Supporting Information

Effect of CeO_2 Morphology on the Catalytic Properties of Au/CeO_2 for Base-Free Glucose Oxidation

Xingyue Qi, Yalin He, Yan Yao, Yiran Li, Lu Zhang, Miao Geng, Hang Wei*, Haibin Chu*

College of Chemistry and Chemical Engineering, Inner Mongolia Engineering and Technology Research Center for Catalytic Conversion and Utilization of Carbon Resource Molecules, Inner Mongolia University, Hohhot 010021, China

*Corresponding author: E-mail address: weihang@imu.edu.cn, chuhb@imu.edu.cn

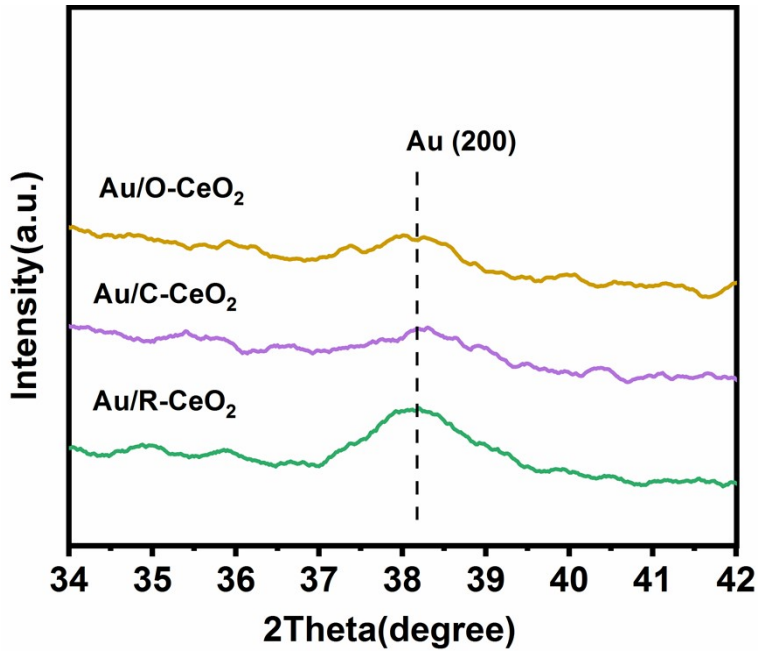

Fig. S1. The enlarged XRD patterns of Au/CeO_2 catalysts.

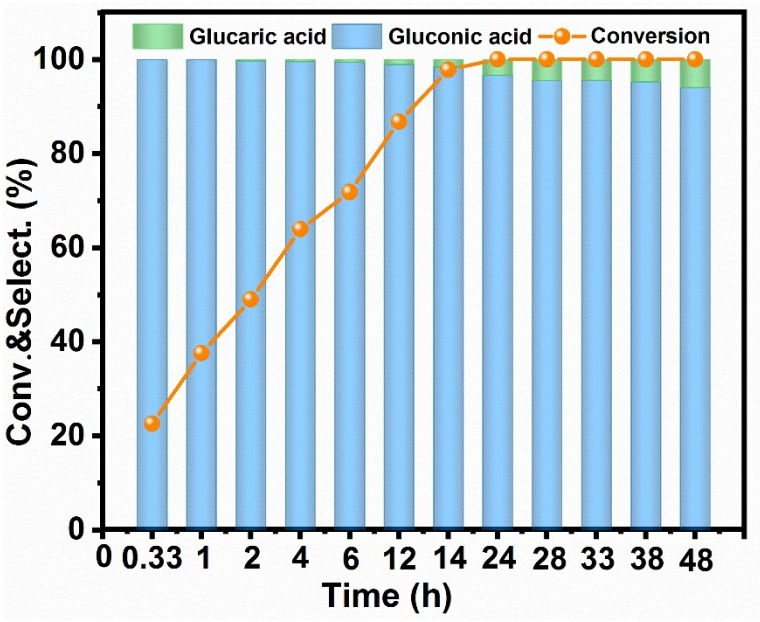

Fig. S2. The time evolution of conversion and selectivity of glucose oxidation over Au/R-CeO_2 catalyst. Reaction conditions: 150 mM glucose, 20 mg catalysts, 10 mL water, 80°C.

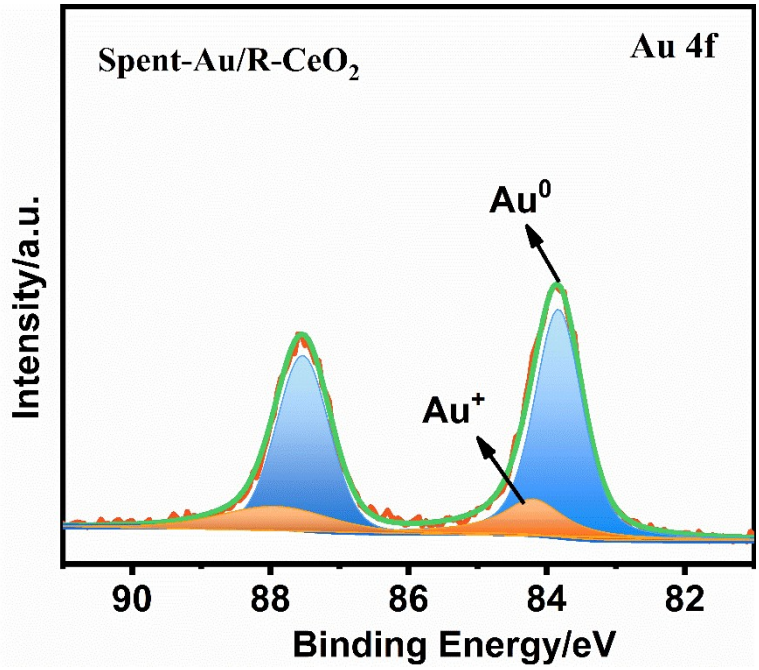

Fig. S3. Au4f XPS spectrum of the spent Au/R-CeO_2 catalyst.

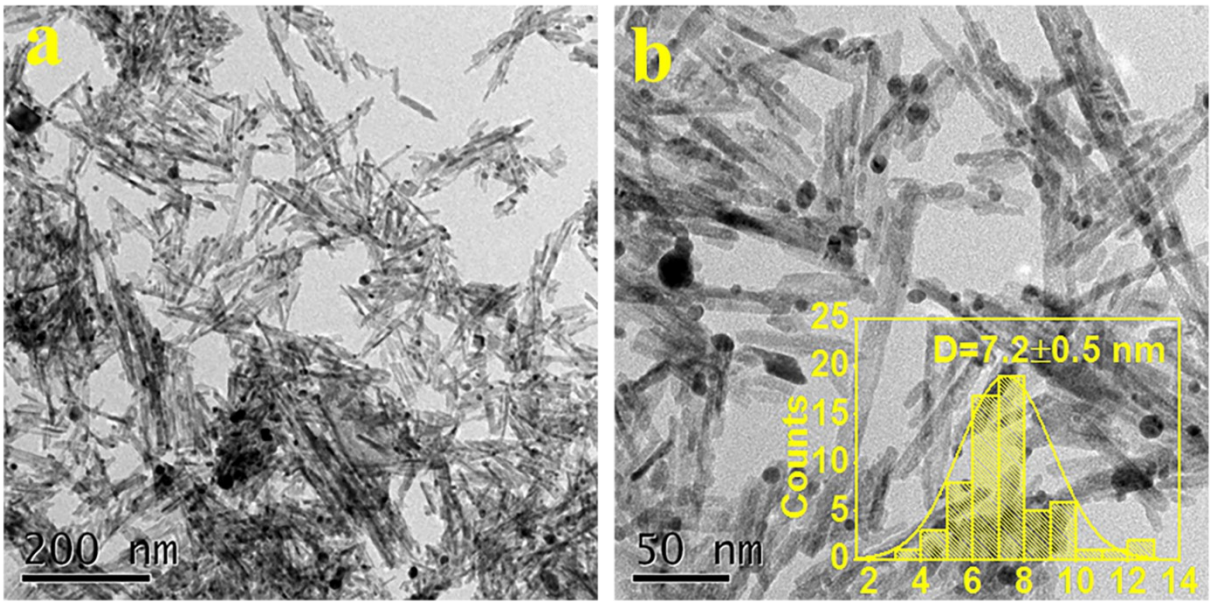

Fig. S4. TEM images of the spent Au/R-CeO_2. The inset in b shows the size distribution of Au particles.

Table S1. Glucose oxidation performances over noble metal catalysts using molecular oxygen as the oxidant under base-free and atmospheric pressure conditions.

Catalyst	T/°C	Glu/metal[a]	Time /h	Conv. /%	Selec. /%	Refer.
Au/R-CeO_2	80	300	12	79.6	100	This work
Au/CeO_2	120	100	18	73	90	[1]
Au/Al_2O_3	120	100	18	76	95	[1]
Au/CeO_2/Al_2O_3	120	100	18	78	96	[1]
Au/CeO_2/ZrO_2	120	100	18	77	87	[1]
Au-Mt/Ce	120	100	18	75	80	[2]
Au/CeO_2-ZnO/Al_2O_3	60	100	18	74	100	[3]
Au/MgO	60	1225	24	57	100	[4]
AuPd/MgO	60	1225	24	62	100	[4]
Pd/MgO	60	1225	24	52.7	100	[4]
Au/CMK-3	60	1000	2	22.5	100	[5]
Au/C	40	100	18	80	100	[6]
Pt/HT	50	68	12	99	83	[7]

[a] The molar ratio of glucose to metal species.

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