

## Effects of lanthanum ion on the nucleation and crystal growth of calcium carbonate.

# Hiroshi Tsuno [1], Hiroyuki Kagi [2], Tasuku Akagi [3]

[1] Agricultural Sci., The United Graduate School, Tokyo Univ. of Agri. & Tech., [2] Lab. Earthquake Chem., Grad. School Sci. Univ. Tokyo, [3] Fac. Agricul., Tokyo Univ. Agricul. & Technol.

We have investigated the effects of lanthanum ion on the crystallization of calcium carbonate. A reaction vessel enabling us to sample small aliquot of solution any time almost under closed condition was designed by us and was exclusively used in this experiment. The precipitates in the early stage were pure vaterite and usually shaped like a rose. The intensity of X-ray diffraction from vaterite, however, decreased with sampling time and calcite became more dominant. The presence of La in the starting solution significantly stabilized vaterite and was increased the solubility of  $\text{CaCO}_3$ . It was suggested that La ion inhibited the transformation from vaterite to calcite and the presence of minor vaterite disturbed crystal growth moreover.