

1 **Supplementary material**

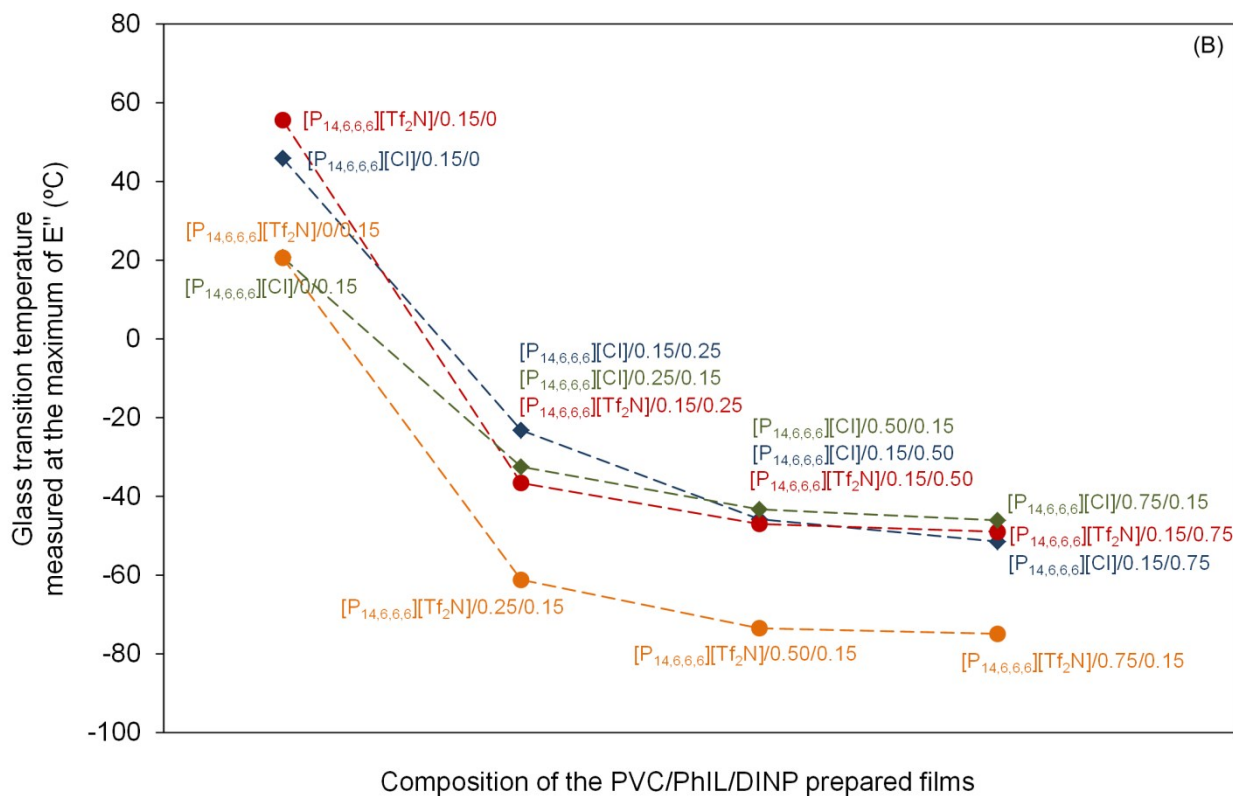
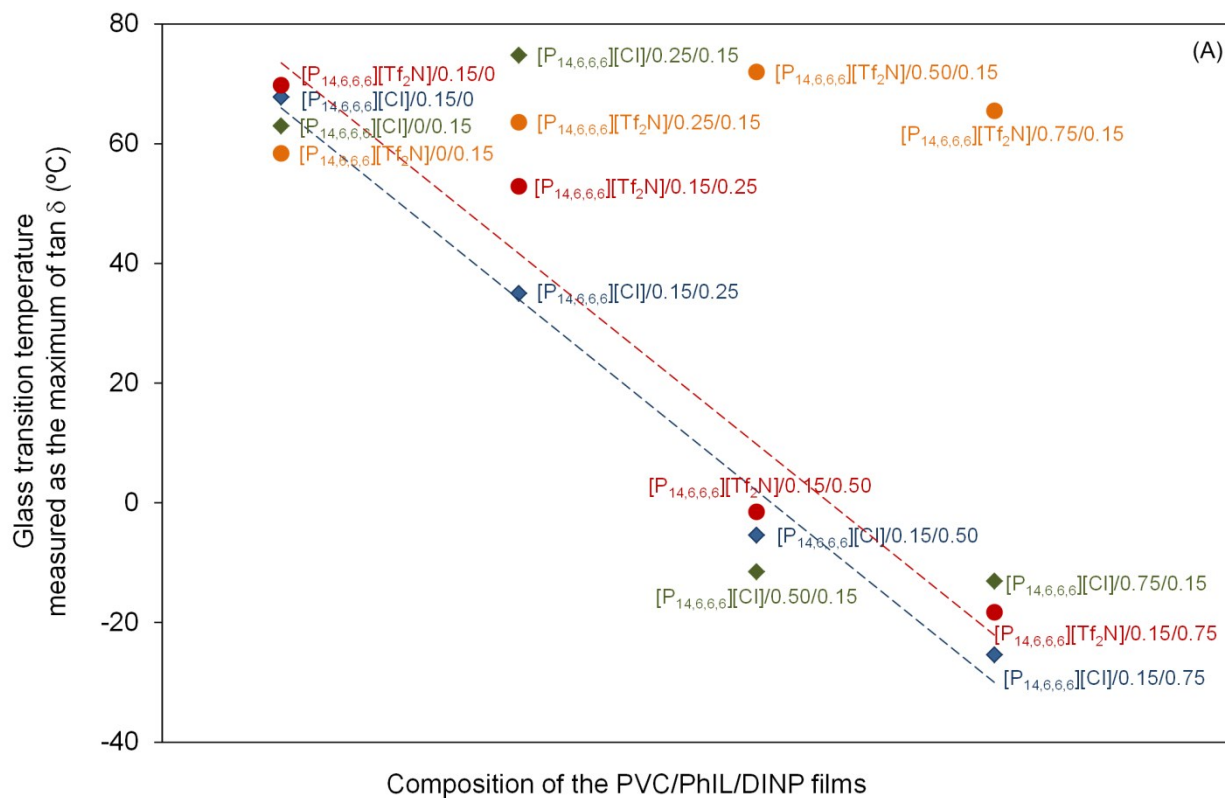
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3 **Phosphonium ionic liquids as greener electrolytes for poly(vinyl chloride)-based ionic**
4 **conducting polymers**

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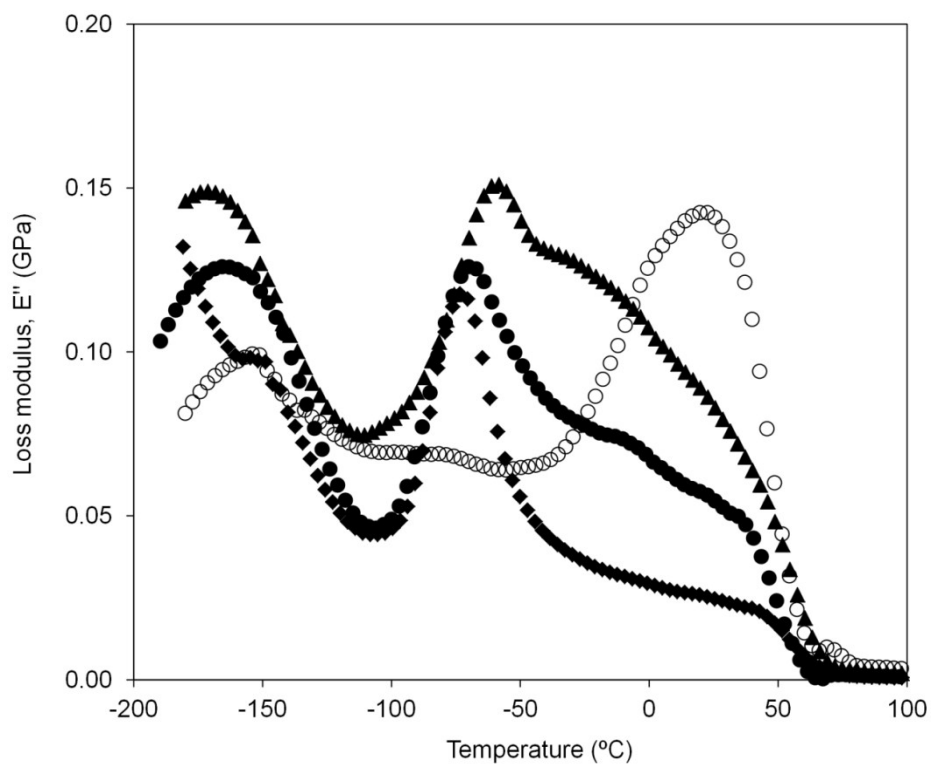
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21 **Figure S1.** Glass transition temperatures measured by DMTA for PVC films with different
22 PhILs/DINP compositions and defined as the maximum of $\tan \delta$ (A) and maximum of the loss
23 modulus, E'' (B).



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25 **Figure S2.** Loss modulus profiles for PVC films loaded with fixed amount of plasticizer (DINP) and
 26 different amounts of trihexyl(tetradecyl) phosphonium bis(trifluoromethylsulfonyl)imide,
 27 $[P_{14,6,6,6}][Tf_2N]$: (○) $[P_{14,6,6,6}][Tf_2N]/0/0.15$; (▲) $[P_{14,6,6,6}][Tf_2N]/0.15/0.15$; (●) $[P_{14,6,6,6}][Tf_2N]/0.50/0.15$
 28 and (◆) $[P_{14,6,6,6}][Tf_2N]/0.75/0.15$.