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Supplementary Information

Phytic acid determination in food products by extract of rice sprout and SBA@DABCO nanoparticles modified filter paper as a novel electrochemical biosensor

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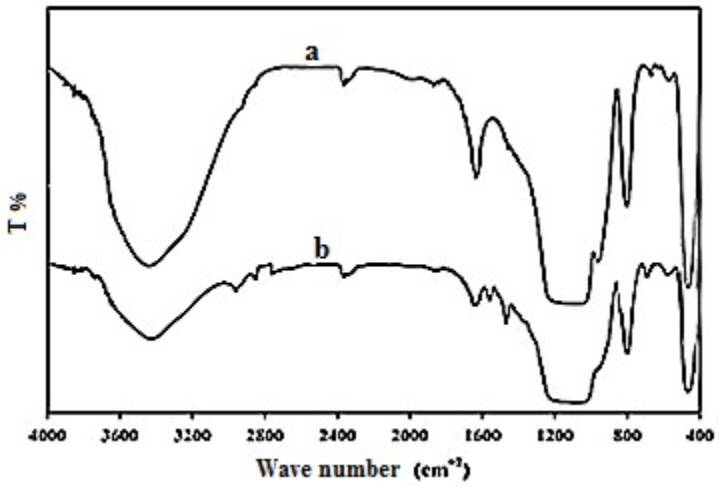

Fig. S1. FT-IR spectra of (a) SBA-15 and (b) SBA@DABCO

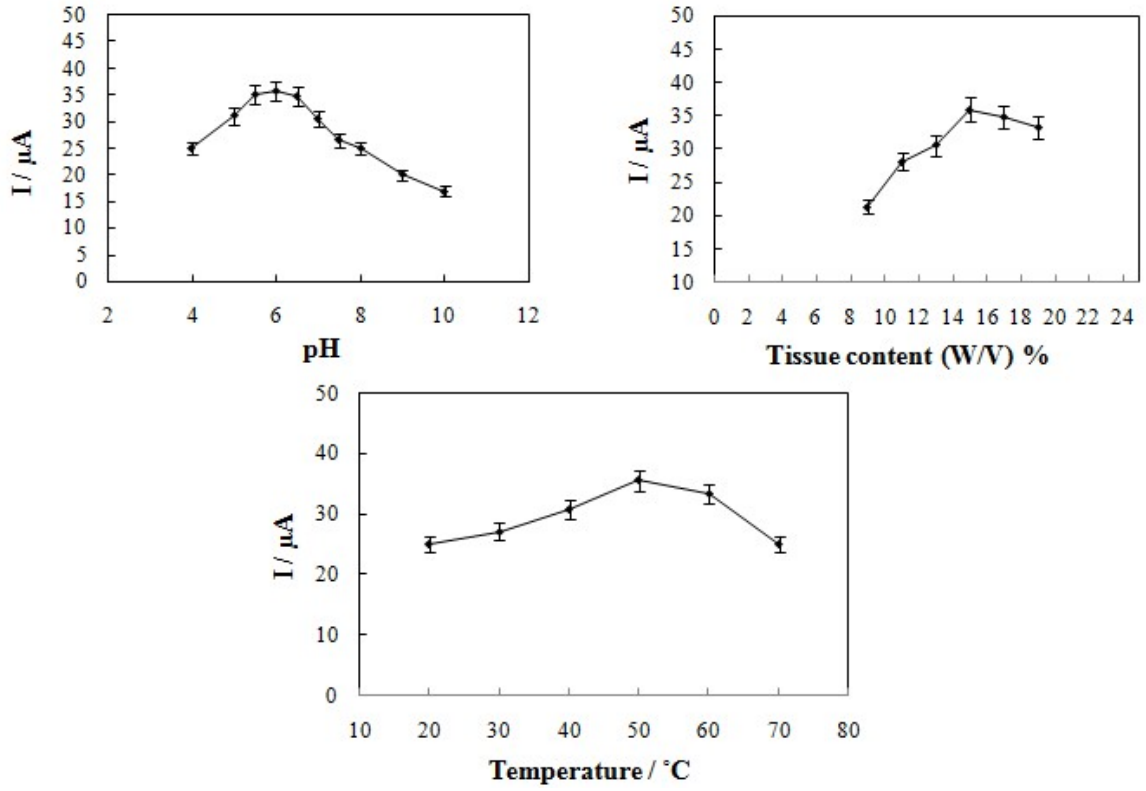

Fig. S2. The optimization of the experimental parameters on the purposed biosensor: Effects of (a) pH values, (b) tissue extract-loaded concentrations, (c) temperature of the tissue extract solution on the DPV responses to 2 μM of PA in 0.1 M PBS and 0.1 M borate buffer solution (for pH 8.0 to 10.0)

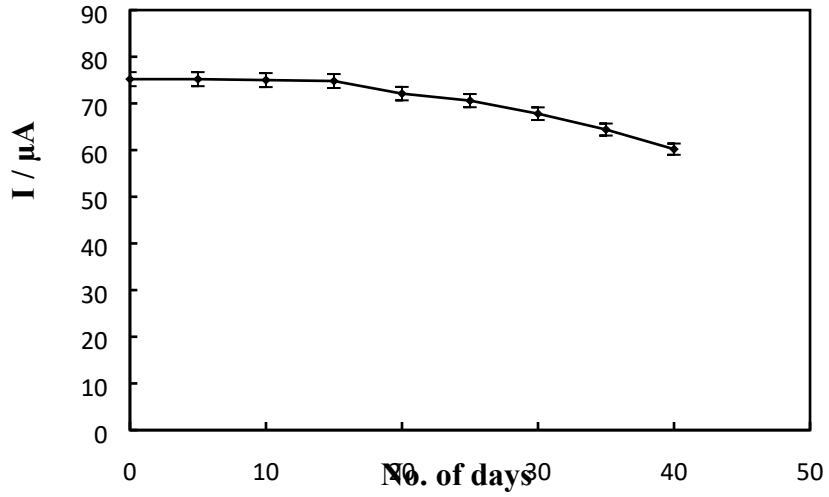

Fig. S3. The SBA@DABCO/PHY/GSPE stability on the DPV responses of 5 µM of PA in 0.1 M PBS (pH 6.0)

Table S1. Comparison of the PA determination at the SBA@DABCO/PHY/GSPE with some other modified electrodes reported by other research groups

Transducer	Detection technique	LOD (μM)	LDR (μM)	Ref.
Graphitic carbon nitride-chitosan nanosheets on glassy carbon electrode	DPV	2.16	5.41 – 27.05	[1]
Polypyrrole/phytase on Pt disk	Amperometry	150	500 – 2000	[2]
Phytase and pyruvate oxidase on platinum electrode	Amperometry	2.00	200 – 2000	[3]
SBA@DABCO/ PHY/SPE	DPV	0.04	0.1 – 10.0	This work

1. C. Esmaeili, P. Norouzi, S. A. Atabay, H. Ahmadzadeh and E. K. Goharshadi, *Sensor Letters*, 2018, **16**, 573-579.
2. V. C. Rodrigues, M. L. de Moraes, A. Brisolari, J. C. Soares, M. Ferreira and D. Gonçalves, *Sensors and Actuators B: Chemical*, 2011, **160**, 222-226.
3. W. C. Mak, Y. M. Ng, C. Chan, W. K. Kwong and R. Renneberg, *Biosensors and Bioelectronics*, 2004, **19**, 1029-1035.