

Article

Electrospun Polyethylene Terephthalate Nonwoven Reinforced Polypropylene Separator: Scalable Synthesis and Its Lithium Ion Battery Performance

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Table S1. Comparison of the properties of the PET/PP separator with recently reported separators.

separator	thickness/ μm	thermal shrinkage/ %	tensile strength/ MPa	electrolyte	electrolyte uptake/%	conductivity/ mS cm^{-1}	anode/ cathode	1 st cycle discharge capacity/ mAh g^{-1}	Thermal shutdown function
PET/PP	32	0 (120 °C, 1 h)	85	1M LiPF ₆ in EC:DMC:DEC	293	0.782	Li/ LiFePO ₄	163 mAh g^{-1} (0.1C)	yes
PVDF-CTFE coated PP ¹	~18	-	-	1M LiPF ₆ in EC/DMC/EMC	1.3 mg/cm^2	0.75	Li/ LiFePO ₄	89 (8 C)	no
PANI nanowire coated PI ²	42	0 (200 °C, 2 h)	34	1M LiPF ₆ in EC/DMC/EMC	610	2.33	Li/ LiFePO ₄	133 (0.2 C); 83 (2 C); 11 (10 C)	no
SiO ₂ /Al ₂ O ₃ coated PI ³	40	-	-	1M LiPF ₆ in EC/DMC/EMC	519	2.92	Li/ LiFePO ₄	136 (0.2 C); 117 (2 C);	no
silica grafted PE ⁴	8	20 (150 °C, 0.5 h)	14.46	1M LiPF ₆ in EC/DMC/EMC (1/1/1, v/v/v)	-	0.45	Li/ LiFePO ₄	-	no
heat treated PVDF ⁵	-	-	9.5	1M LiPF ₆ in EC/DEC (1/1 v/v)	~380	1.35	Li /LiFePO ₄	162.3 (0.2)	no
Al ₂ O ₃ nanowire ⁶	~50	0 (150 °C, 1 h)	-	1M LiPF ₆ in EC/DMC/DEC (4/4/2, v/v/v)	190	1.7	Li /LiFePO ₄	110 (2 C)	no
magnesium aluminate ⁷	30-50	0 (120 °C)	1.5	1M LiPF ₆ in EC/DEC (1/1, w/w)	81	1	Li /LiFePO ₄	80 (1 C)	no
MMT ⁸	70-80	<0.1 (125 °C, 1 h)	-	1M LiPF ₆ in EC/DEC (1/1, w/w)	251	0.901	Li /LiFePO ₄	105 (0.1 C)	no

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