

Table S1. Comparison of various modified biochar materials for remediation of organic pollutants.

Biochar (Biomass)	Biochar modification	Biochar preparation condition	pollutant	Adsorption efficiency (mg·g ⁻¹)	References
GO-BC (Bamboo sawdust)		Pyrolysis at 600 °C	Sulfamethazine	23.42	S1 [1]
CRB (Crab shell)	Calcium-rich biomass	Pyrolysis at 800 °C	Chlortetracycline hydrochloride	70	S2 [2]
MRBC (Reed)	Magnetization	Pyrolysis at 600 °C	Florfenicol	9.29	S3 [3]
AMB (Corn stalks, reed stalks and willow branches)	ZnCl ₂ and FeCl ₃	Pyrolysis at 500 °C	Norfloxacin	7.6249	S4 [4]
APB (Potato stem and natural attapulgite)	—	Pyrolysis at 500 °C	Norfloxacin	5.24	S5 [5]
GAB (Algal)	H ₃ PO ₄	Pyrolysis at 450 °C	Norfloxacin	86	S6 [6]
SCGB (Coffee grounds)	—	Pyrolysis at 500 °C	Norfloxacin	69.8	S7 [7]
3K-SCB₇₅₀ (Sugarcane bagasse)	NaOH	Pyrolysis at 750 °C	Norfloxacin	157.4	This study

Reference

- Huang, D., et al., Sorptive removal of ionizable antibiotic sulfamethazine from aqueous solution by graphene oxide-coated biochar nanocomposites: influencing factors and mechanism. *Chemosphere*, 2017. 186: p. 414-421.
- Xu, Q., et al., Interaction between chlortetracycline and calcium-rich biochar: Enhanced removal by adsorption coupled with flocculation. *Chemical Engineering Journal*, 2020. 382: p. 122705.
- Zhao, H. and Y. Lang, Adsorption behaviors and mechanisms of florfenicol by magnetic functionalized biochar and reed biochar. *Journal of the Taiwan Institute of Chemical Engineers*, 2018. 88: p. 152-160.
- Wang, B., et al., Preparation of biochar by simultaneous carbonization, magnetization and activation for norfloxacin removal in water. *Bioresource Technology*, 2017. 233.
- Li, Y., et al., Removal of Norfloxacin from aqueous solution by clay-biochar composite prepared from potato stem and natural attapulgite. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*, 2017. 514: p. 126-136.
- Zhang, T., et al., Engineering mesoporous algal-based biochars for efficient remediation of norfloxacin pollution in marine environment. *Environmental Advances*, 2022. 9: p. 100302.
- Nguyen, V.-T., et al., Adsorption of norfloxacin from aqueous solution on biochar derived from spent coffee ground: Master variables and response surface method optimized adsorption process. *Chemosphere*, 2022. 288: p. 132577.