Supporting Information

Single Molecule Level and Label-Free Determination of MultiBiomarkers with an Organic Field-Effect Transistor Platform in Early Cancer Diagnosis

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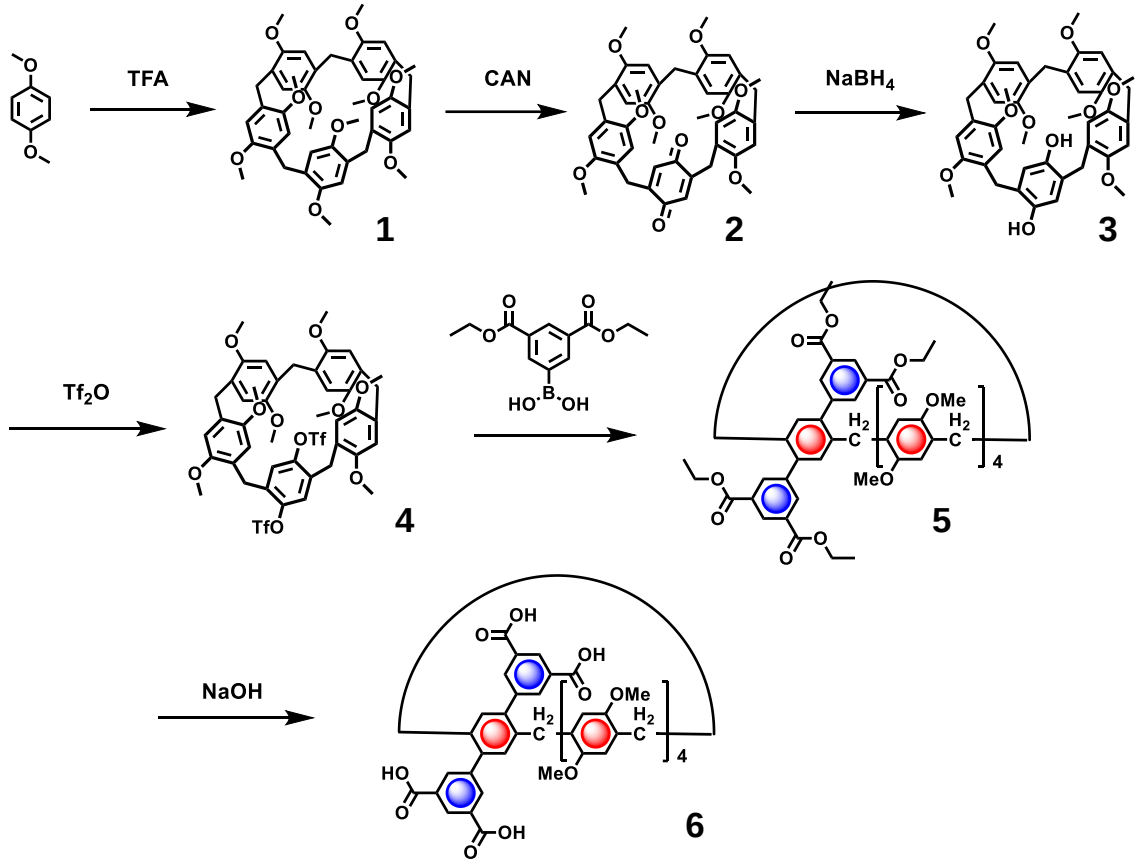

Scheme S1. The synthesis route of pillar[*5*]arene-COOH (DMP[*5*]-COOH).

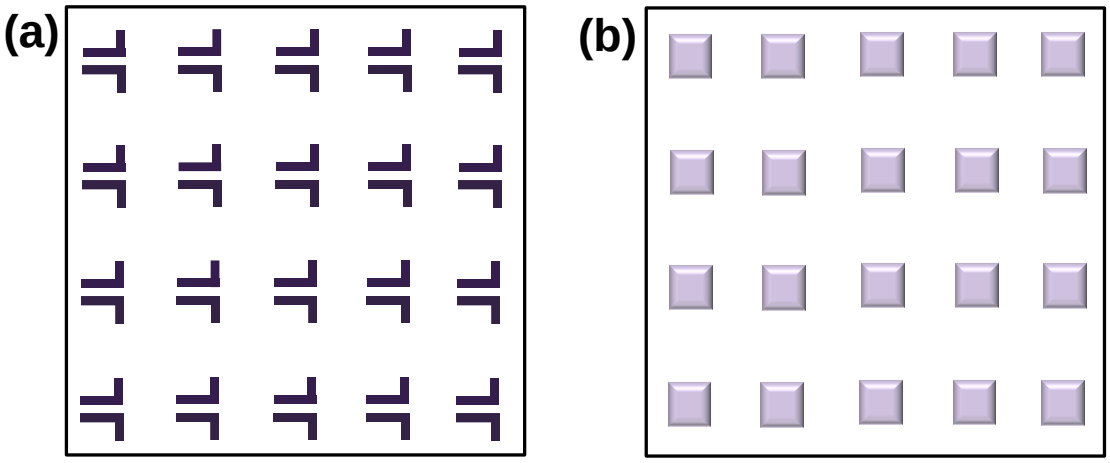

Figure S1. The schematic representation of masks. (a) Mask with a channel length of 1500 μm and a channel width of 150 μm, respectively; (b) Mask with an area of 1 mm^2.

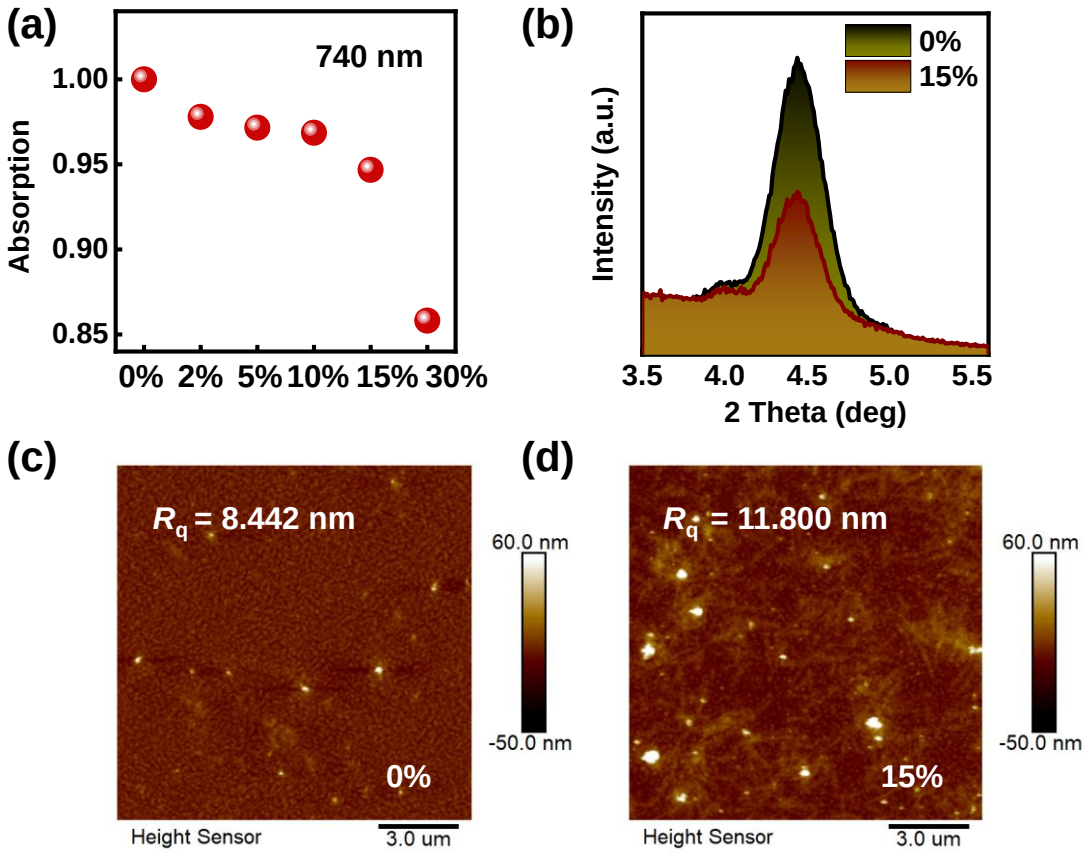

Figure S2. (a) Comparison of π-π absorption peak intensities under the different integrating ratio of DMP[*5*]-COOH; (b) X-ray photoelectron spectroscopy (XPS) characterization of the film before (0%) and after (15%) integrating DMP[*5*]-COOH; (c) Atomic force microscopy (AFM) characterization of the film before integrating DMP[*5*]-COOH; (d) Atomic force microscopy (AFM) characterization of the film after integrating DMP[*5*]-COOH.

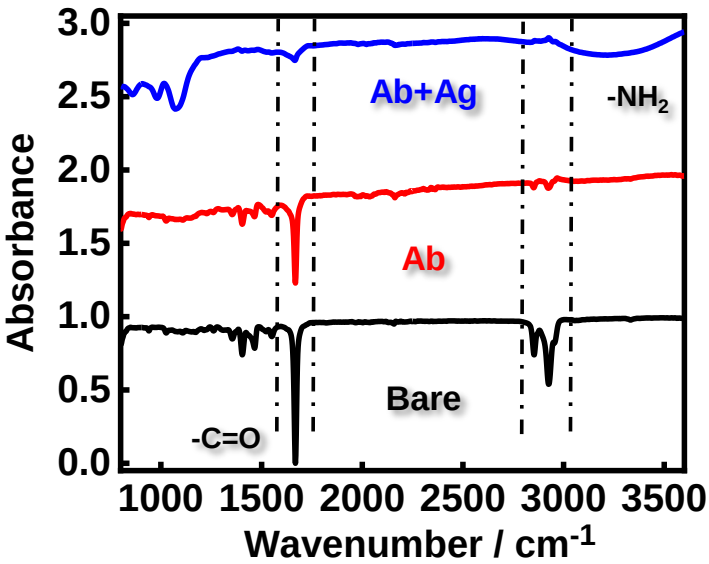

Figure S3. IR characterization of antibody immobilization and antigen-antibody recognition event after integrating DMP[*5*]-COOH.

Table S1. The performance parameters of different integrating ratios for DMP[*5*]-COOH.

Integrating Ratios	Mobility / $cm^2V^{-1}s^{-1}$	V_{TH} / V
0% DMP[*5*]-COOH	0.119	−12.86
2% DMP[*5*]-COOH	0.135	−6.50
5% DMP[*5*]-COOH	0.112	−9.70
10% DMP[*5*]-COOH	0.101	−7.32
15% DMP[*5*]-COOH	0.093	−3.85
30% DMP[*5*]-COOH	0.007	−0.90