

ABSTRACT

A polymer and use thereof, where the polymer includes at least a structural formula represented by Formula 1; in in Formula 1, R_1 is selected from a substituted or unsubstituted C1-C30 alkyl and a substituted or unsubstituted C6-C60 aryl; R_2 is selected from a substituted or unsubstituted polyether group, a substituted or unsubstituted C1-C30 alkyl, a substituted or unsubstituted C1-C30 alkoxy and *-b1-S-S-b2-*; b1 and b2 are each independently selected from a substituted or unsubstituted C2-C15 chain alkyl and a substituted or unsubstituted C6-C60 aryl; R_3 is an ionic liquid group; and $n \geq 1$ and n is an integer. The special molecular structure of the polymer enables it to have excellent room temperature ionic conductivity when applied to a polymer electrolyte.

FIG. 1