

**Fig. 3-1** Experimental flowchart for the fabrications and analyses of the carbon nanocones and other nanostructures.

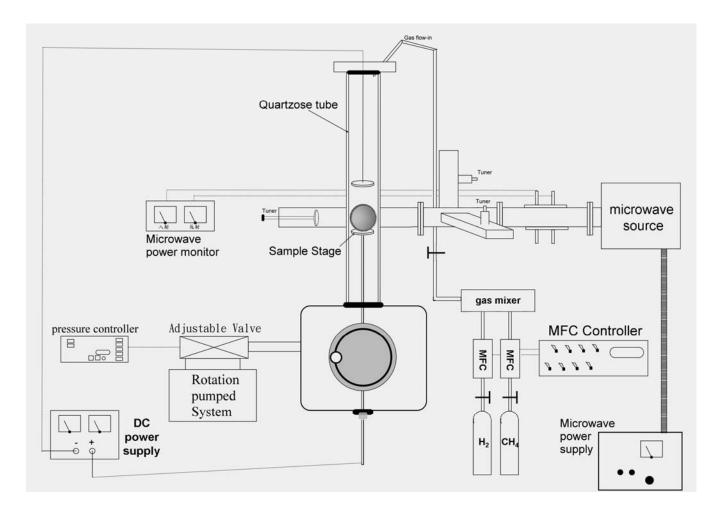


Fig. 3-2 Schematic diagram of the microwave plasma chemical vapor deposition (MPCVD) system for nanostructures growth

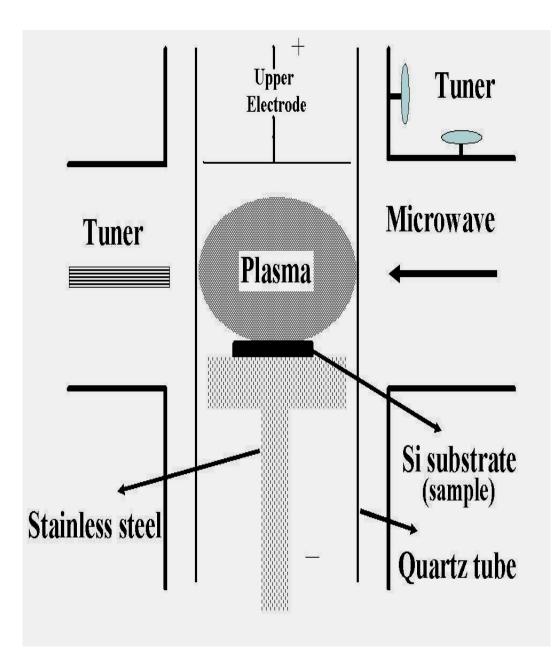
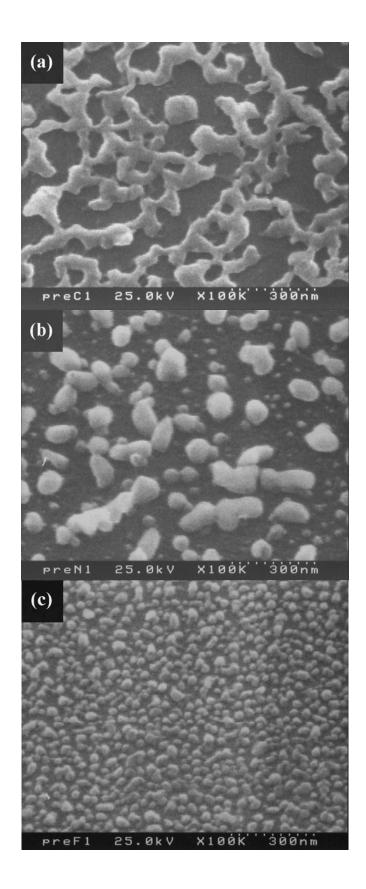


Fig. 3-3 Schematic drawing of MPCVD reactor



**Fig. 3-4** Morphologies of the as-pretreated (a) Co-, (b) Ni-, and (c) Fe-coated substrates, respectively.

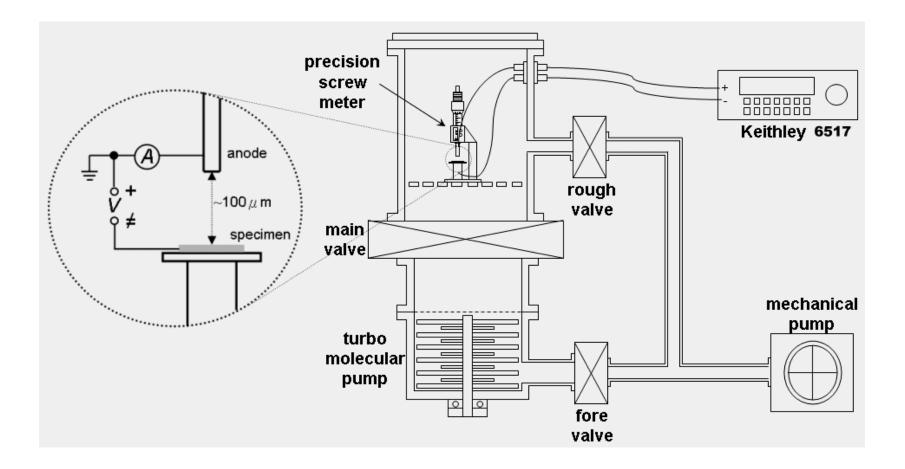


Fig. 3-5 Schematic diagram of the field emission measurement setup