

***Supporting Information***

**Surface Acidity Enhancement of CeO<sub>2</sub> Catalysts via Modification  
with a Heteropoly Acid for the Selective Catalytic Reduction of NO  
with Ammonia**

Yu Ke<sup>1</sup>, Wenjun Huang<sup>1\*</sup>, Sichao Li<sup>1</sup>, Yong Liao<sup>1</sup>, Jiaying Li<sup>1</sup>, Zan Qu<sup>1</sup>, Naiqiang Yan<sup>1,2</sup>

1. School of Environmental Science and Engineering, Shanghai Jiao  
Tong University, Shanghai 200240, China;

2. Shanghai Institute of Pollution Control and Ecological Security,  
Shanghai 200092, China.

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\* Corresponding author, Tel: +86 21 54745591; Fax: +86 21 54745591

E-mail address: hwenjun@sjtu.edu.cn (Wenjun Huang)

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**Table S2** XPS parameters of the series catalysts investigated

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**Fig. S3.** SCR performance of m-HSiW/Ce (mechanical mixing CeO<sub>2</sub> and HSiW) and HSiW/Ce

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**Fig. S5.** NH<sub>3</sub> conversion of the various catalysts. Conditions: [NH<sub>3</sub>] = [NO] = 500 ppm, [O<sub>2</sub>] = 3 vol.%, N<sub>2</sub> as balance gas, GHSV = 127000 h<sup>-1</sup>

**Fig. S6.** TEM images of (a) CeO<sub>2</sub> and (b) HSiW/Ce

**Fig. S7.** Infrared Spectroscopy of CeO<sub>2</sub>, HSiW and HSiW/Ce

**Fig. S8.** Raman spectra of CeO<sub>2</sub>, HSiW and HSiW/Ce

**Table S1**

Textual properties of the x% HSiW/Ce catalysts

Samples	Grain size (nm)	Surface area (m <sup>2</sup> /g)	Pore volume (cc g <sup>-1</sup> )
CeO <sub>2</sub>	10.7	44.05	0.21
1%HSiW/Ce	13.1	46.12	0.19
5%HSiW/Ce	12.8	34.25	0.18
10%HSiW/Ce	14.3	40.15	0.20
20%HSiW/Ce	12.3	31.28	0.17

**Table S2**

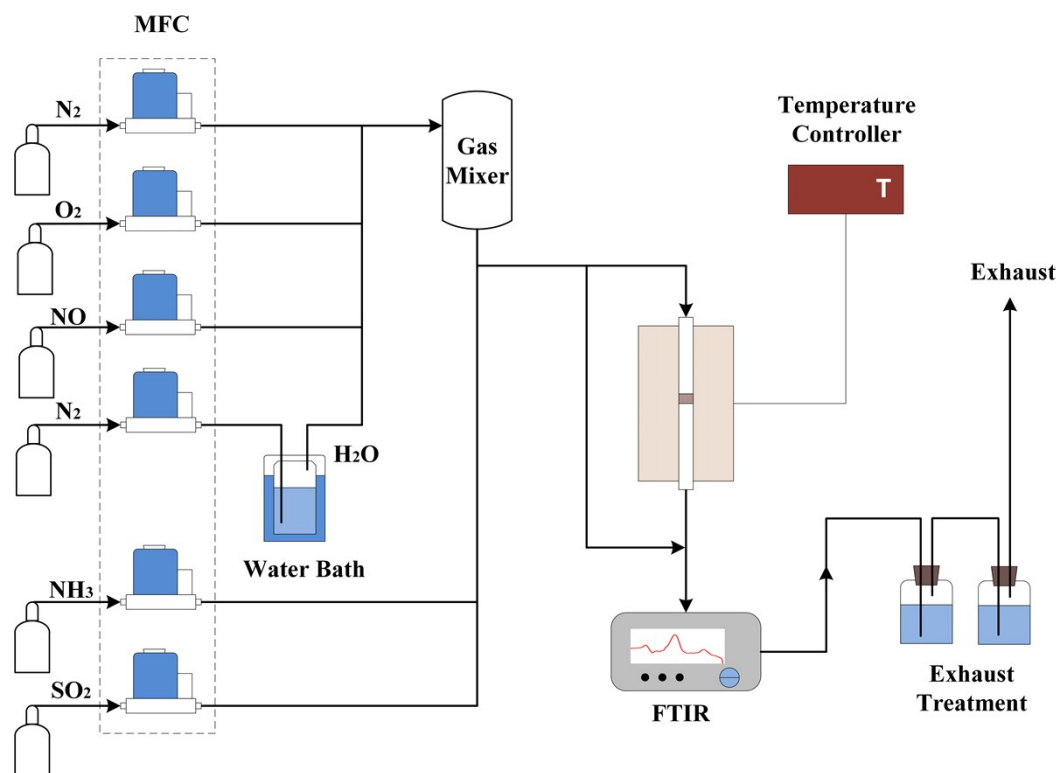
XPS parameters of the series catalysts investigated

Samples	Surface composition (at.%)			Ce <sup>3+</sup> /Ce <sup>4+</sup>	O <sub>ads</sub> /O <sub>lat</sub>
	Ce	W	O		
CeO <sub>2</sub>	18.36	/	53.84	0.22	0.58
HSiW	/	12.04	51.36	/	0.35
10%HSiW/Ce (fresh)	13.58	3.54	56.30	0.19	0.52
10%HSiW/Ce (used)	14.10	3.60	57.64	0.18	0.51

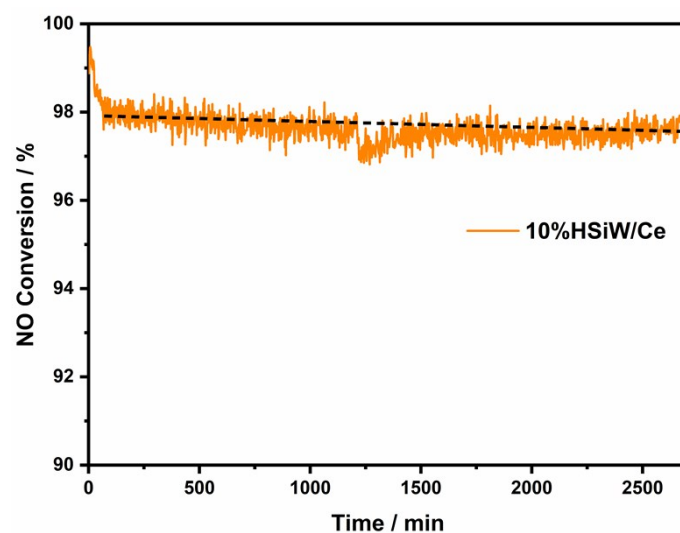
**Table S3**

Spectrophotometry of HSiW/Ce after SCR reaction at 150 °C for 10 h.

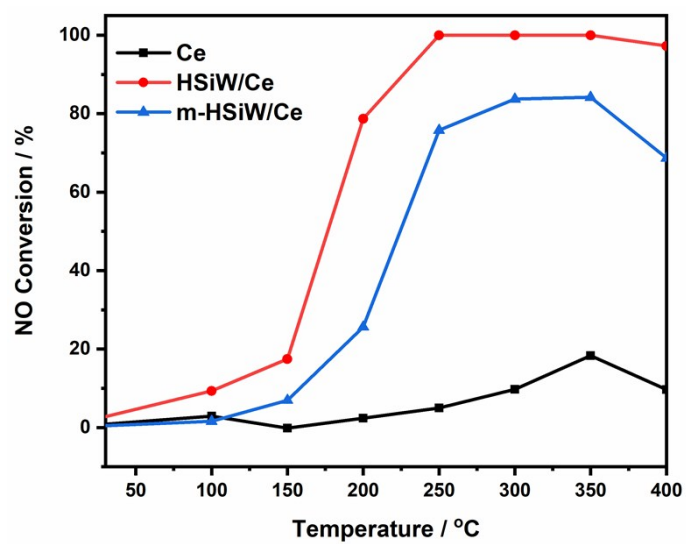
Ions	Methods	Concentrations mg/L
NO <sub>3</sub> <sup>-</sup>	Disulfonic acid phenol spectrophotometry	0.8650
NO <sub>2</sub> <sup>-</sup>	Diazo coupling spectrophotometry	0.8180
NH <sub>4</sub> <sup>+</sup>	Nessler reagent spectrophotometry	241



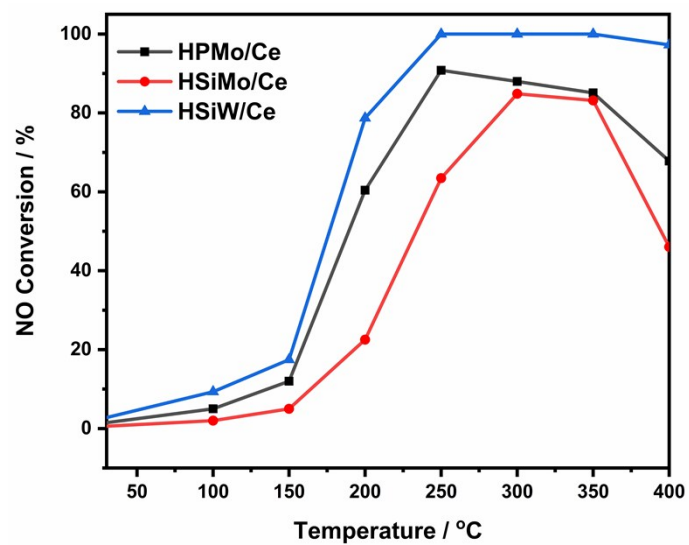
**Fig. S1.** Schematic diagram for SCR evaluation fixed-bed reaction system



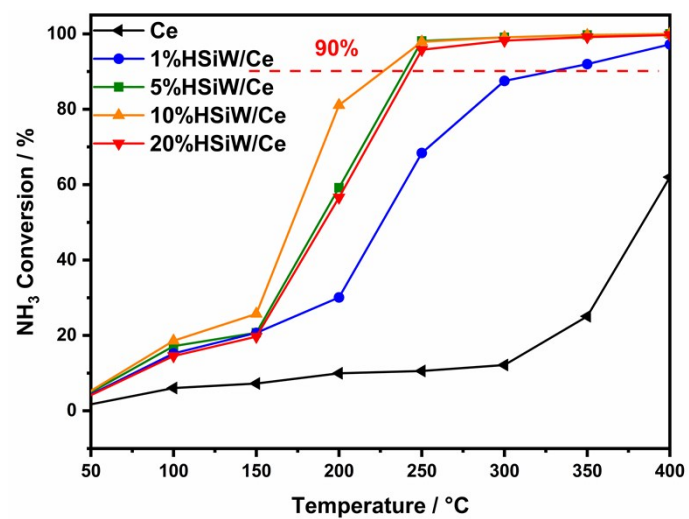
**Fig. S2.** Stability test of 10% HSiW/Ce catalyst at 250 °C



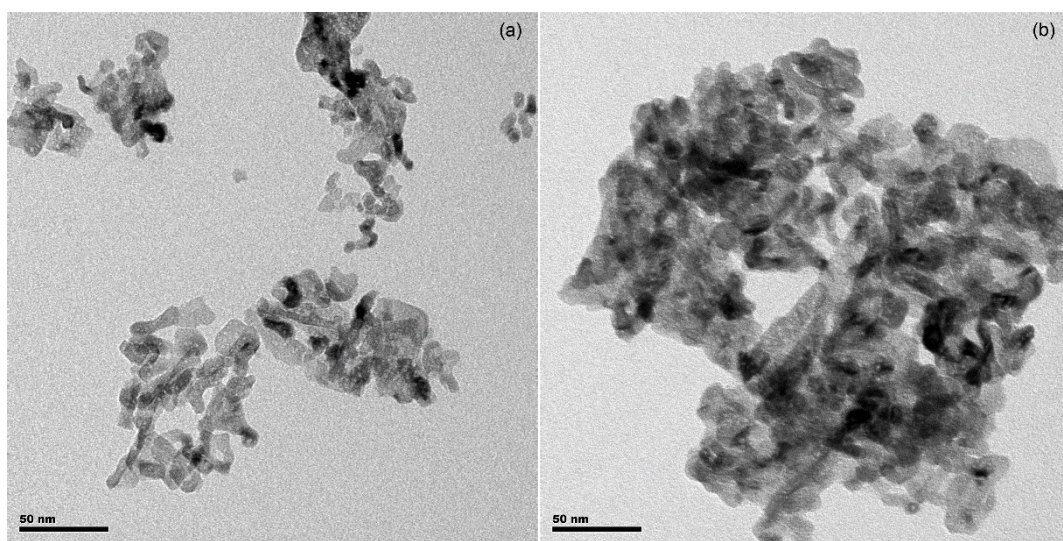
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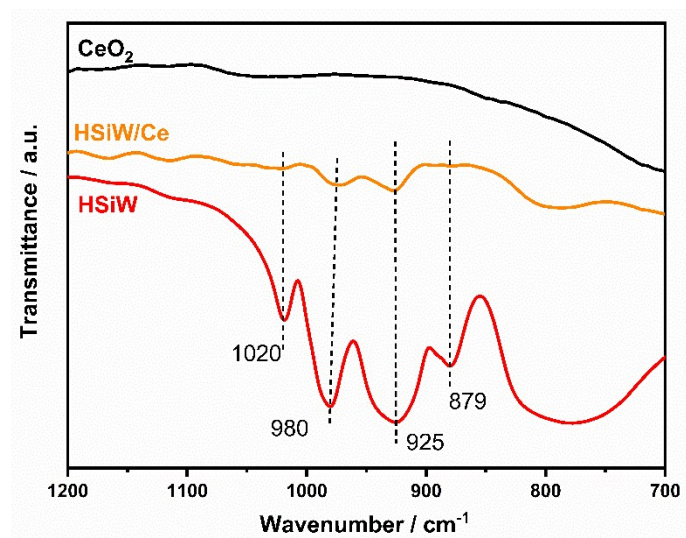
**Fig. S4.** SCR performance of different Keggin-type HPAs



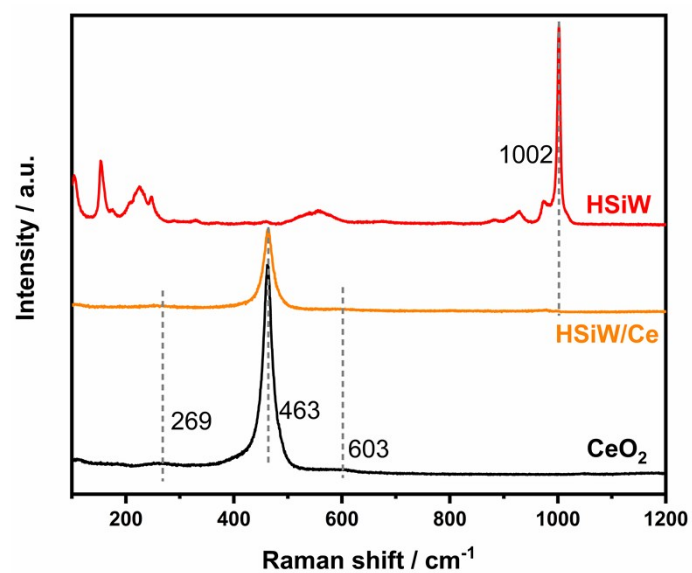
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**Fig. S6.** TEM images of (a)  $\text{CeO}_2$  and (b) HSiW/Ce



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**Fig. S8.** Raman spectra of  $\text{CeO}_2$ , HSiW and HSiW/Ce