

Supporting Information

Efficient Alkaloids Capture from Water Using Charged Porous Organic Polymer

Qing-Mei Zhang^a, Zhen Wang^a, Guang Cheng^b, Hui Ma^a, Qing-Pu Zhang^a, Yu-Hang Zhao^a, Fu-Xian Wan^d, Jun-Min Liu^{*c}, Bien Tan^{*b} and Chun Zhang^{*a}

^a College of Life Science and Technology National Engineering Research Center for Nanomedicine, Huazhong University of Science and Technology Wuhan 430074, China.

*Email: chunzhang@hust.edu.cn

^b School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology Wuhan 430074, China

^c School of Materials Science and Engineering Sun Yat-sen University Guangzhou, 510275, China.

^d College of Chemistry and Material Science, Shandong Agricultural University, Taian 271018, China.

Table of Contents

FT-IR spectrum and XRD spectrum of TPB-HCP-----	S2
TGA spectrum of TPB-HCP and Molecular sizes of BH-----	S3
UV-vis adsorption and the Langmuir model of CV, CR and MB-----	S4
The Langmuir model of BH on activated carbon and adsorption of BH on TPB-HCP in different PH values-----	S5
The adsorption of BH on TPB-HCP in NaCl solutions and Table S1----	S6

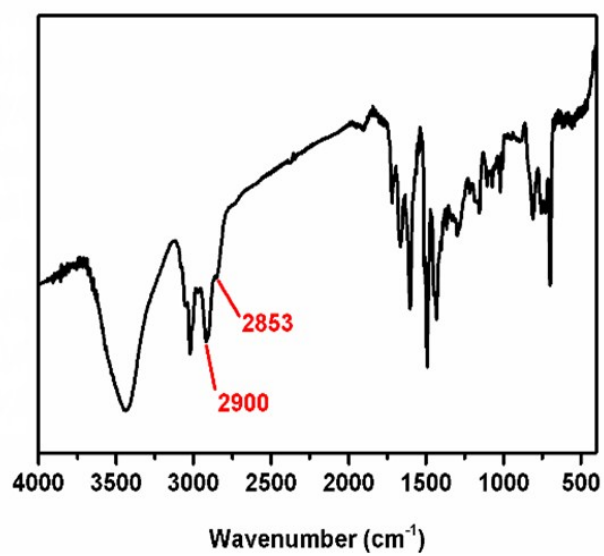


Figure S1. FT-IR spectrum of TPB-HCP.

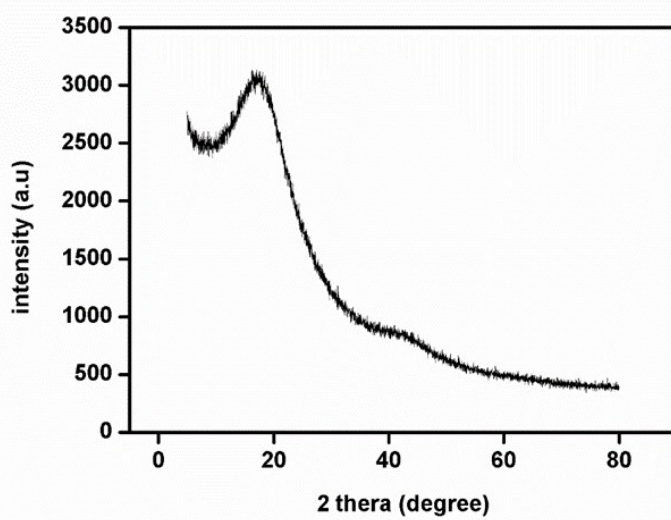


Figure S2. XRD spectrum of TPB-HCP.

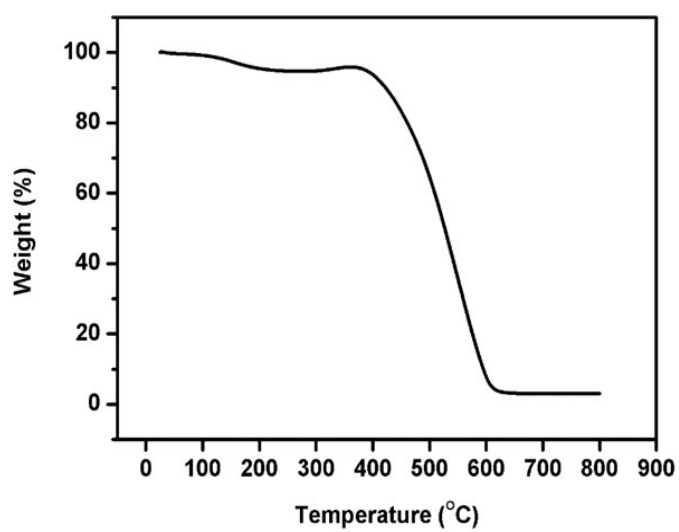


Figure S3. TGA spectrum of TPB-HCP.

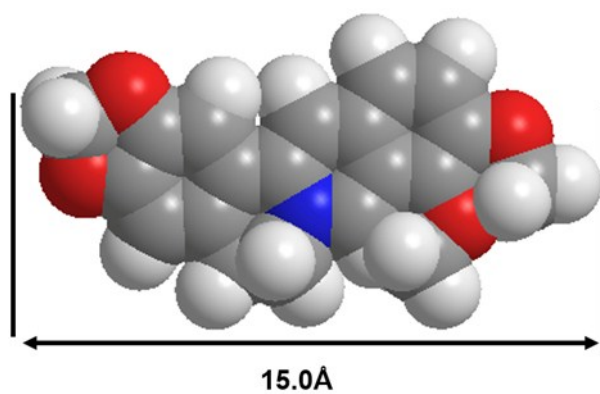


Figure S4. Molecular sizes of berberine hydrochloride optimized by MM2.

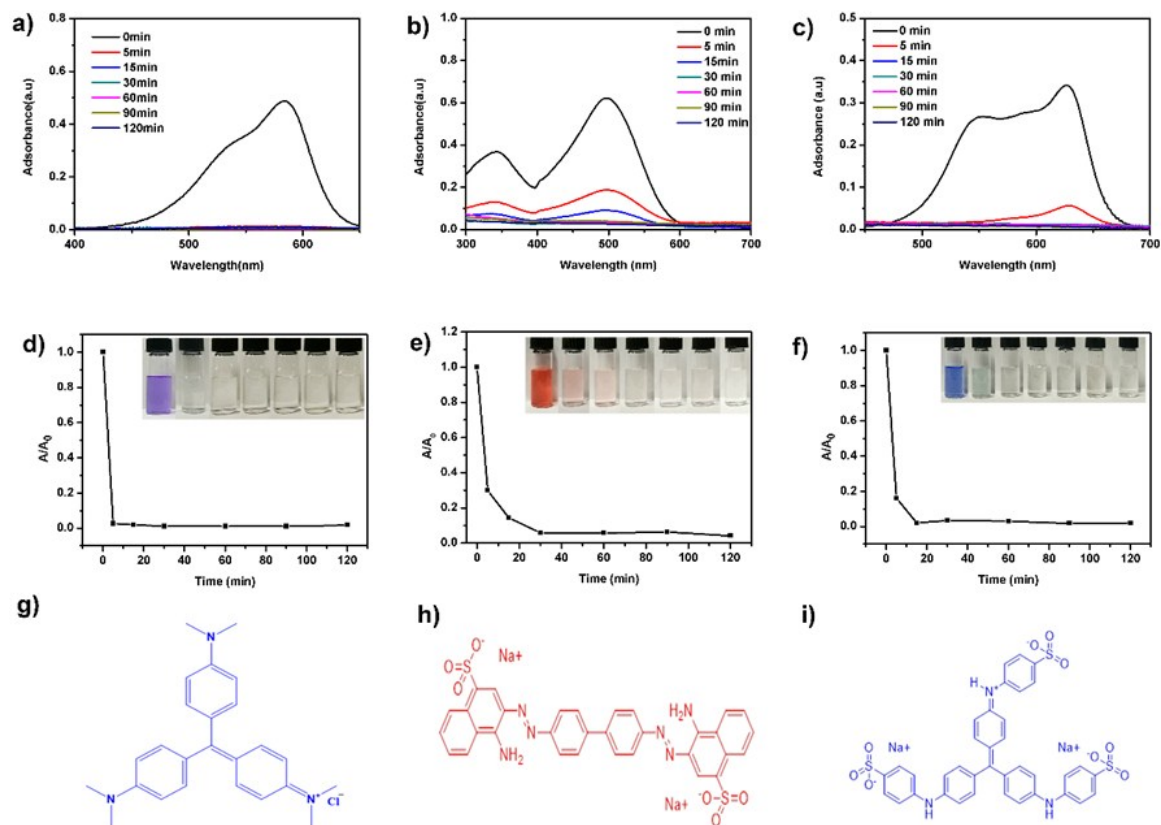


Figure S5. UV-vis adsorption spectra of the aqueous solutions of CV, CR and MB in the presence of TPB-HCP at different intervals (a, b, c), TPB-HCP:10 mg. Adsorption rates of CV, CR and MB respectively, the initial concentrations of CV, CR, MB solutions are 10 mg L^{-1} , 50 mg L^{-1} , 10 mg L^{-1} , The insets show the corresponding photographs (d, e, f). Structures of CV, CR and MB (g, h, i).

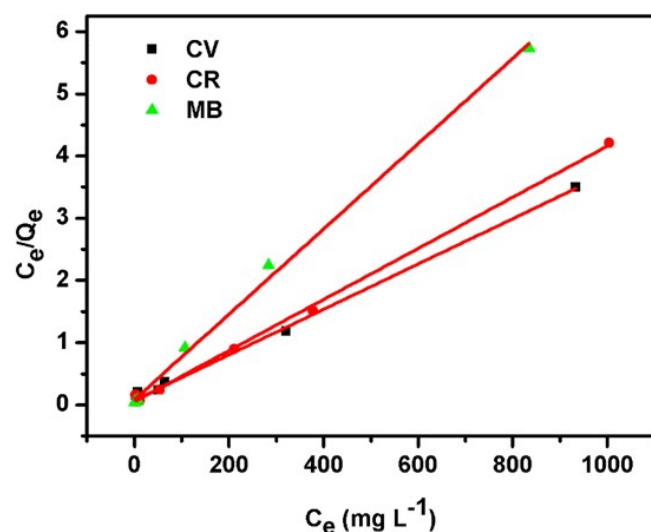


Figure S6. The Langmuir isotherm model of three dyes, CV, CR and MB.

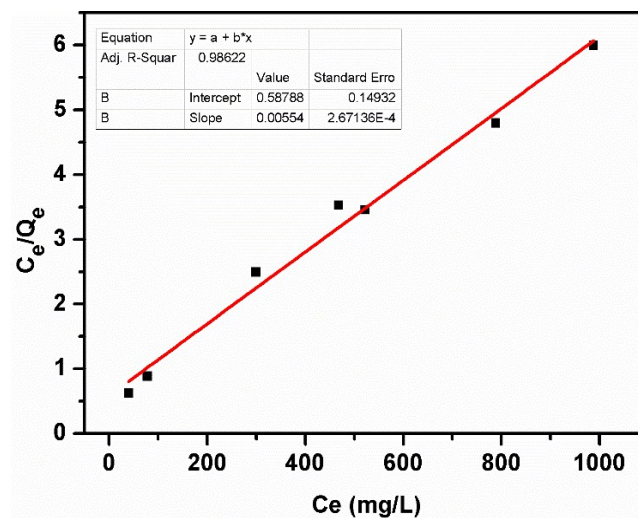


Figure S7. The Langmuir isotherm model of BH on activated carbon.

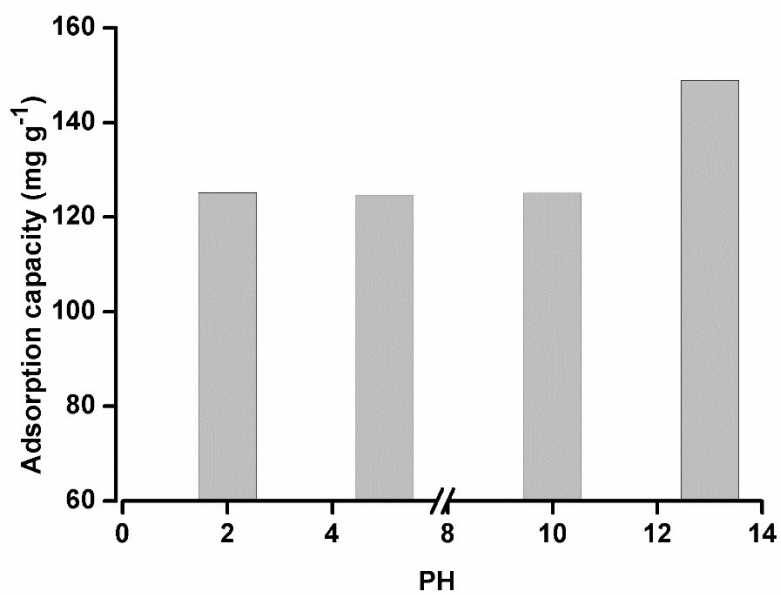


Figure S8. The adsorption capacities of BH on TPB-HCP in different PH.

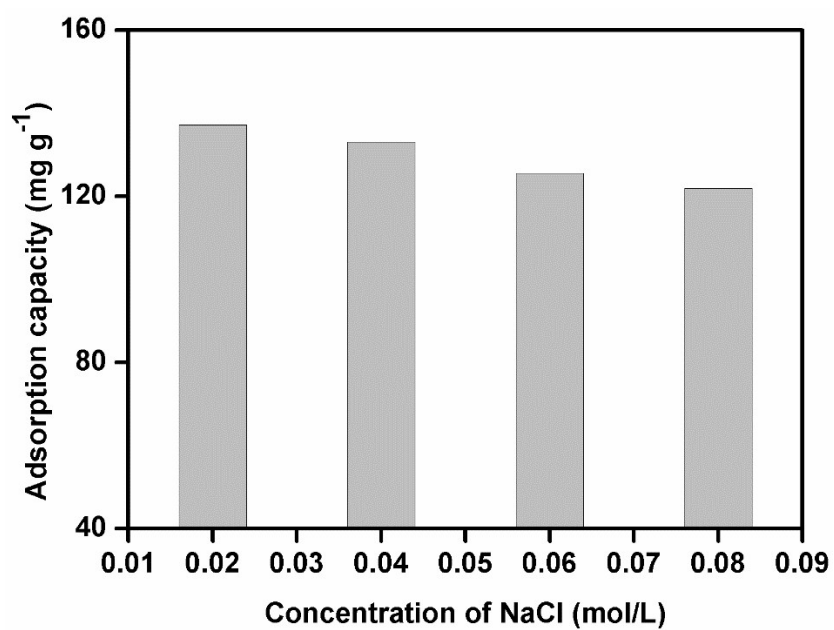


Figure S9. The adsorption capacities of BH on TPB-HCP in different concentrations of NaCl.

Table S1. Adsorption Isotherm Parameters of Langmuir Model.

Langmuir			
	Q_m (mg g ⁻¹)	K_L	R_L^2
Berberine hydrochloride	184.843	0.024	0.983
CV	273.973	0.048	0.997
CR	243.309	0.082	0.998
MB	145.773	0.082	0.997