

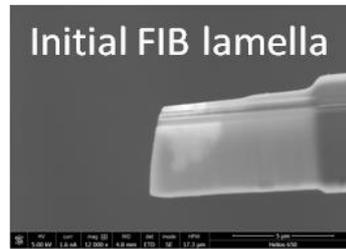
ESTEEM2
Enabling Science and Technology through
European Electron Microscopy

Protocol for TEM Sample Preparation
“Cross Section lamella”

Work carried out by Universidad de Zaragoza



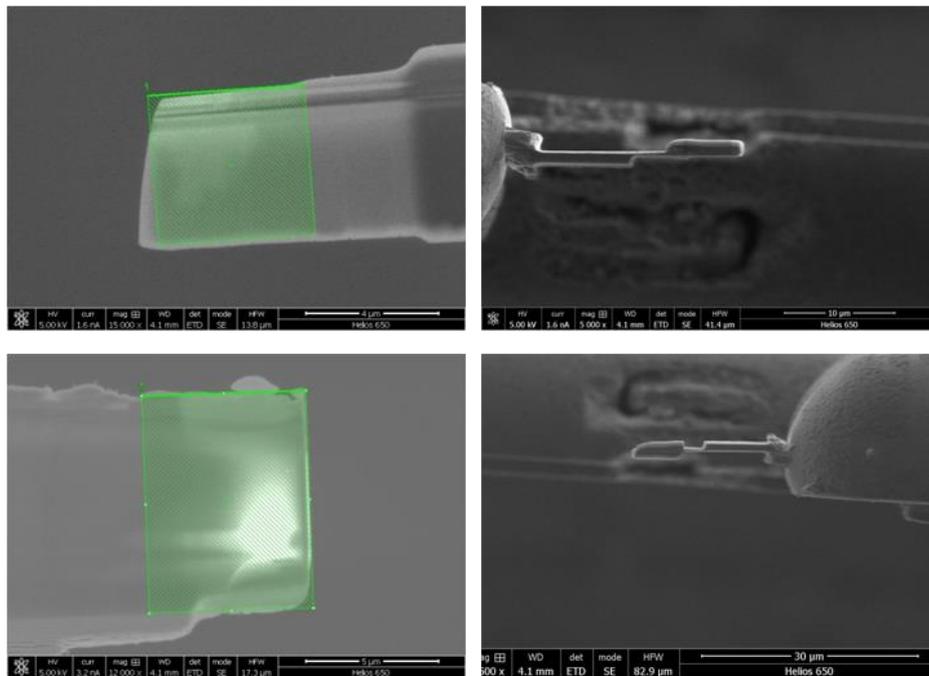
The starting point is a conventional FIB lamella as it is shown in the figure:



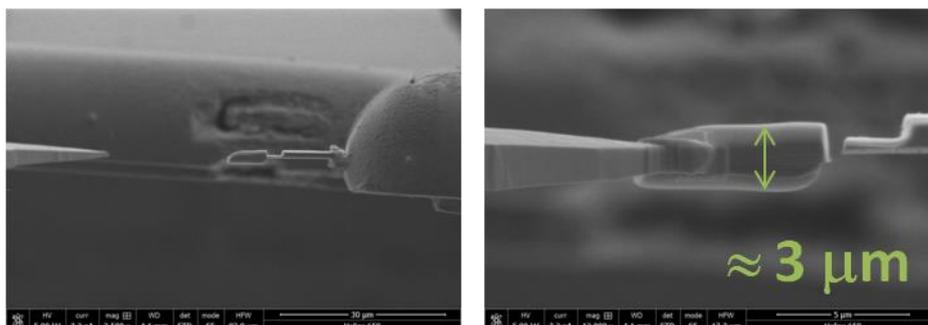
1st Step: Pt deposition on both side of the lamella using FE/FIBID (focused electron/ion beam induced deposition). The conditions were:

Pt FEBID 5kV 3.2nA

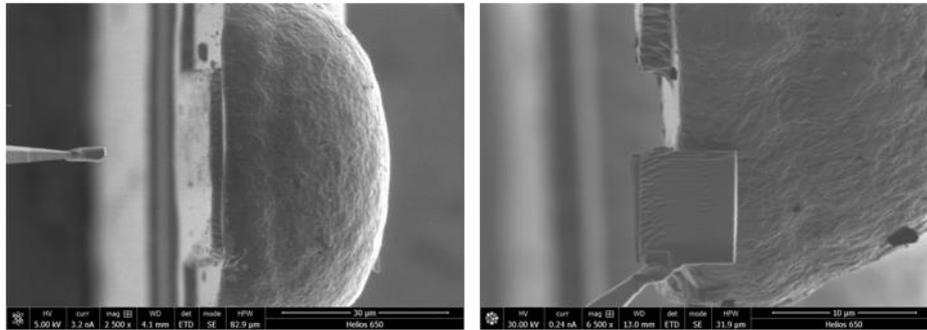
Pt FIBID 30kV 80pA



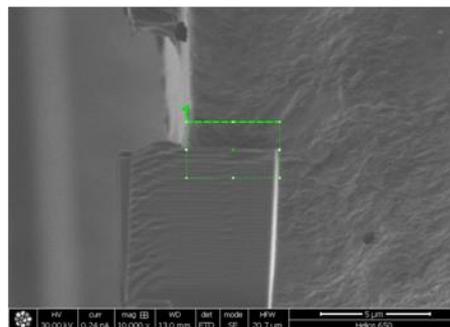
2nd Step: Nanomanipulator approximation, Welding (Pt FIBID 30kV 80pA), Cut-off and lift-out.



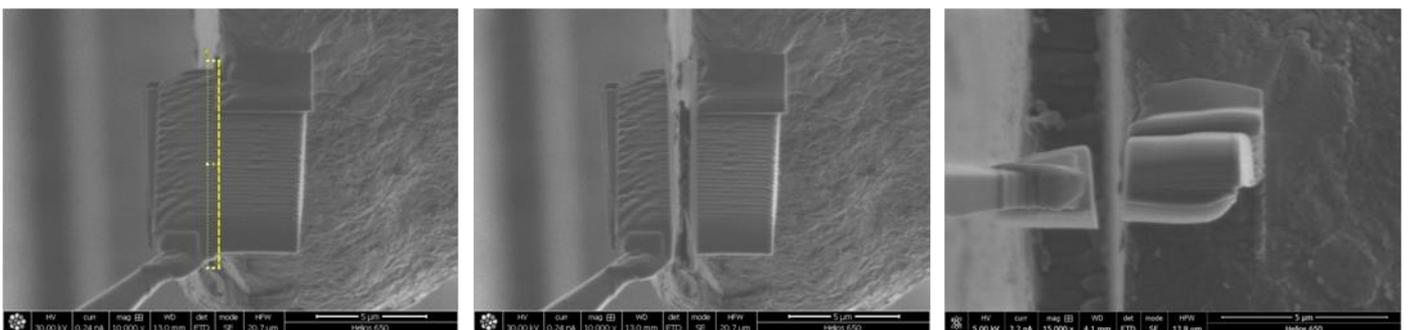
3rd Step: Locate the Cu grid perpendicular to the nanomanipulator and approximate the lamella.



4th Step: Weld to the grid with Pt Dep. Pt FIBID (30kV 0.24pA)



5th Step: Detach from the nanomanipulator cutting with FIB (30kV 0.24pA)



6th Step: Turn the grid 90° and thin the lamella (FIB till 5kV 68pA)

