Supporting Information

Distance-based β-amyloid protein detection on PADs for scanning and subsequent follow up of Alzheimer's disease in human urine sample

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Preparation of buffer solution

Phosphate buffer solution; PBS (50.0 mmol/L, pH 7.4) was prepared by mixing disodium phosphate and monosodium phosphate with DI water and then adjusted pH with 0.20 mol/L sodium hydroxide and/or 0.20 mol/L hydrochloric acid.

Citrate buffer solution; CBS (0.30 mol/L, pH 5.0) was prepared by mixing sodium citrate and citric acid with DI water and then adjusted pH with 0.20 mol/L sodium hydroxide and/or 0.20 mol/L hydrochloric acid.
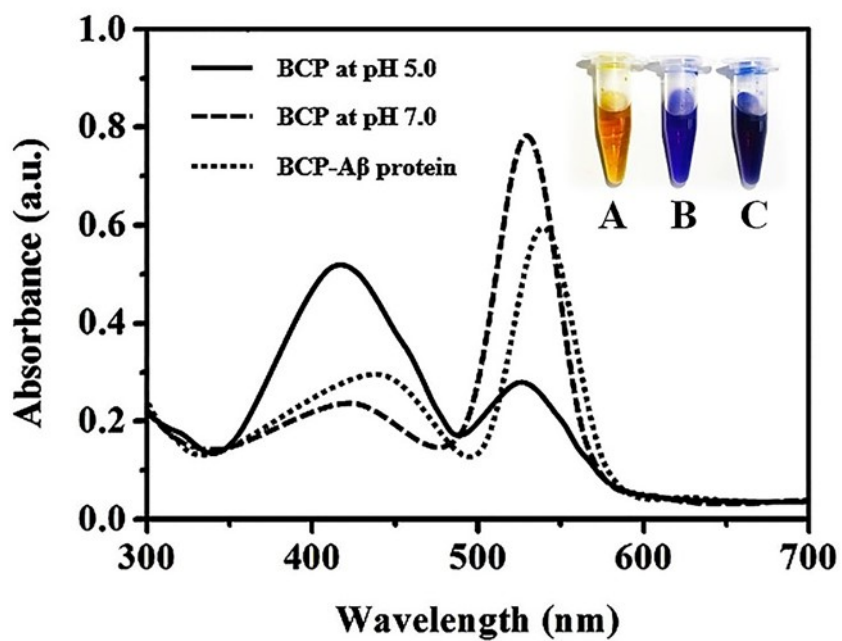
Figure. S1 Adsorption spectra of 1.0 g/L of BCP solution at pH 5.0 (solid line), pH 7.0 (dash line) and BCP mixed with 2.5 ng/mL of Aβ protein solution at pH 5.0 (dot line)), corresponding to color solution (insert A~C).

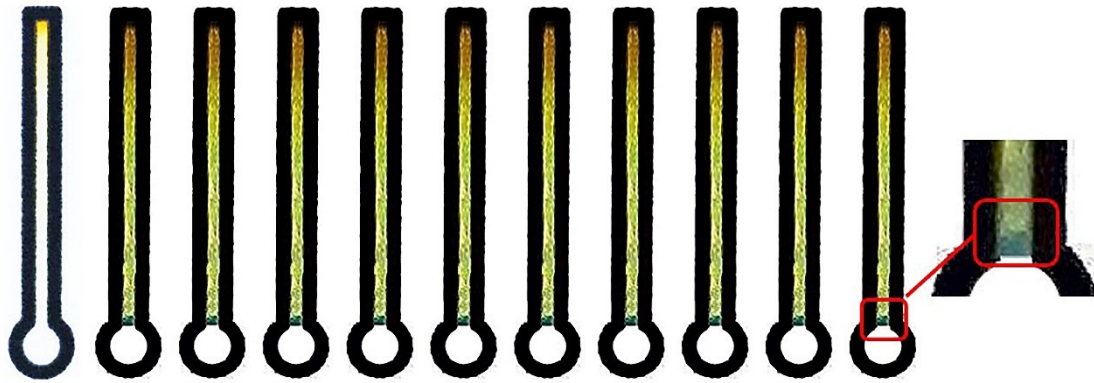**Figure. S2** Distance signal of a detection limit at 0.20 ng/mL of Aβ protein using the developed dPADs (n=10).