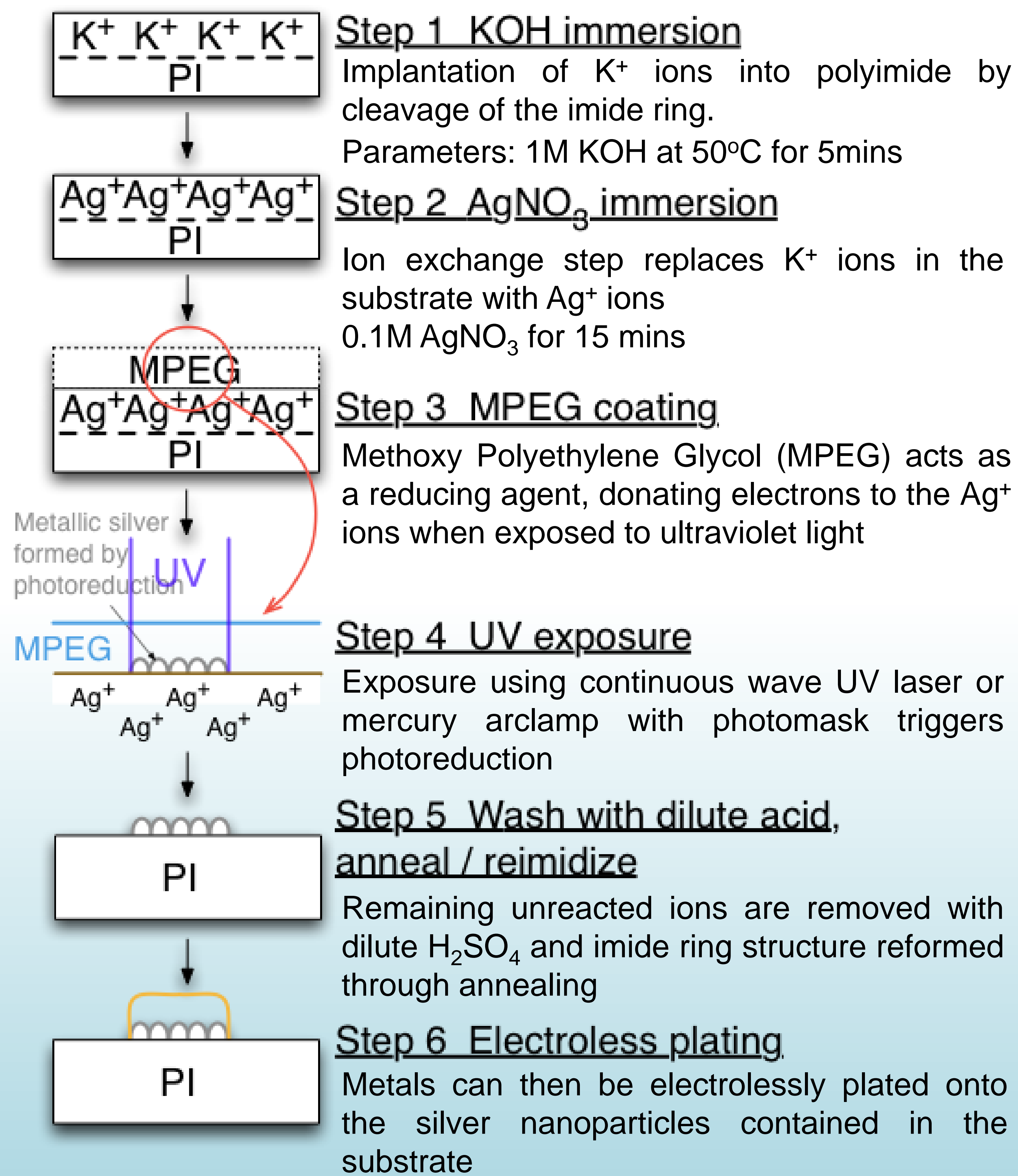
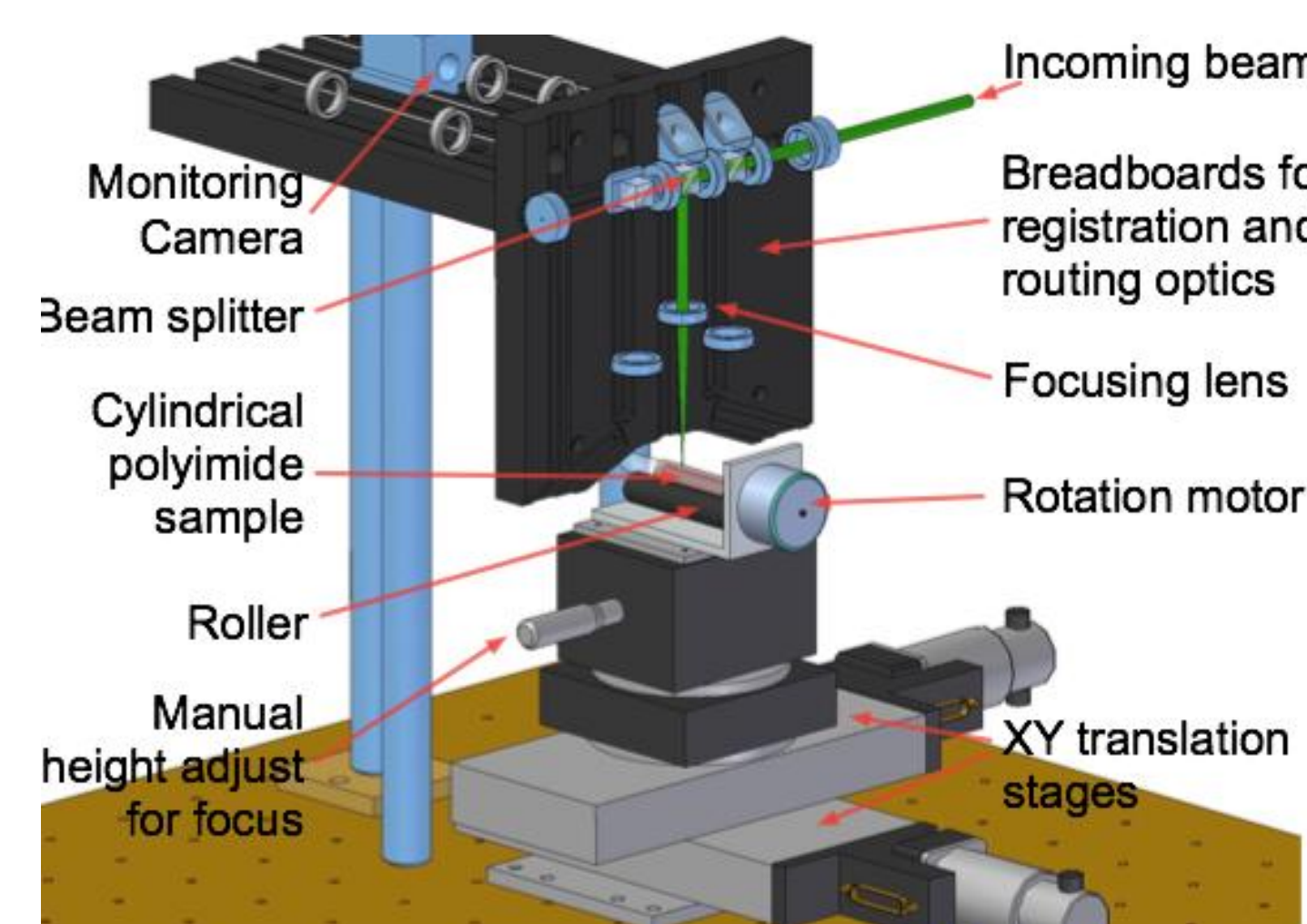


Process Steps



Photoreduction

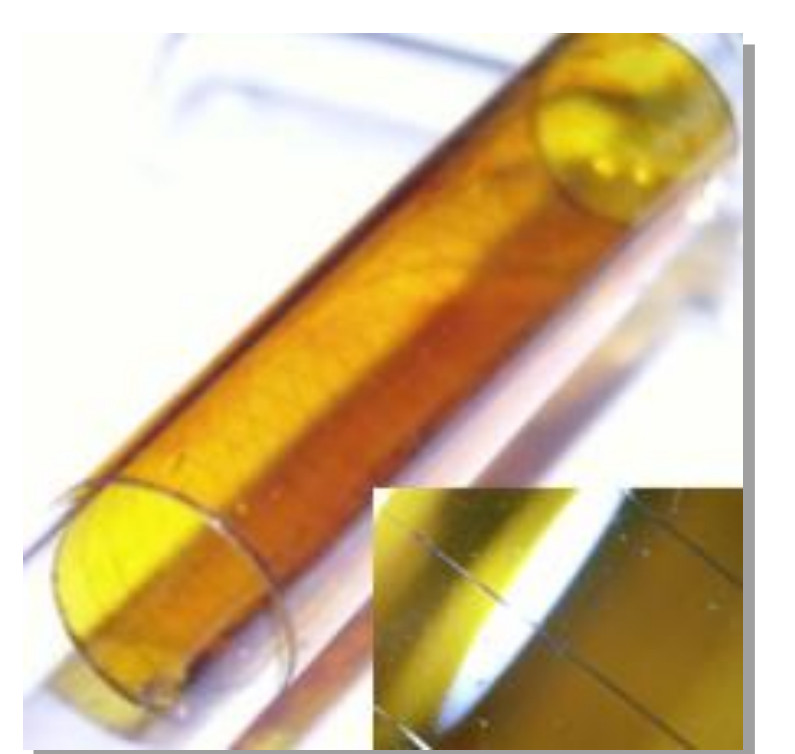
3D Laser Direct-Writing



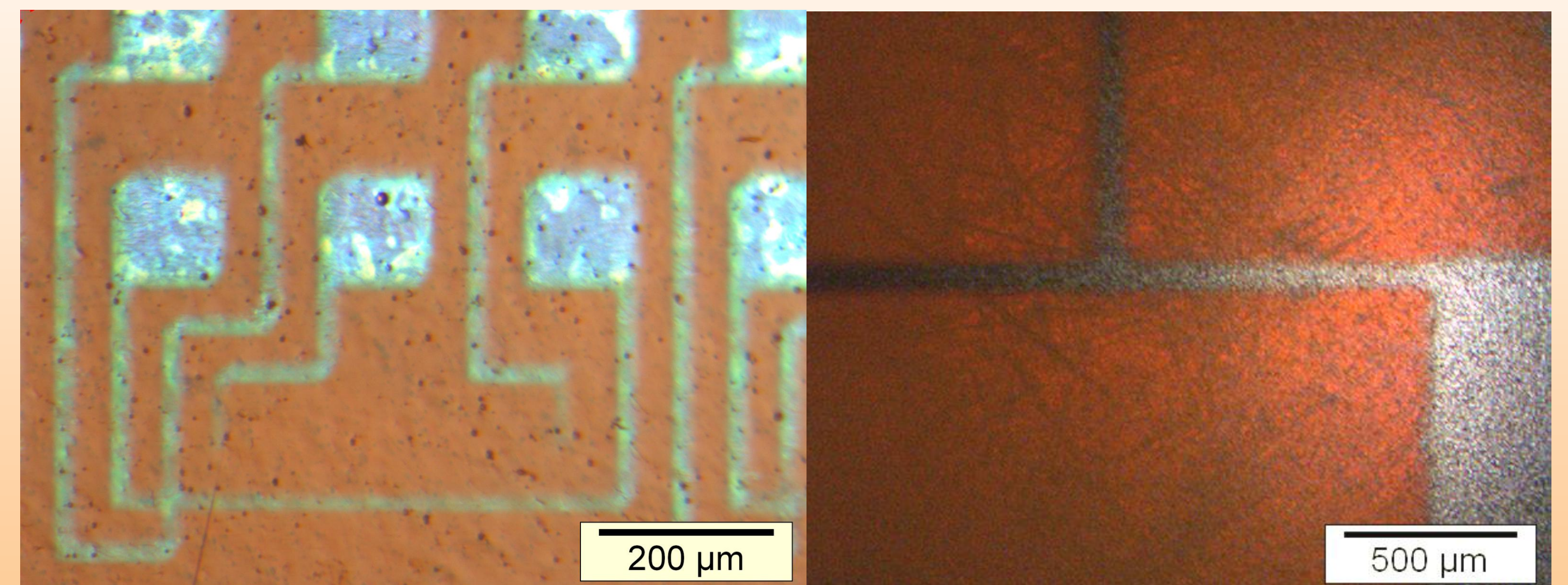
Direct Writing can be carried out on 3 dimensional surfaces with linewidths of 10 μm achieved. The simple six step process greatly reduces

production time, waste materials and allows for

rapid prototyping on flexible devices and interconnects for almost any application.

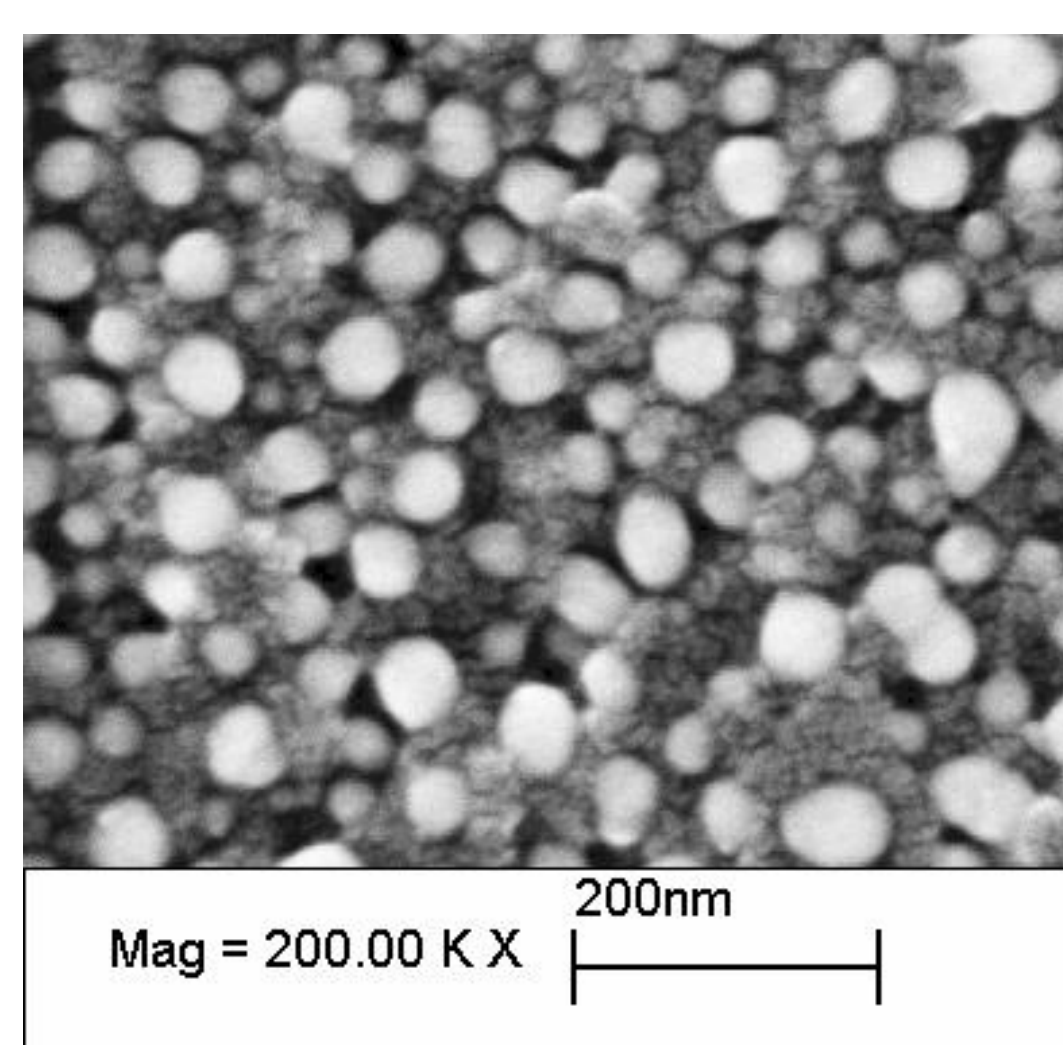


Photomask Alternative

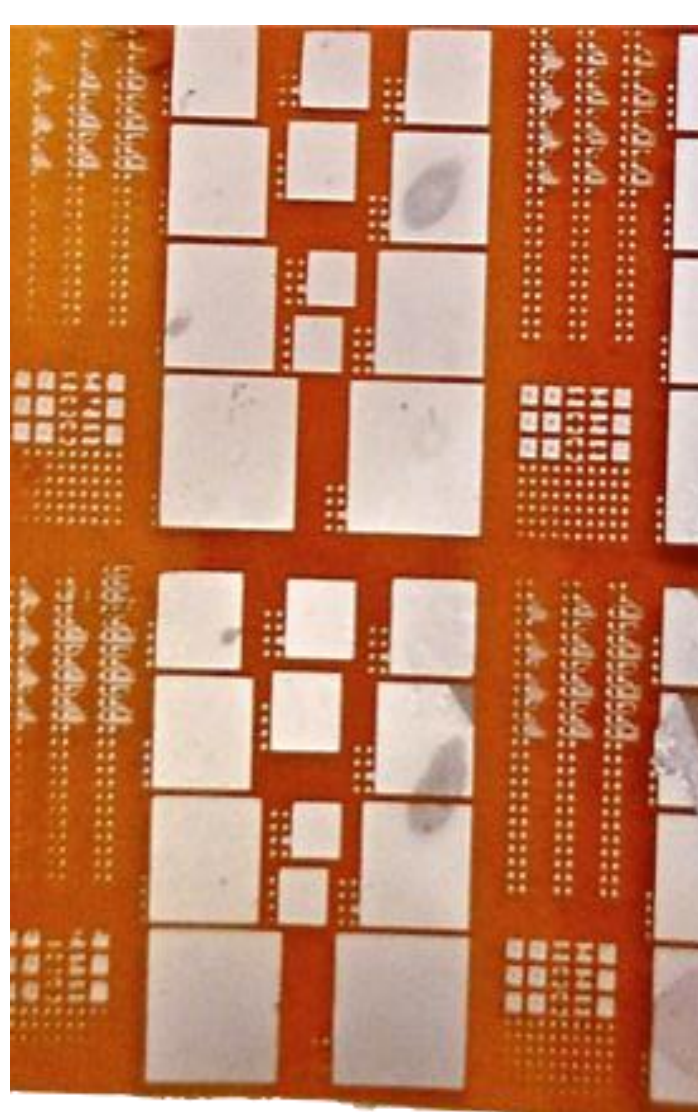


The process also works with photomask exposure, useful for higher linewidth and bulk area applications such as bond pads or capacitors.

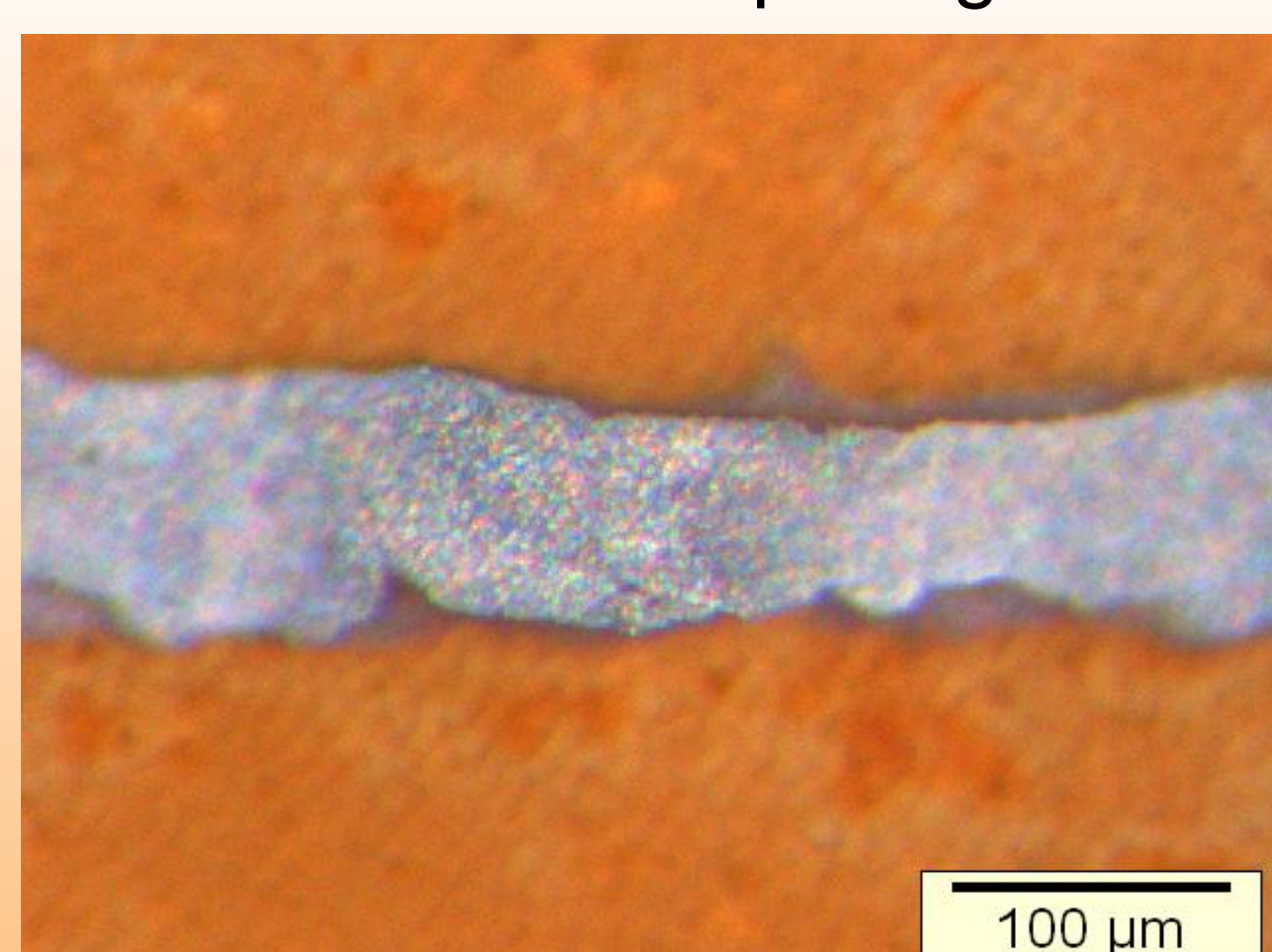
Electroless Plating



Once a suitable seed layer (left) is produced through UV exposure, metals can be electrolessly deposited on the patterned substrate (right.) The bath demonstrated here is made by Polymer Kompositer AB, Sweden.



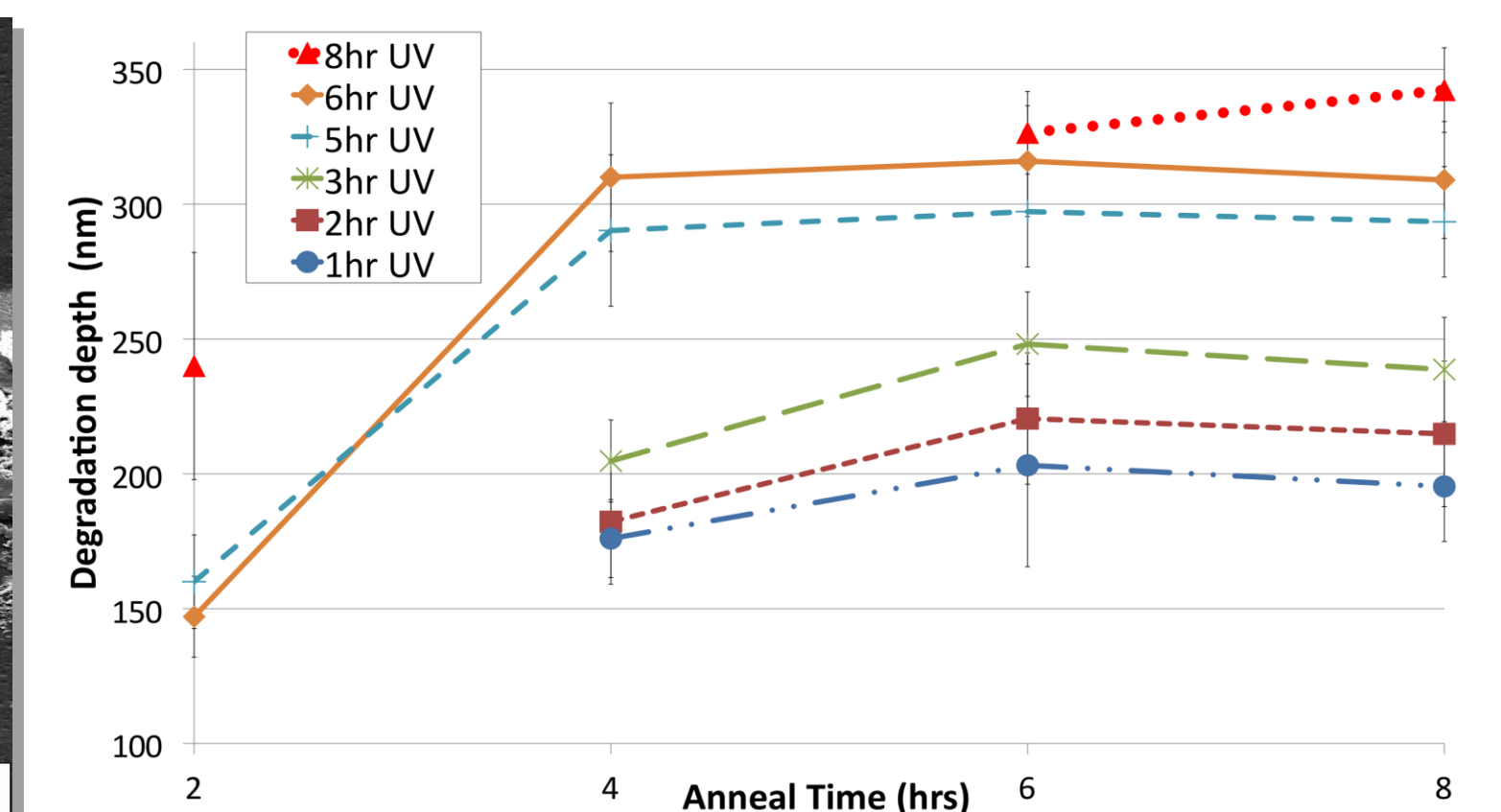
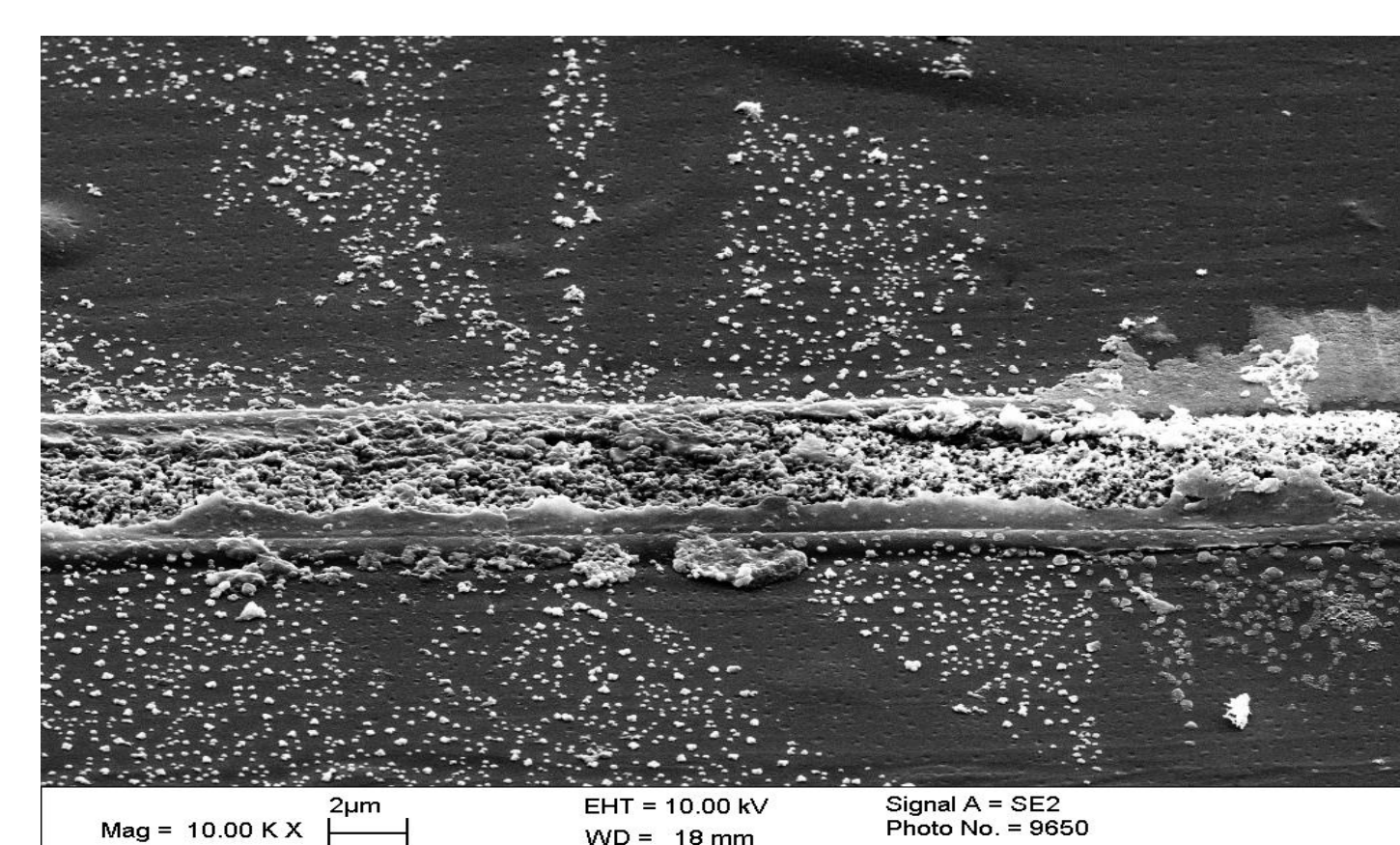
A balance of pH, temperature and silver ion ratio must be struck to allow the silver to deposit uniformly without attacking the polymer substrate. Current plating techniques are producing reliable plating



down to approximately 50 – 60 μm (left), with conductivity comparable to that of bulk silver. One of the main challenges with the plating is achieving good adhesion to the substrate. As seen on the pictures opposite, this is one of the major current areas of investigation.

Challenges

Photodegradation



Adhesion

