

## InP Etch using Oxford CAIBE Tool

### 2) Experimental #02

a) Sample: my InP patterned piece.

b) Pre-etch wet clean: solvent (acetone and methanol) clean and DI rinse; dipping in NH<sub>4</sub>OH:DI (1:2) for 1 minute, DI rinse and N<sub>2</sub> dry.

c) Etching condition: Beam: 150mA, 400 v, Va=500 v, Cl<sub>2</sub>/Ar flow-rate=2/10 sccm; Neutralizer: 200mA and Ar flow-rate=5 sccm; chuck temperature=200 C (After transferring into the etch chamber, waited for 10 minutes before starting the etch to make sure the sample temperature was stabilized) and Tilting angle=0 degree; etch time=3 minutes.

d) Mask: SiO<sub>2</sub>: thickness before etching: 0.312 μm; thickness after etching: 0.186 μm.

e) Result: Smooth etched surface and micro-trenches. Averaged Etch rate=0.19 μm/min, Averaged Etch selectivity=4.5, Averaged side-wall angle=78.4°



