Promoting Pt catalysis for CO oxidation via the Mott–Schottky effect

Peiwen Wu, ^{a, b} Zili Wu,^b David R Mullins, ^b Shi–Ze Yang,^c, Xue Han,^d Yafen Zhang,^b Guo Shiou Foo, ^b Huaming Li,^a Wenshuai Zhu,^{a,*} Sheng Dai^{b,*} and Huiyuan Zhu^{b,d,*}

^a School of Chemistry and Chemical Engineering; Institute for Energy Research, Jiangsu University, Zhenjiang, 212013, China.

^b Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, TN, 37830, USA.

^c Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, 37830, USA.

^d Chemical Engineering, Virginia Tech, Blacksburg, VA 24061, USA

Corresponding authors: zhuws@ujs.edu.cn (W. Zhu); dais@ornl.gov (S. Dai); huiyuanz@vt.edu

(H. Zhu)



Fig. S1. STEM image of Pt/CN-600.



Fig. S2. STEM image of Pt/CN-650.



Fig. S3. EELS spectrum of Pt/CN-700.



Fig. S4. XRD patterns of CNs.



Fig. S5. XRD patterns of Pt/CNs.



Fig. S6. FT-IR spectra of CNs.



Fig. S7. FT-IR spectra of Pt/CNs.



Fig. S8. XPS characterization of Pt/CN catalysts. (a) A XPS survey of Pt/CN; (b) N1s core-level XPS spectra of Pt/CN; (c) C1s core-level XPS spectra of Pt/CN



Fig. S9. Pt 4f core-level XPS spectrum of Pt/SiO₂.



Fig. S10. N and C molar ratio of prepared CNs determined by elemental analysis.



Fig. S11. *Ex-situ* C1s and N1s core-level XPS spectra of Pt/CN-700.