



# PHASE SELECTION IN CRYSTAL MONOLAYER OF LOW MOLECULAR WEIGHT POLY(ETHYLENE OXIDE) ON MICA SURFACE

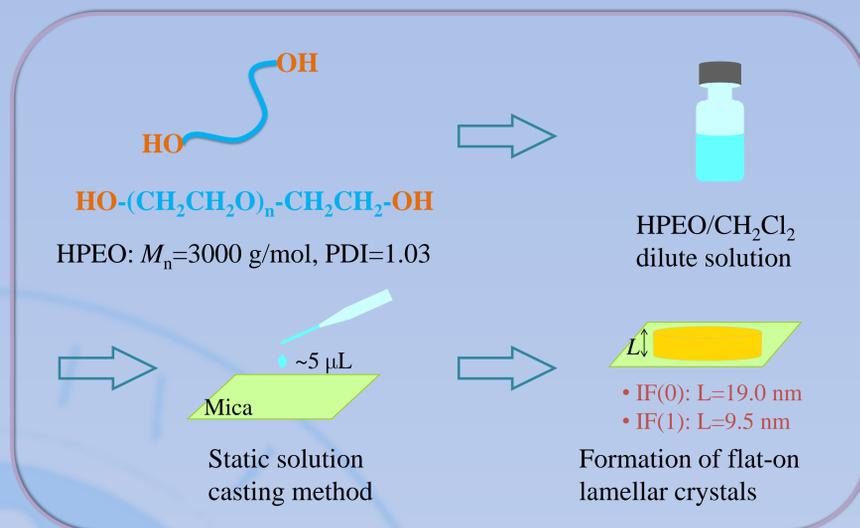
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## 1. BACKGROUND

- Metastable phases appear in a wide variety of materials. Solidification to nonequilibrium phases has been observed in freezing of undercooled liquids, crystallization of oxide and metallic metals, etc.. Remarkable efforts have been made to develop both theoretical and numerical methods to identify main features of such complex systems far from equilibrium due to the difficulties in conventional experimental methods.
- Here, we report our experimental observations on crystallization of monolayer crystals on mica surface, which provide a direct evidence for the theoretical prediction of Gránásy and Oxtoby.

## 2. SAMPLE PREPARATION



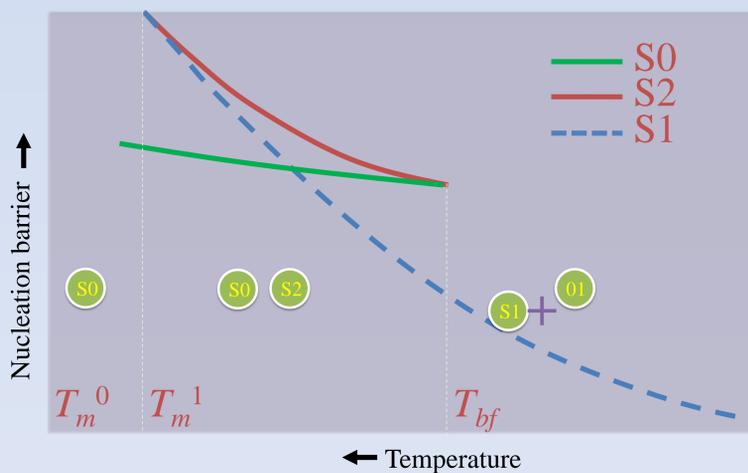
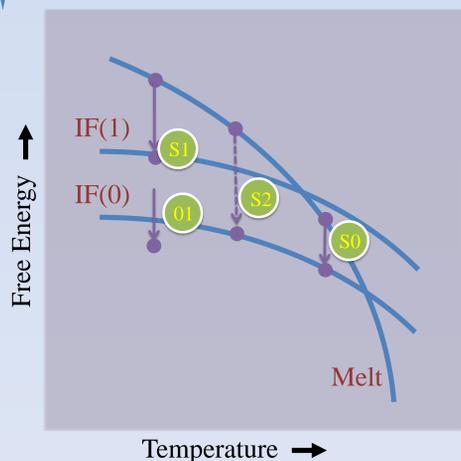
## 3. PHASE SELECTION



IF(0) crystals appear via solid-to solid nucleation → 01

Steplike “broad interface” → S2

Steady growth of IF(0) crystals → S0



- S0: liquid-solid transition  
Melt → IF(0) crystals
- S1: liquid-metastable solid transition  
Melt → IF(1) crystals
- 01: metastable solid-solid transition  
IF(1) → IF(0) crystals
- S2: Composite of S1 and 01  
“broad interface”