

Electronic Supplementary Information for

**Catalysis Performance Comparison for Electrochemical Reduction of
CO₂ on Pd-Cu/Graphene Catalyst**

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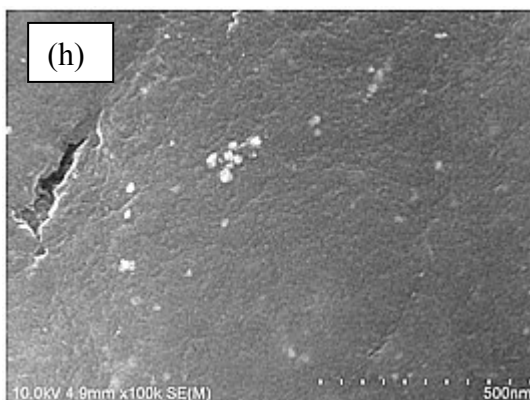
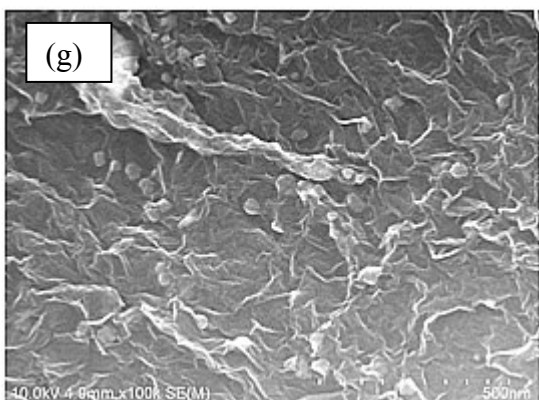
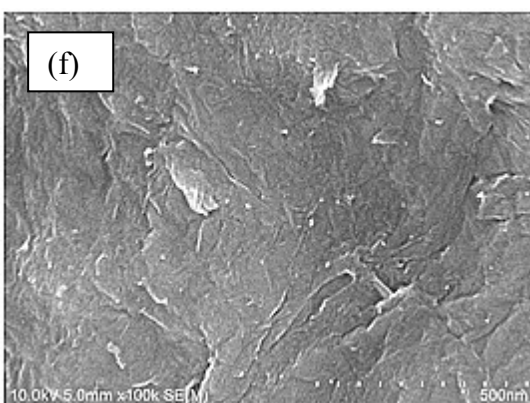
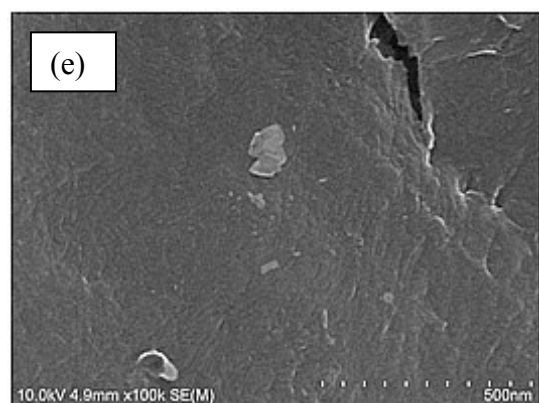
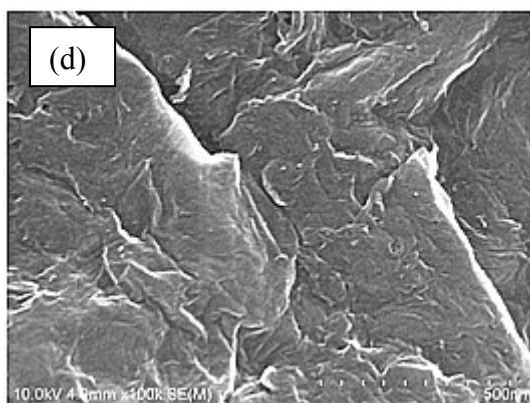
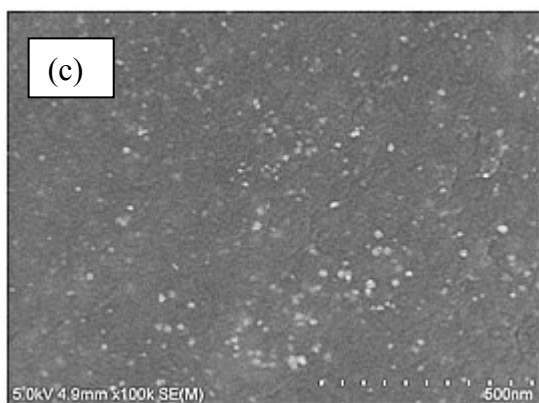
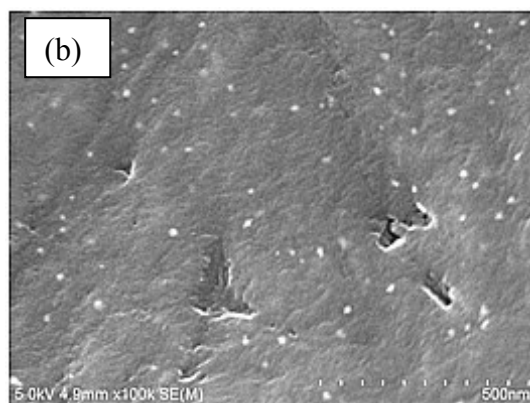
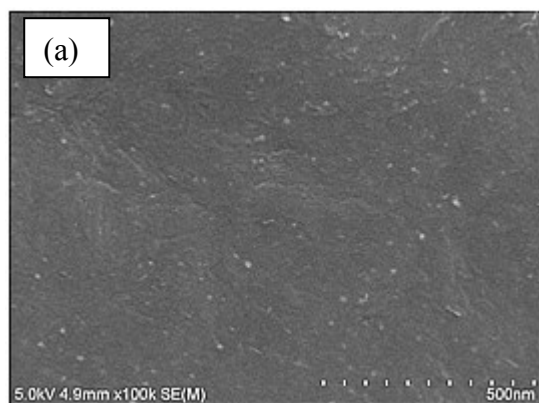
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Table S1 Particle size of metal loaded on graphene

Metal/graphene (wt.%)	Pd (nm)	Cu (nm)
0.5%Pd	6.44	-
1%Pd	4.60	-
3%Pd	5.36	-
0.5%Cu	-	6.67
1%Cu	-	4.44
2%Cu	-	3.33
3%Cu	-	6.67
1%Pd-1%Cu	8.05	8.88
1%Pd-2%Cu	6.43	5.33
1%Pd-3%Cu	8.05	5.33



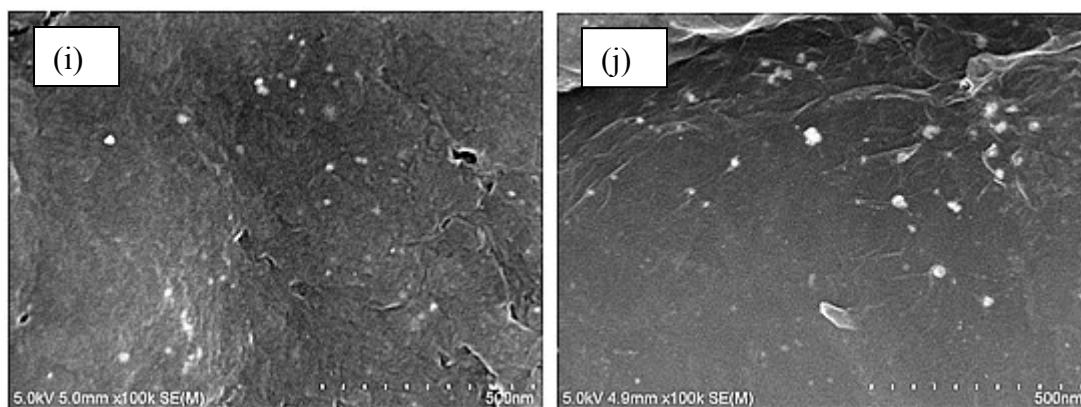


Fig. S1 SEM images of (a) 0.5wt.%Pd/graphene catalyst, (b) 1wt.%Pd/graphene catalyst, (c) 3wt.%Pd/graphene catalyst, (d) 0.5wt.%Cu/graphene catalyst, (e) 1wt.%Cu/graphene catalyst, (f) 2wt.%Cu/graphene catalyst, (g) 3wt.%Cu/graphene catalyst, (h) 1wt.%Pd-1wt.%Cu/graphene catalyst, (i) 1wt.%Pd-2wt.%Cu/graphene catalyst, and (j) 1wt.%Pd-3wt.%Cu/graphene catalyst.

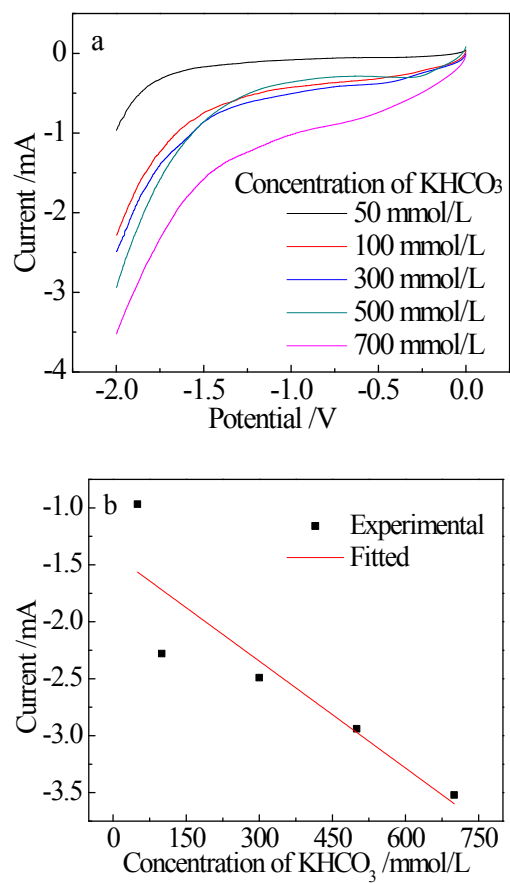


Fig. S2 Reductive LSV scans at 1wt.%Pd-2wt.%Cu/graphene catalyst in different concentration of KHCO_3 solution (a) and the fitting result (b).