

Electronic Supplementary Material

Three-dimensional ordered macroporous cerium-manganese
composite oxide for NO oxidation

Canyang Qu,^a Ping Wang,^a Miao He,^a Cheng Yang,^a Jing Xiong,^b Xiaohua Sun,^{*a} Yuechang Wei^{*b}
and Zhenxing Li^{*a}

^aState Key Laboratory of Heavy Oil Processing, College of New Energy and Materials, China
University of Petroleum (Beijing), Beijing 102249, China. E-mail: hua82@126.com;
lizx@cup.edu.cn

^bCollege of Science, China University of Petroleum (Beijing), Beijing 102249, China. E-mail:
weiyu@cup.edu.cn

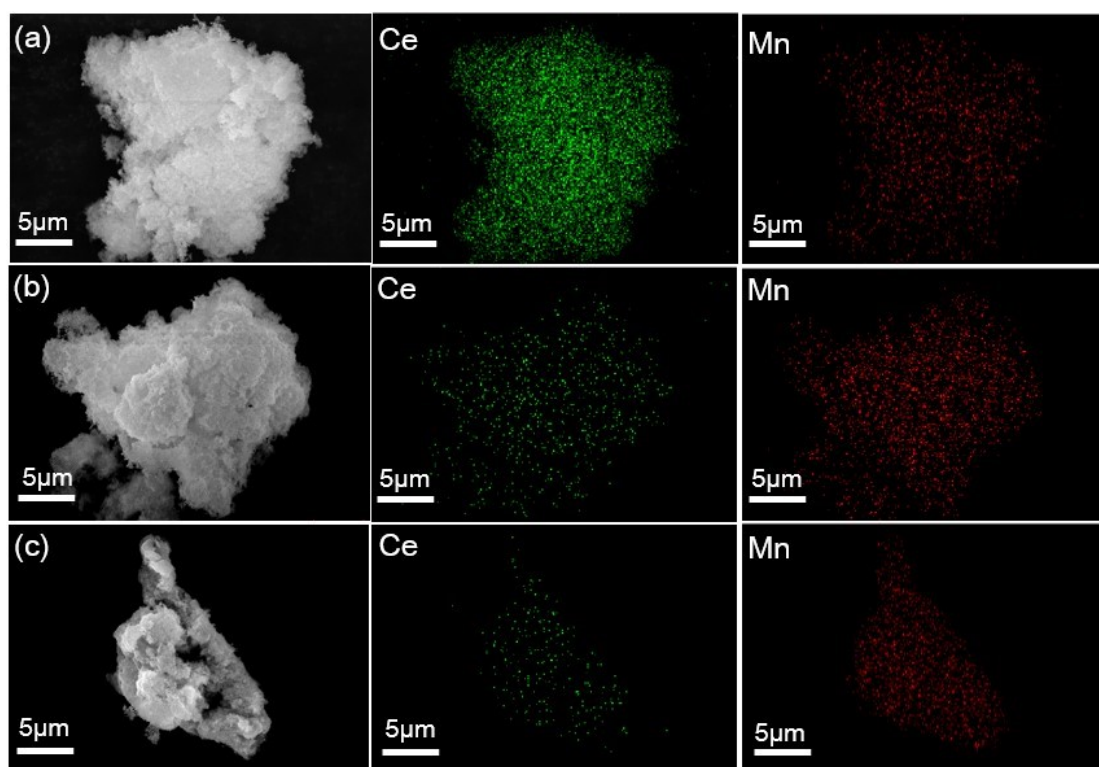


Fig. S1 EDS for cerium-manganese macroporous catalysts of different proportions: (a) CM1, (b) CM3, (c) CM4.

Table S1 Specific surface area, pore volume and mesoporous aperture of catalyst

Catalysts	Surface area(m²/g)	Total pore volume(cm³/g)
CeO ₂	68	0.19
Mn ₂ O ₃	27	0.20
CM1	58	0.13
CM2	60	0.25
CM3	53	0.21
CM4	49	0.28

Table S2 Compositions of catalyst surfaces.

Catalysts	Ce³⁺(%)	Mn³⁺(%)	SurfaceO(O⁻)(%)
CeO ₂	13.7	—	—
Mn ₂ O ₃	—	48.2	—
CM1	13.6	63.1	25.8
CM2	19.7	65.8	34.2
CM3	23.5	61.5	27.6
CM4	22.1	52.5	28.3

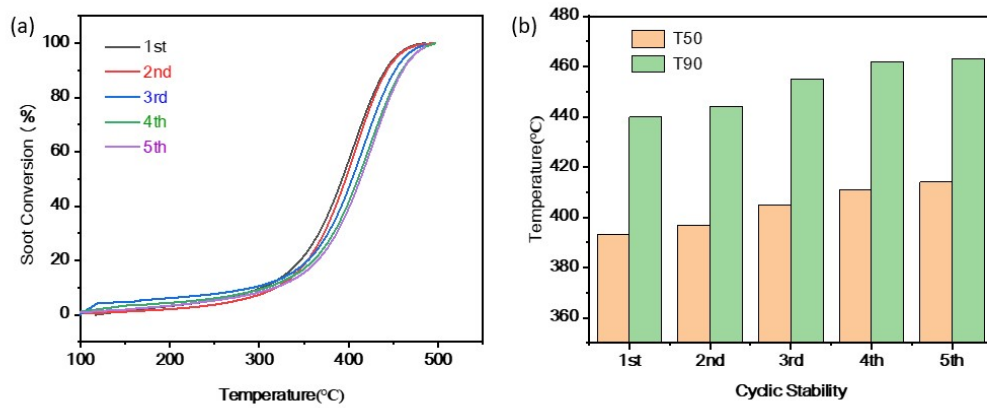


Fig. S2 CM2 soot combustion cycle test: (a) CM2 soot combustion cycle test curve, (b) conversion rate of T50 and T90.