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## **Polonium removal from waters by silver-coated Luffa Cylindrica biochar fibers**

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### Abstract

The sorption of ultra-trace levels of polonium by Luffa Cylindrica biochar fibers has been investigated in de-ionized water and seawater samples prior and after surface modification (Ag-coating) of the adsorbent. The effect of pH on the sorption efficiency ( $K_d$  values) indicated that pH, which governs the solution chemistry of Po(IV), affects to a large degree the adsorption efficiency and that Ag-coating of the surface results in significantly higher  $K_d$  values. The modified adsorbent presents enhanced removal efficiency for Po-209 even from seawater samples indicating the usefulness of the modified biochar fibers for the treatment of polonium contaminated waters.

### Keywords:

Polonium adsorption; Ag-coated fibers; water treatment; seawater;  $K_d$  values

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