

ITO

SEM
4%
PEDOT-PSS
500nm
ITO
LiClO₄
300
4

壹、

ITO

貳、

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二、

三、

四、

五、

參、

一、

ITO

PEDOT-PSS Li Cl O₄

二、

三、

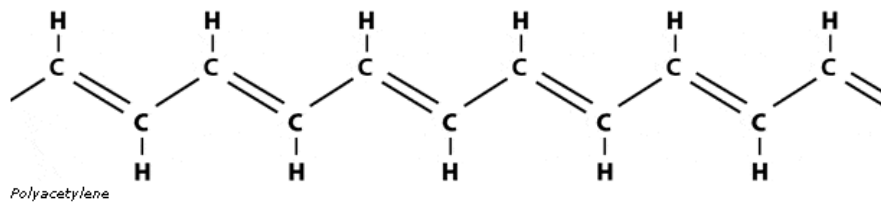
肆、

sp²

(1)

sp²

sp²



1

ITO

ITO

ITO Indium Tin Oxide

ITO

ITO

ITO

1. 250nm 17~20

2 10

3 ITO

ITO

2

4

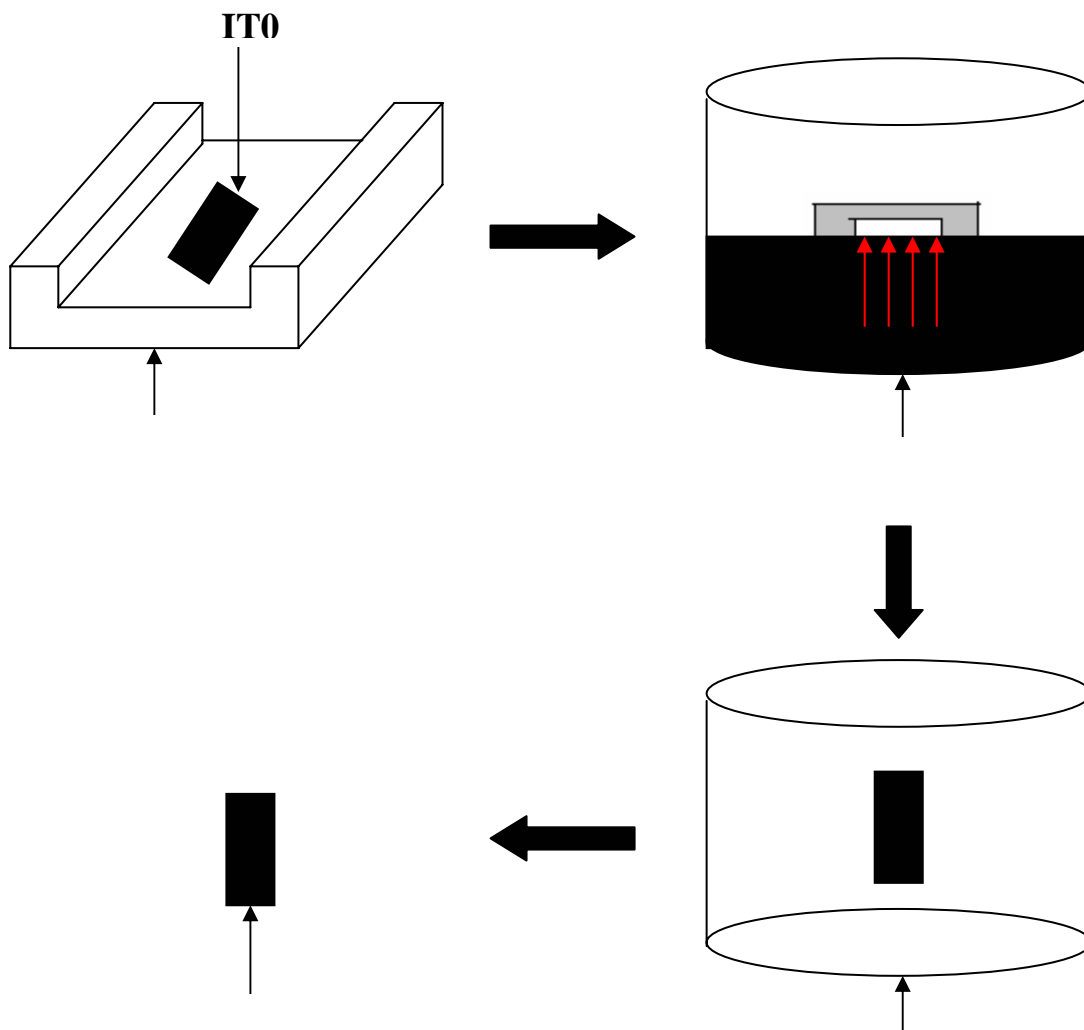
4

2

5

SEM

ITO



2

SEM

3

4

48



3 SEM

1. SEM 3

500nm

2 SEM

4

ITO

1.

PEDOT-PSS

ITO

2

Li Na K Li

LiClO₄

LiClO₄

1. PEDOT-PSS

1 1 1

2 PEDOT-PSS

3 LiClO₄ PU

1. PEDOT-PSS

2. LiClO₄ PU

ITO

PEDOT-PSS

ITO

PEDOT-PSS

LiClO₄

1.

ITO

PEDOT:PSS

ITO

ITO

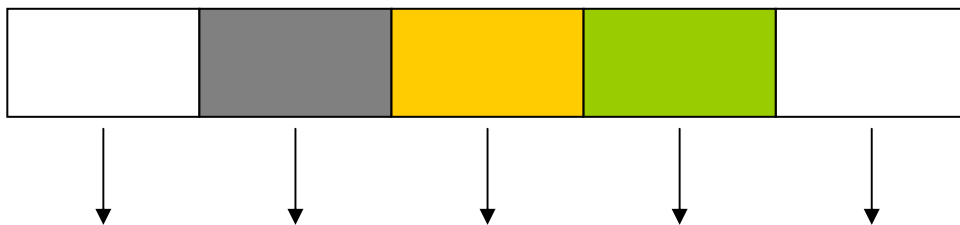
4



4

2

5

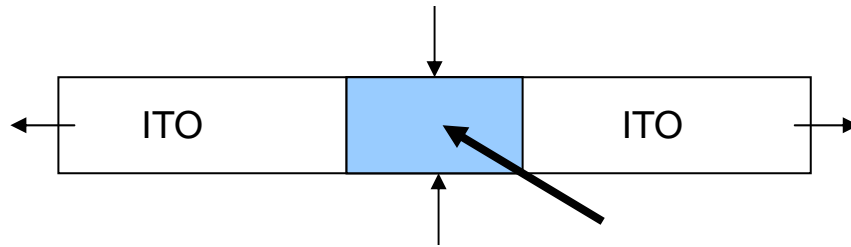


PEDOT: PSS

ITO

5

6



6

3

1.5V

ITO

1

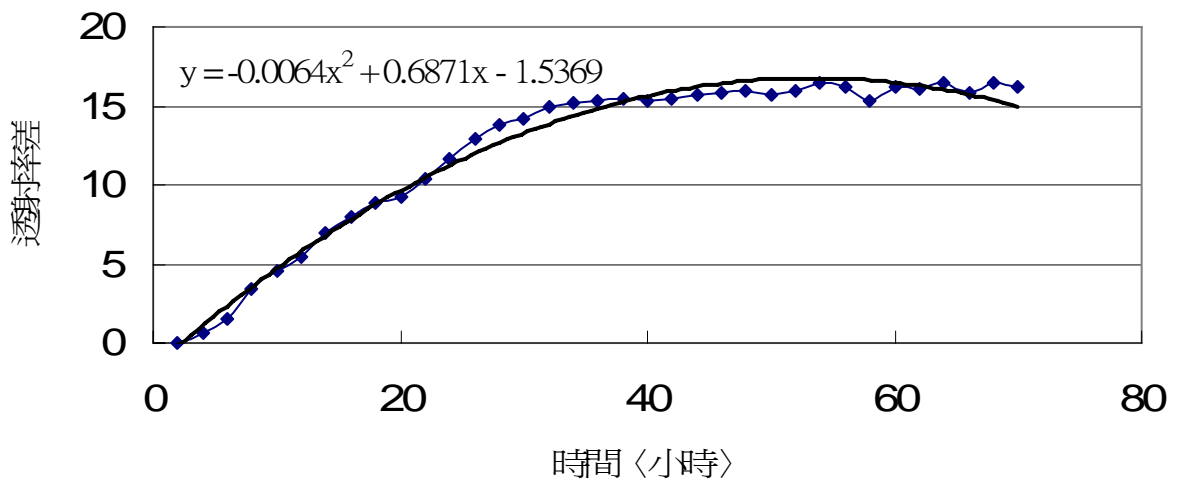
ITO

±1.5V

1

1

hr	2	4	6	8	10	12	14
±1.5V	0%	0.6%	1.5%	3.4%	4.6%	5.5%	6.9%
hr	16	18	20	22	24	26	28
±1.5V	8.0%	8.8%	9.3%	10.4%	11.6%	12.9%	13.8%
hr	30	32	34	36	38	40	42
±1.5V	14.2%	14.9%	15.2%	15.3%	15.4%	15.3%	15.5%
hr	44	46	48	50	52	54	56
±1.5V	15.7%	15.8%	16.0%	15.7%	15.9%	16.5%	16.2%
hr	58	60	62	64	66	68	70
±1.5V	15.3%	16.2%	16.1%	16.5%	15.8%	16.4%	16.2%

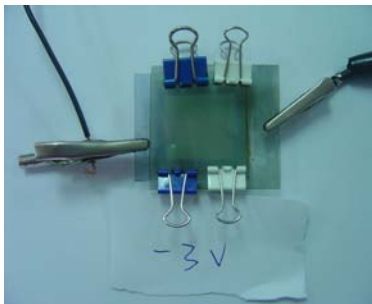


7

2

ITO

8



8

1.

2

ITO

48

2

4

2

30

3

ITO

4.

ITO

ITO

48

ITO

1.

$\pm 1.5V$

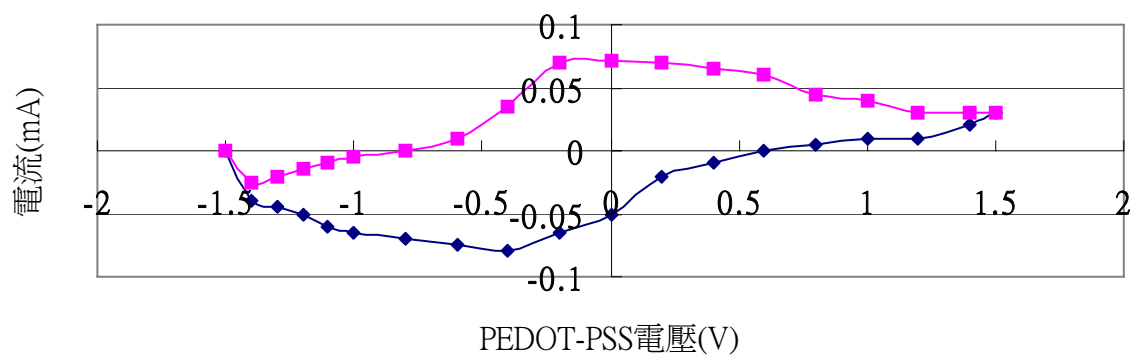
2

3.

300

1. 1

9

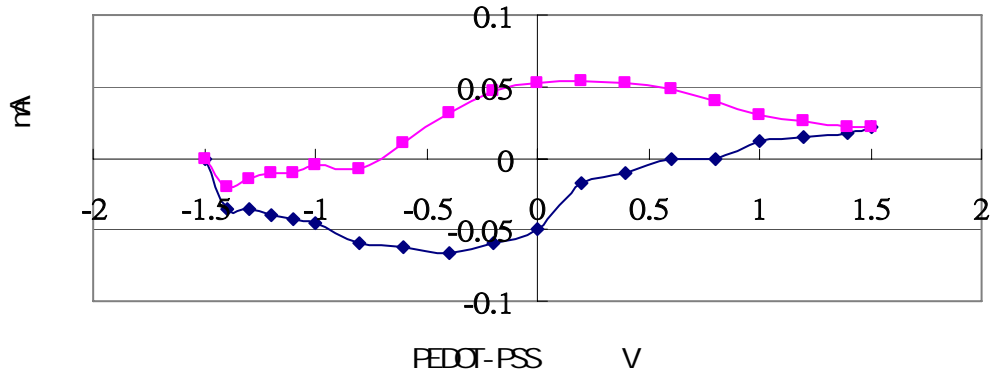


9

2 200

10

200



10 200

3. 300

11

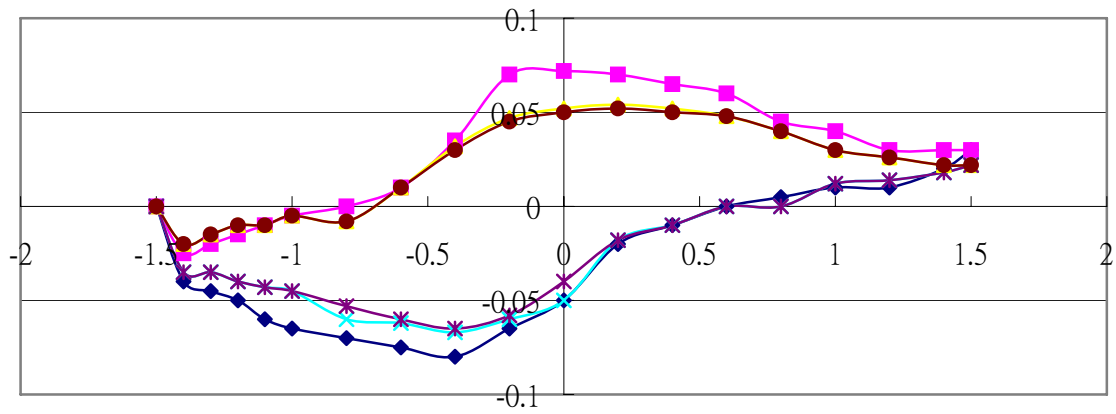
300



11 300

4. 1 200 300

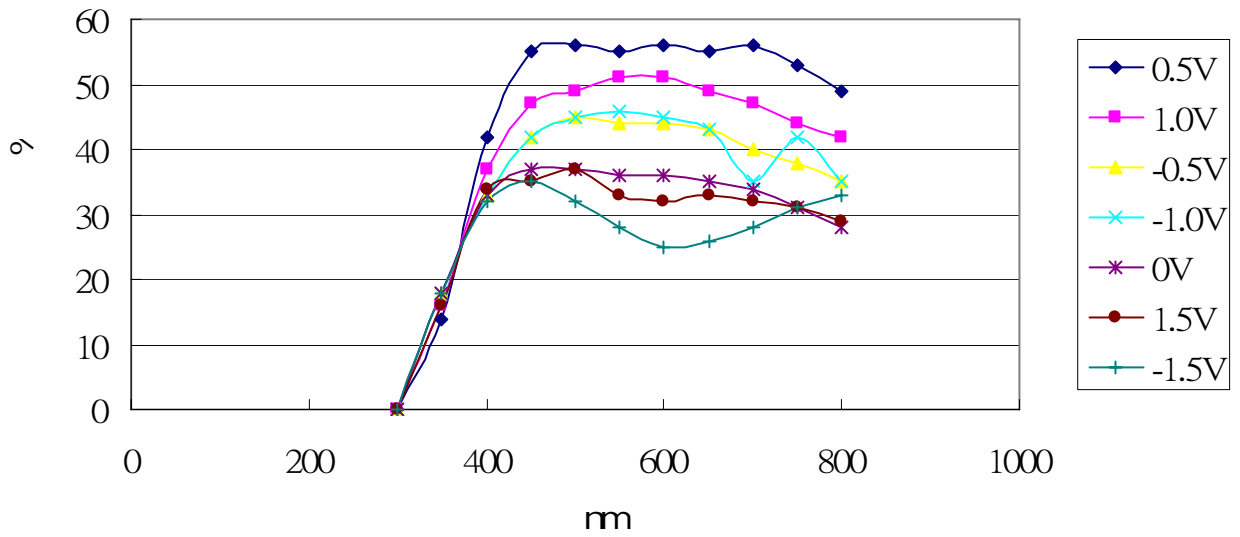
12



12 1. 200. 300

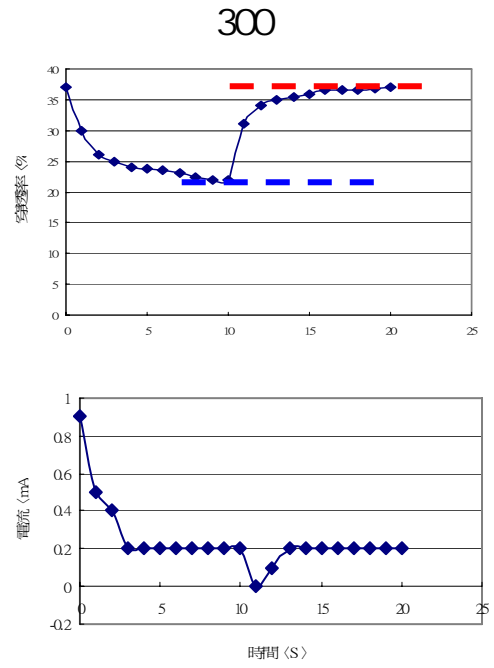
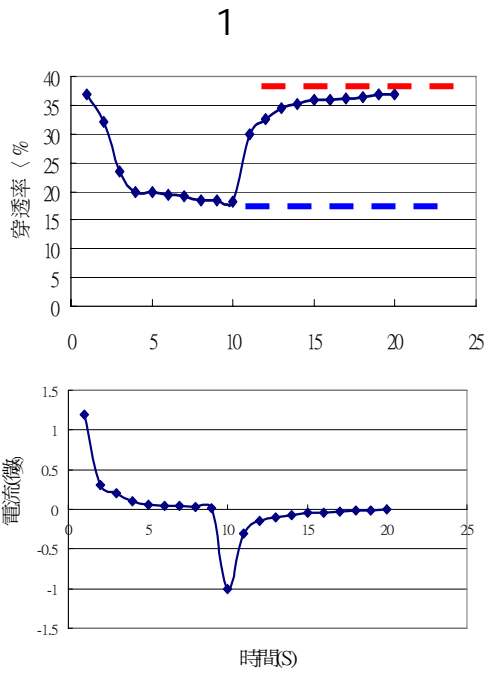
5.

13



13

6. 1 300



14 1. 300

1.

1.5V

1.5V

2

1.5V

3V

3V

10

3. 12 1 200 300

200 300

4. 13 ±1.5V

600nm

5. 14 1 16% 300 12%
 4% 4%

伍、

ITO SEM
 500nm
 ITO PEDOT-PSS ITO
 LiClO₄ Li Na
 Ki
 ITO 2
 48 4
 1 200 300 200
 300
 ±1.5V 600nm
 1 300 4%
 4%
 1.5V
 1.5V 1.5V

陸、

柒、

93

95

94

93

92 100%

92

85

91

91

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