

# Analysis of Ions in Emulsion by Capillary Electrophoresis

## Abstract

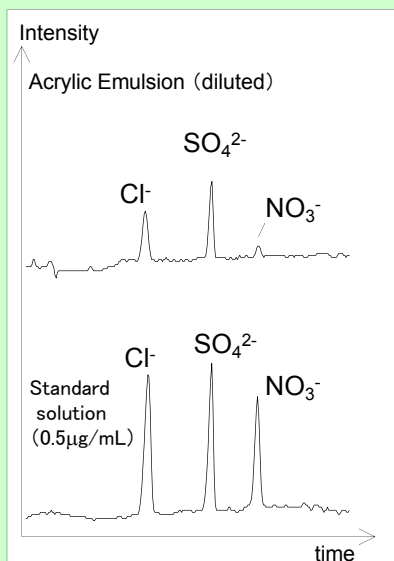
Emulsion is synthesized from monomers and various kinds of additives like initiators, surfactants etc. These raw materials normally contain impurities, as a result, many kinds of ionic impurities exist in emulsion. Some of those impurities cause the lowering of the stability of emulsion.

Capillary Electrophoresis (CE) analysis is very useful and powerful for the quantitative analysis of such ions in emulsion, because CE is not affected by a mother polymer and surfactants during the analysis and a simple and easy pretreatment method can be applied to CE.

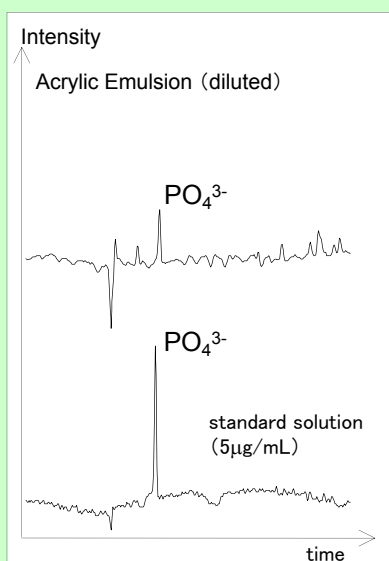
## Example

- A Sample : Acrylic Emulsion (Acrylic polymer is a mother polymer)
- Pretreatment of a sample : Filtration after dilution with water
- Target ions : Anions and Cations

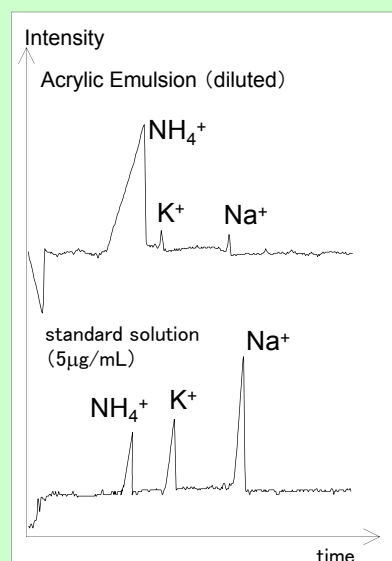
Anion analysis method ①



Anion analysis method ②



Cation analysis method



※Each dilution ratio is different

Results (quantity per 1g of Emulsion)

	Cl <sup>-</sup>	SO <sub>4</sub> <sup>2-</sup>	NO <sub>3</sub> <sup>-</sup>	PO <sub>4</sub> <sup>3-</sup>	NH <sub>4</sub> <sup>+</sup>	K <sup>+</sup>	Na <sup>+</sup>
quantity (ug/g)	3.6	4.8	1.0	85	300	3.6	4.1

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