A probe-free electrochemical immunosensor for methyl jasmonate based on Cu-MOFs-carboxylated graphene oxide platform

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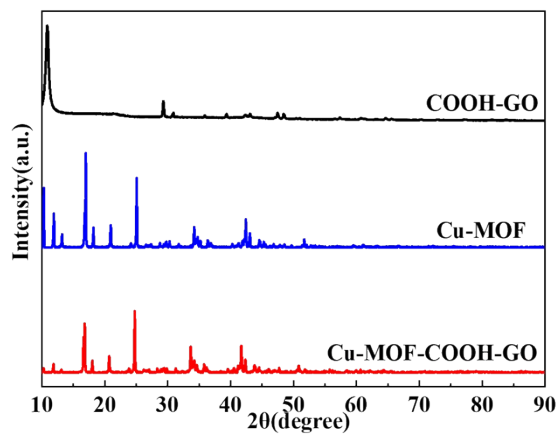
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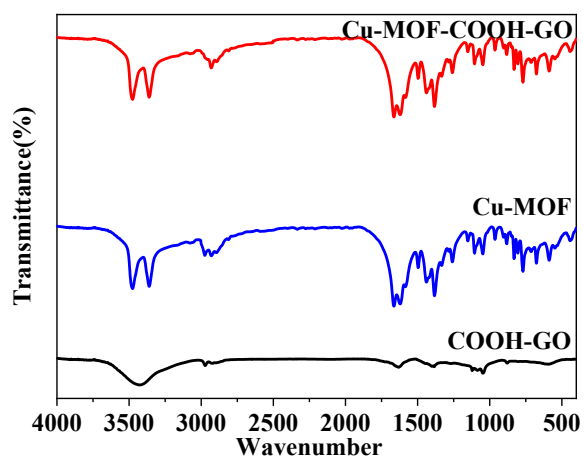
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Fig. S1 The XRD (A) and FTIR (B) characterization of COOH-GO, Cu-MOFs and Cu-MOF-COOH-GO.

(A)

(B)

Fig. S2 The (A) CV and (B) EIS plots of bare SPE (a), Cu-MOFs-COOH-GO/SPE (b),

Anti-MeJA/Cu-MOFs-COOH-GO/SPE (c), BSA/Anti-MeJA/Cu-MOFs-COOH-GO

/SPE (d), MeJA/BSA/Anti-MeJA/Cu-MOFs-COOH-GO/SPE (e) in 5 mM

$[Fe(CN)_6]^{3-/4-}$ solution containing 0.1 M KCL. The concentration of MeJA is 1 nM.

(C) CVs of the immunoelectrode with the sweep rate ranged from 60 to 300 mV·s^{-1} (a

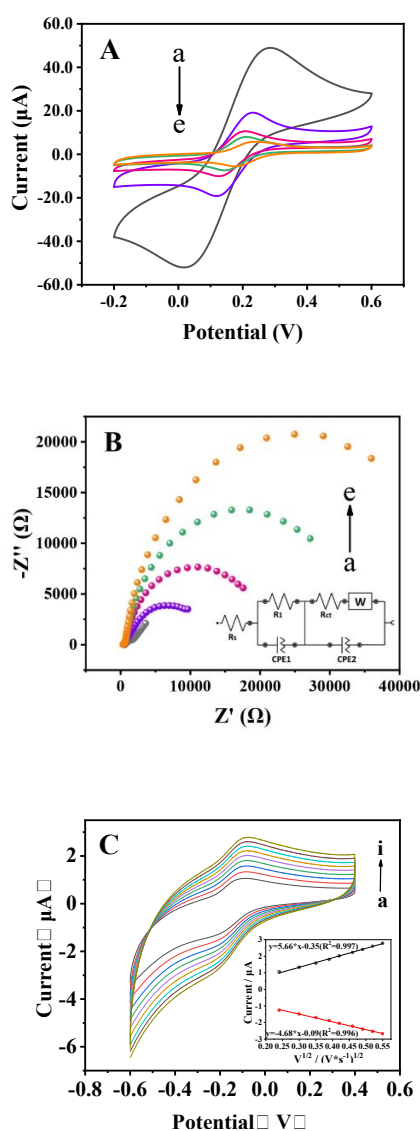to i), the inset shows linearity of peak current vs v$^{1/2}$.

Fig. S3 Optimization of analytical conditions. Effect of (A) incubation time of antigen (30, 40, 50, 60, and 70 min); (B) Cu-MOFs concentration (0.5, 0.75, 1.0, 1.25, and 1.5 mg mL^{-1}); (C) COOH-GO concentration (0.5, 1.0, 1.5, 2.0, and 2.5 mg mL^{-1}); (D) Ab concentration (0.01, 0.05, 0.10, 0.15, and 0.20 mg mL^{-1}).
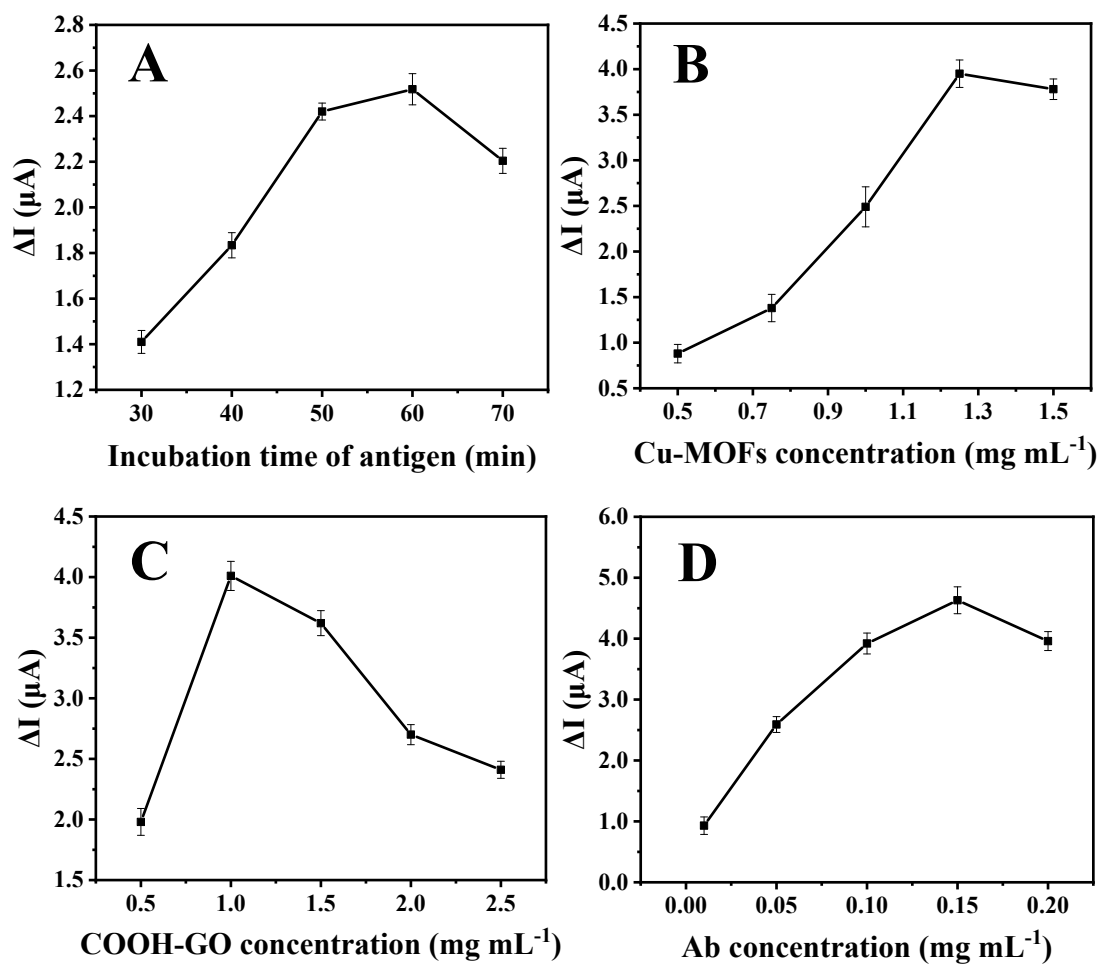
Table S1: Concentrations of MeJA in grape samples.

Samples	immunosensor (nM)	ELISA(nM)	Relative error (%)
1	7.49	6.87	8.91
2	9.77	10.00	-2.31
3	10.79	9.83	9.77
4	9.15	8.37	9.23
5	9.84	9.96	-1.22
6	12.49	11.17	11.81