

Meso-Molding Three-Dimensional Macroporous Perovskites: A New Approach to Generate High-Performance Nanohybrid Catalysts - DTU Orbit (08/11/2017)

Meso-Molding Three-Dimensional Macroporous Perovskites: A New Approach to Generate High-Performance Nanohybrid Catalysts

Newly designed 3D highly ordered macro/mesoporous multifunctional $\text{La}_{1-x}\text{Ce}_x\text{CoO}_3$ nanohybrid frameworks with a 2D hexagonal mesostructure were fabricated via facile meso-molding in a three-dimensionally macroporous perovskite (MTMP) route. The nanohybrid framework exhibited excellent catalytic activity for methane combustion, which derived from the MTMP providing a larger surface area and pore volume, uniform pore sizes, higher accessible surface oxygen concentration, better low-temperature reducibility, and a unique nanovoid 3D structure.

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