

Electronic Supplementary Information

Highly selective organic transistor biosensor with inkjet printed graphene oxide support system

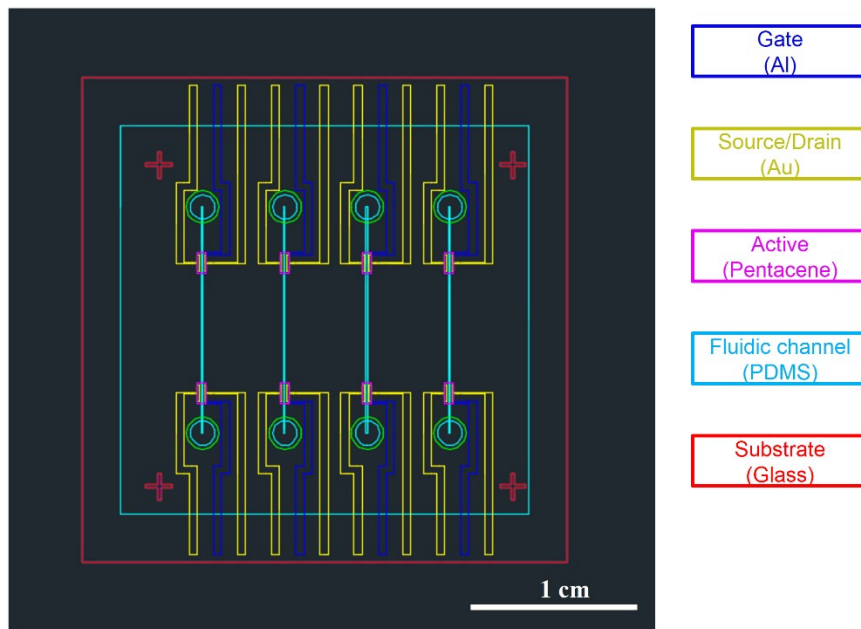
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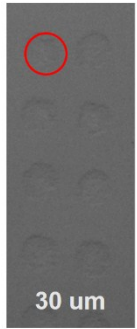



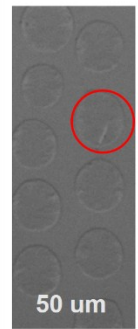
Fig. S1. (A) The detailed CAD design of FET. (B) The detailed comparison of all the GOSS printing techniques. (C) The morphology of the GOSS can be controlled by altering the printing condition. (D) SEM image of GOSS on pentacene surface



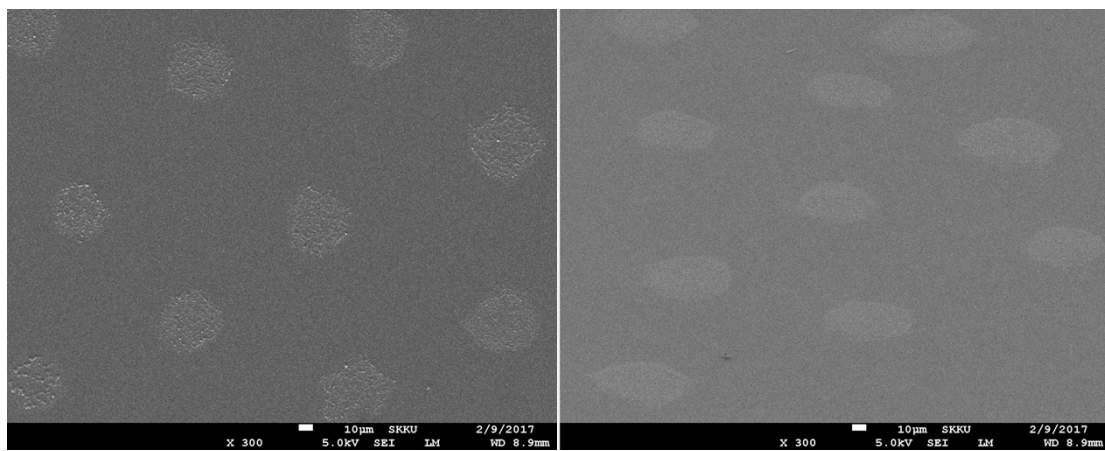
(A)

	Drop casting	Fluidic	Spray	Inkjet printing
Image				
Problem	S-D Short	Random deposition	Random deposition	Uniform Controllable deposition

(B)

Substrate Temperature	25 °C			80 °C		
	Spacing size	60 um	10 um	5 um	60 um	10 um
Printed GOSS image & size						

(C)



(D)

Fig. S2. The various GOs in solution was characterized the charge changing by zeta potential analysis and the aminated (-NH_2) GO was revealed less negative charge property relatively.

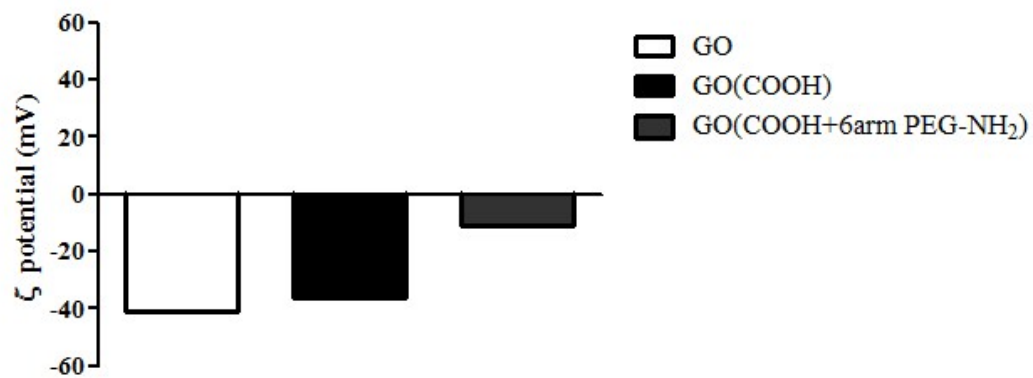


Fig. S3. Characterization of HER2 receptor expression level of SkBr3 and MCF-7.

The expression level of HER2 on SkBr3 and MCF-7 cell lines were determined by western blot analysis; and SkBr3 cells showed 14 times higher intensity than MCF-7 cell.

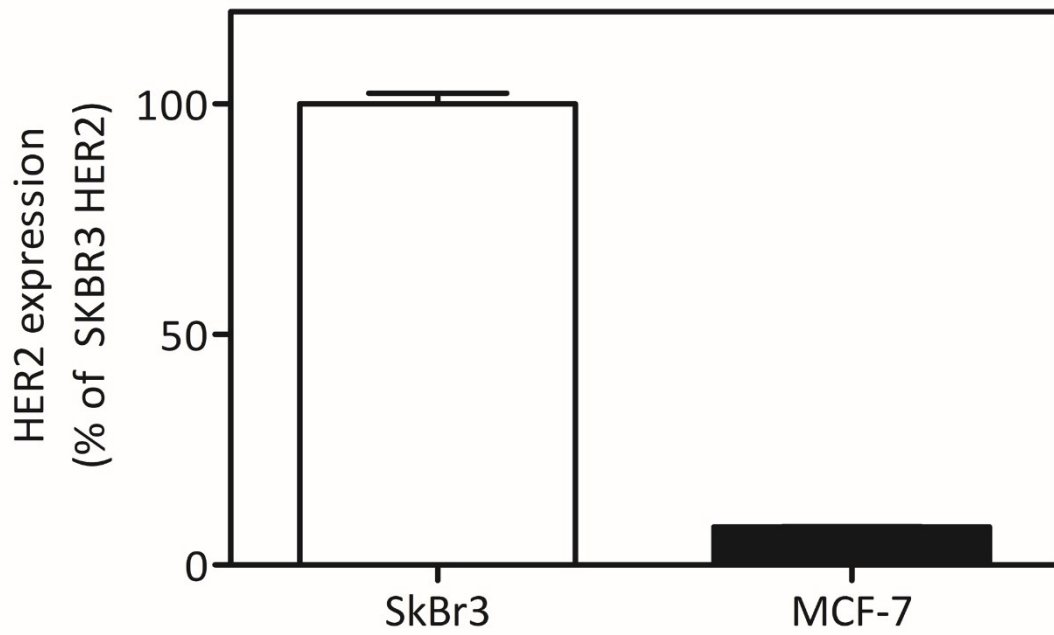


Fig. S4. AFM image (A) of GO nano sheet and depth profile graph (B). 1 ~ 4 in the (A) are indicated profile lines for black, red, green and blue in the (B) panel, respectively.

