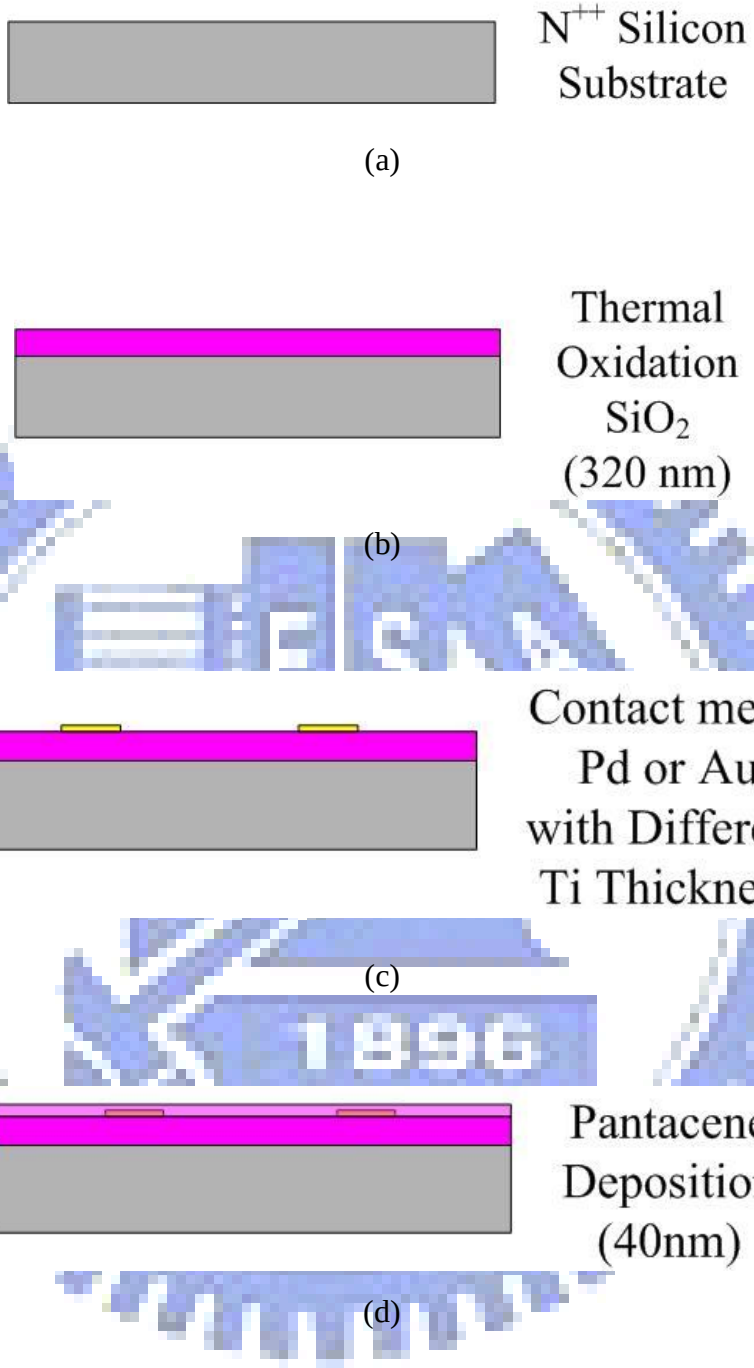
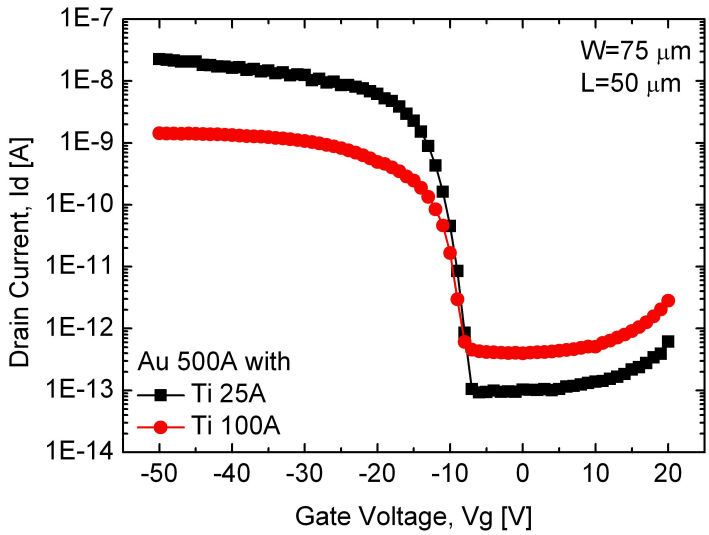
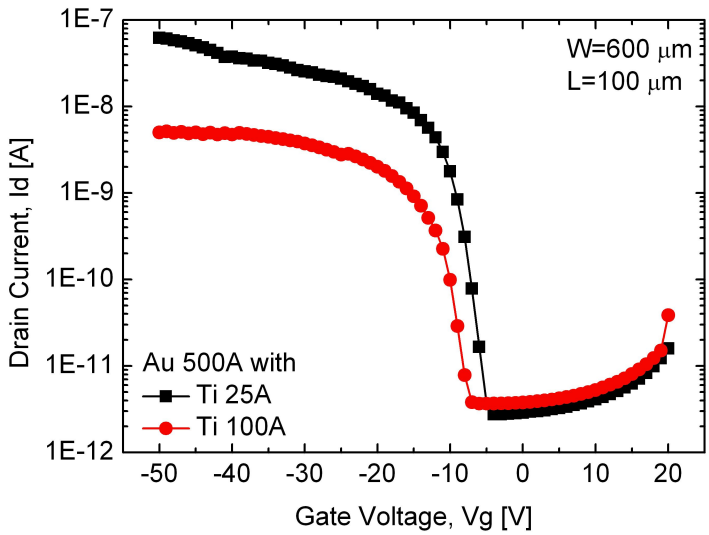


Figure 3.3-1 The Fabrication Procedures of Pentacene TFTs with different contact materials and thicknesses of adhesion layer.



(a)



(b)

Figure 3.3.1-1 The Id-Vg electrical characteristics of pentacene TFTs with different thicknesses of adhesion layer, and the contact material is Au. The channel width/length of devices are (a) 75/50 μm/μm and (b) 600/100 μm/μm.

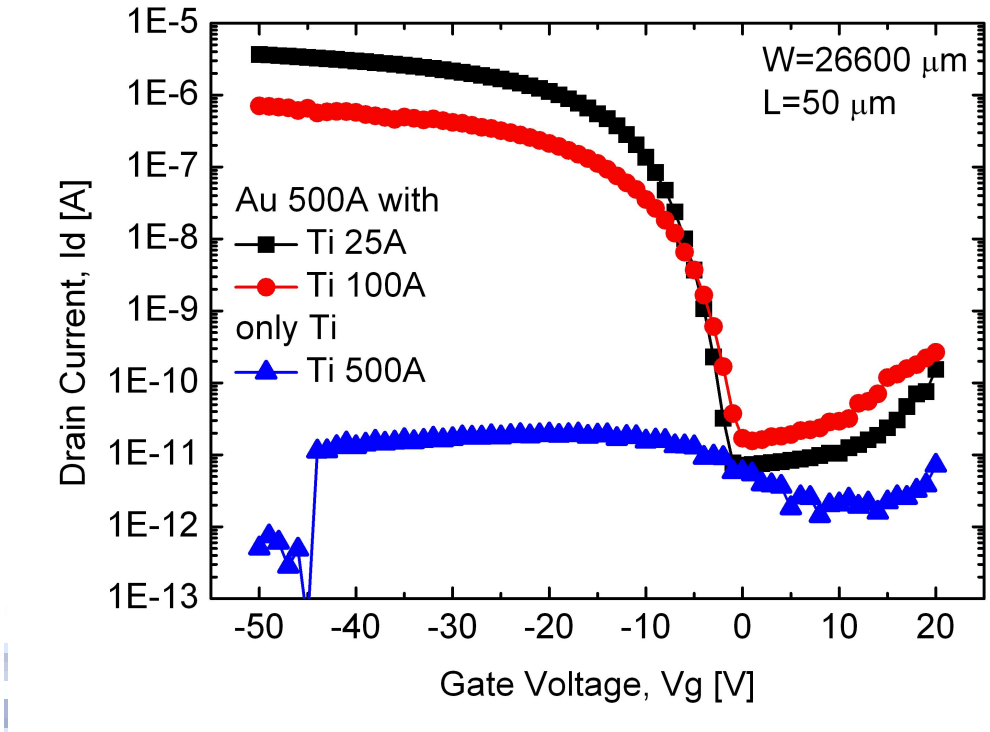
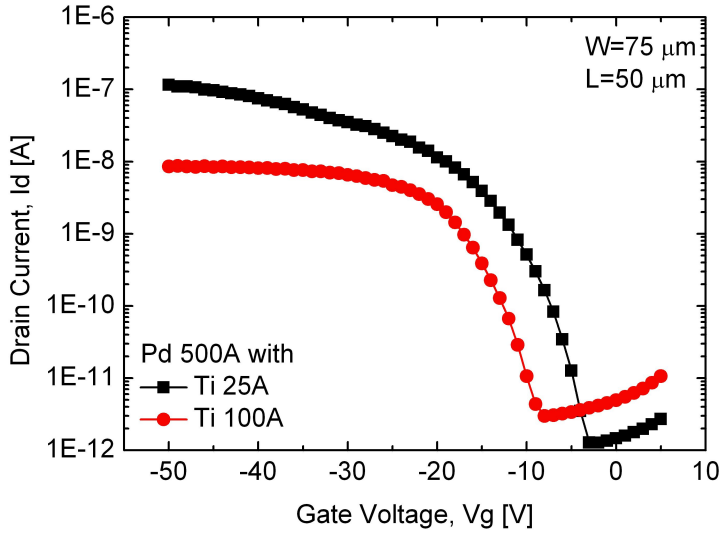
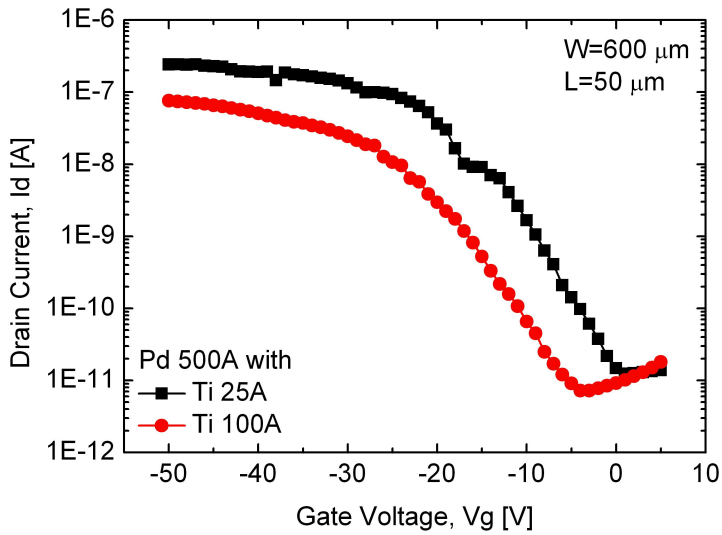


Figure 3.3.1-2 The Id-Vg electrical characteristics of pentacene TFTs with different thicknesses of adhesion layer, and the contact material is Au. The channel width/length of devices are 26600/50 μm/μm.



(a)



(b)

Figure 3.3.1-3 The Id-Vg electrical characteristics of pentacene TFTs with different thicknesses of adhesion layer, and the contact material is Pd. The channel width/length of devices are (a) 75/50 μm/μm and (b) 600/50 μm/μm.

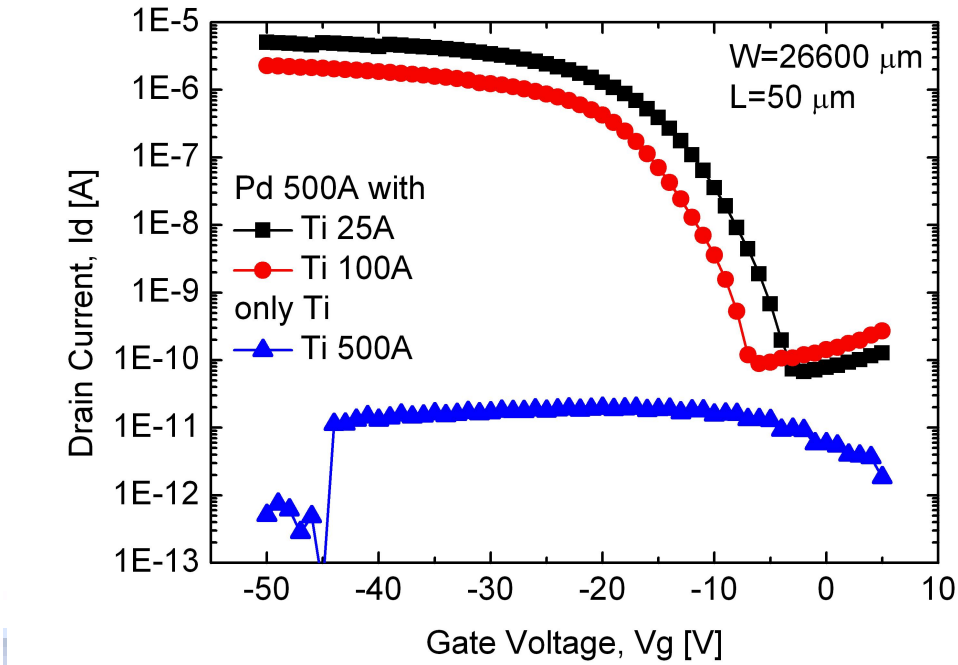
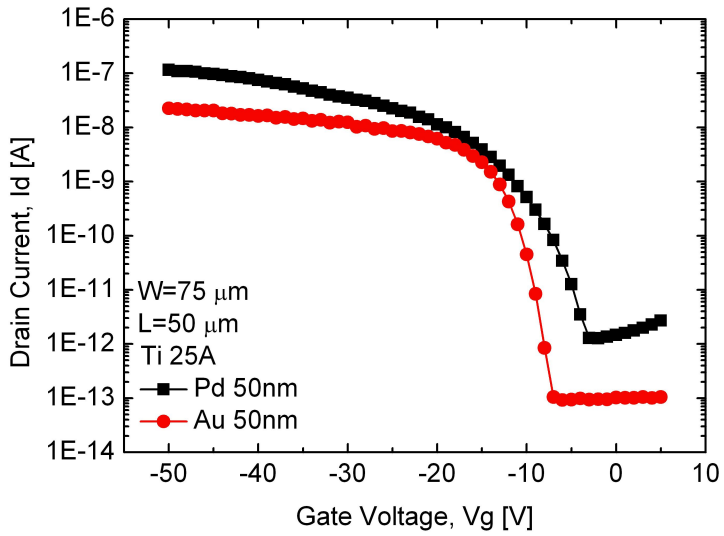
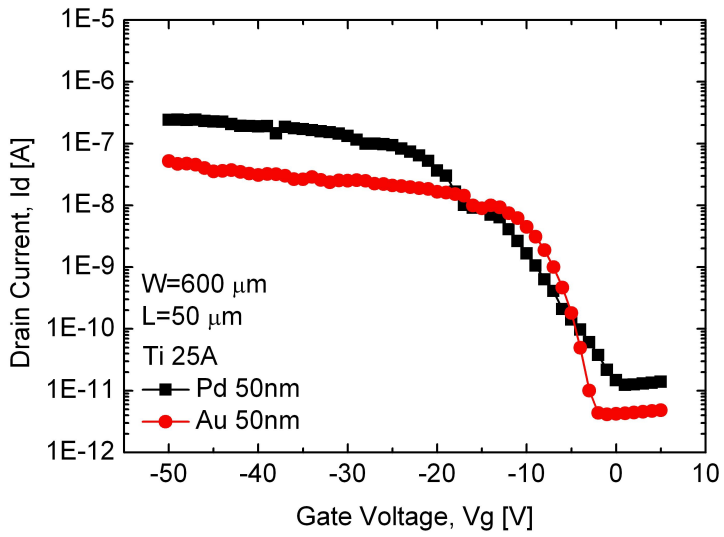


Figure 3.3.1-4 The Id-Vg electrical characteristics of pentacene TFTs with different thicknesses of adhesion layer, and the contact material is Pd. The channel width/length of devices are 26600/50 μm/μm.



(a)



(b)

Figure 3.3.2-1 The Id-Vg electrical characteristics of pentacene TFTs with different contact materials, and the thickness of adhesion layer is 2.5 nm. The channel width/length of devices are (a) 75/50 μm/μm and (b) 600/50 μm/μm.

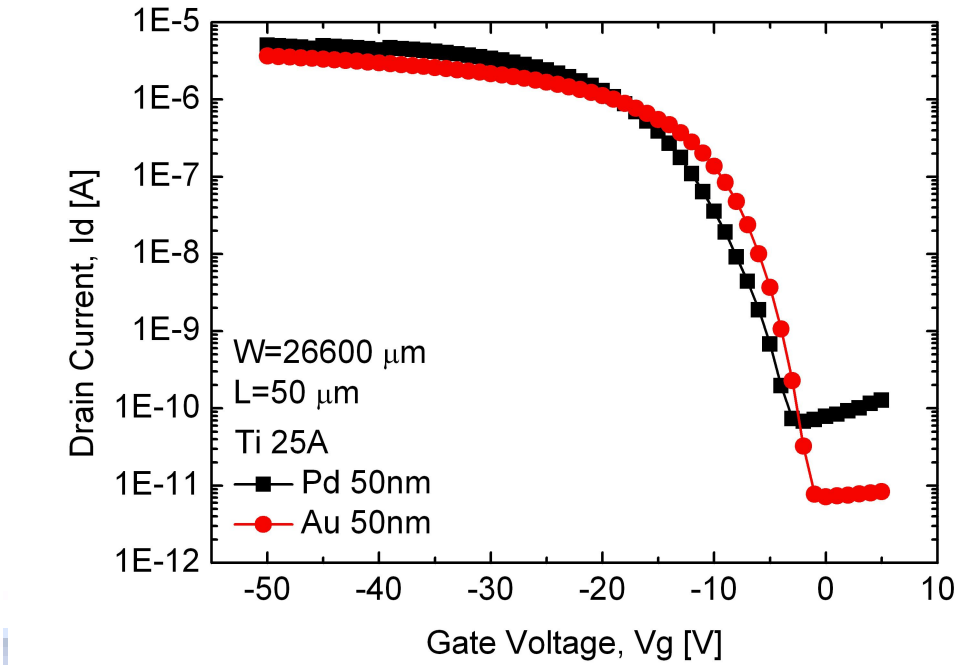
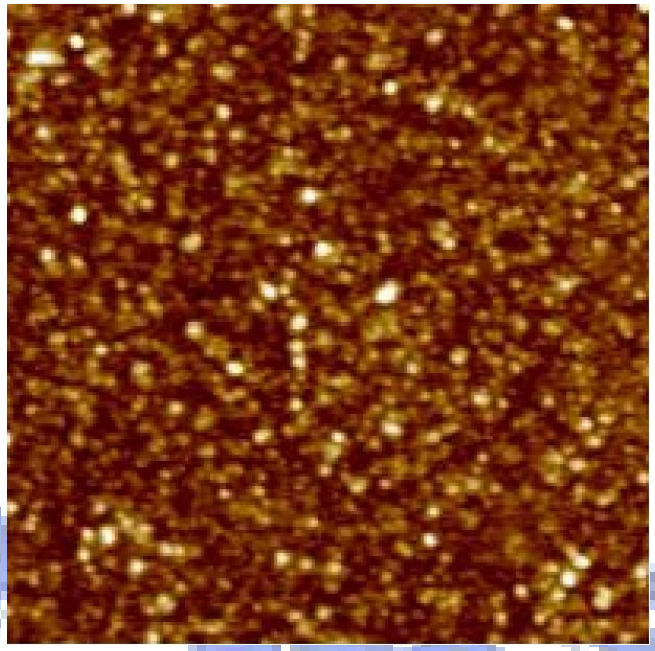
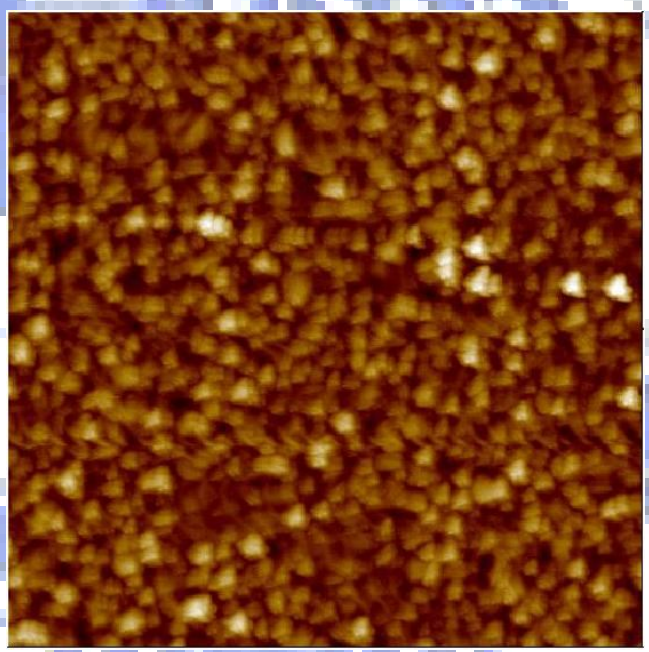


Figure 3.3.2-2 The Id-Vg electrical characteristics of pentacene TFTs with different contact materials, and the thickness of adhesion layer is 2.5 nm. The channel width/length of devices are 26600/50 μm/μm.



(a)



(b)

Figure 3.3.2-3 The AFM images of surface morphologies of (a) Pd and (b) Au.

Figure 3.3.2-4 The AFM images of surface morphologies of pentacene active layer deposited on (a) Pd and (b) Au.

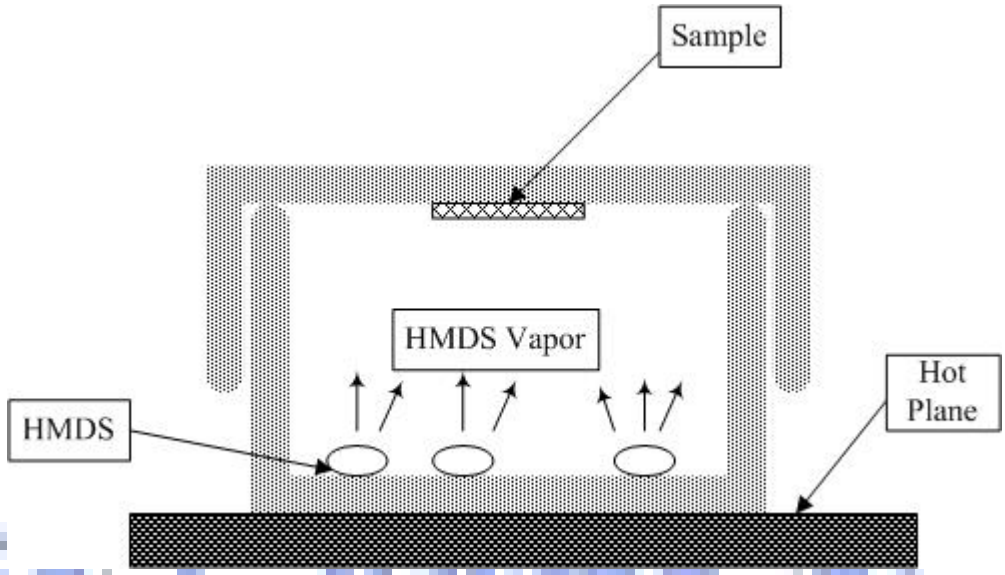
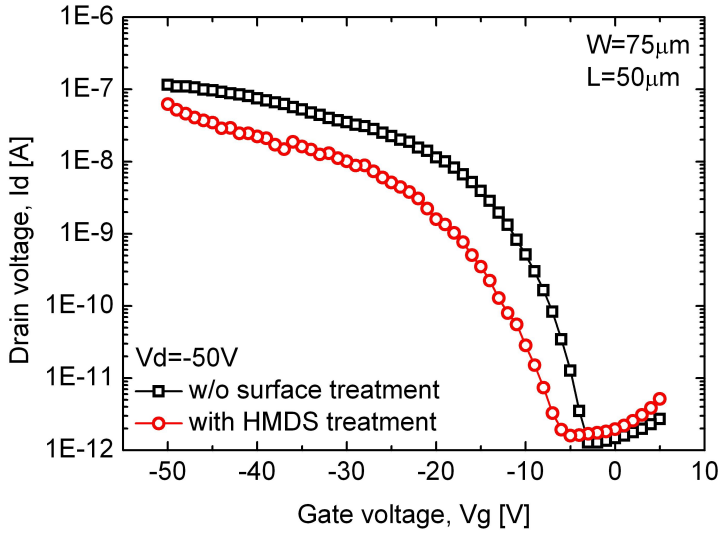
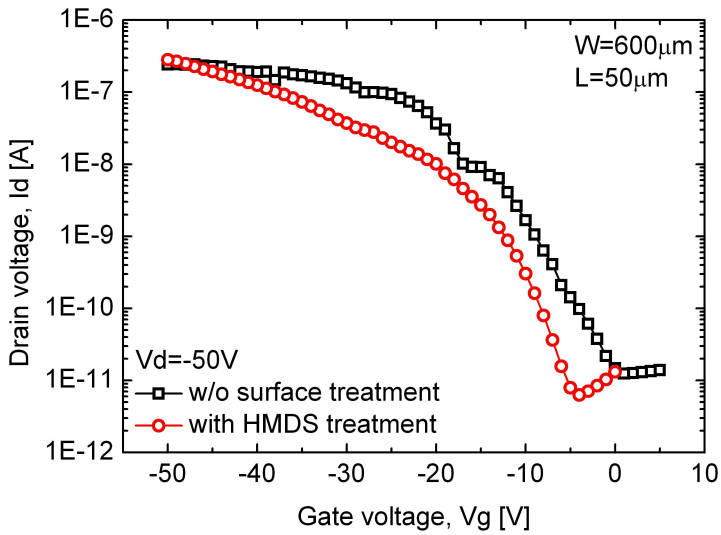


Figure 3.3.3-1 The schema of cross section of HMDS surface treatment process, pentacene TFTs is fixed on top of the cover of vitric container.



(a)



(a)

Figure 3.3.3-2 The Id-Vg electrical characteristics of pentacene TFTs with and without HMDS surface treatment. The channel width/length of devices are (a) 75/50 μm/μm and (b) 600/50 μm/μm.

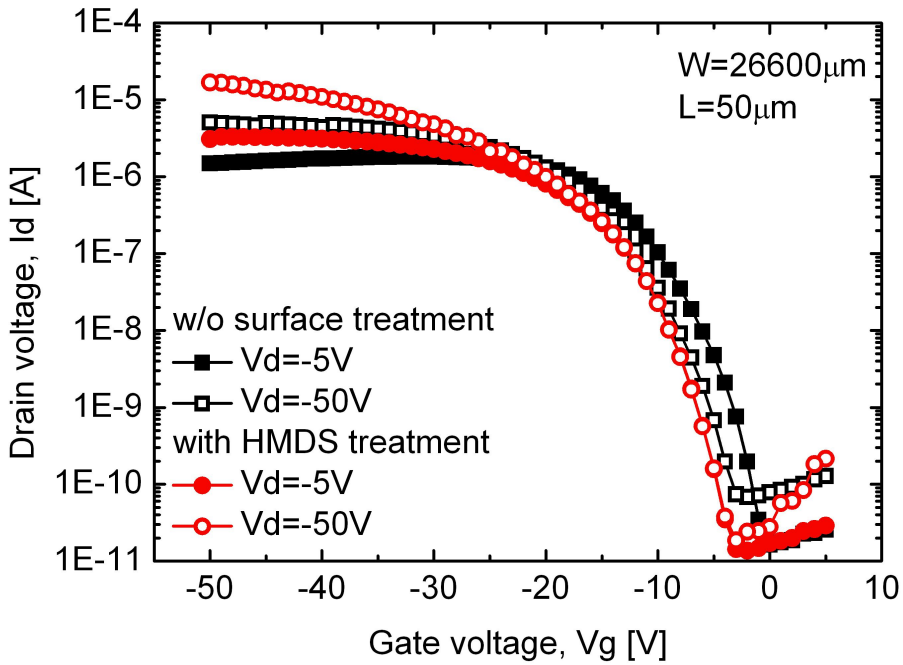


Figure 3.3.3-3 The Id-Vg electrical characteristics of pentacene TFTs with and without HMDS surface treatment. The channel width/length of devices are 26600/50 μm/μm.

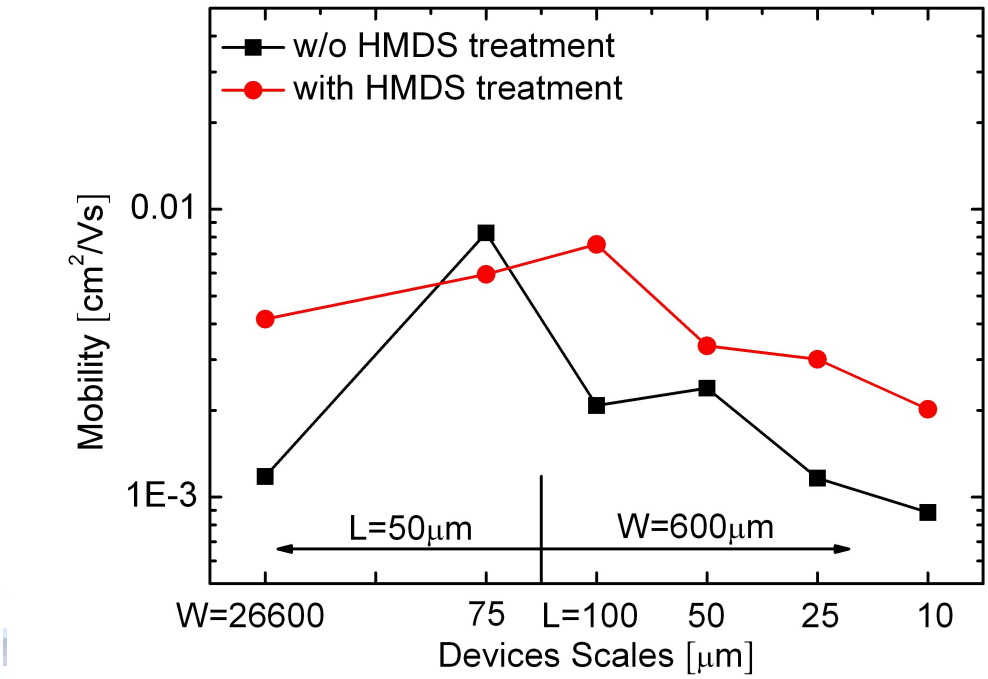


Figure 3.3.3-4 The extractions of mobility of pentacene TFTs with different device scales and HMDS surface treatment or not.