

Supplementary Materials: Flower-Like Au-CuO/Bi₂WO₆ Microspheres Catalysts: Synthesis, Characterization and Their Catalytic Performance for CO Oxidation

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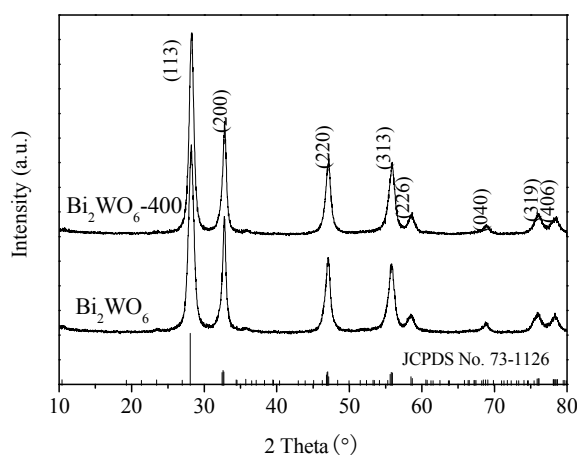


Figure S1. XRD patterns of Bi₂WO₆ and Bi₂WO₆-400 supports.

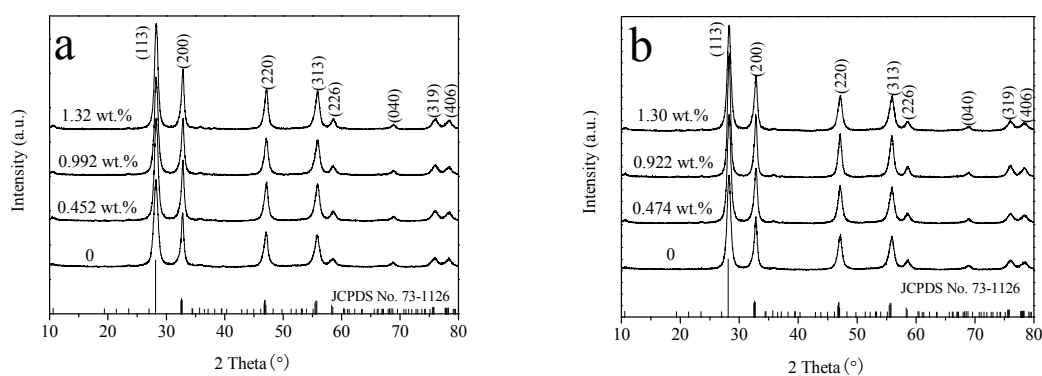


Figure S2. XRD patterns of Au/Bi₂WO₆ (a) and Au/Bi₂WO₆-400; (b) with different Au-content.

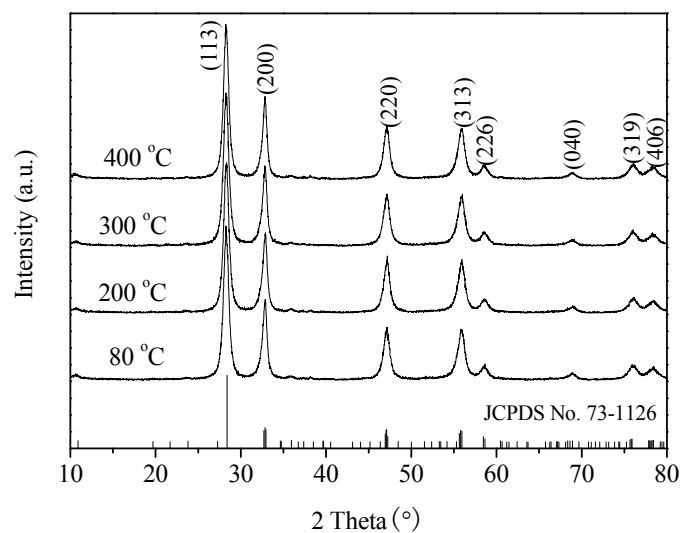


Figure S3. XRD patterns of Au/Bi₂WO₆-400 was calcined at different temperatures.

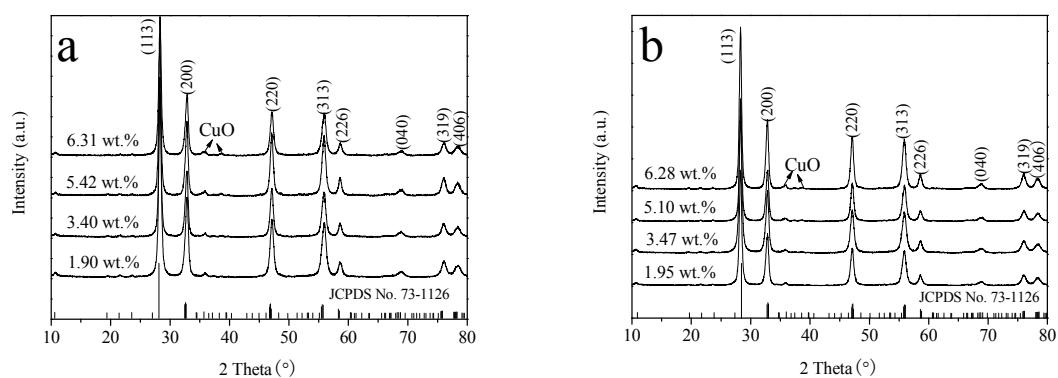


Figure S4. XRD patterns of CuO/Bi₂WO₆ (a) and CuO/Bi₂WO₆-400; (b) with different Cu-content.

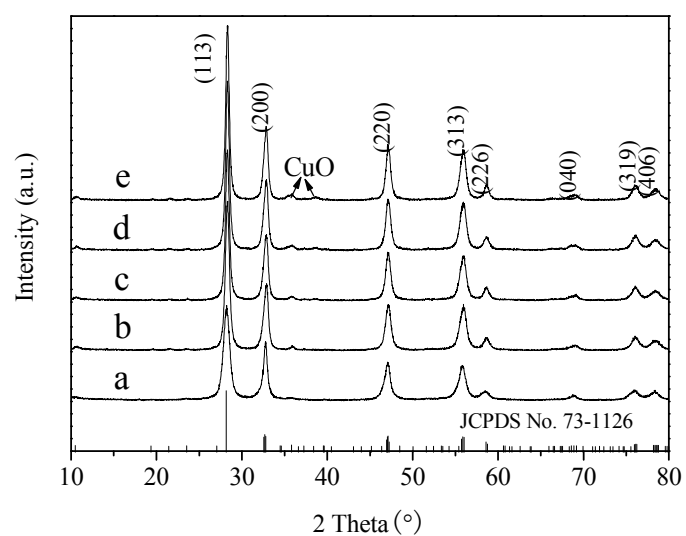
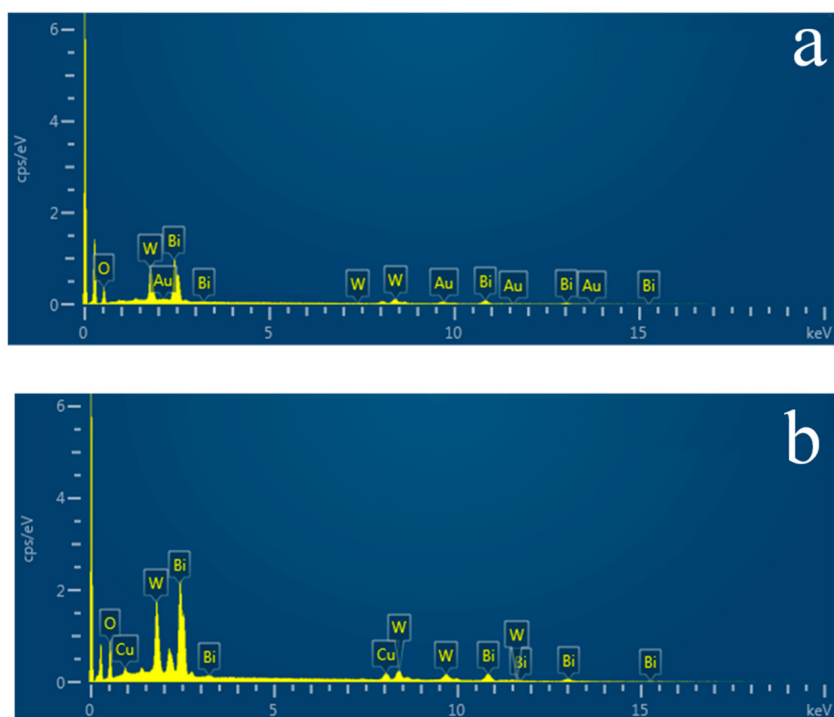


Figure S5. XRD patterns of Bi₂WO₆ (a), Au-CuO/Bi₂WO₆; (b) Cu 1.64 wt.%, Au 0.415 wt.%; (c) Cu 3.27 wt.%, Au 0.425 wt.%; (d) Cu 4.85 wt.%, Au 0.438 wt.%; (e) Cu 6.61 wt.%, Au 0.448 wt.%.



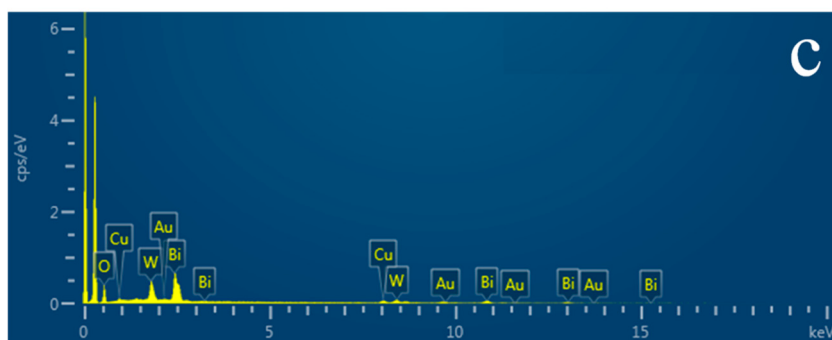


Figure S6. EDX of the Au/Bi₂WO₆-400: Au 1.30 wt.% (a); CuO/Bi₂WO₆-C: Cu 5.10 wt.% (b); and Au-CuO/Bi₂WO₆-C: Cu 4.85 wt.%, Au 0.438 wt.% (c).

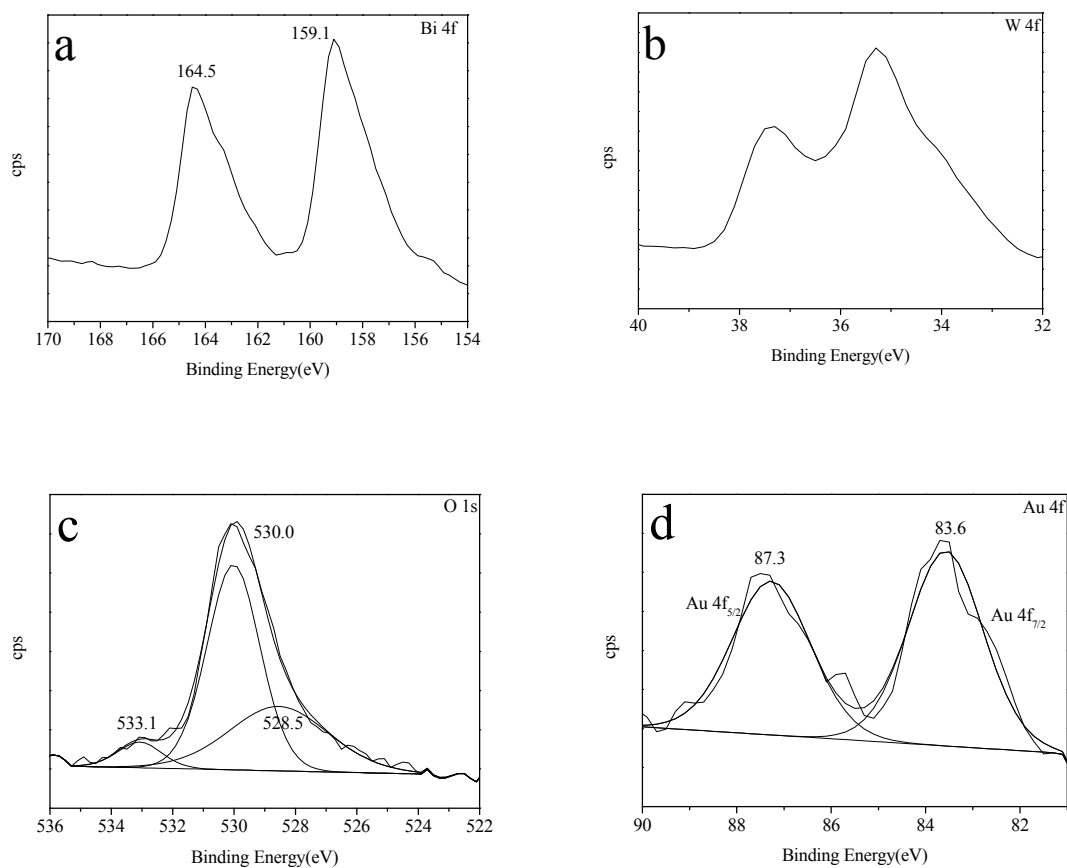


Figure S7. XPS spectra of Au/Bi₂WO₆-400: Au 1.30 wt.% (300 °C): Bi 4f peaks (a); W 4f peaks (b); O 1s peaks (c); Au 4f peaks (d).

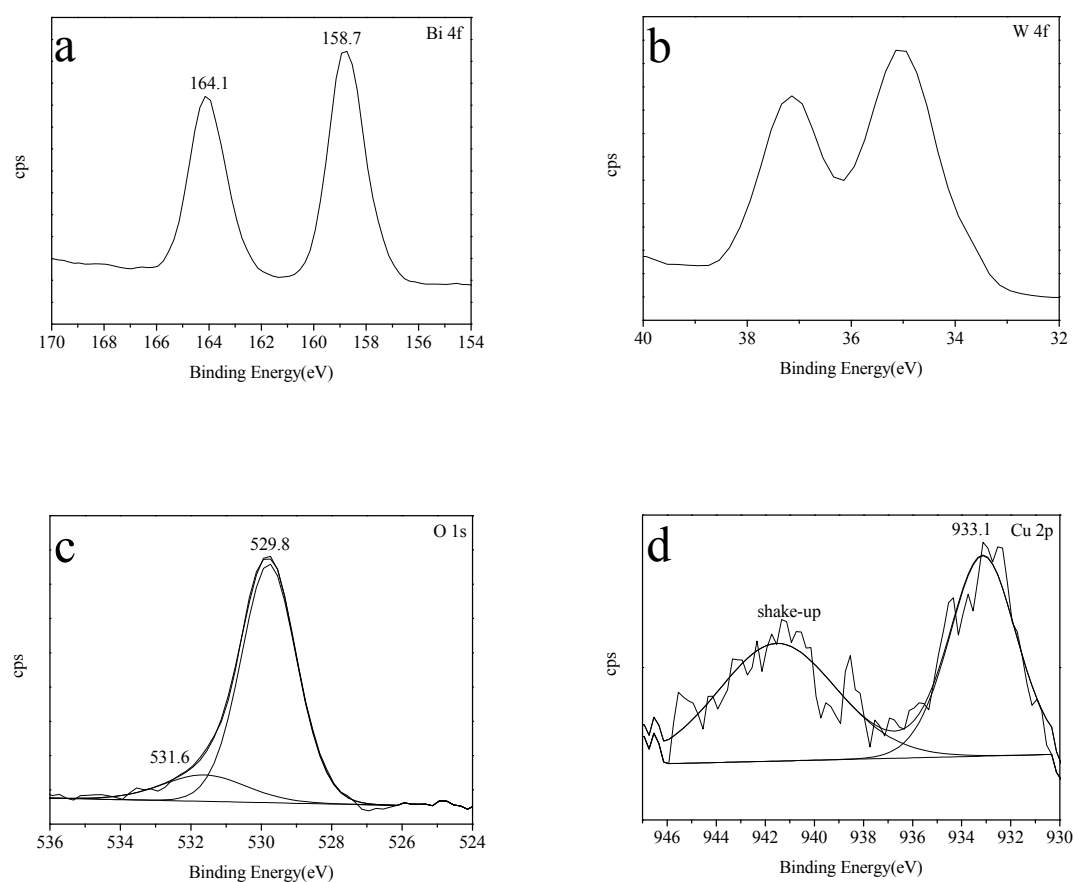


Figure S8. XPS spectra of CuO/Bi₂WO₆-400: Cu 5.10 wt.%. Bi 4f peaks (a); W 4f peaks (b); O 1s peaks (c); Cu 2p peaks (d).

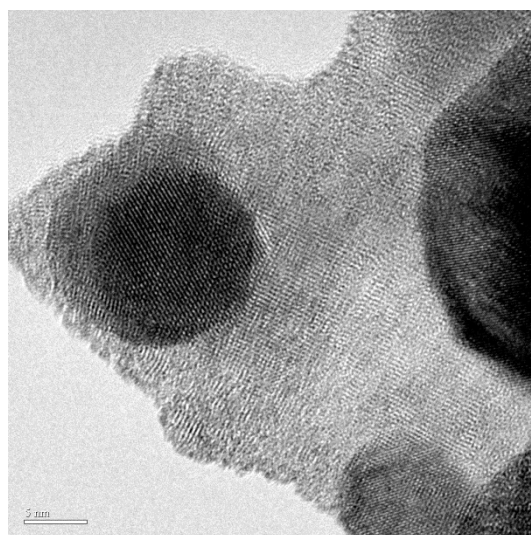


Figure S9. TEM image of Au/Bi₂WO₆-400 (calcinated at 400°C): Au 1.30 wt %.

Table S1. The flower-like Au/Bi₂WO₆ microspheres catalysts.

Sample Name	Au/Bi ₂ WO ₆				Au/Bi ₂ WO ₆ -400		
Au Content (wt.%) ICP	0.452	0.992	1.32	0.474	0.922	1.30 ^a	
Au Content (wt.%)XPS	-	-	-	-	-	1.35	
TOF (S ⁻¹)	0.377	0.664	0.885	0.506	0.434	0.923	

^a calcination temperature: 80 °C, 200 °C, 300 °C and 400 °C, respectively.

Table S2. The flower-like CuO/Bi₂WO₆ microspheres catalysts.

Sample Name	CuO/Bi ₂ WO ₆				CuO/Bi ₂ WO ₆ -400			
Cu Content (wt.%) ICP	1.90	3.40	5.42	6.31	1.95	3.47	5.10	6.28
Cu Content (wt.%)XPS	-	-	-	-	-	-	5.31	-
TOF (S ⁻¹)	0.0522	0.0294	0.0295	0.0211	0.0586	0.0329	0.0784	0.0424

Table S3. The flower-like Au-CuO/Bi₂WO₆ microspheres catalysts.

Sample Name	Au-CuO/Bi ₂ WO ₆				Au-CuO/Bi ₂ WO ₆ -400			
Au Content (wt.%) ICP	0.479	0.498	0.450	0.478	0.415	0.425	0.438	0.448
Cu Content (wt.%) ICP	1.59	3.35	5.40	7.05	1.64	3.27	4.85	6.61
Au Content (wt.%) XPS	-	-	-	-	-	-	0.502	-
Cu Content (wt.%) XPS	-	-	-	-	-	-	4.87	-
Au TOF (S ⁻¹)	0.501	0.688	1.07	0.837	0.723	0.807	1.83	1.07
Cu TOF (S ⁻¹)	0.0503	0.0341	0.0296	0.0189	0.0610	0.0349	0.0550	0.0242