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Supporting information for:

The design of multifunctional separator regulating the lithium ion flux for advanced lithium-ion batteries

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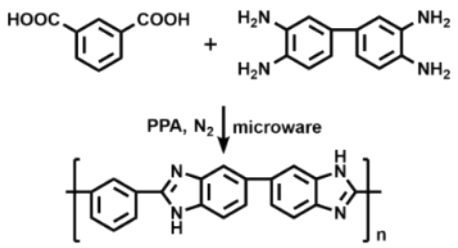

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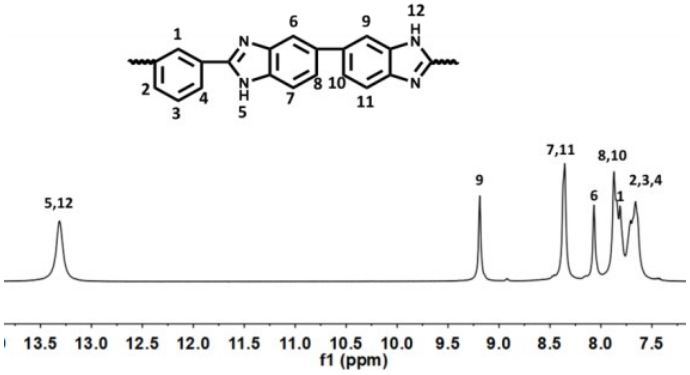

Fig. S2 The ^{1}H NMR of the synthesized PBI polymer.

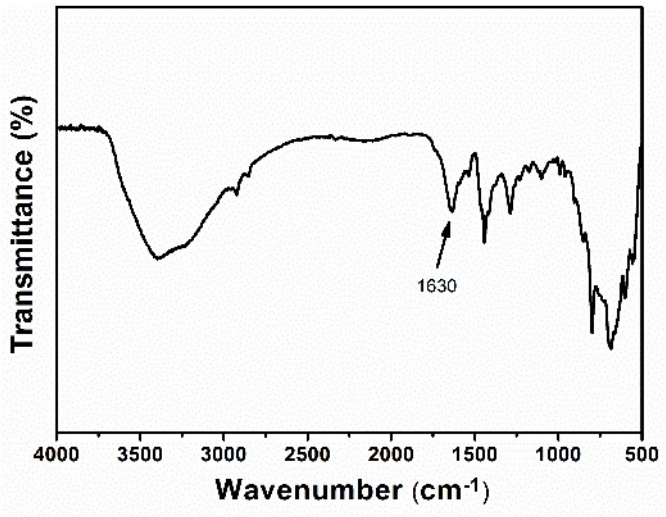

Fig. S3 The FTIR spectrum of the synthesized PBI polymer.

Table. S1 Physical Properties of PBI-3 and Celgard Separators

Sample	Thickness (μm)	Porosity (%)	electrolyte contact angle (deg)	Electrolyte uptake (%)
PBI-3	45	76.81	43.7	286
Celgard	25	43	10.7	92

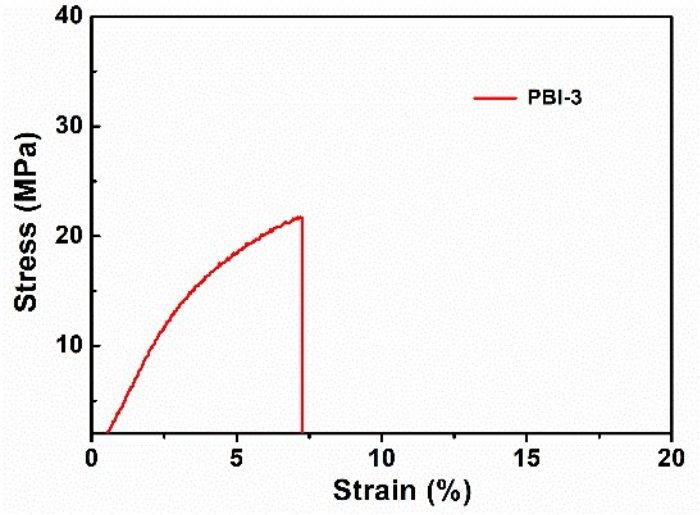

Fig. S4 The stress-strain curve of PBI-3 membrane.