

Supporting information

Synthesis of activated carbons and nanoparticles loaded on activated carbons from bio-wastes for removal of ibuprofen drug in water

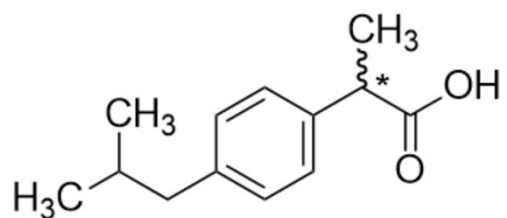
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(*R,S*)-ibuprofen

* Asymmetric (chiral) carbon

Fig. S1. Chemical structure of ibuprofen. Created with ChemDraw.

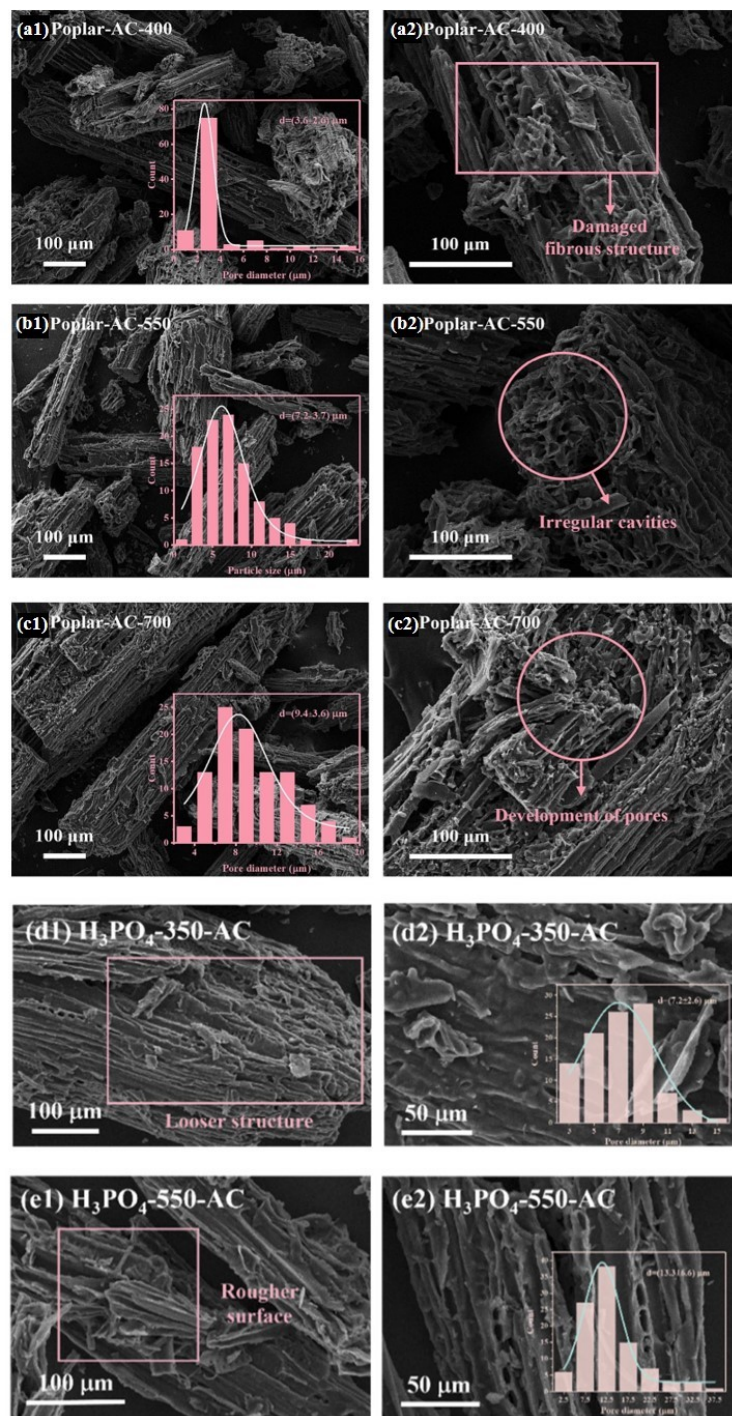


Fig. S2. (a-c) The SEM images of Poplar-derived activated carbon at 400, 550, and 700 °C (activated by H_3PO_4). (d-e) The SEM images of willow wood-derived activated carbon at 350 and 550 °C (activated by H_3PO_4). Reprinted from references (1) and (2) with permission from Elsevier.

Table S1. Some physicochemical properties of ibuprofen. Source: Drugbank, ID: DB01050.

Property	Value/Description
IUPAC name	<i>R,S</i> -2-(4-(2-methylpropyl)phenyl)propanoic acid
Molecular formula	C ₁₃ H ₁₈ O ₂
Molecular weight	206.29 g/mol
pK _a	4.1–4.5
logP (octanol-water)	3.97
Melting point	75–78 °C
Aqueous solubility	Low (21 mg/L at 25 °C)

References

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- 3 B. Li, C. Li, D. Li, L. Zhang, S. Zhang, Z. Cui, D. Wang, Y. Tang and X. Hu, *Fuel Process. Technol.*, 2023, **252**, 107987.