

1 **Supporting Information**

2 **Regulating pore structures of carbon supports toward efficient selective**
3 **hydrogenation of o-chloronitrobenzene on Pt nanoparticles**

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5 **Yunpeng Lv^{a,1}, Fang Yu^{a,1}, Zhipeng Wang^{a,*}, Haiwei Liu^a, Liyan Wang^a, Jian Song^{a,*}, Yu**
6 **Li^a, Guiqiu Huang^{b,*}, Jian Cui^c**

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8 *^aNational Demonstration Center for Experimental Comprehensive Chemical Engineering*
9 *Education, Institute of Green Catalysis, College of Chemistry and Chemical Engineering,*
10 *North University of China, Taiyuan 030051, China*

11 *^bSchool of Petroleum and Chemical Engineering, Guangxi Key Laboratory of Green Chemical*
12 *Materials and Safety Technology, Beibu Gulf University, Qinzhou, 535011, China*

13 *^cChina North Energy Conservation and Environment Protection Co. Ltd., Beijing,*
14 *100070, China*

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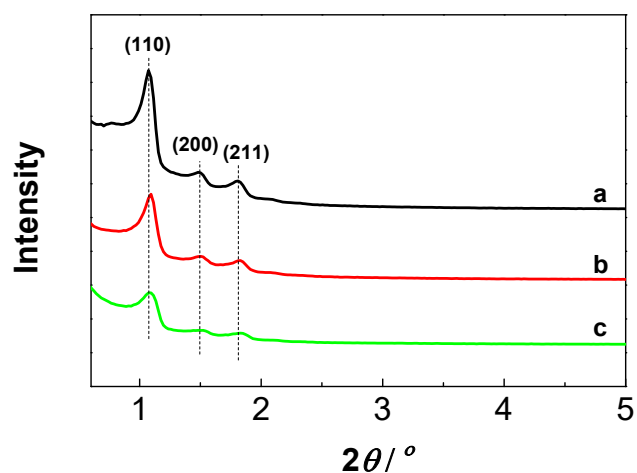
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* Corresponding authors:

E-mail addresses: 20200004@nuc.edu.cn (Z.P. Wang); songj@nuc.edu.cn (J. Song);

huangguiqiu@bbgu.edu.cn (G.Q. Huang).

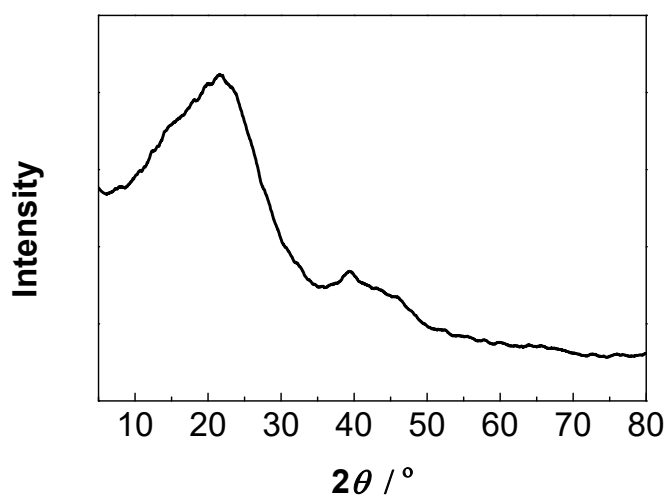
¹ These authors contributed equally in this work.



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2 Fig. S1. Small-angle XRD patterns of Pt/CMC-600 samples prepared at H₂ reduction

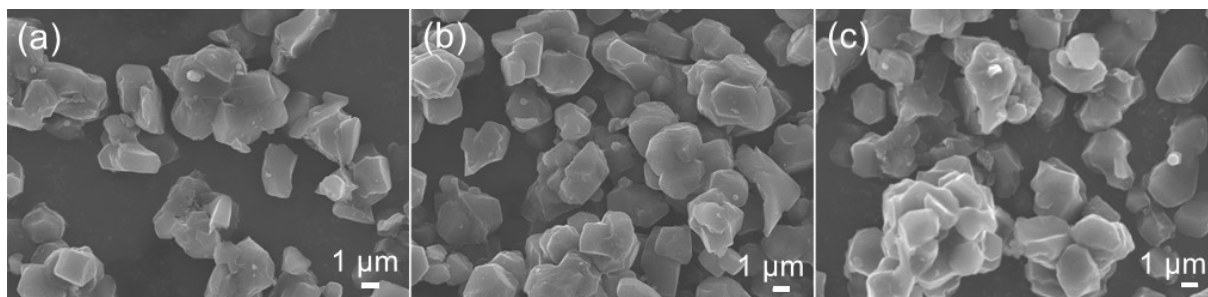
3 temperature of 100 °C (a), 300 °C (b) and 400 °C (c).



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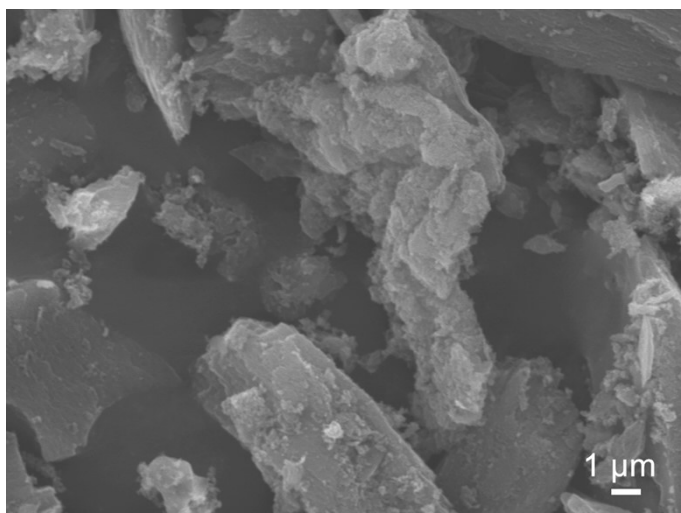
Fig. S2. Wide-angle XRD pattern of Pt/CMC-600 sample.



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7 Fig. S3. SEM images of Pt/CMC-600 samples prepared at H₂ reduction temperature of 100 °C

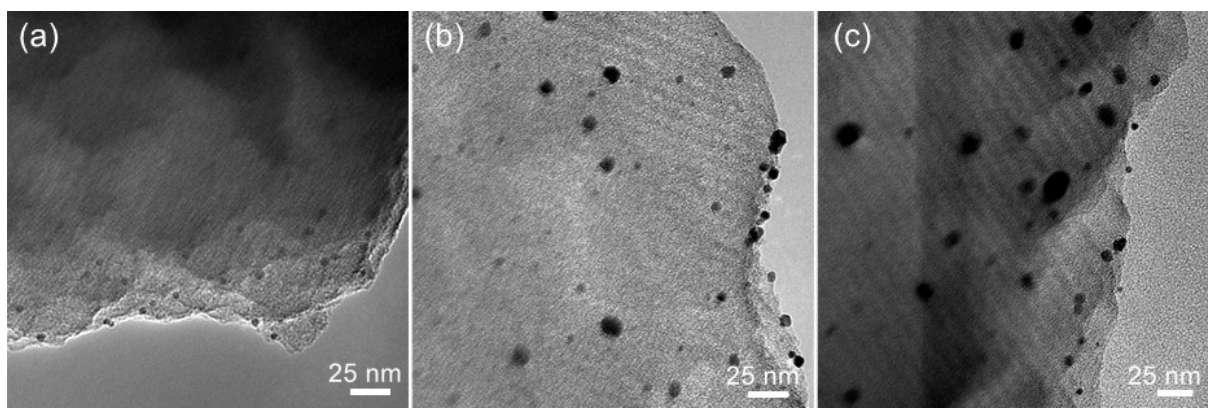
8 (a), 300 °C (b) and 400 °C (c).



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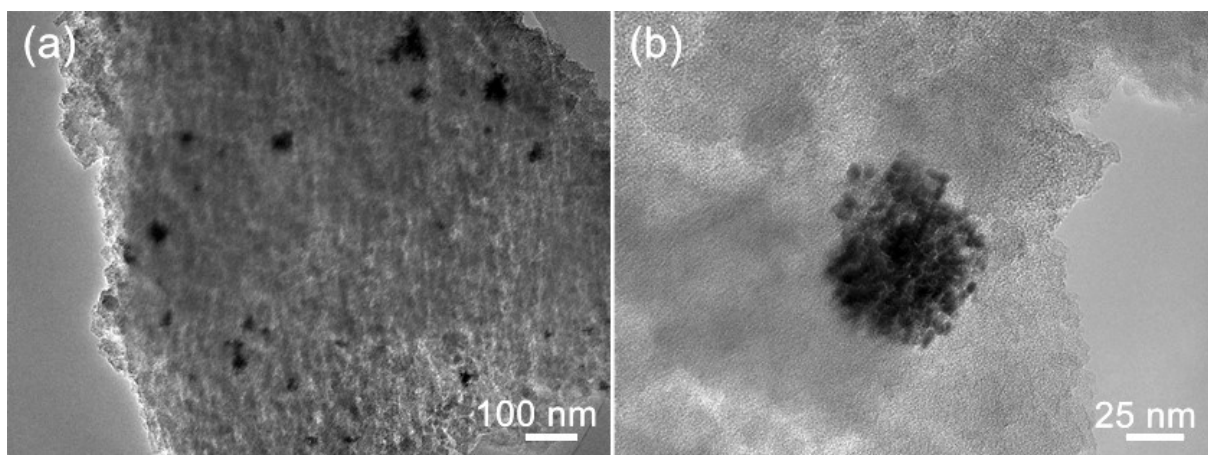
Fig. S4. SEM image of Pt/AC sample.



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4 Fig. S5. TEM images of Pt/CMC-600 samples prepared at H₂ reduction temperature of 100 °C

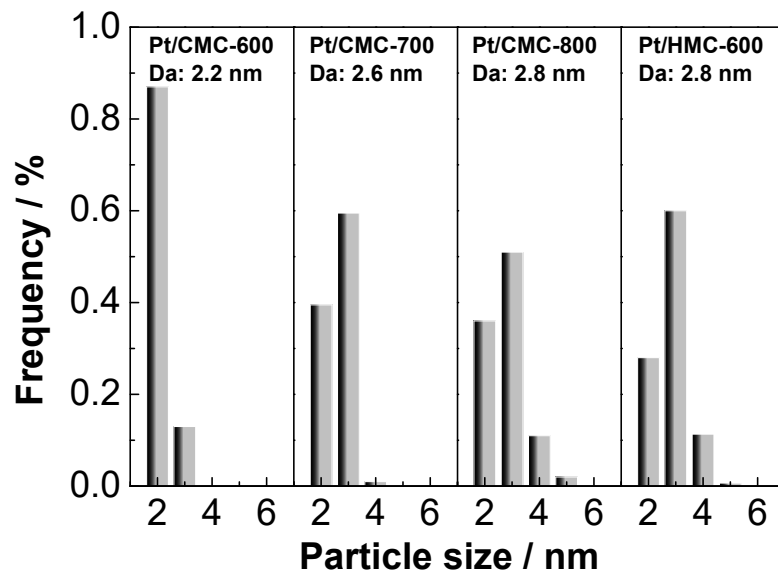
5 (a), 300 °C (b) and 400 °C (c).



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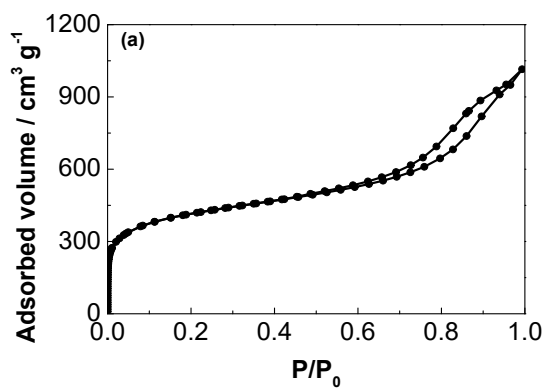
Fig. S6. TEM images of Pt/AC sample.



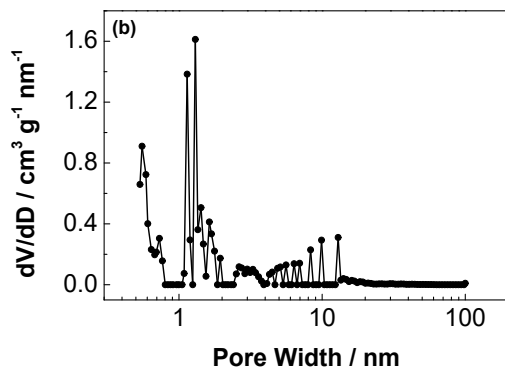
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2 Fig. S7. Pt nanoparticle size distributions of Pt/CMC-T (T = 600, 700 and 800 °C) and Pt/HMC-
 3 600 samples.

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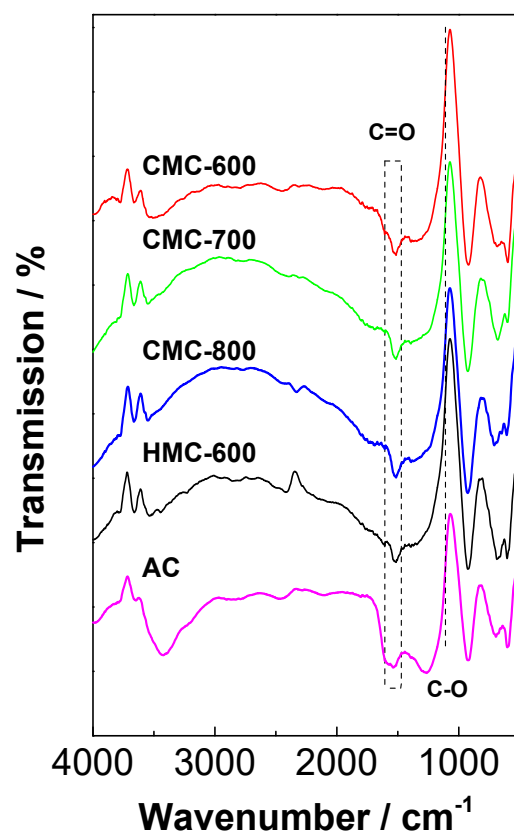


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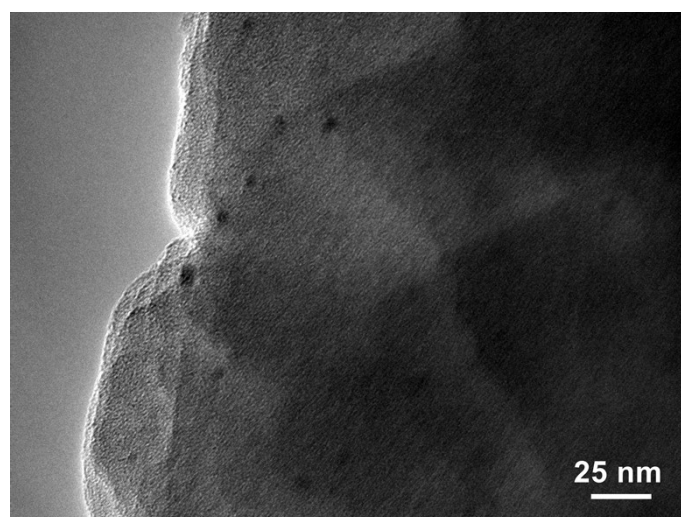
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7 Fig. S8. N₂ adsorption-desorption isotherm (a) and the corresponding PSD (b) of Pt/AC sample.



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Fig. S9. The FT-IR spectra of various carbon materials.



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Fig. S10. TEM image of the used Pt/CMC-600 sample.

1 Table S1. The physicochemical properties of CMC-T, HMC-600 and AC carriers.

Sample	S_{BET} ($\text{m}^2 \text{g}^{-1}$) ^a	V_t ($\text{cm}^3 \text{g}^{-1}$) ^b	D_p (nm) ^c	O_b (wt%) ^d	O_s (wt%) ^e	$R_{\text{C=O/C-O}}$ ^f
CMC-600	489	0.29	2.4	6.5	5.7	1.2
CMC-700	476	0.28	2.4	4.1	3.5	0.9
CMC-800	520	0.29	2.1	3.9	3.1	0.6
HMC-600	504	0.22	2.9	6.7	5.5	1.0
AC	1406	1.58	1.3	3.6	2.3	0.7

2 ^a S_{BET} : BET specific surface area. ^b V_t : total pore volume. ^c D_p : the maximum value of the PSD. ^d O_b : bulk oxygen
3 content from elemental analysis. ^e O_s : surface oxygen content from XPS. ^f $R_{\text{C=O/C-O}}$: the peak area ratio of C=O to
4 C-O from XPS.

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1 Table S2. Performance comparisons of reported Pt-based catalysts for chloronitrobenzene
 2 hydrogenation under given reaction conditions.

Catalyst	Reaction conditions	Conv. / %	Sel. / %	Ref.
Pt/CMC-600	0.5 MPa H ₂ , 60 °C, 60 min.	100	100	This work
Pt/NOMC	1.0 MPa H ₂ , 25 °C, 30 min	100	99.5	1
Pt/CMK-3-HQ	2.0 MPa H ₂ , 80 °C, 60 min	100	99.8	2
Pt/AC	2.0 MPa H ₂ , 60 °C, 60 min	100	98.4	3
Pt@PtC _x /C	0.1 MPa H ₂ , 80 °C, 60 min	100	99.8	4
Pt/AC	1.0 MPa H ₂ , 30 °C, 40 min	37	84	5
Pt/PU	2.0 MPa H ₂ , 50 °C, 120 min	100	99.5	6
Pt/C(Fe)	1.0 MPa H ₂ , 60 °C, 360 min	100	99.4	7
Pt/Fe ₂ O ₃	0.1 MPa H ₂ , 60 °C, 180 min	100	72	8
Pt/Fe ₃ O ₄	2.0 MPa H ₂ , 50 °C, 120 min	100	99.4	9
Pt-TiO ₂	1.0 MPa H ₂ , 40 °C, 50 min	100	100	10

3 Conv. : chloronitrobenzene conversion; Sel. : target chloroaniline selectivity.

4 Supplementary reference

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