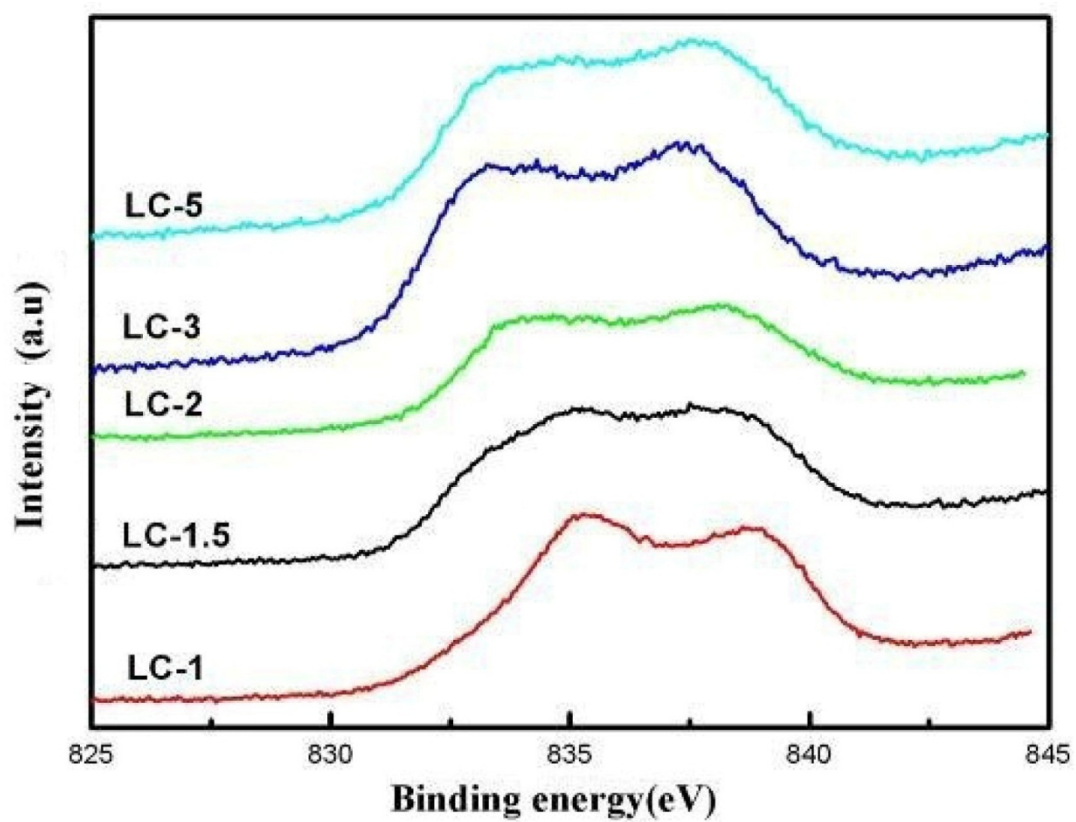


Figure S4. XPS spectra of the as-prepared LaCoO_3 of $\text{La}3d_{5/2}$.

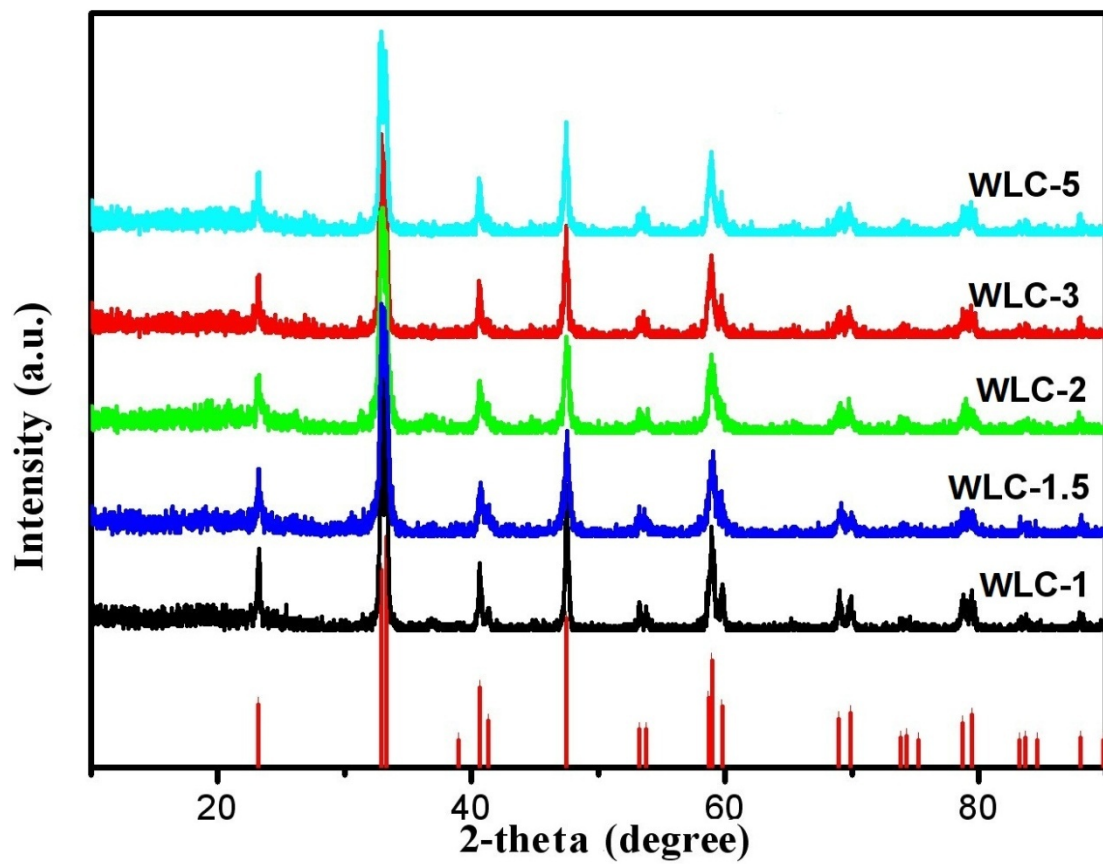


Figure S5. XRD patterns of the acid-treated LaCoO_3 .

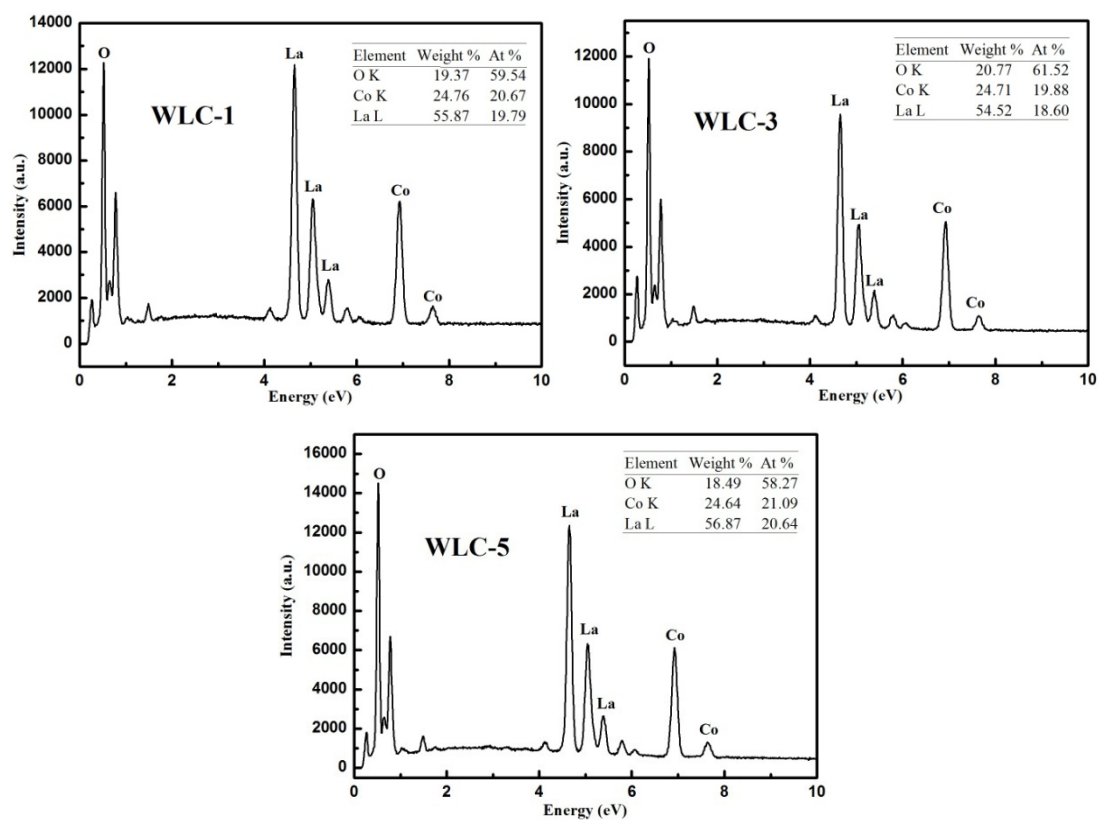


Figure S6. EDX images of WLC-1, WLC-3 and WLC-5

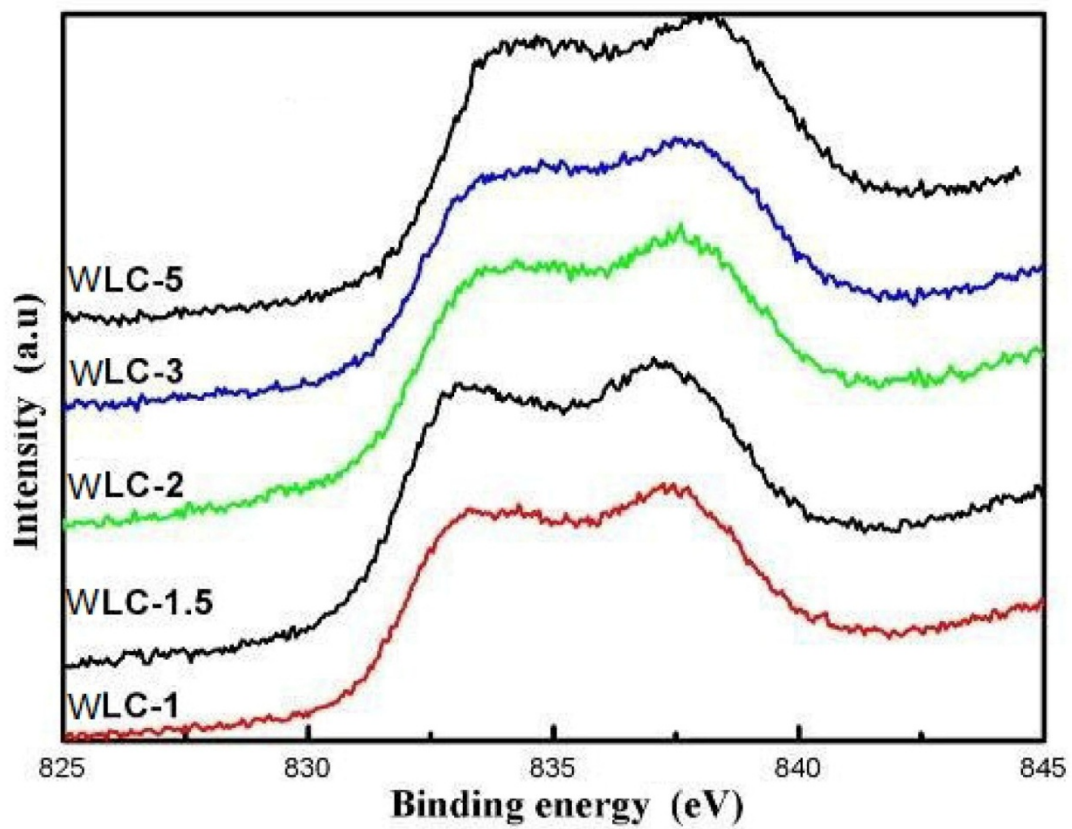


Figure S7. XPS spectra of the acid-treated $LaCoO_3$ of $La3d_{5/2}$.

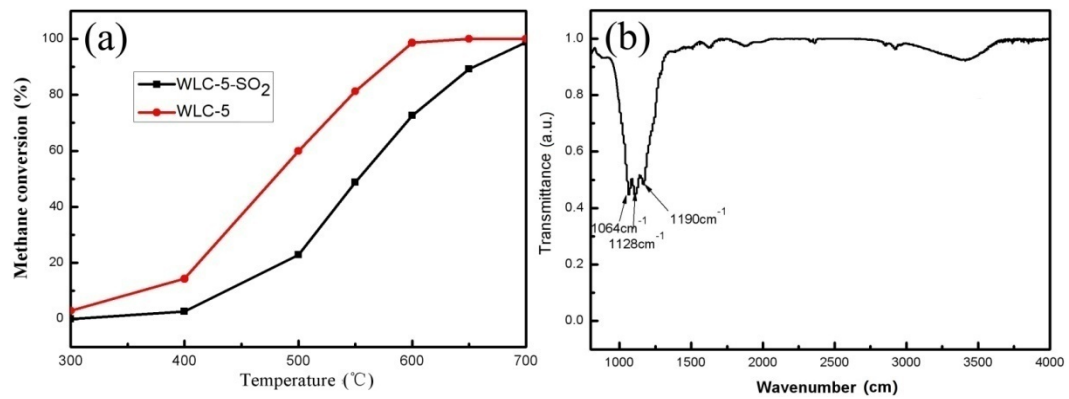


Figure S8. CH₄ oxidation as a function of temperature to WLC-5 before and after SO₂ poisoned (a) and FTIR spectrum of the SO₂ poisoned WLC-5 (b)