

# diatoms in EPS-filled pores in natural sea ice

protects microorganisms  
against **osmotic shock**:

highly concentrated brine  
fresh water from melt ponds

antifreeze, cryoprotectant

depresses freezing point

physical barrier from ice crystals

***How does EPS affect  
EM properties, viscosity?***

Transmitted light with  
Alcian Blue stain for EPS

Krembs, Eicken, Deming, PNAS 2011

## ***Extracellular Polymeric Substances (EPS)***

***gelatinous***

***exopolymers***

***algal mucous***

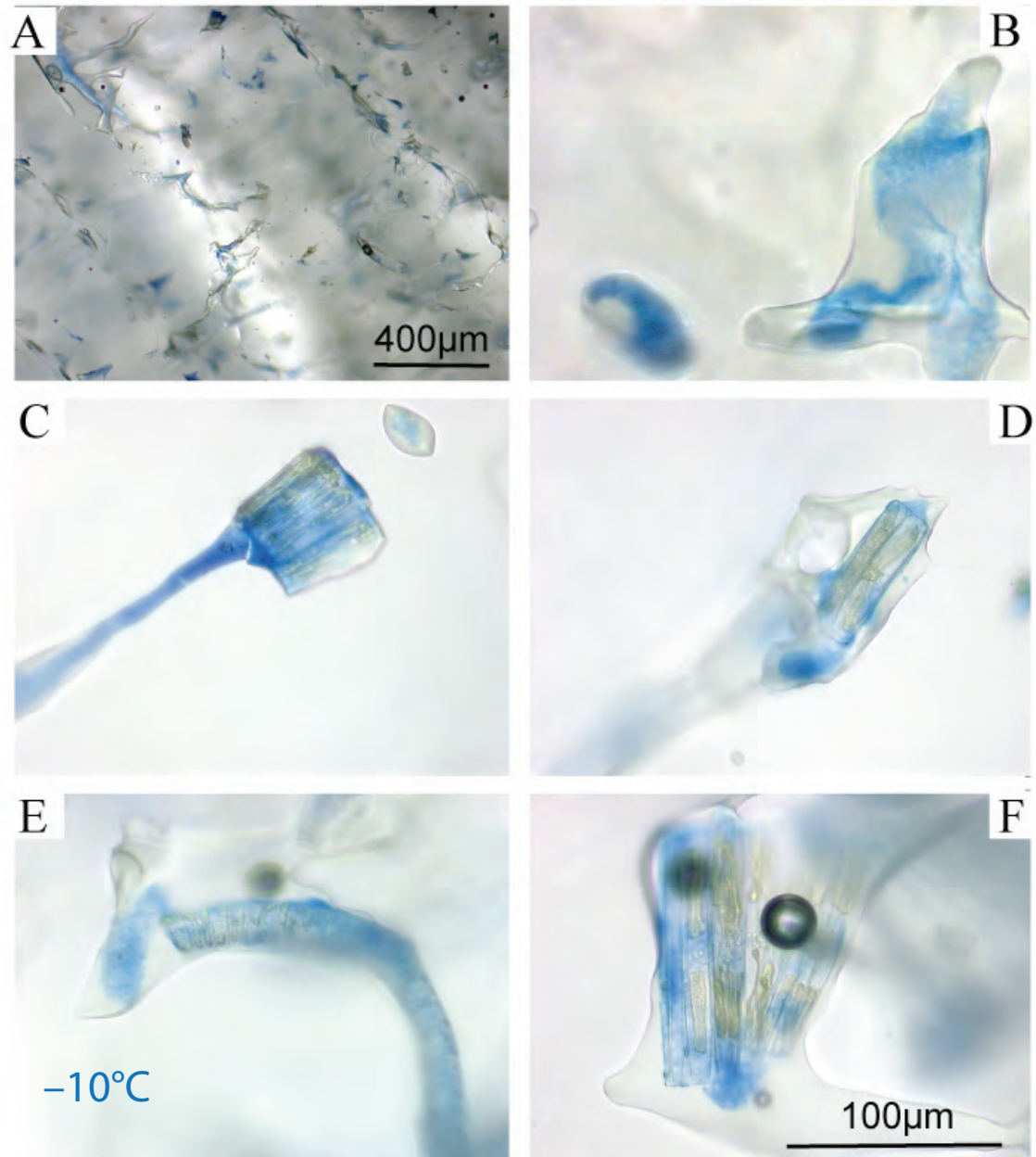


Fig. 1 Krembs et al.