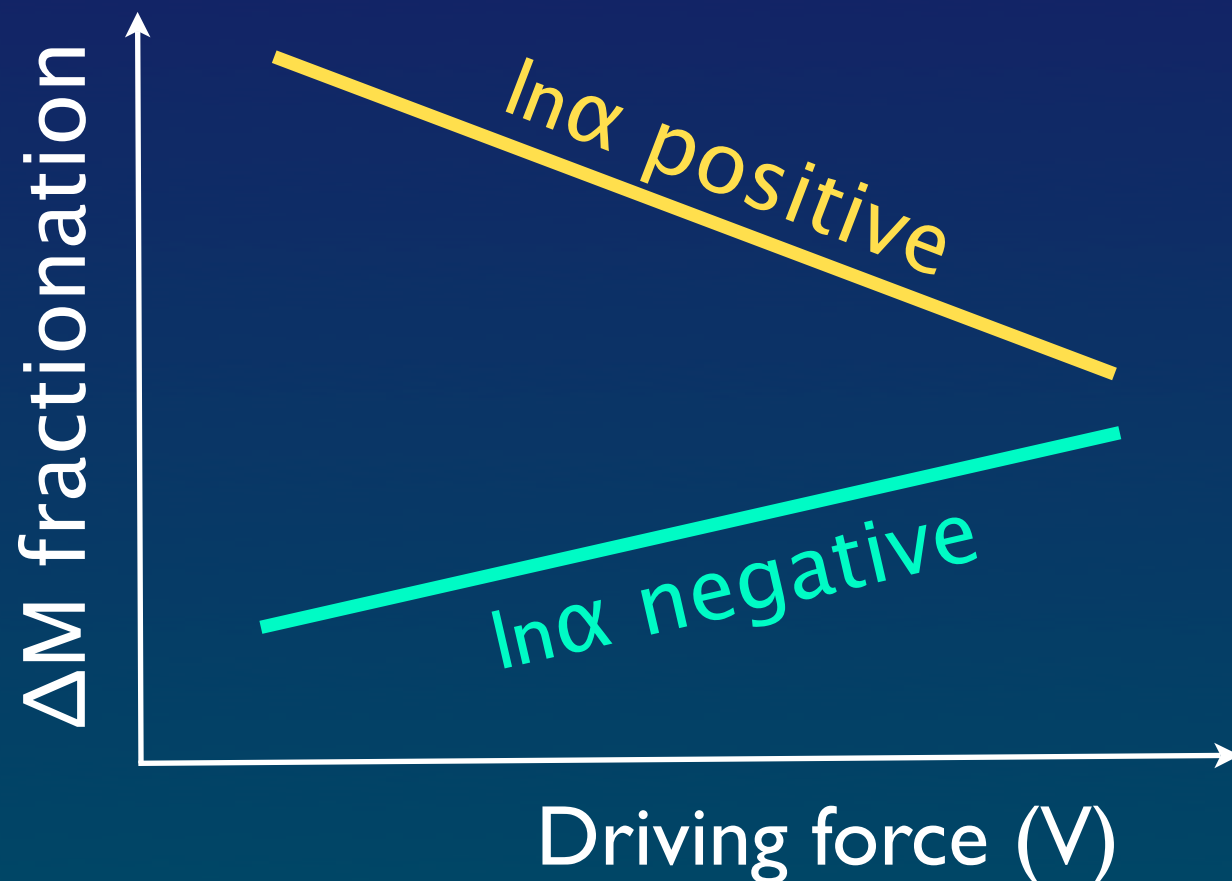
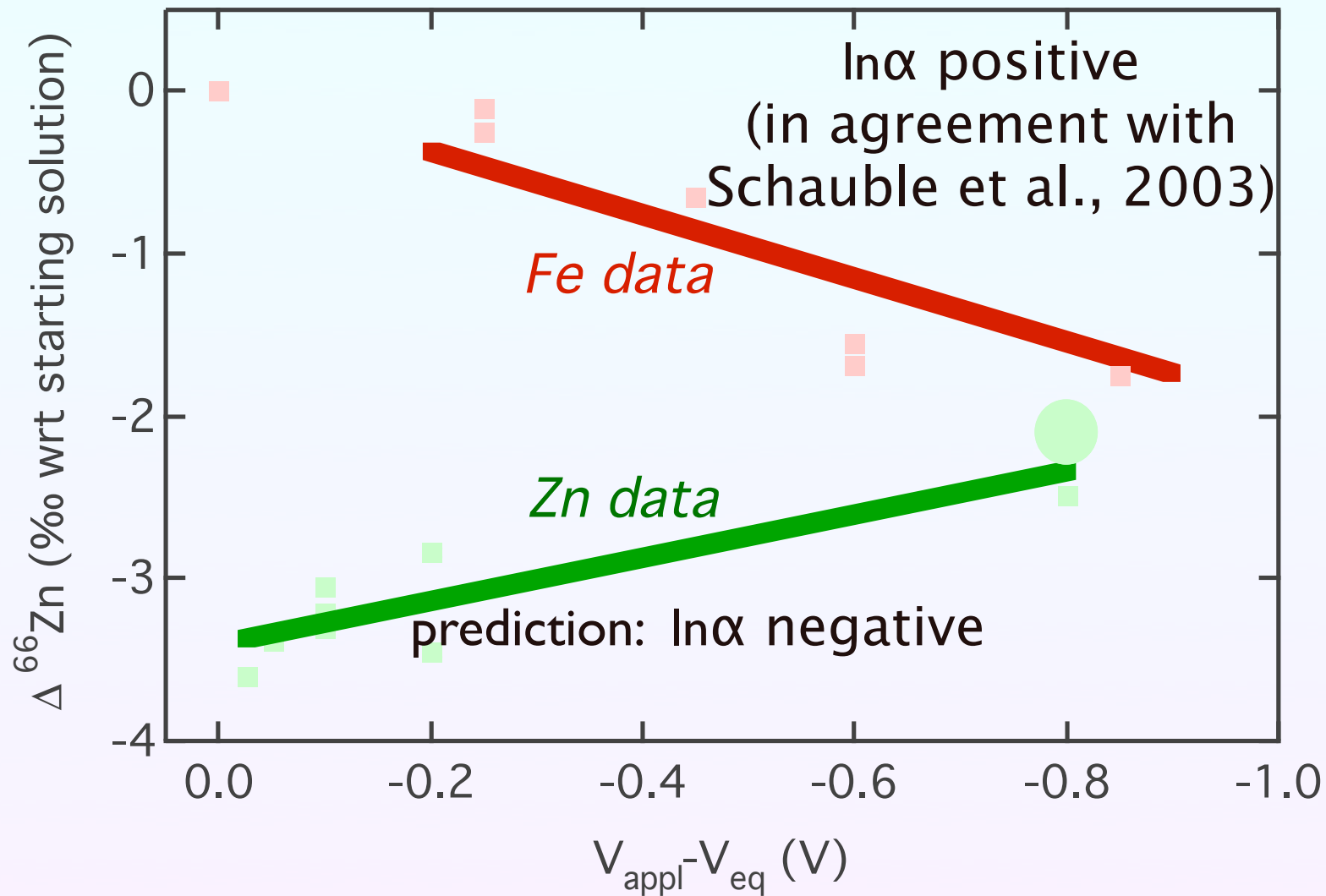


# Isotope Electrochemistry Fractionation equation

$$\ln \alpha_{\text{electrochemical}}^{l-k} \propto \frac{\ln \alpha_{\text{eq}}^{l-k}}{2\lambda} ze(V_{\text{appl}} - V_{\text{eq}})$$

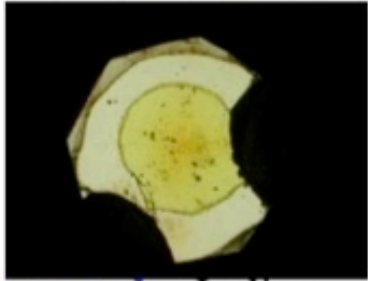


Kavner, et  
al. 2005

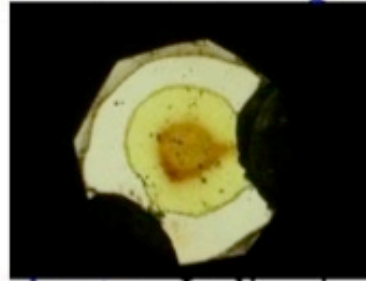


# Electrochemical Observations

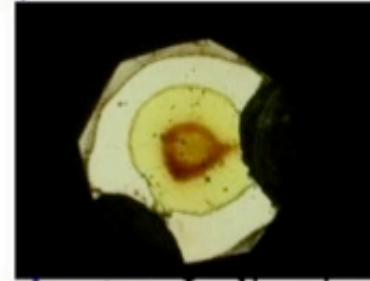
## 5 Volts. Pressure in center ~ 1 Gpa (10 kb)



**10 seconds** - Iodine begins to form in middle.

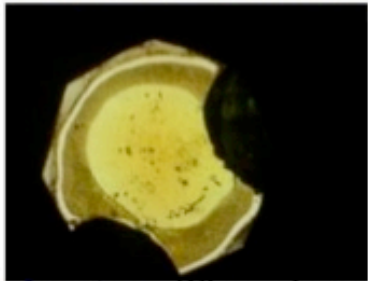


**5 minutes** - Iodine is clearly forming and silver dendrites form on left electrode.

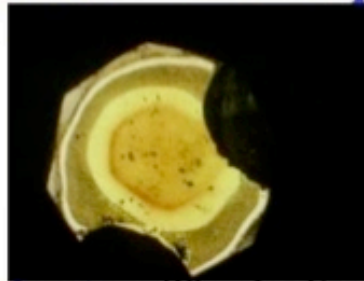


**10 minutes** - Iodine is clearly more concentrated and dendrites more distinct than at 5 min.

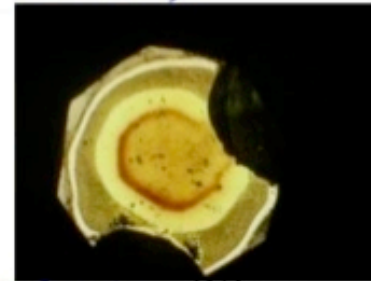
## 5 Volts. Pressure in center ~ 2-3 Gpa (20-30 kb)



**0 minutes** - The phases have spread out in the cell due to increased pressure. Note that the brown area is the intermediate (IV) phase.



**5 minutes** - The Iodine is clearly forming over a larger area. Silver dendrites are seen near the bottom electrode in the phase IV.



**10 minutes** - Silver dendrites and Iodine continue to form. However, the Iodine appears less concentrated than at 1 Gpa (above).