Supporting Information

Electrochemical sensor based on polyaniline-modified SnO_2 nanocomposite for ethephon detection

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1. EIS Nyquist plots and equivalent circuit

The EIS spectra were analyzed using the software Zview2, a nonlinear least-square was used to fit and determine the parameters of the elements in an equivalent circuit (Fig. S1). The Randles equivalent circuit consisting of solution resistance (R_s), charge-transfer resistance (R_{et}), constant-phase element (CPE), and Warburg impedance (W_o) was inset of Fig. S1.

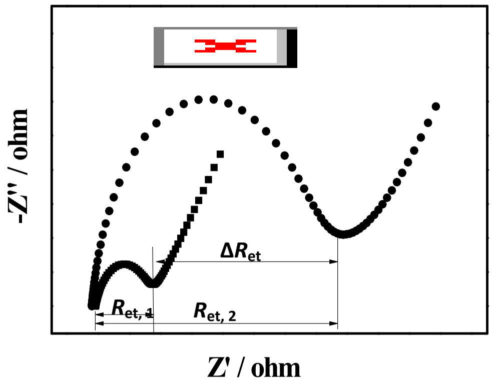

Fig. S1 EIS Nyquist plots and equivalent circuit

2. Chemical elements of SnO_2@PANI and SnO_2@PANI- ethephon

Table S1 Atomic % in SnO_2@PANI and SnO_2@PANI- ethephon

Samples	Atomic %					
	C 1s	**N 1s**	**Sn 2d**	**O 1s**	**P 2p**	**Cl 2p**
SnO_2@PANI	60.33	9.39	6.42	23.87	—	—
SnO_2@PANI+ethephon	43.1	6.83	5.39	35.51	8.21	1.05

3. N_2 adsorption /desorption measurements

The N_2 adsorption–desorption isotherms of SnO_2@PANI sample is presented in Fig. S2. According to the BET analysis, the specific surface area of the composite material was obtained as14.332 m^2/g.

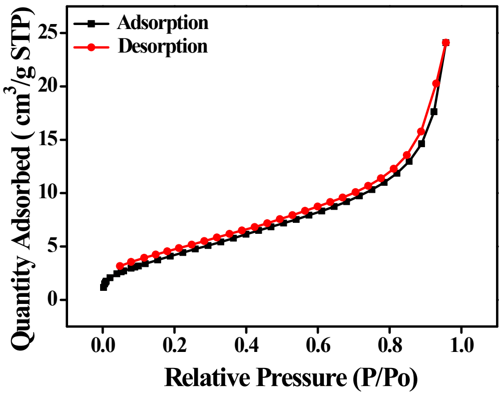

Fig. S2 (a) N_2 adsorption and desorption isotherm of SnO_2@PANI nanocomposite.

4. Other interferences

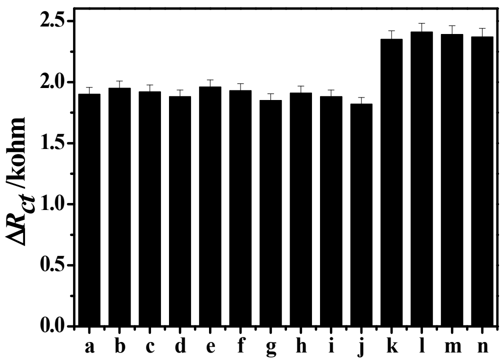

Fig. S3 ΔR_{ct} values for the ethephon detection in the absence (a) and presence of 3 ng/mL of glucose (b), citric acid (c), oxalic acid (d), PO_4^{3-} (e), SO_4^{2-} (f), NO_3^- (g), Cu^{2+} (h), Fe^{3+} (i), Pb^{2+} (j), Hg^{2+} (k), methyl parathion (l), carbofuran (m), and p-nitrophenol (n).