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(12)

(KR)
(A)

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G02F 1/1335

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(43)

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2004 08 07

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(87)

WO 2003/071320

(86) 2003 02 18

(87)

2003 08 28

(30) JP-P-2002-00041686 2002 02 19

(JP)

(71) 가 가

1-1-2

(72)

1 1 2

가 가

1 1 2

가 가

1 1 2

가 가

1 1 2

가 가

(74)

:

(54)

A

B

1

2 (nx, ny, nz) , 3 , VA(Vertically Aligned)
 OCB(Optically Compensated Bend) , 3 nx>ny>nz 가
 , 2 , 2 , 1
 가 , 가 1mm 가 가 , 2
 , 2 가

A

B

가

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

A

13 1
 14 2
 15 3

50 μ m , 10 μ m A , 2 (1 mm/) B
 1 가 2 B 2
 A , A B A B , B 가 2 A B
 A 가 85° 95° 가 VA, OCB 86° 94°
 87° 93° A
 A 가
 가 (), 2
 2001-343529 (WO01/37007) 가 N-
 3mm , 1 μ m 1mm, 5 500 μ m
 2 .2 2 - 2
 101 250% 101 200
 %가 (Tg)
 80 250 , 가 120 220 , 140 200 Tg Tg

, 1mm, 1 500μm, 5 300μm .
A, () () .

20(nm) Re 300(nm) ()

1.2 Rth/Re ()

Re() = (nx - ny) · d

Rth() = (nx - nz) · d .

nx, ny, nz A X, Y Z, Y
X X, Z X Y d A

() Re, 25 Re 250, 30 Re 200, Rth/Re
1.5 Rth/Re, 2 Rth/Re .

B,

가,

가

가

가

가

$$\frac{1 \times 10^{-5} \text{ nm}^{-1} \cdot (\text{wt}\%)^{-1}}{1 \times 10^{-4} \cdot 1 \times 10^{-3} \text{ nm}^{-1} \cdot (\text{wt}\%)^{-1}} \cdot \frac{1 \times 10^{-6} \text{ nm}^{-1} \cdot (\text{wt}\%)^{-1}}{1 \times 10^{-5} \cdot 1 \times 10^{-2} \text{ nm}^{-1} \cdot (\text{wt}\%)^{-1}} \cdot 1$$

가

가

= 1/[(nm) × (wt%)]

()

(wt%) = [X/(X + Y)] × 100

X :

Y :

nm

350

2660601 (

5 50 %,

7 40 %,

10 30 %

2

가

1

가 5 23 %

10 20 %

B

B

5 %

23 %

가

가

가

가

, 1,2-

, 2-

, N-

-2-

; t-

, 2-

-2,4-

1

, 2

가

, 가

가

가

A), ABS

(PC),

(PI),

AS

가

(PA :

(PE),

(PP),

(PS),

(PET)

(PPS),

(PCT),

(PAR)

(PES),

(LCP)

(PMM

(POM),

(PBT)

(PK),

0 50 %

0 30 %

SiO₂

(LB)

(-)

3-9325 ()

2631015)

가

가
가

가

가 가

가

가

가

가

가

가

가

(1)

가

가

가

가

가

가

가

75 95 %

80 90 %

5 23 %

10 20 %

0.5 8 %

1 5 0.1

%

B

가

B

가

5 23 %

가

가

가

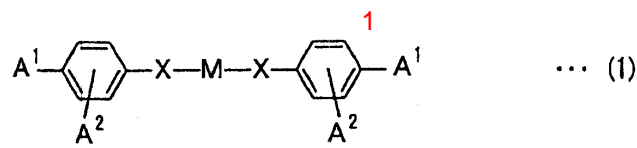
B
350nm

B

가

가

(1)

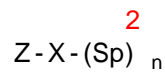


(1) 가, A¹, A², X, -O-, -S-, -C=N-, -O-CO-, -CO-O-, -O-CO-O-, -CO-NR-, -NR-CO-, -NR-, -O-CO-NR-, -NR-CO-O-, -CH₂-O-, -NR-CO-NR, A¹, A², X, R, H, M, C₁, C₄

(1) , X

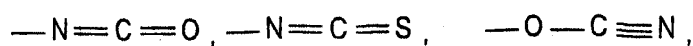
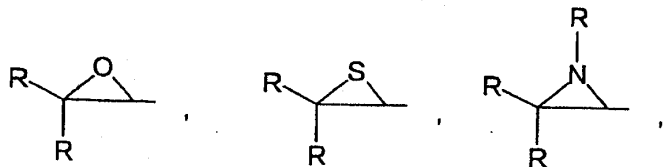
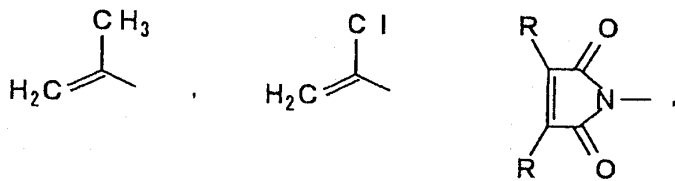
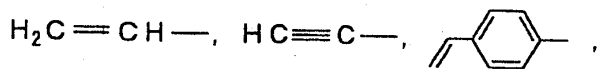
(1) A² A¹

, A¹, A² (2) , A¹, A²
:

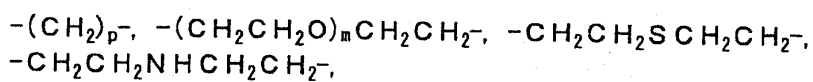


(2) , Z 가 , X (1) , Sp¹ 30 C, n 0 1 Sp, C₁, C₄

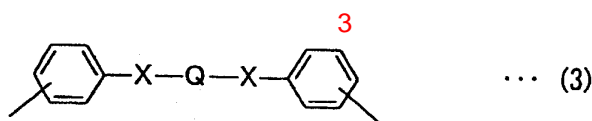
(2) , Z , n-, i-, n-, i-, t- , R



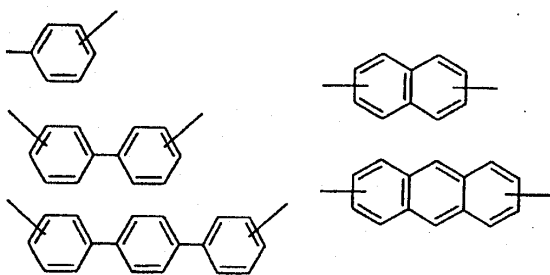
(2) Sp , m
1 3, p 1 12 :



(1) M (3) X (1) X
Q , C₁ C₁₂



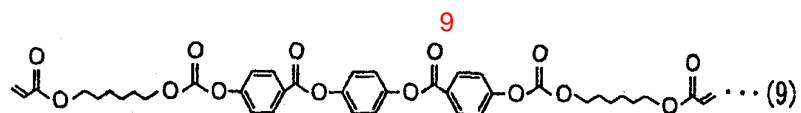
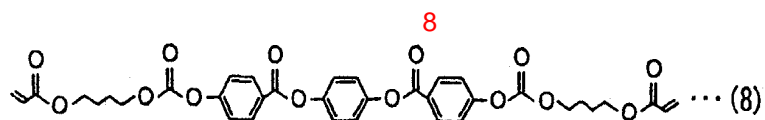
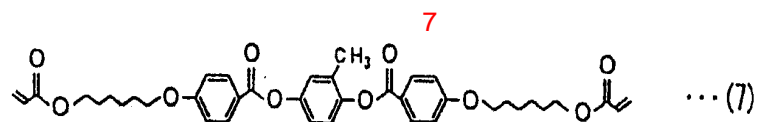
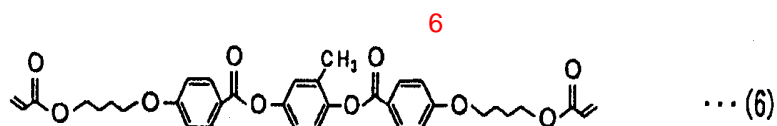
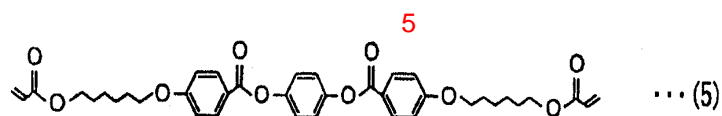
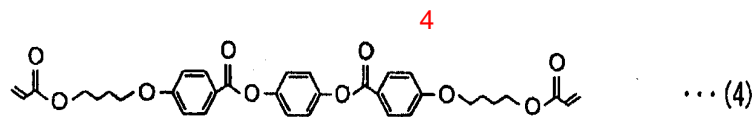
Q가
가 :

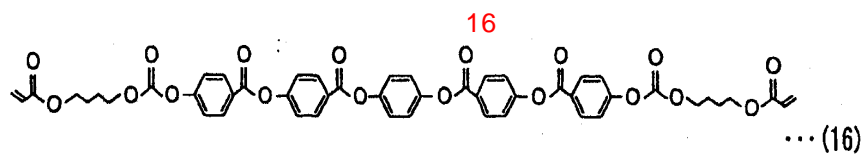
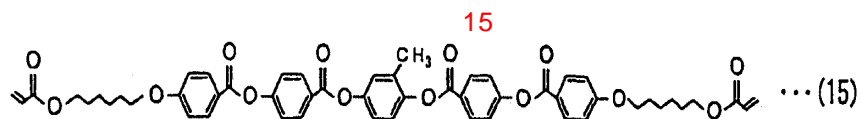
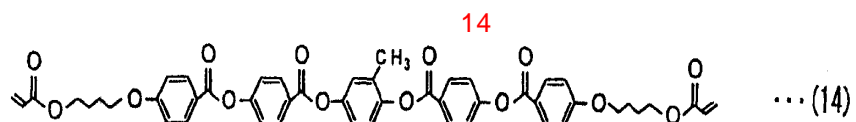
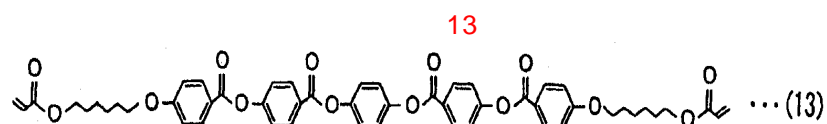
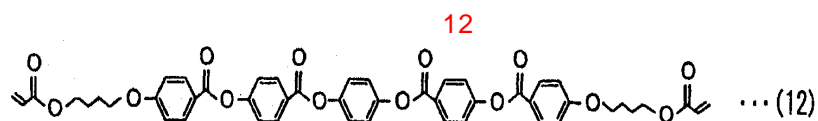
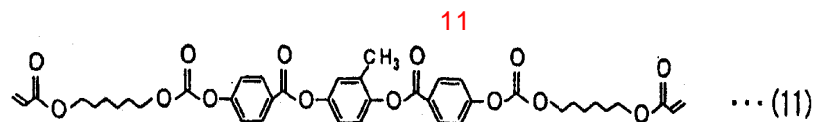
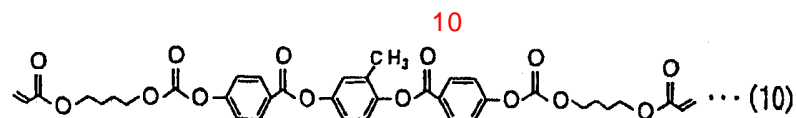


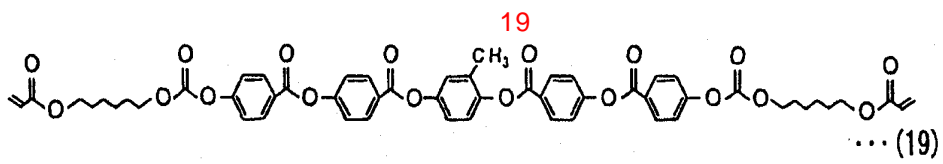
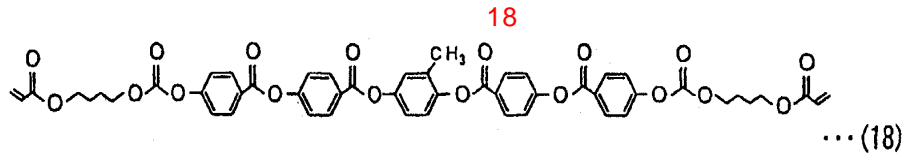
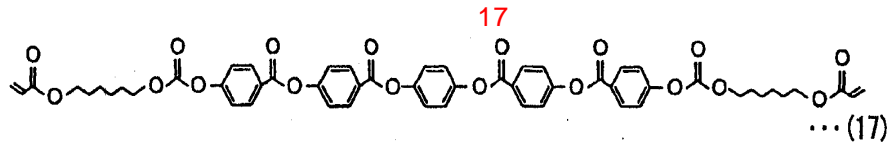
1 2 가 1 4 가

, C₁ C₄, , F, Cl, Br, I, , C₁ C₄

, (4) (19) :







가

50 100

60 90

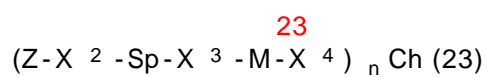
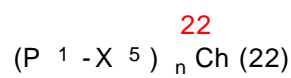
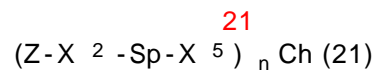
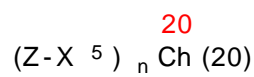
40 120

가

1

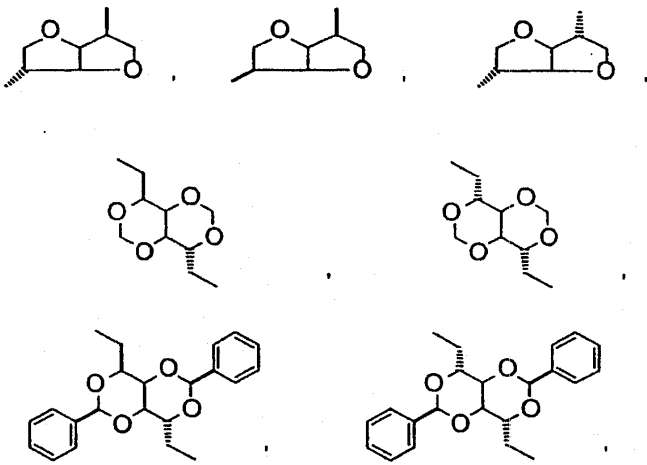
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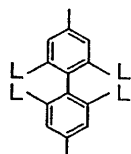
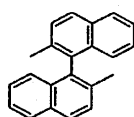
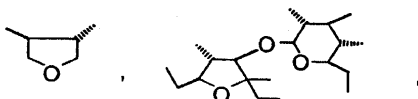
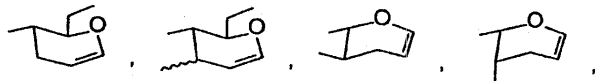
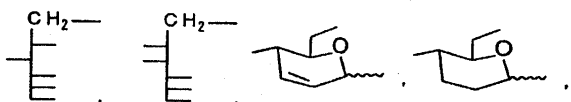
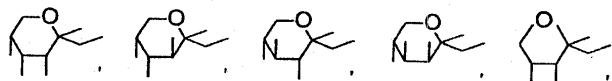
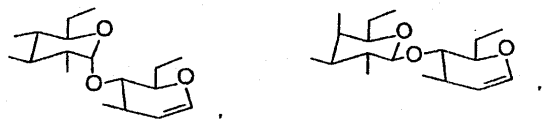
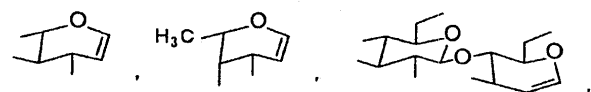
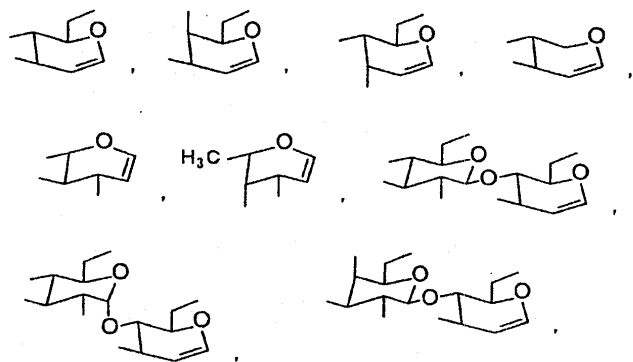
(20) (23)



, Z (2), Sp (2), X², X³, X⁴,
 -, -O-, -S-, -O-CO-, -CO-O-, -O-CO-O-, -CO-NR-, -NR-CO-, -O-CO-NR-, -NR-CO-O-, -NR-
 -CO-NR-, R, H, C₁, C₄, X⁵, -, -O-, -S-, -O-CO-,
 -CO-O-, -O-CO-O-, -CO-NR-, -NR-CO-, -O-CO-NR-, -NR-CO-O-, -NR-CO-NR-, -CH₂O-, -O-CH₂-
 -, -CH=N-, -N=CH-, -N N-, R, H, C₁, C₄, M,
 C₁, C₃₀, P¹, 1, 3, C₁, C₆, C₁, C₃₀,
 C₃, C₈, X³, X⁴, n, 1, 6, Ch, n가
 NR-CO-NR- (23) 가 -O-CO-O-, -O-CO-NR-, -NR-CO-O- -
 (22) P¹, C₁, C₄,
 가 , C₁, C₄

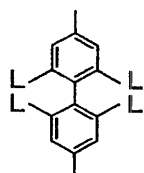
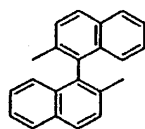
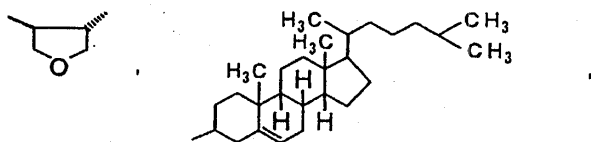
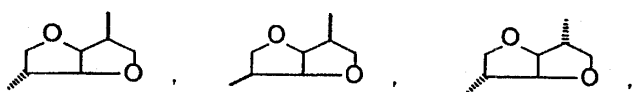
Ch



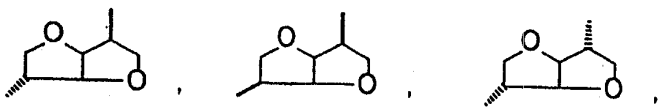


R C₁ C₄ , L C₁ C₄ , C₁ C₄ ,

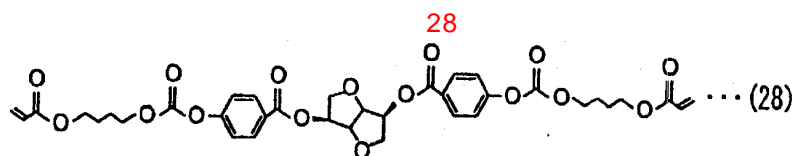
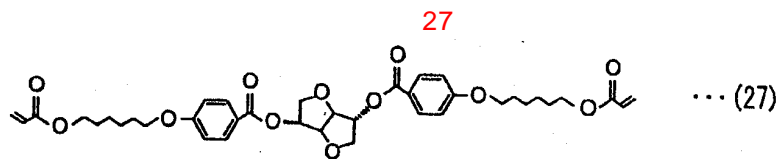
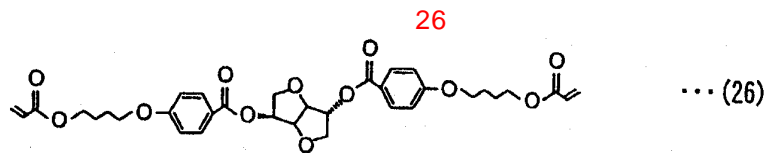
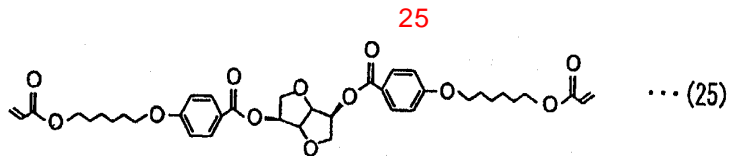
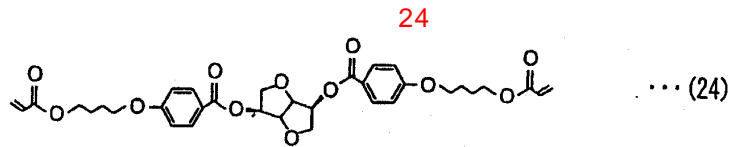
, COOR, OCOR, CONHR NHCOR ,

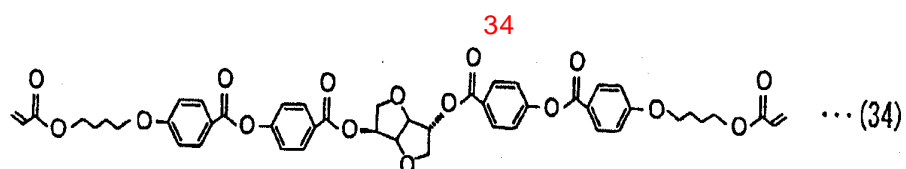
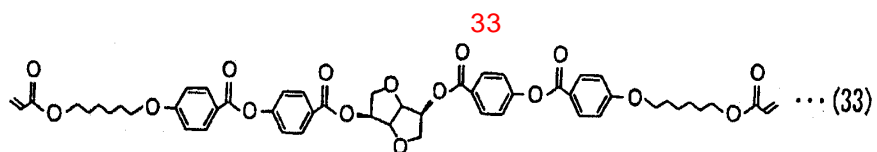
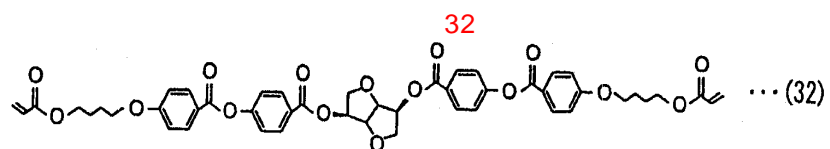
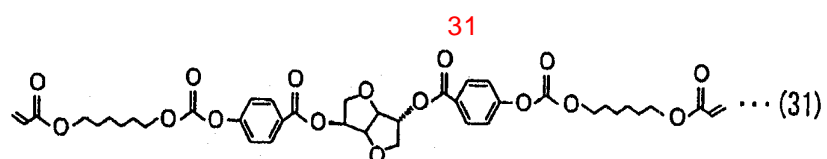
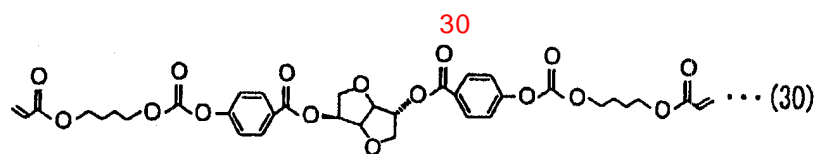
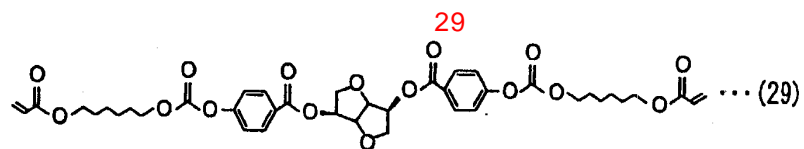


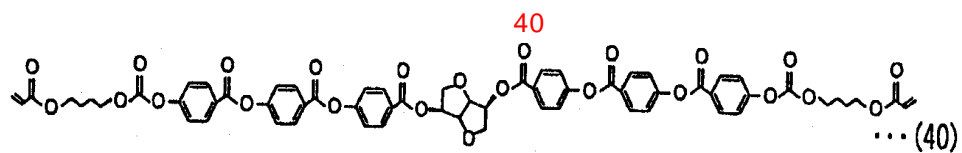
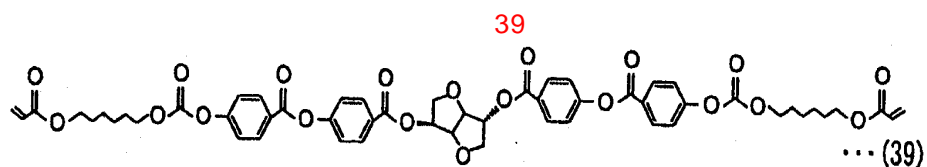
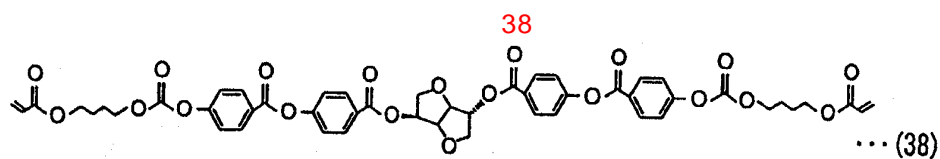
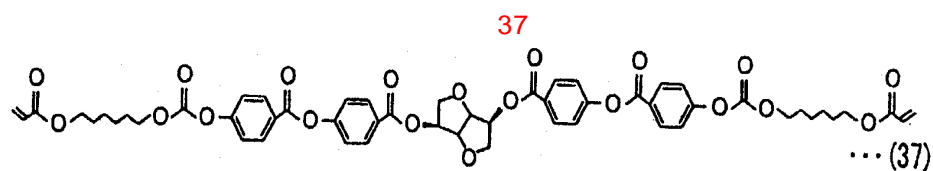
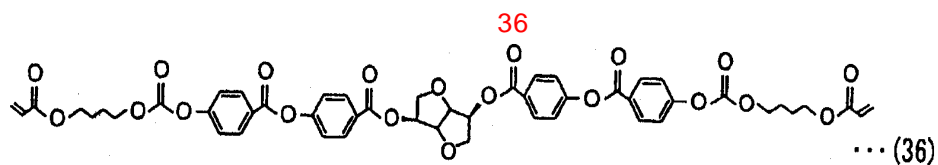
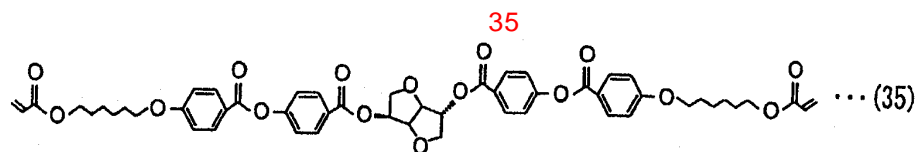
(21) (23) : n 2, Z가 H₂C=CH- , Ch가

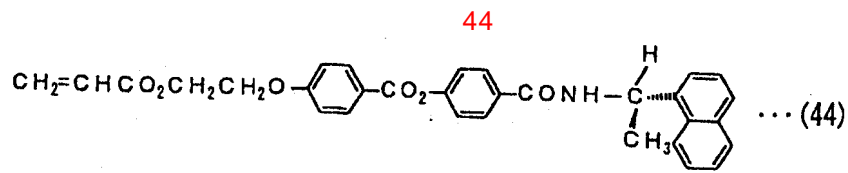
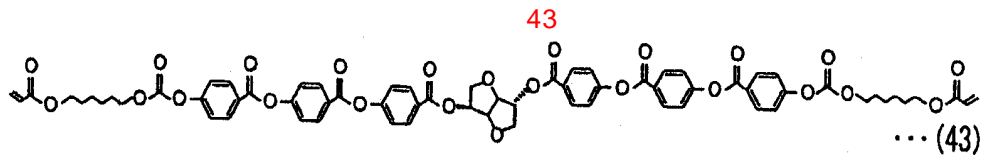
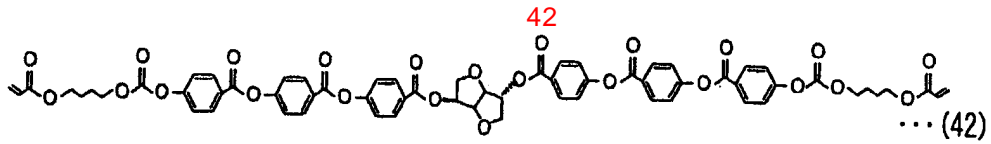
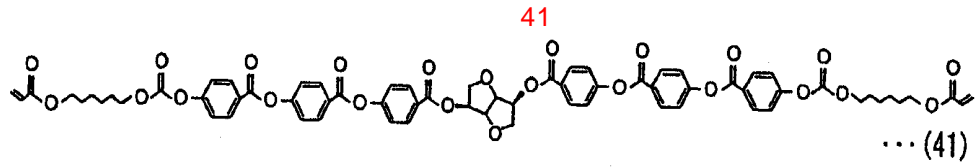


(24) (44)
 $1 \times 10^{-6} \text{ nm}^{-1} \cdot (\text{wt}\%)^{-1}$









9520704.1 , RE - A4342280 19520660.6 1

가 , 가 (BPO), 가 (AIBN) , 가 ,

, 2 가 , 가 , 가 1

가 5 23 % , 10 20 % ,

가 , 5 % B , 23 % ,

B , 가 , 가 , 가 ,

가 , 가 ,

5 × 10⁻⁴ nm⁻¹ • (wt%)⁻¹ B 200 220nm 11 13 % , 5 × 10⁻⁴ nm

290 310nm , 7 9 % ,

-1 • (wt%) ,

(38) 가 0.5 8 % 0.1 % 가

(11) 가 1 5 % 가

(39) 가 0.1 10 % 가 10 % 가

가 5 70 % 1 10mPa · s 2 5mPa · s

가 0.2 20mPa · s 3 4mPa · s

가 0.5 15mPa · s 가 30 % 가 0.2mPa · s 20mPa · s 20

30

가

가

가 () 가 ()

가 40 120 가 40 50 100

가 120 60 90

가 가 가

가 가

350nm B B

가

B

B

B

B

TAC

(4- -1)

가

가 5μm 5μm 500μm, 10 200μm 15 150μm

) 2 (, 「 1 」) (, 「 2 」
) 2 1 (, 「 B 」
) 1

2

01/37007)
가

2001-343529 (WO

N-

가

2

2

2

1

, 2

B

B

1 1 50μm, 2 30μm

2 2

,가 , ,

(PVA) 가

PVA , 2 .

PVA
PVA

1 80μm , 2 40μm
()

(

()

TAC

2001-343529 (WO01/37007)

가

가

N-

(Rth) -90nm +75nm
-70nm +45nm
()
X
X

-90nm +75nm
nx, ny, nz
X Y

-80nm +60nm
X , Y Z
, Y

. d

$$Rth = \{ [(nx+ny)/2] - nz \} \cdot d$$

가

가

가

1

2

「WV」

2

500μm

5 300μm,

5 150μm

가 ,

가

가 가

0.5 20 μ m

100 2 70

가 5 50

()

A B

가 PVA

PVA 가

가 가

1nm 500nm

10nm 300nm

20nm 100nm

A B

A

가 85° 95° 가

A A

가 「Roll To Roll」 가가

A B A B

B

B () () 가 가 A B B (1) A B A

() 가 가 A B () (2) A B (3) A B

, B A , (b) A B , (c) A B , (c) ,
 , B A , (c) A B , (c) ,
 A B () A B ,
 , A B 가 A B .

10 12 .

10) B (5) (2) A (4) , ()
 (1) (2) (3) (2) (3) (3)
 11 , B (5) (1) (3) A (4) (6) (2)
 (2) (3) B (5) (1) (1) (1) (2)
 12 (3) B (5) (3)

가

, , 1 2 , 1 2 ,
 , 1 2 가 , 2 ,
 , 가 , 가

() , () ,
 가 , ()

가

()

가

3M

「D-BEF」

「PCF350」, Merck

「Transmax」

가

2

2

가

가

가

가

1 500μm

,가

,가

가

,가

(가)

가
; Vertical Aligned)

, VA

VA(

1 2

가

()

가

(EL)

(PD), FED(

: Field Emission Display)

EL

(EL)
EL

EL

EL

EL
/4

EL

EL

(EL EL)

가

가

EL

가

가

가

가

가

가

EL

(ITO)

가

Mg-A

g, Al-Li

EL , , 10nm
가

EL

EL , EL EL /4 EL ,
EL 가 , 가

1/4 , 1/4 EL

1/4 , 가 /4 ,

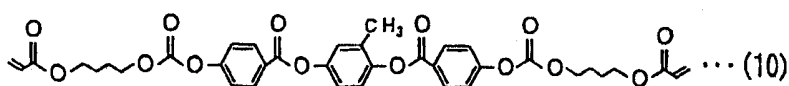
가 190 μ m NPF-1224DU()

(1)

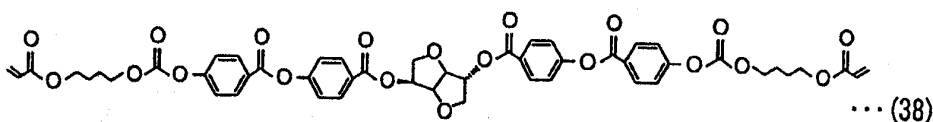
100 μ m 177 80 μ m A

(NPF-1224DU()) 1 wt% 90
5 0.01 μ m (38) 5.5 $\times 10^{-4}$ nm⁻¹
(10) 8 , UV 5 300
• (wt%)⁻¹ 290 310nm

[10]



[38]



B 90 1 UV 가 2.5 μ m
 가 193 μ m

(No.1) A 25 μ m
 (13)
 A 90°

(2)

80 μ m 50 μ m A
 (10) 92 (38) 5.5 $\times 10^{-4}$ nm⁻¹
 • (wt%)⁻¹ 8 , UV 5 300 2 PET
 290 310nm가 1

2.0 μ m 2 PET 90 1 UV 가
 B 2 PET

A 2 PET B A 25 μ m
 PET A B

80 μ m 0.05 % 30 60
 , 4 % 60 5 , 50 4
 20 μ m

5 μ m 80 μ m A
 가 187 μ m

(No.2) (14)

(3)

2 B 25 μ m
 2 가 207 μ m (No.3)

(15)

B 1 3 A A , B
 Re Rth 1 KOBRA-21ADH

[1]

	A				B		
	Re[nm]	Rth[nm]	Rth/Re	[μ m]	Re[nm]	Rth[nm]	[μ m]
1	50	108	2.16	80	0	185	2.5
2	50	68	1.36	50	1	142	2
3	50	68	1.36	50	1	142	2

1 A 2 B A A B

(4 6)

1 3
VA

(No.1 3) 5cm×5cm
가

10 , , 45 ° 225 ° , 135 ° 315 ° (Co)
Ez contrast 160D : ELDIM) , (XYZ
Y , x , y , Y (Y_w) , 0 70 ° Y (Y_B)
(Y_w/Y_B)

2

(1)

(NPF-1224DU()) 1 3
4 6 2

4 6

(2)

1 가 , 100µm 177 80µm A
A (NPF-1224DU()) 25µm 1 3
4 6 A 2

(3)

1 가 , (NPF-1224DU()) 1wt%
90 5 , 0.01µm , 92 , (38)
5.5×10⁻⁴ nm⁻¹ · (wt%)⁻¹ 8 , UV 5 300
B 90 1 UV 가 , 2.5µm
가 193µm
B 1 3
4 6 4 6
2

[2]

	(°)					
					(45 ° 225 °)	(135 ° 315 °)
4		No.1	± 80	± 80	± 60	± 60
5		No.2	± 80	± 80	± 65	± 65
6		No.3	± 80	± 80	± 65	± 65
1			± 80	± 80	± 35	± 35
2		+A	± 80	± 80	± 40	± 40
3		+B	± 80	± 80	± 50	± 50

2 , 4 6 .

가

2 ,

(57)

1.

A B ,

2.

1 , A 가 85° 95° 가

3.

1 , A () () :

20(nm) Re 300(nm) ()

1.2 Rth/Re ()

[,

$$Re() = (n_x - n_y) \cdot d$$

$$Rth() = (n_x - n_z) \cdot d$$

(n_x, n_y, n_z A X, Y Z, Y X, X X, Y, Z, X, Y . d A X X .).].

4.

1 , 350nm .

5.

1 , 가 .

6.

1 , .

7.

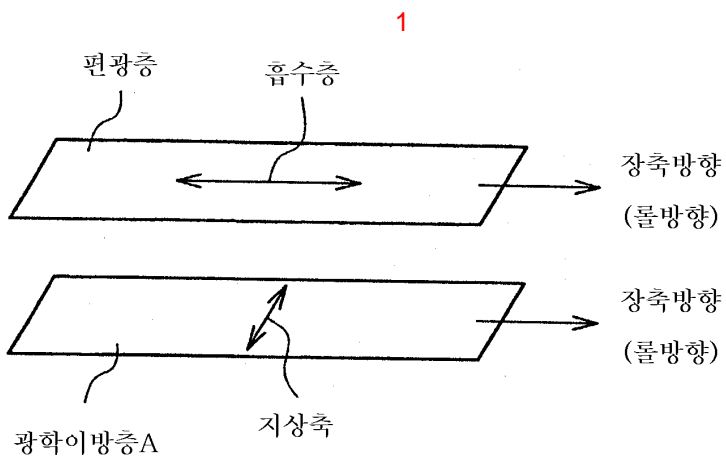
1 , 가 ,

8.

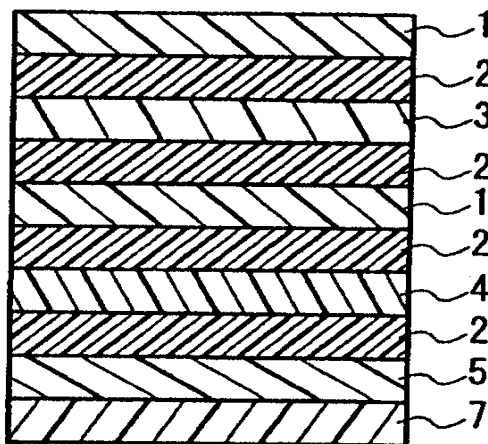
1

9.

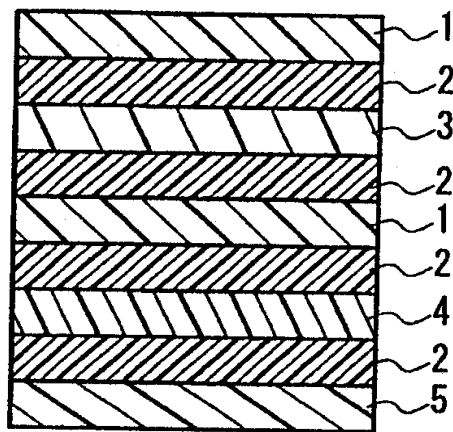
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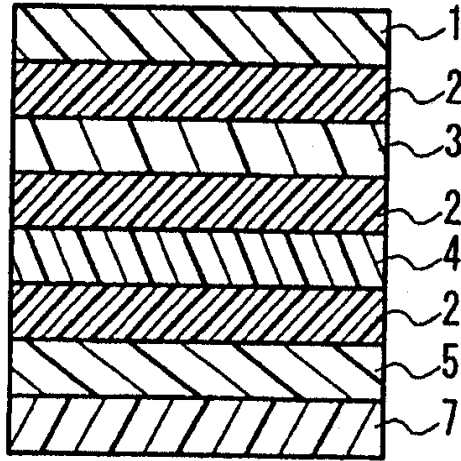
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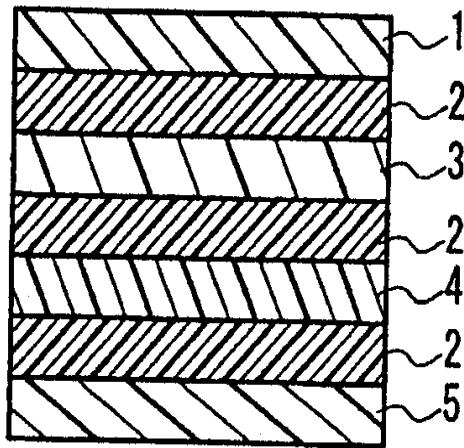
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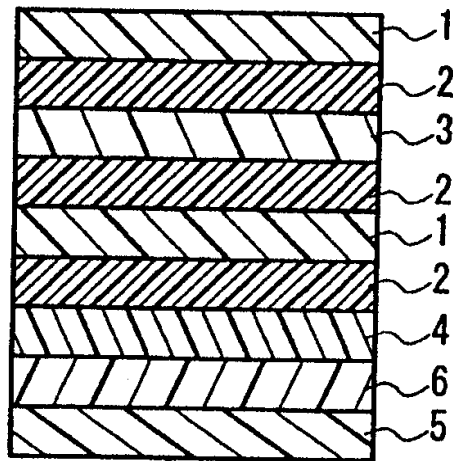
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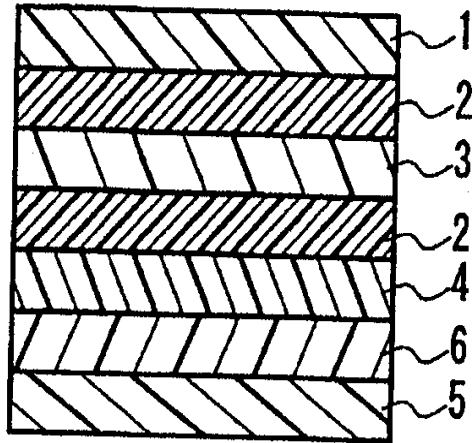
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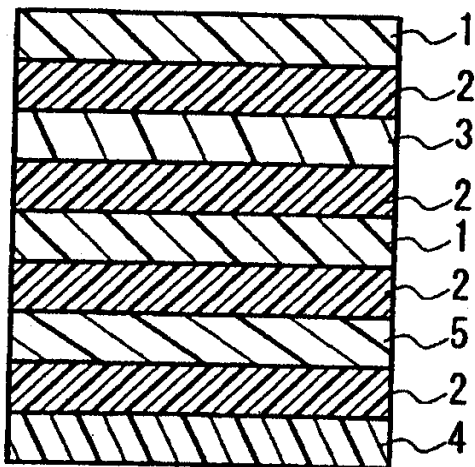
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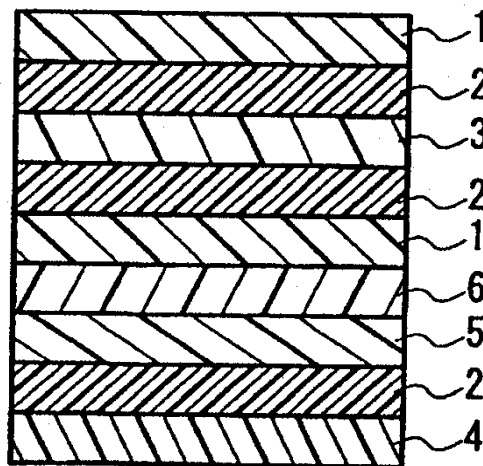
7



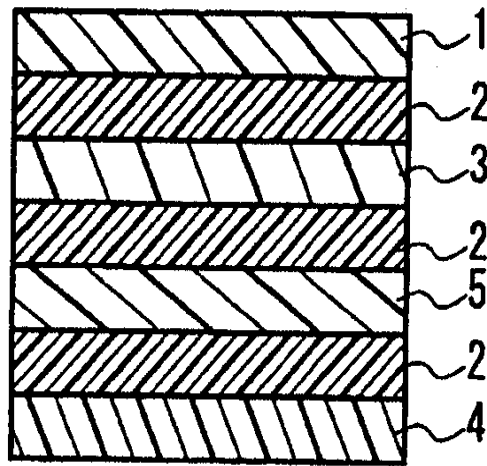
8



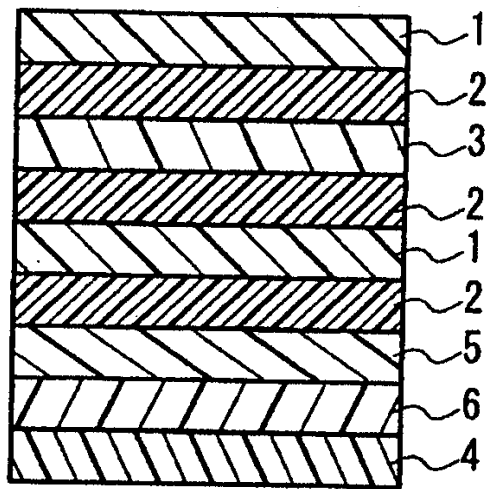
9



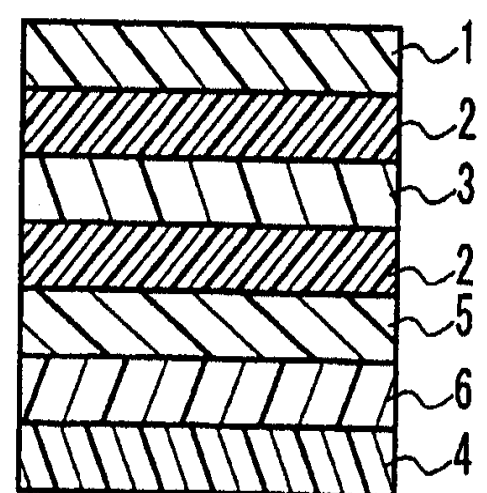
10



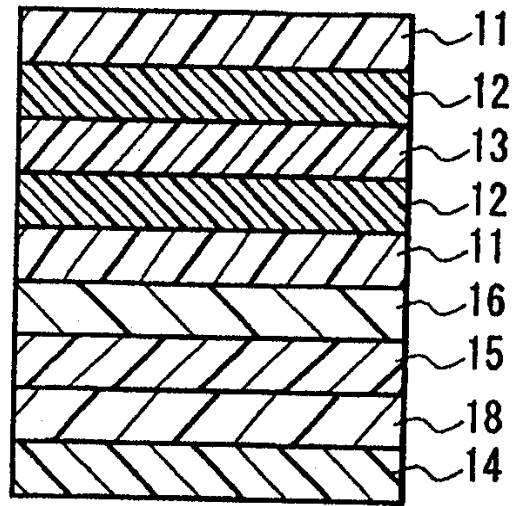
11



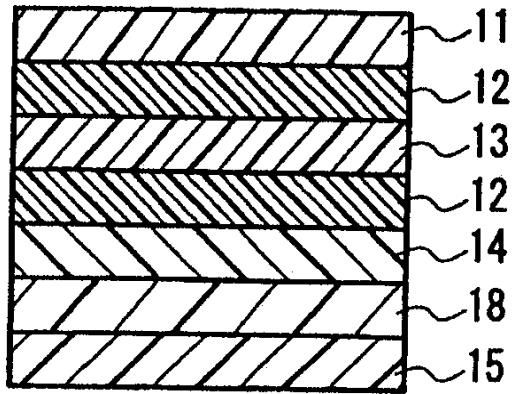
12



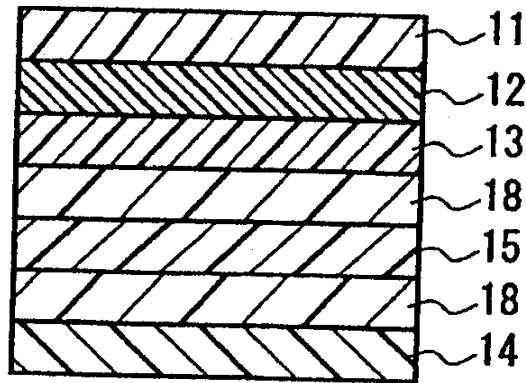
13



14



15



专利名称(译)	光学补偿功能偏振器和使用它的液晶显示装置		
公开(公告)号	KR1020040084897A	公开(公告)日	2004-10-06
申请号	KR1020047012269	申请日	2003-02-18
[标]申请(专利权)人(译)	日东电工株式会社		
申请(专利权)人(译)	日东电工(株)制		
[标]发明人	SASAKI SHINICHI 사사끼신이찌 YAMAOKA TAKASHI 야마오까다까시 MURAKAMI NAO 무라까미나오 YOSHIMI HIROYUKI 요시미히로유키		
发明人	사사끼신이찌 야마오까다까시 무라까미나오 요시미히로유키		
IPC分类号	G02F1/13363 G02B5/30 G02F1/1335		
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优先权	2002041686 2002-02-19 JP		
其他公开文献	KR100777960B1		
外部链接	Espacenet		

摘要(译)

一种光学补偿功能偏振片，包括偏振层和光学补偿层，其中光学补偿层包括光学补偿B层，该光学补偿B层包括光学补偿A层，该光学补偿A层包括拉伸聚合物膜和胆甾醇型液晶层，它提供。1 指数方面 光学补偿功能偏光板，拉伸聚合物薄膜，胆甾型液晶

