An oxygen pool from YBaCo\textsubscript{4}O\textsubscript{7}-based oxides for soot combustion

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7 pages (including this):

- Table S1
- Figure S1–S4.
Table S1 Textural properties

<table>
<thead>
<tr>
<th>Samples</th>
<th>Surface areas (m²/g)</th>
<th>Pore volume (cm³/g)</th>
<th>Average pore size (nm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>YBaCo₄O₇</td>
<td>2.3</td>
<td>0.0056</td>
<td>11.6</td>
</tr>
<tr>
<td>YBa(Co₀.₈₅Al₀.₀₇₅Ga₀.₀₇₅)₄O₇</td>
<td>4.1</td>
<td>0.0241</td>
<td>56.4</td>
</tr>
</tbody>
</table>
Figure S1

(a) 

Intensities of YBaCo$_4$O$_7$ after H$_2$-TPR at 700 °C and 350 °C.

(b) 

Intensities of Y$_2$O$_3$, YBaCo$_4$O$_{7+δ}$ after H$_2$-TPR at 700 °C and 350 °C.
Figure S1 XRD patterns (a and c) and enlarged XRD patterns (b and d) for YBaCo$_4$O$_{7+\delta}$ before and after H$_2$–TPR finished at 350 and 700 °C (a and b) and for YBa(Co$_{0.85}$Al$_{0.075}$Ga$_{0.075}$)$_4$O$_{7+\delta}$ (c and d) before and after H$_2$–TPR finished at 700 °C.
Figure S2 XRD patterns for YBaCo$_4$O$_{7+\delta}$ before and after the substitution of Co by Al and/or Ga.
Figure S3

XRD patterns for YBaCo$_4$O$_{7+\delta}$ and YBa(\(\text{Co}_{0.85}\text{Al}_{0.075}\text{Ga}_{0.075}\))$_4$O$_{7+\delta}$

after O$_2$–TPD at about 900 ºC
Figure S4 XRD patterns for YBaCo$_4$O$_{7+\delta}$ and YBa(Co$_{0.85}$Al$_{0.075}$Ga$_{0.075}$)$_4$O$_{7+\delta}$ after TPO with O$_2$ at about 650 °C (a) and 880 °C (b)