

Supporting Information

Magnetic Co-based carbon materials derived from core-shell metal-organic frameworks for organic contaminants elimination

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Table S1 Removal rate of different dyes in the NC@Co-GC/PMS system in 14 min under the same condition.

Dyes	Removal rate
Acid Red 1	99.5%
Acid Orange 7	99.1%
Methyl Orange	99.7%
Methylene Blue	91.1%
Reactive Red	98.9%
Reactive Blue	97.9%

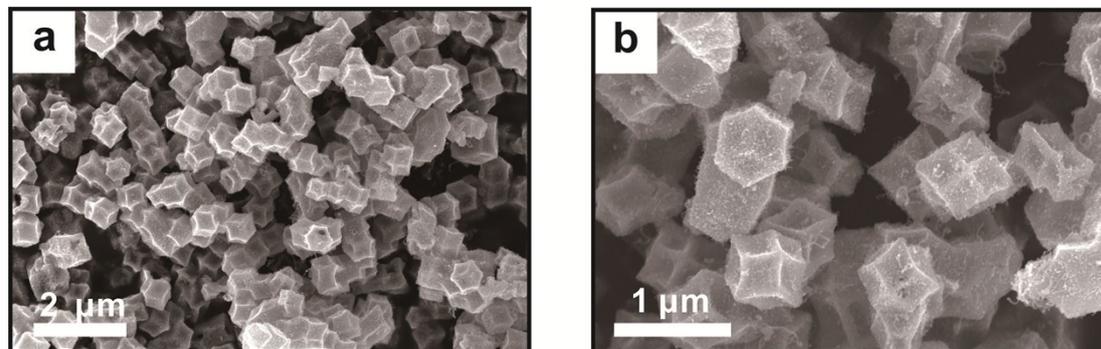


Fig S1. SEM images of the NC@Co-GC.

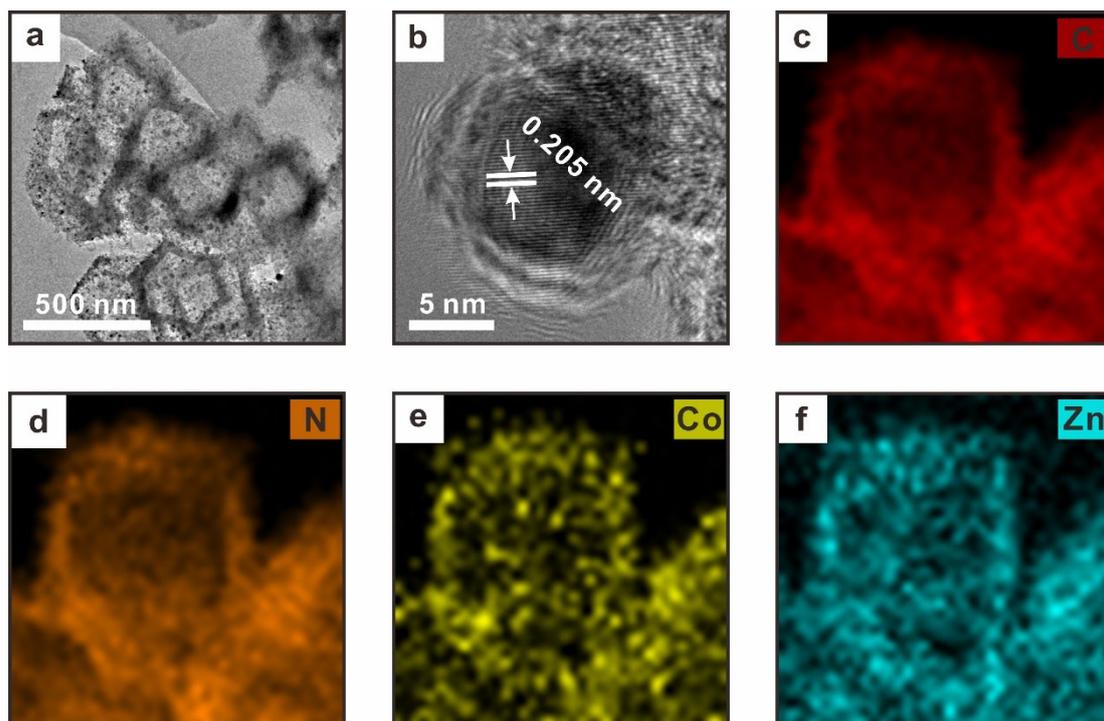


Fig S2. (a) TEM images (b) HRTEM images and (c-f) elemental mappings of the NC@Co-GC.

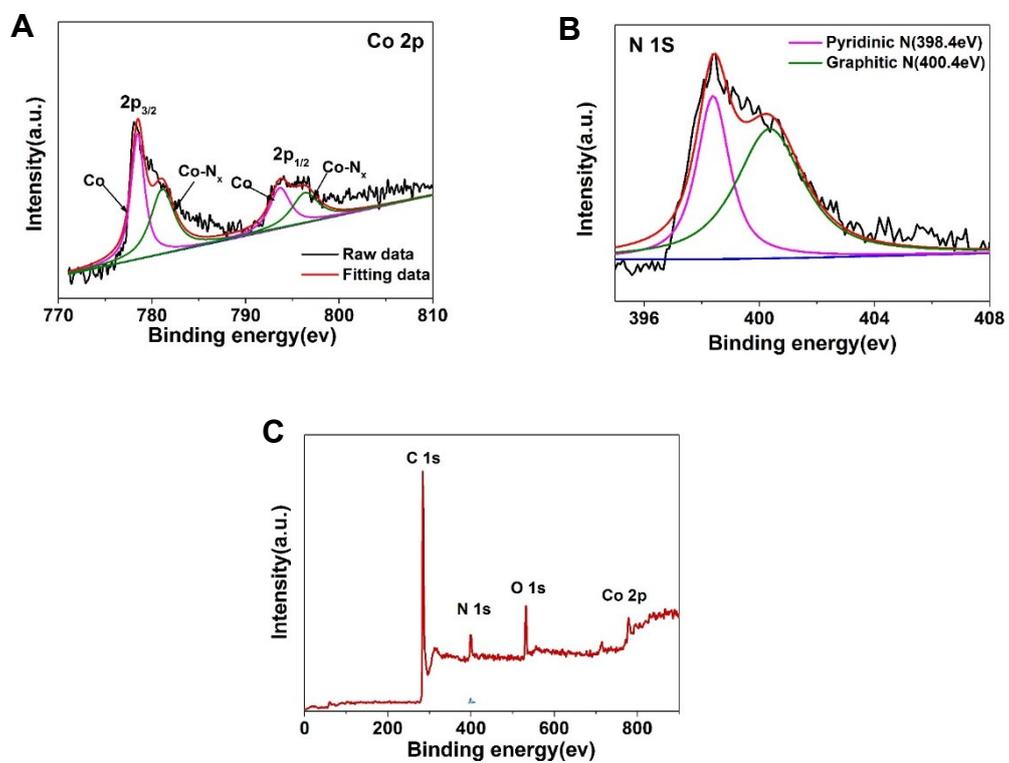


Fig S3. XPS spectra of (A) Co 2p (B) N 1s (C) element composition of NC@Co-GC.

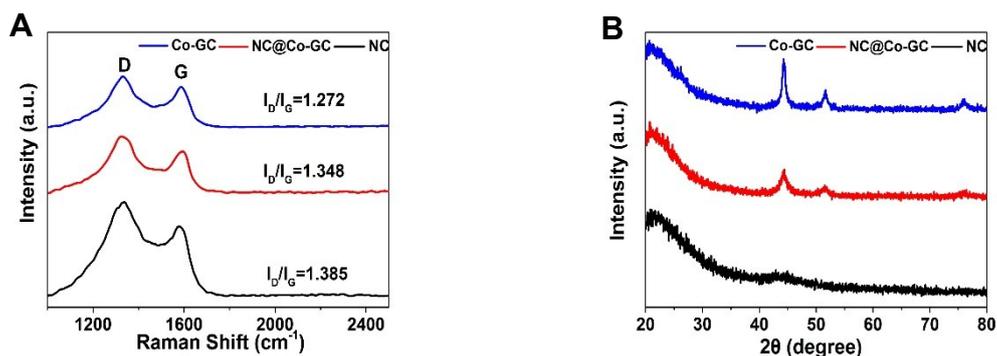


Fig S4. (A) Raman spectra and (B) X-ray diffraction patterns of different NPCs. (A colour version of this figure can be viewed online).

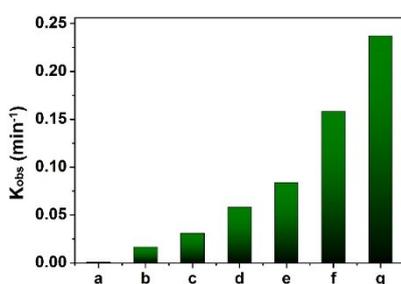


Fig S5. Rate constant of 3BF removal in different oxidation systems: (a) PMS; (b) NC@Co-GC; (c) Co_3O_4 /PMS (d) Co^{2+} /PMS; (e) NC/PMS; (f) GC/PMS; (g) NC@Co-GC/PMS. Reaction conditions: $[\text{3BF}] = 50\mu\text{M}$, $[\text{PMS}] = 0.5\text{ mM}$, $[\text{NC@Co-GC}] = 0.15\text{ g/L}$, $[\text{Co}^{2+}] = 0.23\text{ ppm}$, $[\text{NC}] = 0.15\text{ g/L}$ $[\text{Co-GC}] = 0.15\text{ g/L}$, $T = 25\text{ }^\circ\text{C}$, initial pH 10.0.

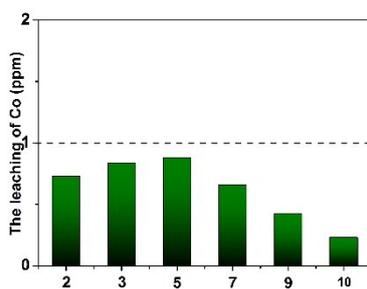


Fig S6. Leaching content in the NC@Co-GC/PMS under different pH. Reaction conditions: $[\text{3BF}] = 50\mu\text{M}$, $[\text{PMS}] = 0.5\text{ mM}$, $[\text{NC@Co-GC}] = 0.15\text{ g/L}$, $T = 25\text{ }^\circ\text{C}$.

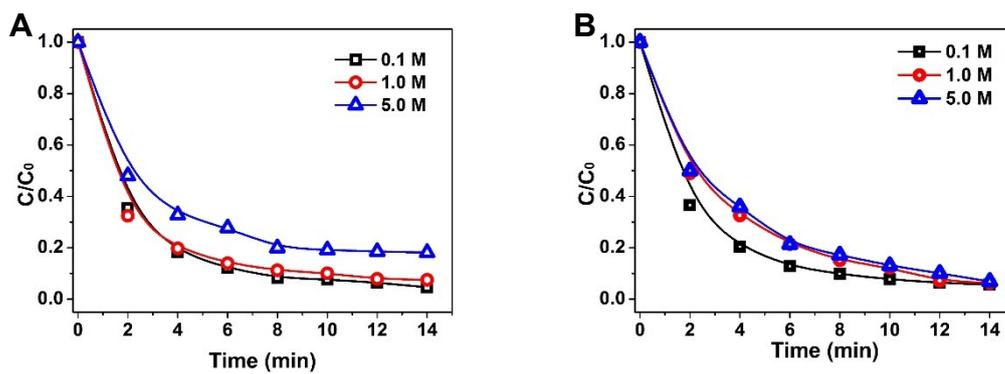


Fig S7. Effects of (A) ethyl alcohol (EA) and (B) tert-butyl alcoholon (TBA) in the removal of 3BF in the NC@Co-GC/PMS system. Reaction conditions: [3BF] = 50 μ M, [PMS] = 0.5 mM, [NC@Co-GC] = 0.15 g/L, T = 25 $^{\circ}$ C, initial pH 10.0.