Electronic Supplementary Material (ESI) for New Journal of Chemistry.

One-pot synthesis of PtCu alloy catalyst for methanol oxidation reaction

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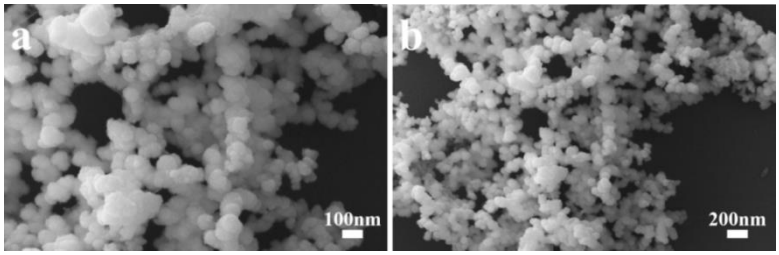

Fig. S1. SEM images of PtCu NPs.

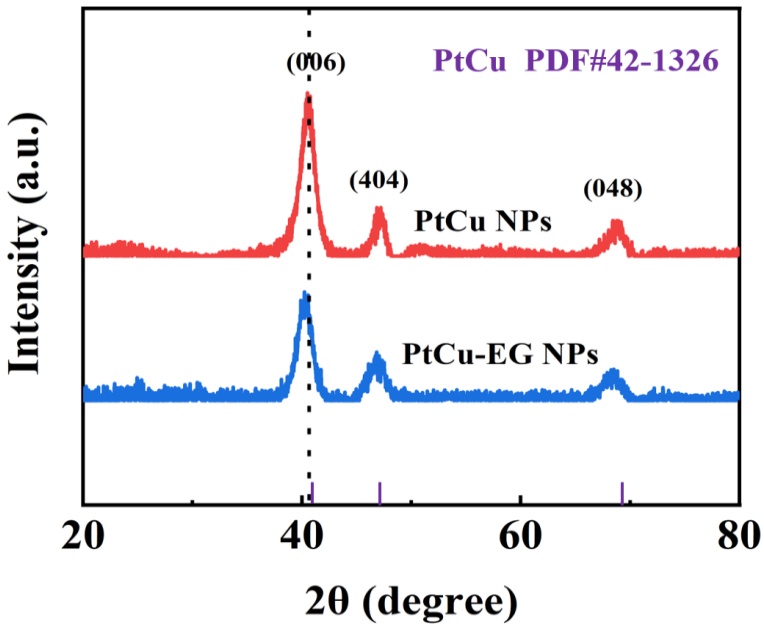

Fig. S2. The XRD patterns of PtCu and PtCu-EG catalysts.

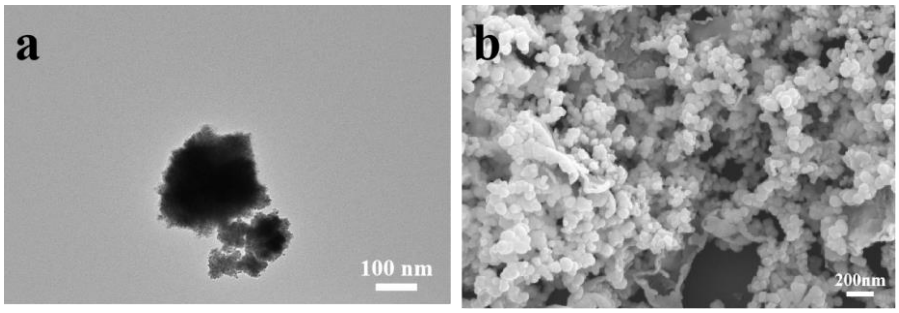

Fig. S3. Morphology characterization diagram. (a) TEM image of PtCu-EG NPs. (b) SEM image of without CTAB.

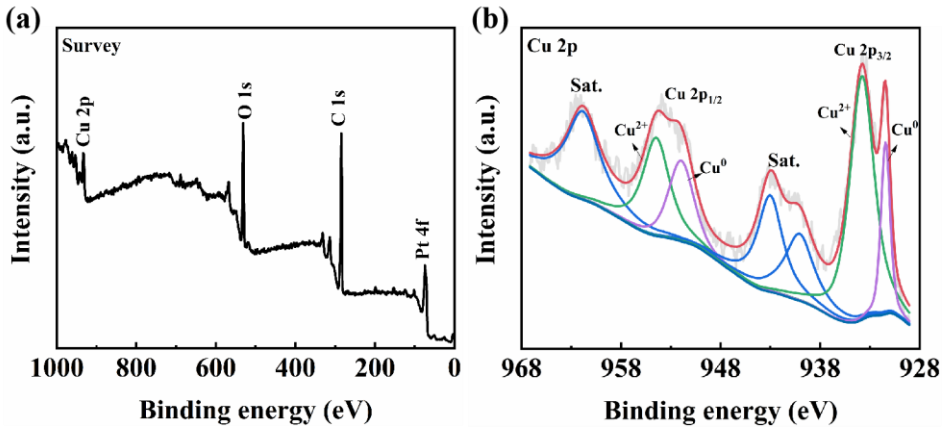

Fig. S4. The XPS spectra of PtCu NPs. (a) survey scan and (b) Cu 2p.

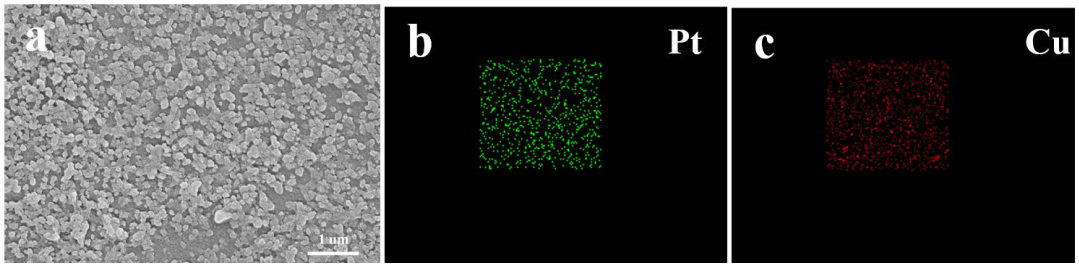

Fig. S5. The PtCu NPs catalysts after CA. (a) SEM. (b, c) EDS

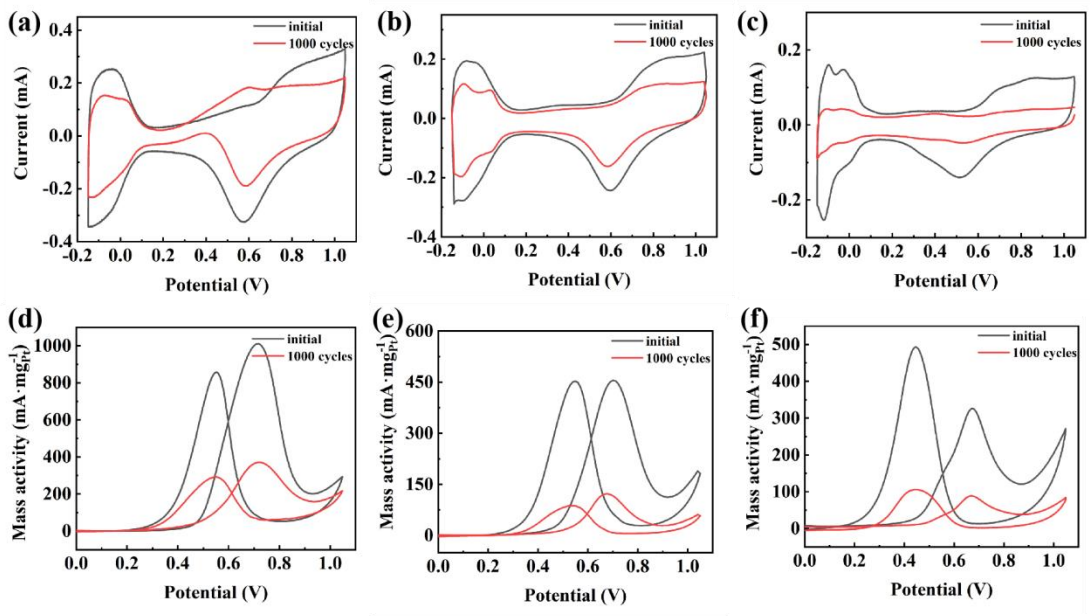

Fig. S6. Performance comparison of PtCu NPs, PtCu-EG NPs and commercial Pt/C catalysts after 1000 cycles of MOR. (a, b, c) activation curves of PtCu, PtCu-EG and commercial Pt/C before and after 1000 cycles and (d, e, f) MOR curves of PtCu, PtCu-EG and commercial Pt/C before and after 1000 cycles.

Catalysts	Mass ratio (Pt: Cu)
PtCu NPs	3.19: 1.65
PtCu-EG NPs	33.35: 4.334

Table S1. The compositions of PtCu NPs and PtCu-EG NPs catalysts determined by ICP-OES.