Electronic Supplementary Material (ESI) for RSC Advances.

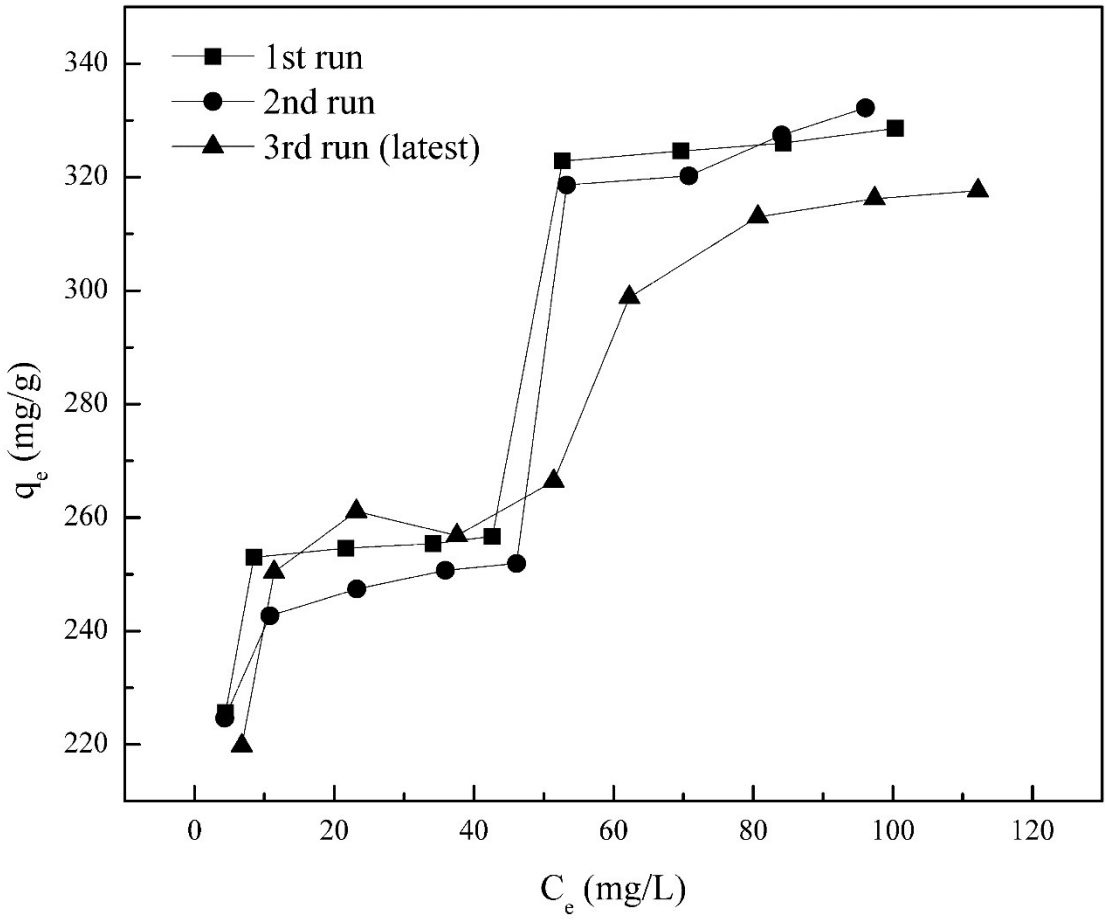

Fig. S1 the repeated zinc removal isotherm by HAP/Pectin hybrid material. The 1st run (■) and 2nd run (●) data were shown in Fig. 6 and the 3rd run (▲) was repeated recently to confirm the two-stage feature of the isotherm. All the conditions of the 3rd run were exactly the same as the first two runs and are shown in 2.4. Sorption Studies in the 2. Experiments.

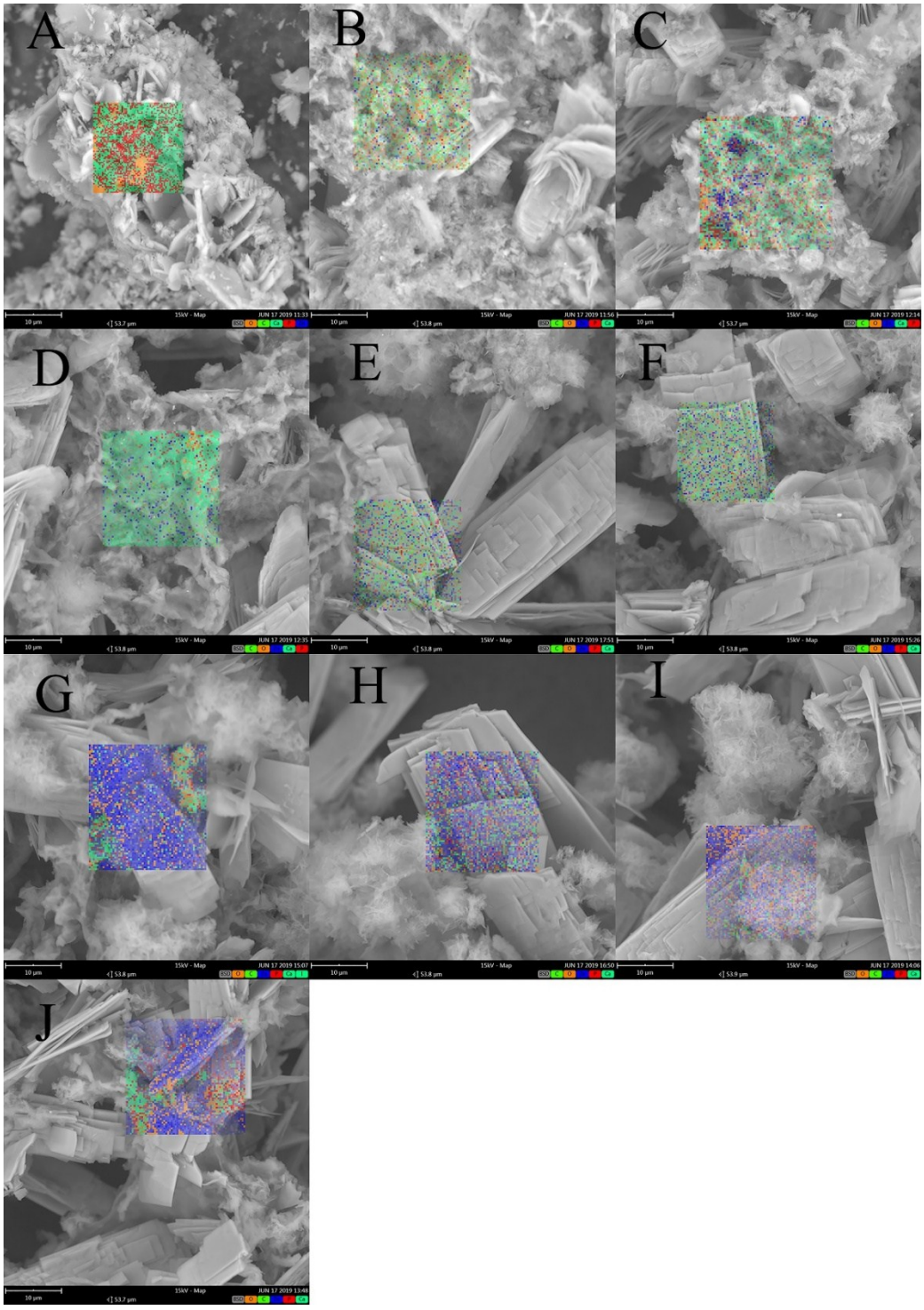

Fig. S2 the SEM-EDX analysis on the used HAP/Pectin hybrid collected from the repeated isotherm test shown in Figure S1. A) the HAP/Pectin hybrid without any treatment; B) 117 ppm Zn^{2+} treated hybrid; C) 137 ppm Zn^{2+} treated hybrid; D) 154 ppm Zn^{2+} treated hybrid; E) 166 ppm Zn^{2+} treated hybrid; F) 185 ppm Zn^{2+} treated hybrid; G) 212 ppm Zn^{2+} treated hybrid; H) 237 ppm Zn^{2+} treated hybrid; I) 256 ppm Zn^{2+} treated hybrid; J) 271 ppm Zn^{2+} treated hybrid. Brown color stands for oxygen; green color stands for carbon; light blue stands for calcium; dark red stands for phosphate; dark blue stands for zinc. Please refer to 2.3. Characterization Methods for any further details on SEM-EDX.

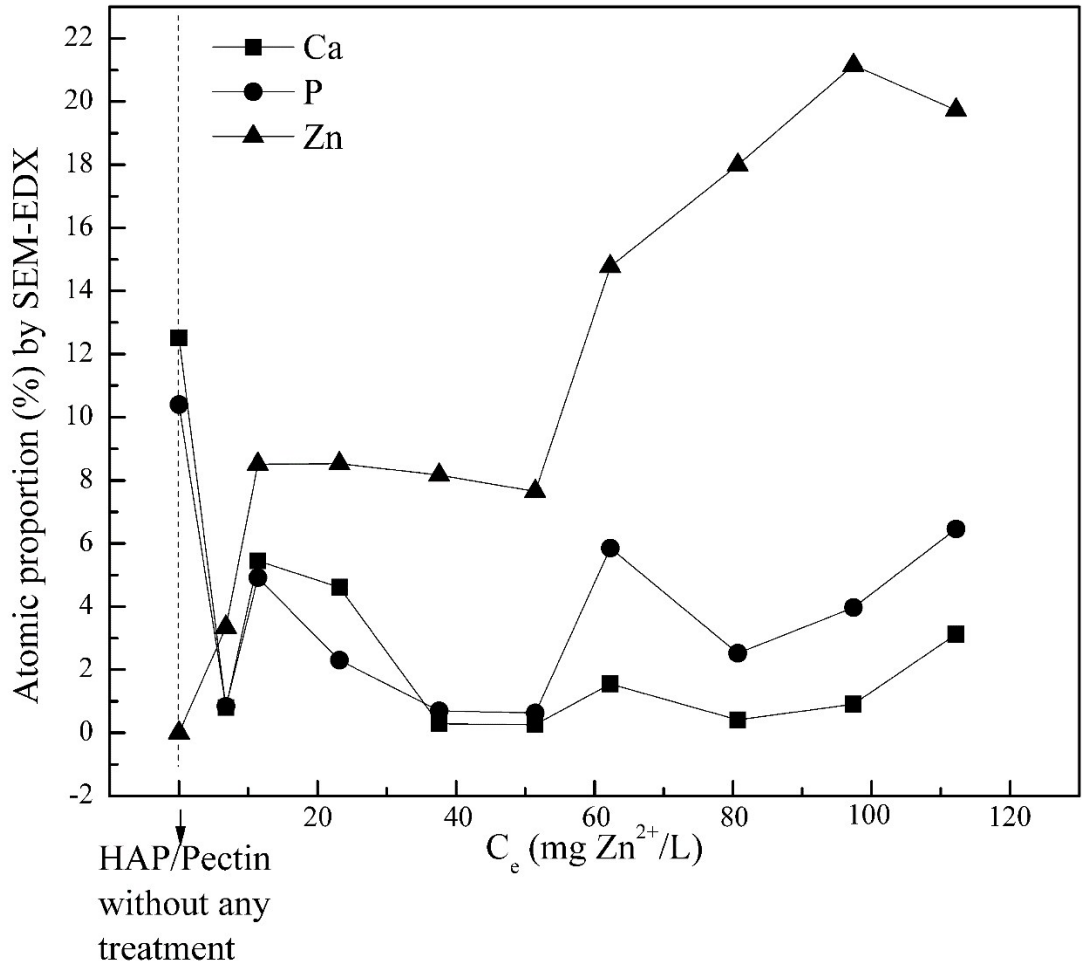

Fig. S3 the atomic proportion quantified by EDX dectector in SEM. C and O were not displayed here due to the interference caused by carbon tapes used to stick sample powders.

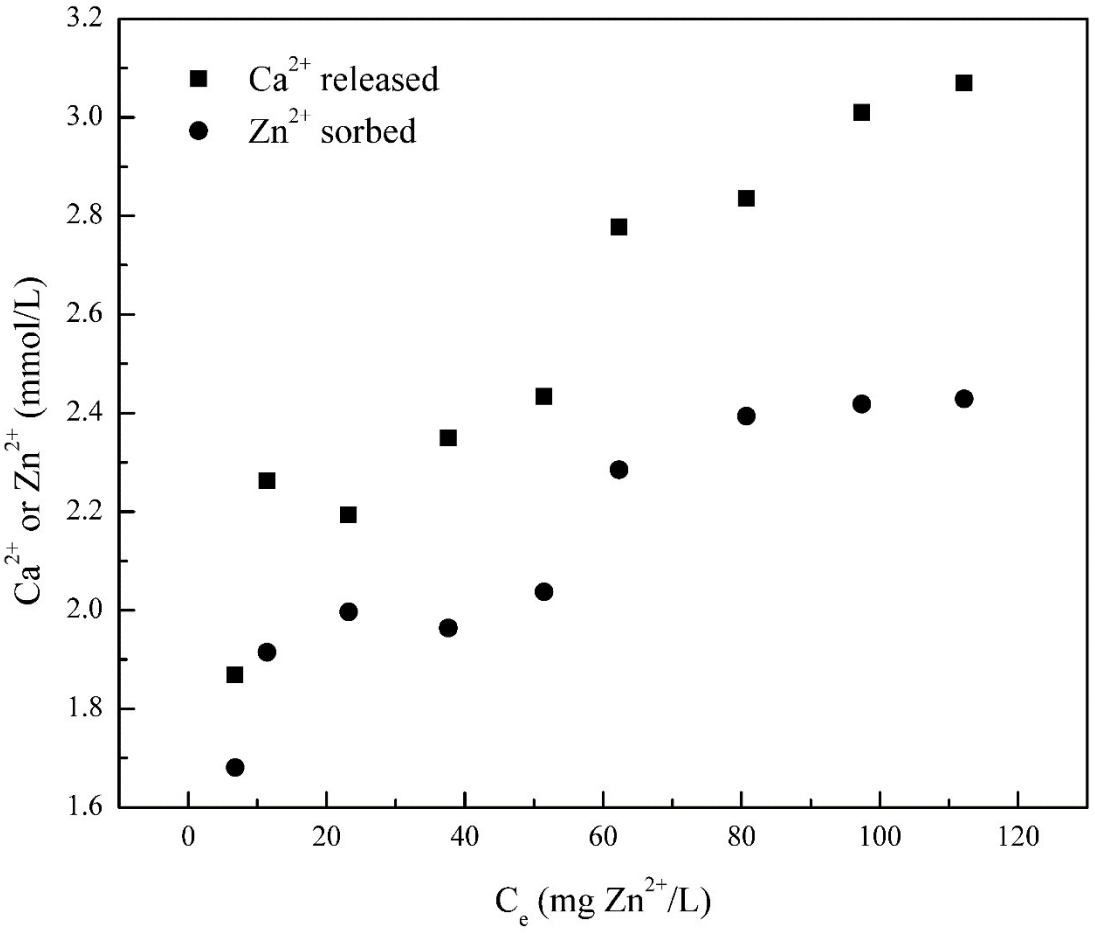

Fig. S4 the released calcium and the sorbed zinc in the repeated zinc removal isotherm test shown in Fig. S1. Both calcium and zinc concentration were analyzed by Perkin-Elmer Analyst 200 AAS.