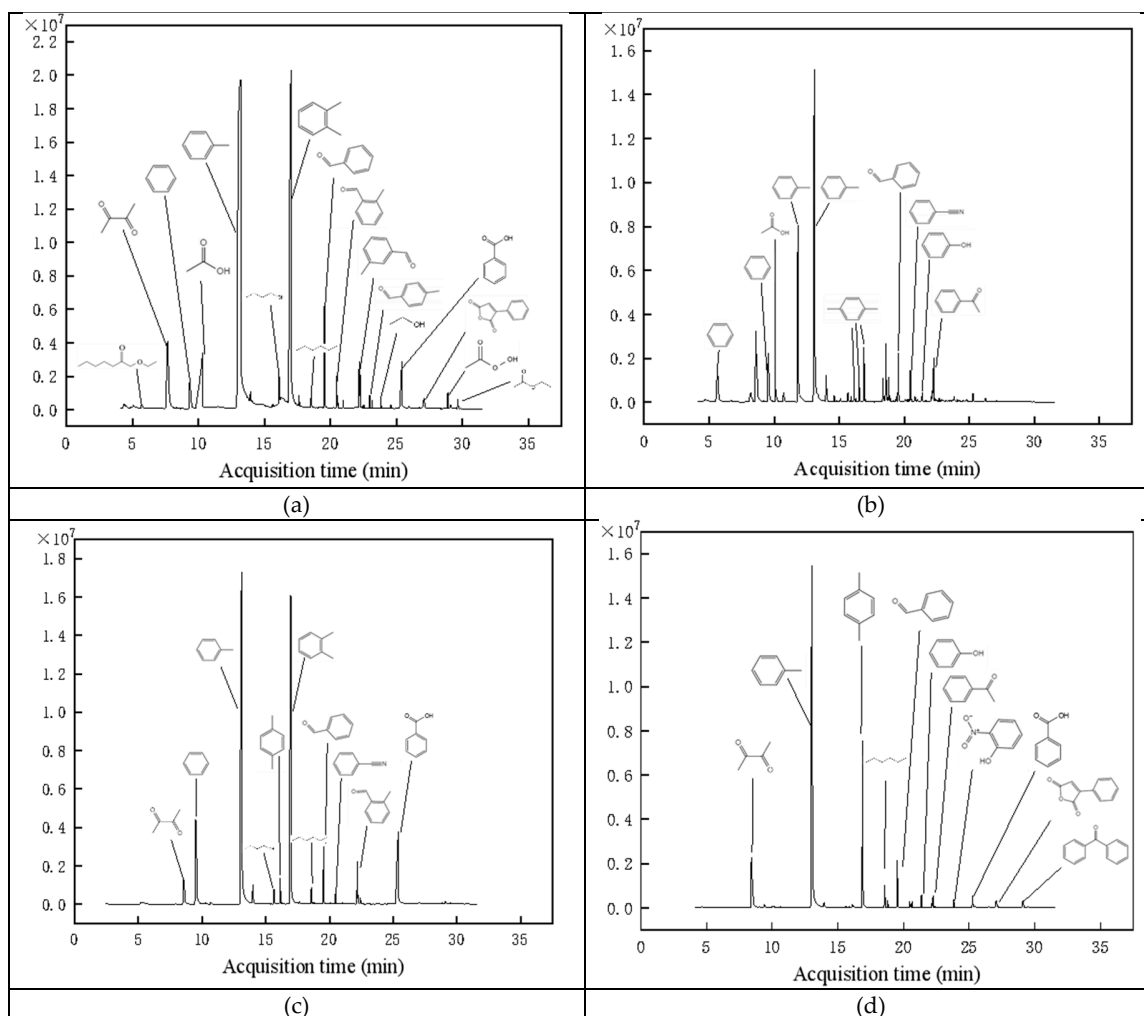


Non-Thermal Plasma Incorporated with Cu-Mn/ γ -Al₂O₃ for Mixed Benzene Series VOCs' Degradation

Supplementary Materials



TableS1. Types of main by-products.
















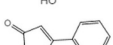






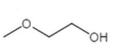
Serial number	Test substance	Name
1		Benzene
2		Acetic acid
3		Toluene
4		P-xylene
5		Benzaldehyde
6		Benzonitrile
7		Phenol
8		Acetophenone
9		Butanedione
10		O-xylene
11		N-butyl alcohol
12		Hexane
13		O-Tolualdehyde
14		Benzoic acid
15		2-nitrophenol
16		Phenyl maleic anhydride
17		Diphenyl ketone
18		Acetonitrile
19		O-methyl benzonitrile
20		Isooctyl alcohol
21		2-ethyl toluene
22		Ethanol
23		2-methoxyethanol

Table S2. Comparison of degradation efficiency for this and other studies

Reactor type	Catalyst	VOC	Specific input energy	Voltage(kV)	Degradation efficiency	References
DBD	Mn ₁ Co ₁	toluene 27.3ppm	/	12	100%	[65]
DBD	ZrMnFe/SEP	toluene	40J/L		87%	[66]
Corona discharge plasma	honeycomb catalyst	toluene 15ppm	58J/L	/	80%	[67]
DBD	Mn/Al ₂ O ₃ -MA	o-xylene 9ppm	18J/L	/	100%	[24]
DBD	MnO _x /Al ₂ O ₃	benzene, toluene and p-xylene (BTX mixture) 1.0–1.5ppm	10J/L	/	94% 97% 95%	[10]
DBD	Cu-Mn/ γ -Al ₂ O ₃	toluene and o-xylene mixture 700ppm	5.72kJ/L	/	100% 100%	