## Supplementary Information

## One-pot synthesis of g-C $\mathbf{C}_{3} \mathbf{N}_{4}$-doped rich-amine porous organic polymer for chlorophenol removal

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Fig. S1 Effect of adsorbent dosage on equilibrium adsorption amount $q_{\mathrm{e}}$ and removal rate (inset) (solutions: $20 \mathrm{mg} \cdot \mathrm{L}^{-1} 40 \mathrm{~mL}, \mathrm{pH}=7$, time: 2 minutes, temperature: 298 K ).


Fig. S2 Nonlinear fittings of pseudo-first-order and pseudo-second-order models on the adsorption of 2,4-DCP by RAPOP and $g-\mathrm{C}_{3} \mathrm{~N}_{4} /$ RAPOP.


Fig. S3 Linear fittings of Langmuir and Freundlich (inset) models on the adsorption of 2,4-DCP by RAPOP and g-C $\mathrm{C}_{4}$ /RAPOP with MA/TA (4/4) (a), MA/TA/g-C $\mathrm{C}_{3} \mathrm{~N}_{4}$ (4/4/1) (b), MA/TA/g-C $\mathrm{C}_{4}(4 / 4 / 2)$ (c) and MA/TA/g-C $\mathrm{C}_{4}(4 / 4 / 4)$ (d).


Fig. S4 (A) FT-IR spectrums of regenerated RAPOP and g-C $\mathrm{C}_{3} \mathrm{~N}_{4} /$ RAPOP with MA/TA (4/4) (a), MA/TA/g-C ${ }_{3} \mathrm{~N}_{4}(4 / 4 / 1)$ (b), MA/TA/g-C $\mathrm{C}_{4}(4 / 4 / 2)$ (c) and MA/TA/g-C ${ }_{3} \mathrm{~N}_{4}(4 / 4 / 4)$ (d) after five adsorption-desorption cycles.


Fig. S5 (A) TEM images of regenerated RAPOP and g-C ${ }_{3} \mathrm{~N}_{4} /$ RAPOP with MA/TA (4/4) (a), MA/TA/g-C $\mathrm{N}_{3}(4 / 4 / 1)$ (b), MA/TA/g-C3 $\mathrm{N}_{4}(4 / 4 / 2)$ (c) and MA/TA/g-C $\mathrm{C}_{3} \mathrm{~N}_{4}$ (4/4/4) (d) after five adsorption-desorption cycles.


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