Supporting information

Cellulose nanofiber backboned Prussian blue nanoparticles as powerful adsorbents for the selective elimination of radioactive cesium

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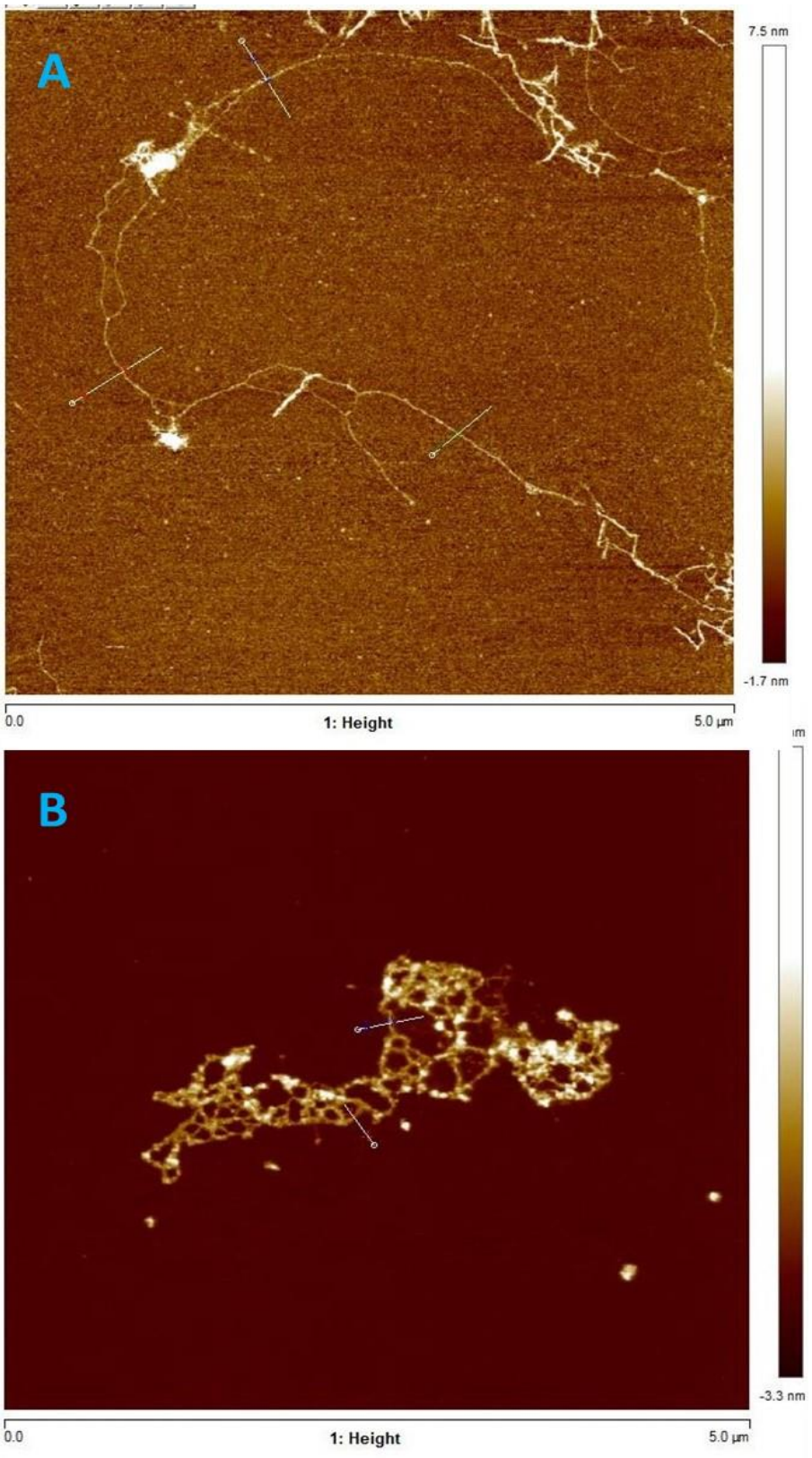

Figure S1. AFM images: A) CNF and B) CNF/Ferric(III).

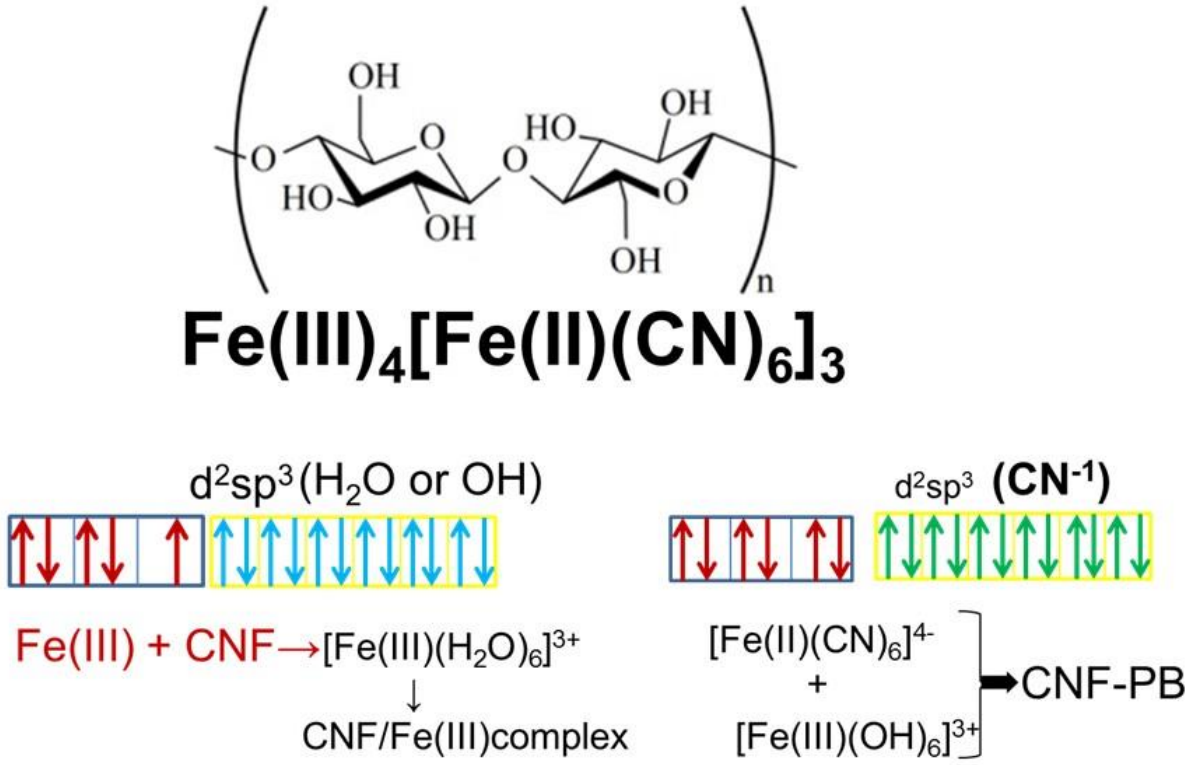

Figure S2. Formation of the chelated CNF/PB complex.

Figure S3. Photos of a CNF/PB sample (left) and a normal sized cellulose/PB sample (right) being immerged in tap water for two days.

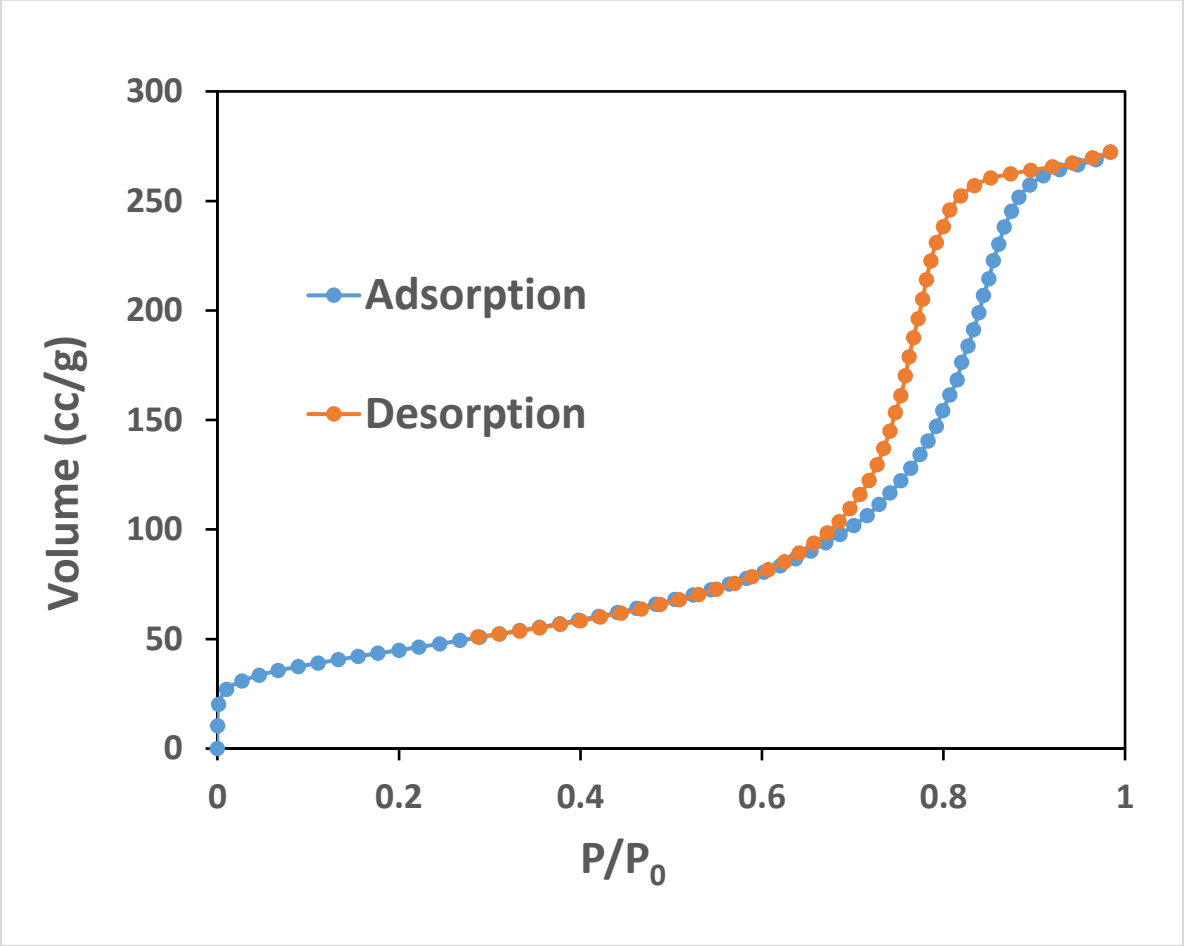

Figure S4. Nitrogen adsorption and desorption isotherms of a typical CNF/PB complex powder sample.

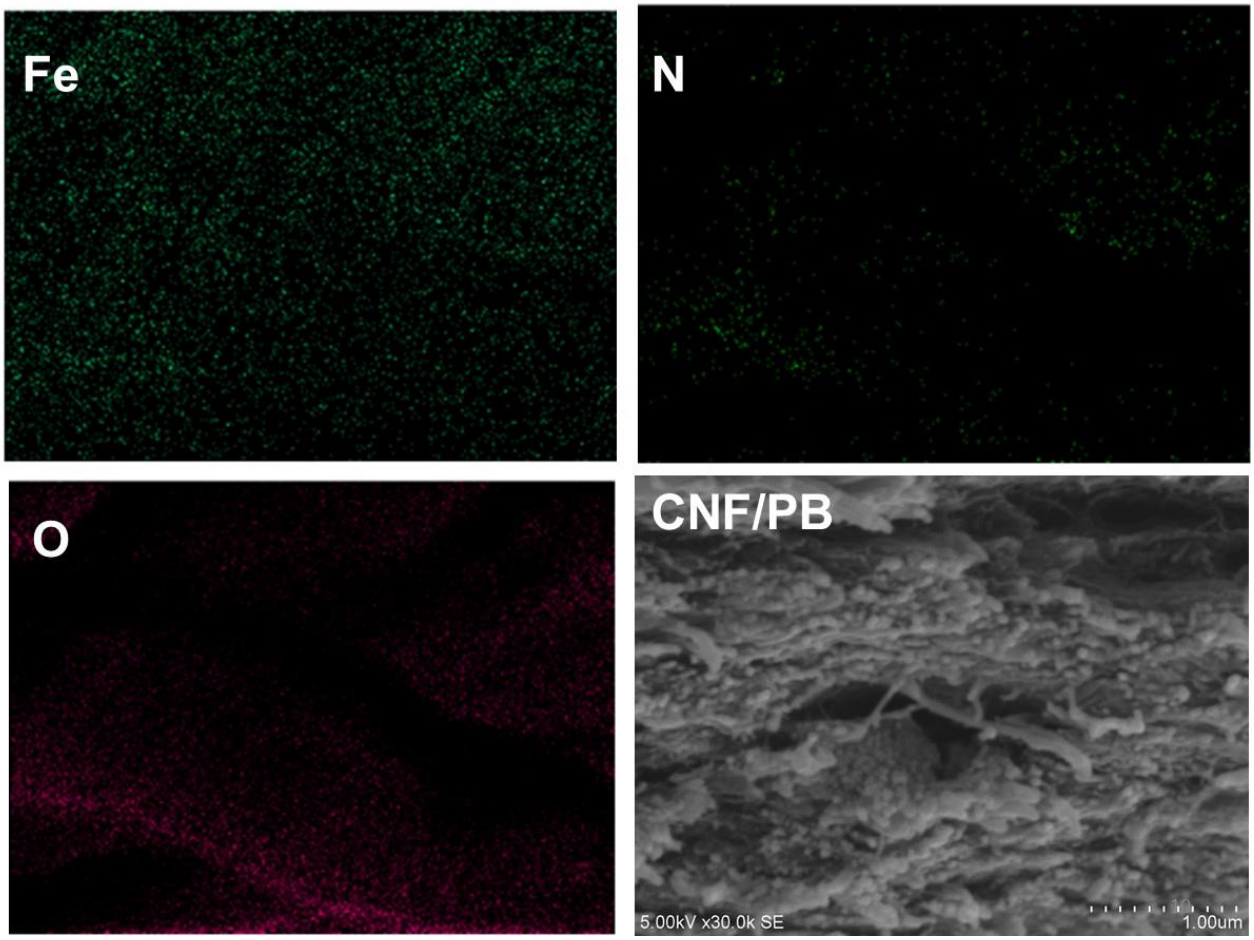

Figure S5: EDS mappings of a CNF/PB complex powder sample.

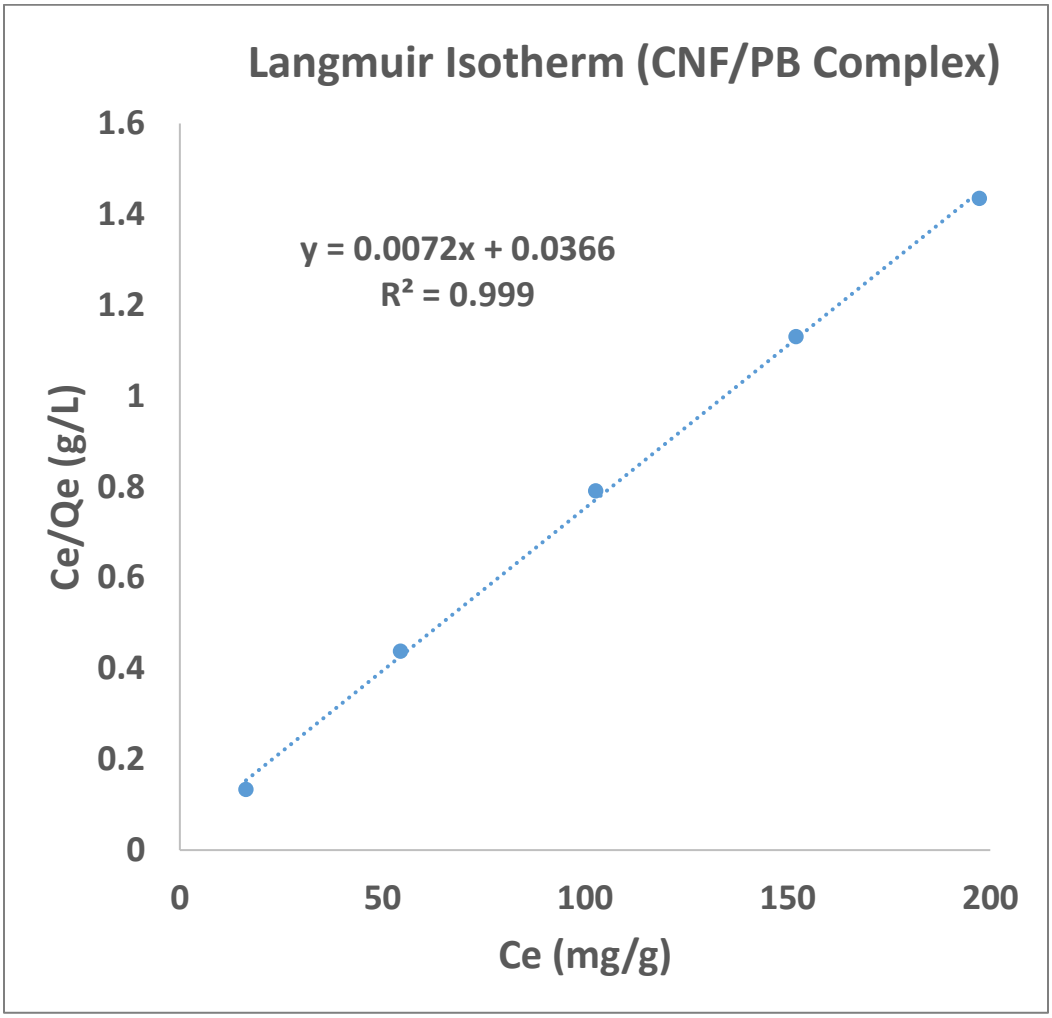

Figure S6. Linear fitting of CNF/PB complex powder Cs adsorption data on Langmuir isotherm.

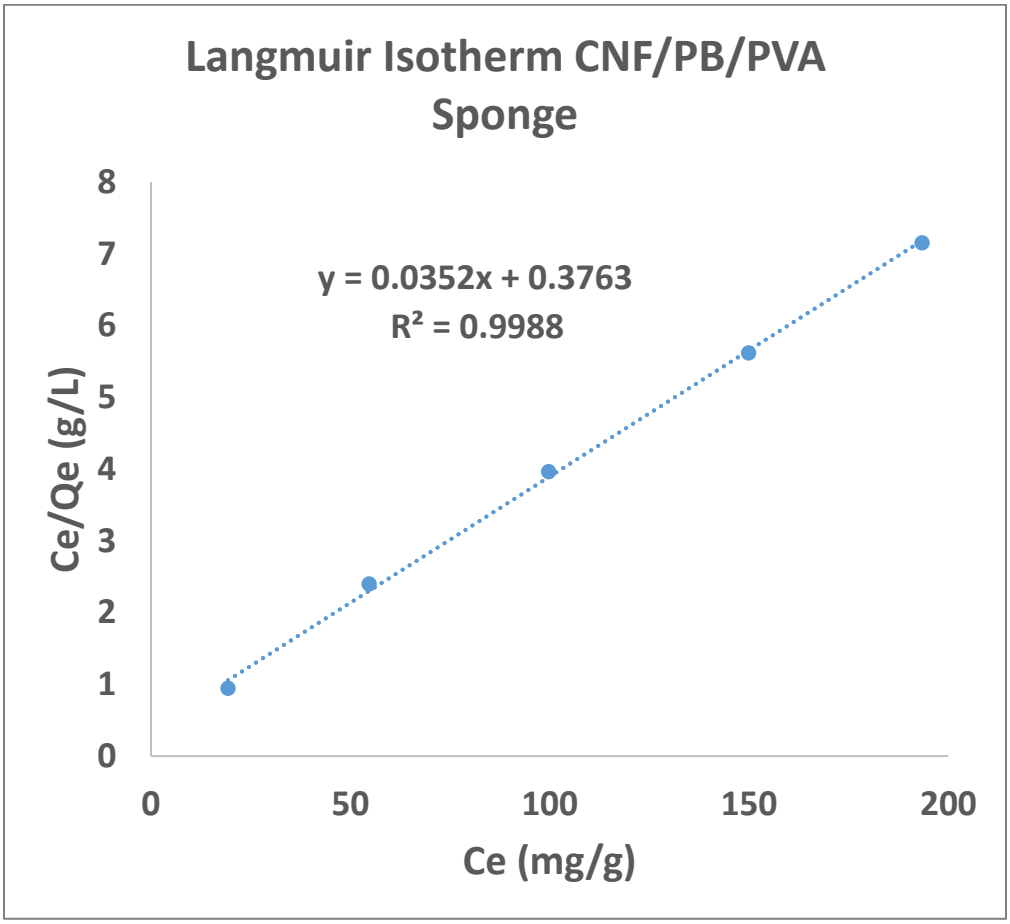

Figure S7. Linear fitting of CNF/PB sponge Cs adsorption data on Langmuir isotherm.

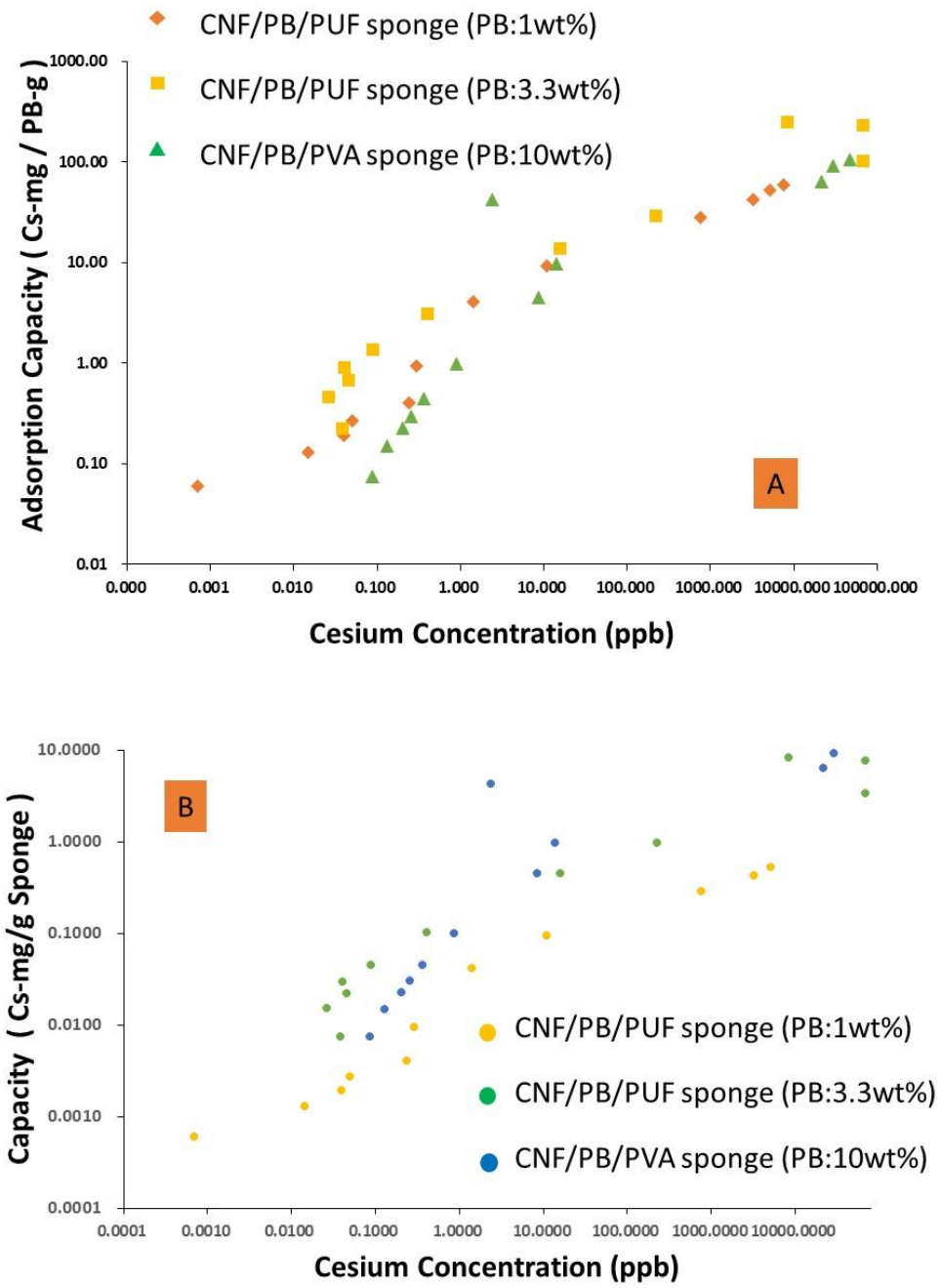

Figure S8. Low level Cesium adsorption experiments using CNF/PB sponges: A) Adsorption capacity based on PB and B) adsorption capacity of Cs based on the different sponges.

Figure S9. Seedling stage of plants in the sponge after one week.

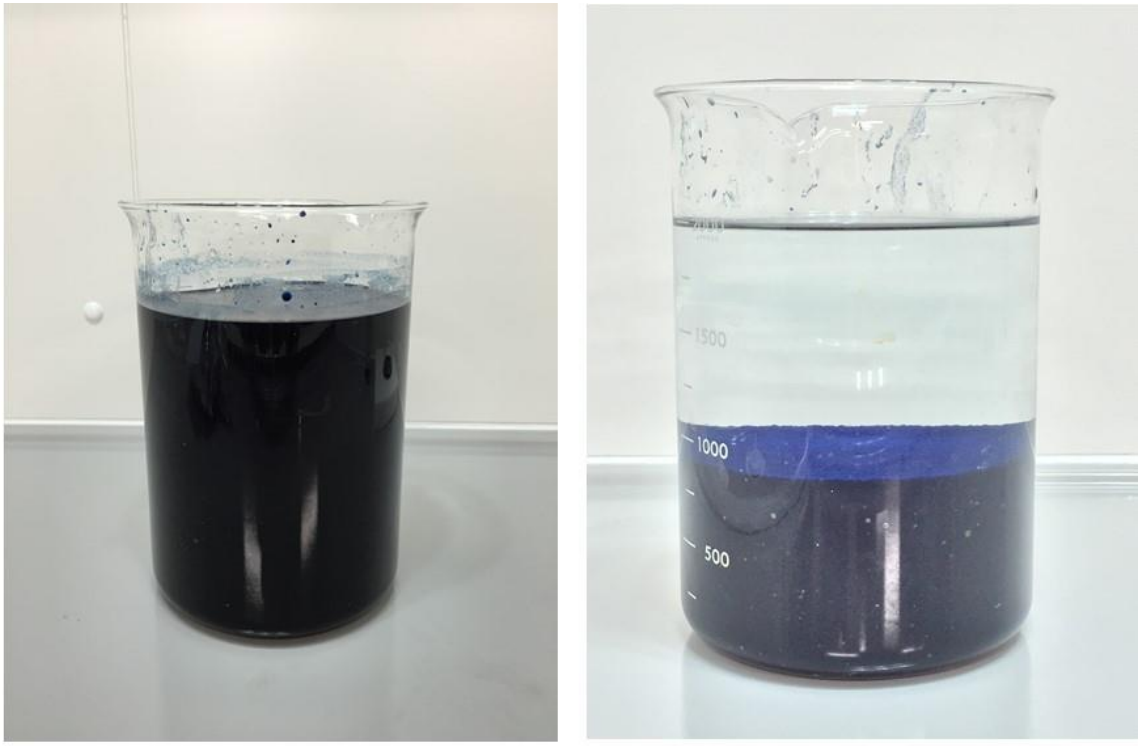

Figure S10. CNF/PB complex colloids settling property.

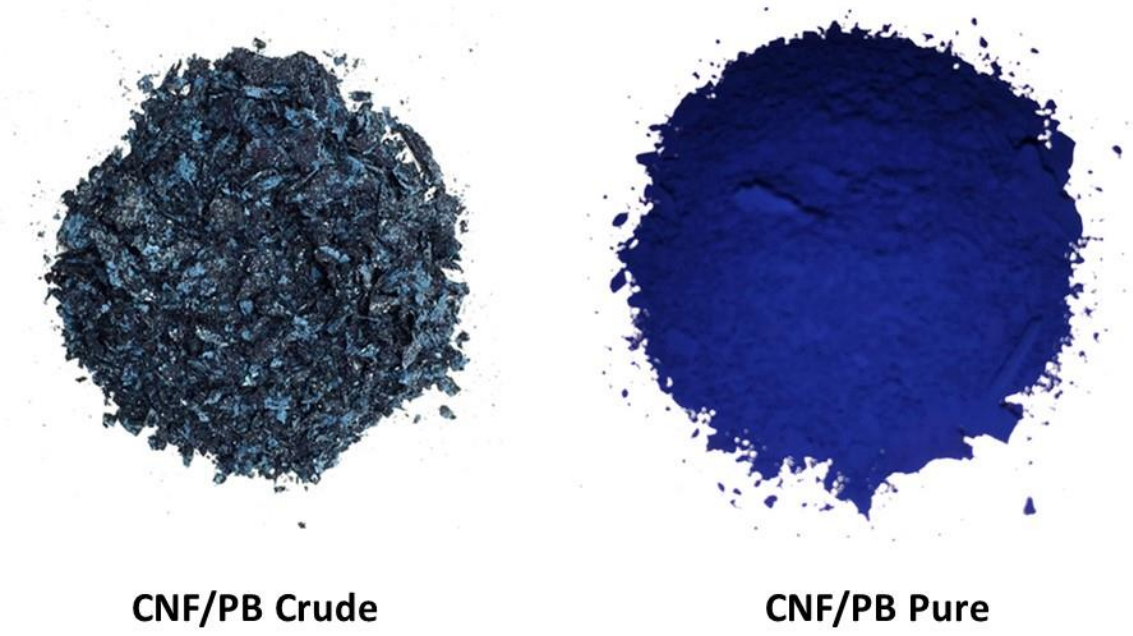

Figure S11. CNF/PB complex powder photo images.

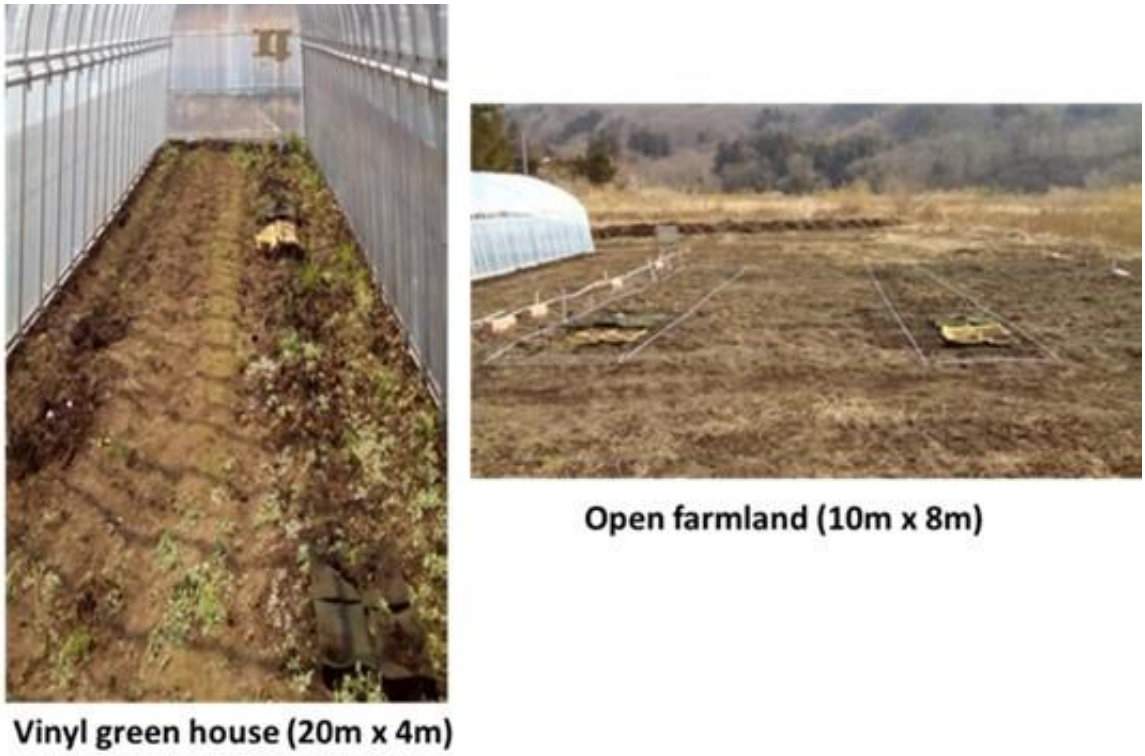

Figure S12. Selected area for practical feasibility studies (At Fukushima, Japan).

Figure S13. Practical set up of decontamination using the CNF/PB sponge with seeds.