Electronic Supplementary Material (ESI) for Nanoscale.

Litchi-peel-like hierarchical hollow copper-ceria microspheres: aerosol-assisted synthesis and high activity and stability for catalytic CO oxidation

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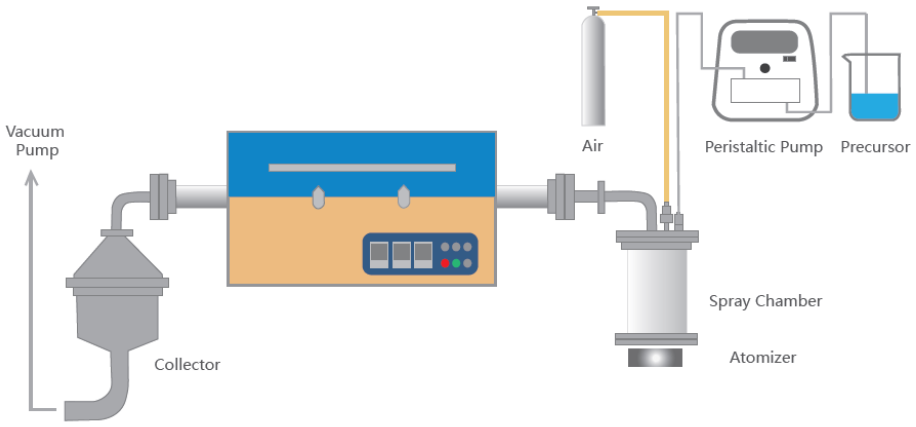

Figure S1 Schematic setup for aerosol spray pyrolysis.

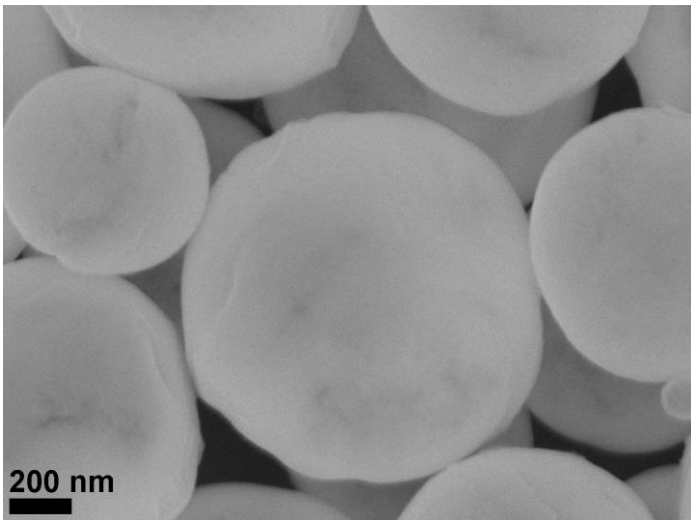

Figure S2 Enlarged SEM image of 20CuCe-H sample.

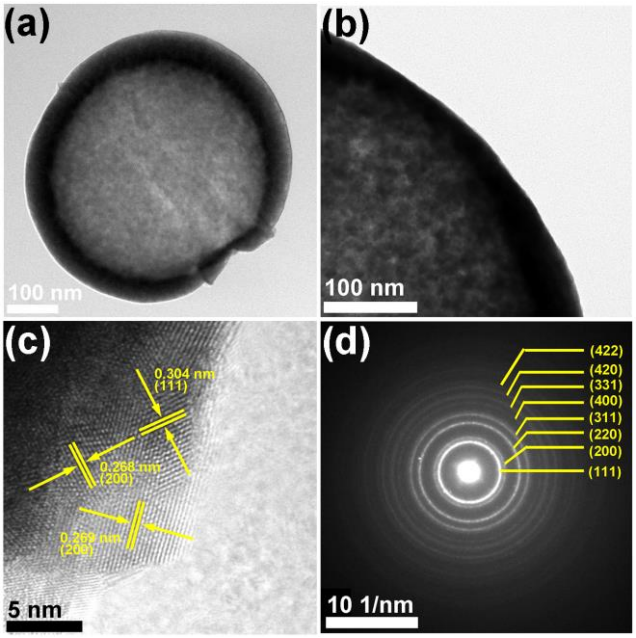

Figure S3 (a) BF-HAADF TEM image, (b) TEM image and (c) HRTEM image of 20CuCe-H, and (d) selected SAED image of the single microsphere in (a).

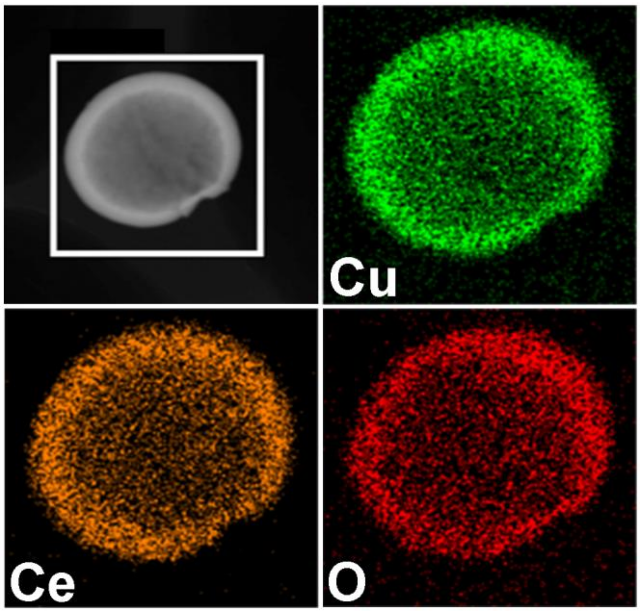

Figure S4 EXD elemental mapping of 20CuCe-H sample.

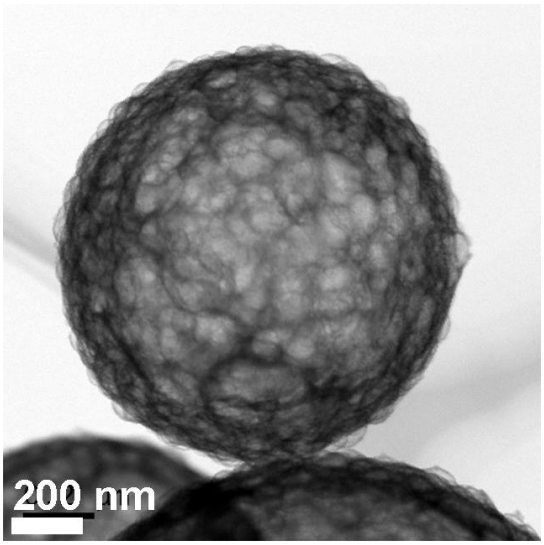

Figure S5 BE-STEM image of 20CuCe-L sample.

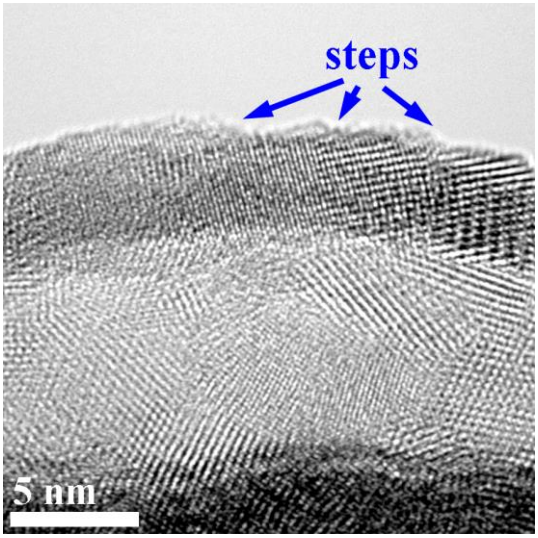

Figure S6 HRTEM image of 20CuCe-L sample.

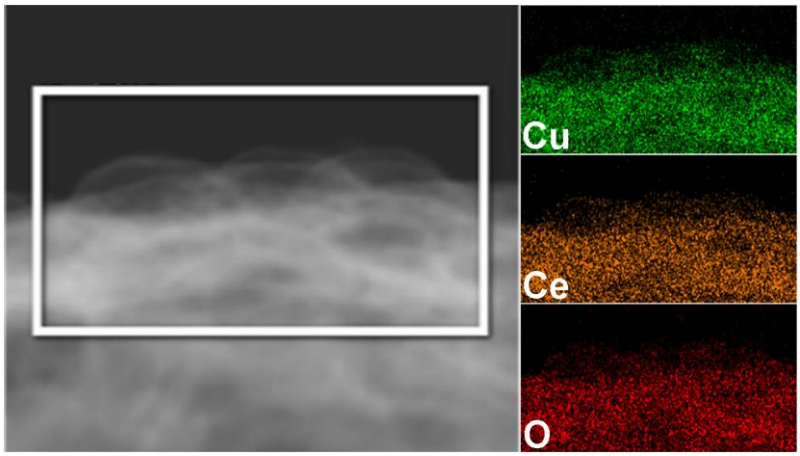

Figure S7 Selected area EDX elementary mapping of 20CuCe-L sample.

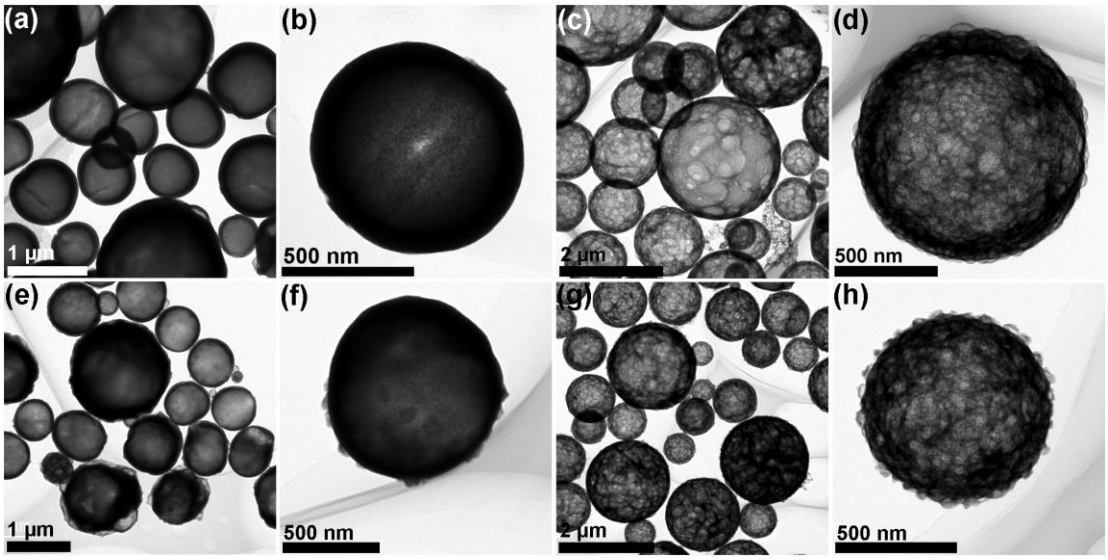

Figure S8 TEM images of (a, b) 10CuCe-H, (c, d) 10CuCe-L, (e, f) 30CuCe-H, (g, h) 30CuCe-L.

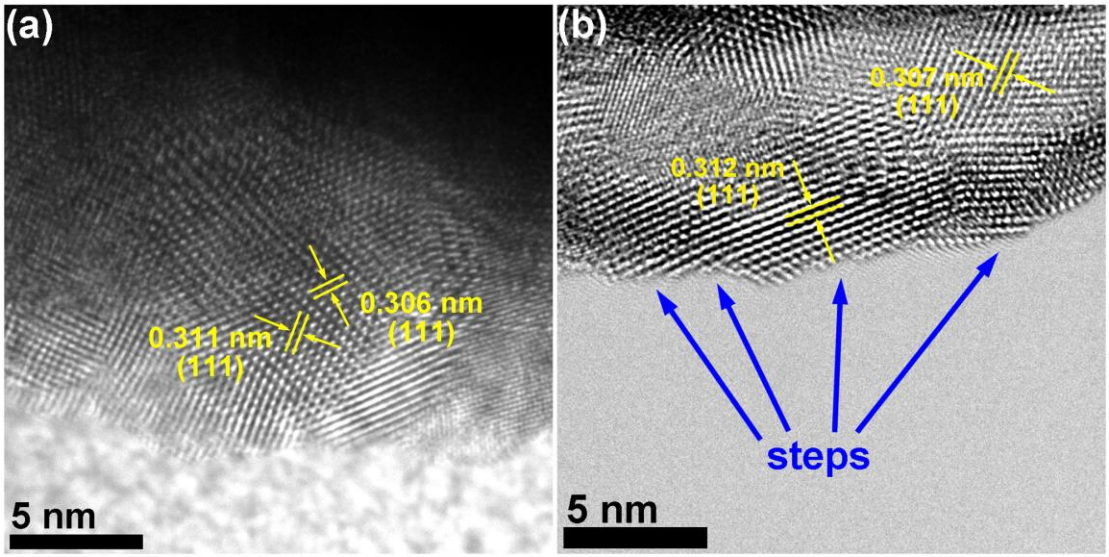

Figure S9 HRTEM images of (a) 10CuCe-H and (b) 10CuCe-L.

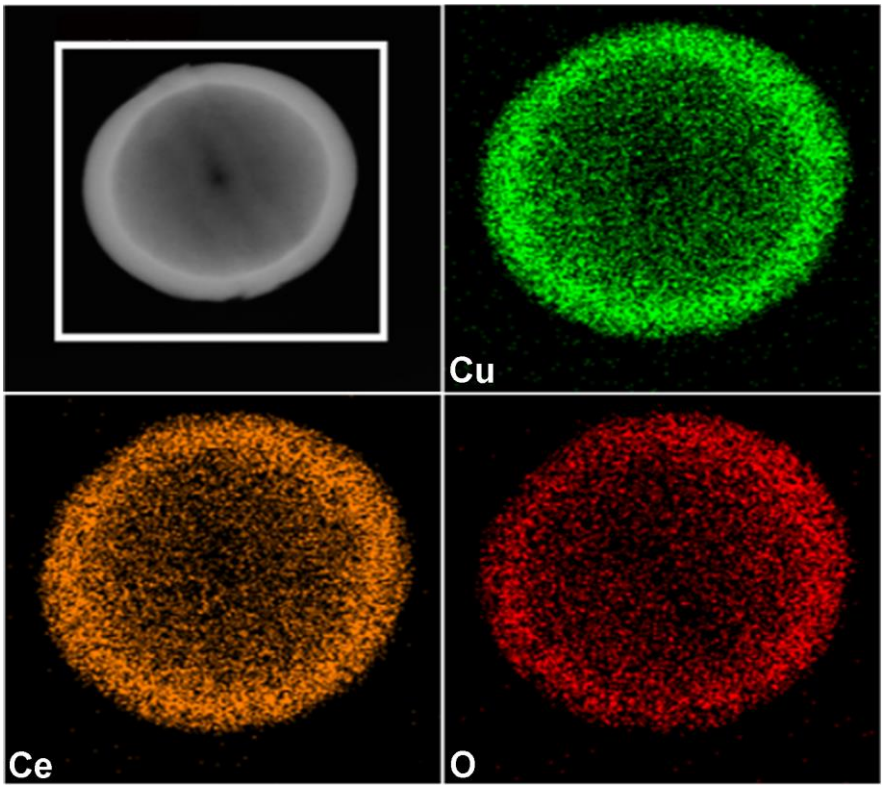

Figure S10 EDX elementary mapping of 10CuCe-H sample.

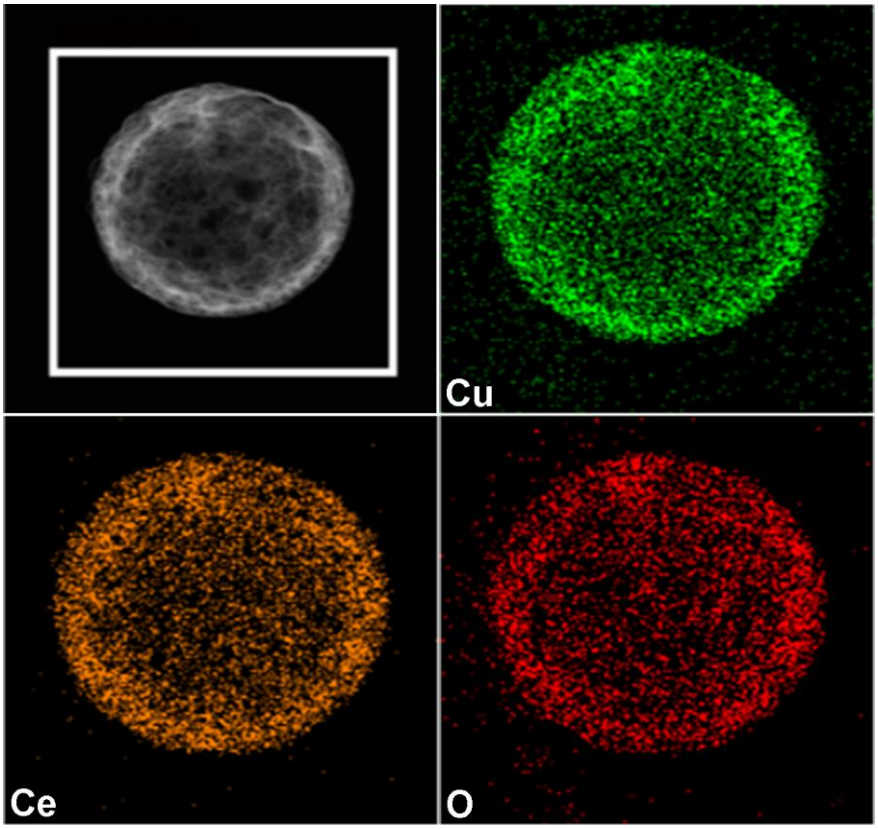

Figure S11 EDX elementary mapping of 10CuCe-L sample.

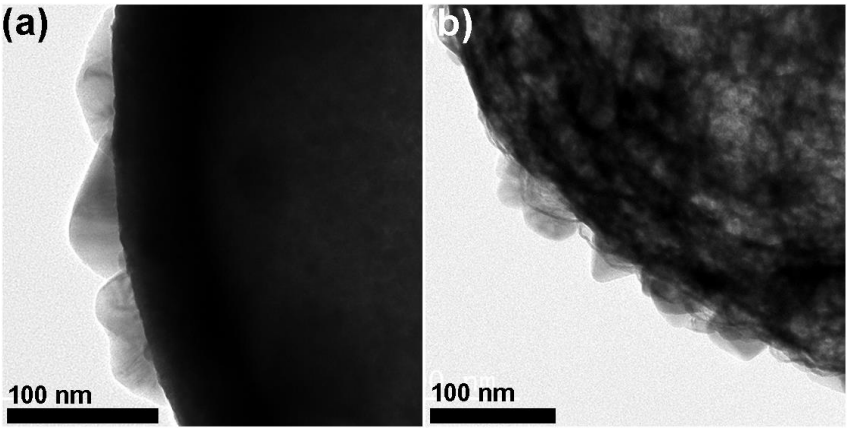

Figure S12 Magnifying TEM images of (a) 30CuCe-H and (b) 30CuCe-L.

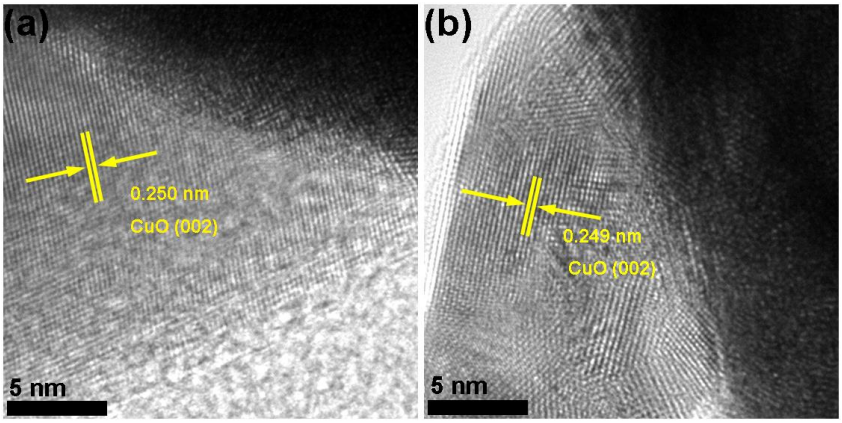

Figure S13 HRTEM images of (a) 30CuCe-H and (b) 30CuCe-L.

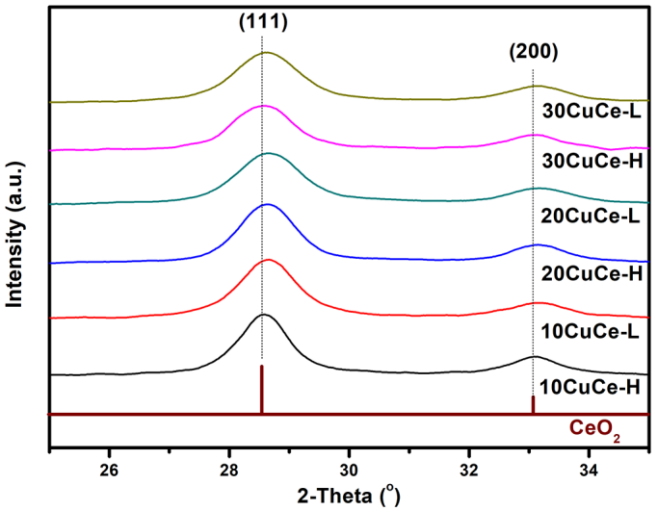

Figure S14 Enlarged XRD profiles of the as-prepared copper-ceria samples.

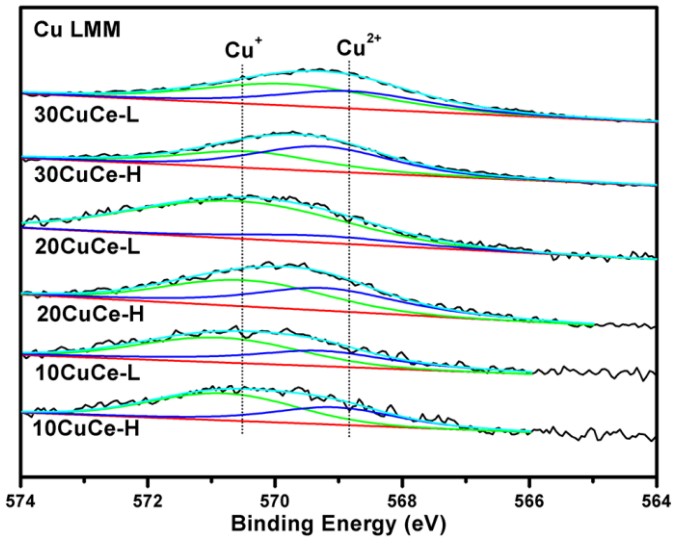

Figure S15 Cu-LMM spectra of the as-prepared copper-ceria samples.

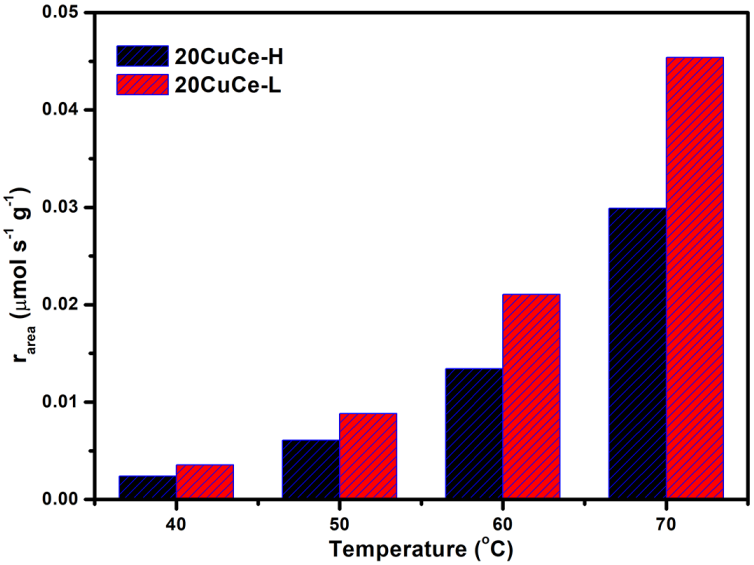

Figure S16 Area-normalized specific reaction rates of 20CuCe-H and 20CuCe-L.

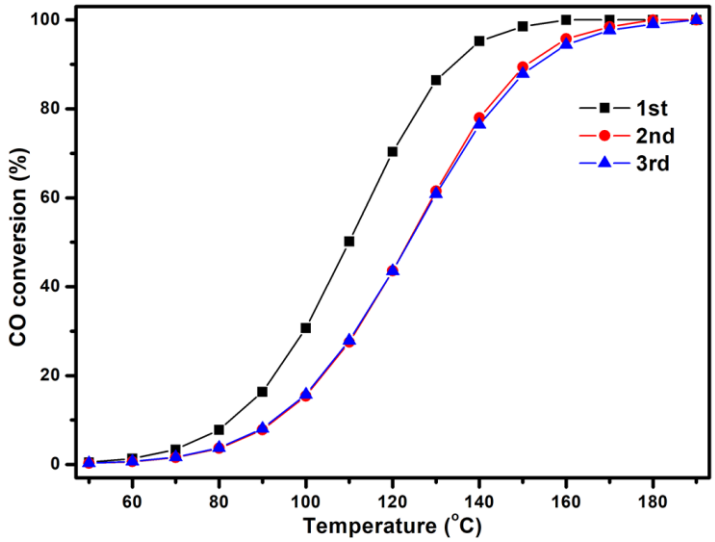

Figure S17 CO conversion as a function of temperature over 20CuCe-H in continuous three cycles.

Table S1 Catalytic activity of copper-ceria samples in references and our work.

Samples	T_{50} (°C)	T_{100} (°C)	Reference
20CuCe-L	83	120	This work
CuO(20)/CeO_2-500	101	151	Ref[1]
CuO/$Ce_xCu_{1-x}O_{2-\delta}$	95	135	Ref[2]
Cu^{2+} doped CeO_2 (P4)	172	223	Ref[3]
$Cu_{0.1}Ce_{0.9}O_2$	234	275	Ref[4]
$Cu_{0.1}Ce_{0.9}O_2$	149	196	Ref[5]
$Cu_{0.29}Ce_{0.71}O_{2-y}$	144	203	Ref[6]
$Cu_{0.05}Ce_{0.95}O_{2-\delta}$	94	200	Ref[7]

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