Study of changes of electronic state by hydrate progress about composites polymer electrolyte by ATR-FUV

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Summary

Some of Composites polymer electrolyte (PEs) are very hygroscopic materials because they include Li salt. We could observe changes of electronic state of PEs in Far & Deep UV region by ATR-FUV spectroscopy. We already revealed the origin of changes of electronic states by forming complex. And PEs are dramatically changed their electronic states in hydrate progress but hydration sample is .extremely small amount. Changes of electronic states in hydration is much similar with concentration changes from high concentrate of Li salt to low concentrate. And also, we compared LiNO3 aqueous solution with PEs. Changes in π-π* transition show food correlation between aqueous solution and hydrate progress samples.

Introduction

PEs use as electrolyte in Li batteries. So, this material hate water but PEs are very hygroscopic. We observed what happened in hydration progress by observation of electronic states.

Result & DIscussion

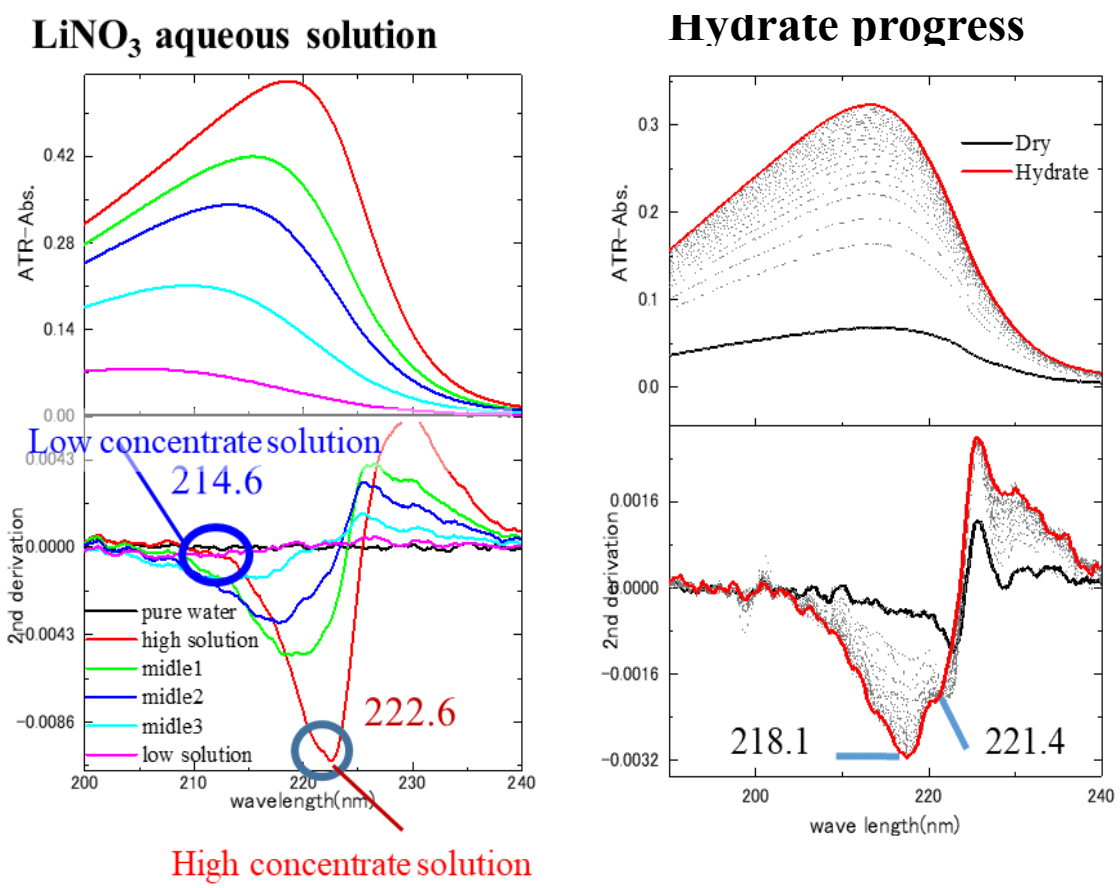

Fig1. ATR- FUV spectra of concentration dependence of $LiNO_3$ aqueous solution and hydration progress of concentrated PEs consisted with$LiNO_3$ and PEG