Electronic Supplementary Material (ESI) for Analytical Methods.

Supporting information

Dual channel fluorescence tongue for catechins recognition based on MnO_2 nanorods-amplex red-o-phenylenediamine reaction system

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Table S1 Comparison of recognition performance of different sensor arrays for discrimination of catechins.

Method	**Material**	**Channel**	**Identified quantity**	**Ref**
Fluorescence	MnO_2 NR	2	5	This work
Colorimetry	AuNPs[a]	1	6	30
Chemiluminescence	Peroxalate	1	5	31
UPLC-MS/MS[b]	None	1	4	32
fluorescence	none	1	2	33

[a] gold nanoparticles

[b]Ultra Performance Liquid Chromatography and Mass Spectrometry

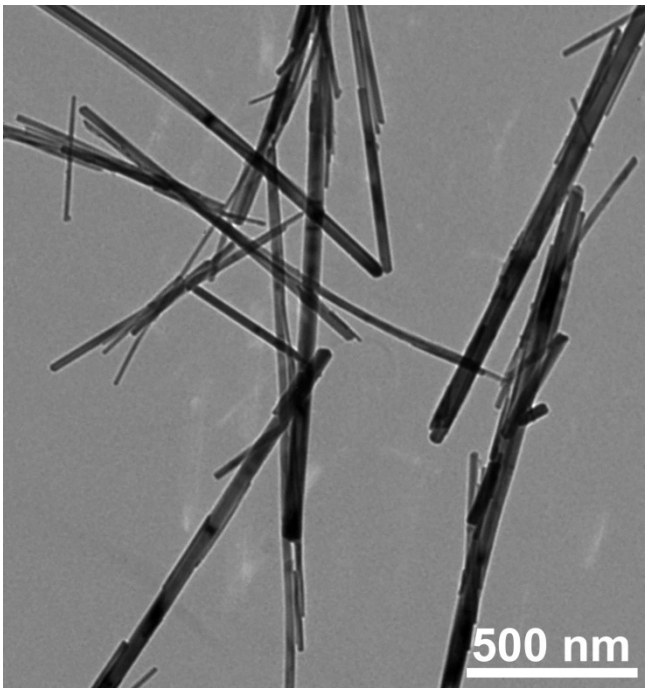

Figure S1 TEM image of MnO_2 NRs obtained after hydrothermal treatment for 8 hours.

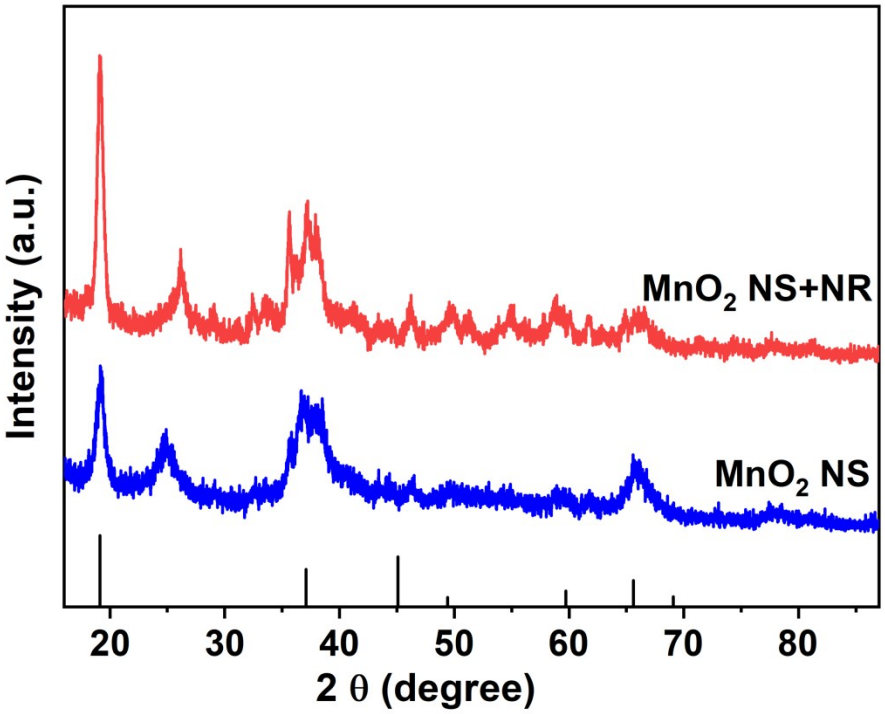

Figure S2 XRD patterns of MnO_2 NS and MnO_2 NS+MnO_2 NR.

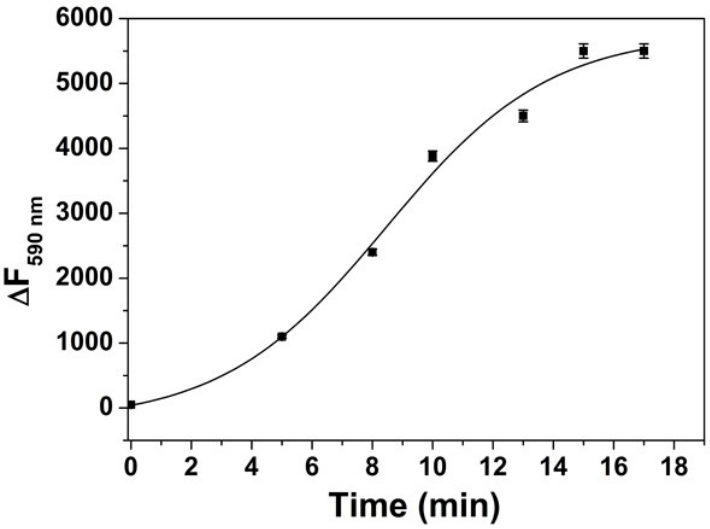

Figure S3 Effect of reaction time of MnO_2 NR and catechin (ECG) on fluorometric signal.

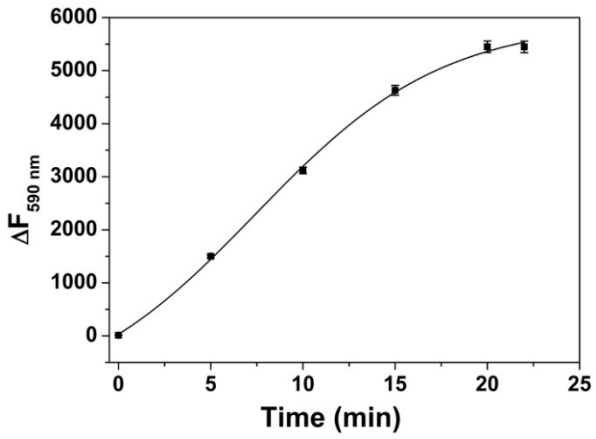

Figure S4 Effect of incubation time of AR and OPD on fluorometric signal.

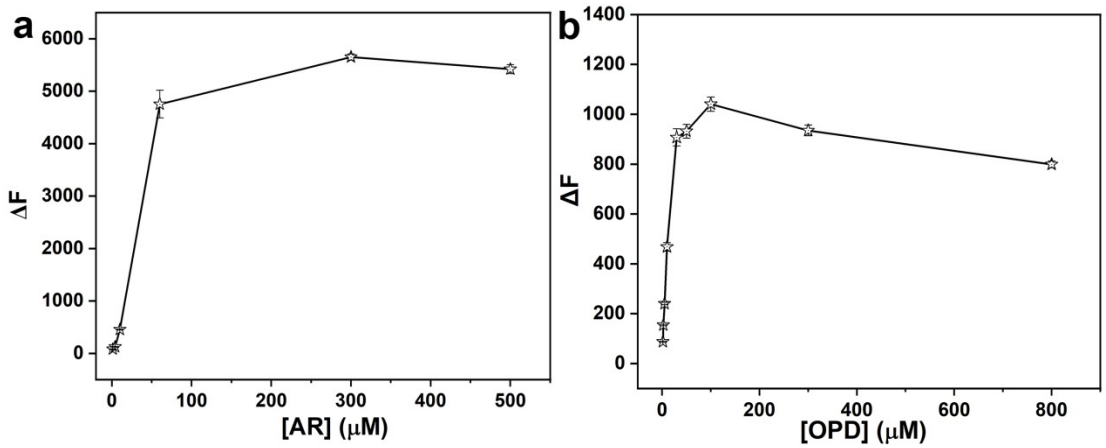

Figure S5 Effect of (a) AR concentration and (b) OPD concentration on the fluorometric signal.

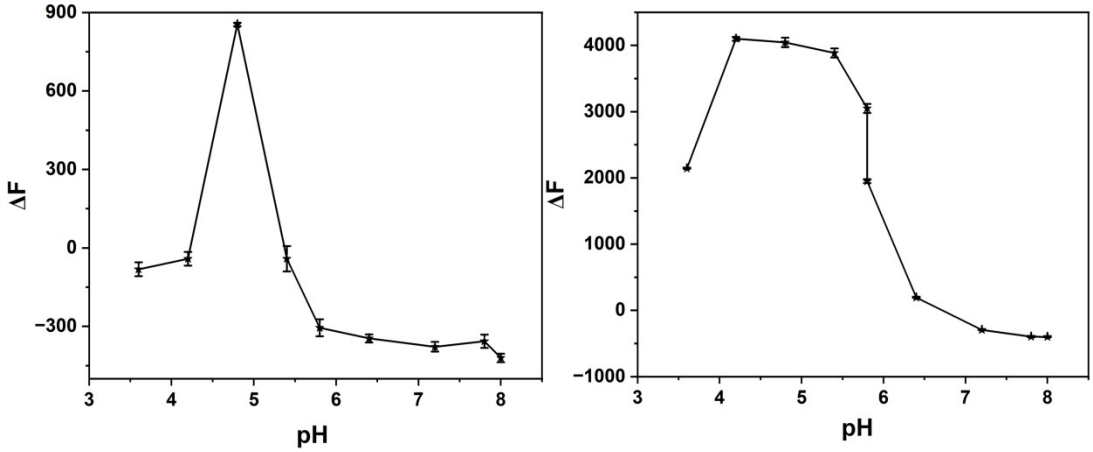

Figure S6 Effect of pH on the fluorescence signals of (a) oxAR and (b) oxOPD.

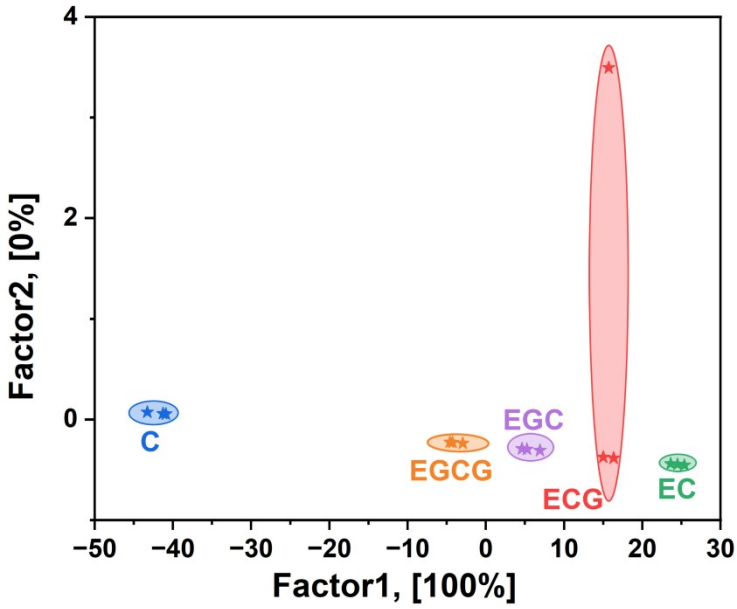

Figure S7 The LDA plot of the sensor array for discrimination of catechins at 10 μM.

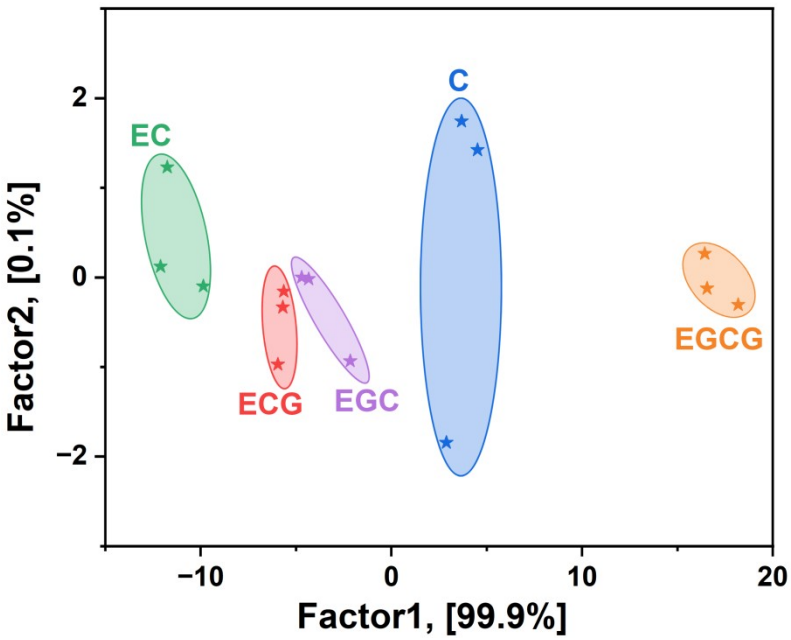

Figure S8 The LDA plot of the sensor array for discrimination of catechins at 1 μM.

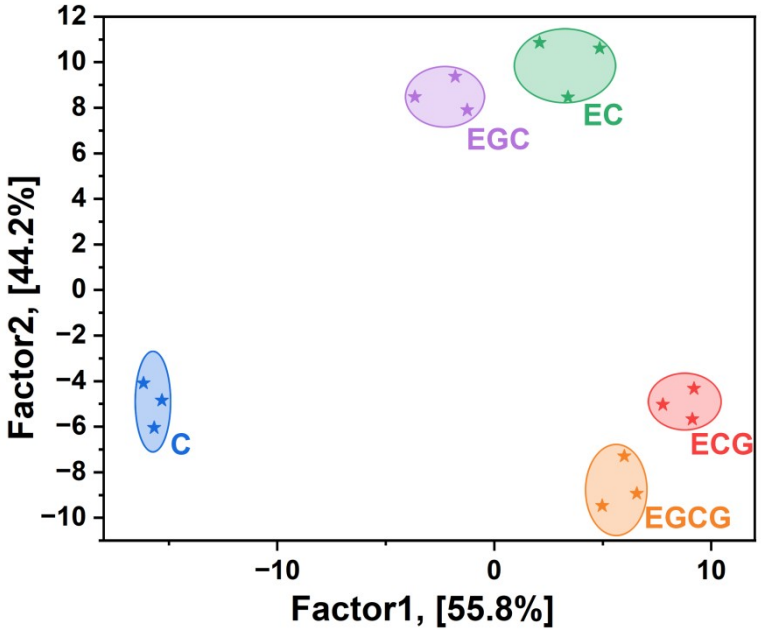

Figure S9 The LDA plot of the sensor array for discrimination of catechins at 0.5 μM.

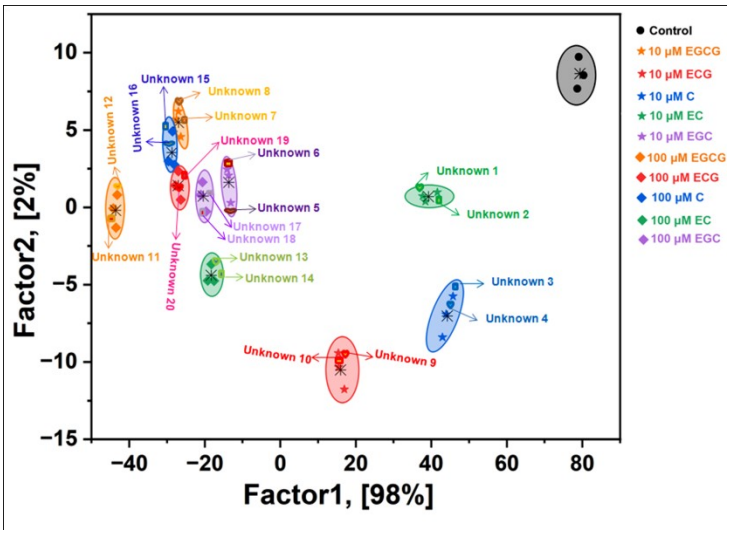

Figure S10 LDA score plots of the ten known catechins and 20 unknown catechin samples.