

Poly(L-lysine)을 이용한 LiNbO_3 입자 합성

임영준, 이상엽*
연세대학교

(leessy@yonsei.ac.kr*)

Synthesis of inorganic materials via the biomineralization attracts interest for its advantages; many biomineralization processes can produce metal oxide nanostructures under ambient conditions, in contrast to the conventional synthesis under harsh conditions. Biomineralization of metal oxides utilize biomolecular substances, such as peptides and proteins, to induce mineralization of metal precursors in a mild aqueous solution. In this study, we examined the effect of poly(L-lysine)(PLL) as a biomimetic additive when synthesizing lithium niobate (LN). PLL promoted the precipitation of LN and the morphology and shapes of the synthesized LN was influenced by the molecular weight of PLL and the amount of co-solvent. Characterization and property measurement of the synthesized LN were performed to observe the effect of PLL on LN production. The outcome of this study would provide a benign method of metal oxide synthesis which can control and save energy by biomolecules.