Supporting Information

Identification of catechin species using a colorimetric and fluorescence dual-mode sensor array based on peroxidase-like PtNi bunched nanoparticles

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Table S1 The Zeta potential results of PtNi-BNPs, PtNi-BNPs+OPD+H_2O_2, and PtNi-BNPs+OPD+H_2O_2+catechin.

System	**Zeta potential (mV)**
PtNi-BNPs	-13.5
PtNi-BNPs+OPD+H_2O_2	-5.20
PtNi-BNPs+OPD+H_2O_2+catechin	-8.81

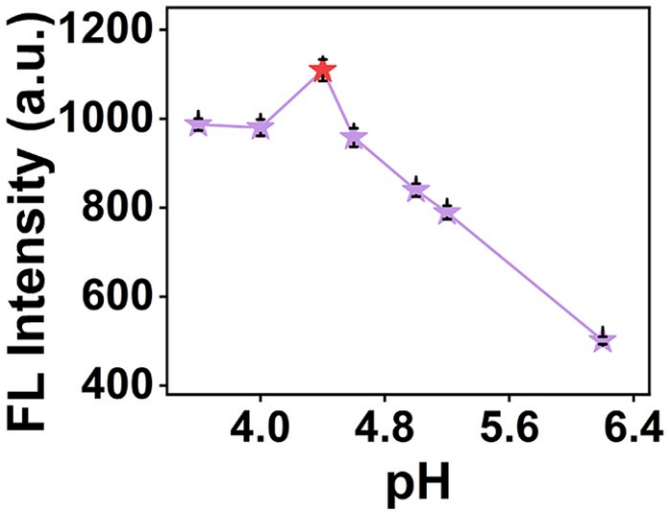

Fig. S1 The effect of pH values on the fluorescence intensity of PtNi-BNPs-OPD-H_2O_2 at 548 nm.

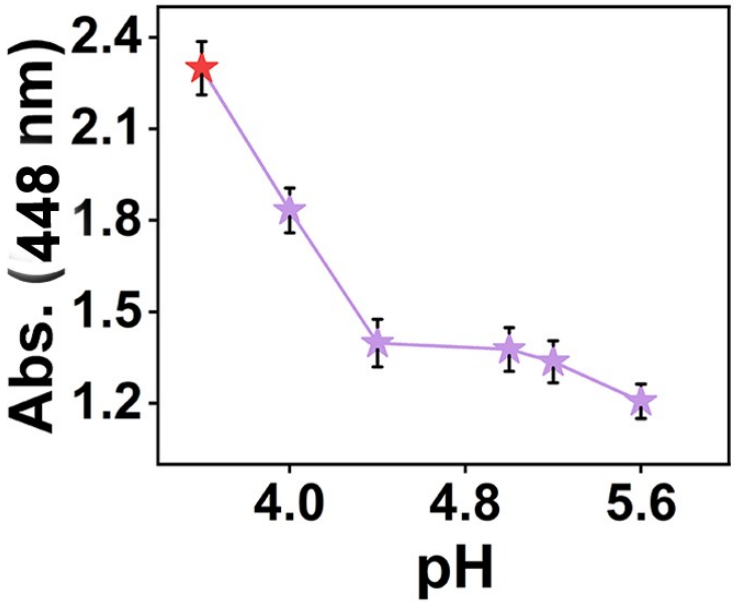

Fig. S2 The effect of pH values on the absorbance of PtNi-BNPs-OPD-H_2O_2 at 448 nm.

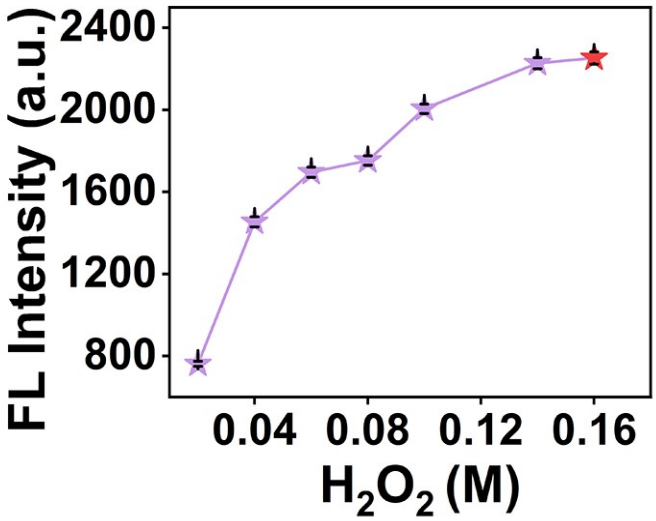

Fig. S3 The effect of H_2O_2 concentrations on the fluorescence intensity of PtNi-BNPs-OPD-H_2O_2 at about 548 nm.

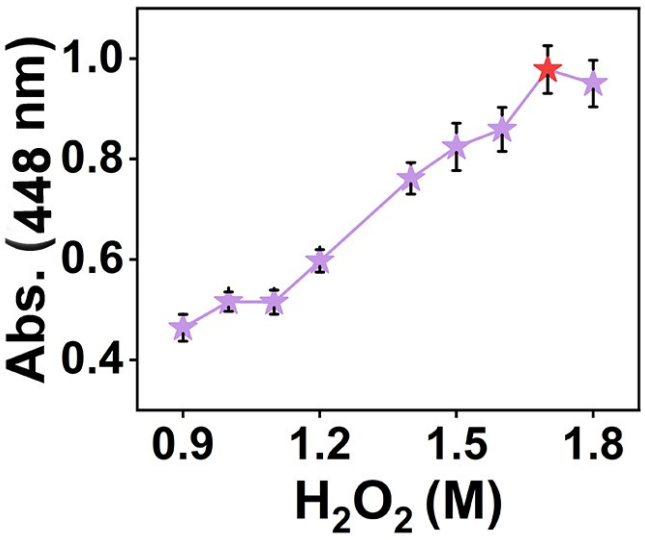

Fig. S4 (A) UV-vis absorption spectra of PtNi-BNPs-OPD-H_2O_2 in presence of different concentrations of H_2O_2. (B) The effect of H_2O_2 concentrations on the absorbance of PtNi-BNPs-OPD-H_2O_2 at 448 nm.

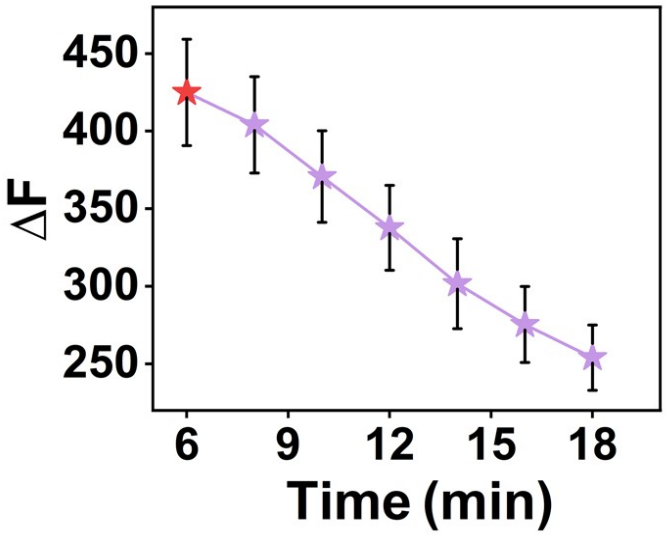

Fig.S5 Time-dependent fluorescence intensity changes of PtNi-BNPs-OPD-H_2O_2 solution at 548 nm.

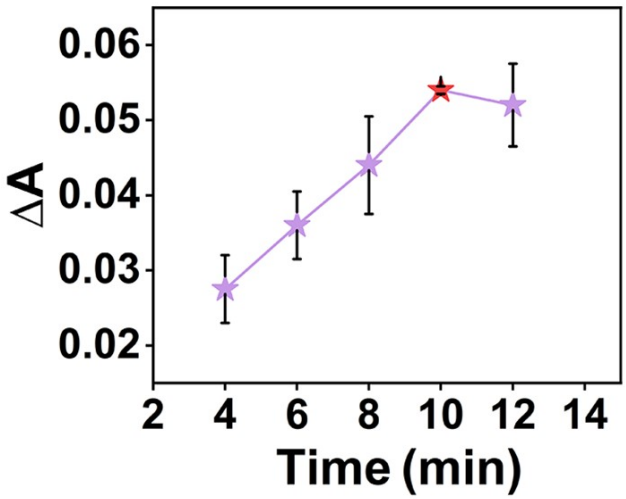

Fig. S6 (A) UV-vis absorption spectra of PtNi-BNPs-OPD-H_2O_2 at different time. (B) Time-dependent absorbance changes of PtNi-BNPs-OPD-H_2O_2 solution at 448 nm.

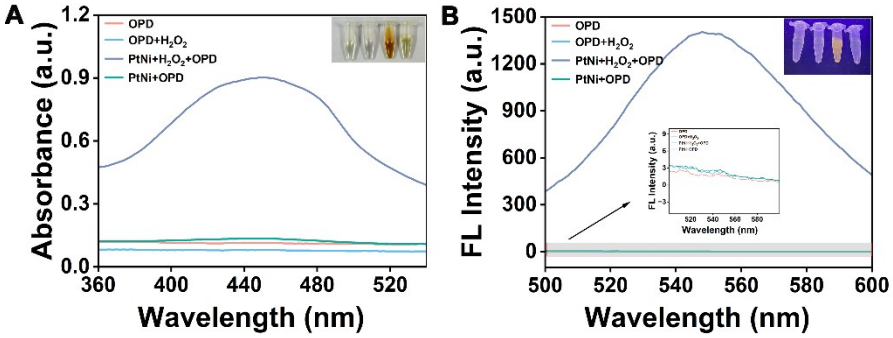

Fig. S7 (A) UV-vis absorption spectra and the corresponding colors of PtNi+OPD+H_2O_2, PtNi+OPD, OPD+H_2O_2, and OPD solutions. (B) Fluorescence spectra and the corresponding colors of PtNi+OPD+H_2O_2, PtNi+OPD, OPD+H_2O_2, and OPD solutions.

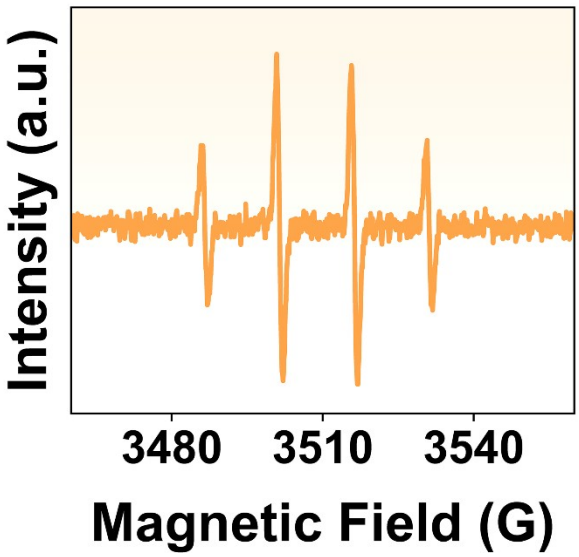

Fig. S8 •OH generated by PtNi-BNPs and DMPO system.

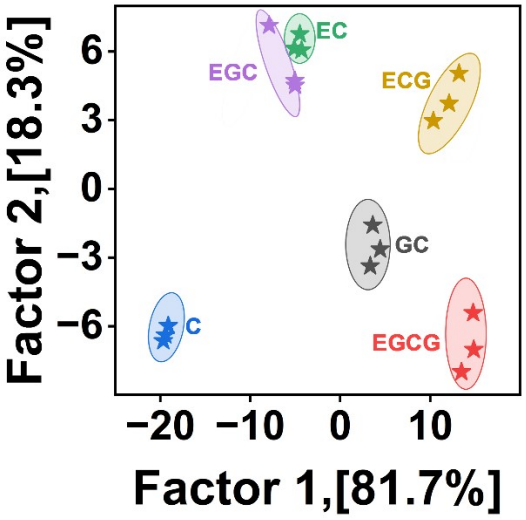

Fig. S9 LDA score plot of the dual-channel sensor array to identify six catechins at 10 μM.

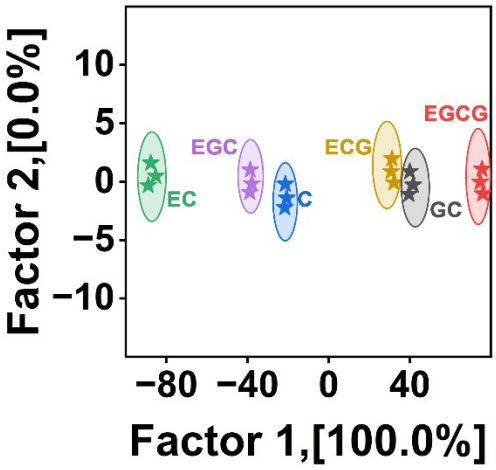

Fig. S10 LDA score plot of the dual-channel sensor array to identify six catechins at 50 μM.

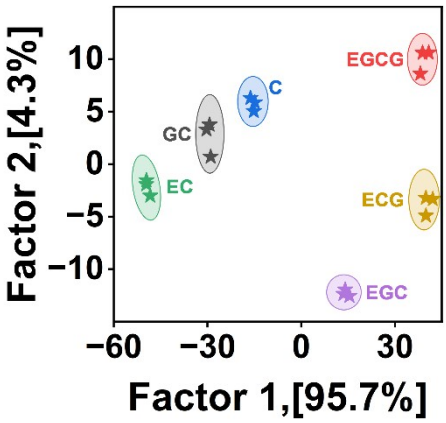

Fig. S11 LDA score plot of the dual-channel sensor array to identify six catechins at 100 μM.

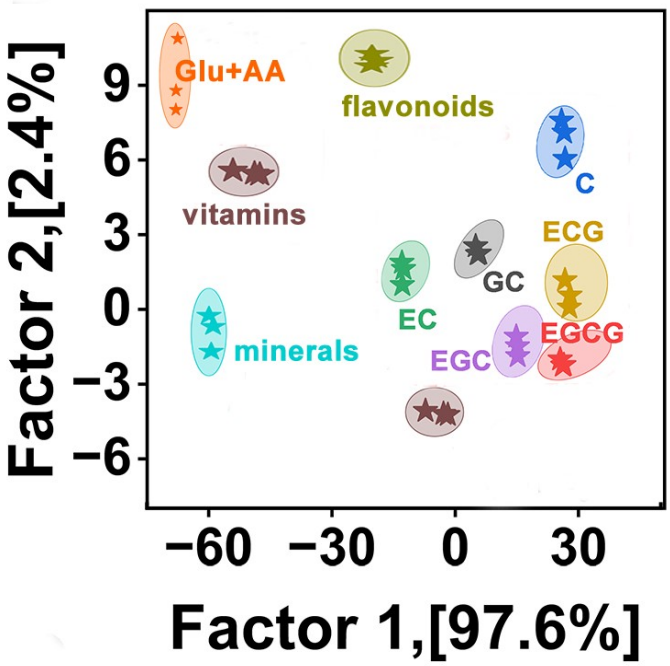

Fig. S12 LDA plots for the sensor array against the six target catechins and the interfering substances, each at 100 μM.

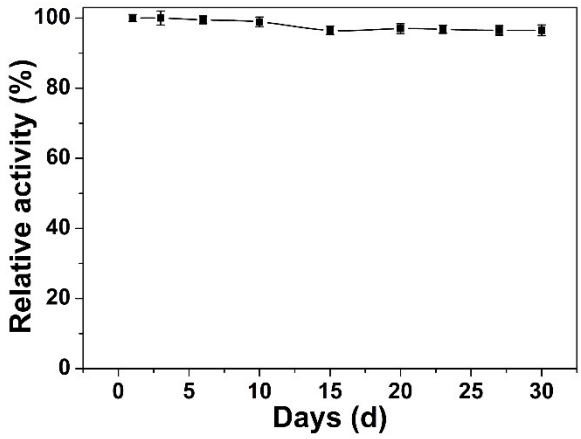

Fig. S13 Curve of the peroxidase-like activity stability of PtNi-BNPs within one month.