

초청강연10

ION TRANSPORT IN CONDUCTING POLYMERS EXAMINED BY EQCM

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Transport and stability of ionic species in films of conducting polymers were examined by EQCM experiments. The mobility of ions in the polymers were greatly affected by the mode of polymerization with which the polymer film was prepared, as well as by the structure of the ions. When the conducting polymers were doped with macrocyclic anions, phthalocyanine and porphyrin derivatized with sulfonate anionic groups, these anions were not expelled from the PPy or PEDT films by extensive potential cycles. Heteropolytungstate ions have partial mobility in the polymers and were expelled by negative potential sweeps applied to the films formed by electropolymerization at a constant potential or constant current. Polymer films formed with alternating potential programs showed drastically diminished permeability to anions.