Supporting Information

An Ascorbic Acid-imprinted Poly(o-phenylenediamine)/AuNPs@COF$_{TFPB-NBPDA}$ for Electrochemical Sensing Ascorbic Acid

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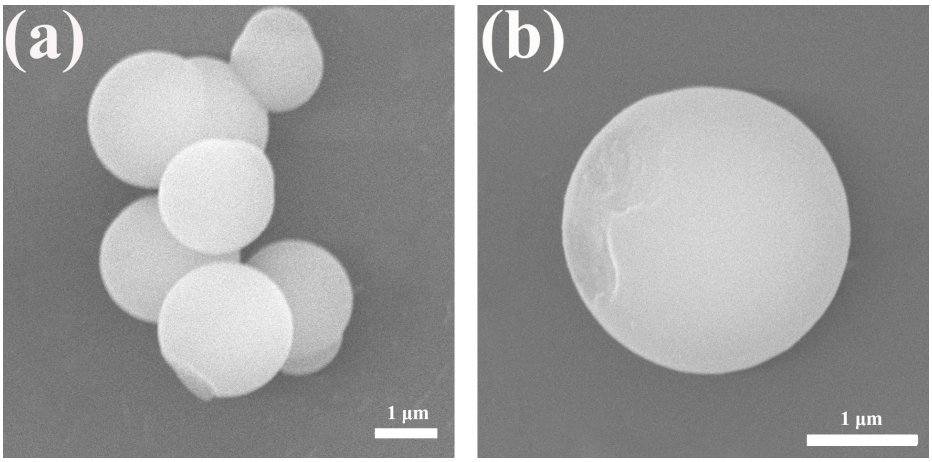

Figure S1. SEM image of $COF_{TFPB\text{-}NBPDA}$ under different magnification.

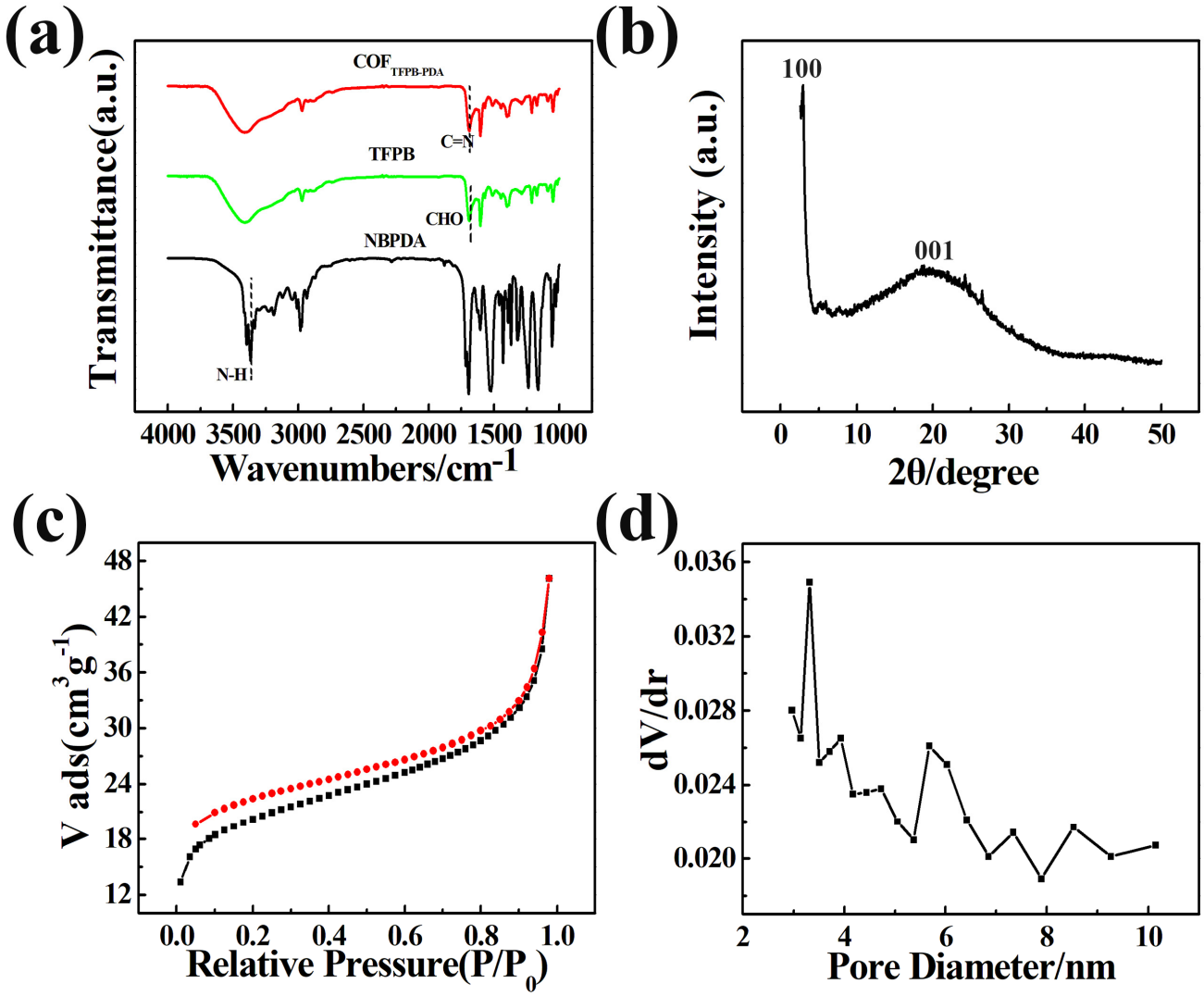

Figure S2. (a) FT-IR spectra of the $COF_{TFPB-NBPDA}$ (red line), TFPB (green line) and NBPDA (black line); (b) Wide-angle XRD pattern of $COF_{TFPB-NBPDA}$; (c) N_2 adsorption-desorption isotherms of the $COF_{TFPB-NBPDA}$; (d) $COF_{TFPB-NBPDA}$ pore size distributions.

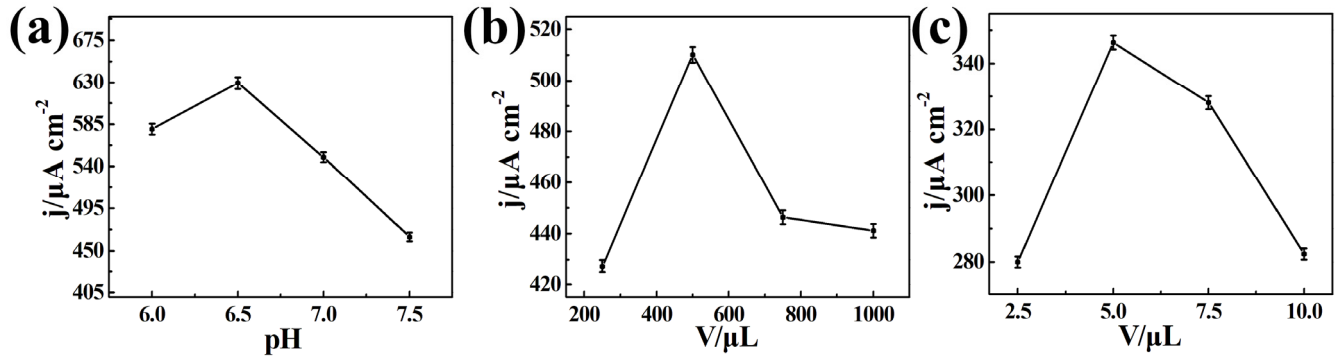

Figure S3. Effects of (a) pH of electrolyte solution, (b) volume of AuNPs solution, (c) volume of AuNPs@$COF_{TFPB\text{-}NBPDA}$ dispersion on electrode surface on the peak current density of AuNPs@$COF_{TFPB\text{-}NBPDA}$/GCE for detection of AA.

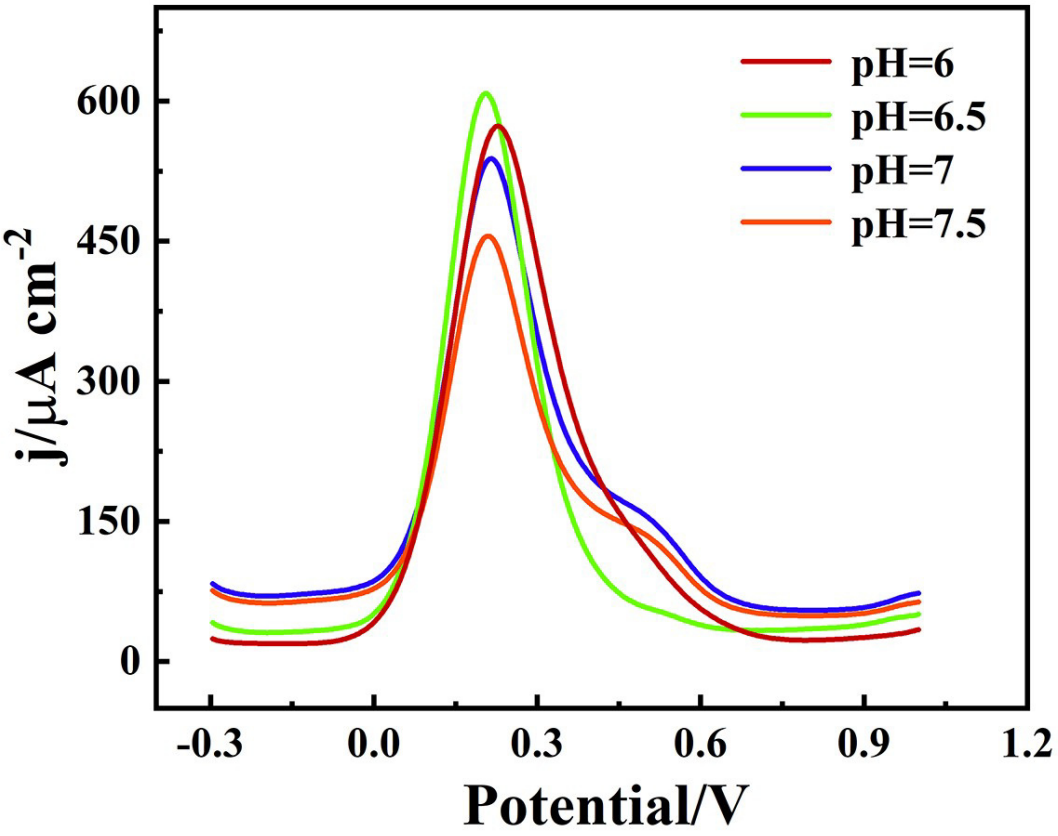

Figure S4. DPV of AuNPs@COFTFPB-NBPDA/GCE in 0.2 M phosphate buffered solution different pH in the presence of 30 mM AA.

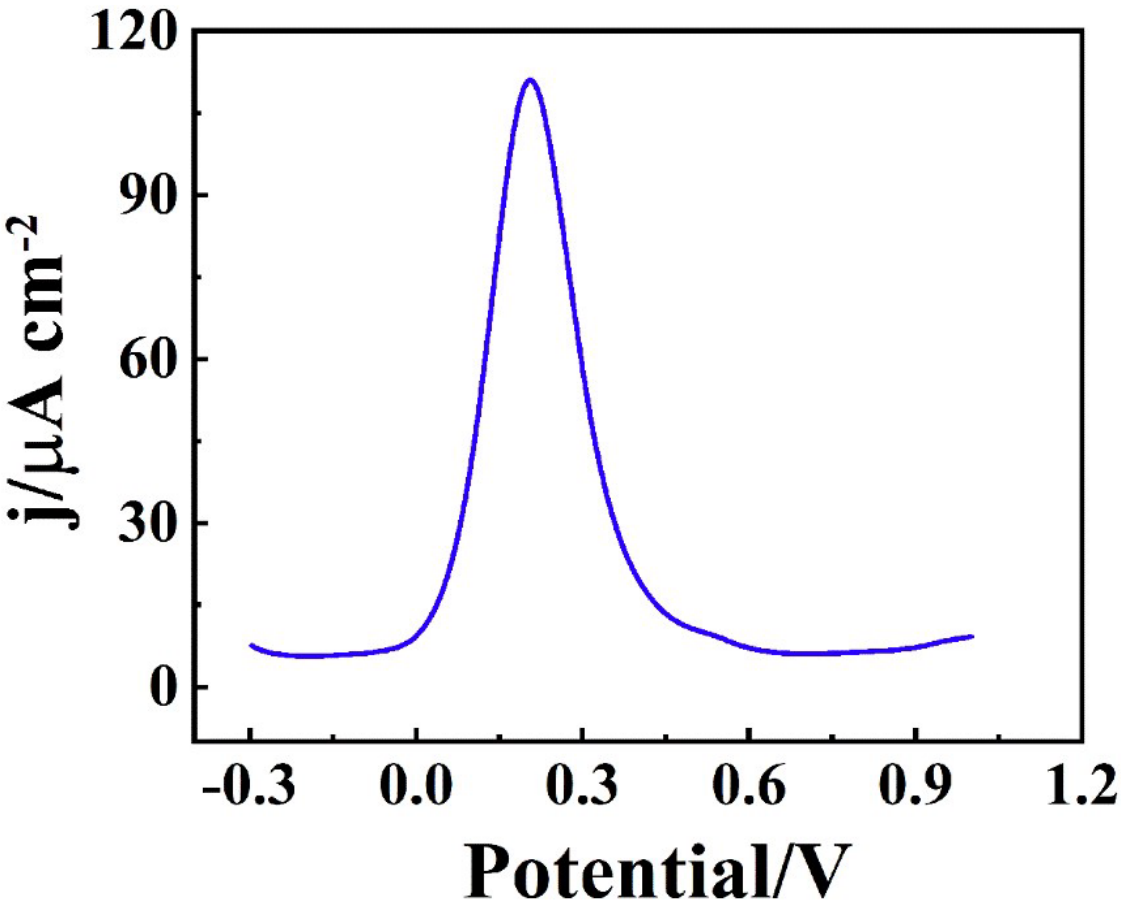

Figure S5. DPV of MIP/AuNPs@COFTFPB-NBPDA/GCE in 0.2 M phosphate buffered solution (pH=6.5).

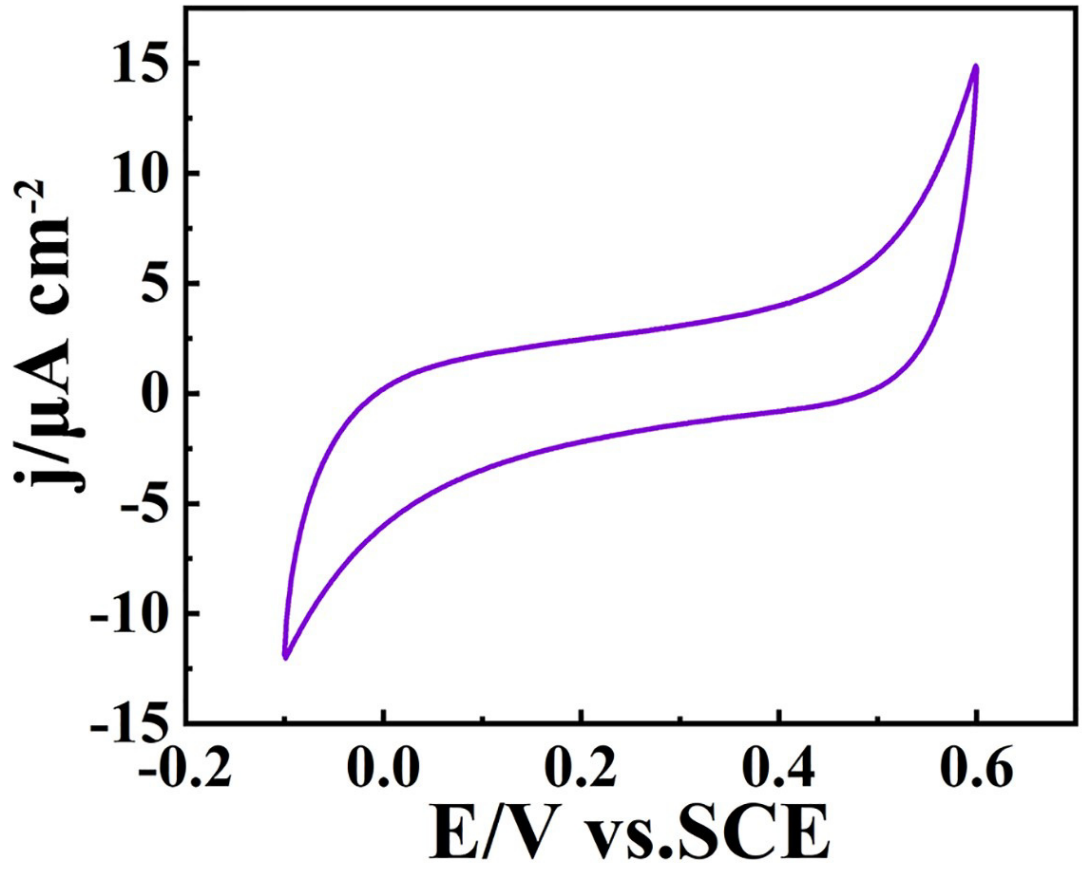

Figure S6. CVs of NIP/AuNPs@COFTFPB-NBPDA/GCE in 5 mM K3[Fe(CN)6] with 0.1 M KCl.

Table S1. Performance comparison of different AA electrochemical sensors.

Electrode	LOD (μM)	Linear range (μM)	References
MVCM	3.57	20-500	[45]
$Ni_3(HITP)_2$/SPCE	1	2-200	[46]
S-fs-ERG	2.5	2.5-1000	[47]
NOCC-O	3.41	10-1300	[48]
ZIF-8/PtNPs/GCE	5.2	10-2500	[34]
ZnHCFSSQ-H/GPE	67	0.9-900	[49]
film-1/ITO	3.7	10-1000	[50]
rGO-AuNPs	5.63	20-150	[51]
GO/NNO_{100}	3.8	300-1100	[52]
CuO	1.97	10-150	[53]
$AuNPs@COF_{TFPB-NBPDA}$/GCE	1.69	5.07-60000	This work
$nMIP/AuNPs@COF_{TFPB-NBPDA}$/GCE	0.17	0.51-60000	This work

Table S2. Detection of AA in effervescent tablets by nMIP/AuNPs@$COF_{TFPB\text{-}NBPDA}$/GCE in 0.2 M PBS (pH=6.5).

Sample	Added (μM)	Founded (μM)	Average value (μM)	Recovery (%)	RSD (%, n=3)
1	5	4.94, 5.08, 4.89	4.97	99.4	6.3
2	10	10.15, 10.13, 9.98	10.08	100.8	0.9
3	20	19.97, 20.07, 20.03	20.02	100.1	0.8