

# Metal electrolysis using a two-liquid-phase electrolyte consisting of aqueous-organic solutions

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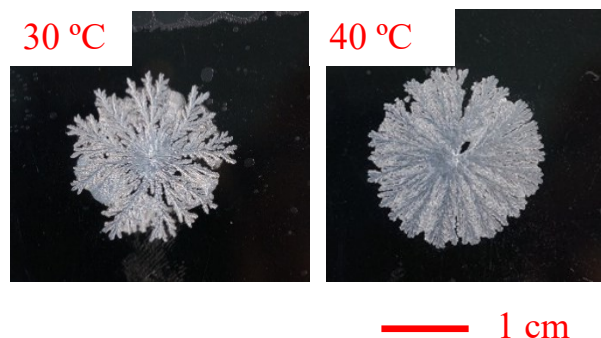
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## Outline:

Electrochemical technique serves an effective method for producing functional powder or thin-film materials. Therefore, electrolytic deposition is applied for a modern production process of semiconductor etc. For instance, a metallic deposit like a flower can be produced under a certain condition. The deposit is called as the “**Metal Leaves**” because its planar pattern deposited along an interface is similar to a leaf of tree. The purpose of this class is the understanding of the factors that governs the pattern of the “**Metal Leaves**” by changing several parameters in electrolysis, such as cell voltage, electrode material, temperature, ion concentration, and so on. Learning of surface energy and electrochemical measurement through the production of the “**Metal Leaves**” is also included.



**Fig. 1** Metal Leaves produced with a star-like electrode.



**Fig. 2** The influence of temperature on the produced zinc leaves