

Fig. S1. Catalytic conversion of glycerol catalyzed by the bimetallic CuAu_x nanoparticle catalysts. Reaction conditions: 100 mL of glycerol aqueous solution with the glycerol concentration of 2 mol L⁻¹, NaOH/glycerol mole ratio of 1.1:1, 0.736 g of catalyst, and reaction temperature at 200 °C. (a) selectivity of oxalic acid; (b) selectivity of formic acid; (c) selectivity of acetic acid; (d) selectivity of 1,2-propanediol.

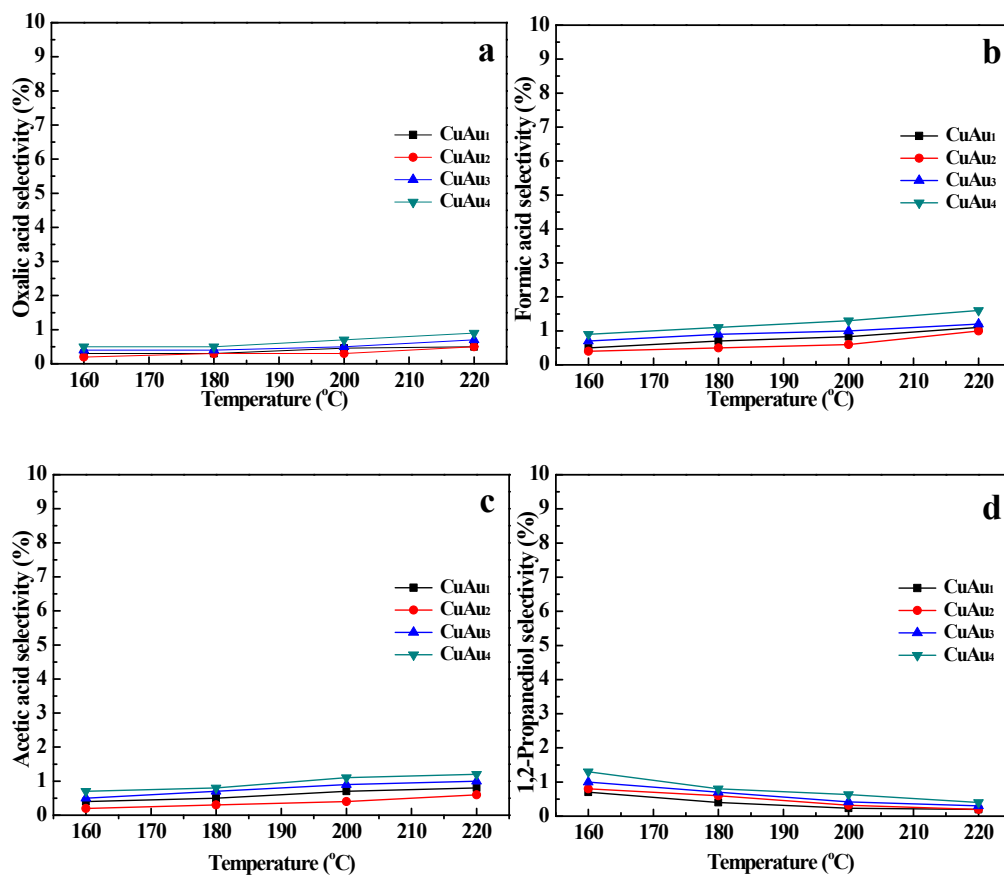


Fig. S2. Catalytic conversion of glycerol catalyzed by the bimetallic CuAu_x nanoparticle catalysts. Reaction conditions: 100 mL of glycerol aqueous solution with the glycerol concentration of 2 mol L⁻¹, NaOH/glycerol mole ratio of 1.1:1, 0.736 g of catalyst, and reaction time of 2 h. (a) selectivity of oxalic acid; (b) selectivity of formic acid; (c) selectivity of acetic acid; (d) selectivity of 1,2-propanediol.

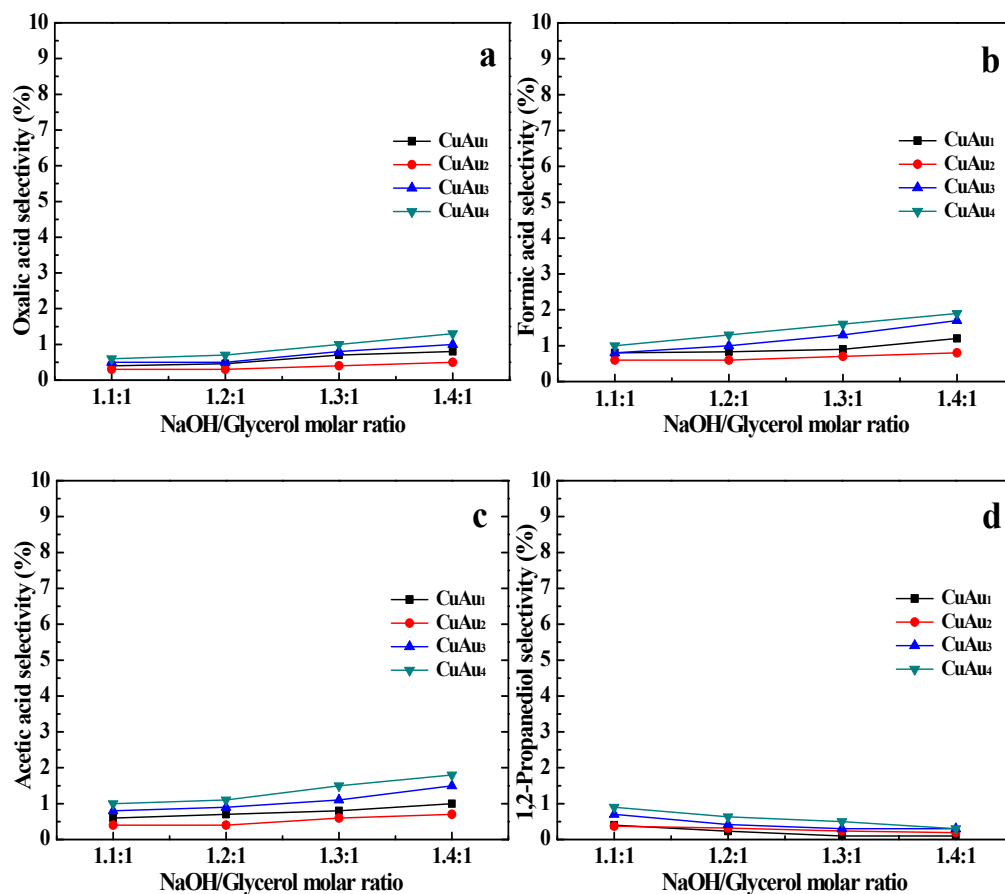


Fig. S3. Catalytic conversion of glycerol catalyzed by the bimetallic CuAu_x nanoparticle catalysts. Reaction conditions: 100 mL of glycerol aqueous solution with the glycerol concentration of 2 mol L⁻¹, 0.736 g of catalyst, reaction temperature at 200 °C, and reaction time of 2 h. (a) selectivity of oxalic acid; (b) selectivity of formic acid; (c) selectivity of acetic acid; (d) selectivity of 1,2-propanediol.

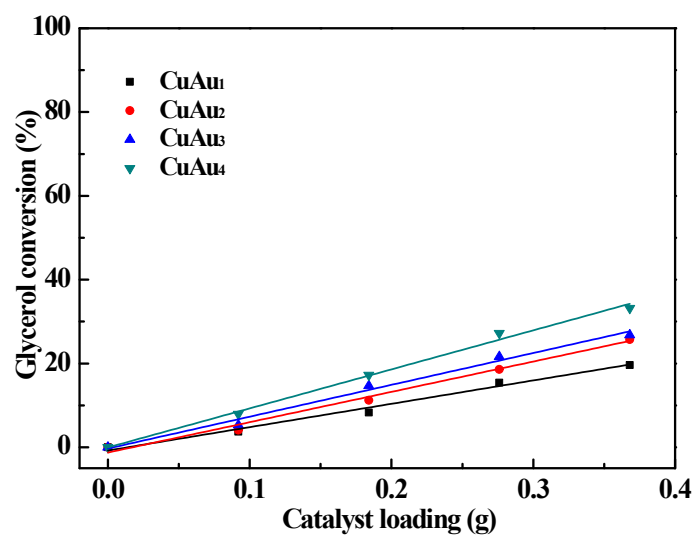


Fig. S4. Effect of catalyst loadings on the catalytic conversion of glycerol over the bimetallic CuAu_x catalysts. Reaction conditions: 100 mL of glycerol aqueous solution with the glycerol concentration of 1.0 mol L⁻¹; NaOH concentration of 1.1 mol L⁻¹; reaction temperature, 140 °C; reaction time, 1 h; stirring speed, 600 rpm.

Experimental	Reaction time (h)	Conversions of glycerol (%)	Selectivities of lactic acid (%)
a	1	trace	/
	2	trace	/
	3	trace	/
	4	0.8	100
b	1	trace	/
	2	trace	100
	3	1.0	100
	4	2.2	99.6

Table S1 Catalytic conversion of glycerol with the use of sole NaOH or CuAu₂ catalyst

^aThe experimental conditions: (a) glycerol aqueous solution, 2.0 mol L⁻¹, 100 mL; NaOH/glycerol mole ratio, 1.1:1; reaction temperature, 200 °C. (b) glycerol aqueous solution, 2.0 mol L⁻¹, 100 mL; CuAu₂, 0.736 g; reaction temperature, 200 °C.