

Supporting Information

Polyethyleneimine-assisted co-deposition of polydopamine coating with enhanced stability and efficient secondary modification

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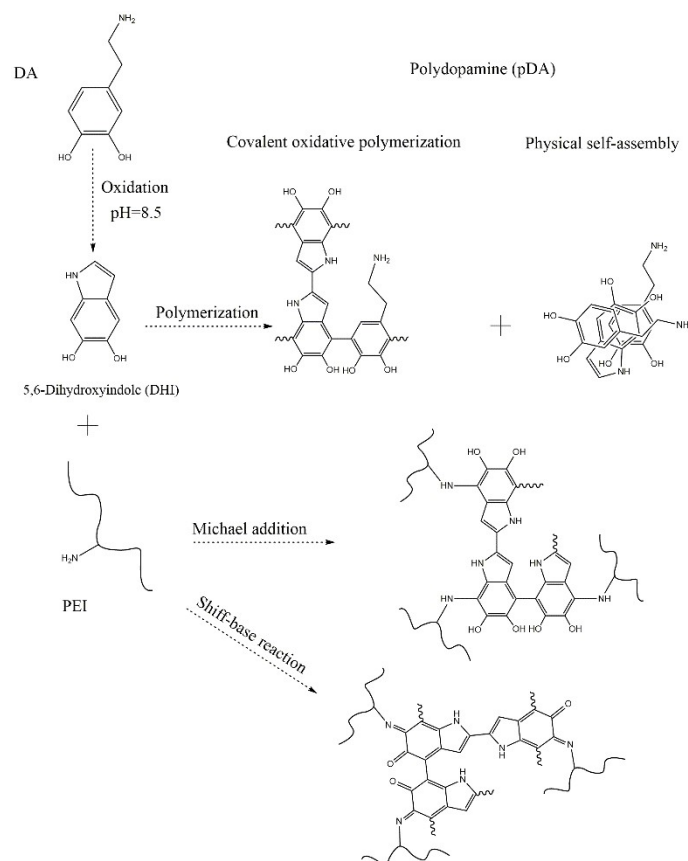


Figure S1. Scheme of the reactions of dopamine polymerization and co-deposition of DA/PEI.

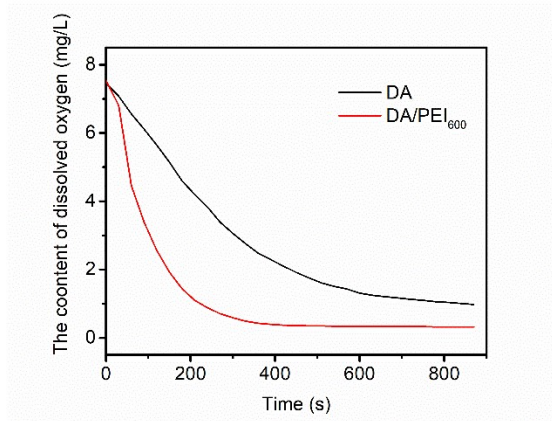


Figure S2. The dissolved oxygen content of DA and DA/PEI solution within 900 s.

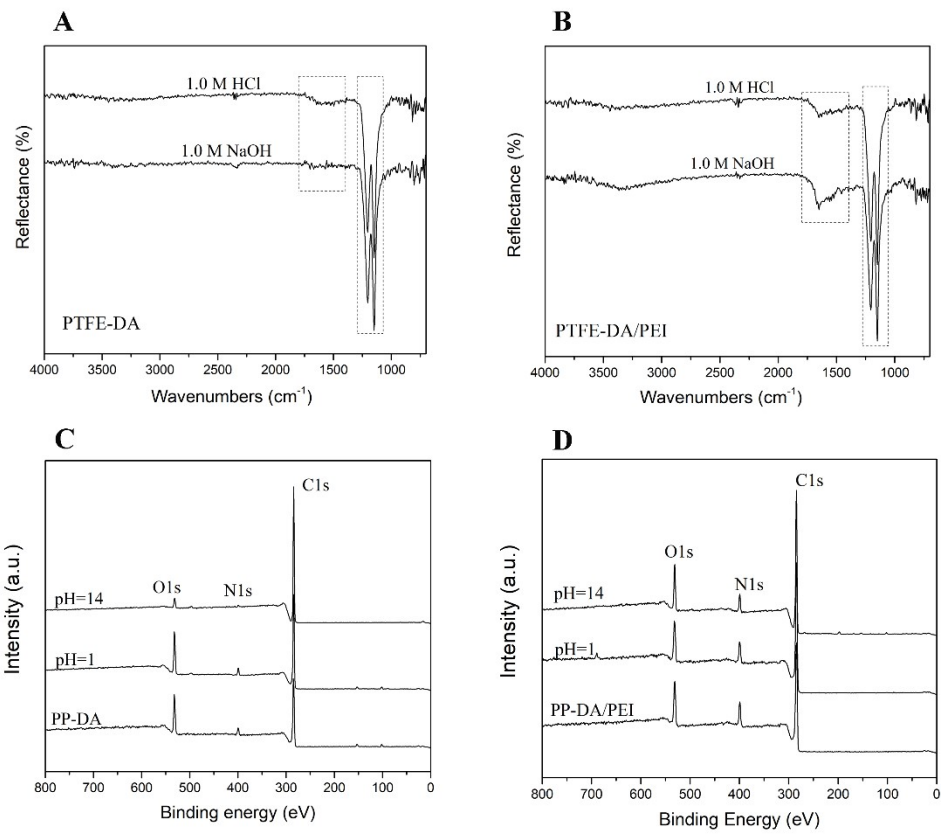


Figure S3. ATR-FTIR spectra of PTFE-DA (A) and PTFE-DA/PEI (B) eluted with 1.0 M HCl or 1.0 M NaOH solution for 24 h. And XPS spectra of PP-DA (C) and PP-DA/PEI (D) before and after eluted with 1.0 M HCl or 1.0 M NaOH solution for 24 h.

Table S1. The content of surface elemental determined by XPS analysis

Samples	PP-DA			PP-DA/PEI		
Element (%)	C	N	O	C	N	O

Uneluted	75.85	6.07	18.07	75.79	10.53	13.67
Eluted with 1.0 M HCl	76.11	6.71	17.18	75.87	10.22	13.91
Eluted with 1.0 M NaOH	95.92	0.12	3.96	80.73	7.73	11.54

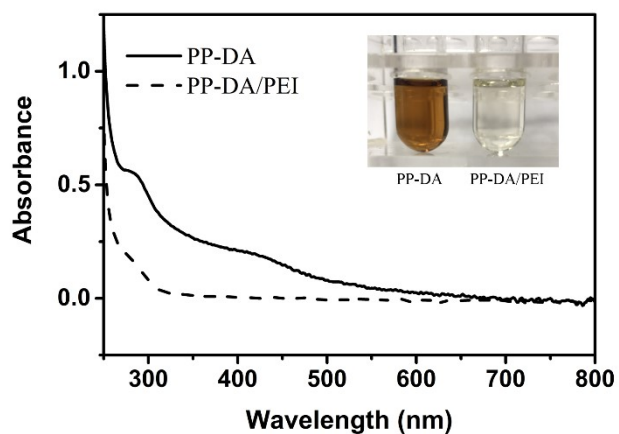


Figure S4. UV-vis spectra of the eluent from PP-DA and PP-DA/PEI immersed into DMSO for 24 h.

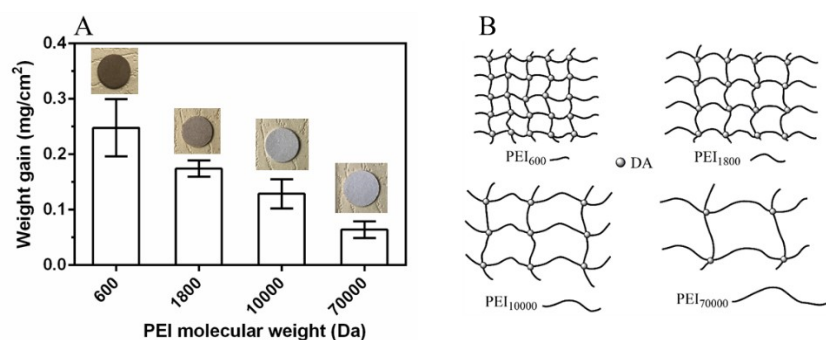


Figure S5. (A) The deposition density of different molecular weight of PEI co-deposited with DA on PP membrane (n=3); (B) the schematic diagram of co-deposition of different molecular weight PEI with DA.

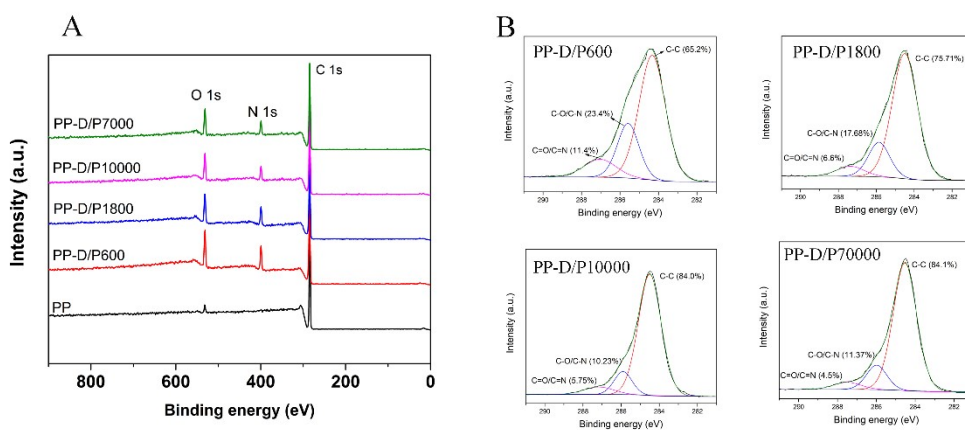


Figure S6. (A) XPS spectra for PP and modified PP. (B) High-resolution C1s spectra of PP-D/P600, PP-D/P1800, PP-D/P10000 and PP-D/P70000.

Table S2 The content of surface element determined by XPS analysis

Membrane	Element (%)			N/O
	C	O	N	
PP	95.59	3.27	1.14	—
PP-DA	74.04	16.42	7.54	0.46
PP-D/P600	70.72	14.35	14.93	1.04
PP-D/P1800	75.14	12.47	12.39	0.99
PP-D/P10000	77.89	11.65	10.47	0.90
PP-D/P70000	79.44	11.36	9.20	0.81