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## Supporting Information

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### Stability and Enhanced Low-Temperature NH<sub>3</sub>-SCR Activity of

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### Supported Vanadate Catalysts in the Microwave Field

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### 8 Corresponding Author

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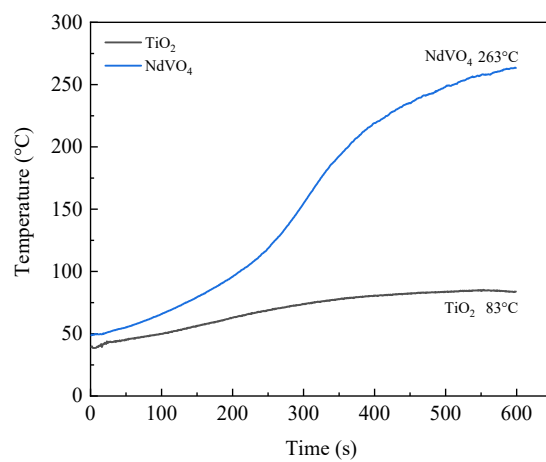
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11 **Mailing address:** Key Laboratory of Beijing on Regional Air Pollution Control,

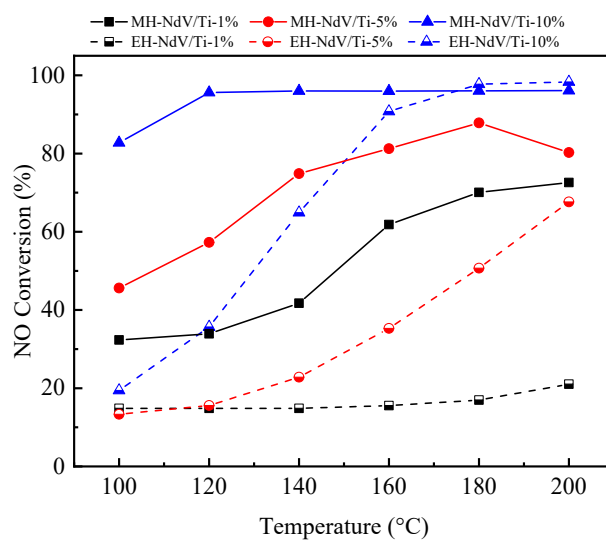
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13 Technology, Beijing, 100124, China.



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15 **Figure S1.** The capacity of microwave absorption of the NdVO<sub>4</sub> and TiO<sub>2</sub> material.



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17 **Figure S2.** NO conversion (EH-electrical heating; MH-microwave heating) of the

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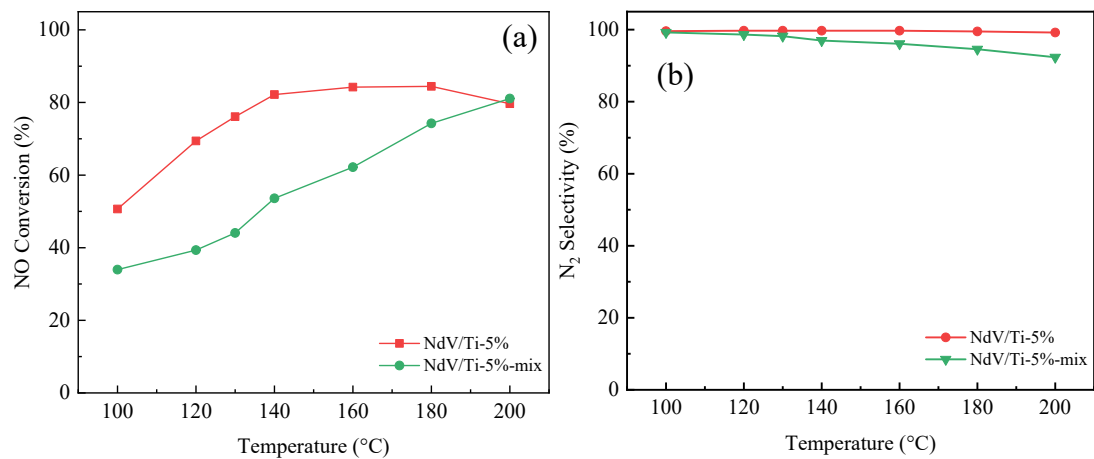
NdV/Ti- $x$ % catalysts.

19 Reaction conditions:  $[\text{NH}_3] = [\text{NO}] = 700 \text{ ppm}$ ,  $[\text{O}_2] = 5\%$ , balance  $\text{N}_2$  and WHSV =

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$30000 \text{ mL}/(\text{g}\cdot\text{h})$

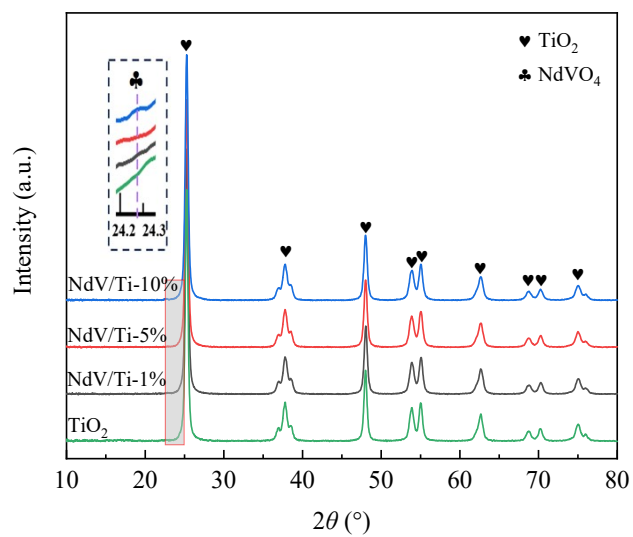
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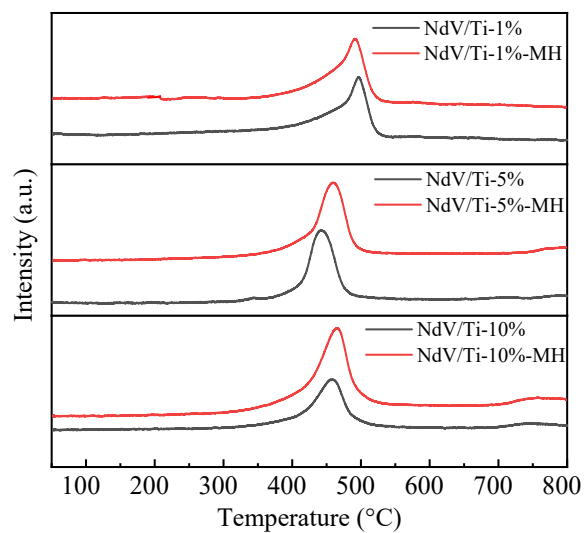
23 **Figure S3.** The catalytic performance of the NdV/Ti-5% and NdV/Ti-5%-mix

24 catalysts in a microwave field: (a) NO conversion, (b) N<sub>2</sub> Selectivity.



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26 **Figure S4.** XRD patterns of the NdV/Ti-*x*% catalysts and TiO<sub>2</sub>

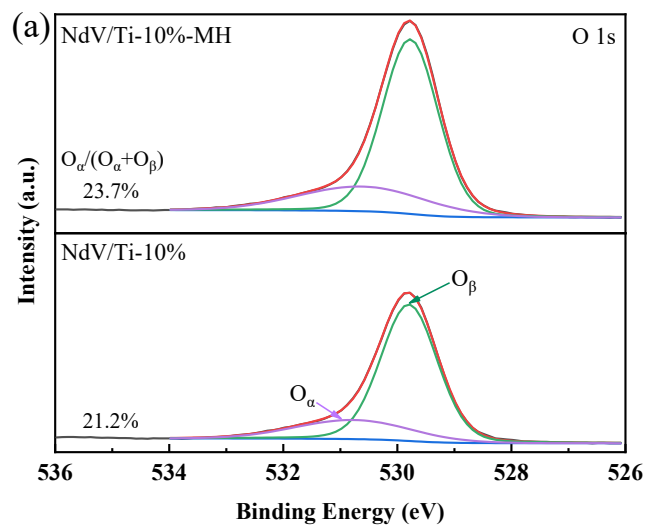


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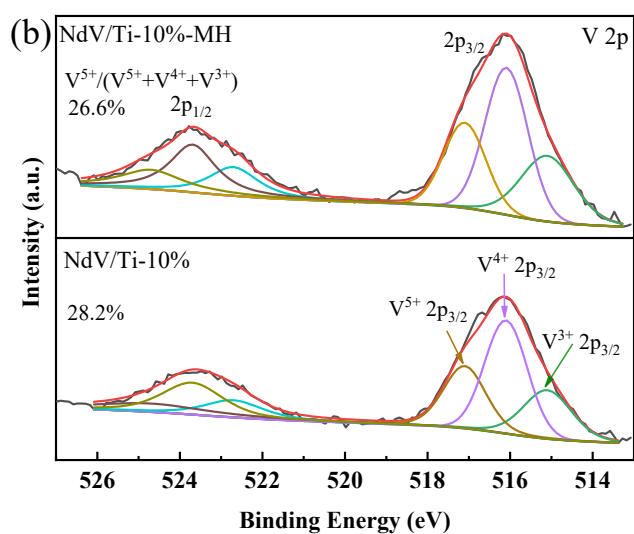
28 **Figure S5.** H<sub>2</sub>-TPR profiles of the catalysts before and after the reaction in the

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microwave field.



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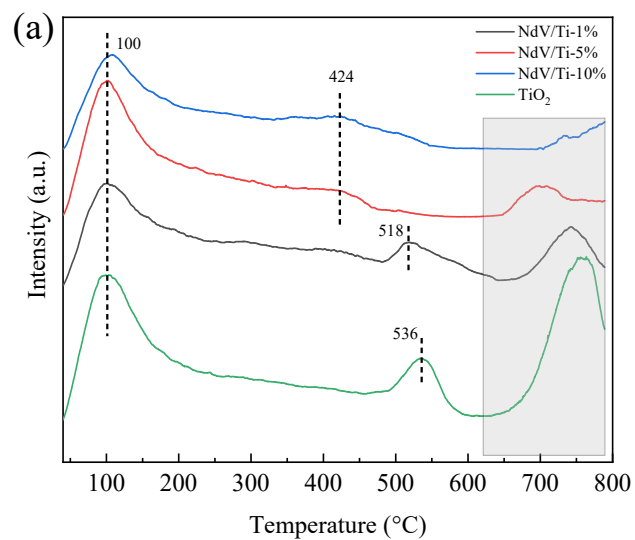
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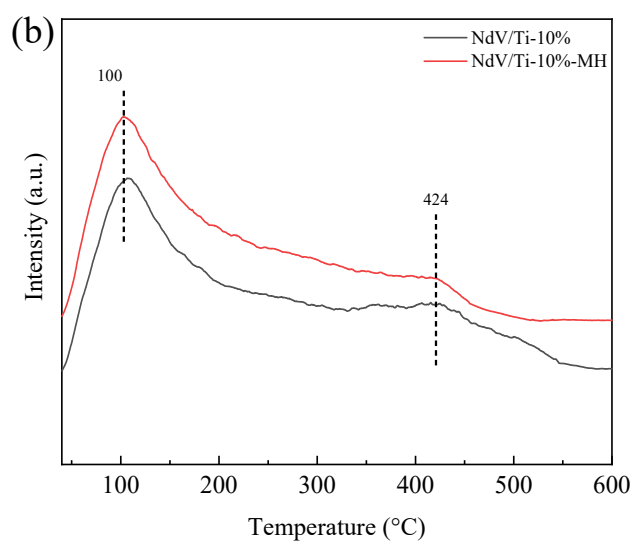
**Figure S6.** XPS spectra of NdV/Ti-10% catalyst before and after the reaction in

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the microwave field: (a) O 1s, (b) V 2p.



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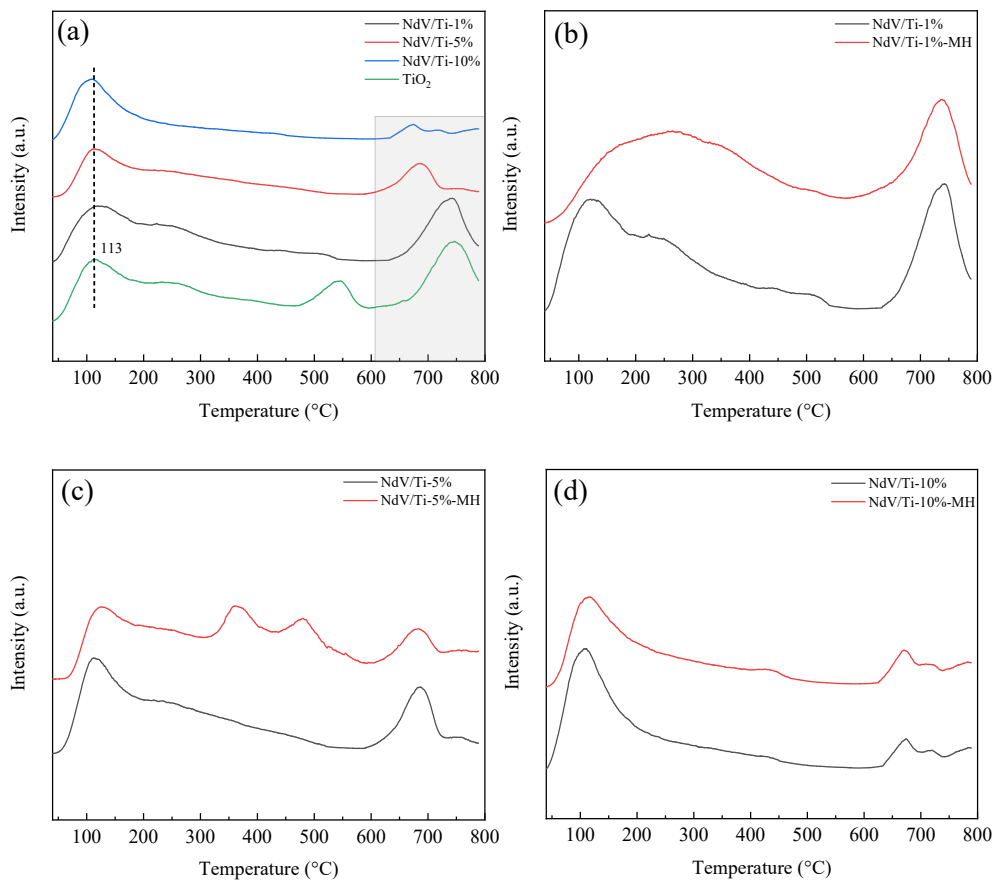


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36 **Figure S7.**  $\text{NH}_3$ -TPD profiles of (a) NdV/Ti- $x\%$  catalysts and  $\text{TiO}_2$ ; (b) NdV/Ti-10%

37 catalyst before and after the reaction in the microwave field.





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40 **Figure S8.** O<sub>2</sub>-TPD profiles of (a) NdV/Ti-*x*% and TiO<sub>2</sub>; catalyst before and after the  
 41 reaction in the microwave field: (b) NdV/Ti-1%, (c) NdV/Ti-5%, (d) NdV/Ti-10%.