

# LOW MOLECULAR WEIGHT ORGANIC GELATORS AS A HARDENER FOR GEL ELECTROLYTES

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Gel electrolyte based on low molecular weight organic gelator methyl-4,6-O-(*p*-nitrobenzylidene)- $\alpha$ -D-glucopyranoside was formed by the self-assembly phenomena in aqueous solution of high temperature ionic liquid tetramethylammonium bromide. The solidification process was based on sol-gel technique with controlled gelation temperature. When the temperature was below the characteristic gel-sol phase transition temperature,  $T_{gs}$ , the gel electrolyte was solid-like. The gel electrolytes showed enhanced ionic conductivity to those of the pure electrolyte in liquid state in whole temperature range below  $T_{gs}$ . The thermal stability, ionic conductivity and molecular dynamics investigated as a function of temperature and concentration of the gelator, together with the gel microstructure were performed to get some insight in to the origin of the enhanced conductivity properties. Intermolecular interaction between ion complexes and gelator aggregates was implicated by the data obtained and suggested as the origin of the conductivity enhancement effect.

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