Electronic Supplementary Material (ESI) for Reaction Chemistry & Engineering.

Novel Schiff base Iron (II) phthalocyanine with composite MWCNTs on modified GCE: Electrochemical sensors development of paracetamol

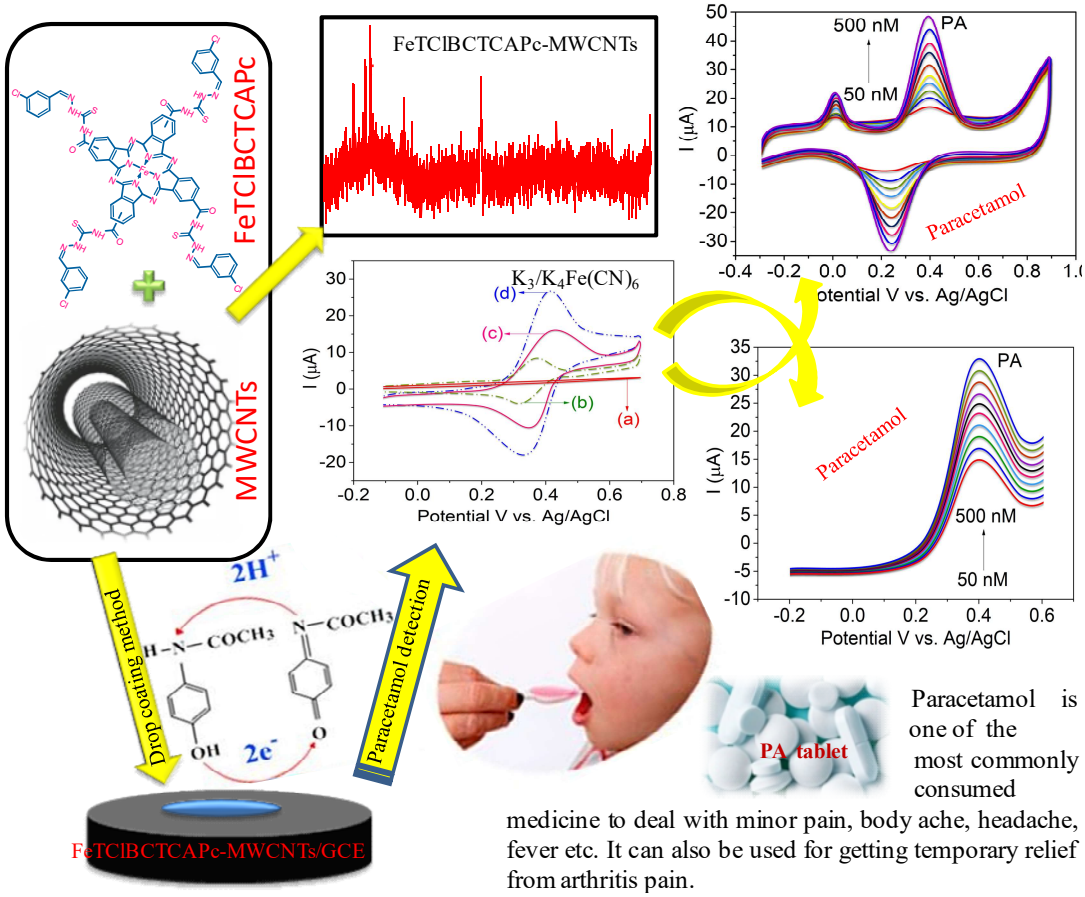
[a,*]Mounesh, [a]K. R. Venugopala Reddy, [b]D. Yuvaraja, [b]Juan. M. Manriquez, [a]K. S. Lokesh, M. K. Amshumali[c]

[a,*]Department of Studies and Research in Chemistry Vijayanagara Sri Krishnadevaraya University, Ballari – 583105 Karnataka (India)

[b]Quimica y de Farmacia, Pontificia Universidad Catolica de Chile, Avenida Vicuña Mackenna 4860, Macul, Santiago, Chile

[c]Department of Studies and Research in Industrial Chemistry Vijayanagara Sri Krishnadevaraya University, Ballari – 583105 Karnataka (India)

(Email: mounesh.m.nayak@gmail.com, Cell No: +91-8197546693)



Paracetamol is one of the most commonly consumed medicine to deal with minor pain, body ache, headache, fever etc. It can also be used for getting temporary relief from arthritis pain.

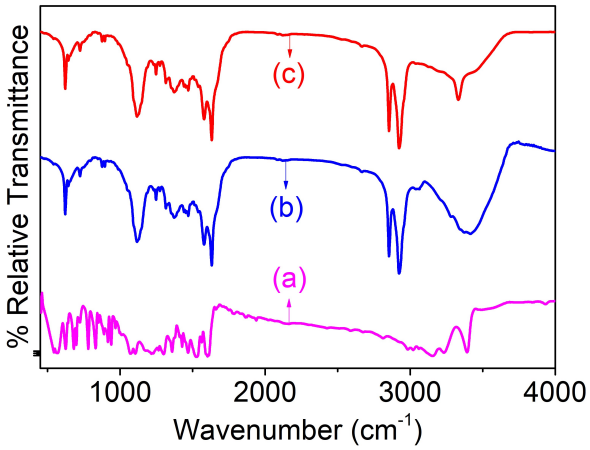


Fig.S1: FTIR spectra of (a) ClBCTA, (b) FeTCAPc, and (c) FeTClBCTCAPc.

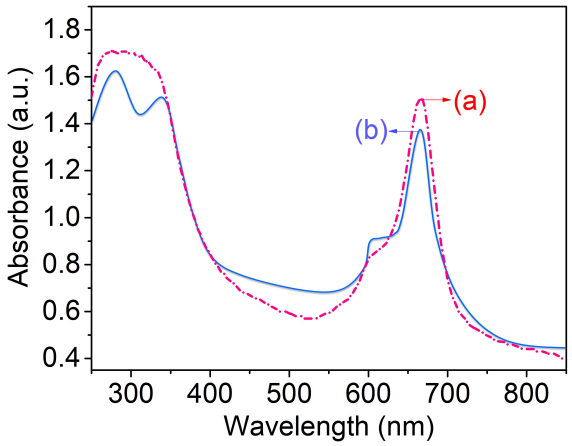


Fig.S2: UV-Vis spectrum of (a) FeTCAPc and (b) FeTClBCTCAPc.

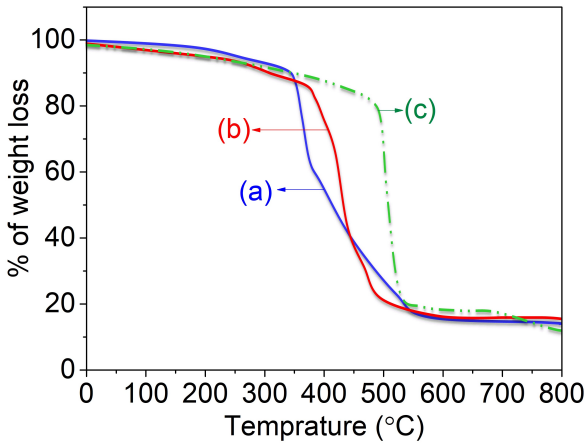


Fig.S3: Thermogravimetric analysis of (a) FeTCAPc, (b) FeTClBCTCAPc and (c) FeTClBCTCAPc-MWCNT.

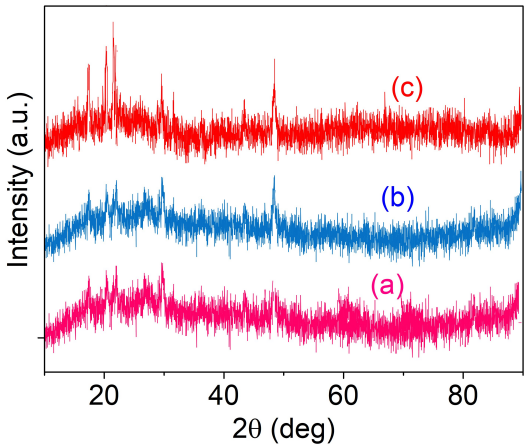


Fig.S4: Powder XRD analysis of (a) FeTCAPc, (b) FeTClBCTCAPc and (c) FeTClBCTCAPc-MWCNTs.

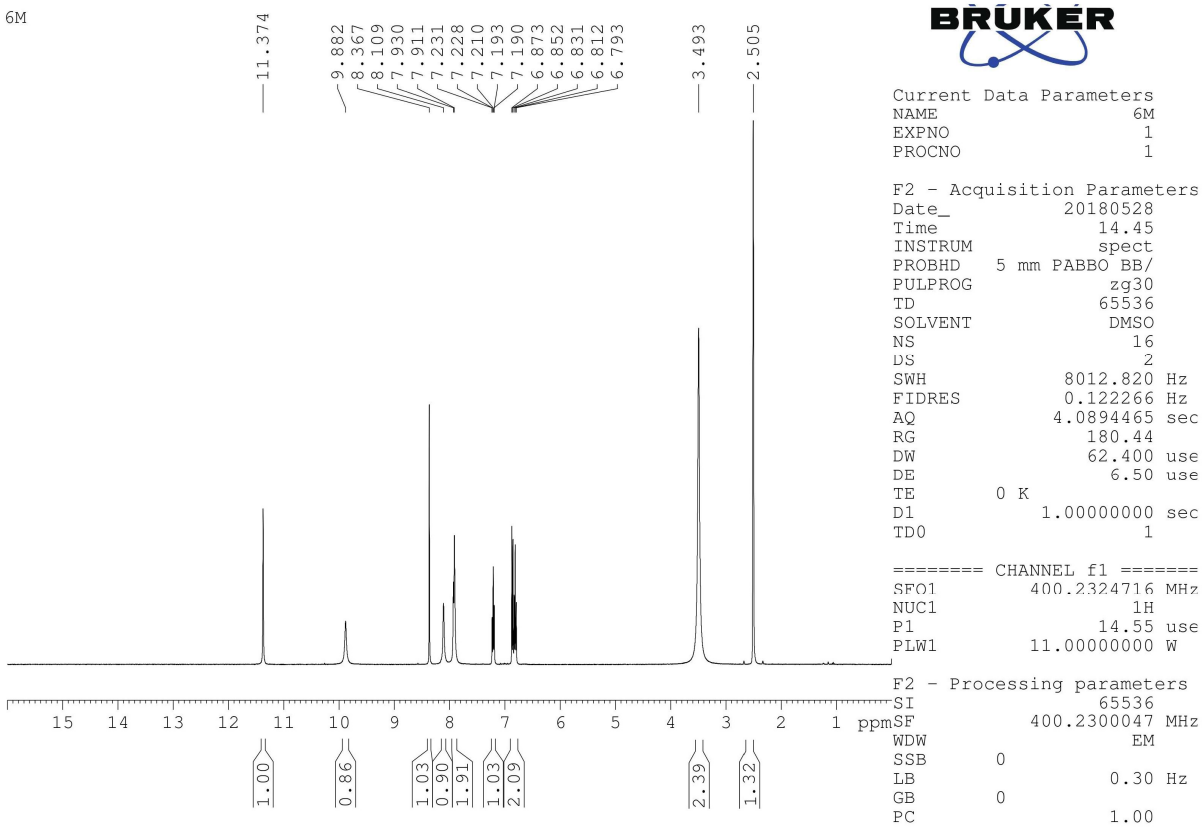


Fig.S5: ^{1}HNMR spectrum of ClBCTA.

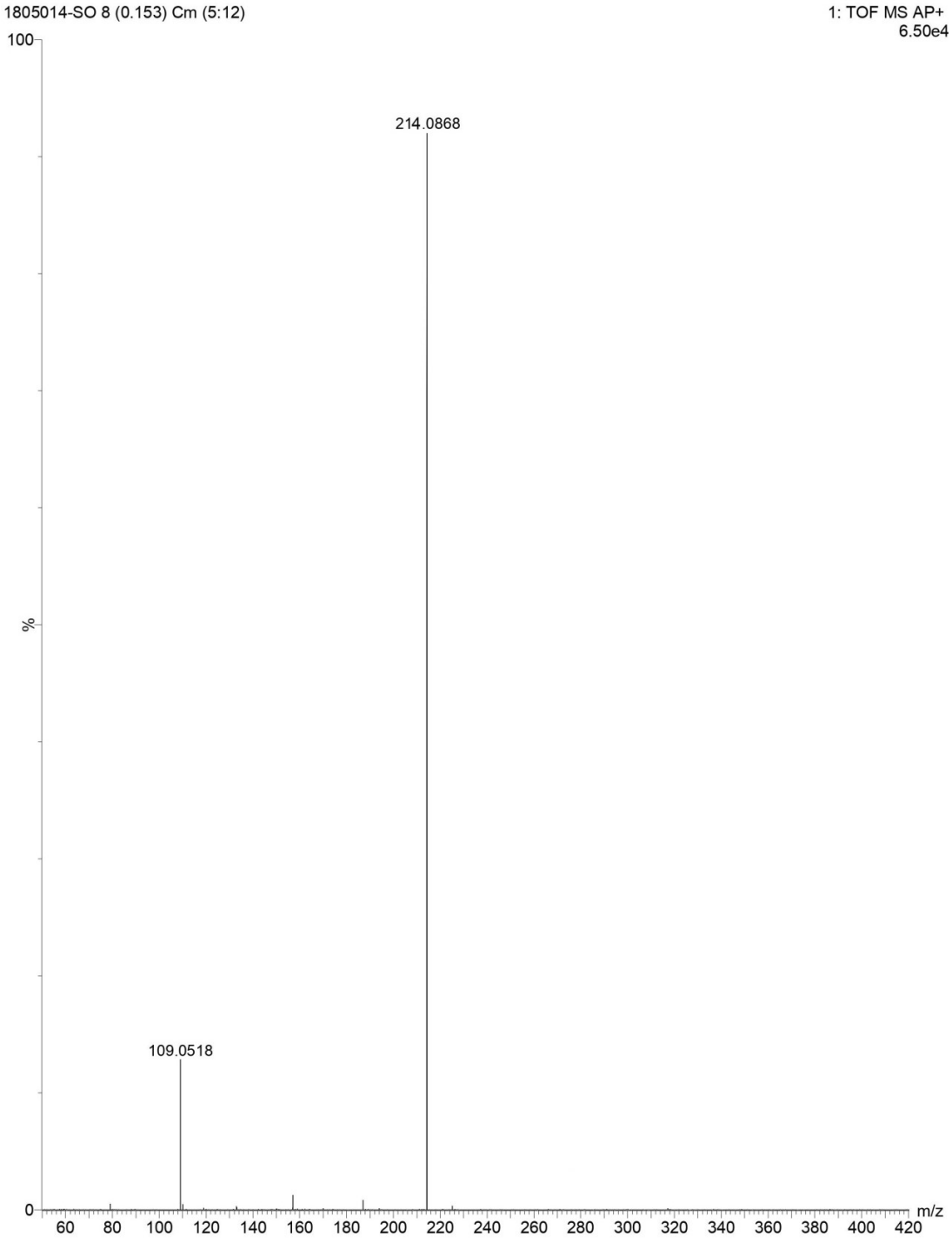


Fig.S6: Mass spectrum of ClBCTA.

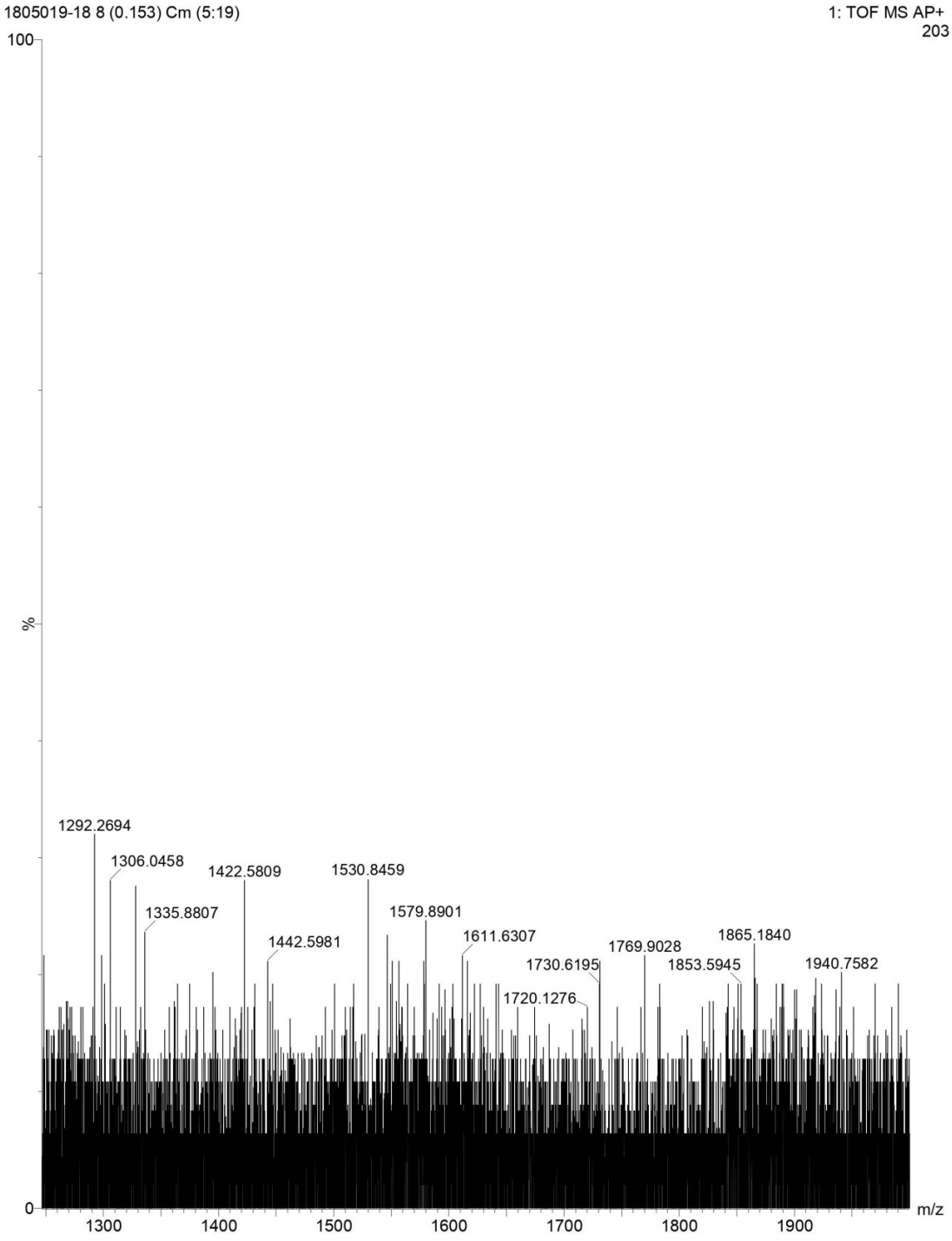


Fig.S7: Mass spectrum of FeTClBCTCAPc.

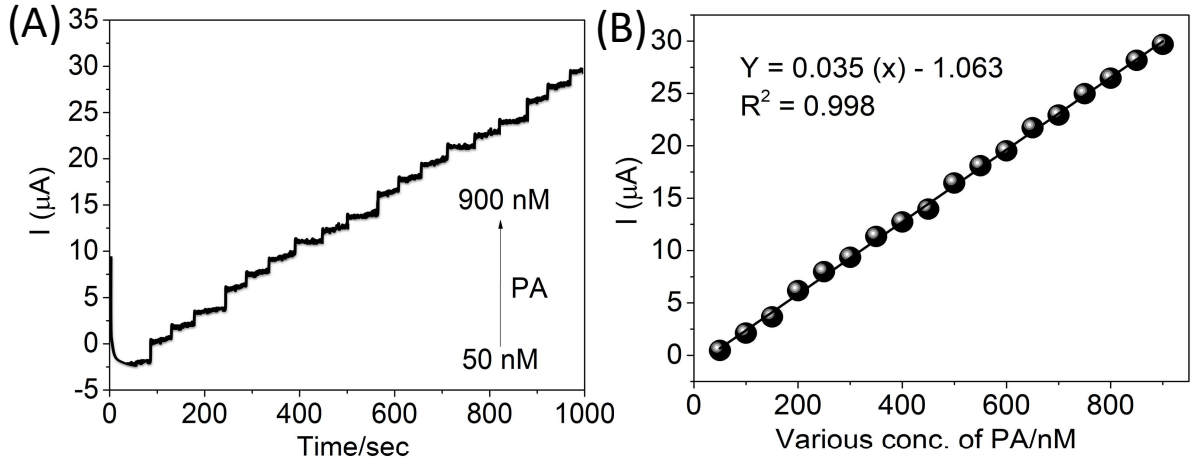


Fig.S8: Amperometric detection of PA. (A) Amperometric current response of PA (50-900 nM) successively addition. (B) Dependence of amperometric current response over added PA at applied potential of +430 mV.

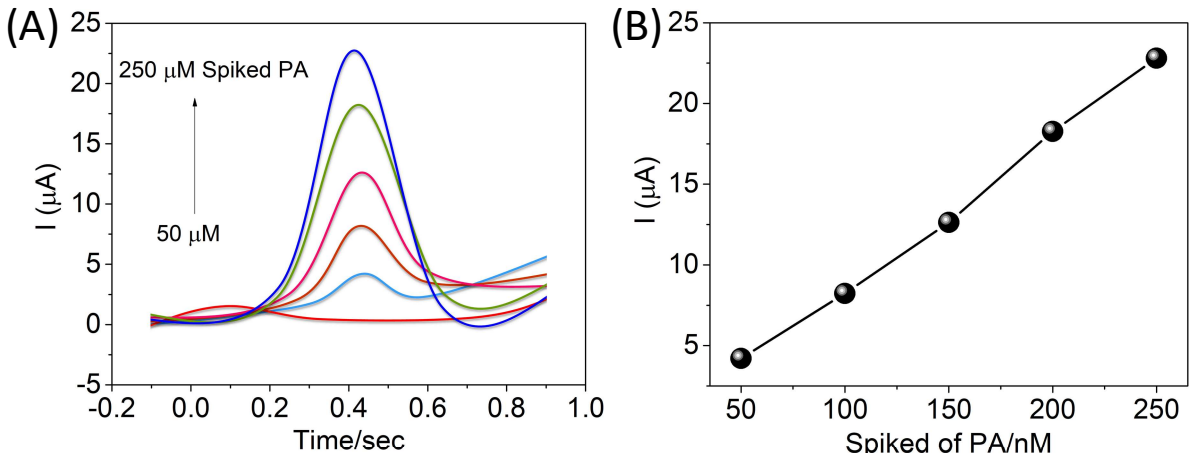


Fig.S9: DPV current responses of real samples analysis. (A) DPV response for PA real sample with PA in tablet sample spiking. (B) The dependence of oxidation currents over spiked of PA in tablet sample spiking.

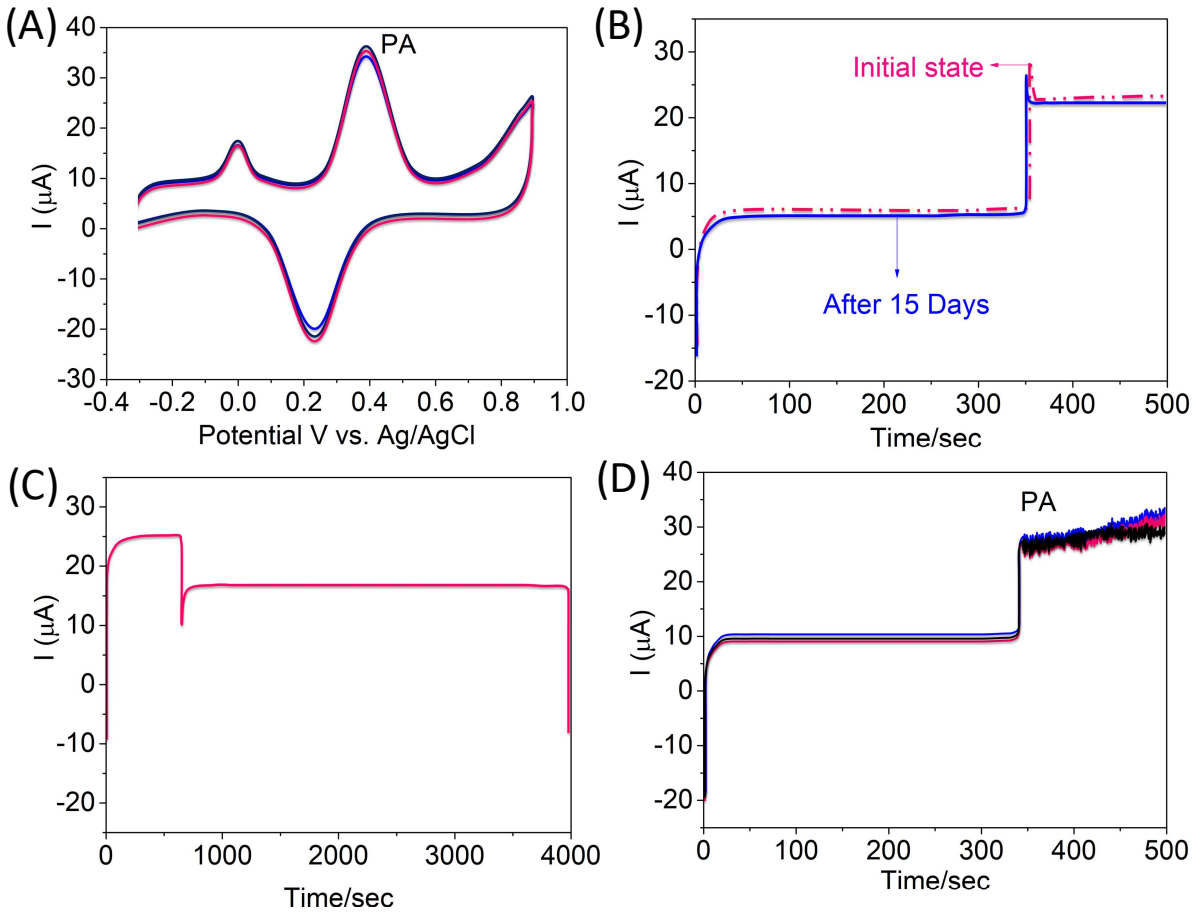


Fig.S10: (A) Ten successive CVs 200 nM of PA by FeTClBCTCAPc@MWCNTs/GC electrode in PBS (pH 7) solution at scan rate of 0.10 V s^{-1}. (B) Amperometric Storage stability of the FeTClBCTCAPc@MWCNTs/GC electrode for the response to 200 nM PA. (C) Operational stability of the FeTClBCTCAPc@MWCNTs/GC electrode under continuous response at the optimized potential of +430 mV in a stirred PBS (pH 7) containing 200 nM PA. (D) Reproducibility of the FeTClBCTCAPc@MWCNTs/GC electrode at the potential of +430 mV in a stirred PBS (pH 7) for injections of 200 nM PA.

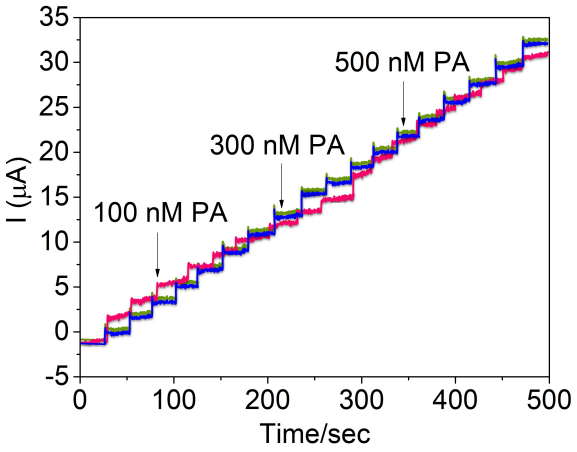


Fig.S11: Representative amperometric curves of three FeTClBCTCAPc@MWCNTs/GC electrode prepared on a same GCE in 8 mL stirring PBS (pH 7) solution with successive additions of 300 nM PA at +430 mV (n=3).

Table S1. Real sample analysis for the validation of FeTClBCTCAPc@MWCNTs/GC electrode loaded PA sensor

Sample	**PA**				
	Spiked (nM)	Found (nM)	Detected (nM)	Recoveries (%)	RSD (%) (n=3)
PPAT	50	0	49.9	99.8	102.58
	100		100.1	100.1	103.83
	150		150.6	100.5	101.35