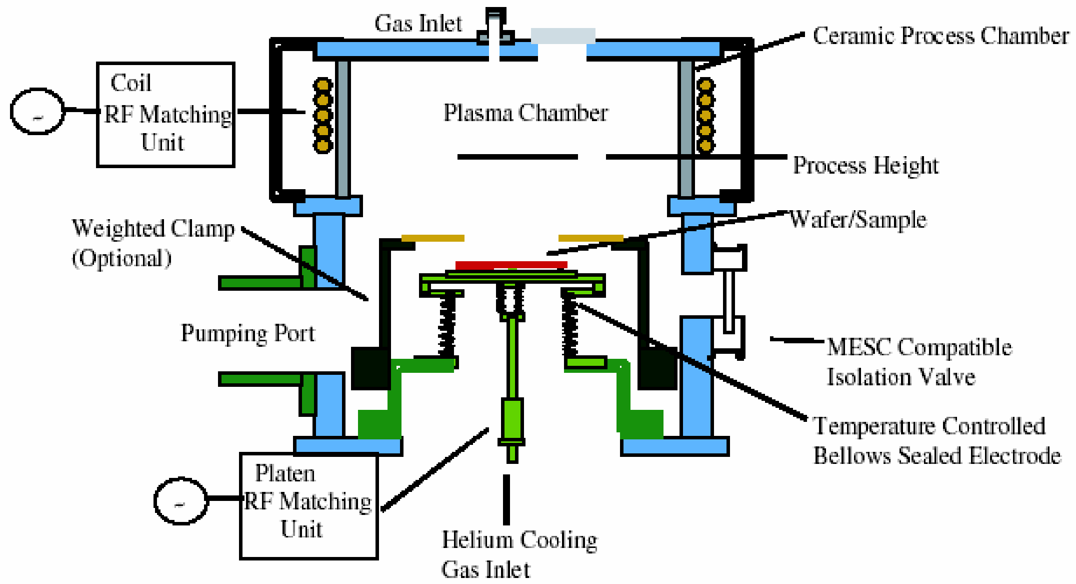


Fig. 2.1 Schematic diagram of the STS ICP

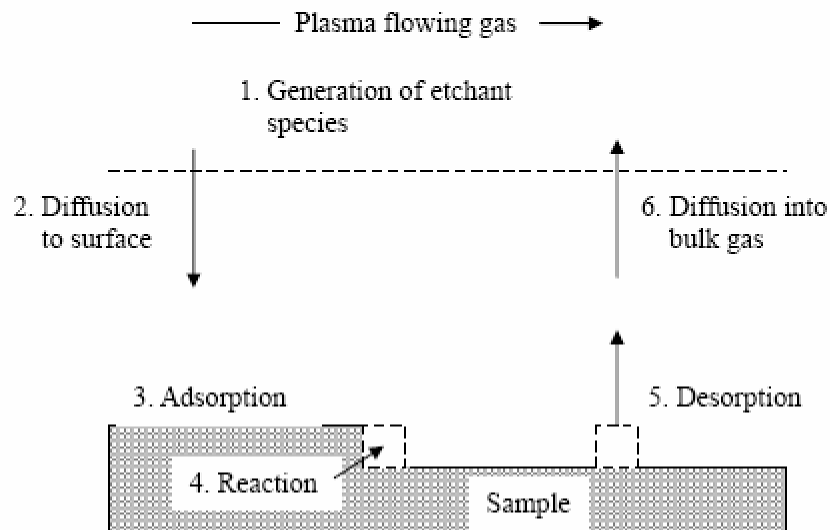


Fig. 2.2 Mechanism for plasma reaction

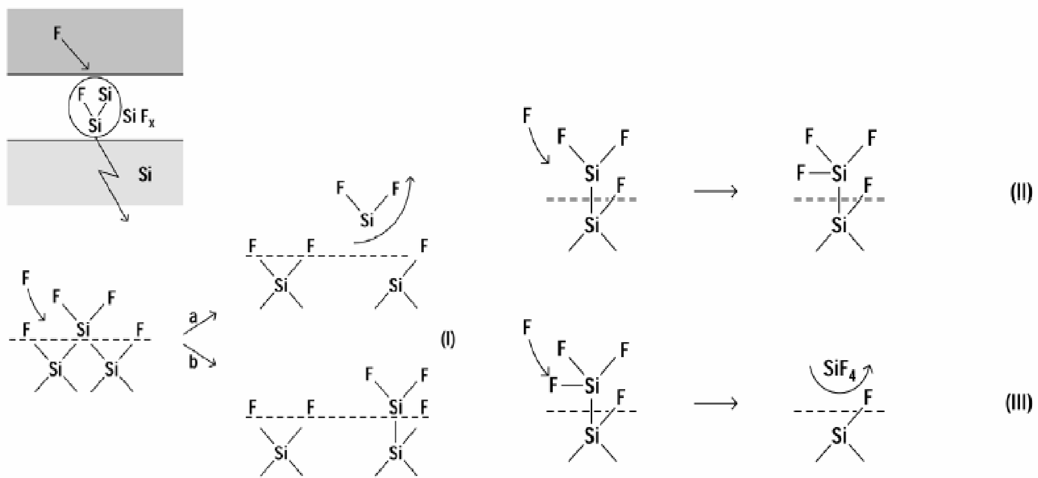


Fig .2.3 Dry etching in F-based gases and plasmas

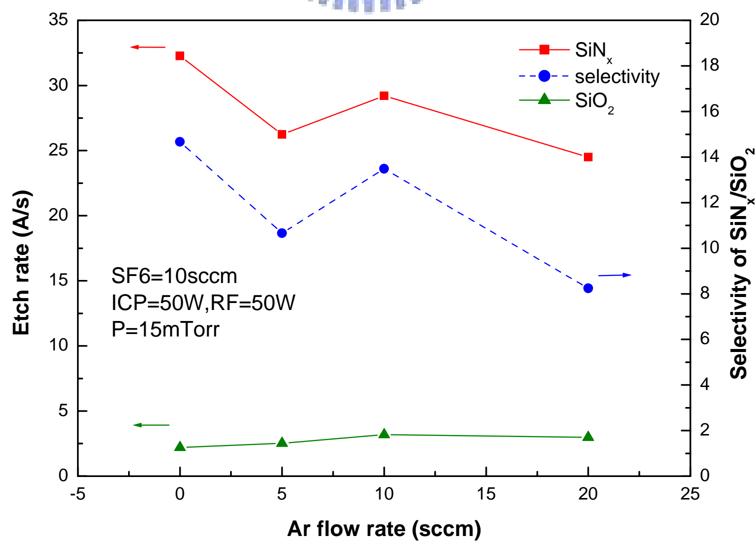


Fig. 2.4 Etching rates of SiN_x and SiO_x, and selectivity as a function of Ar flow

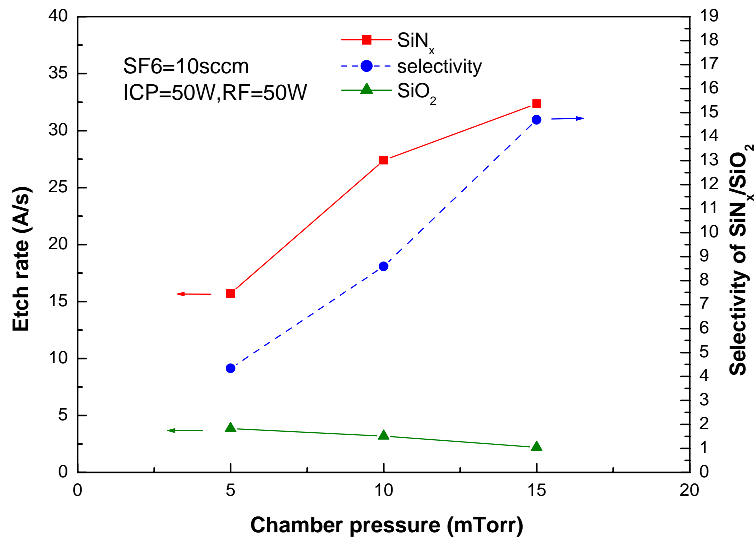


Fig. 2.5 Etching rates of SiN_x and SiO_x, and selectivity as a function of chamber pressure

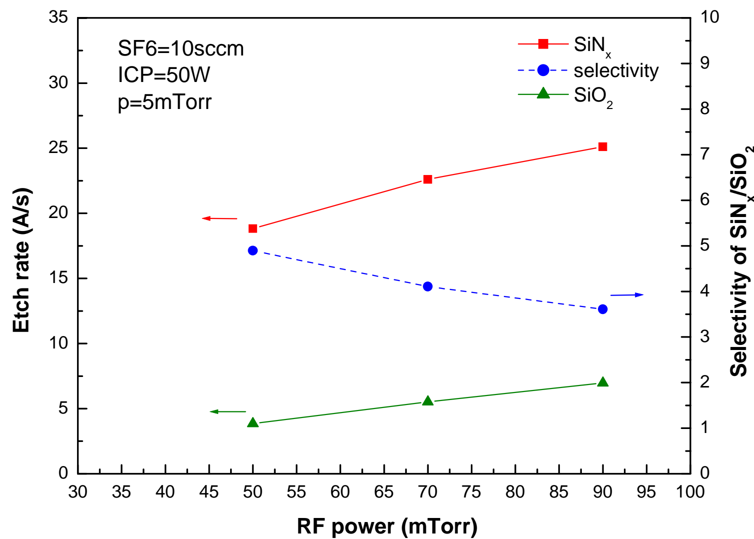


Fig. 2.6 Etching rates of SiN_x and SiO_x, and selectivity as a function of RF power

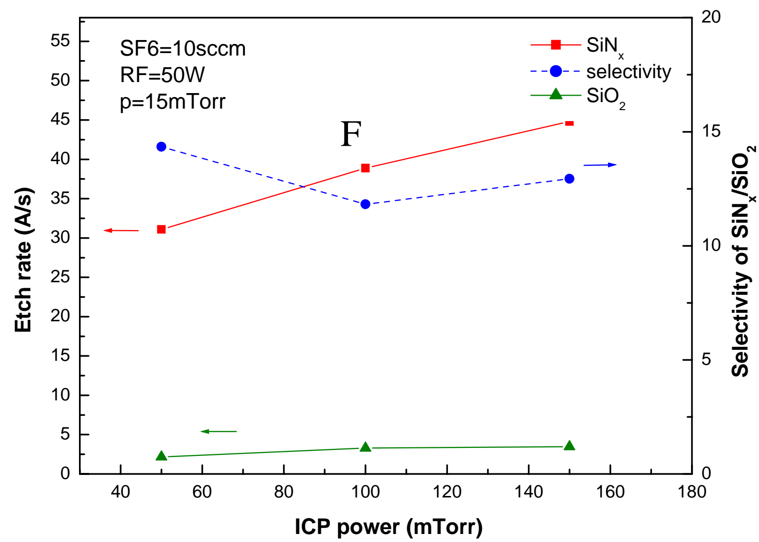


Fig. 2.7 Etching rates of SiN_x and SiO_x, and selectivity as a function of ICP power

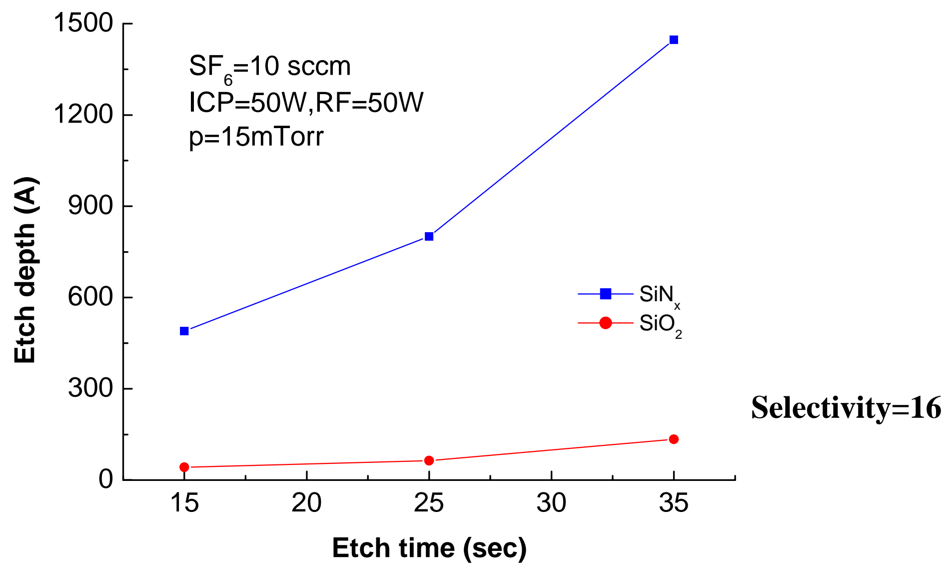
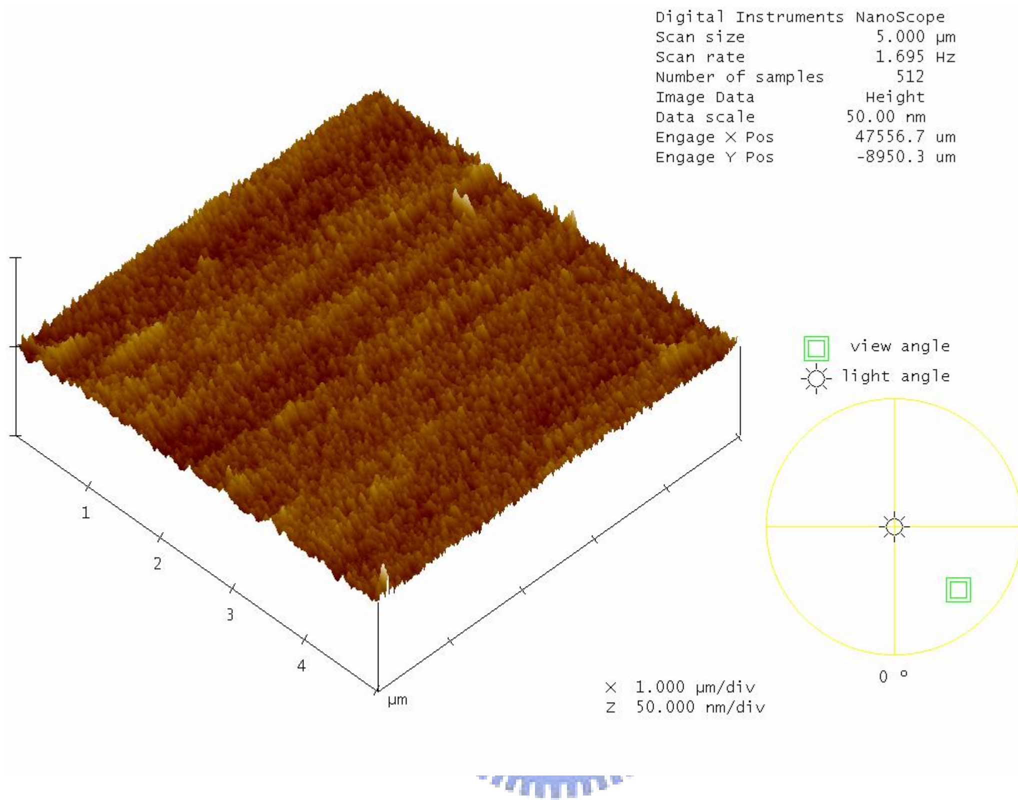
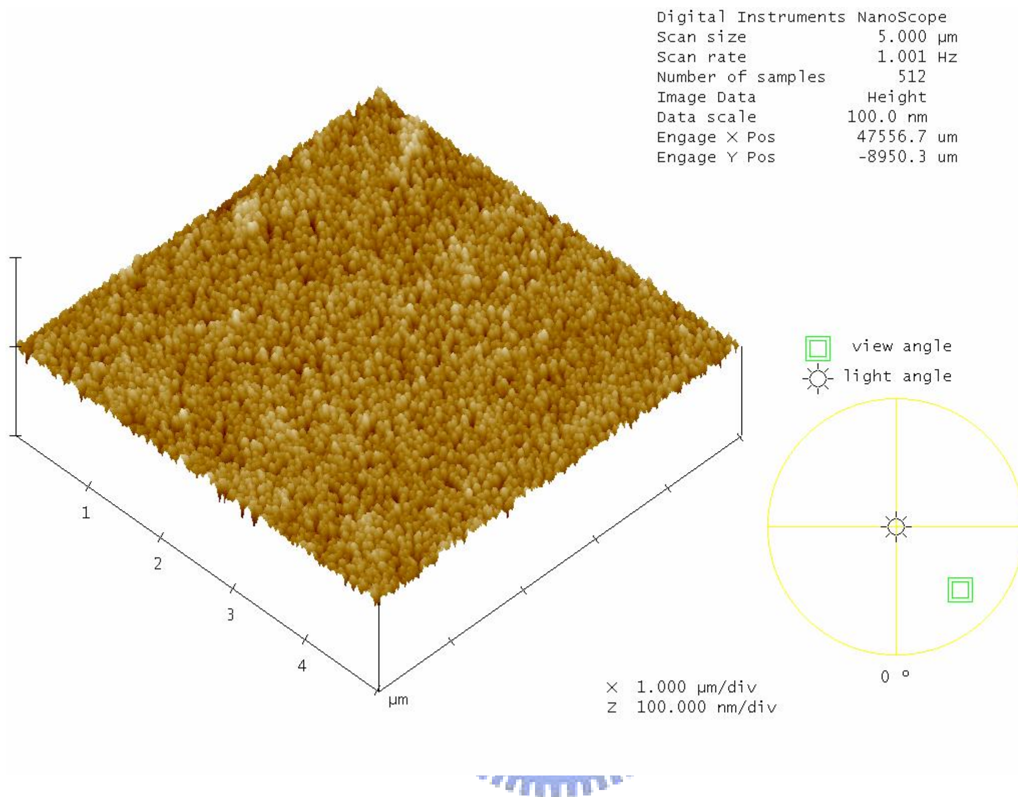


Fig. 2.8 Etching rates of SiN_x and SiO_x



RMS=1.77nm
Ra=1.40nm

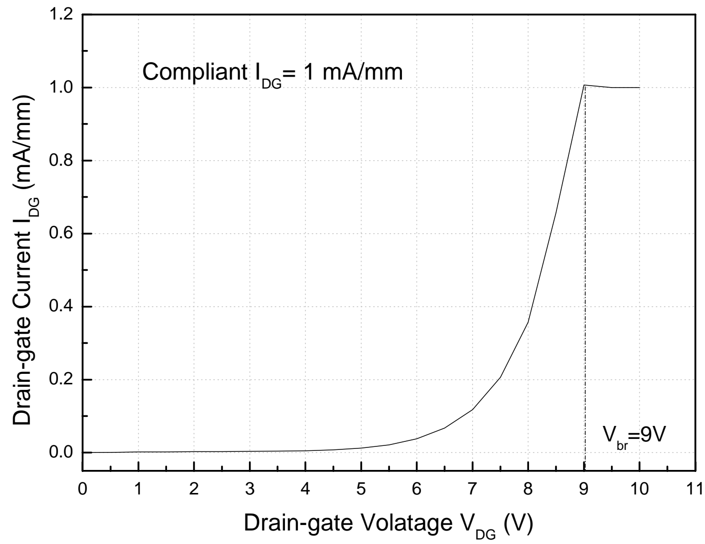
Fig. 2.9 Surface roughness without plasma treatment



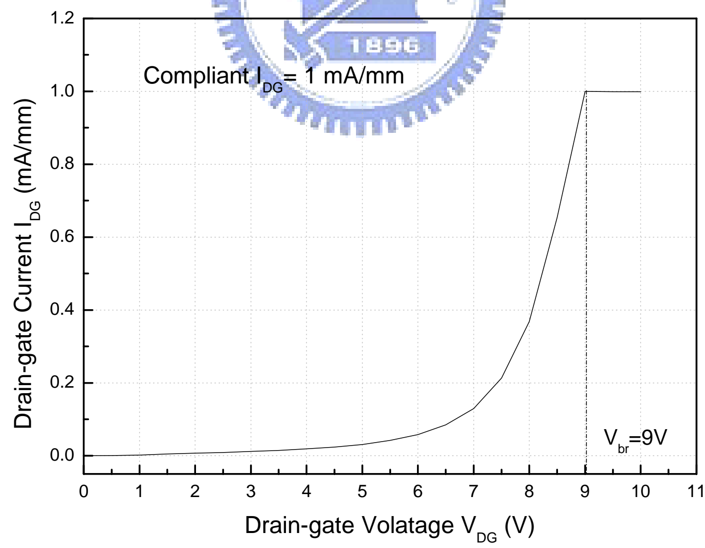
RMS=3.14nm

RA=2.4nm

Fig. 2.10 Surface roughness with plasma treatment



Without plasma treatment



With plasma treatment

Fig. 2.11 Breakdown voltage with and without plasma treatments