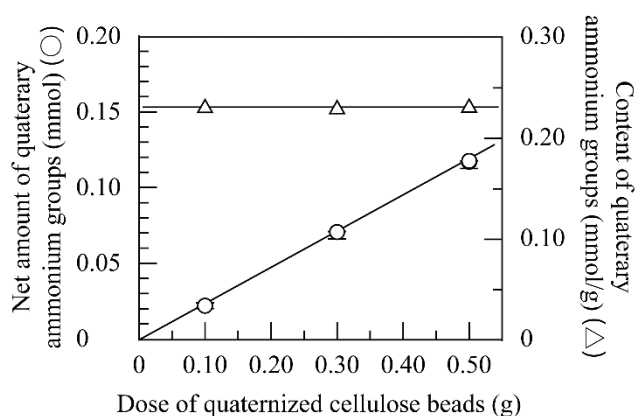
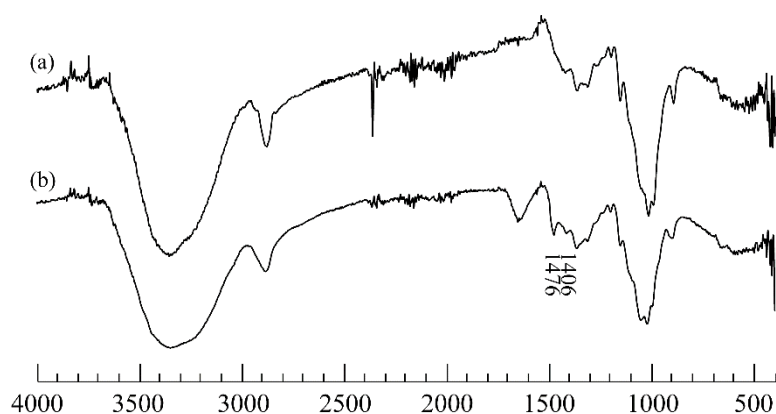


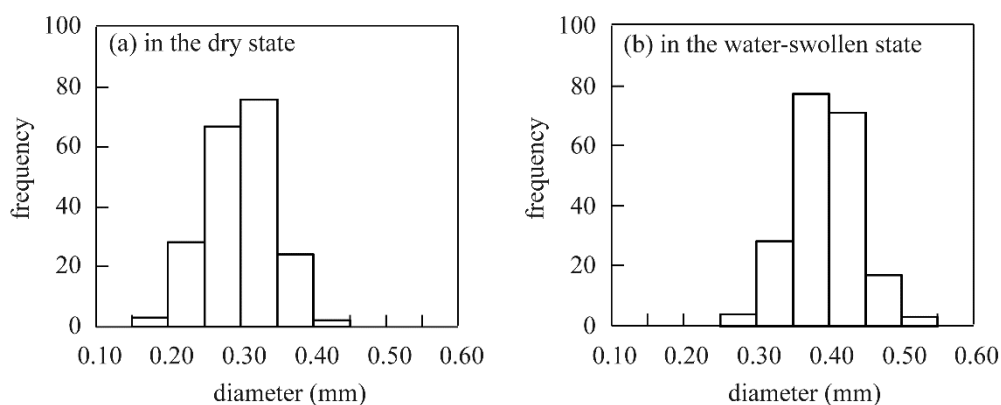
## Supplementary Materials



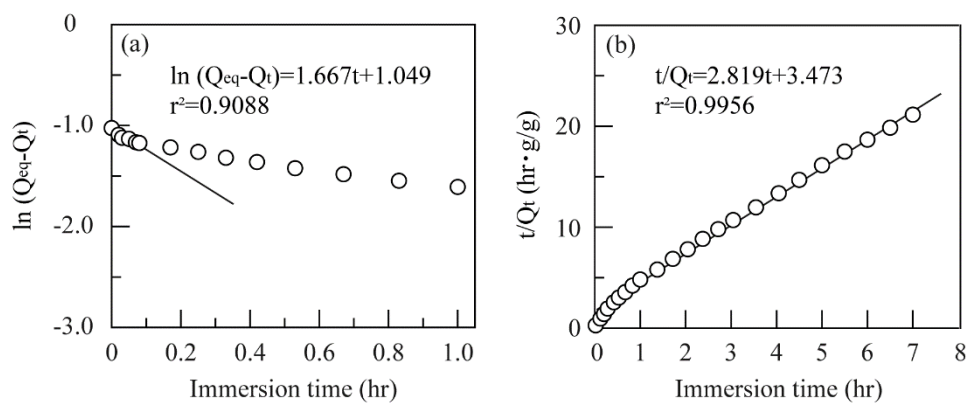
**Figure S1:** The determination of the content of quaternary ammonium groups by the back titration with HCl for the quaternized cellulose beads with the content of quaternary ammonium groups of 0.231 mmol/g.



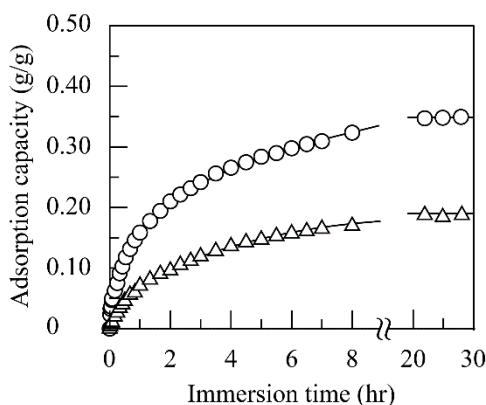
**Figure S2:** The FT-IR spectra of (a) the untreated cellulose beads and (b) the quaternized cellulose beads with 0.231 mmol/g.



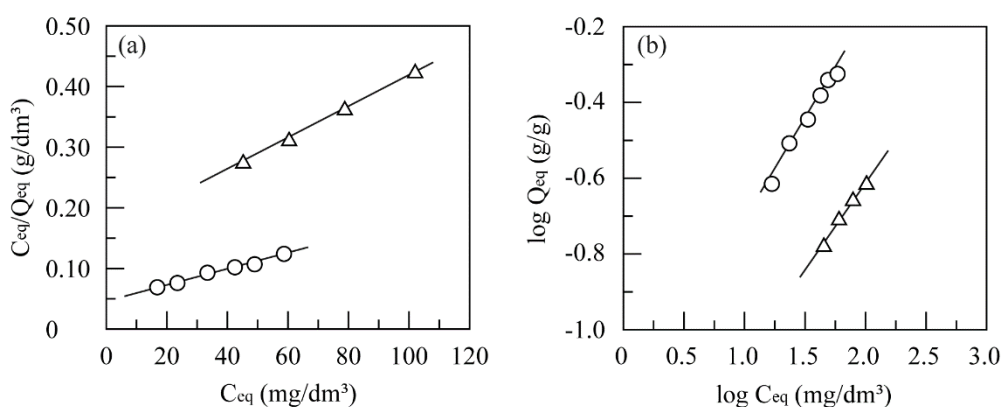
**Figure S3:** The particle distributions of the untreated cellulose beads in the (a) dry and (b) water-swollen states.



**Figure S4:** The kinetic analysis of the time source of HA adsorption on the quaternized cellulose beads at the content of quaternary ammonium groups of 0.231 mmol/g by the (a) pseudo first- and (b) second-order equations.



**Figure S5:** The time course of HA adsorption on the quaternized cellulose beads at the content of quaternary ammonium groups of 0.231 mmol/g at pH 3.0 (○) and 6.0 (△).



**Figure S6:** The linear forms of (a) Langmuir and (b) Freundlich isotherms for the HA adsorption on the quaternized cellulose beads at the content of quaternary ammonium groups of 0.231 mmol/g at pH 3.0 (○) and 6.0 (△).