materials

MDPI

Supplementary Materials

Sigmoidal Dependence of Electrical Conductivity of Thin PEDOT: PSS Films on Concentration of Linear Glycols as a Processing Additive

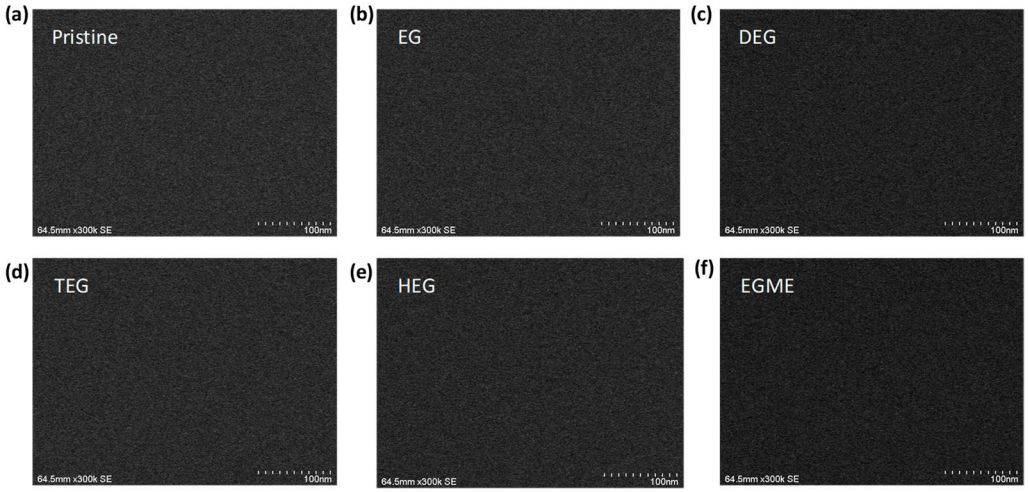


Figure S1. Scanning electron microscopy (SEM) images of the PEDOT:PSS films: (**a**) Pristine, (**b**) EG-added, (**c**) DEG-added, (**d**) TEG-added, (**e**) HEG-added, and (**f**) EGME-added samples.

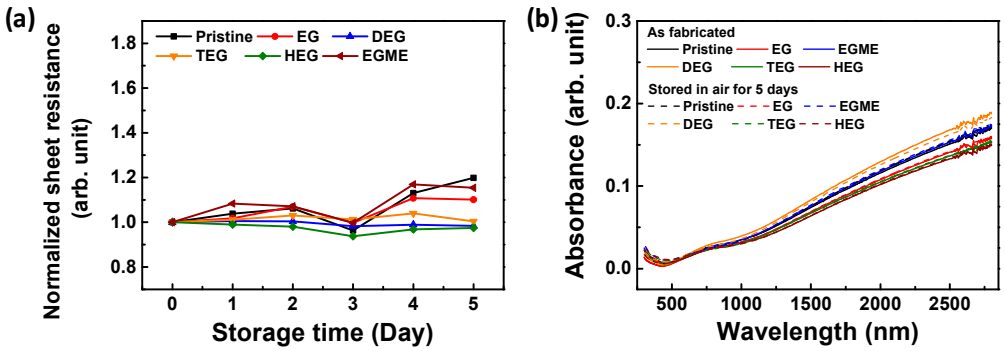


Figure S2. Relative changes in the properties after aging in air: (**a**) Sheet resistance as a function of time and (**b**) absorbance of as-fabricated samples and after 5 days.

Table S1. Comparison of the film properties with previous reports.

Additive	Composition (wt%, vol%, or mol/L)	Inflection Point (wt% or vol%)	Electrical Conductivity (S/cm)	Figure of Merit	Note	Ref.
EG	0 or 50 wt%	n/a	0.4 (at 0 wt%) 160 (at 50 wt%)	n/a		[1]
EG	0 or 5 wt%	n/a	5.43 (0 wt%) 471 (5 wt%)	n/a		[2]
DEG	0–10 wt%	0.3 wt%	0.006 (at 0 wt%) ~10 (at 5 wt%)	n/a		[3]
EG	0–10 vol%	~3 vol%	~1 (at 0 vol%) ~731 (at 6 vol%)	n/a (σ_{dc}/σ_{op}=36.3 for EG dipping)	Dipping was also studied.	[4]
DEG	0 or 50 wt%	n/a	~0.1 (at 0 wt%) ~150 (at 50 wt%)	n/a	Polyethyleneglycol (PEG) was also studied.	[5]
PEG 400	50 wt%	n/a	~200 (at 50 wt%)	n/a		
EG	0–10 wt%	0.6 wt%	0.1 (at 0 wt%) 767 (at 3 wt%)	n/a		[6]
EG	0 or 6 vol%	n/a	0.3 (at 0 vol%) 640 (at 6 vol%)	n/a	PEGs were also studied.	[7]
EG 200	0–6 vol%	n/a	805 (at 2 vol%)	σ_{dc}/σ_{op}=39 (estimated)		
PEG 300	0–6 vol%	n/a	805 (at 2 vol%)	n/a		
PEG 400	0–6 vol%	n/a	805 (at 2 vol%)	n/a		
PEG 400	0 – 0.125 mol/L	n/a	0.1 (0 mol/L) 17.7 (0.04 mol/L)	n/a	Other PEGs were also studied.	[8]

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