Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A. This journal is © The Royal Society of Chemistry 2020

Electronic supplementary information

2 Two-step pyrolytic engineering of carbon-doped Co₃O₄ with rich defects for

3 efficient low-temperature CO oxidation

- 4 Xi Chen, ab Juanjuan Li, ab Songcai Cai, ab Jing Chenbcd and Hongpeng Jia*ab
- 5 a CAS Center for Excellence in Regional Atmospheric Environment, and Key Laboratory of Urban
- 6 Pollutant Conversion, Institute of Urban Environment, Chinese Academy of Sciences, Xiamen,
- 7 361021, China
- 8 ^b University of Chinese Academy of Sciences, Beijing, 100049, China
- 9 ° Fujian Institute of Research on the Structure of Matter, Chinese Academy of Sciences, Fuzhou,
- 10 Fujian 350002, China
- 11 ^dXiamen Institute of Rare-earth Materials, Haixi Institutes, Chinese Academy of Sciences, Xiamen,
- 12 Fujian 361021, China
- 13 * Corresponding author
- 14 E-mail address: <u>hpjia@iue.ac.cn</u> (H. Jia)
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22





2 Fig. S3 TEM images and grain size distributions of Co₃O₄-MOF (a), Co₃O₄-200 (b), Co₃O₄-300 (c)
3 and Co₃O₄-400 (d). The size distribution was obtained by counting at least 50 particles from the
4 TEM images.



8 Fig. S5 Durability of Co₃O₄/C-300 catalyst for CO oxidation under dry gas conditions for 50 cycles

9 (1 vol.% CO, 4 vol.% O₂, and 95 vol.% He, GHSV = $40000 \text{ mL/g} \cdot \text{h}$).







- -





Fig. S7 EDS analysis of the fresh (a) and used (b) Co₃O₄/C-300 sample.