

Pebax-based Composite Membranes with high gas transport properties Enhanced by Ionic Liquids for CO₂ Separation

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Supplementary Information

1. DSC results of Pebax composite membranes

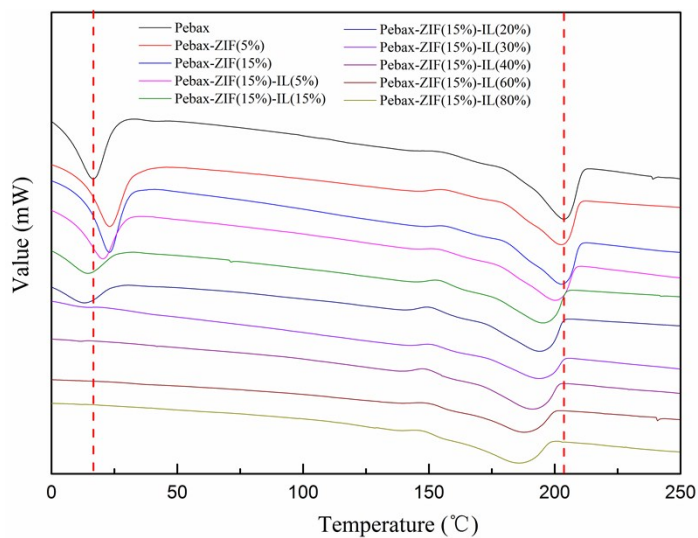


Fig. S1 DSC curves of pure Pebax, Pebax/ZIF-8 and Pebax/ZIF-8/IL membranes.

2. TGA results of ZIF-8, Bmim[NTf₂], and prepared membranes

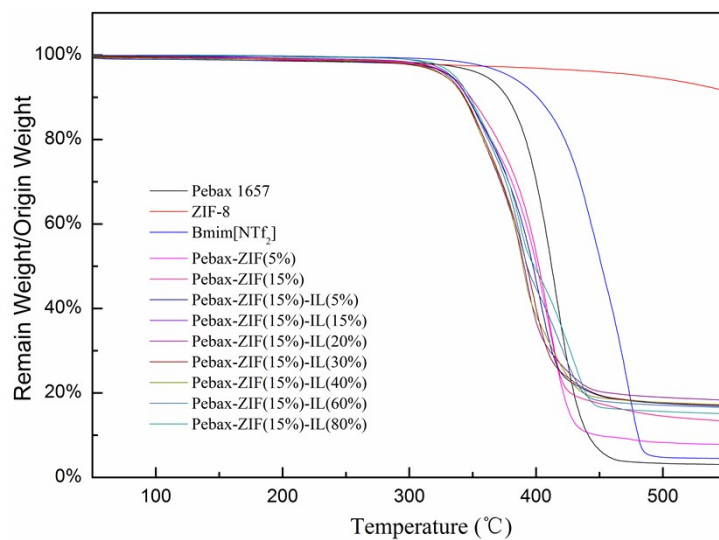


Fig. S2 TGA curves of ZIF-8, Bmim[NTf₂], and prepared membranes.

3. The thickness of prepared membranes for permeability measurement

Table S1 The thickness of prepared membranes for permeability measurement

Membrane	Thickness (um)	Membrane	Thickness (um)
Pebax 1657	92	Pebax- IL(60%)	118
[Bmim][NTf ₂]		Pebax- IL(60%)	129
Pebax-IL(20%)	96	Pebax- IL(80%)	135
Pebax-IL(40%)	100	Pebax- IL(100%)	137
Pebax- IL(60%)	123	Pebax-ZIF(5%)	94
Pebax- IL(80%)	123	Pebax-ZIF(10%)	94
Pebax- IL(100%)	141	Pebax-ZIF(15%)	105
[Bmim][BF ₄]		Pebax-ZIF(20%)	108
Pebax-IL(20%)	108	Pebax-ZIF(15%)-IL(5%)	113
Pebax-IL(40%)	121	Pebax-ZIF(15%)-IL(10%)	120
Pebax- IL(60%)	125	Pebax-ZIF(15%)-IL(15%)	123
Pebax- IL(80%)	133	Pebax-ZIF(15%)-IL(20%)	125
Pebax- IL(100%)	158	Pebax-ZIF(15%)-IL(30%)	128
[Bmim][DCA]		Pebax-ZIF(15%)-IL(40%)	131
Pebax-IL(20%)	96	Pebax-ZIF(15%)-IL(60%)	138
Pebax-IL(40%)	102	Pebax-ZIF(15%)-IL(80%)	155