

## عنوان مقاله:

Synthesis and activity tests of nano Perovskite catalysts for CO combustion

## محل انتشار:

دومین کنفرانس احتراق ایران (سال: 1386)

تعداد صفحات اصل مقاله: 8

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## خلاصه مقاله:

Modified perovskite-type oxides were synthesized based on two different methods, namely co-precipitation and conventional citrate. The synthesized perovskite materials had the nominal compositions of  $\text{LaCoO}_3$ ,  $\text{LaCo}_{0.8}\text{Cu}_{0.2}\text{O}_3$ ,  $\text{La}_{0.8}\text{Sr}_{0.2}\text{Co}_{0.8}\text{Cu}_{0.2}\text{O}_3$ ,  $\text{La}_{0.8}\text{M}_{0.2}\text{Fe}_{0.8}\text{O}_3$  (where  $\text{M} = \text{Ce}$  and  $\text{Sr}$ ). The catalytic activity of perovskite samples toward CO combustion were measured using a gas mixture containing  $\text{N}_2/\text{O}_2/\text{CO}$  in the following proportions 97/1/2. The prepared perovskite samples were characterized by SEM, nitrogen adsorption (BET), XRF and XRD analyses. All the catalysts displayed good stability above  $600^\circ\text{C}$  and a high activity toward CO combustion. Our novel proposed perovskite composition, namely  $\text{La}_{0.8}\text{Sr}_{0.2}\text{Co}_{0.8}\text{Cu}_{0.2}\text{O}_3$  showed the highest activity for achieving CO conversion above 80%. While homogeneous gas-phase combustion of CO requires temperatures in excess of  $700^\circ\text{C}$  to achieve fair kinetics, our novel catalyst sample achieved 100% CO combustion at  $355^\circ\text{C}$ .

## کلمات کلیدی:

Combustion; Perovskite; catalyst; CO; lanthanum; cobalt; activity

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/49082>

