

## **An oxygen pool from YBaCo<sub>4</sub>O<sub>7</sub>-based oxides for soot combustion**

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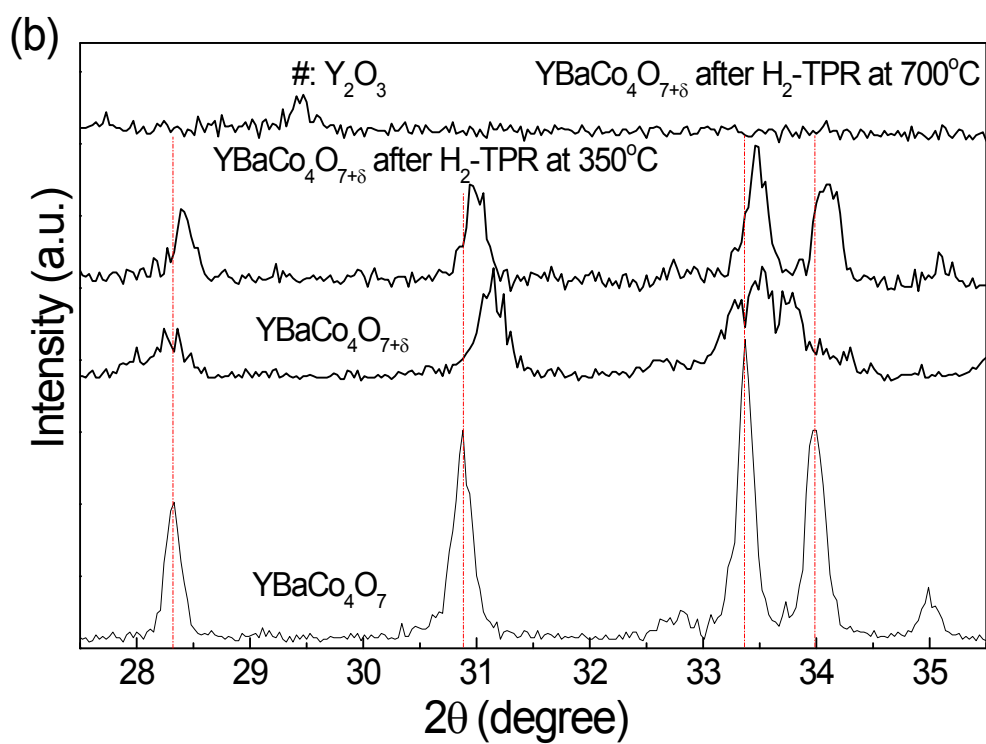
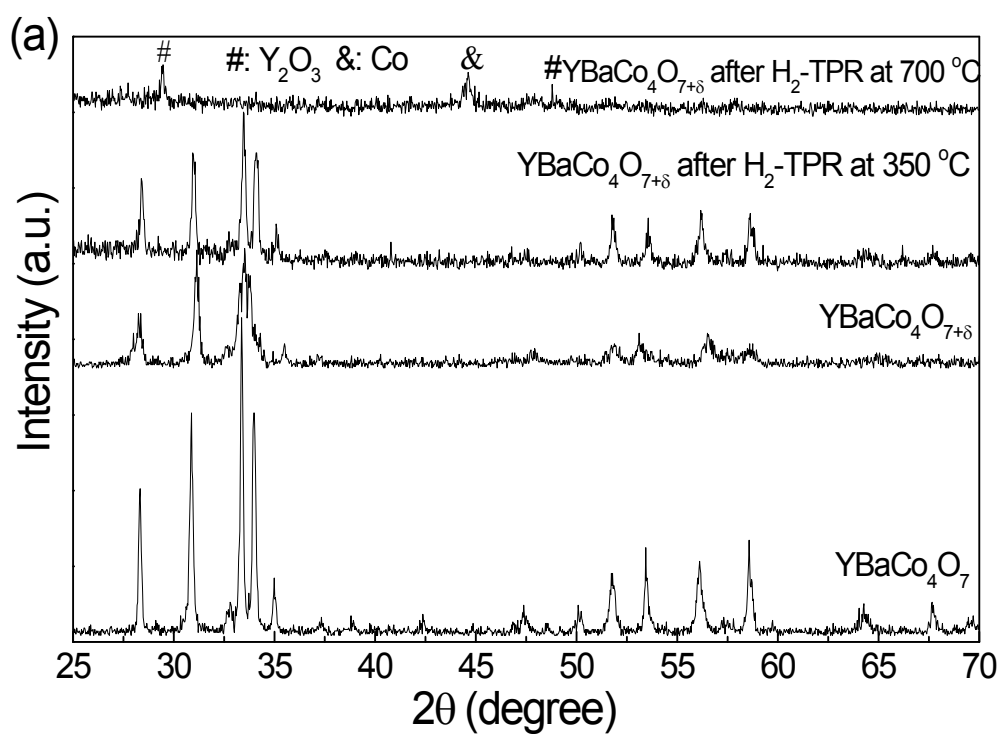
### **7 pages (including this):**

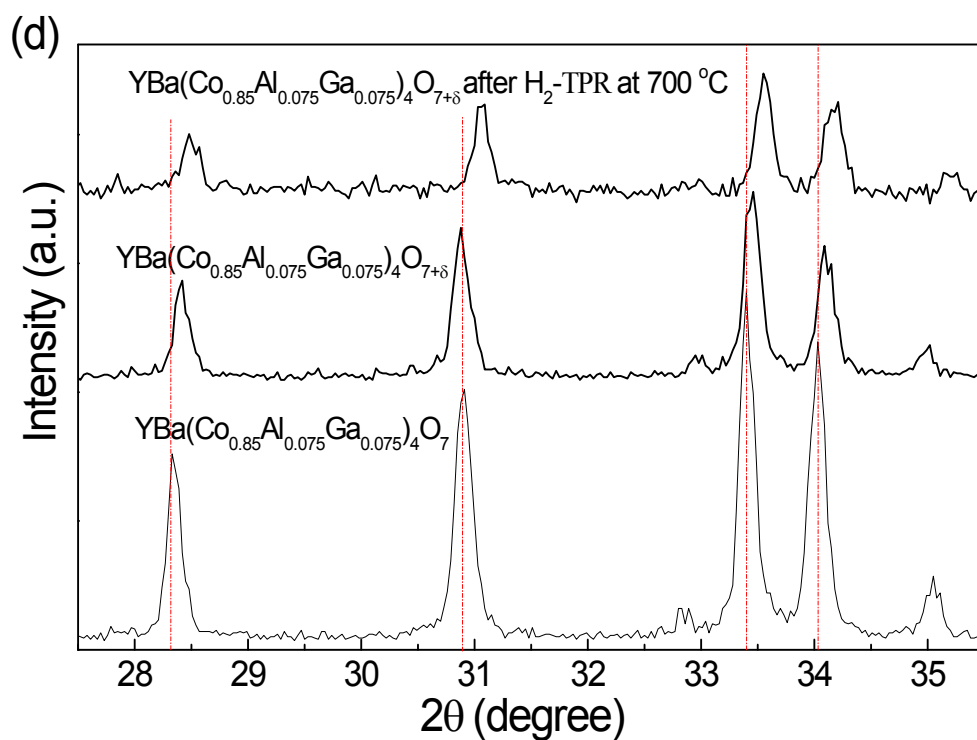
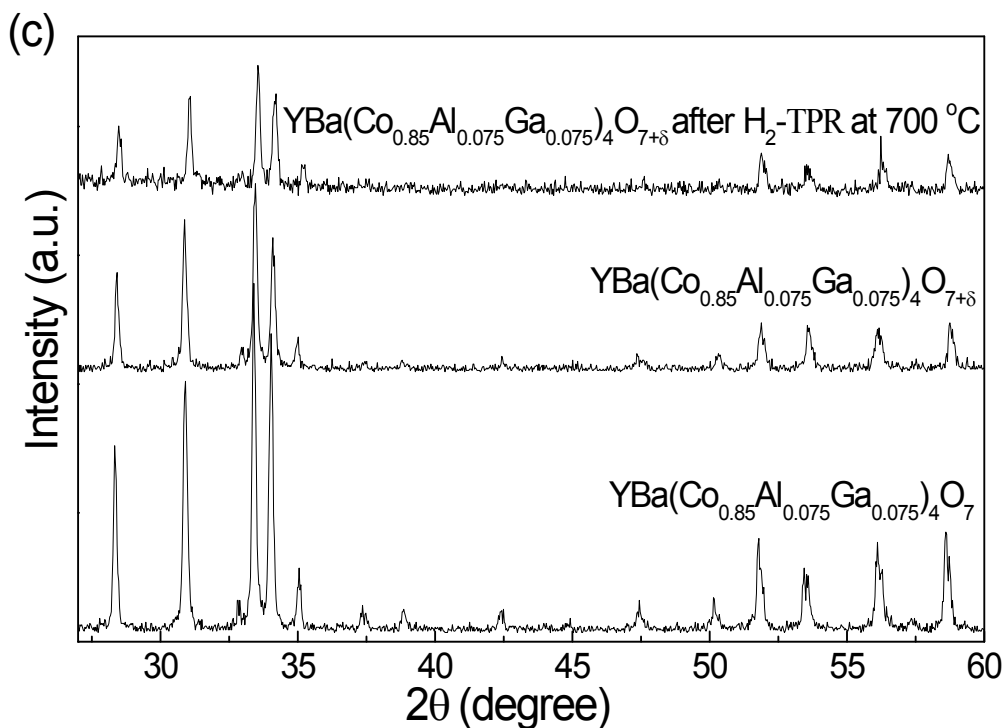
- Table S1
- Figure S1–S4.

**Table S1** Textural properties

Samples	Surface areas (m <sup>2</sup> /g)	Pore volume (cm <sup>3</sup> /g)	Average pore size (nm)
YBaCo <sub>4</sub> O <sub>7</sub>	2.3	0.0056	11.6
YBa(Co <sub>0.85</sub> Al <sub>0.075</sub> Ga <sub>0.075</sub> ) <sub>4</sub> O <sub>7</sub>	4.1	0.0241	56.4

Figure S1





**Figure S1** XRD patterns (a and c) and enlarged XRD patterns (b and d) for YBaCo<sub>4</sub>O<sub>7+δ</sub> before and after H<sub>2</sub>-TPR finished at 350 and 700 °C (a and b) and for YBa(Co<sub>0.85</sub>Al<sub>0.075</sub>Ga<sub>0.075</sub>)<sub>4</sub>O<sub>7+δ</sub> (c and d) before and after H<sub>2</sub>-TPR finished at 700 °C.

Figure S2

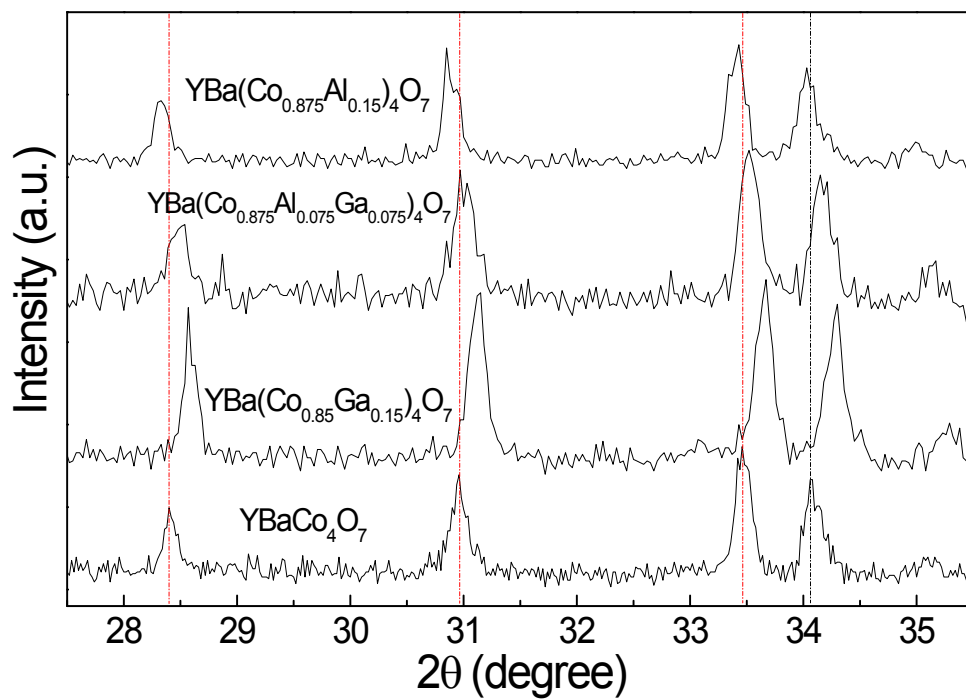
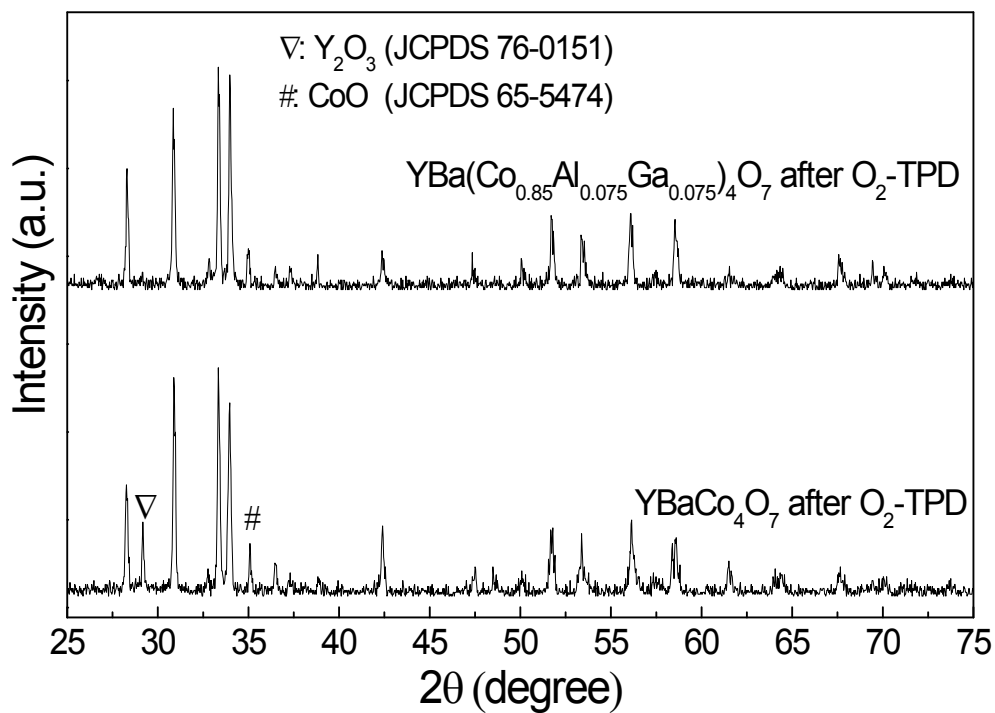


Figure S2 XRD patterns for  $\text{YBaCo}_4\text{O}_{7+\delta}$  before and after the substitution of Co by Al and/or Ga

**Figure S3**



**Figure S3** XRD patterns for  $\text{YBaCo}_4\text{O}_{7+\delta}$  and  $\text{YBa}(\text{Co}_{0.85}\text{Al}_{0.075}\text{Ga}_{0.075})_4\text{O}_{7+\delta}$  after  $\text{O}_2$ -TPD at about 900 °C

Figure S4

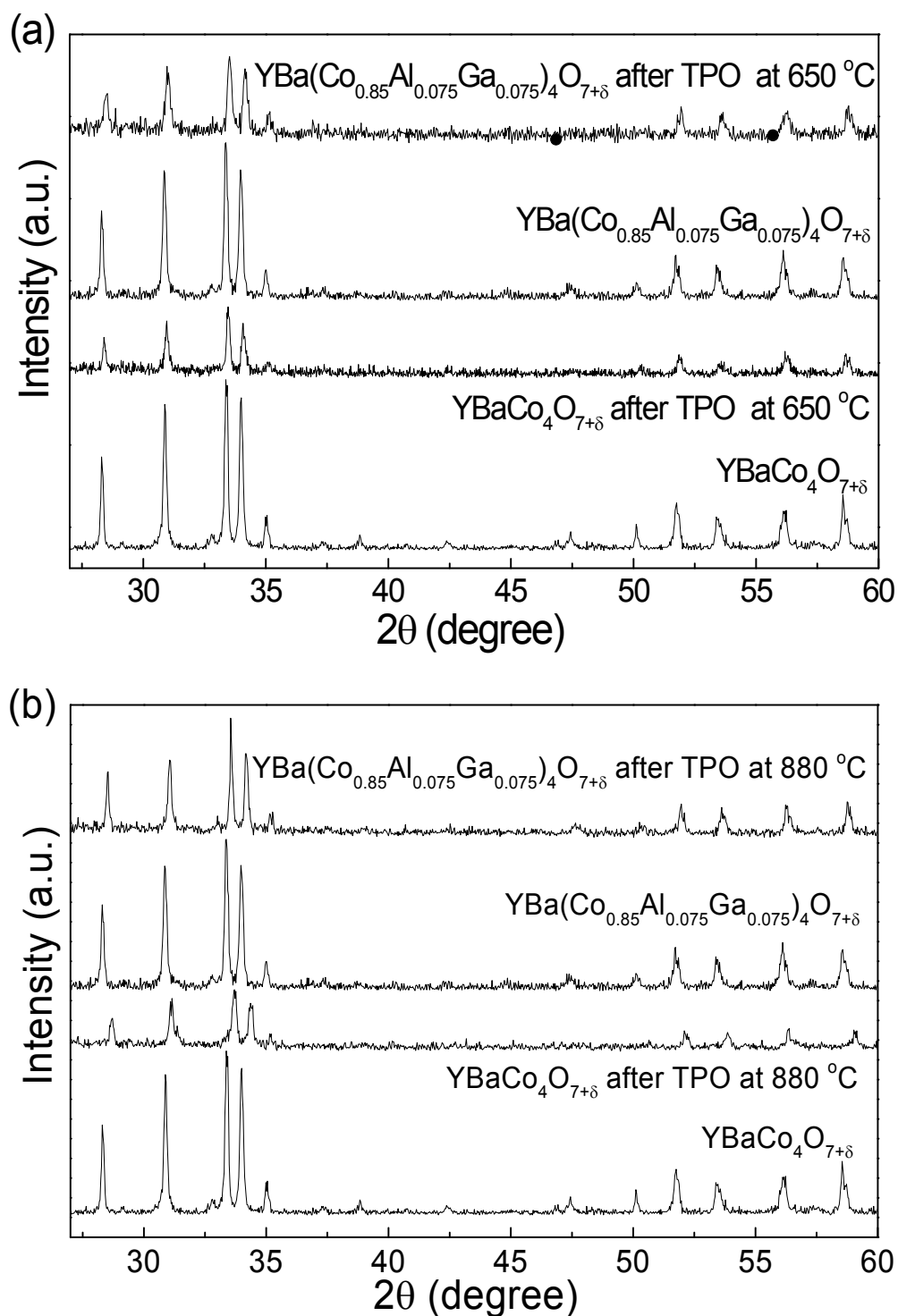


Figure S4 XRD patterns for  $\text{YBaCo}_4\text{O}_{7+\delta}$  and  $\text{YBa}(\text{Co}_{0.85}\text{Al}_{0.075}\text{Ga}_{0.075})_4\text{O}_{7+\delta}$  after TPO with  $\text{O}_2$  at about 650 °C (a) and 880 °C (b)