

Supporting Information for

Ionic and Non-ionic Organic Porous Adsorbents for the Removal of Chloramphenicol and Ciprofloxacin from Water

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Supporting Information

SI-01	Synthesis of RIOs
SI-02	Characterization of RIOs
SI-03	Calibration curves for CIP and CLO (milli-Q)
SI-04	UV-vis for Milli-Q solutions
SI-05	Calibration curves for CIP and CLO (real water sample)
SI-06	UV-vis for real water sample
SI-07	Summarized table with the obtained parameters (Freundlich and Langmuir)

SI-01. Synthesis of RIOs

- RIO-12 and RIO-13:** A high-pressure vessel (o.d. x i.d. = 2.5 x 1.6 cm² and length 10 cm, ChemGlass, mod. CG-1880-04) was charged with triformylresorcinol for make RIO-12 or triformylphloroglucinol for RIO-13 (1 equiv., 2 mmols). After that, 13.6 mL of anhydrous dioxane, 1.2 mL of mesitylene and hydrazine hydrate 60% (1.5 equiv., 3 mmols) were added into the tube, followed by addition of 4.6 mL of aqueous 6M acetic acid. The tube was closed with its teflon cork and heated at 120°C for 72 h, yielding a solid at the bottom of the tube which was isolated by filtration and washed with ethanol. After washing, the material was left in supercritical CO₂ drying (scCO₂).
- RIO-24:** A high-pressure vessel (o.d. x i.d. = 2.5 x 1.6 cm² and length 10 cm, ChemGlass, mod. CG-1880-04) was charged with melamine (110 mg; 0.87 mmol) and triformylphloroglucinol (250 mg; 1.2 mmol). Then, 10 mL of DMSO was added. When the acetic acid 6 M (2 mL) was added, Then, the solvothermic reaction remained under stirring and heating (180°C) for 72h. After this, the reactional medium was filtered and washed with THF and ethanol. A purple powder was obtained, which was dried under vacuum.
- RIO-55:** A high-pressure vessel (o.d. x i.d. = 2.5 x 1.6 cm² and length 10 cm, ChemGlass, mod. CG-1880-04) was charged with the dye Bismarck brown Y (G) (198 mg; 0.47 mmol) and the triformylphloroglucinol (150 mg; 0.71 mmol) previously macerated. Then, 10 mL of 1,4-dioxane was added. In this moment, the color was brown. When the acetic acid 6 M (3 mL) was added, the medium became a clay color. Then, the

solvothermal reaction remained under stirring and heating (120°C) for 72h. After this, the system was withdrawn from the heating bath and allowed to cool to an enough temperature to remove the PTFE bushing. **Post synthesis steps:** i) The reactional medium was filtered and washed with THF. A reddish powder was obtained. It was collected and extracted with Soxhlet (methanol and THF) until the color from the dye disappears. The powder was dried under vacuum; ii) The reactional medium was filtered and washed with ethanol (~20 mL). Next, it was washed with ethanol (Soxhlet) for 24h. After washing, the material was left in supercritical CO₂ drying (scCO₂).

- d) **RIO-70:** A high-pressure vessel (o.d. x i.d. = 2.5 x 1.6 cm² and length 10 cm, 32 mL, ChemGlass, mod. CG-1880-04) was charged with the dye pararosaniline hydrochloride (ROSA) (290 mg, 0.9 mmol) and the triformylphloroglucinol (TFPG) (190 mg, 0.9 mmol). Then, 10 mL of 1,4-dioxane was added. In this moment, the color was a dark pink. When the acetic acid 6 M (3 mL) was added, the medium became intense pink. Then, the solvothermal reaction remained under stirring and heating (120°C) for 72h. After this, the system was withdrawn and allowed to cool to an enough temperature to remove the PTFE bushing. **Post synthesis steps:** The reactional medium was filtered and washed with EtOH (~40 mL). A dark powder was obtained. It was collected and extracted with Soxhlet (EtOH) until the color from the dye disappears (~24h). After washing, the material was left in supercritical CO₂ drying (scCO₂).

SI-02. Characterization of RIOs

- a) **RIO-12:**

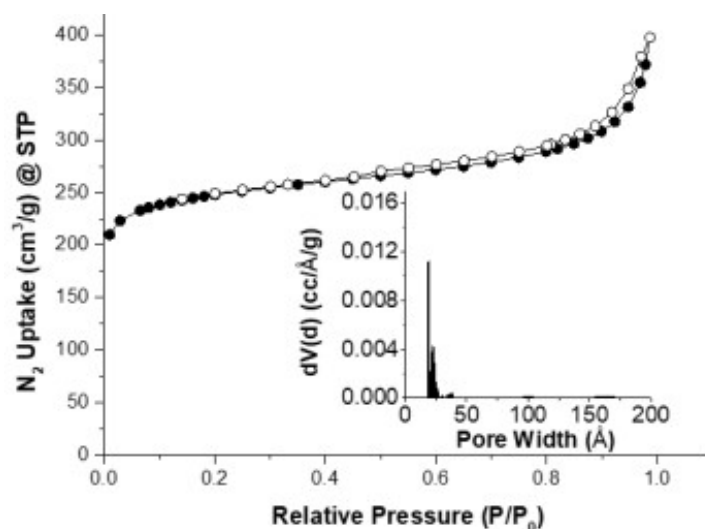


Figure S01. N₂ adsorption/desorption isotherm for RIO-12 and the pore size distribution (*inset*).

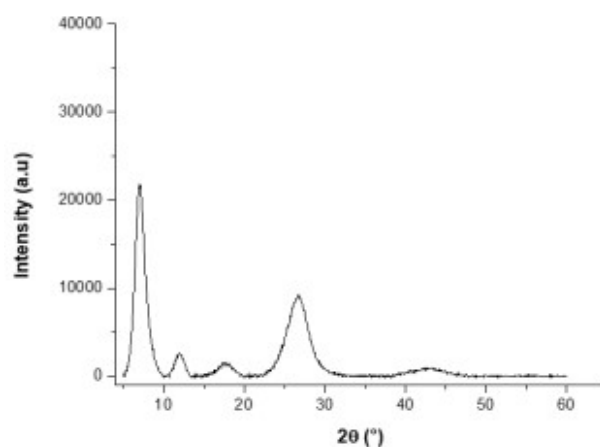


Figure S02. PXRD for RIO-12.

b) **RIO-13:**

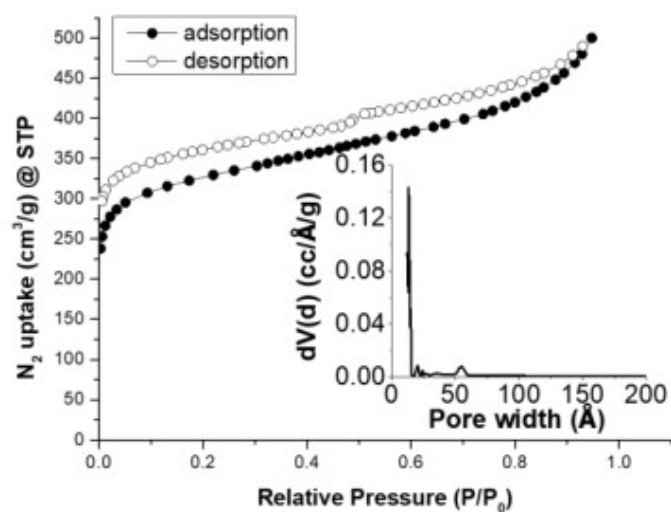


Figure S03. N₂ adsorption/desorption isotherm for RIO-13 and the pore size distribution (*inset*).

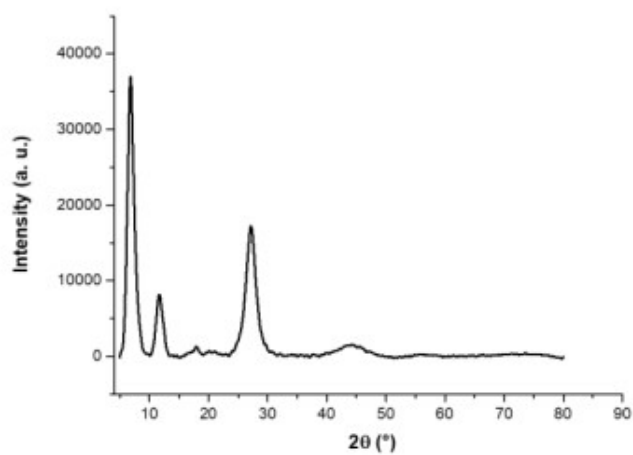


Figure S04. PXRD for RIO-13.

c) **RIO-24:**

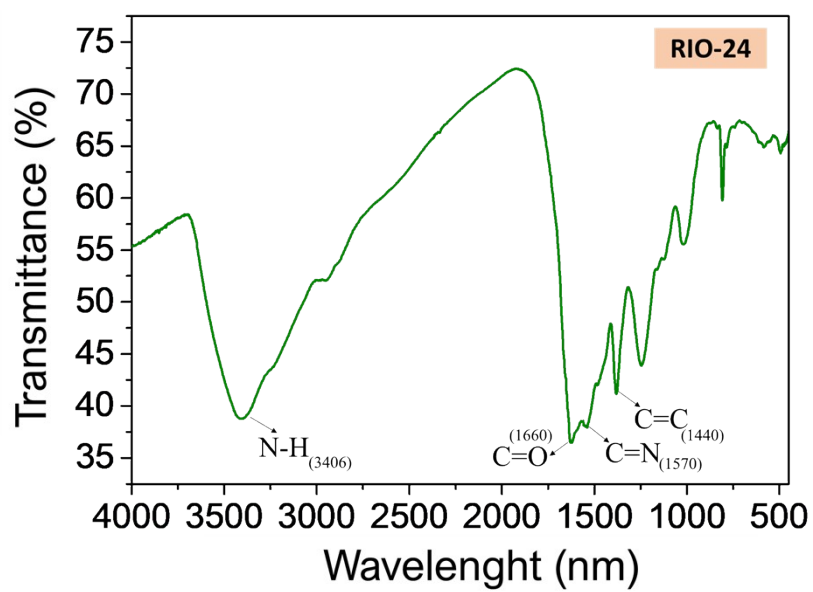


Figure S05. FTIR for RIO-24.

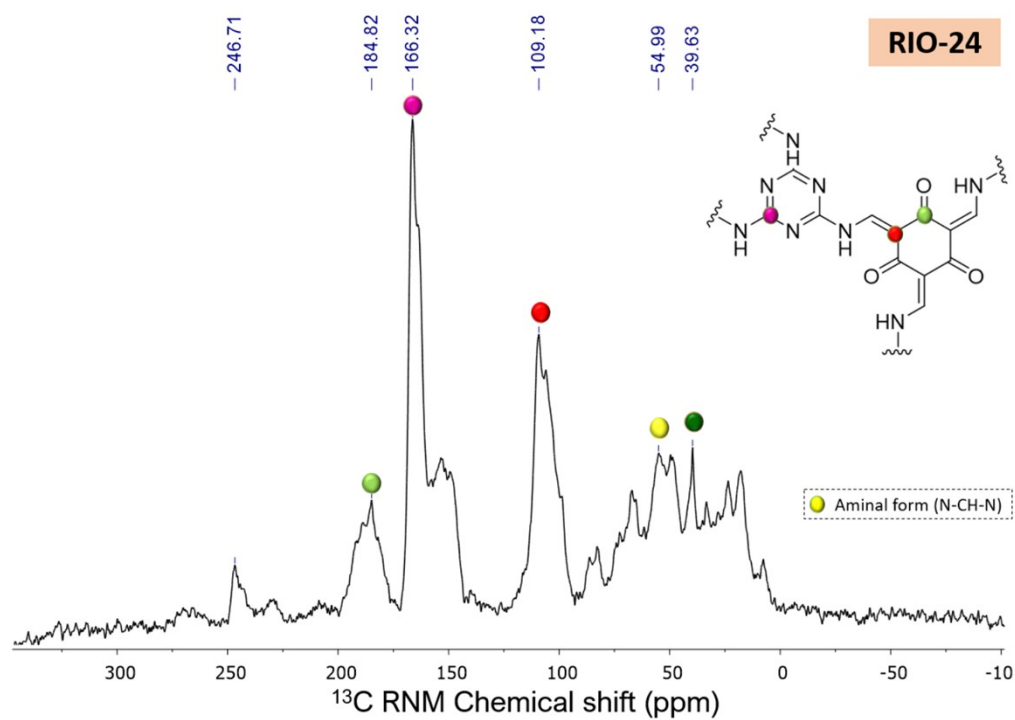


Figure S06. ^{13}C NMR (CP-MAS) solid-state for RIO-24.

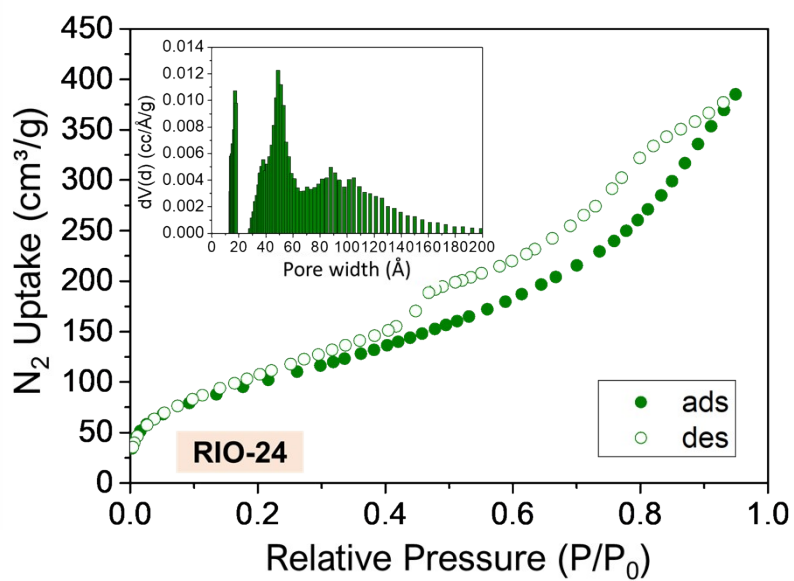


Figure S07. N_2 adsorption/desorption isotherm for RIO-24 and the pore size distribution (*inset*).

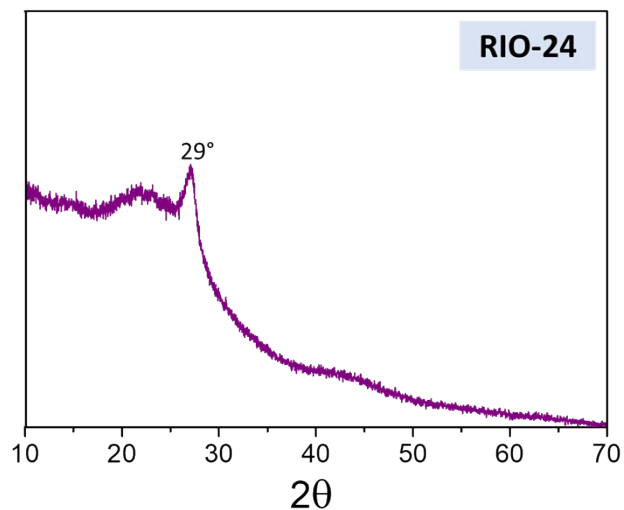


Figure S08. PXRD for RIO-24.

d) **RIO-55:**

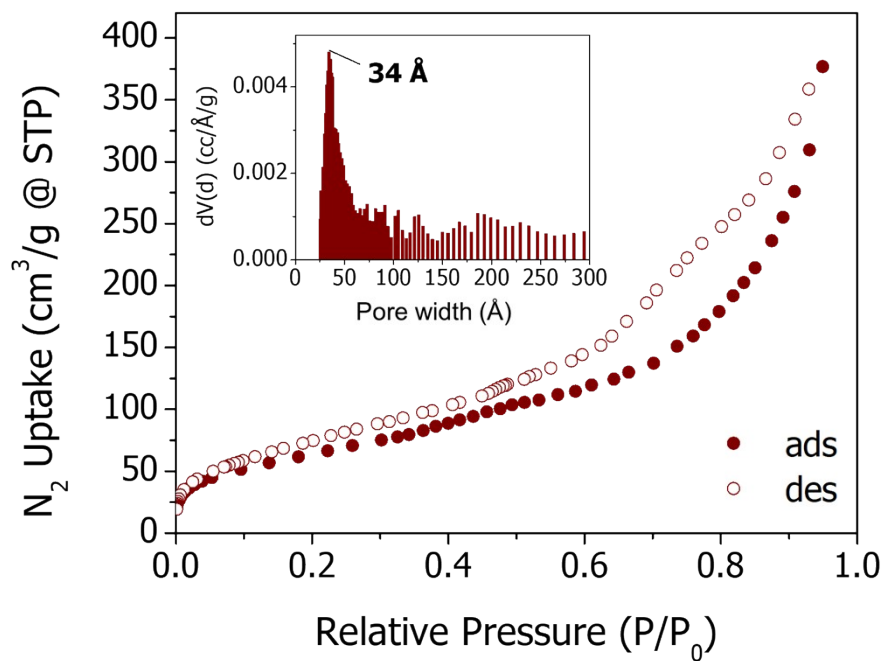


Figure S09. N_2 adsorption/desorption isotherm for RIO-55 and the pore size distribution (*inset*).

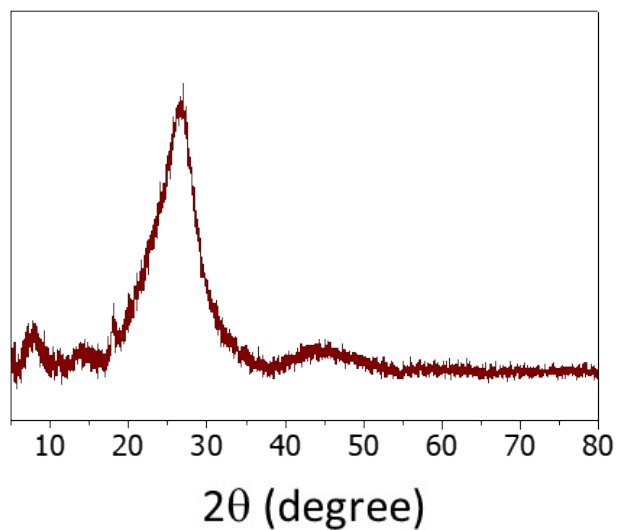


Figure S10. PXRD for RIO-55.

e) RIO-70:

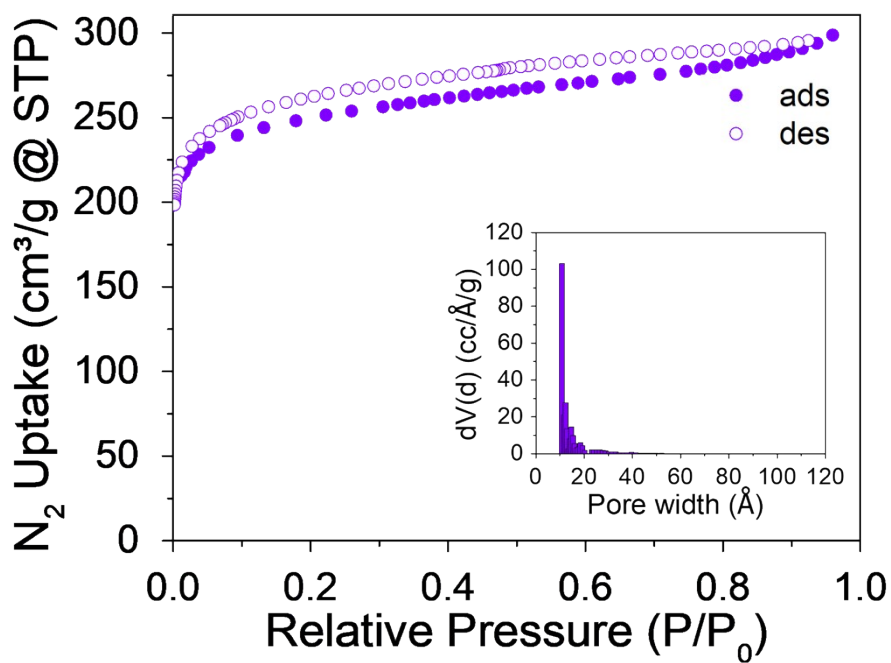


Figure S11. N_2 adsorption/desorption isotherm for RIO-55 and the pore size distribution (*inset*).

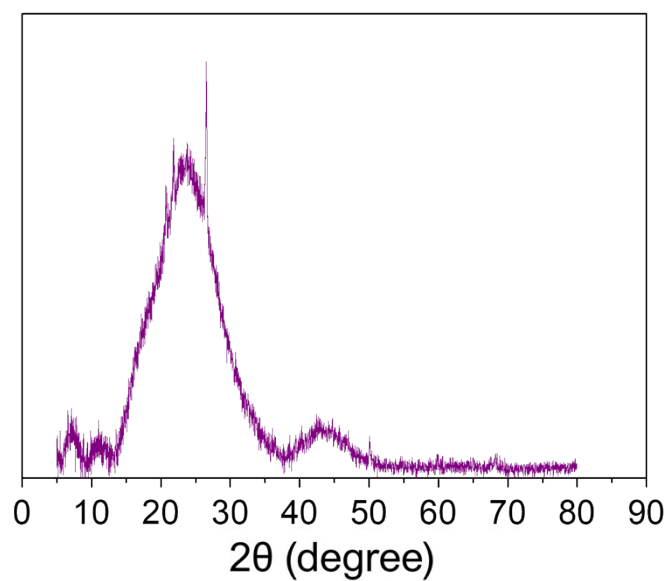


Figure S12. PXRD for RIO-70.

SI-03. Calibration curves for CIP and CLO (milli-Q)

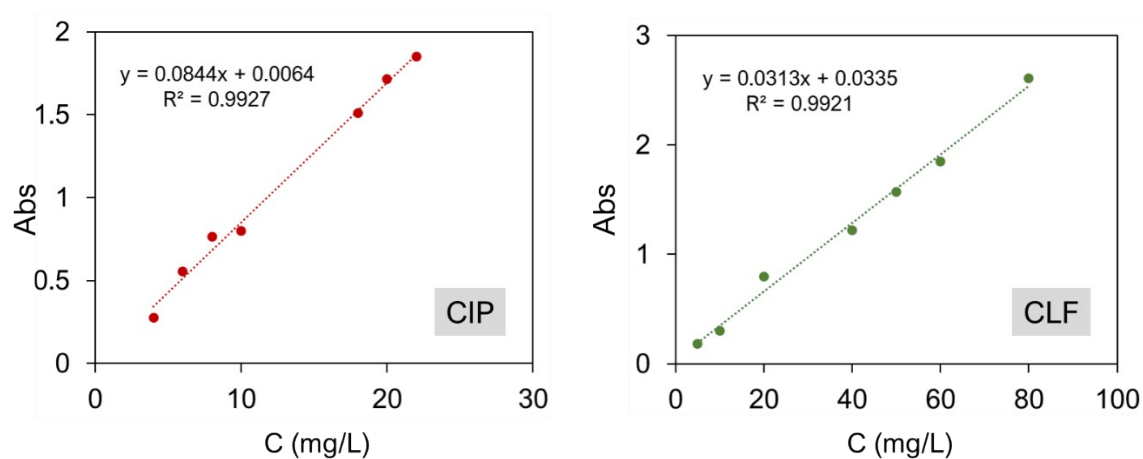


Figure S13. Calibration curves for CIP and CLO in Milli-Q water.

SI-04. UV-vis for Milli-Q solutions

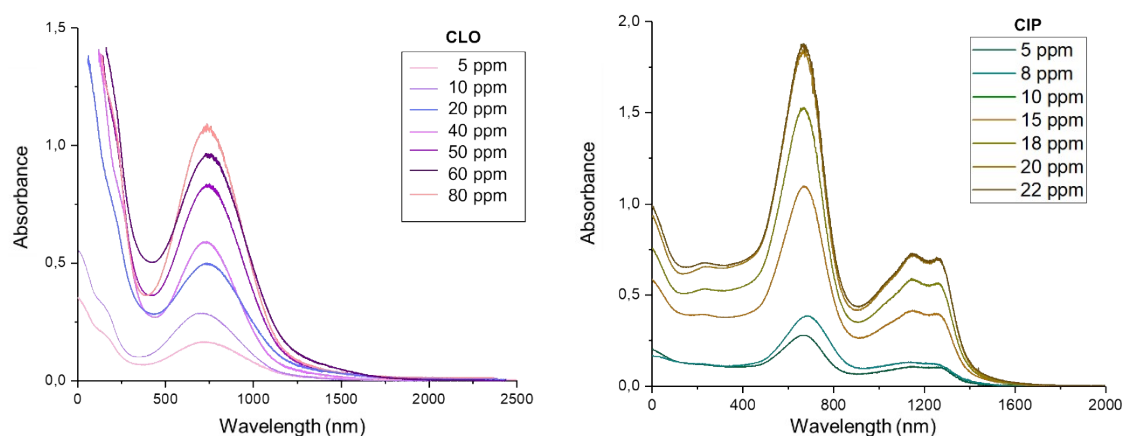


Figure S14. UV-vis curves obtained for CLO and CIP.

SI-05. Calibration curves for CIP and CLO (real water sample)

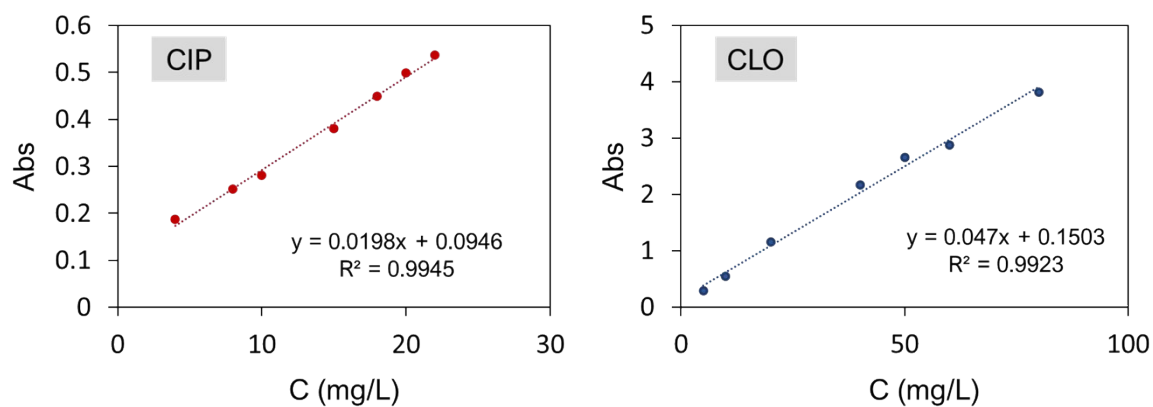


Figure S15. Calibration curves for CIP and CLO in real water sample.

SI-06. UV-vis for real water sample

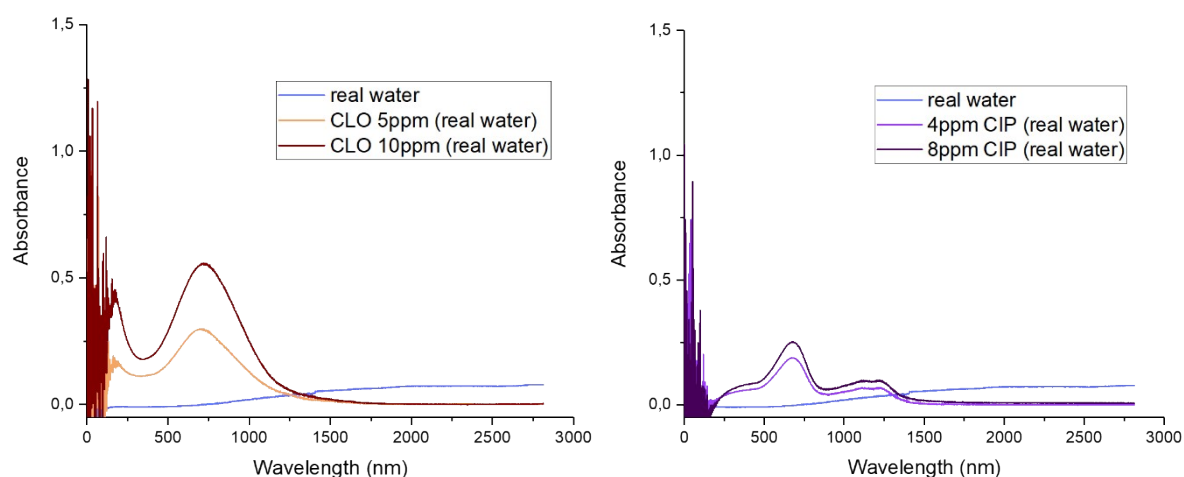


Figure S16. UV-vis curves for the real sample (blank) and the real sample containing CIP and CLO.

SI-07. Summarized table with the parameters obtained for different models of solid-liquid adsorption.

Adsorption curves in different parameters						
	Langmuir model		Freundlich model			
	R ² (CIP)	R ² (CLO)	R ² (CIP)	R ² (CLO)	n (CIP)	n (CLO)
RIO-13	0.9934	0.9712	0.8542	0.8561	1.04	1.72
RIO-24	0.9533	0.9531	0.7342	0.9562	1.78	2
RIO-55	0.9554	0.9432	0.8430	0.9950	2.4	1.05
RIO-70	0.9771	0.9851	0.9705	0.9513	2.17	1.42

Pollutants adsorption steps

