Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B. This journal is © The Royal Society of Chemistry 2016

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# Multidimensional Hybrid Conductive Nanoplate-Based Aptasensor for Platelet-Derived Growth Factor Detection

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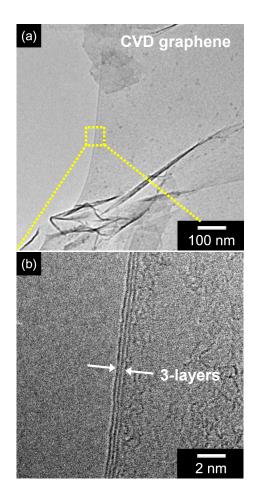
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## 1. TEM and HR-TEM images of graphene



**Fig. S1.** (a) Transmission electron microscopy (TEM) and (b) high-resolution TEM (HR-TEM) images of graphene layer fabricated through chemical vapor deposition (CVD) method.

## 2. Photo images of the sensing electrode

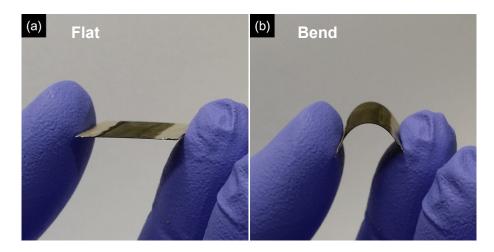
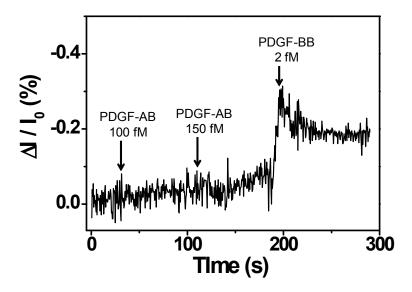


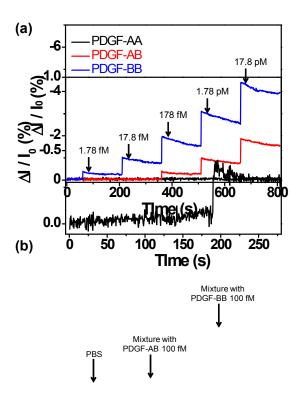
Fig. S2. Digital photographs of (a) flat- and (b) bended-MHCPPs-based sensor electrode.

## 3. Selectivity test of the A\_MHCPPs FET sensor



**Fig. S3.** Real-time selective responses of A\_MHCPPs FET sensor at different of analytes (PDGF-AB and PDGF-BB) ( $V_G = 10 \text{ mV}$ ,  $V_{SD} = 10 \text{ mV}$ ).

#### 4. Sensing performance of the FET sensor after 4 weeks



**Fig. S4.** (a) Real-time response of the A\_MHCPPs FET after 4 weeks, with normalized current changes. (b) Selectivity response of the aptamer sensor after 4 weeks towards non-target (ATP, BSA, Cal, PDGF\_AA, and PDGF\_AB) and target analyte (PDGF\_BB) ( $V_G = 10 \text{ mV}$ ,  $V_{SD} = 10 \text{ mV}$ ).