Supplementary information：

Synergetic signal amplification of multiwalled carbon nanotubes-Fe_3O_4 hybrid and trimethyloctadecylammonium bromide as a highly sensitive detection platform for tetrabromobisphenol A

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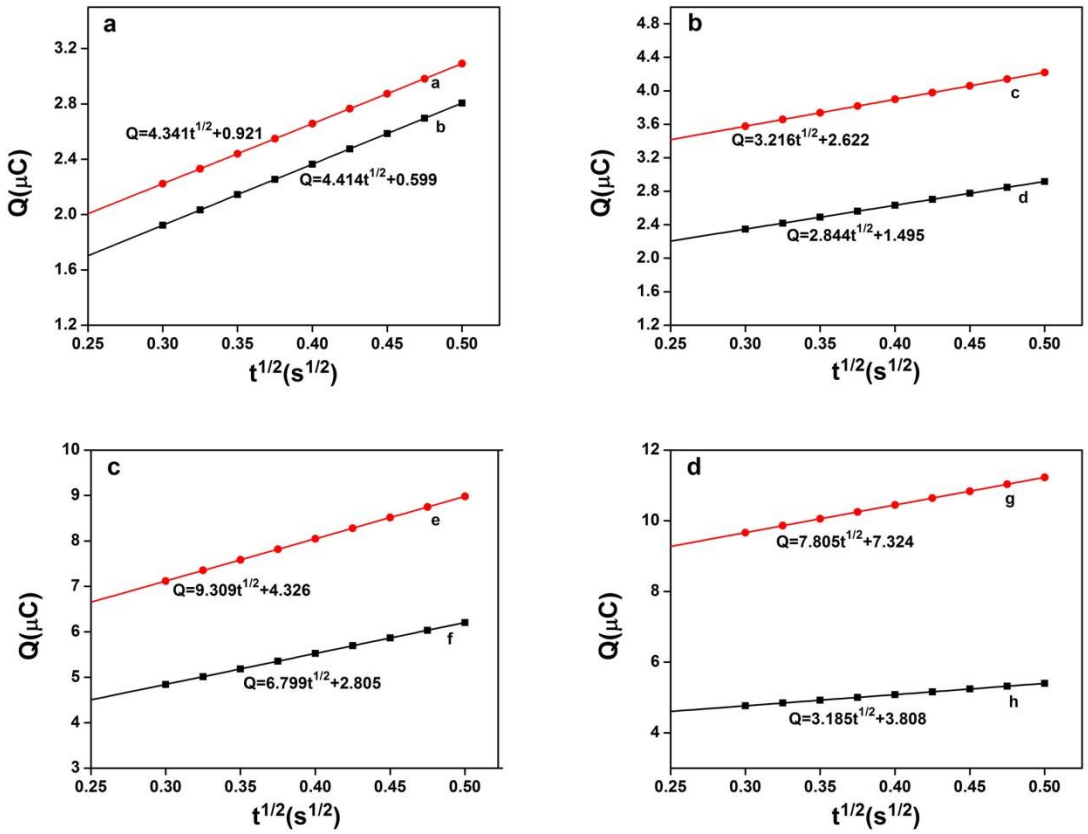

Figure S1. (a) Q-$t^{1/2}$ plots on GCE, (b) MWCNTs/GCE, (c) MWCNTs-Fe_3O_4/GCE and (d) TOAB/MWCNTs-Fe_3O_4/GCE in blank pH 7.0 PBS buffer (curve a, c, e and g) and in the presence of 100.0 nM TBBPA (curve b, d, f and h). Potential step: 0.3 to 0.8 V, plus width: 0.25 s.

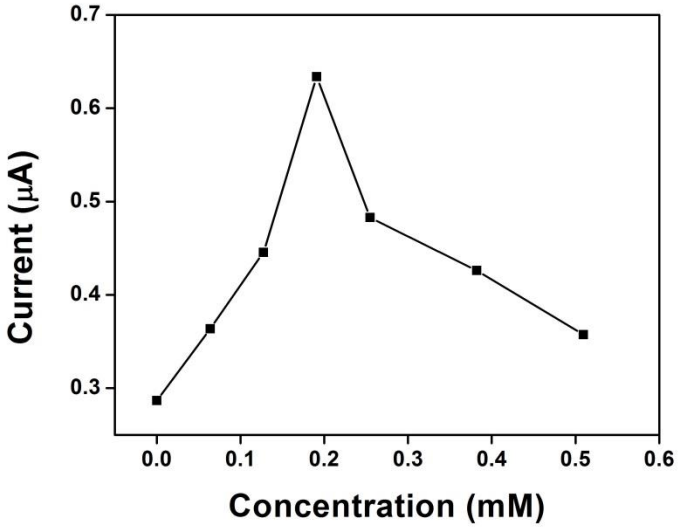

Figure S2. Influences of TOAB concentration on the oxidation peak currents of 100.0 nM TBBPA.

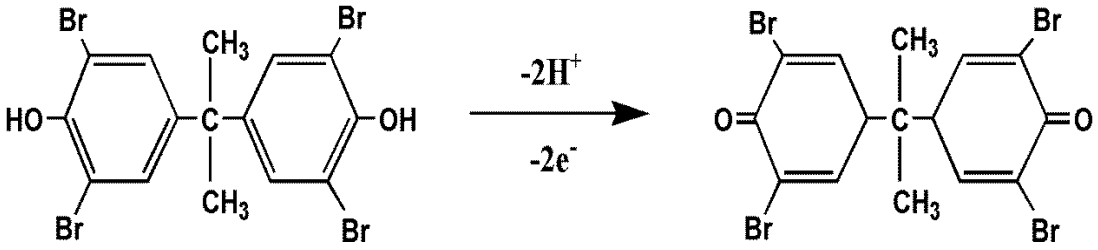

Figure S3. Schematic illustration of TBBPA electro-oxidation mechanism on the TOAB/MWNTs-Fe_3O_4/GCE.

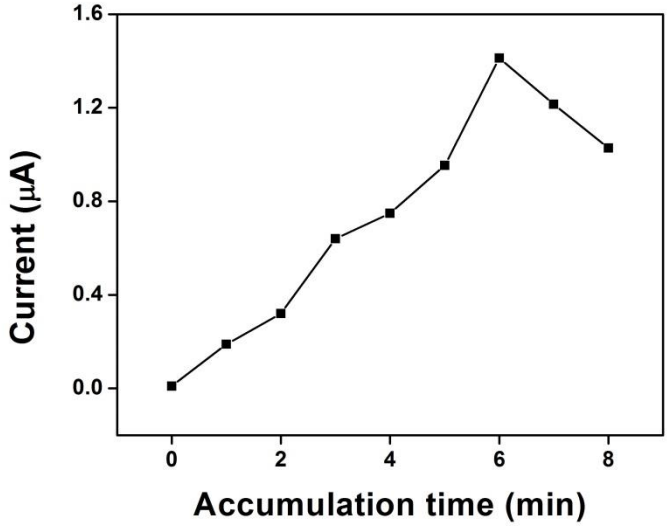

Figure S4. Influences of accumulation time on the oxidation peak currents of 100.0 nM TBBPA.

Table S1. Interference study for the determination of 0.1 μM TBBPA under the optimized condition

Interference	Tolerance limit (μM)
K^+, Na^+, NH^{4+}, Ca^{2+}, Mn^{2+}, Cd^{2+}, Zn^{2+}, Cu^{2+}, Al^{3+}, Fe^{2+}, Fe^{3+}, Cl^-, Ac^-, $SO4^{2-}$, $PO4^{3-}$	50
glucose, p-aminophenol, 4-nitrophenol, 3-aminophenol, o-nitrophenol, m-nitrophenol, p-nitrophenol, catechol, hydroquinone, phenol, nonyl phenol	10
BPAF, BPF, BPS, TBBDE, TBBME , TCBPA,	1
BPA, TBBPS	0.5

Table S2.The comparison of different methods for TBBPA detection.

Method	Linear range (nM)	Detection limit (nM)	Ref
HPLC	9.20–920.81	0.239	21
HPLC-MS	0.02–0.36	0.023	22
GC-MS	9.20–552.48	0.165	24
ELISA	0.11–10.84	0.05	27
MIP/GP/NBD/GCE	0.50–4.5	0.23	29
MIP/Ni/GP/GCE	0.5–10000	0.13	30
MIP/GP/CNTs/GCE	0.01–10	0.0037	31
AB/GCE	18.42 –644.56	11.12	32
CTAB /NG-TPA/GCE	10–1000	9	33
TOAB/MWCNTs-Fe_3O_4/GCE	3–1000	0.73	This work