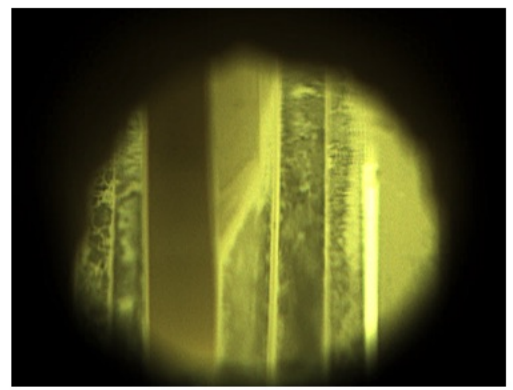
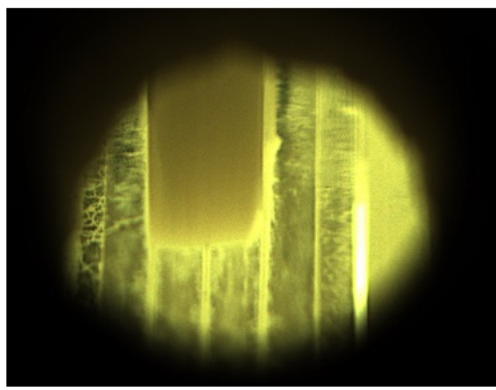
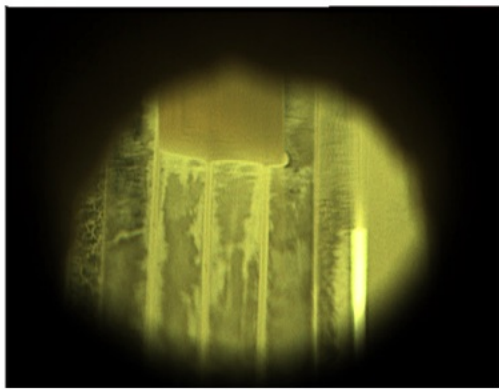
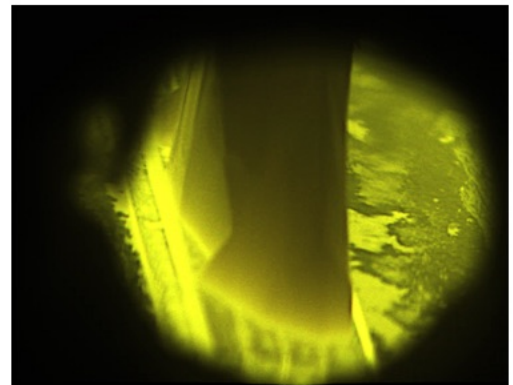
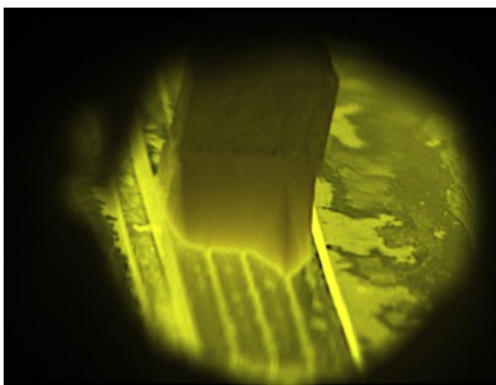
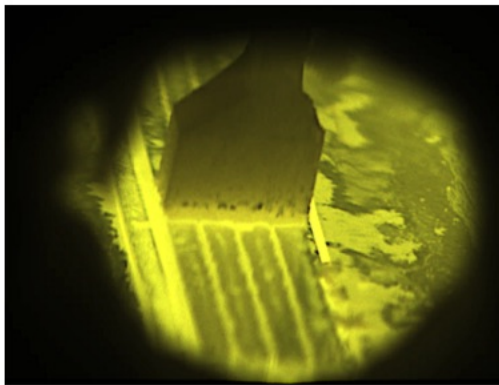


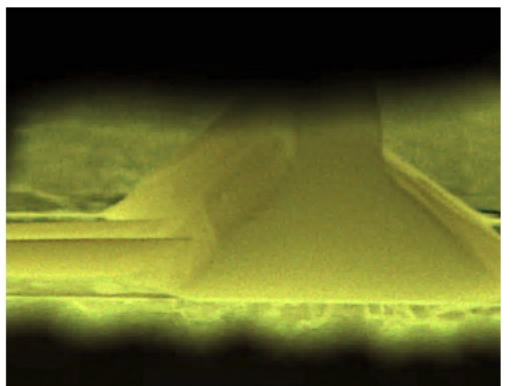
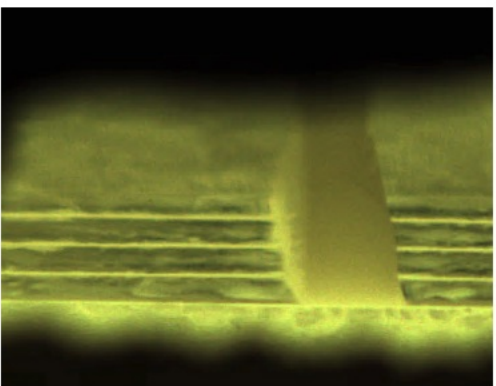
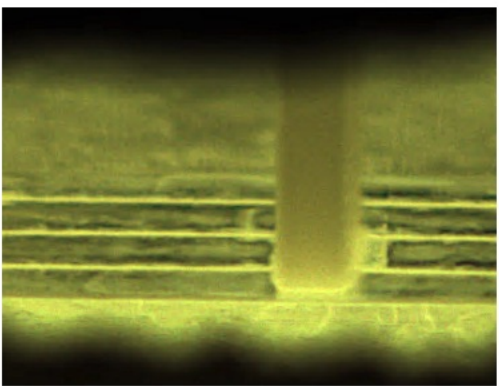
Case 1.



Case 2.



Case 3.



Case 4.

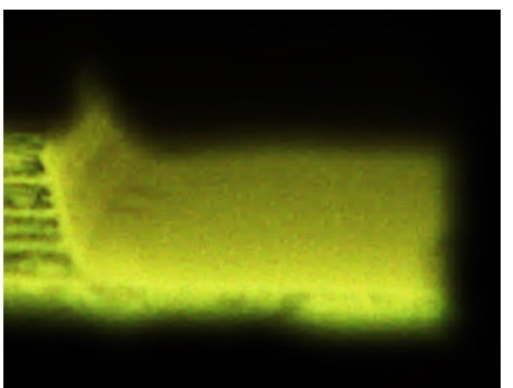
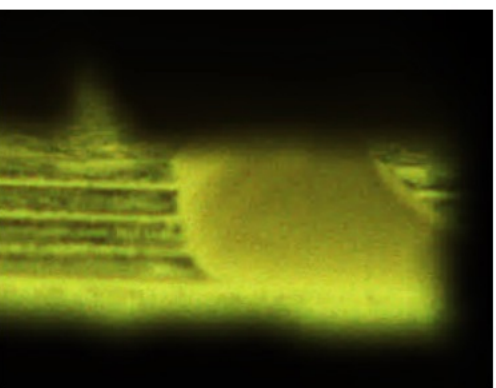
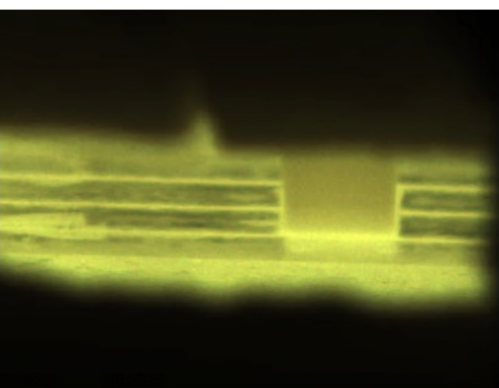


Figure is the process monitoring screen. Case 1. If both of the temperature gradients in the diameter and thickness direction are large, it grows into a thin single crystal only in one to two slits. **Case 2.** Polycrystals occurred with excessively fast growth in one slit, if the temperature gradient in the diameter direction is large but the temperature gradient in the thickness direction is small. **Case 3.** Polycrystals occurred if the temperature gradient in the diameter direction is small but the temperature gradient in the thickness direction is large. **Case 4.** Stable and thick single crystal had grown, when both of the temperature gradients in the diameter and thickness directions are small.