Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

The electrochemical catalytic behavior of pyrogallol at 8-hydroxyquinoline-Aluminum complex modified carbon paste electrode and its detection in tomato

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1. The influence of acidity solution

The acidity of solution greatly influences the electrochemical activity of pyrogallol as well as the catalytic activity of modified electrode. Fig.S1 shows the cyclic voltammogram of pyrogallol at Alq (1:1) complex modified carbon paste electrode at different pH (0.39, 0.53, 0.63, 0.75, 0.93, 1.25 and 7) solution. The cyclic voltammogram shows that the oxidation peak currents increase with the decrease of pH.

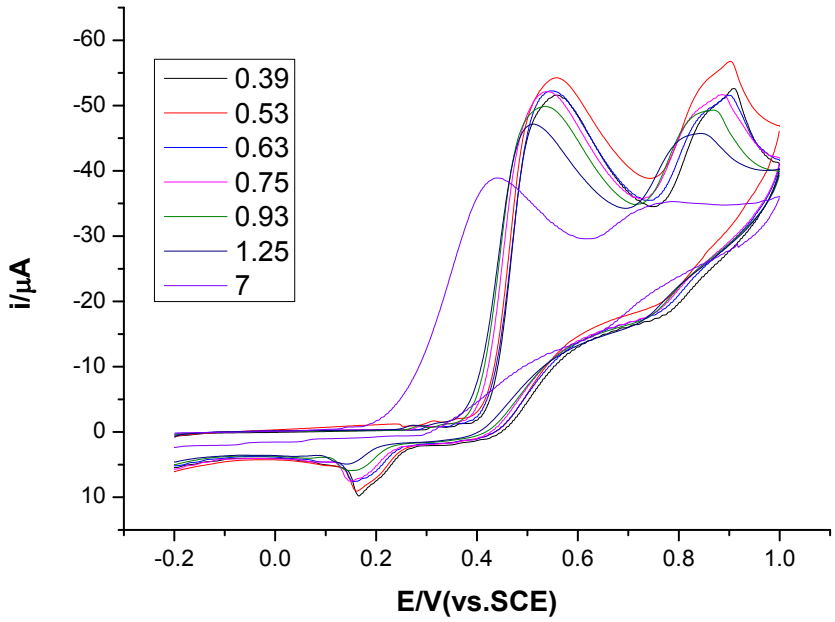

Fig.S1 The cyclic voltammogram of pyrogallol at Alq (1:1) complex modified CPE at different pH solution containing 0.5 M KCl with 1 mM pyrogallol at scan rate of 50mV/s. This is the original CV curves for Fig.3

2. The influence of preconcentration time

The preconcentration time is the time interval from setting electrodes in an electrolyte solution to starting potential scanning. The cyclic volammetric experiments were performed at different preconcentration times (Figure. S2).

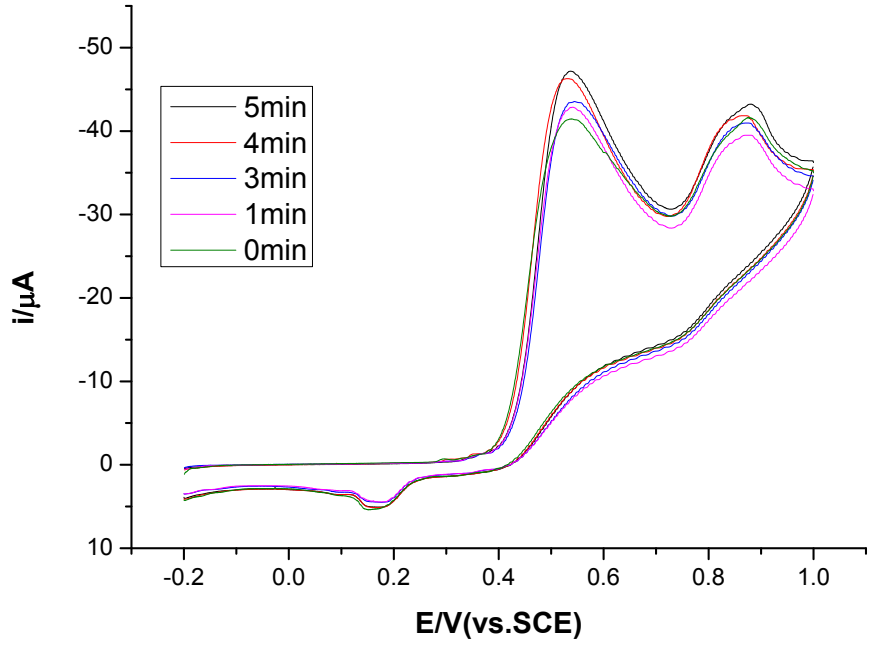

Fig.S2 The cyclic voltammogram of pyrogallol at Alq (1:1) complex modified CPE at different preconcentration times. The solution contains 0.5 M KCl with 1 mM pyrogallol at scan rate of 50mV/s. This is the original CV curves for Fig.5

3. The influence of pyrogallol concentration

The cyclic voltammetric experiments were carried out in the electrolyte solution including different concentration of pyrogallol at the modified CPE and unmodified CPE. The pyrogallol concentration in the range of 0.5 ～500 μM as shown in Fig.S3.

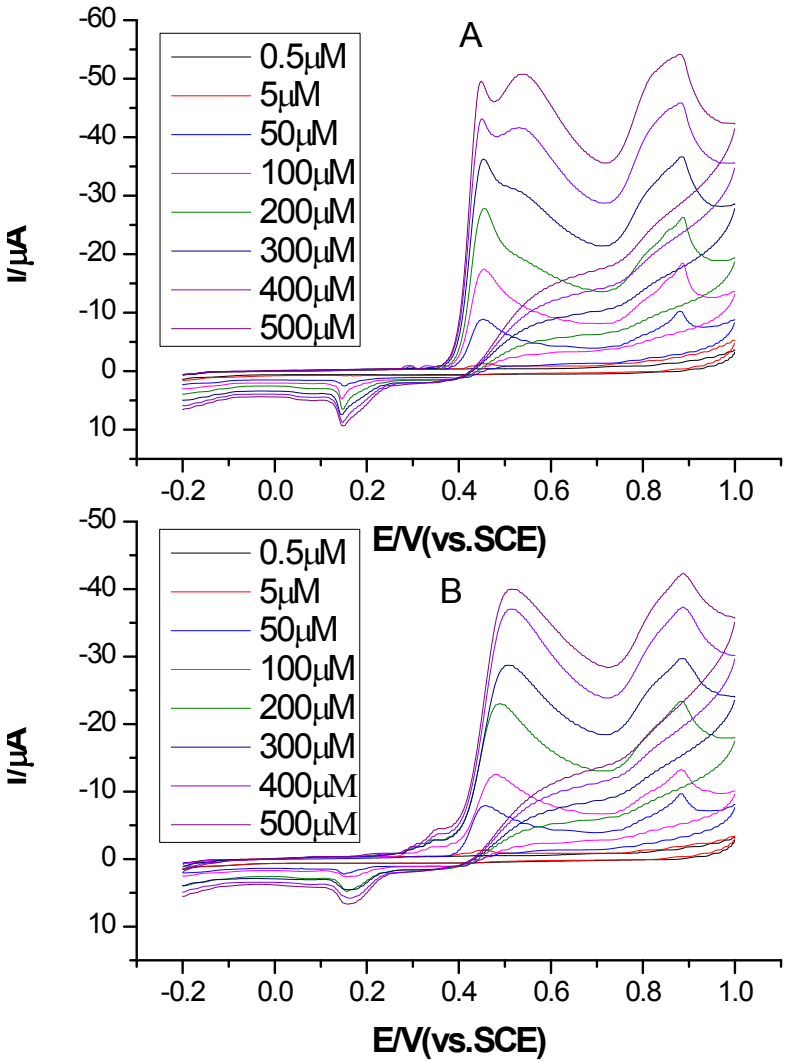

Fig.S3 The cyclic voltammogram of pyrogallol at Alq (1:1) complex modified CPE and unmodified CPE at contains 0.5 M KCl with different concentrations pyrogallol solution at scan rate of 50mV/s. A: modified CPE; B: unmodified CPE. This is the original CV curves for Fig.6