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# **Sample Preparation**



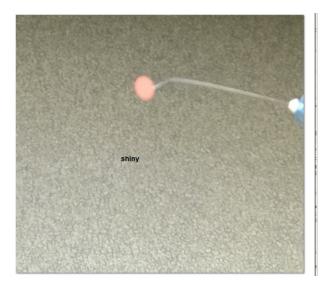
### **Grids**

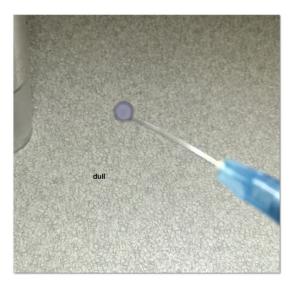
#### **Grids to Get**

Thickness: 25 µm Diameter: 3 mm Film on "dull" side

"Shiny" side has the metal only

- Ultrathin Carbon Film on a Lacey Carbon Support Film
- https://www.tedpella.com/Support\_Films\_html/Support\_Films\_and\_Substrates\_Overview.aspx
- 01824 Ultrathin Carbon Film on Lacey Carbon Support Film, 400 mesh, Copper
- 160 PELCO® TEM Grid Storage Box





## **Basic Shake and Bake**

Put a small amount of powder in Eppendorf tub (enough to coat the bottom). Put one grid into the tube. Close the tube and shake for 1 minute. Open the tube and remove the grid. The grid should have enough material on it and is ready to be imaged in the TEM.

# Instructions for Nanoparticle Dropcast TEM sample preparation

#### Things you will need:

- Ethanol (or water, IPA, or dimethyl carbonate)
- A small metal scooper
- A sonicator
- Several small vials that are centrifuge compatible
- A centrifuge
- Nanoparticles
- UltraThin 3 nm Carbon Grids
- Glass slide
- 1. Check the MSDS for mixture with ethanol (make sure the nanoparticles are NOT pyrophoric)
- 2. Use the small metal scooper to extract about ½-1 cms worth of nanoparticles
- 3. Place the nanoparticles in a small vial
- 4. Fill the small vial with ethanol up to the 1 cm below the rim
- **5.** Sonicate the filled small vial for 10 minutes on high power (make sure to find an anti-node)
- **6.** Centrifuge for 20 minute (make sure to balance the centrifuge)
- **7.** Use a pipette to collect several uL of fluid just above the concentrated part at the bottom of the vial. See the arrow below . The pipette should just touch above dark part



- 8. Deposit 1 uL of fluid onto the dull (not shiny) side of the grid
- 9. Let the grid dry on a glass slide
- **10.** Vacuum bake at 50-400 degree C for several hours if contamination is found of the surface
- 11. Plasma clean as needed

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