Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.


# Supporting Information for

# Self-supported porous 2D AuCu triangular nanoprisms as model electrocatalysts for ethylene glycol and glycerol oxidation

*Hui Xu[a], Bo Yan[a], Jin Wang[a], Ke Zhang[a], Shumin Li[a], Zhiping Xiong[a], Caiqin Wang[b], Yukihide Shiraishi[c], Yukou Du *[ab], Ping Yang *[a]*

*[a]College of Chemistry, Chemical Engineering and Materials Science, Soochow University,*
*Suzhou 215123, PR China*

*[b] Chemistry department, University of Toronto, Toronto M5S3H4, RP Canada.*

*[c]Tokyo University of Science Yamaguchi, Sanyo-Onoda-shi, Yamaguchi 756-0884, Japan*

** Corresponding author: Tel: 86-512-65880089, Fax: 86-512-65880089;*
*E-mail: duyk@suda.edu.cn (Y. Du).*

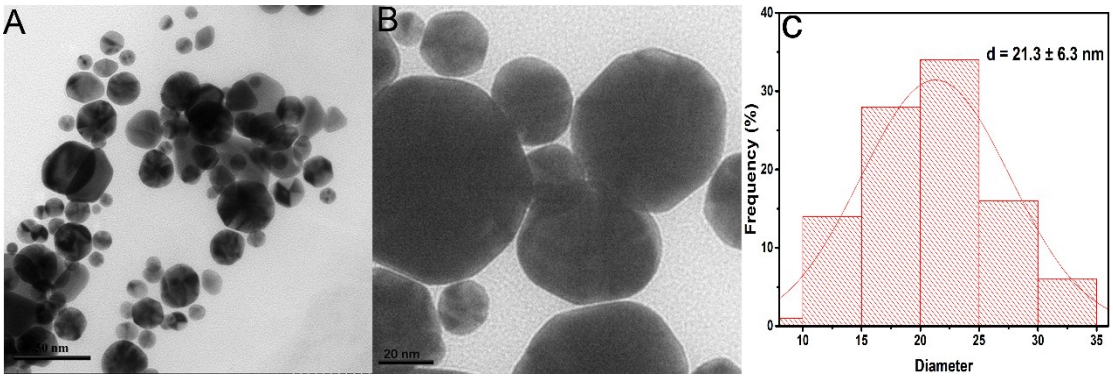


Fig.S1 (A, B) TEM images of pure Au nanoparticles with different magnifications and its (C) size distribution.

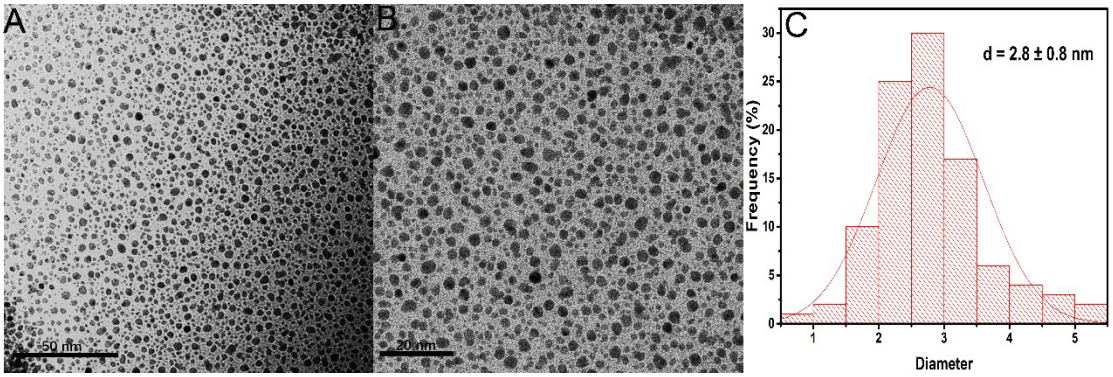


Fig.S2 (A, B) TEM images of pure Cu nanoparticles with different magnifications and its (C) size distribution.

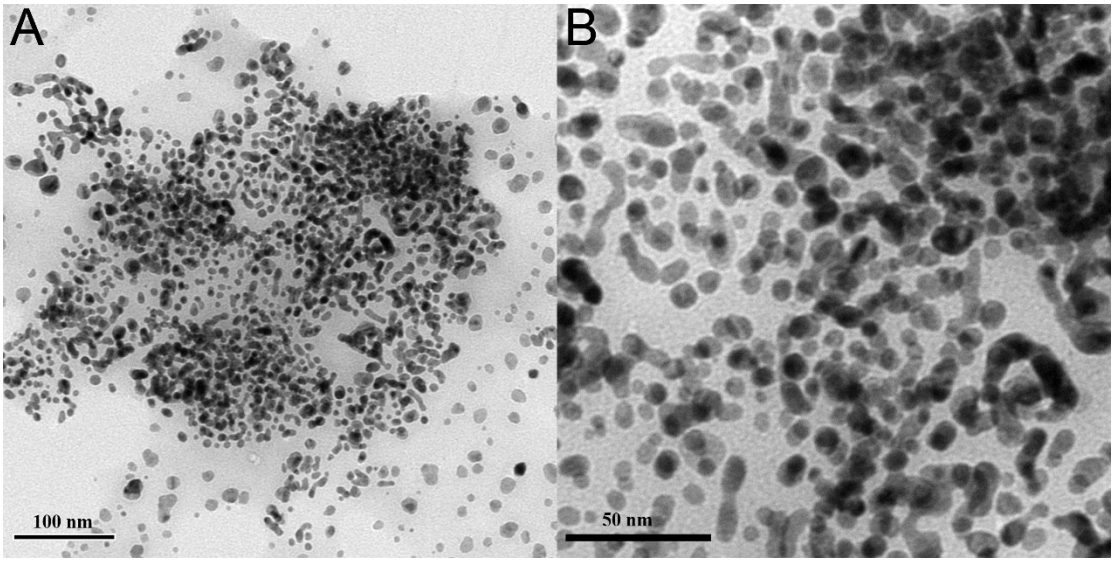


Fig.S3 TEM images of $Au_1Cu_1$ nanocrystals with different magnifications obtained in the absence of KBr while other parameters unchanged.

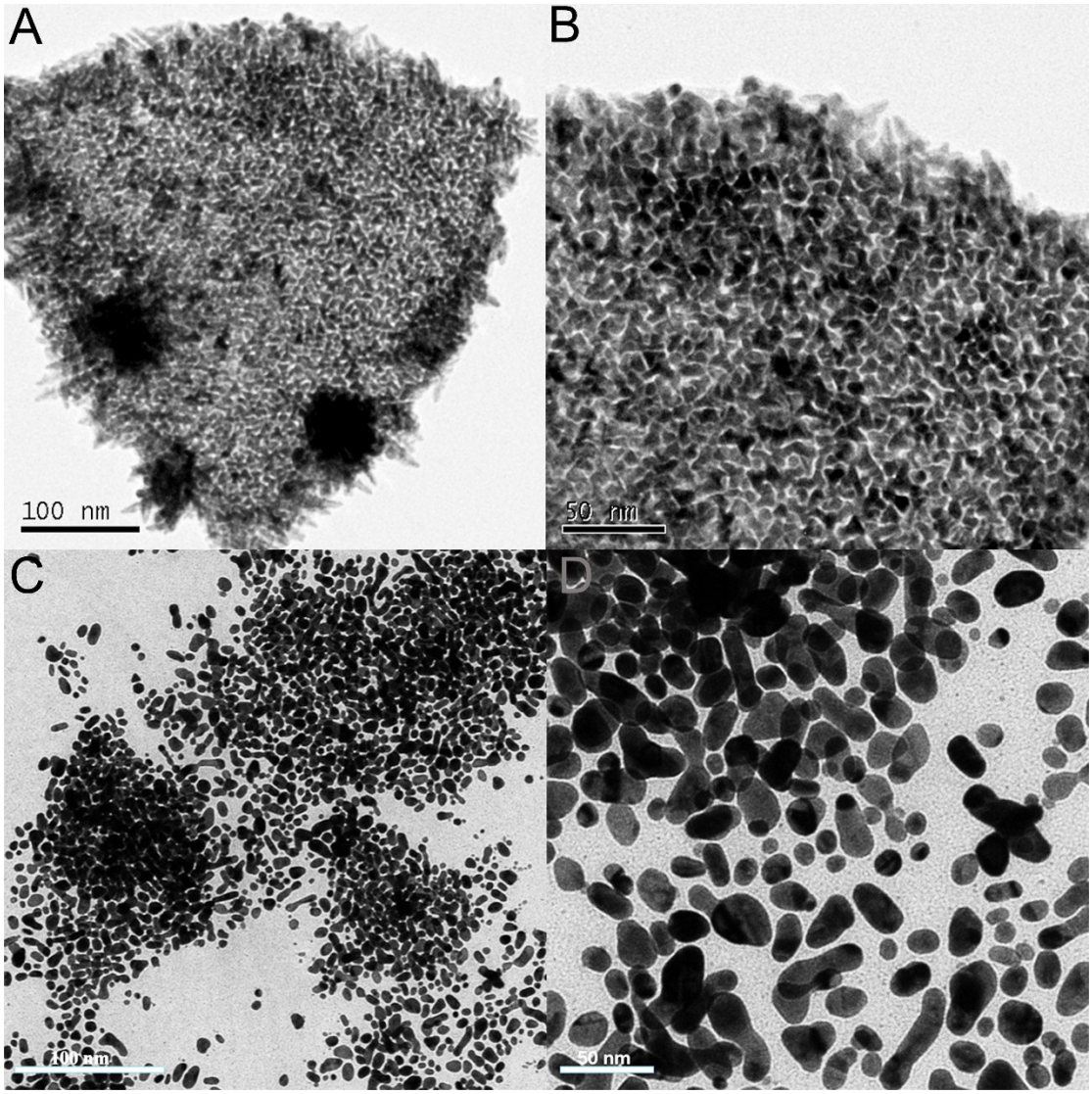


Fig.S4 TEM images of $Au_1Cu_1$ nanocrystals with different magnifications obtained in the absence of PVP (A and B), 100mg PVP (C and D) while other parameters unchanged.

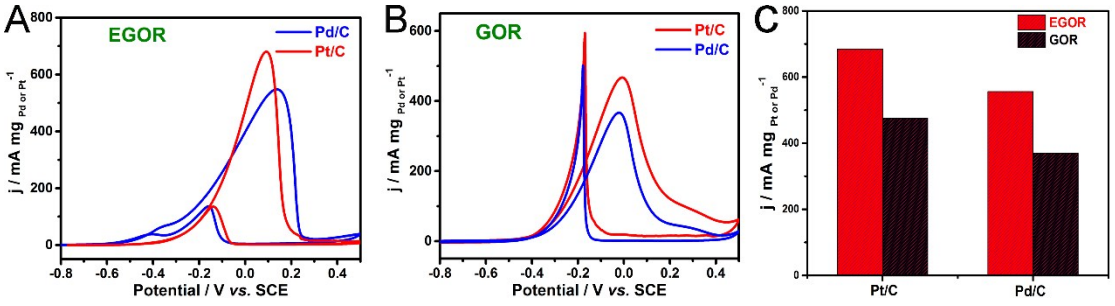


Fig.S5 CV of commercial Pt/C and Pd/C towards (A) EGOR, (B) GOR and the (C) calculated mass activity.

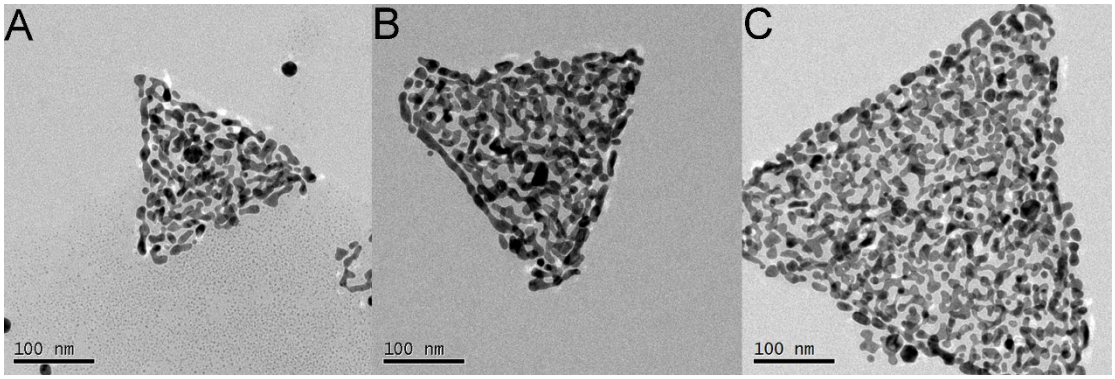


Fig.S6 TEM images of $Au_2Cu_1$, $Au_1Cu_1$ and $Au_1Cu_2$ nanoprisms after successive CVs of 500 cycles.

Table S1 Lattice parameters of $Au_1Cu_2$, $Au_1Cu_2$, $Au_1Cu_2$, Au and Cu.

| Samples | D / Å | a=b=c (Å) |
|---|---|---|
| $Au_1Cu_2$ | 2.2619 | 3.9177 |
| $Au_1Cu_1$ | 2.2773 | 3.9444 |
| $Au_2Cu_1$ | 2.3225 | 4.0227 |
| Au | 2.3509 | 4.072 |
| Cu | 2.0871 | 3.6151 |