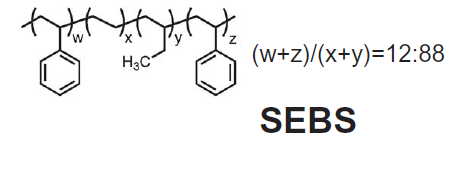
* Hysteresis hɪstə'risɪs 滞后性

1. Intrinsically Stretchable OLEDs with Exciplex

Bis(3-aminopropyl) terminated poly(dimethylsiloxane) (H2N-PDMS-NH2, Mn = 5000-7000) were purchased from Gelest.

polydimethylsiloxane (PDMS)



Styrene-ethylene-butadiene-styrene (SEBS)

Isopropanol 异丙醇

solution of AgNWs dispersed in isopropanol (Nanopyxis Ltd., Korea) was spin-coated onto the **PDMS** film and heated on a hot plate at 60°C for 10 min to remove any remaining organic solvent from the coated layer

A thin layer of **PDMS** (Sylgard 184 Silicone Elastomer, Dow Corning) was applied to the glass.

**polyurethane urea (PUU)**, Carboxylic acid groups of PUU was designed to form

hydrogen bonds with the carbonyl groups of poly(vinylpyrrolidone) on the AgNW surface, resulting in an enhanced affinity of AgNWs for PUU

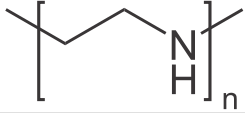
**bottom gate - bottom contact** (in which the drain and source electrodes are positioned directly on the dielectric film),

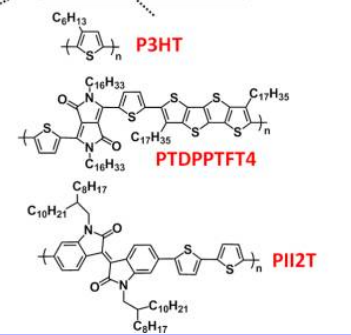
**bottom gate - top contact** (in which the source and drain electrodes are grown on the organic semiconductor)

**top gate - bottom contact** (in which the dielectric film is deposited on the organic semiconductor and the gate contact is placed on top of it).

silver nanowires (AgNWs) embedded in a rubbery **poly(urethane acrylate) (PUA)** matrix

**PEI** in methoxyethanol (diluted by adding 2-methoxyethanol to 0.4 wt %)

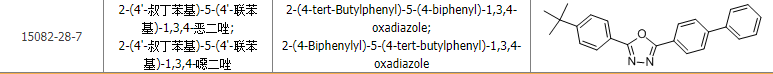
**polyethylenimine (PEI),** 80% ethoxylated solution (3540 wt % in H2O, average Mw ∼70 000), 



脲urea (NH2)2CO

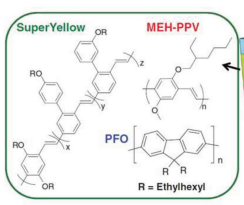
**PBD**: Polybutadiene

**PE-P3HT** diblock copolymer (with stretch ability of 600%, mobility of 2\*10-2), **PTDPPTFT4** (with stretch ability of 100%, mobility of 1.49\*10-1), PII2T (with stretch ability of 100%, mobility of 5.07\*10-1), **P3HT fiber** (with stretch ability of 70%, mobility of 18), **Semiconducting CNT** (with stretch ability of 100%, mobility of 0.18)

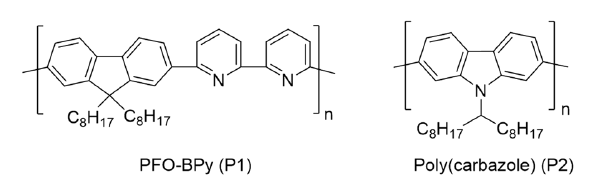
PBD:

Yu and coworkers from the Pei group developed shape-memory stretchable light-

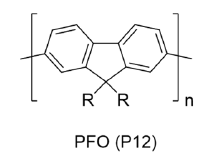
LEDs using transparent SWCNT/poly( *tert* -butylacrylate) (P*t*BA) composite electrodes.

**Super Yellow** 

Compared to the wide exploration of biodegradable insulators, research efforts in biodegradable semiconductors, especially polymer-based, remain sparse.



**PFO-BPy, Poly(carbazole)[**[**1**](#_ENREF_1)**]**

**PFO**: poly(9,9-dioctylfluorenyl2,7-diyl)

Although branched alkyl chains provide polymers with better solubility, they are also observed to invariably hinder close intermolecular **π−π stacking** in polymer transistors.

聚乙烯亚胺PEI polyethylenimine

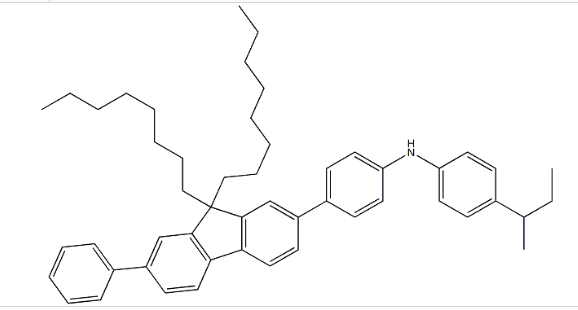
ethoxylated polyethylenimine (PEIE, Mw=75,000 g/mol, Sigma-Aldrich) dissolved in 2-methoxyethanol to 0.4 wt% concentration was spin-coated at 5000 rpm for 60 s. [[2](#_ENREF_2)]

Stretchable Au/PDMS anodes were prepared by depositing a 15 Å **titanium adhesion layer** followed by 200 Å of gold onto a PDMS substrate in an e-beam evaporator at 10 − 6 mbar at a rate of 1 Å/s.[[3](#_ENREF_3)]

AuNP coating on the exposed AgNWs involved immersing AgNWs/PDMS composite electrode in 0.5 mM HAuCl4·3H2O aqueous solution for 2 min to allow for the Ag-Au galvanic replacement process to take place. The coated electrodes were rinsed with deionized (DI) water and dipped in NH4OH solution (28%) for 1 min to dissolve the by-products of AgCl layer that were formed on the NWs**.[**[**4**](#_ENREF_4)**]**

poly[9,9-dioctylfluorene-co-N-(4-butylphenyl) diphenylamine] (TFB)[[5](#_ENREF_5)]

[聚(9,9-二辛基芴-CO-N-(4-丁基苯基)二苯胺)](javascript:showMsgDetail('ProductSynonyms.aspx?CBNumber=CB82717238&postData3=CN&SYMBOL_Type=D');)



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[2] L. Li; J. Liang; H. Gao; Y. Li; X. Niu; X. Zhu; Y. Xiong; Q. Pei, *ACS applied materials & interfaces.* **2017**, *9,* 40523.

[3] H. L. Filiatrault; G. C. Porteous; R. S. Carmichael; G. J. Davidson; T. B. Carmichael, *Adv. Mater.* **2012**, *24,* 2673.

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