Monovalent cation selective crown ether containing poly(arylene ether ketone/SPEEK blend membranes

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Polymer molar mass characteristics

Molar masses of PAEK and CPAEK were determined using a Shimadzu GPC LC-20AD equipped with a Shodex LF-801 column and a refractive index detector, using NMP-containing 0.5 mM LiBr as the eluent. GPC measurements for SPEEK were carried out in NMP-containing 5 mM LiBr, using PSS GRAM analytical 30 Å and 1000 Å GPC columns and a dual detection system consisting of a differential refractometer (Waters model 410) and a differential viscometer (Viscotek model H502). Molar masses were determined relative to narrow polystyrene standards. All sample solutions were prepared at a concentration of 1 mg/mL and filtered through a 0.45 μm PTFE filter prior to a GPC run. The number average molecular weight (M_n) and the polydispersity index (PDI) of the polymers are shown in the table below.

Table S1. Number average molar mass (M_n) and polydispersity index (PDI) of the polymers.

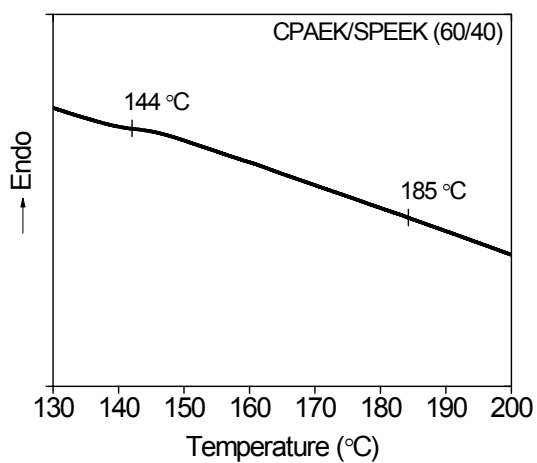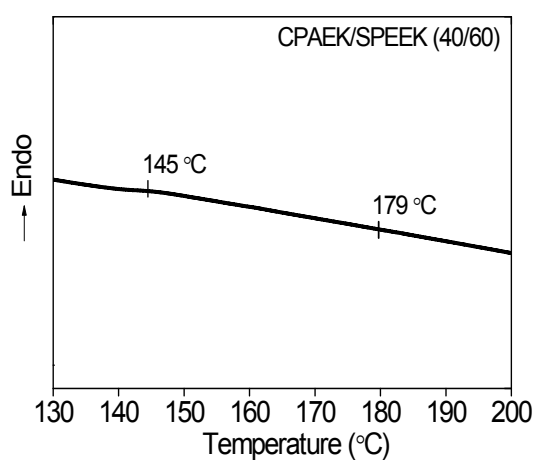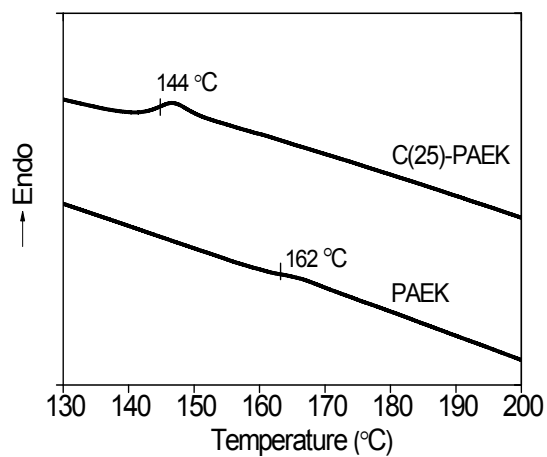| Polymer	M_n (g/mol)	PDI
PAEK	16000	1.6
CPAEK	18000	1.8
SPEEK	53000	2.7

Fig S1. DSC graphs of CPAEK, PAEK polymers and CPAEK/SPEEK (40/60), CPAEK/SPEEK (60/40) blend membranes.