

## 조합화학기법을 이용한 신소재 및 신촉매 개발

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Overview of combinatorial chemistry for new materials and catalysts were introduced and case studies carried out by the Nano Catalysis and Materials Lab was shown. In part I, combinatorial screening of electrocatalysts for direct methanol fuel cell was explained. The combinatorial arrays were prepared by using a micro liquid dispenser system. High-throughput screening was carried out by fluorescence test. In part II, combinatorial approach of DeNOx catalysts were introduced. A 64 channel multi-well reactor was shown as a high-throughput screening method. In part III, ferroelectric  $\text{Bi}_{4-x}\text{Ce}_x\text{Ti}_3\text{O}_{12}$  thin films were prepared by using a combinatorial multi-target sputtering system. The prepared combinatorial arrays were analyzed by using microbeam XRD and micro-Raman system. Another ferroelectric material of  $\text{Bi}_{4-x}\text{La}_x\text{Ti}_3\text{O}_{12}$  was also studied.