Supplementary Material

Figure S1 UV-vis spectra of (a)1 mmol L^{-1} KNO_3 (b) oxidation products for catalytic ozonation diluted by a certain amount of water

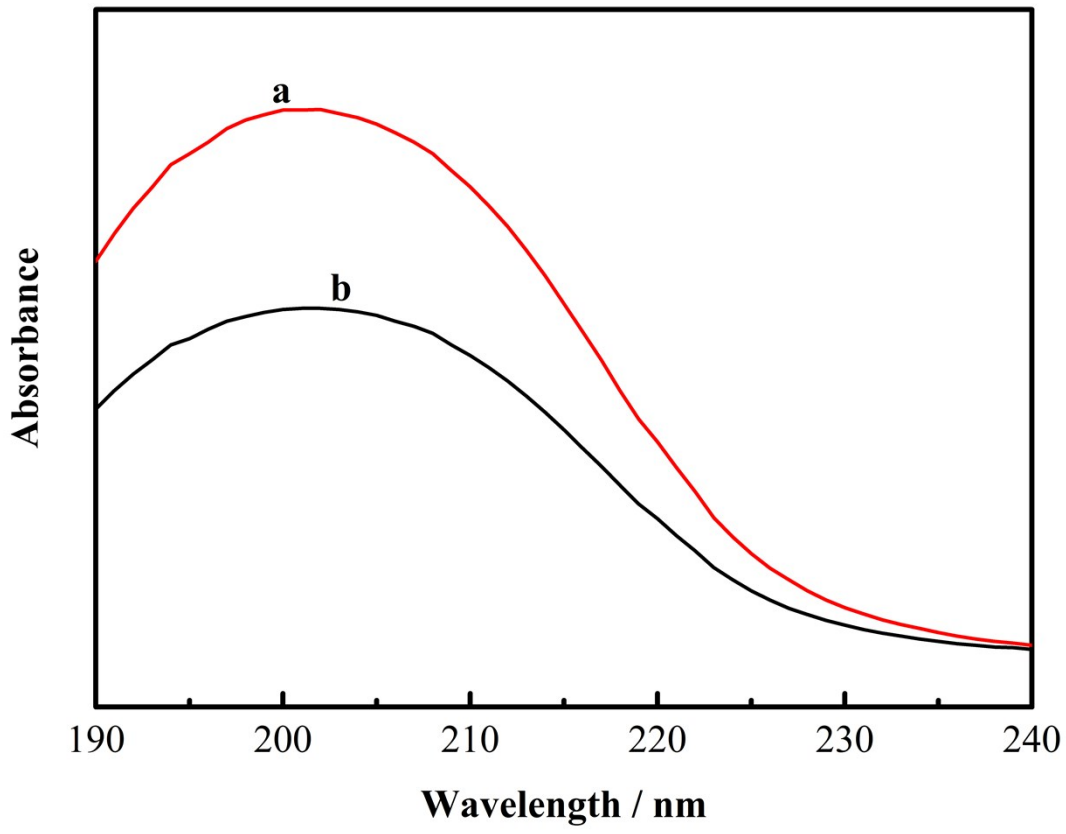
Figure S2 two feasible technological processes based on the two conditions

Figure S3 Recycle catalytic performance of $CoMn_2O_4$/air. Ozone dose: 2.8 mg L^{-1}, catalyst dose: 0.2 g

Figure S4 (a) XRD patterns and (b) FT-IR spectra of fresh and used $CoMn_2O_4$/air catalysts

Figure S5 SEM image of Co_3O_4(a, b) and Mn_2O_3(c, d)

Table S1 Material balance summary for NOx



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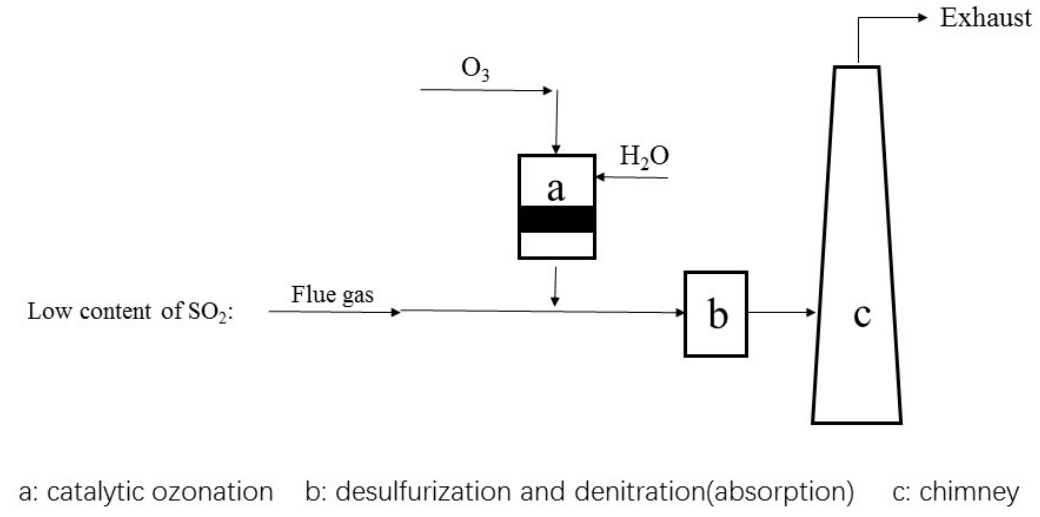

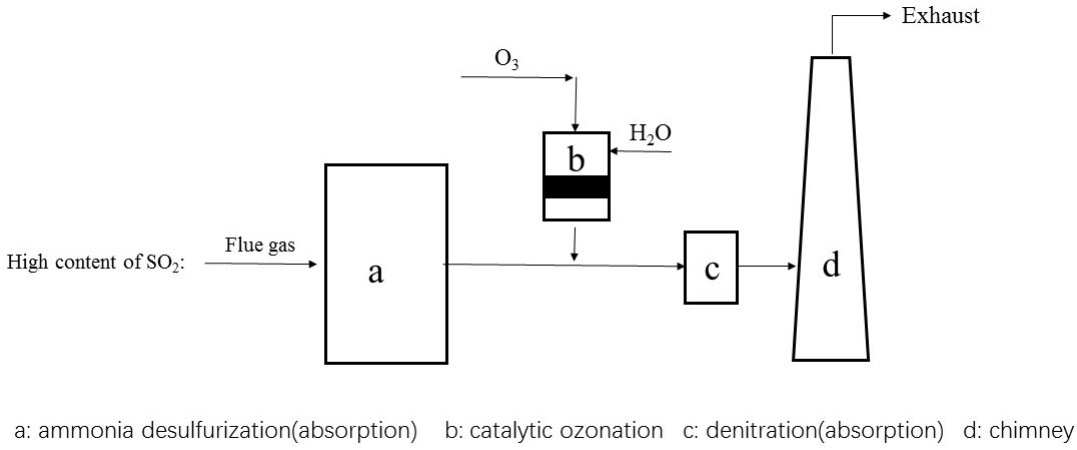

Figure S2 two feasible technological processes based on the two conditions

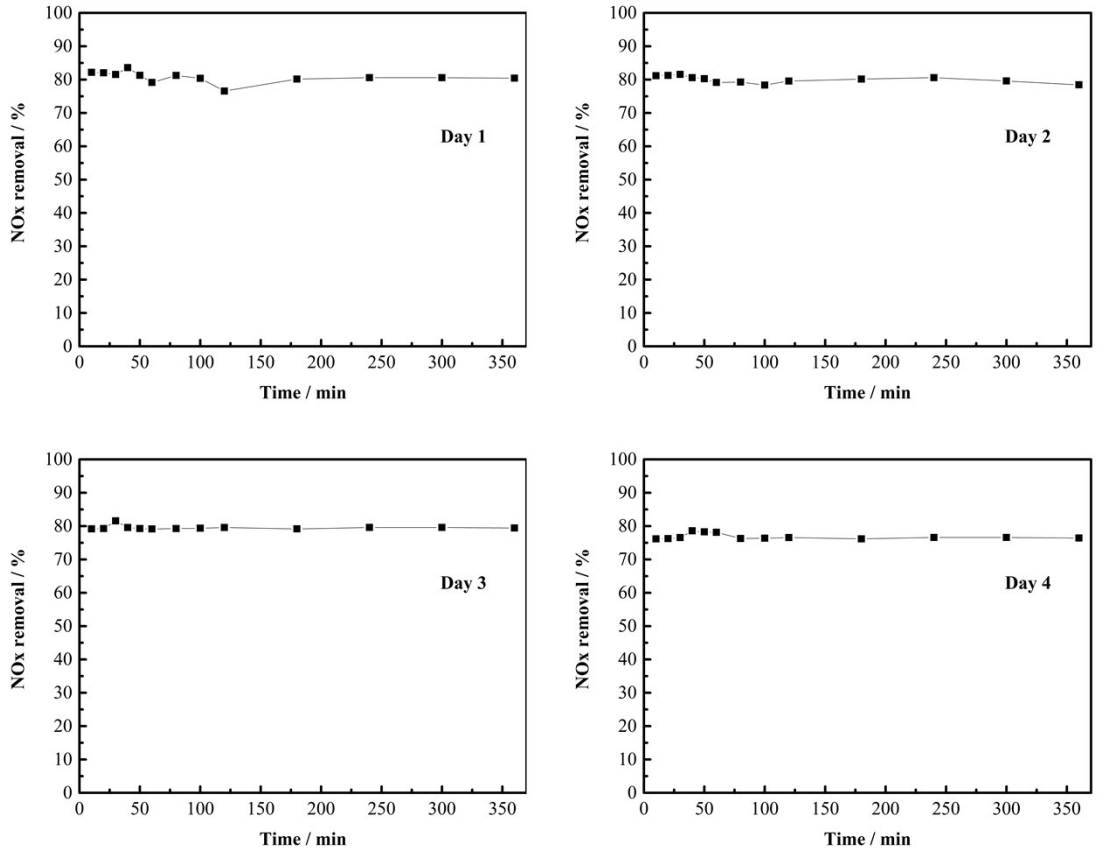

Figure S3 Recycle catalytic performance of $CoMn_2O_4$/air. Ozone dose: 2.8 mg L^{-1}, catalyst dose: 0.2 g

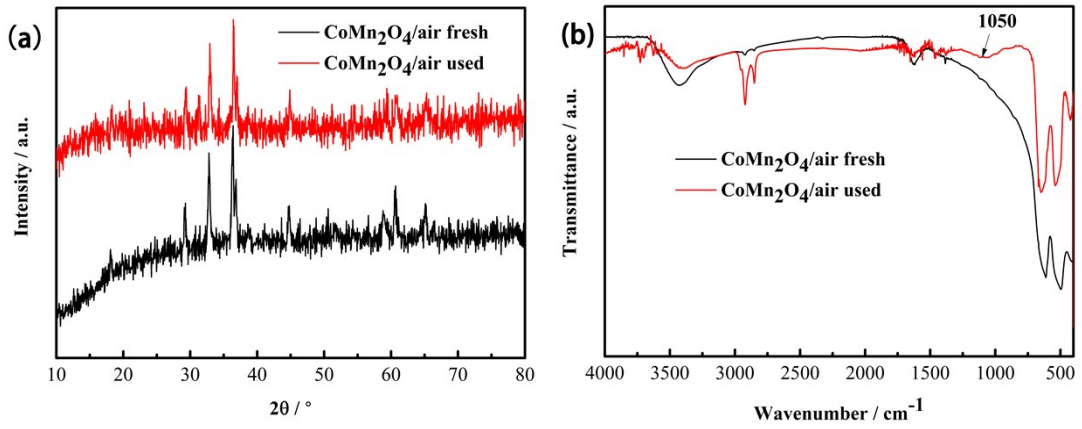

Figure S4 (a) XRD patterns and (b) FT-IR spectra of fresh and used $CoMn_2O_4$/air catalysts

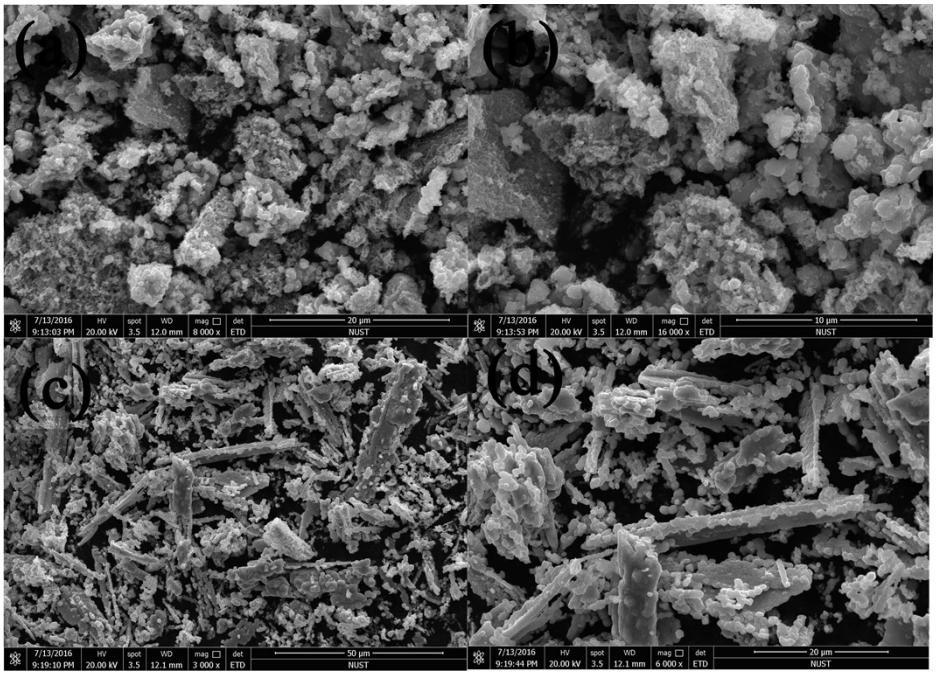

Figure S5 SEM image of Co_3O_4(a, b) and Mn_2O_3(c, d)

Category	$CoMn_2O_4$/CO	Co_3O_4	Mn_2O_3
Time t, min	500	500	500
Gas flow Q, mL min^{-1}	200	200	200
Solution volume V_L, mL	200	200	200
C_{in} (NO_X), ppm	450	455	442
C_{out}(NO_X), ppm	81	95	132
C(NO_2^-) actual value, mg L^{-1}	0	0	0
C(NO_3^-) actual value, mg L^{-1}	480	464	407
C(NO_3^-) calculation value, mg L^{-1}	511	498	442
C(NO_3^-) error, %	6.1	6.8	7.9

Table S1 Material balance summary for NOx