

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

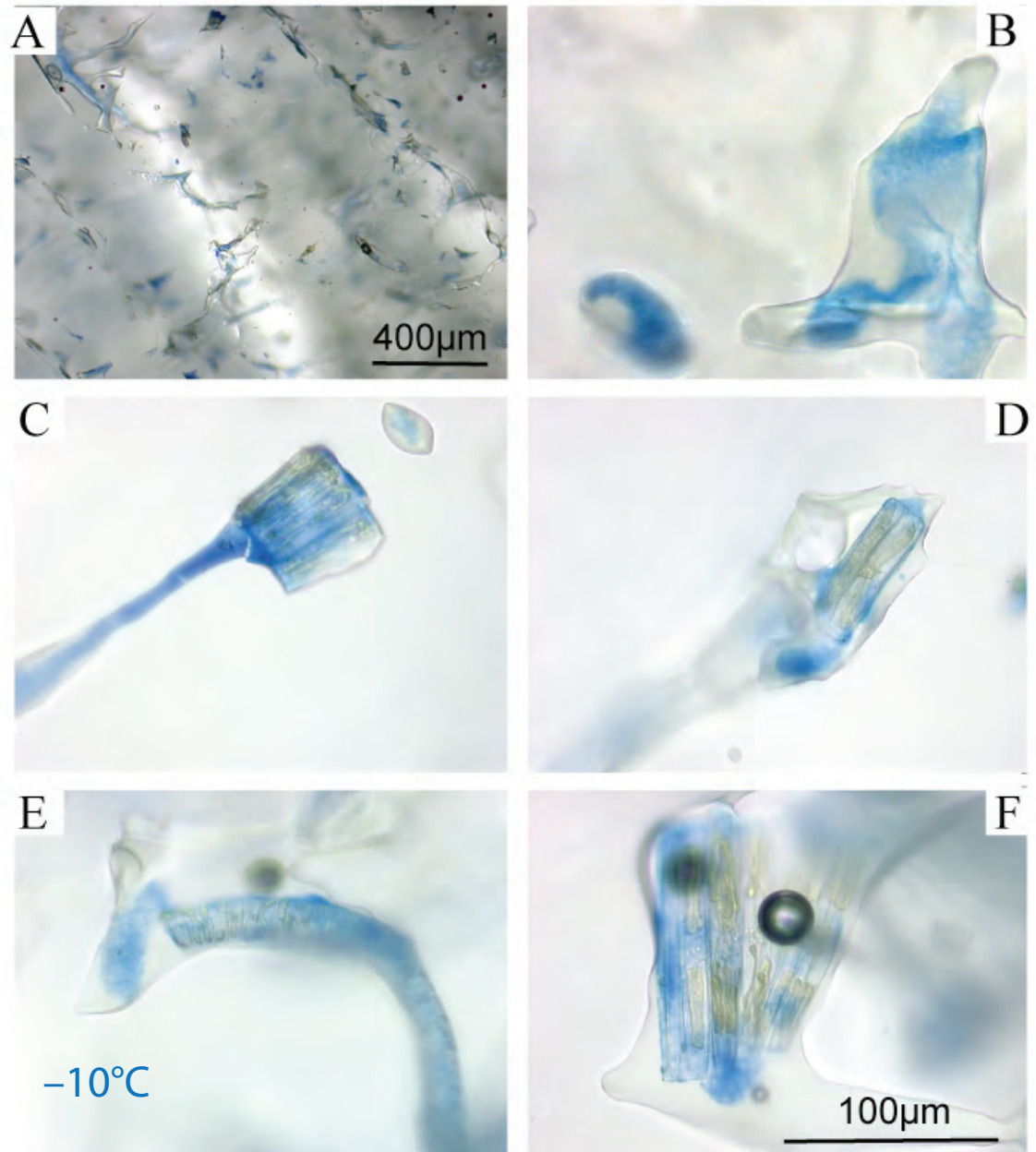
Transmitted light with
Alcian Blue stain for EPS

Extracellular Polymeric Substances (EPS)

gelatinous

exopolymers

algal mucous



Krembs, Eicken, Deming, PNAS 2011

Fig. 1 Krembs et al.