

SUPPLEMENTARY INFORMATION

Influence of the preparation method on the activity of copper-manganese oxides for toluene total oxidation

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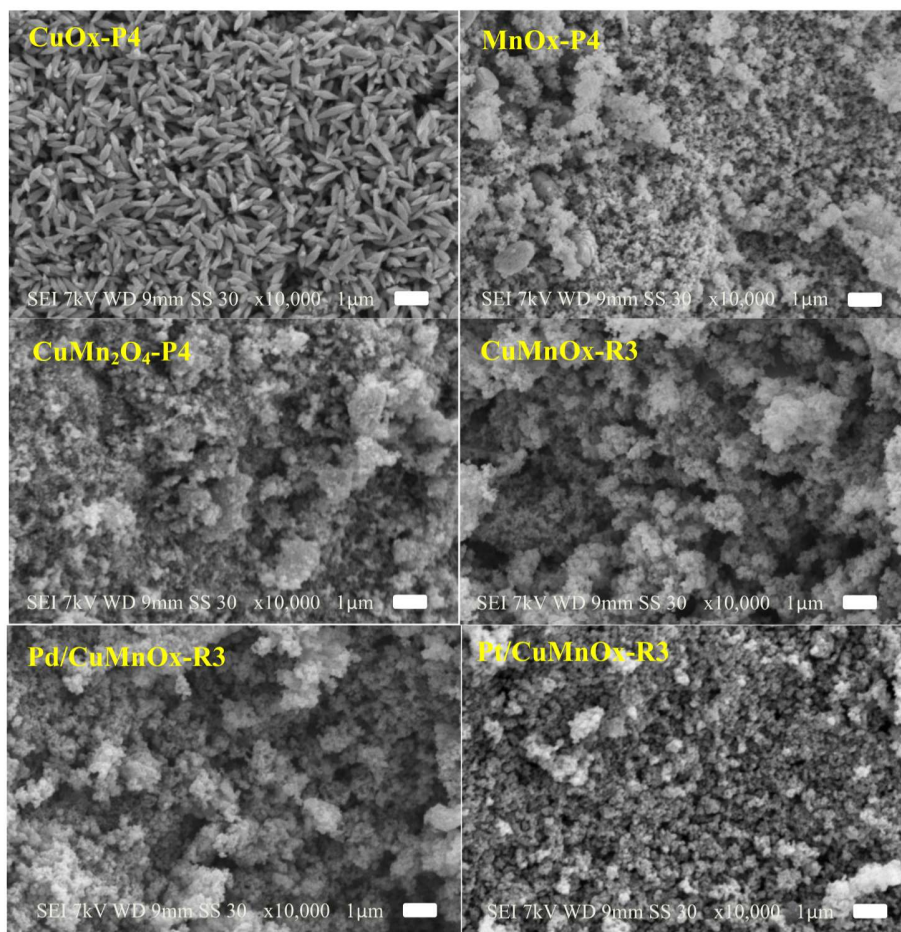


Figure S1. SEM micrographs of prepared catalysts

Table S1: Overview of Pd or Pt/Al₂O₃ catalysts used for toluene oxidation

Catalyst	Support	M* wt% * Pt or Pd	Feed	Toluene (ppm)	GHSV/ mL g ⁻¹ .h ⁻¹	T ₅₀ / °C	Reference
Pt/γ-Al ₂ O ₃	184 m ² g ⁻¹ , Engelhard	0.5	Air	1000	200,000	205 ^a	[1]
Pt/γ-Al ₂ O ₃	223 m ² g ⁻¹	1	Air	141	30,000	235	[2]
Pd/γ-Al ₂ O ₃		1	Air			275	
Pt/γ-Al ₂ O ₃	105 m ² g ⁻¹ ,	1	Air	215	34,285	216	[3]
Pt/γ-Al ₂ O ₃	120 m ² g ⁻¹ , Alfa- Aesar	0.7	20% O ₂ in He	300	80,000	162 ^a	[4]
Pt/ Al ₂ O ₃	107 m ² g ⁻¹ ,	1	Air	1000	8400	200	[5]
Pd/γ-Al ₂ O ₃	Asian Catalyst	1	Air	1000	30,000	220	[6]
Pd/ Al ₂ O ₃	Wako Chemicals	0.5	Air	9500	1200,000	325	[7]
Pt/γ-Al ₂ O ₃	Rhodia-SPH569	1	9% O ₂ in He	1000	36,000	180	[8]
Pd/γ-Al ₂ O ₃	Asian Catalyst	1	Air	1000	60,000	217	[9]
Pt/ Al ₂ O ₃	Soekawa Chemical	2.2	Air	400	18,000	140	[10]
Pt/γ-Al ₂ O ₃	120 m ² g ⁻¹ , Sumitomo Chemical	1	O ₂ , 18.5%; H ₂ O, 1.5%; N ₂ , balance	500	80,000	167	[11]
Pt/3DOM Al ₂ O ₃ ^b	Home-made	1.4	Air	1000	20,000	180	[12]

a: T₅₀: the temperature of toluene conversion to CO₂; b: Three-dimensionally ordered macro - /mesoporous alumina

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