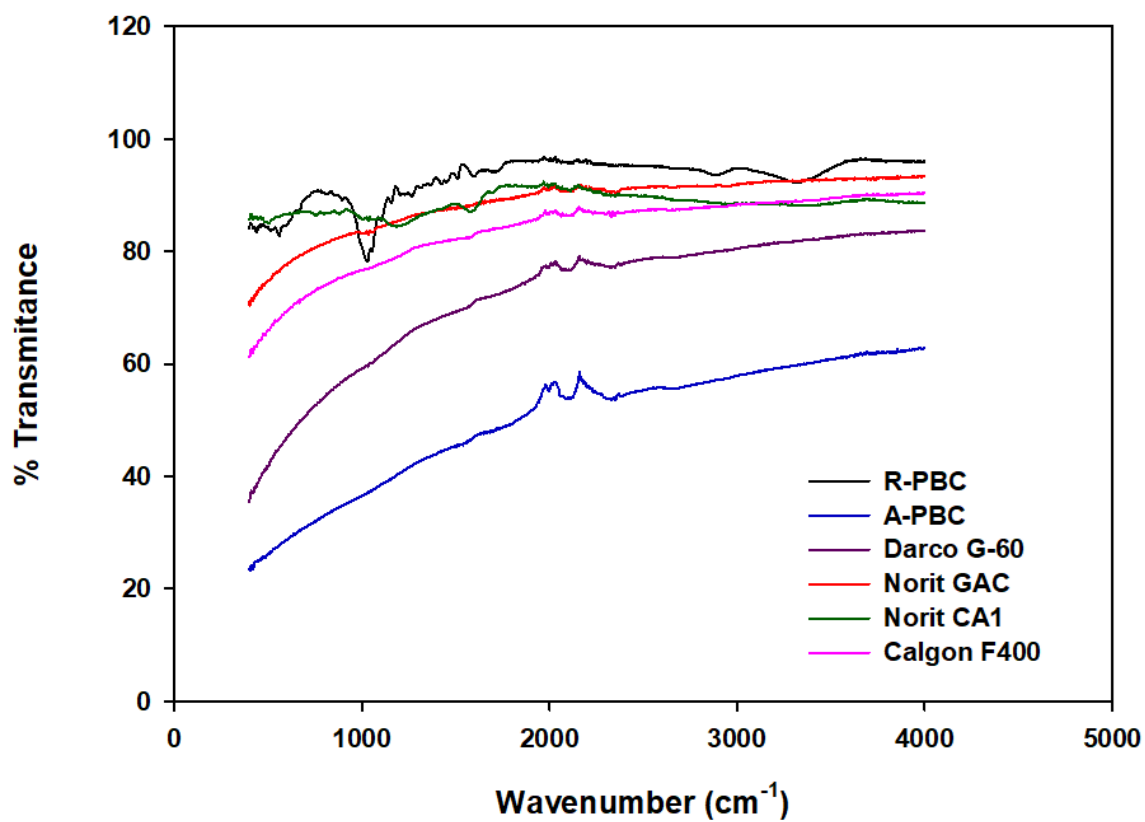
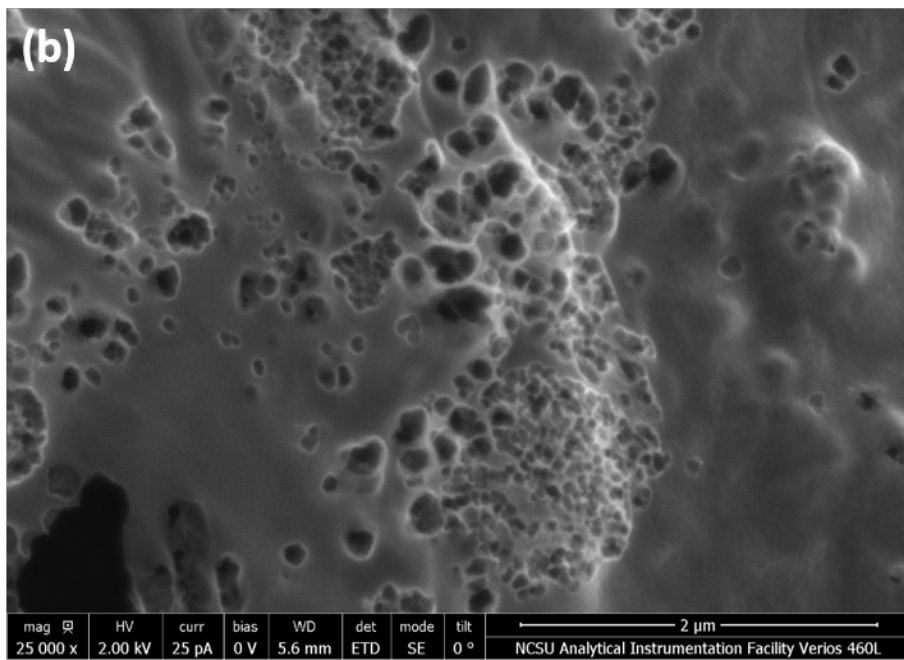
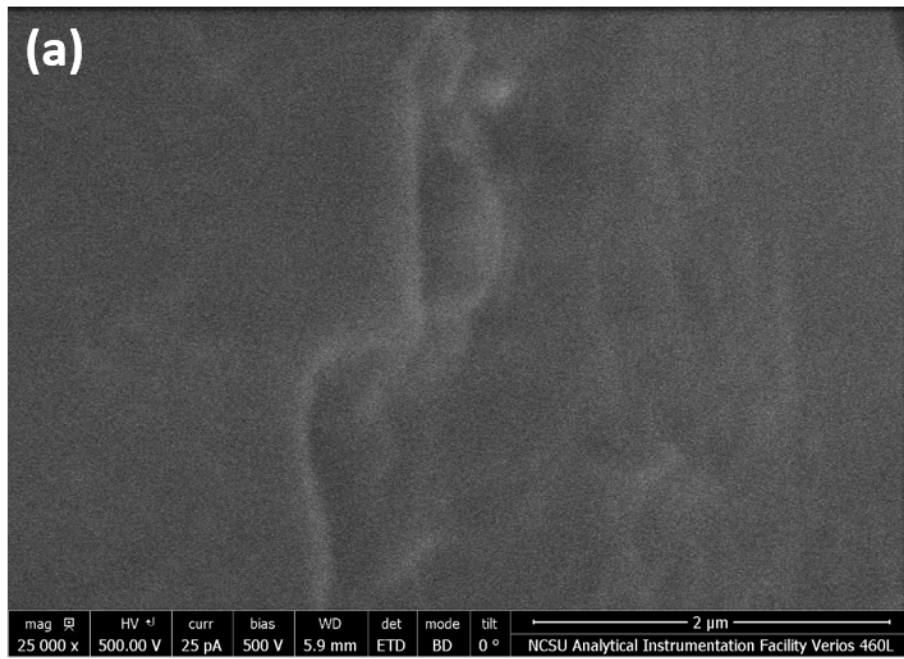


**Table S1.** High-resolution XPS Scans of C1(s) Photoelectron Spectrum (At. %),  $\text{pH}_{\text{PZC}}$  and Calculated Adsorption Coefficients for the SMX Species at pH 1-10

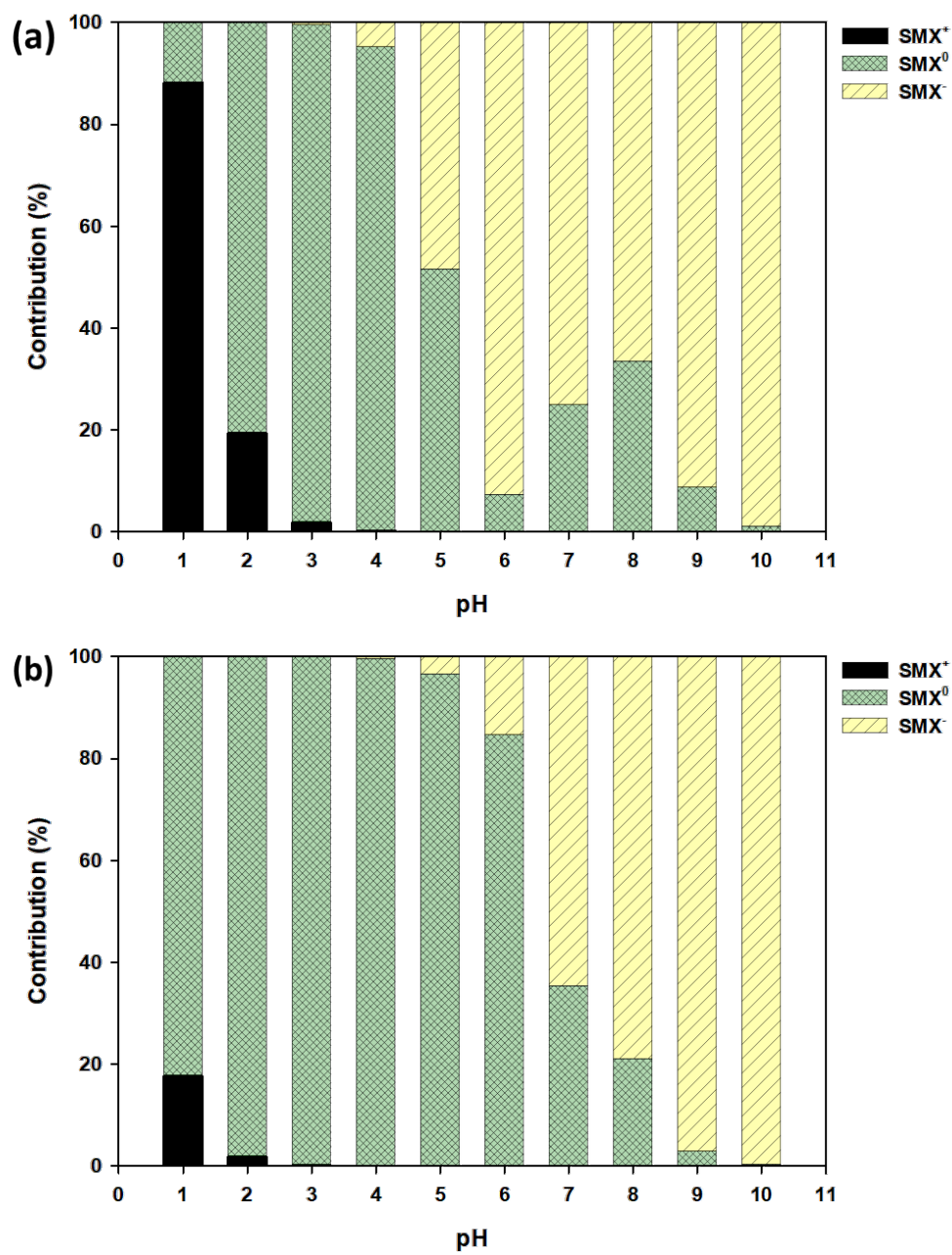
Adsorption coefficients									
	$\text{pH}_{\text{PZC}}$	$K_d^+$	$K_d^0$	$K_d^-$	$R^2$	C-C, C = C, C-H (284.6 eV)	C-O- H, C- O-C (286.2 eV)	C = O (287.6 eV)	O = C-O (289.1 eV)
R-PBC	5.08	2.63	208.48	28.79	0.999	82.6	8.4	7.5	1.4
A-PBC	6.83	2.63	205.25	12.67	0.998	77.8	11.1	7.4	3.7



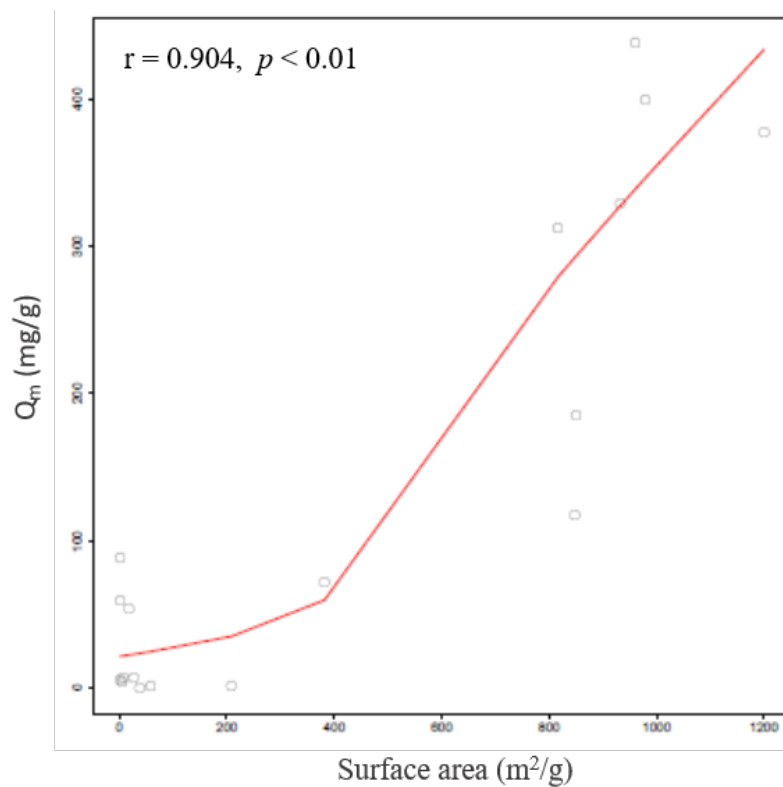
**Fig. S1.** FTIR spectra of all adsorbents used in this study.



**Fig. S2.** Scanning electron microscopy (SEM) images of (a) R-PBC and (b) A-PBC. Adapted from Jang et al. [1].



**Fig. S3.** Contribution of different SMX species to the overall sorption on the (a) R-PBC and (b) A-PBC. Contribution percentage was calculated by  $K_d^+ \alpha^+ / K_d$  for SMX<sup>+</sup>,  $K_d^0 \alpha^0 / K_d$  for SMX<sup>0</sup> and  $K_d^- \alpha^- / K_d$  for SMX<sup>-</sup>.



**Fig. S4.** Scatter plots of Q<sub>m</sub> VS surface area of the listed references in Table 3. Solid line in figure represents the regression line for Pearson correlation. Pearson correlation coefficient (r) with significance (p value) is presented in figure.

## References

- [1] Jang HM, Yoo S, Choi Y-K, Park S, Kan E. Adsorption isotherm, kinetic modeling and mechanism of tetracycline on *Pinus taeda*-derived activated biochar. *Bioresour. Technol.* 2018;259:24-31.