Supporting Information

A novel metronidazole electrochemical sensor based on surface imprinted vertically cross-linking two-dimension Sn_3O_4 nanoplates

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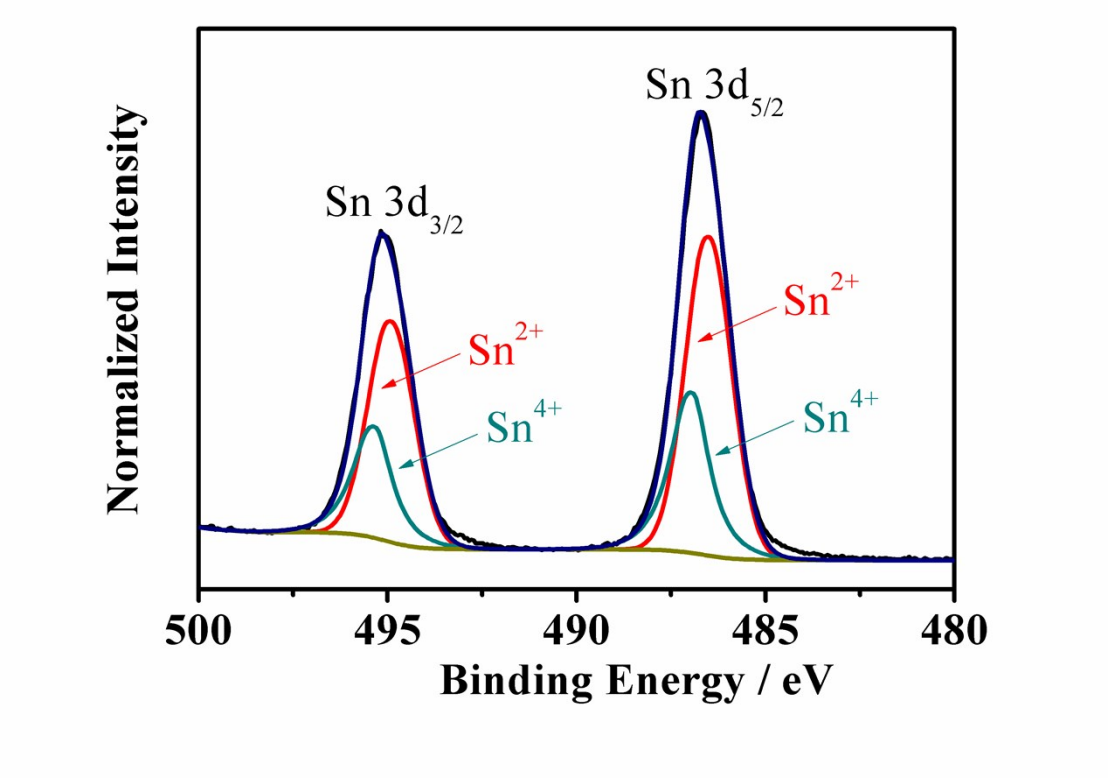

Fig. S1 the XPS survey spectrum Sn_{3d}.

Table S1 Comparison of different methods for the detection of MNZ

Analytical Method	Linear range(M)	LOD(M)	Ref.
HPLC[a]-UV	1.4×10^{-7}–2.9×10^{-5}	6.6×10^{-8}	1
HPLC/MS[b]	2.9×10^{-8}-3.5×10^{-5}	2.9×10^{-8}	2
HPLC-DAD[c]	5.8×10^{-6}-1.7×10^{-4}	1.7×10^{-6}	3
HPLC-MIP	5.8×10^{-7}-1.2×10^{-4}	1.7×10^{-8}	4
HF-SPME[d]/GC[e]-MS	5.8×10^{-8}-5.8×10^{-3}	1.7×10^{-8}	5
SPE[f]-LC-DAD	5.8×10^{-8}-2.9×10^{-7}	2.3×10^{-10}	6
sweeping-MSS[g]-CZE[h]	5.8×10^{-8}-1.2×10^{-4}	1.7×10^{-8}	7
Voltammetry determination	1.0×10^{-7}-1.5×10^{-4}	2.5×10^{-8}	8
Voltammetry determination	1.0×10^{-7}-2.0×10^{-6}	2.0×10^{-8}	9
Voltammetric determination	2.0×10^{-8}-1.6×10^{-6}	4.1×10^{-9}	10
SERS[i]	2.9×10^{-5}-2.9×10^{-4}	6.4×10^{-6}	11
CD-IMS[j]	2.9×10^{-7}-4.1×10^{-4}	2.6×10^{-8}	12
flow-injection chemiluminescence	1.5×10^{-7}-4.4×10^{-3}	6.3×10^{-10}	13
Near-infrared fluorescence	1.0×10^{-7}-1.0×10^{-2}	1.0×10^{-8}	14
fluorescence	5.8×10^{-8}-5.8×10^{-7}	4.7×10^{-8}	15

[a]HPLC: high performance liquid chromatography; [b]MS: mass spectrometry; [c]DAD: diode array detection; [d]HF-SPME: hollow fiber solid phase micro-extraction; [e]GC: gas chromatography; [f]SPE: solid phase extraction; [g]MSS: micelle to solvent stacking; [h]CZE: capillary zone electrophoresis; [i]SERS: surface-enhanced Raman spectroscopy; [j]CD-IMS: corona discharge ionization ion mobility spectrometer

Table S2 Comparison of this proposed method with several reported molecularly imprinted polymer modified electrochemical methods for MNZ detection.

Electrode	Linear range(M)	LOD(M)	Ref.
AuNPs/MIP	5.0×10^{-7}–1.0×10^{-3}	1.2×10^{-7}	[16]
AuNPs/MIP	5.7×10^{-7}–7.6×10^{-4}	5.7×10^{-9}	[17]
DMIP[a]/CPE[b]	4.0×10^{-7}-2.0×10^{-4}	9.1×10^{-8}	[18]
Fe_3O_4/SiO_2/MIP /MGCE[c]	5.0×10^{-8}-1.0×10^{-6}	1.6×10^{-8}	[19]
MMIPs[d]/r-GO/MGCE[e]	3.2×10^{-8}-3.4×10^{-6}	1.2×10^{-9}	[20]
MIP/Sn_3O_4/GCE	2.5×10^{-8}-2.5×10^{-6}	3.2×10^{-9}	This work

[a]DMIP: duplex molecularly imprint polymer; [b]CPE: carbon paste electrode; [c]MGCE:magnetic glassy carbon electrode; [d]MMIP: magneticmolecularly imprinted polymer; [e]MGCE

[e]magnetic-controlled glassy carbon electrode

Table S3 Determination of MNZ in honey samples by the MIP/Sn_3O_4/GCE sensor (n=5)

Sample	Added (μM)	measured by MIP/2D Sn_3O_4/GCE (μM)			measured by HPLC-MS(μM)		
		Found	Recovery (%)	RSD(%)	Found	Recovery (%)	RSD(%)
Honeybee	0.00	0.087	-	-	0.080	-	-
	0.050	0.048	98.0	3.09	0.047	94.0	2.69
	0.100	0.105	105.0	3.25	0.102	102.0	2.24
	0.500	0.521	104.2	2.97	0.491	98.2	3.76
	1.000	0.925	92.5	3.41	0.985	98.5	1.58

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