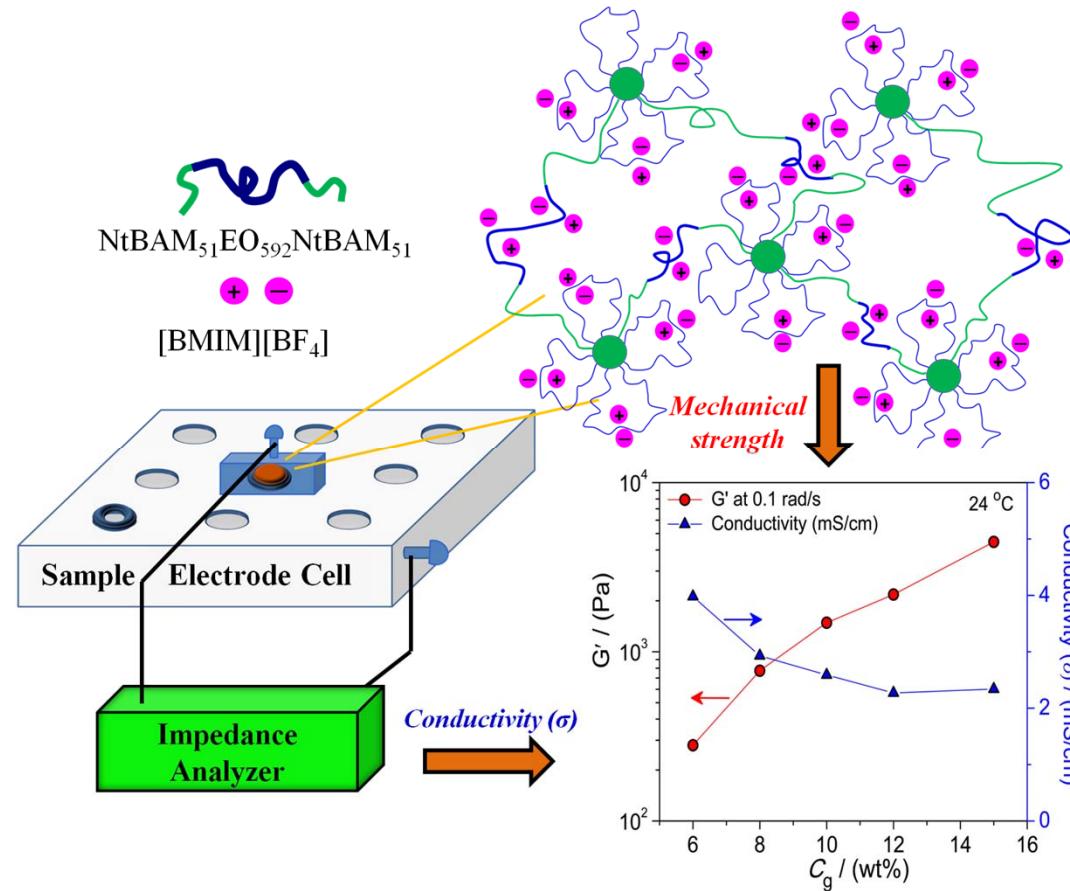


Ion gels from block copolymers composed of liquid crystalline units and brush-like moieties in ionic liquids

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We report a new set of ion-gels through the self-assembly of triblock copolymer in ionic liquid (IL), 1-butyl-3-methylimidazolium tetrafluoroborate. These strong and thermoreversible ion-gels are formed at low concentrations with high ionic conductivity (σ) and significant mechanical strength achieved by simply changing the concentration or solvophobic end-block length of the copolymer. We have since synthesized diblock copolymers bearing semi-crystalline IL-soluble polyethylene glycol grafts and liquid crystalline moieties and initial characterization and formation of ion-gel is currently underway. We will investigate the effect of the liquid crystalline block and PEG grafts on the formation of ion gels using appropriate controls.