

## Aptamer based microcantilever array biosensor for detection of fumonisin B-1

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### 1. Functionalization of aptamers on cantilevers

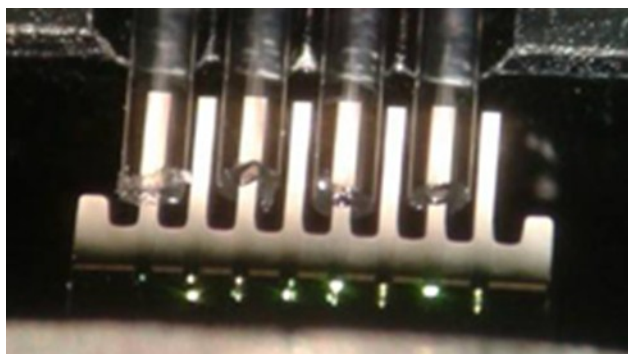


Fig. S1. Picture of functionalization of aptamers on cantilevers.

### 2. Measurement setup of flow direction of binding buffer and laser beam that reflected off on the tip of cantilevers

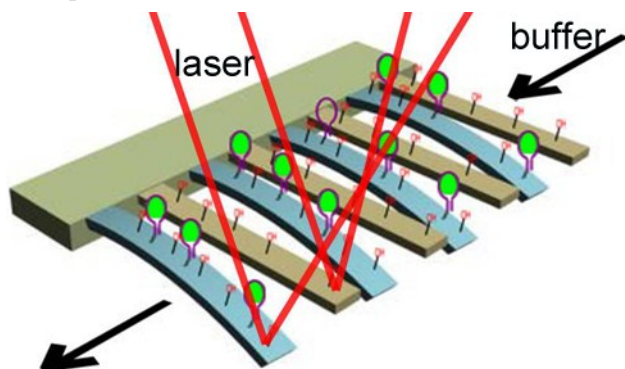


Fig.S2 Scheme of flow direction and laser beam that reflected off on the tip of cantilevers

### 3.Characterization of aptamers and complex of aptamers and FB1 by AFM

Au (111) was functionalized by  $1\mu\text{M}$  aptamers for 3 hours at  $25^\circ\text{C}$ , and then backfilled by 1M MCH for 1 hour. After washed by ethanol and water respectively, the topography of Au (111) was characterized by AFM. Then aptamers was exposed to FB1 sample ( $10\mu\text{g}/\text{mL}$ ). 10 min later, the morphology of mixture of aptamers and FB1 was characterized by AFM.

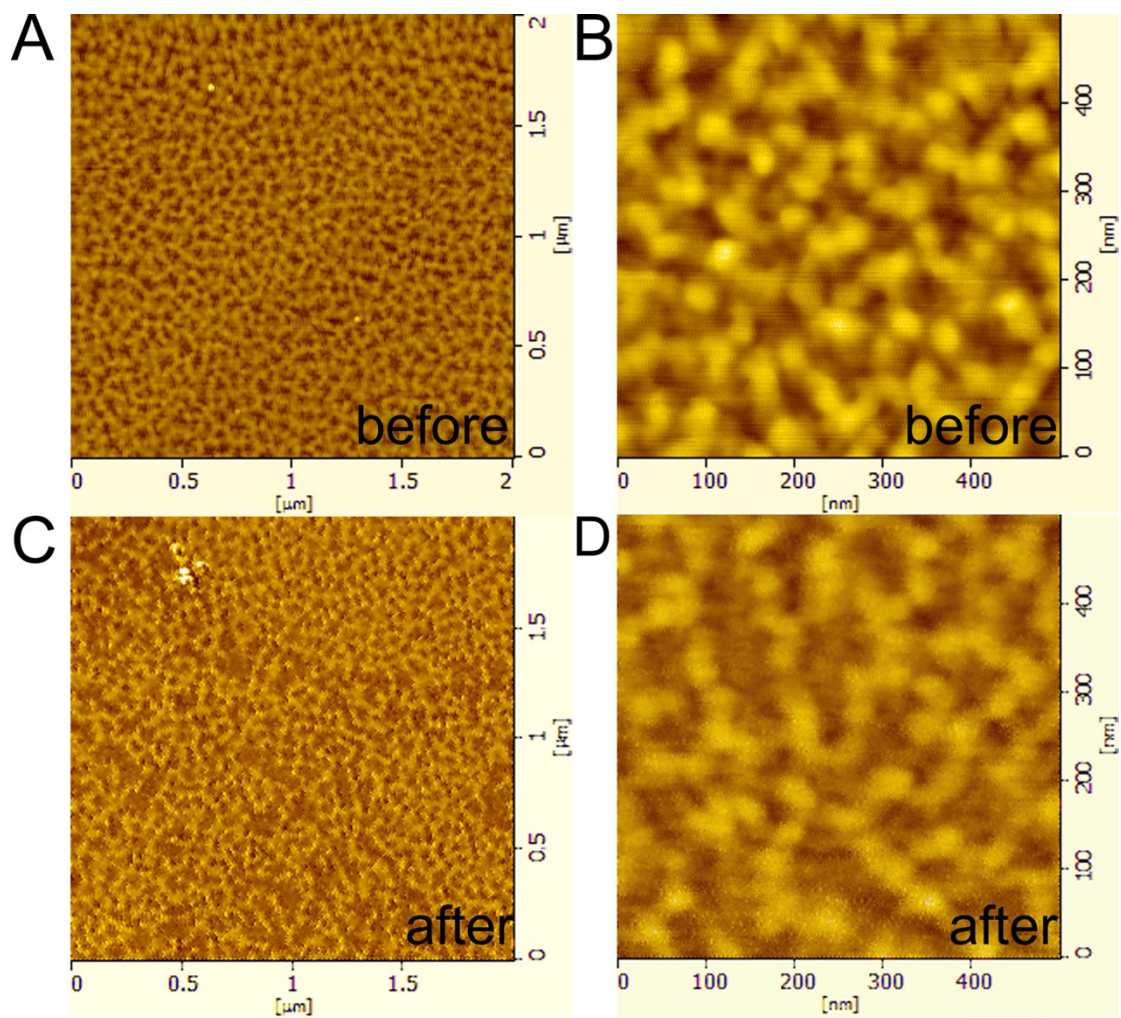


Fig. S3 AFM topography image of aptamers on the Au (111) before (A)  $2\ \mu\text{m} \times 2\ \mu\text{m}$ , (B)  $0.5\ \mu\text{m} \times 0.5\ \mu\text{m}$ , and after binding with FB1 (C)  $2\ \mu\text{m} \times 2\ \mu\text{m}$ , (D)  $0.5\ \mu\text{m} \times 0.5\ \mu\text{m}$ .