

### Analyses of the crystallization of NaCl using DNA coated Quartz Crystal by the method of drawing out

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The crystallization of NaCl driven by adding ethanol was monitored using QCA. Adding ethanol to NaCl solution reduced the solubility of NaCl and consequently led to growth of NaCl crystals. To investigate the crystallization behavior of NaCl, a gold electrode of quartz crystal was coated by anchoring with synthetic DNA based on a self-assembly method. Resonant frequency of QCA varied with the amount of NaCl adsorbed on the self-assembled layer of synthetic DNA, and thereby the process of NaCl crystallization could be analyzed indirectly by monitoring the frequency change of QCA. To change the extent of supersaturation of NaCl, the amount of ethanol added to the solution was varied from 1 to 10ml. Then, the effect of the extent of supersaturation on the crystallization was examined by analyzing the frequency changes of QCA coated with synthetic DNA. It was shown that the DNA could be well applied for the characterization and analyses of the crystallization behavior of NaCl. DNA molecules can be used as a template of the crystal formation.