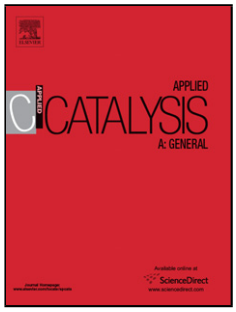

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Fabrication of mesoporous Co_3O_4 oxides by acid treatment and their catalytic performances for toluene oxidation

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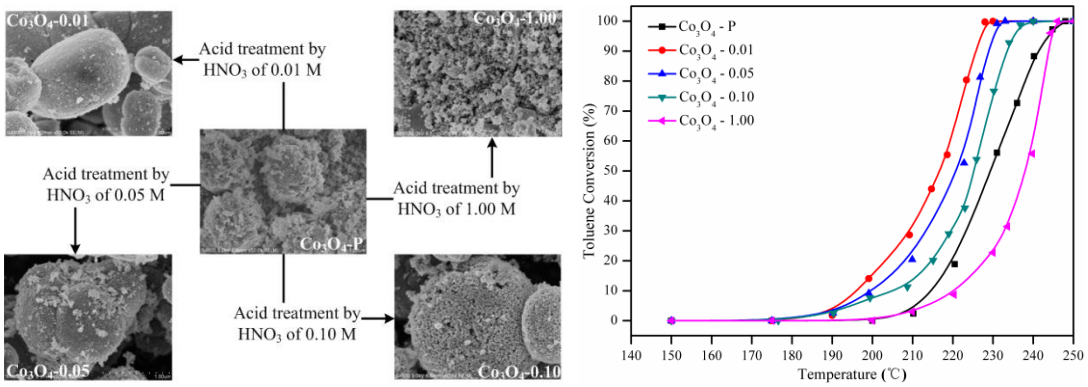
Graphical Abstract



Highlights

• Mesoporous Co_3O_4 were prepared by precipitation with subsequent acid treatment.

• The diluted acid treatment significantly enhanced the catalytic activity of Co_3O_4.

• The specific surface area plays a vital role in the reaction.

• Surface acidity, Co^{2+}/Co^{3+} and O_{ads} species were also key parameters in the reaction.