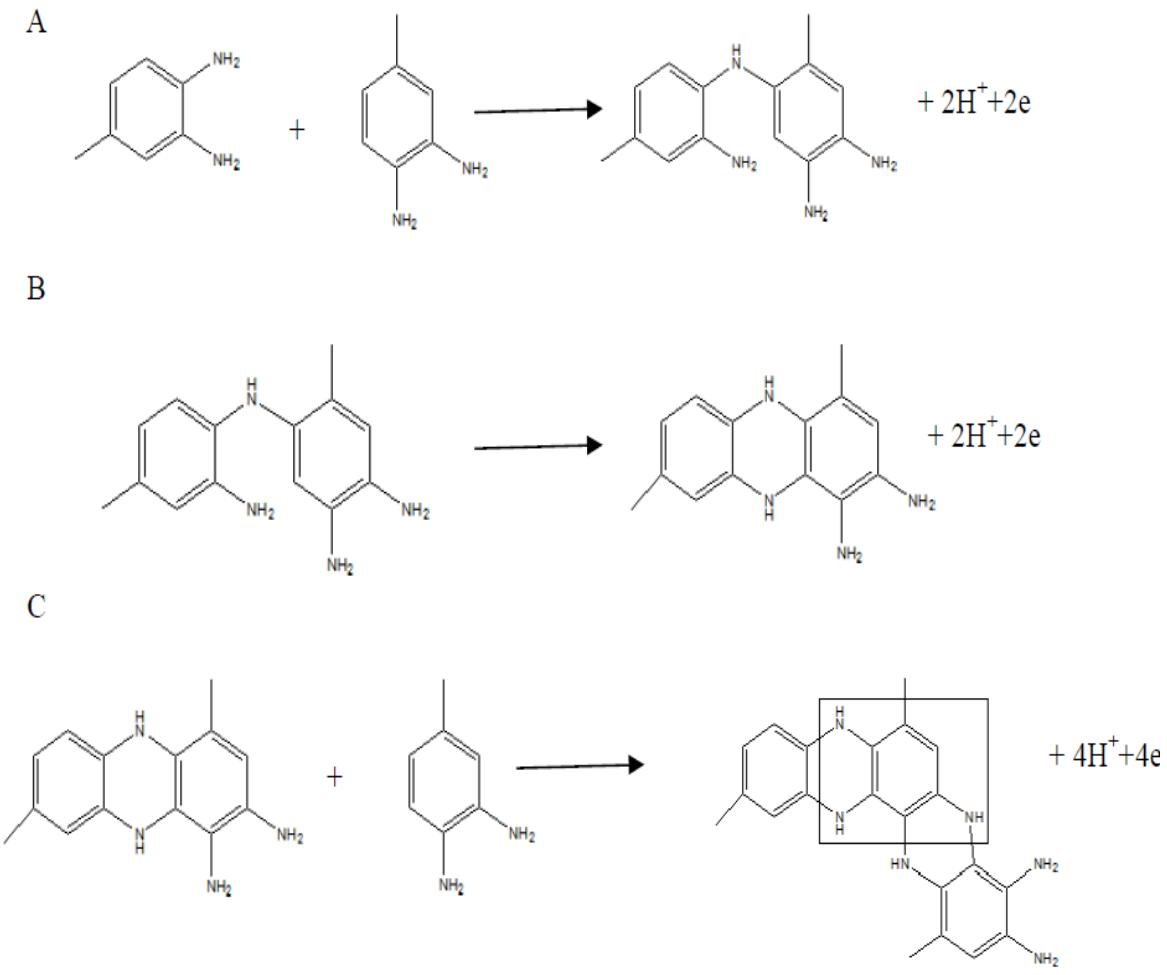
Electronic Supplementary Material (ESI) for Analytical Methods.

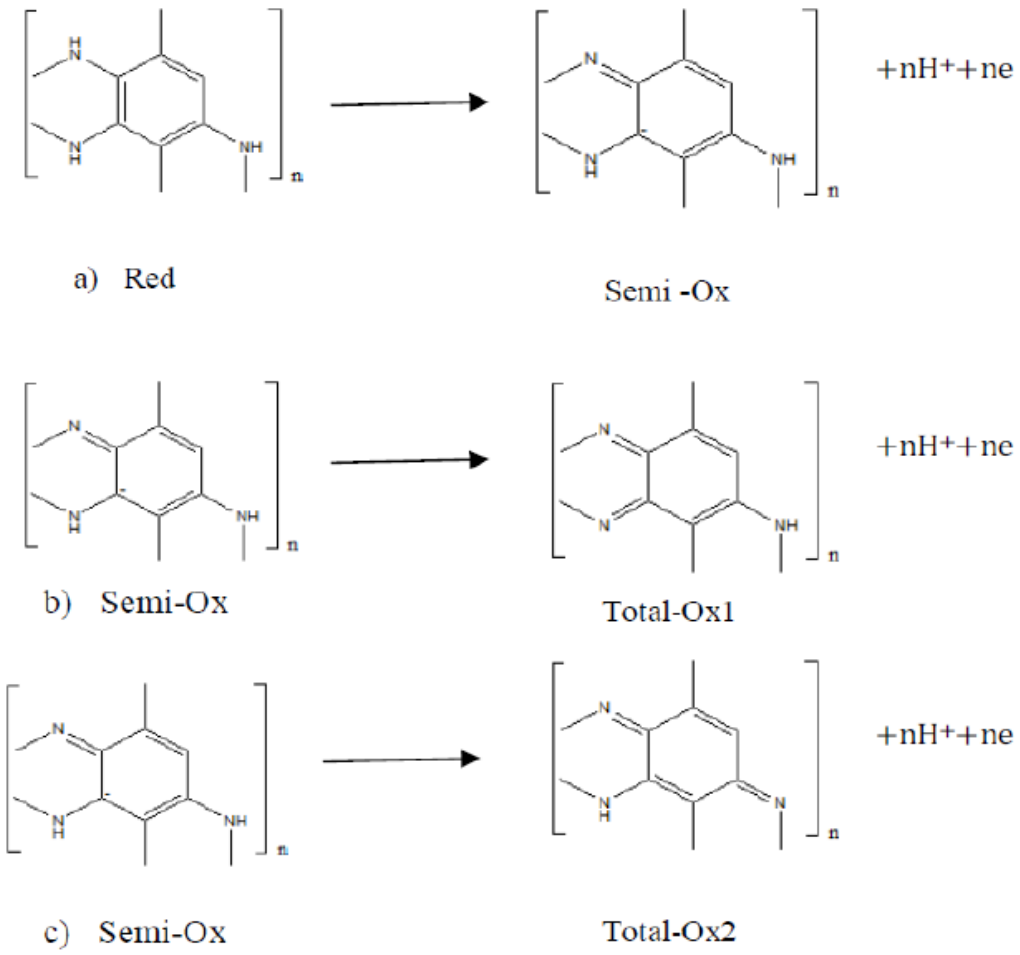
Legends to the supplementary

Fig. S1. (A) Cyclic voltammetry response poly (4-M*o*PD)/MWNTs/GCE in PBS pH 7 at scan rates 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 150, 200, 250, 300, 400 and 500 mVs^{-1}. (B) Plot of peak current *vs.* scan rate

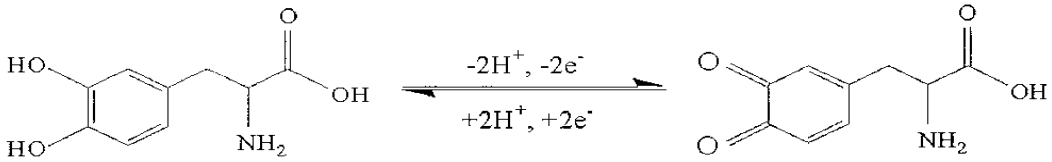
Fig. S2. (A) Cyclic voltammograms of poly(4-M*o*PD)/MWNTs/GC electrode in 1×10^{-4} mol L^{-1} L-Dopa solution at different pH 2, 3, 4, 5, 6, 7, 8 and 9, 100 mVs^{-1} scan rates; (B) Dependence of the oxidation peak potentials of poly(4-M*o*PD)/MWNTs/GC electrode on pH in 0.1 M buffer solution at varying pH ranging from 2 to 9; (C) Dependence of the oxidation peak currents of poly(4-M*o*PD)/MWNTs/GC electrode on pH in 0.1 M buffer solution at varying pH ranging from 2 to 9.



Scheme 1. The proposed electropolymerization mechanism of 4-MoPD



Scheme 2. The electrochemical redox mechanism of poly(4-M*o*PD) film on the surface of the modified electrode



Scheme 3. The electrochemical redox mechanism of L-dopa on the surface of the modified electrode

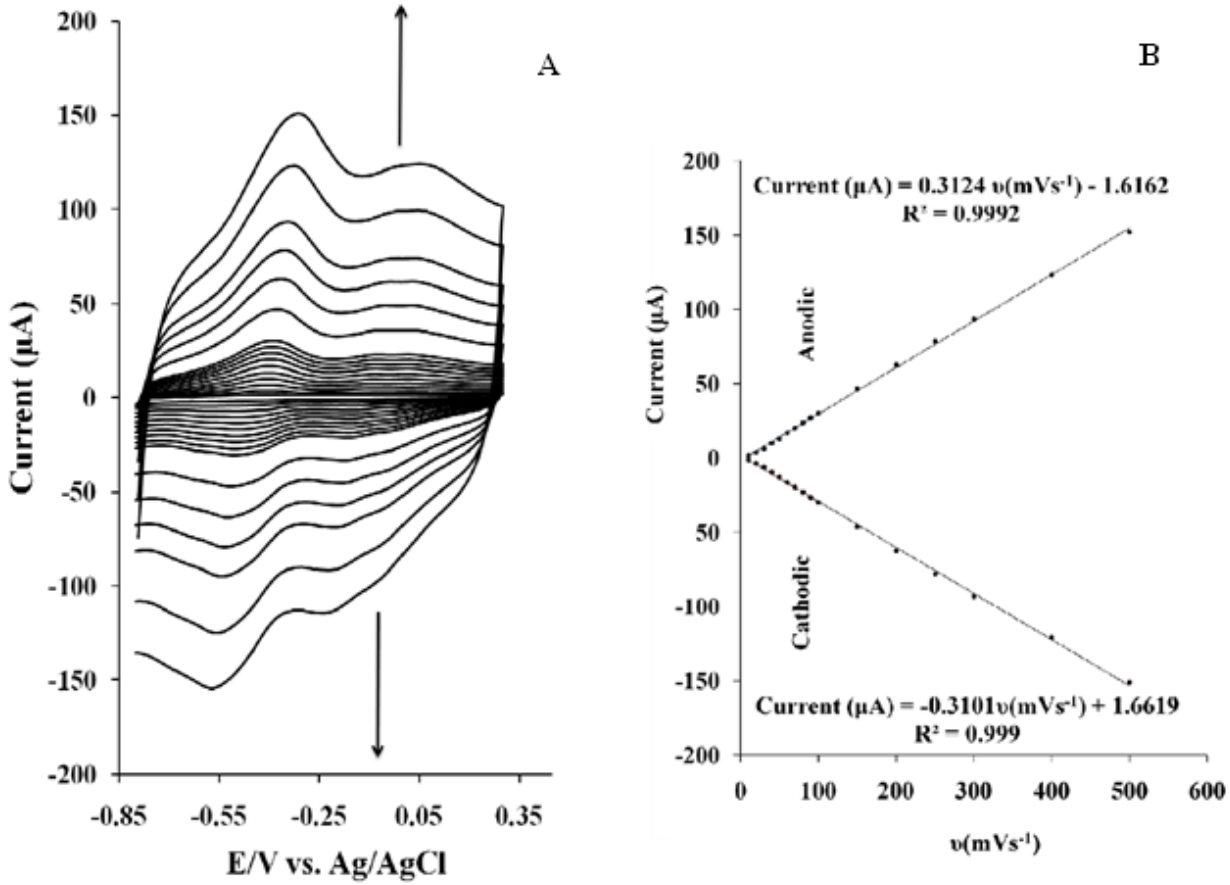

A
B
Current (µA)
E/V vs. Ag/AgCl
200
150
100
50
0
-50
-100
-150
-200
-0.85
-0.55
-0.25
0.05
0.35
Current (µA) = 0.3124 υ(mVs-1) - 1.6162
R² = 0.9992
Anodic
Cathodic
Current (µA) = -0.3101υ(mVs-1) + 1.6619
R² = 0.999
0
100
200
300
400
500
600
υ(mVs-1)

Fig. S1

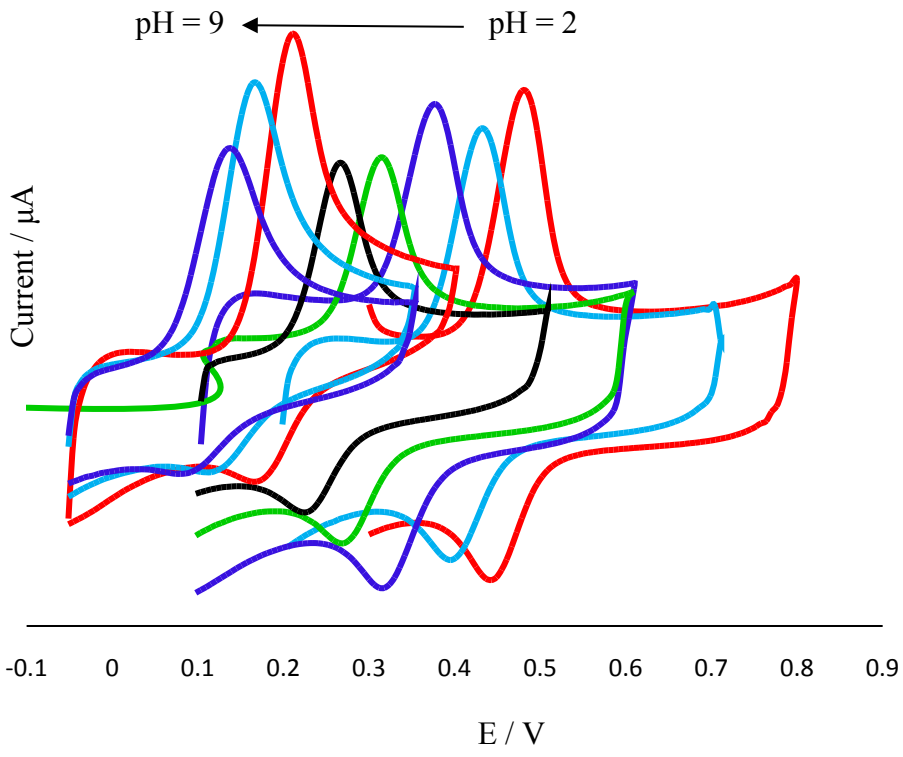


Fig. S_2A

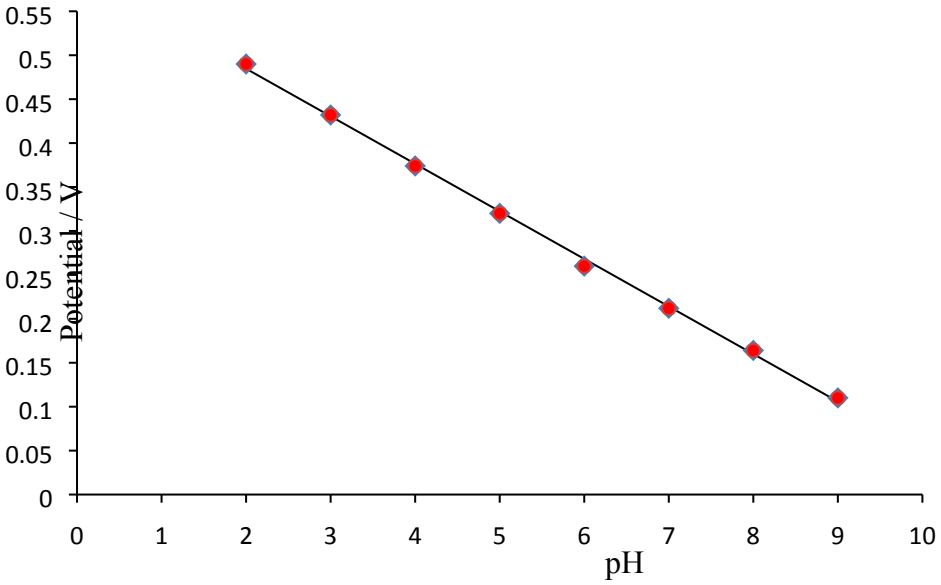

0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Potential / V
0
1
2
3
4
5
6
7
8
9
10
pH

Fig. S_2B

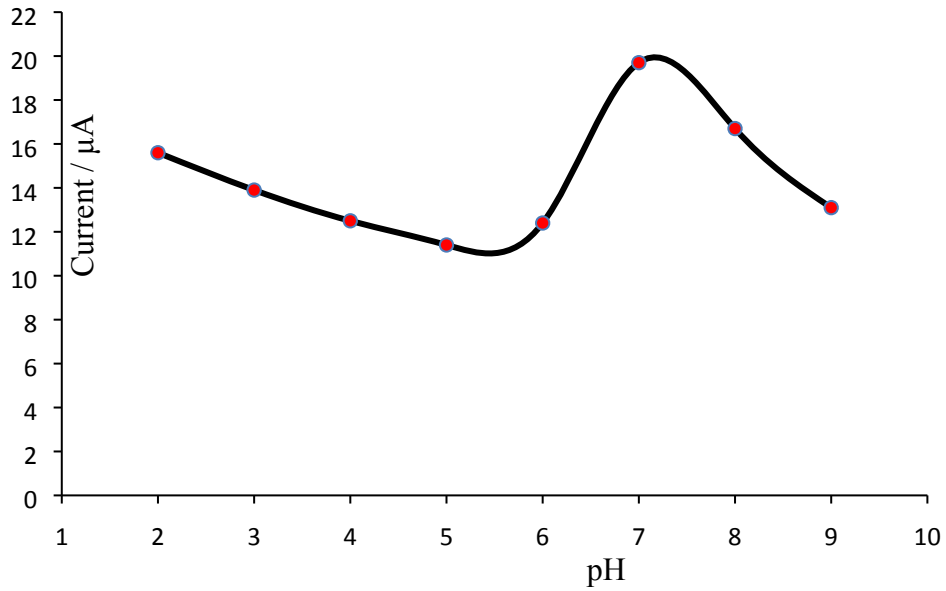


Fig. S_2C