

SHIRAKASHI LAB.

[Preservation technology for food and medical fields]

Department of Mechanical and Biofunctional Systems

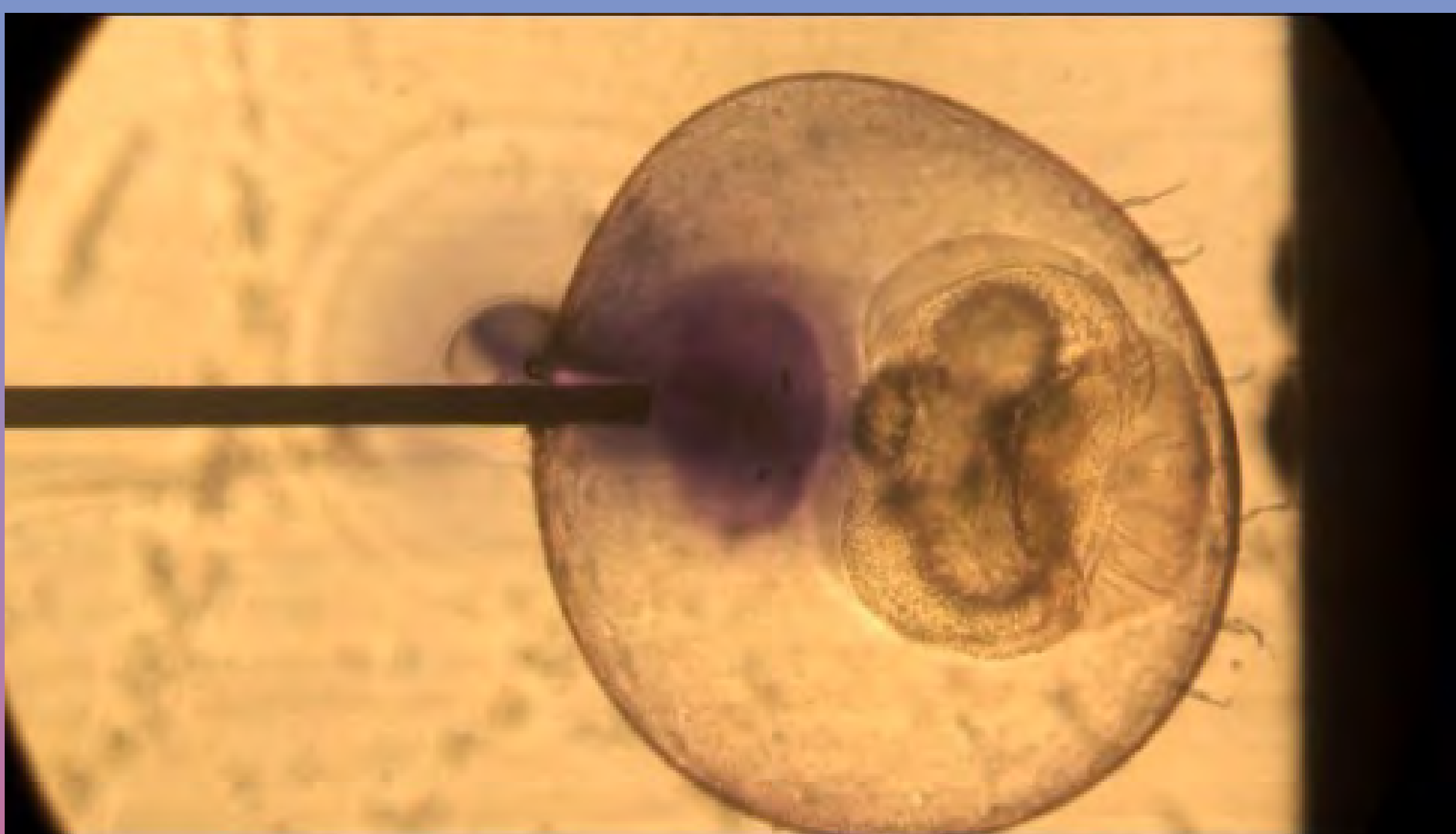
Phase Change Thermal Engineering

Department of Mechanical Engineering

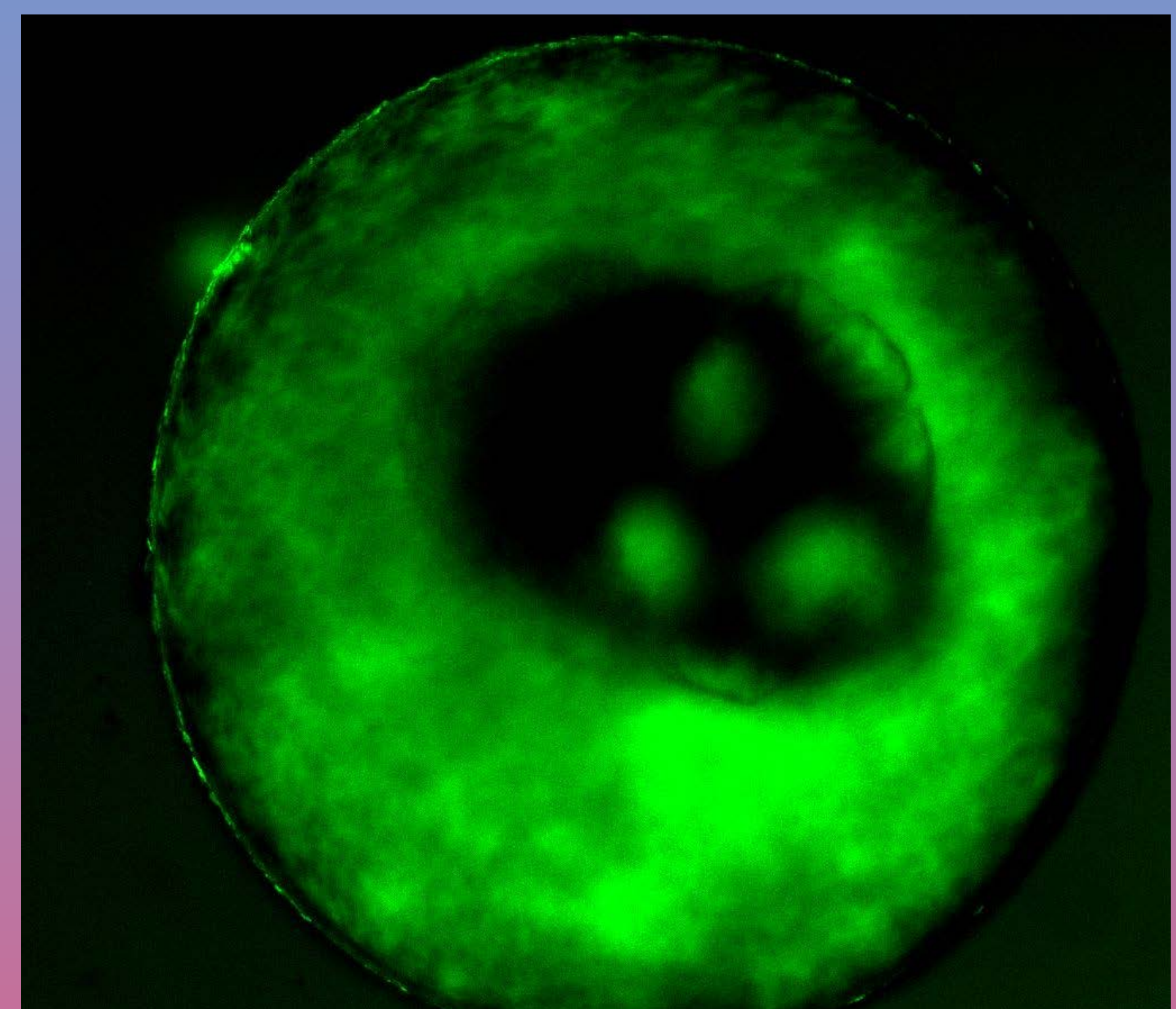
<http://www.iis.u-tokyo.ac.jp/~aa21150/indel.html>

Cryopreservation of Fish Eggs

Unlike pigs or cattle (pork and beef), fertilized eggs of fish for aquaculture are not successful. For this reason, the food sustainability of fish is not so stable as live stock. We are developing the technology to preserve mass fish eggs that keep differential ability.



Loading a fish egg with CPA using in-mobile injection needle by the electro-piercing method

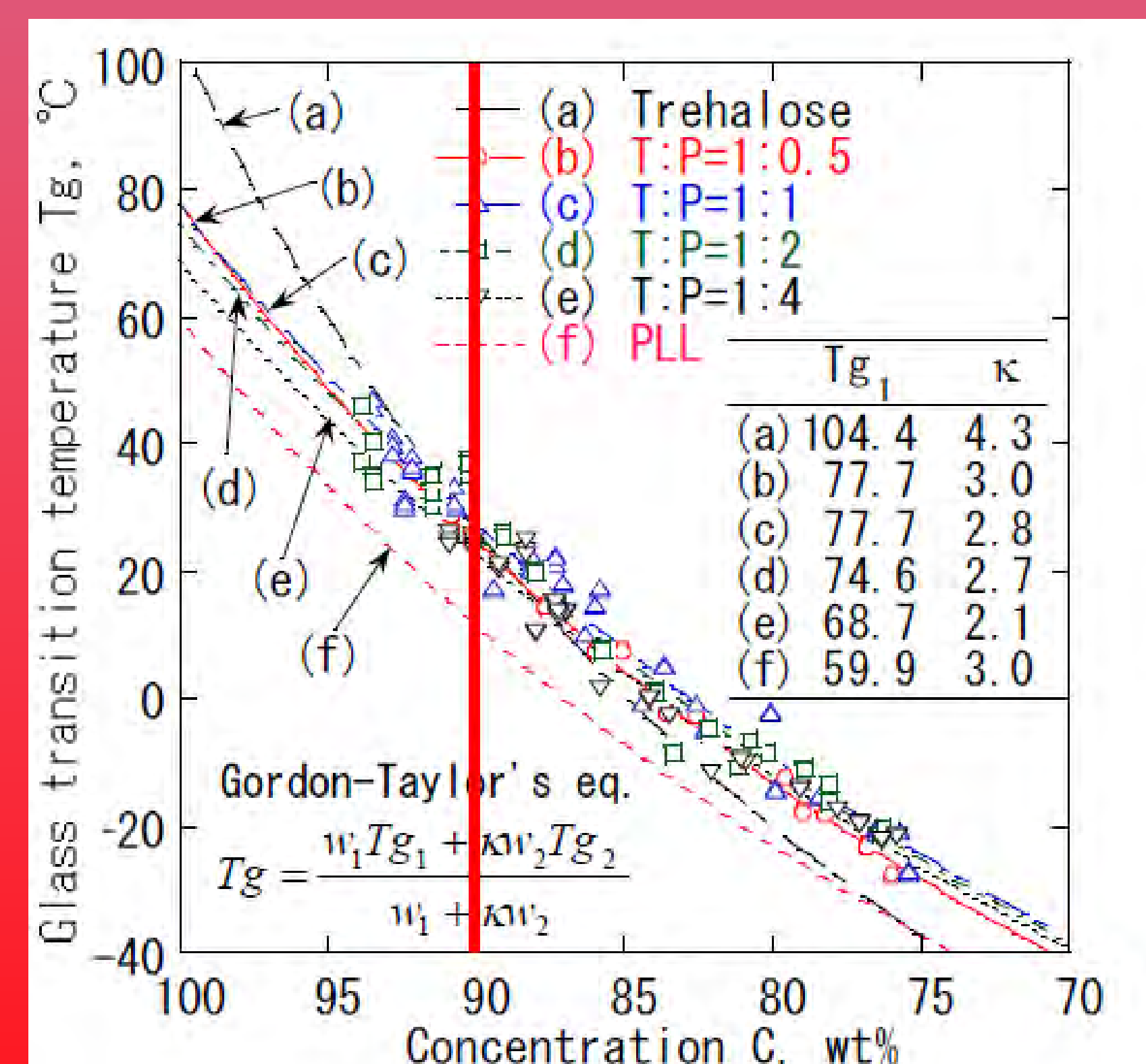


Fluorescent micrograph of fish egg at room temperature after freezing to -90°C

Drypreservation of Humoral Analyte

Humoral analyte, typically blood plasma, contains plenty of important biomarker molecules that are useful for early stage detection of diseases. Most kinds of these biomarker molecules are so rapidly degenerated that only 1% of them are used clinically.

We are developing the technology for preserving Humoral analyte in dried state at room temperature suppressing degeneration.



Glass transition curve of protective solution