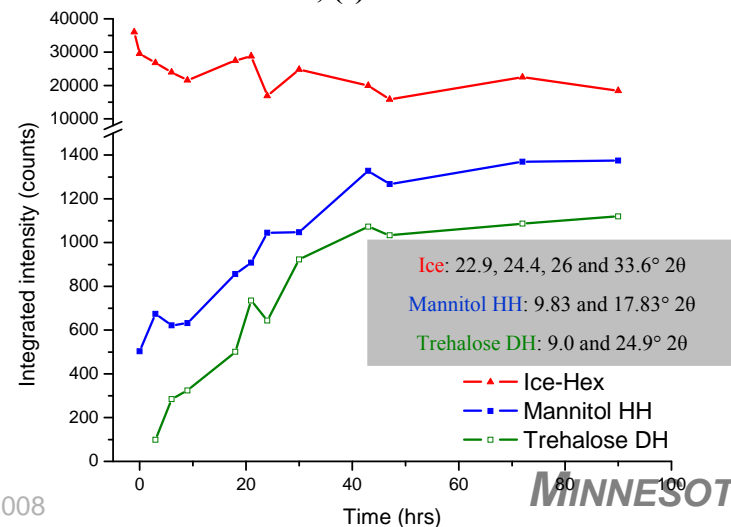
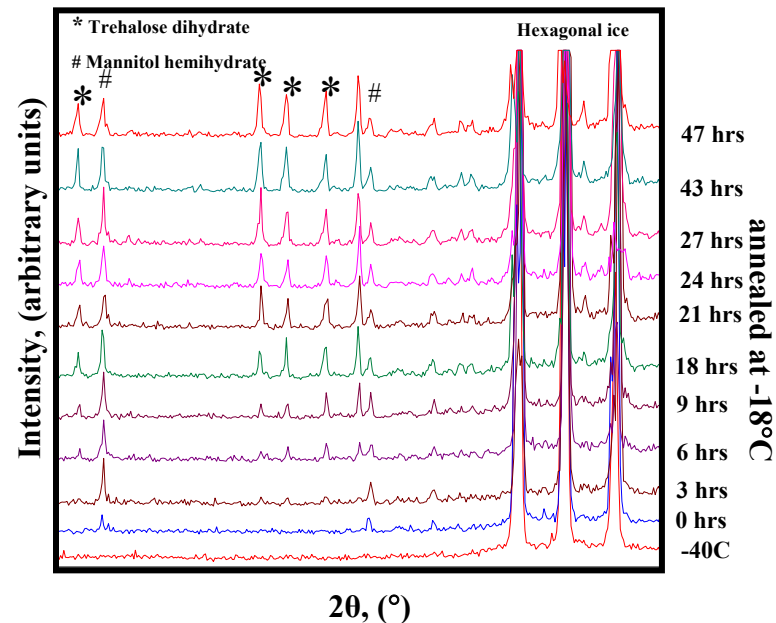


# Crystallization of Trehalose in Frozen Solution

Raj Suryanarayanan (PI) and Prakash Sundaramurthi  
Department of Pharmaceutics, University of Minnesota  
NNIN Facility utilized: Characterization Facility

- Trehalose, glucose disaccharide, is a lyoprotectant used to prevent protein denaturation both during processing and also subsequent storage in dried state
- Phase separation of trehalose at any stage makes it ineffective as a lyoprotectant
- This study found that in the presence of other readily crystallizing excipient (mannitol), trehalose readily crystallized as its dihydrate form

2:1 wt ratio of trehalose and mannitol



Integrated intensity counts (mean of n=3) as the function of annealing time