열수화법으로 성장시 성장 온도에 따른 ZnO 나노 구조의 표면 형상 변화

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Abstract : In this work, we investigated the effect of the Zn complex concentration and growth temperature on the growth of ZnO nanorod by hydrothermal method. The ZnO nanorods were performed at condition of the various Zn complex concentration and growth temperature, 0.02 ~ 0.08 M and 60 ~ 80 °C, respectably. We found from the SEM results that the diameter and length of ZnO nanorods were with increasing the growth temperature and Zn complex concentration. However, the growth condition in the two parameters wasmore than sensitive compared to Zn complex concentration on increasing the growth rate. From photoluminescence (PL) analysis, the strong band-edge emission for ZnO nanorod grown at 80 °C with 0.08 M indicated the fine crystallinity. Therefore, the diameter and length of ZnO nanorods have been able to control through the control of front growth parameters. Also, these ZnO nanorods grown low temperature will be available as building block for transparence flexible device applications.