Supporting information

Multichannel electrochemical workstation-based data collection combined with machine learning for online analysis of tyrosine

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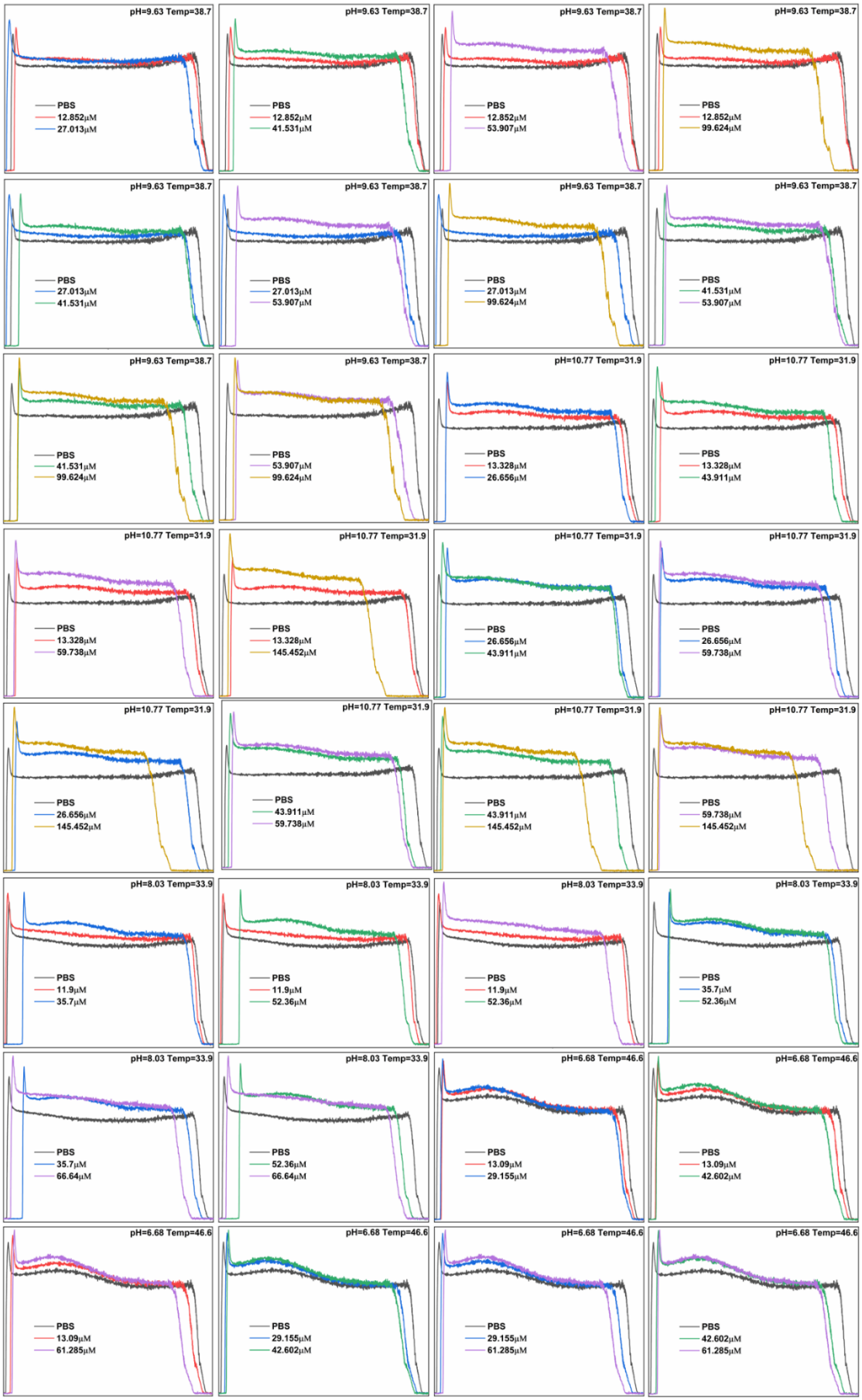

Fig S1 Tyr assay DPV curves for 32 sets of samples.

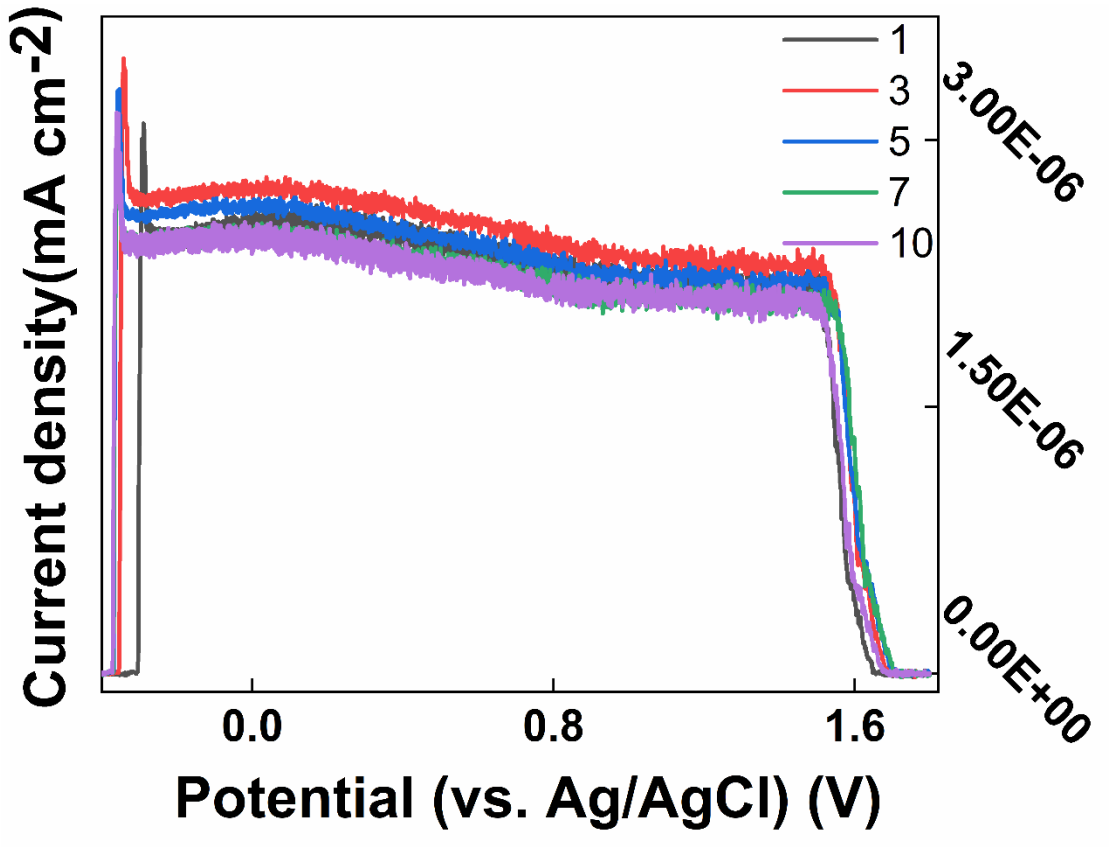

Fig S2 Repeatability of the electrode within one hour.

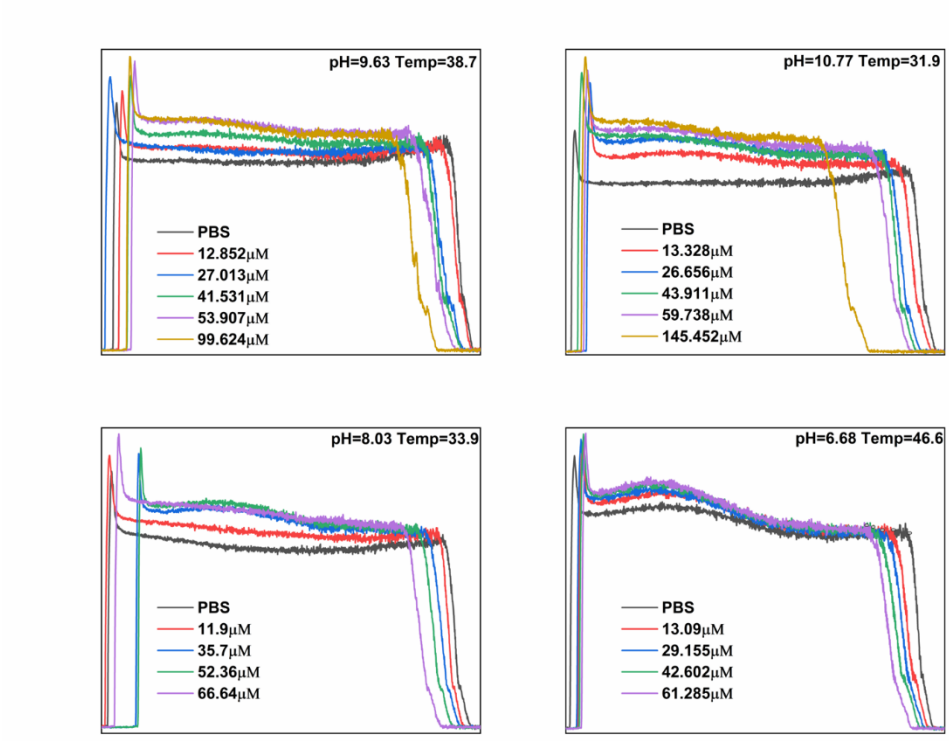

Fig S3 The CB-GO/CP electrode was equipped with a DPV response curve for tyrosine in the range of 11.9-145.452 μM for the electrochemical workstation designed in this paper.

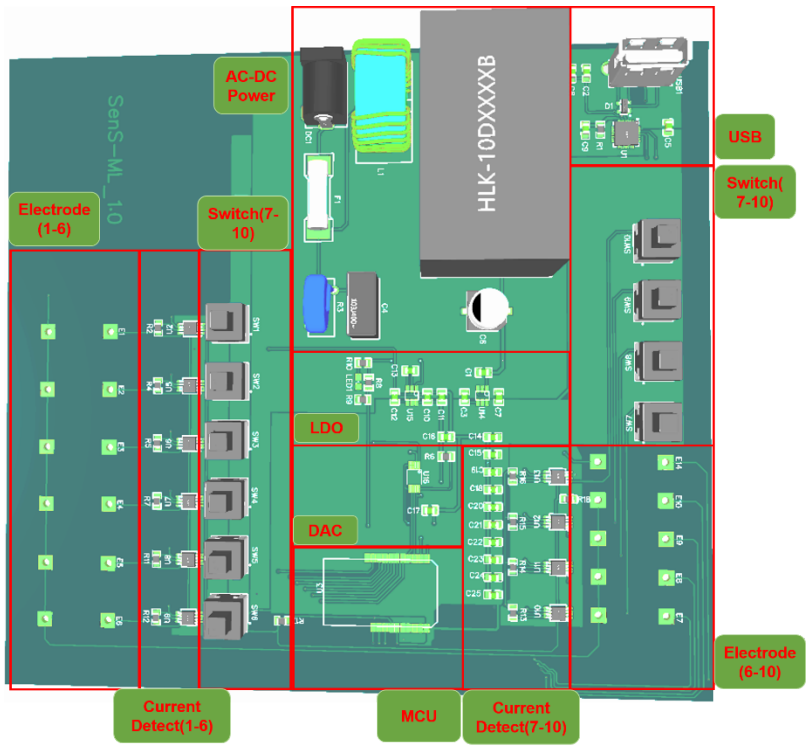

Fig S4 PCB and circuit composition of multi-channel electrochemical workstation.

Table S1 The 13 eigenvalues of the 32 sets of DPV curves.

	Con_1	I_0	I_1	I_2	V_0	V_1	V_2	VP_0	VP_1	VP_2	Con_2	pH	Temp
1	12.852	0.26671	0.26462	0.26096	1.5468	1.5034	1.4264	1.6028	1.5734	1.4922	27.013	9.63	38.7
2	12.852	0.26671	0.26462	0.26585	1.5468	1.5034	1.4166	1.6028	1.5734	1.4726	41.531	9.63	38.7
3	12.852	0.26671	0.26462	0.27865	1.5468	1.5034	1.3452	1.6028	1.5734	1.4292	53.907	9.63	38.7
4	12.852	0.26671	0.26462	0.27397	1.5468	1.5034	1.2262	1.6028	1.5734	1.3424	99.624	9.63	38.7
5	27.013	0.26671	0.26096	0.26585	1.5468	1.4264	1.4166	1.6028	1.4922	1.4726	41.531	9.63	38.7
6	27.013	0.26671	0.26096	0.27865	1.5468	1.4264	1.3452	1.6028	1.4922	1.4292	53.907	9.63	38.7
7	27.013	0.26671	0.26096	0.27397	1.5468	1.4264	1.2262	1.6028	1.4922	1.3424	99.624	9.63	38.7
8	41.531	0.26671	0.26585	0.30298	1.5468	1.4166	1.2304	1.6028	1.4726	1.4292	53.907	9.63	38.7
9	41.531	0.26671	0.26585	0.29906	1.5468	1.4166	1.2374	1.6028	1.4726	1.3424	99.624	9.63	38.7
10	53.907	0.26671	0.27865	0.27397	1.5468	1.3452	1.2262	1.6028	1.4292	1.3424	99.624	9.63	38.7
11	13.328	0.25738	0.27173	0.28424	1.5678	1.4838	1.425	1.6	1.5482	1.488	26.656	10.77	31.9
12	13.328	0.25738	0.27173	0.28324	1.5678	1.4838	1.4124	1.6	1.5482	1.4656	43.911	10.77	31.9
13	13.328	0.25738	0.27173	0.28753	1.5678	1.4838	1.348	1.6	1.5482	1.4138	59.738	10.77	31.9
14	13.328	0.25738	0.27173	0.29858	1.5678	1.4838	1.0624	1.6	1.5482	1.1562	145.452	10.77	31.9
15	26.656	0.25738	0.28424	0.28324	1.5678	1.425	1.4124	1.6	1.488	1.4656	43.911	10.77	31.9

16	26.656	0.25738	0.28424	0.28753	1.5678	1.425	1.348	1.6	1.488	1.4138	59.738	10.77	31.9
17	26.656	0.25738	0.28424	0.1516	1.5678	1.425	1.0624	1.6	1.488	1.1562	145.452	10.77	31.9
18	43.911	0.25738	0.28324	0.28753	1.5678	1.4124	1.348	1.6	1.4656	1.4138	59.738	10.77	31.9
19	43.911	0.25738	0.28324	0.1516	1.5678	1.4124	1.0624	1.6	1.4656	1.1562	145.452	10.77	31.9
20	59.738	0.25738	0.28753	0.1516	1.5678	1.348	1.0624	1.6	1.4138	1.1562	145.452	10.77	31.9
21	13.09	0.24298	0.24684	0.24633	1.418	1.3382	1.2808	1.4418	1.3858	1.3536	29.155	6.86	46.6
22	13.09	0.24298	0.24684	0.25094	1.418	1.3382	1.2332	1.4418	1.3858	1.3228	42.602	6.86	46.6
23	13.09	0.24298	0.24684	0.2532	1.418	1.3382	1.208	1.4418	1.3858	1.285	61.285	6.86	46.6
24	29.155	0.24298	0.24633	0.25094	1.418	1.2808	1.2332	1.4418	1.3536	1.3228	42.602	6.86	46.6
25	29.155	0.24298	0.24633	0.2532	1.418	1.2808	1.208	1.4418	1.3536	1.285	61.285	6.86	46.6
26	42.602	0.24298	0.25094	0.2532	1.418	1.2332	1.208	1.4418	1.3228	1.285	61.285	6.86	46.6
27	11.9	0.22254	0.23026	0.23177	1.565	1.5328	1.4404	1.6028	1.5734	1.5244	35.7	8.03	33.9
28	11.9	0.22254	0.23026	0.23483	1.565	1.5328	1.4068	1.6028	1.5734	1.4782	52.36	8.03	33.9
29	11.9	0.22254	0.23026	0.2364	1.565	1.5328	1.32	1.6028	1.5734	1.397	66.64	8.03	33.9
30	35.7	0.22254	0.23177	0.23483	1.565	1.4404	1.4068	1.6028	1.5244	1.4782	52.36	8.03	33.9
31	35.7	0.22254	0.23177	0.2364	1.565	1.4404	1.32	1.6028	1.5244	1.397	66.64	8.03	33.9
32	52.36	0.22254	0.23483	0.2364	1.565	1.4068	1.32	1.6028	1.4782	1.397	66.64	8.03	33.9