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The role of surface defects of tin oxide nanonet FET in response to humid air and photoexcitation effect

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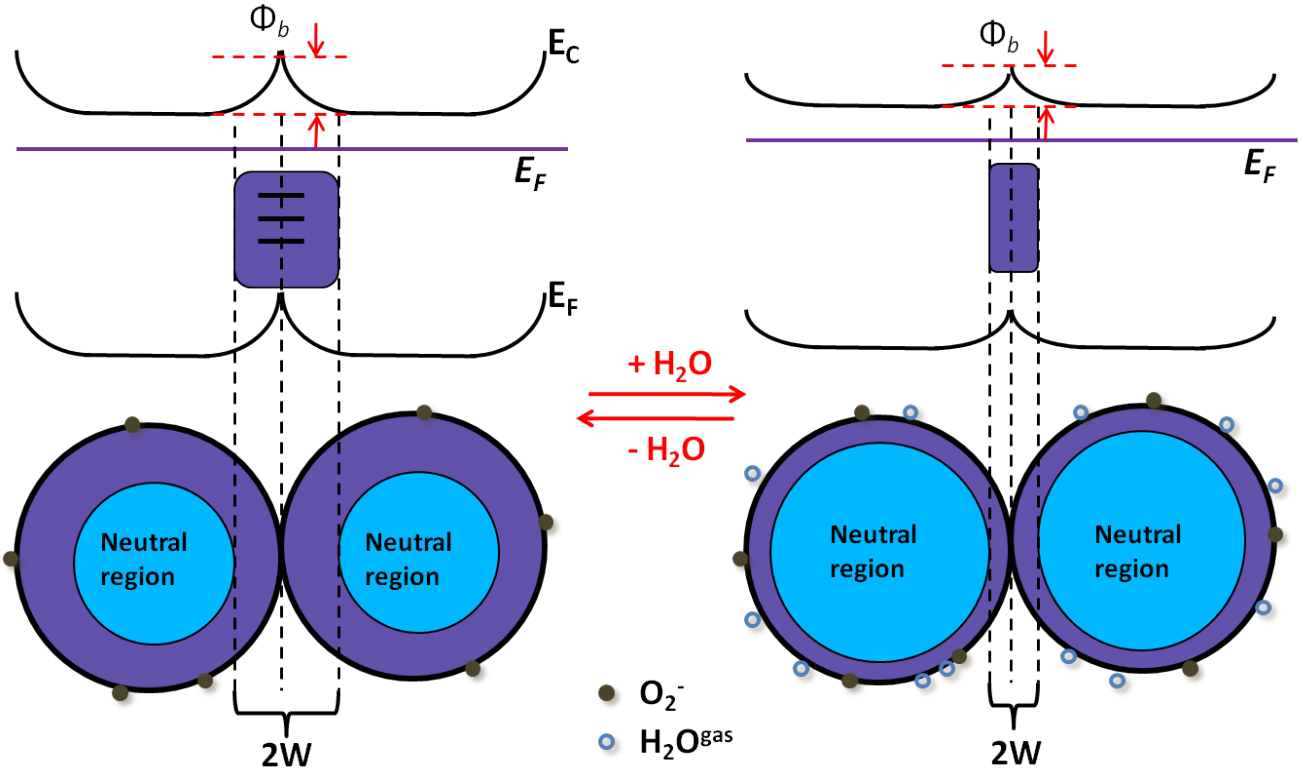
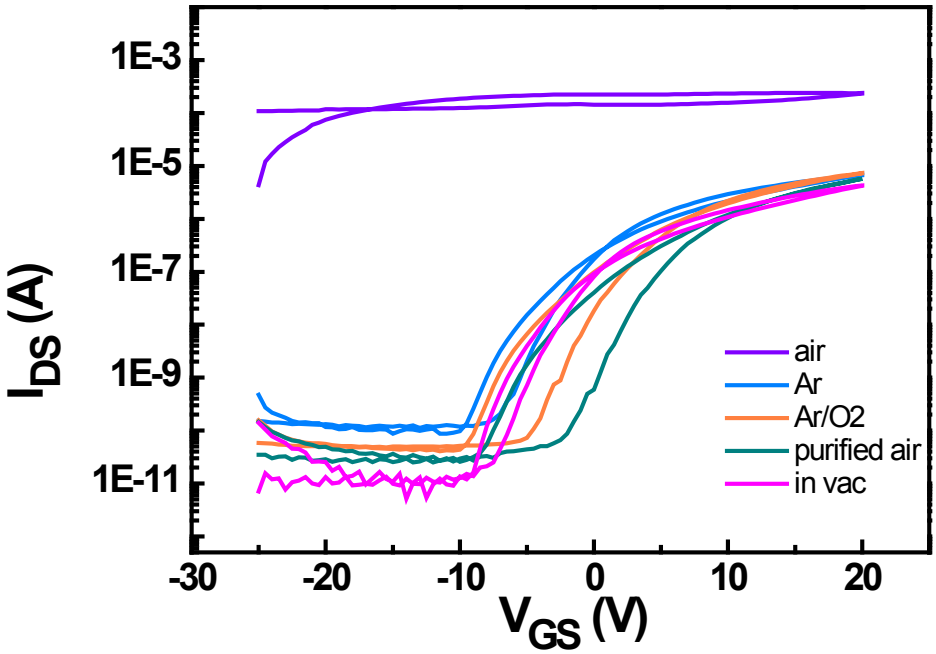
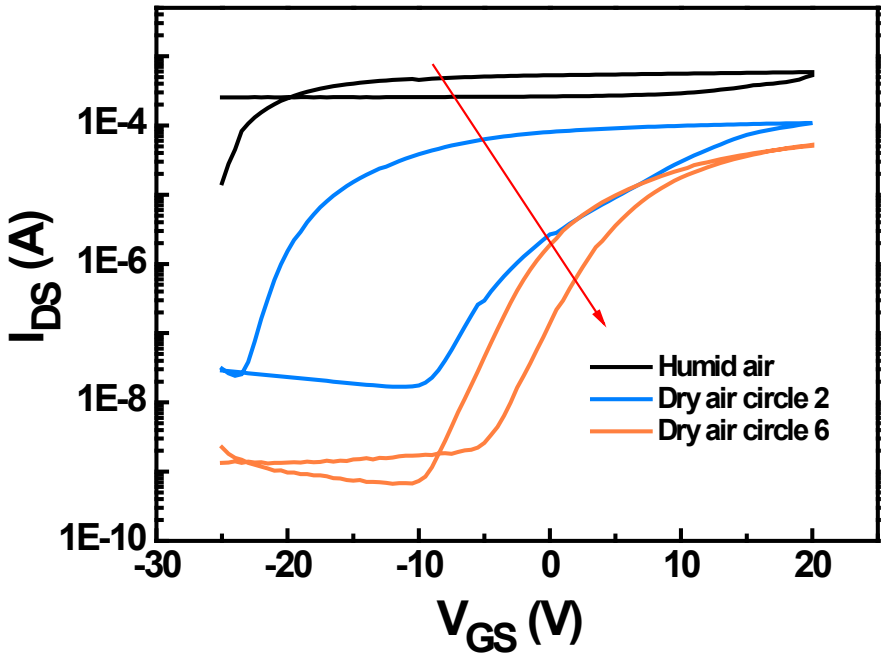


S1. The change of depletion layer and height of energy barriers upon water vapor adsorption and desorption.



S2 Performance of nanonet-FET in 5 different testing environment namely humid air, pure Ar, Ar+5%O_2, dry air and vacuum(1x10^{-2} Torr) for 0%O_2 /Ar when device L = 200 µm.



S3 Illustration of the electrical behavior of nanonet-FET when devices were subjected to dry air (0.5% O_2 /Ar nanowire) which shows a slower response compared to 0% O_2 /Ar nanowire ;