

Article

Supplementary Materials: Influence of Anion Structure on Thermal, Mechanical and CO₂ Solubility Properties of UV-Cross-Linked Poly(ethylene glycol) Diacrylate Ionogels

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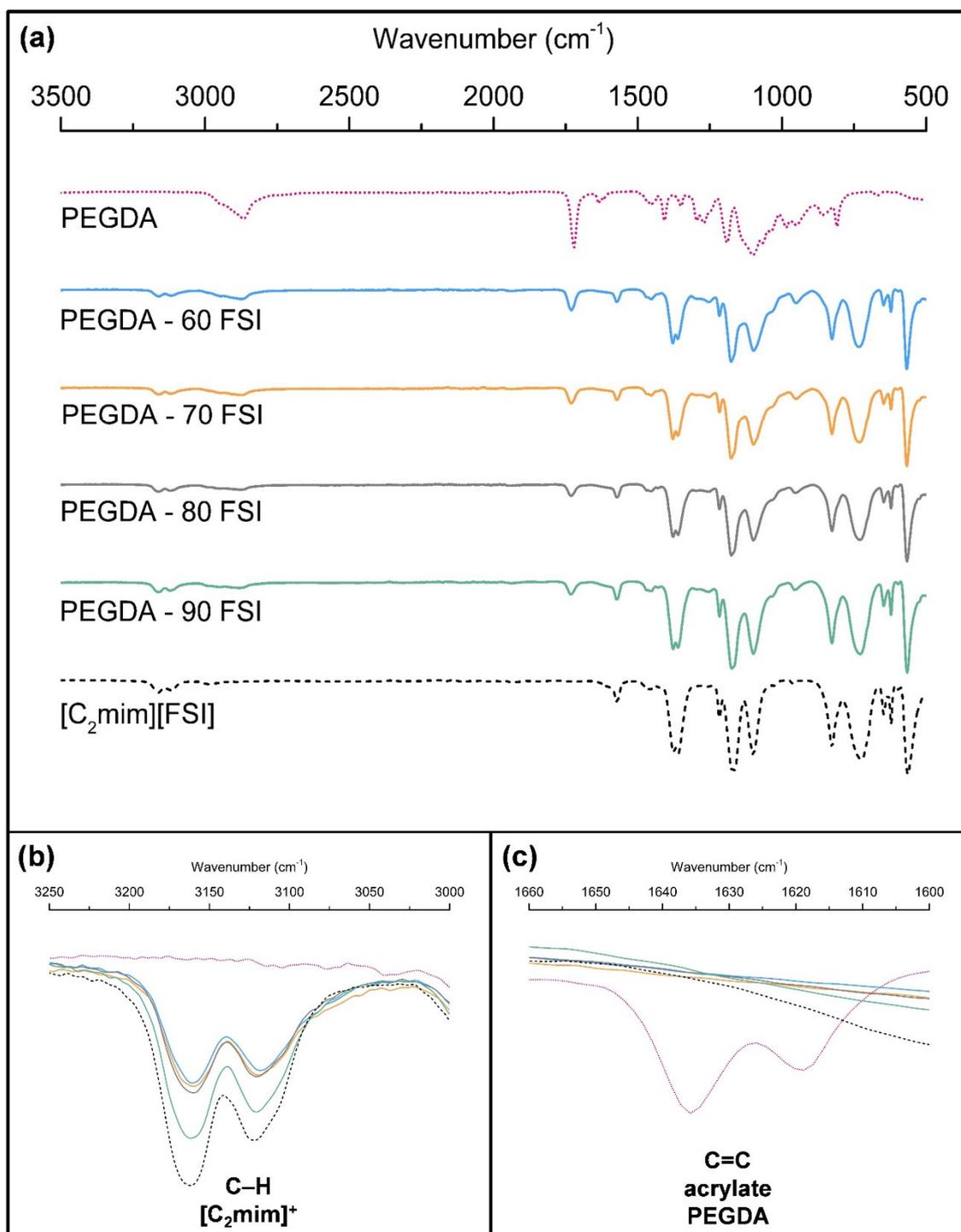


Figure S1. FTIR analysis of the cross-linked PEGDA iongels containing different amounts of $[\text{C}_2\text{mim}][\text{FSI}]$: **(a)** FTIR curves; **(b)** differences in the intensity of the absorption bands associated to the imidazole ring; and **(c)** disappearance of the characteristic absorption bands of acrylate groups.

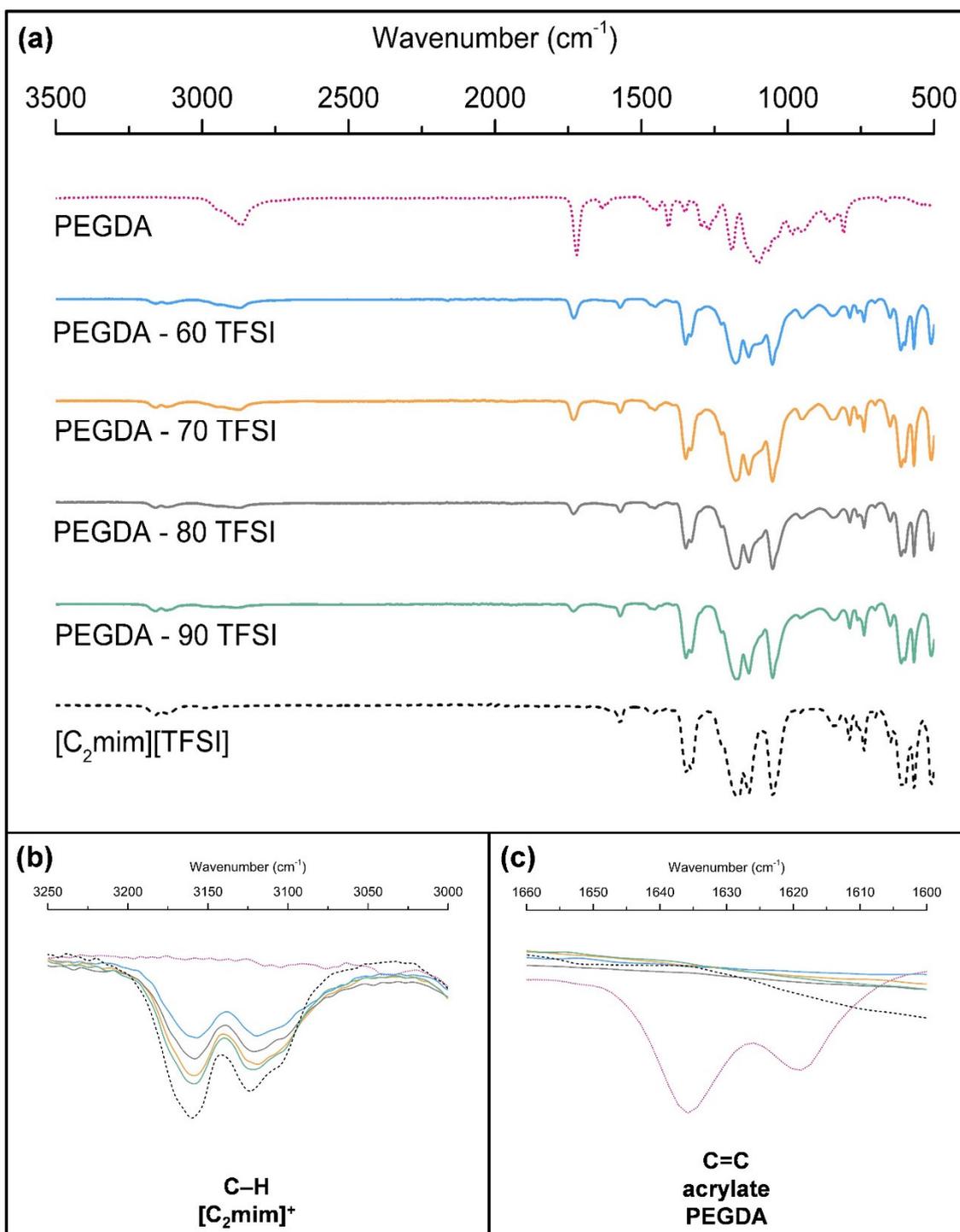


Figure S2. FTIR analysis of the cross-linked PEGDA iongels containing different amounts of $[\text{C}_2\text{mim}][\text{TFSI}]$: **(a)** FTIR curves; **(b)** differences in the intensity of the absorption bands associated to the imidazole ring; and **(c)** disappearance of the characteristic absorption bands of acrylate groups.

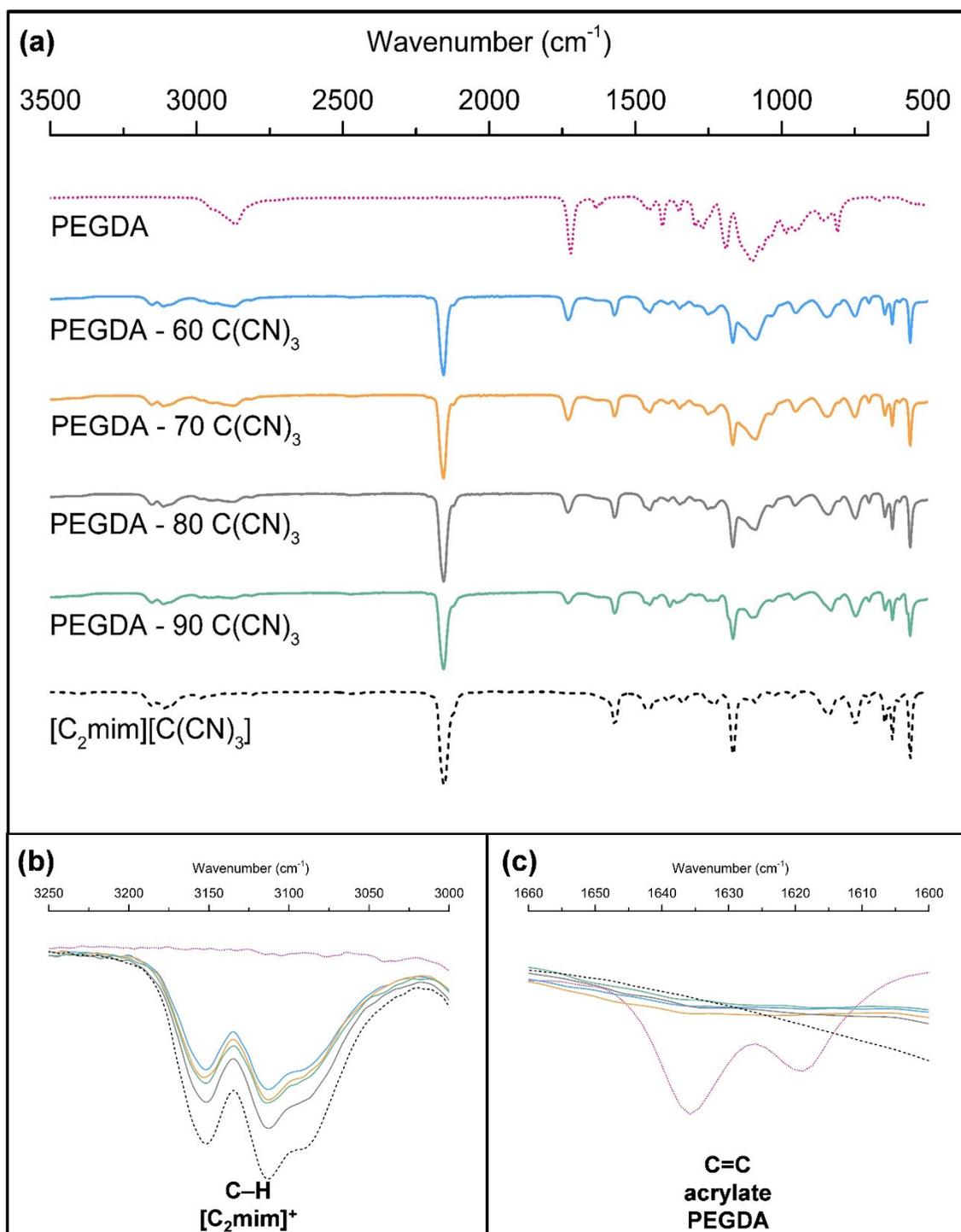


Figure S3. FTIR analysis of the cross-linked PEGDA iongels containing different amounts of $[\text{C}_2\text{mim}][\text{C}(\text{CN})_3]$: **(a)** FTIR curves; **(b)** differences in the intensity of the absorption bands associated to the imidazole ring; and **(c)** disappearance of the characteristic absorption bands of acrylate groups.

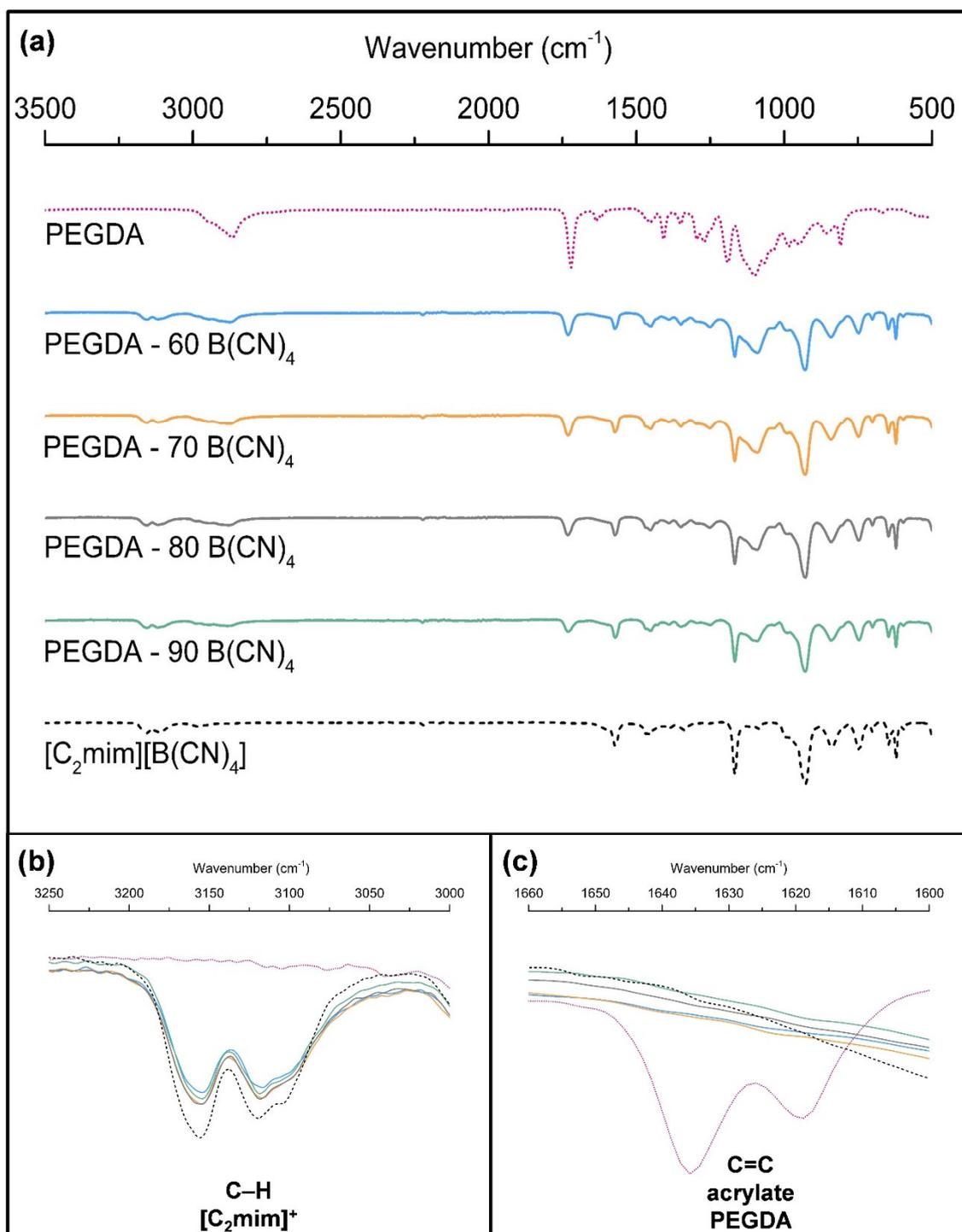


Figure S4. FTIR analysis of the cross-linked PEGDA iongels containing different amounts of $[\text{C}_2\text{mim}][\text{B}(\text{CN})_4]$: **(a)** FTIR curves; **(b)** differences in the intensity of the absorption bands associated to the imidazole ring; and **(c)** disappearance of the characteristic absorption bands of acrylate groups.

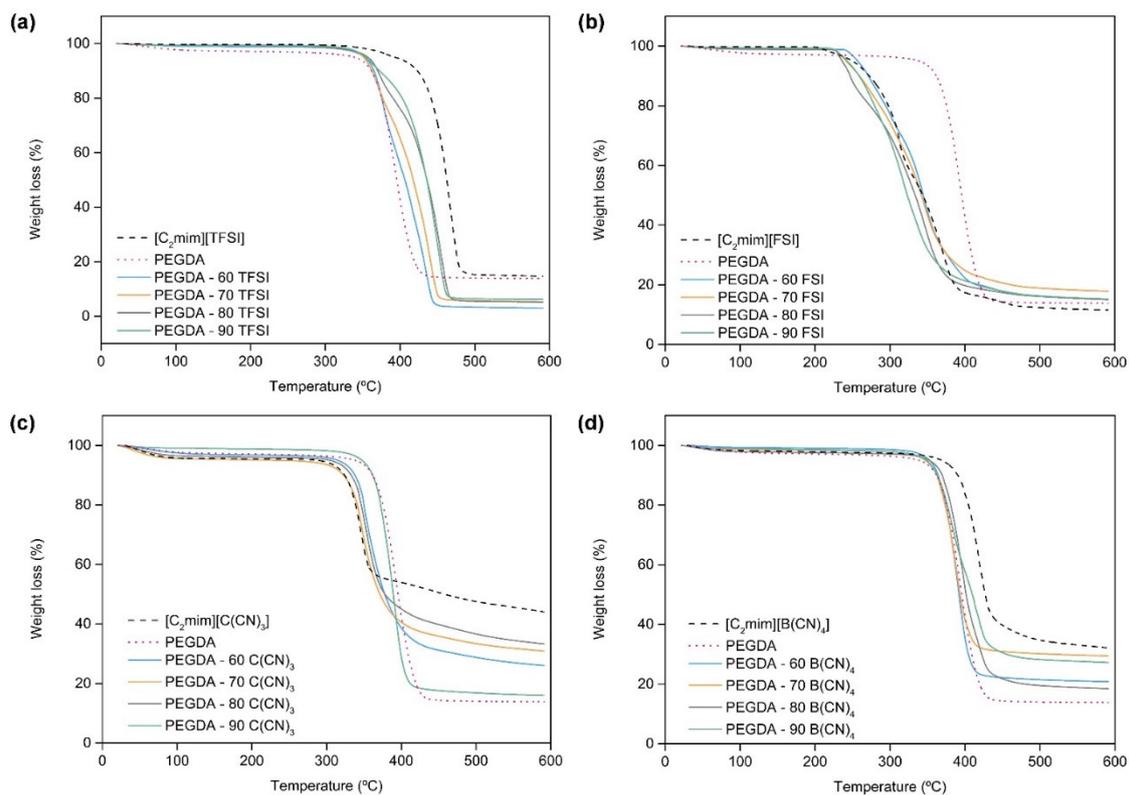


Figure S5. TGA thermograms of the cross-linked PEGDA iongels containing different amounts of the selected ionic liquids: **(a)** [C₂mim][TFSI], **(b)** [C₂mim][FSI], **(c)** [C₂mim][C(CN)₃] and **(d)** [C₂mim][B(CN)₄].

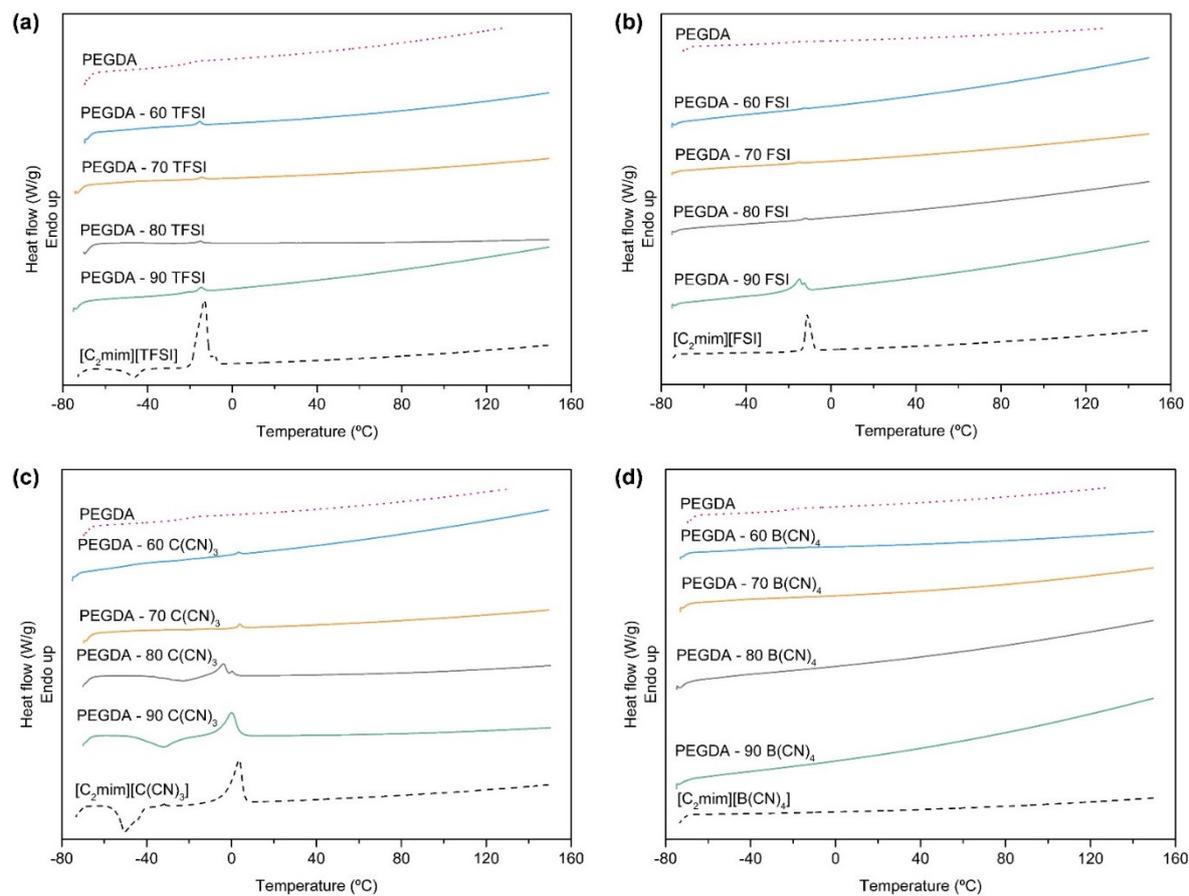


Figure S6. DSC curves of the cross-linked PEGDA iongels containing different amounts of the selected ionic liquids: **(a)** [C₂mim][TFSI], **(b)** [C₂mim][FSI], **(c)** [C₂mim][C(CN)₃] and **(d)** [C₂mim][B(CN)₄].

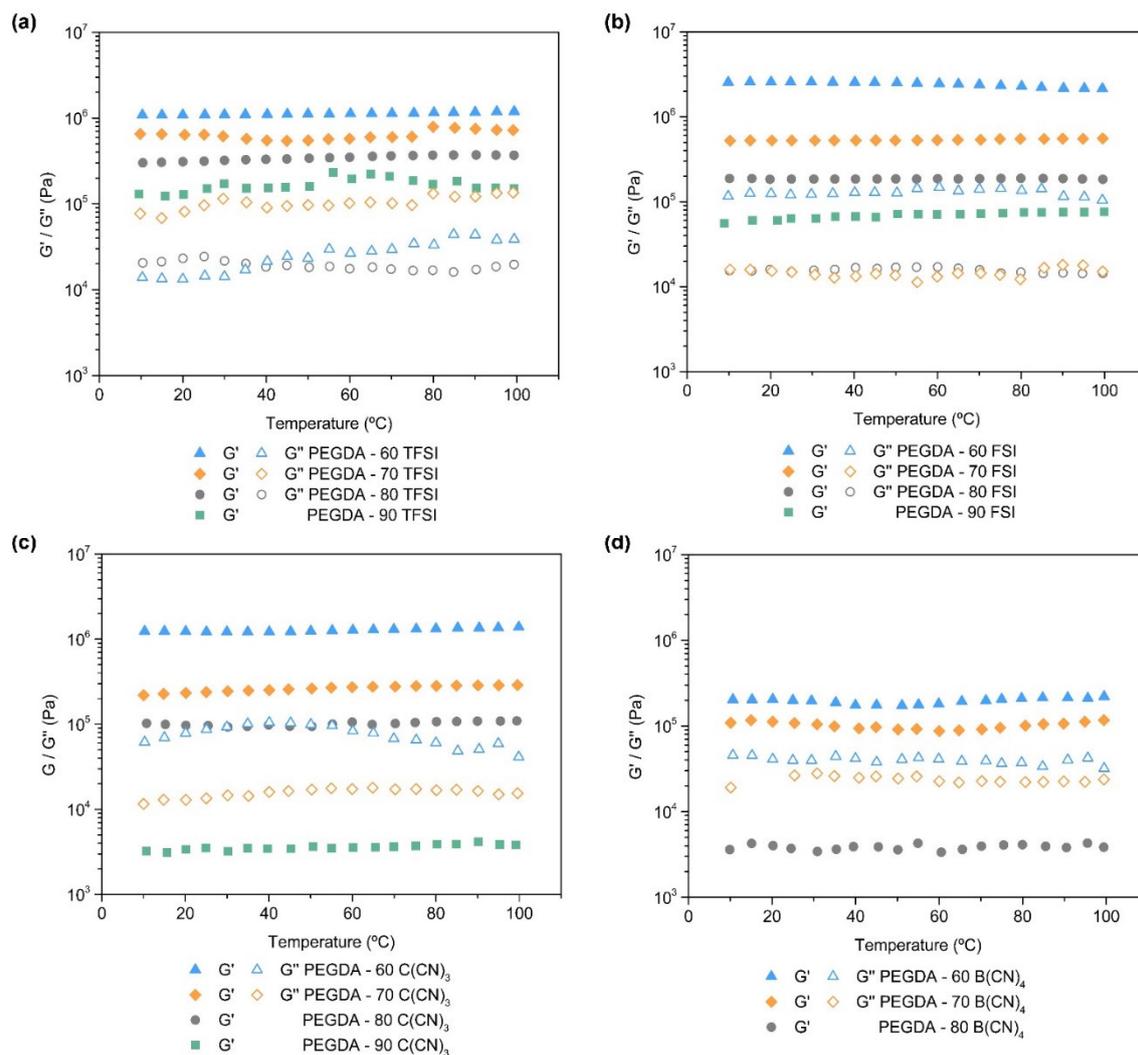


Figure S7. DMTA analysis of the cross-linked PEGDA iongels containing different amounts of the selected ionic liquids: **(a)** [C₂mim][TFSI], **(b)** [C₂mim][FSI], **(c)** [C₂mim][C(CN)₃] and **(d)** [C₂mim][B(CN)₄].



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