Mesoporous CeO_2 nanoparticles assembled by hollow nanostructures: formation mechanism and enhanced catalytic property

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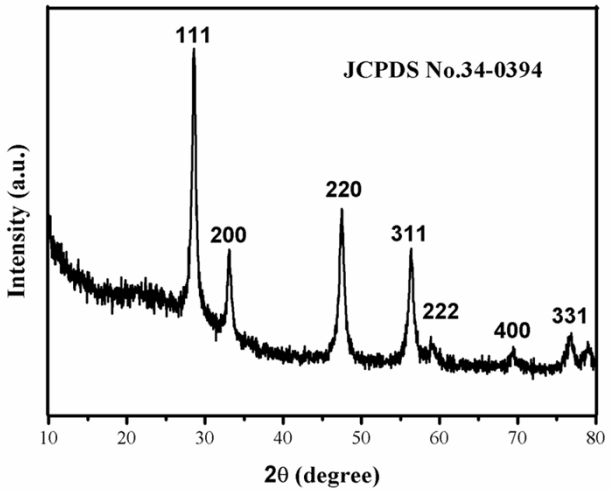

Fig. S1 XRD pattern of the product obtained by the calcination of the cerium formate precursor at 400 ℃ for 2 h.

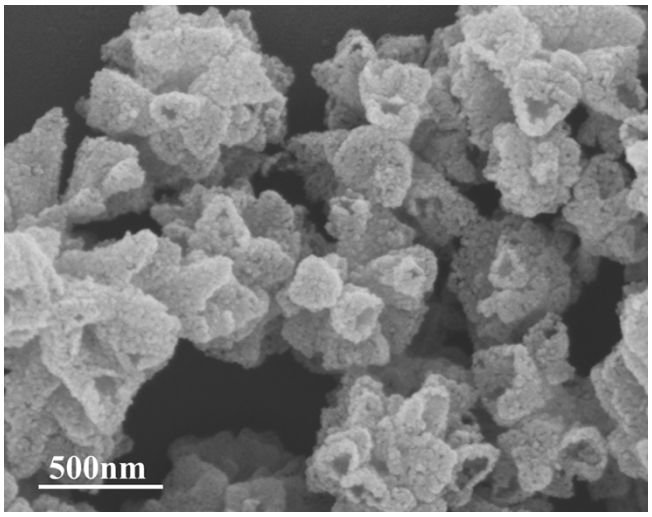

Fig. S2 high-magnification SEM image of the as-prepared CeO_2 nanoparticles

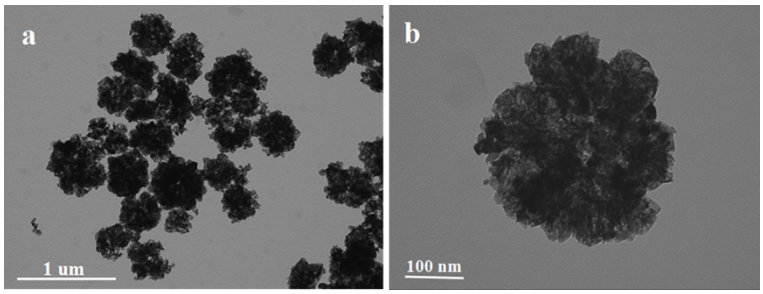

Fig. S3 Representative TEM images of CeO_2 nanospheres after calcination method via cerium formate precursor: (a) over morphology of the products; (b) TEM image of a single nanosphere.

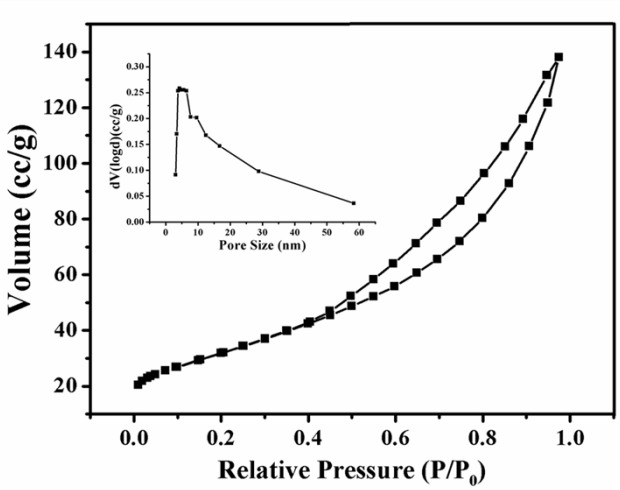

Fig. S4 N_2 adsorption- desorption isotherms of the CeO_2 spherical structures after calcination method; inset is the corresponding BJH pore size distribution curve.

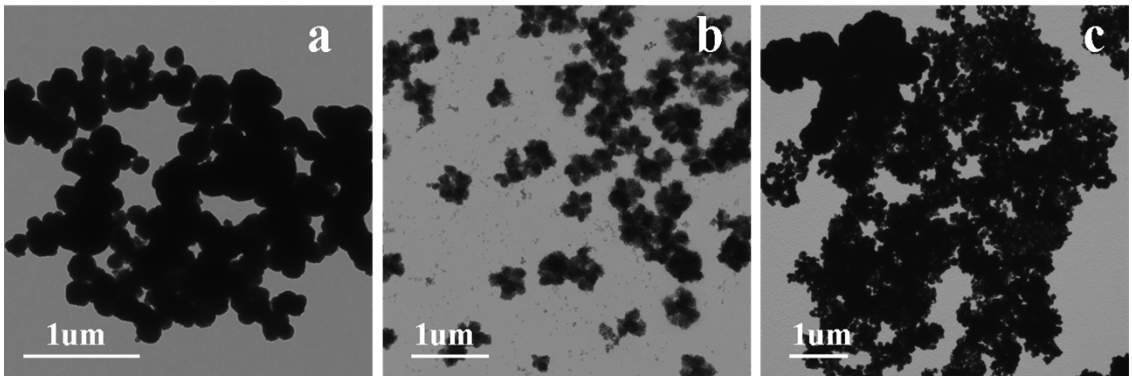

Fig. S5 The TEM images of the products of solvothermal reaction: (a) with slow injection of strong ammonia (10M); (b) with PVP instead of OP-10; (c) without OP-10.

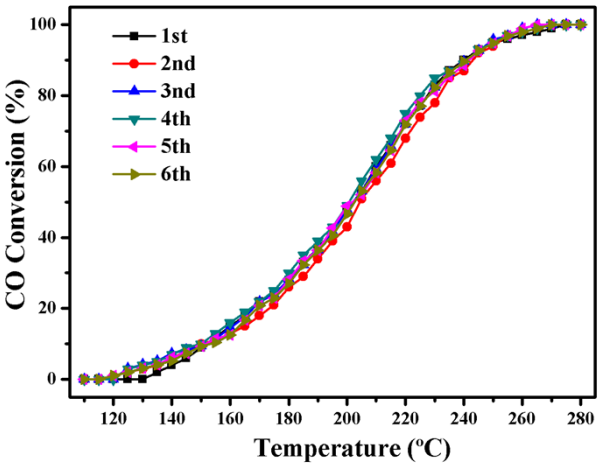

Fig. S6 Catalytic performance of the obtained CeO_2 in different runs.

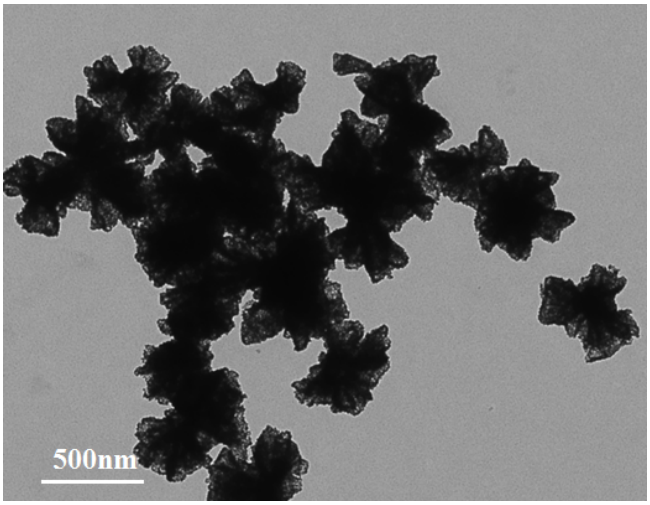

Fig. S7 The TEM image of the nano-cone constructed CeO_2 nanoparticles after the catalysis.