

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl. ⁷
C08F 24/00

(11)
(43)

2001 - 0093181
2001 10 27

(21) 10 - 2001 - 7007503

(22) 2001 06 15

2001 06 15

(86) PCT/US1999/28243

(87)

WO 2000/35960

(86) 1999 11 30

(87)

2000 06 22

(81) : , , , , , , , , , ,
EP : , , , , , , , , , ,
, , , , , , , , , , , , , ,

(30) 60/112,457 1998 12 16 (US)

(71)
.
(19898) 1007

(72) , ,
19803 1217
, ,
19810 2802

(74)
:

(54) - - - ,

. (II) (III)

- - - , , , , ,

Ls) (MB

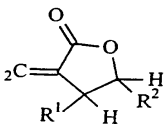
[Polymer, 20, 1979, pp.1215 - 1216] 9012646 (M.K. Akkapeddi) 가

813 () 5,412,039 , 5,502,113 5,587,431 가 (CTC) 5,310,807 , 5,362, 9525765

527 5,602,220 , 5,770,665 5,684,101 가 9613 5,726,263 08/818,860 , 09/193,701 08/912,593 가

< > (- - -) II

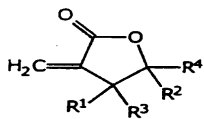
II



, R¹ R² H, -CH(O), -CN (I), -C(O)OR⁵, -C(O)N R⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -C(O)NR¹⁰COR¹¹, -OC(O)R¹², -OR¹³, ; R¹ R² 가 (II) ; R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹ R¹² H, ; R¹³ C₁ C₁₂ ;

4- , 2,3- , 3,4- , 4- , 4- , 4- ,
 , 4- , 4- , 4- , 4- , 4- ,
 , 2- , 2- , , , ,
 , 2- , , , , , , N,N'
 , 2- , -2- -1- , , , ,
 , [2- ()] , 2-
 , 2- (N,N'-) - , , ,
 , [2- ()] , 2- () ,
 2- () , [2- ()] - , ,
 , 4- , , , () , ()
 , 2- , , , , ,
 , , , , , ,
 , , , , , ,
 , N- tert - , N- n - , N- -
 , N- - () , ()
 () , 2- () , () ,
 () , 2- , 2- () , 2- 2-
 , 2- 2- () , 2- , 2-
) , 2- 2- () , 2- ()
 III - - - , 2- , ,

III



, R¹ R²

, R³ R⁴

(I) (II)

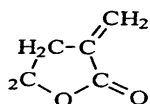
< >

5,587,431 ,

5,362,813 ,

5,324,879 , 5,028,677 4,526,945

(MW) [(T.P. Davis), (D.M. Haddleton), (S.N. Richards.), J.M.S. - Rev. Macromol. Chem. Phys. C34 (1994) 1 (95 %) 243]



가

NMR

7.1 7.4 ppm
NMR

가

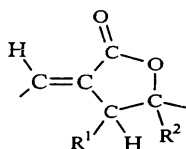
가

가

가

, T_g

200

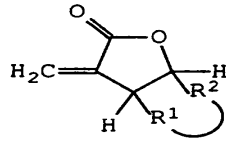


, R¹ R² H, -CH(O), -CN (I), -C(O)OR⁵, -C(O)N
R⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -C(O)NR¹⁰COR¹¹, -OC(O)R¹², -OR¹³,
(II) ; , R¹ R²가 (II) , R¹ R²

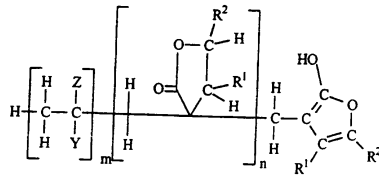
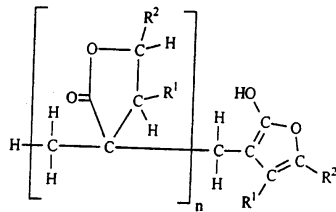
R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹ R¹² H, , ; R¹³ , ,

(C₁ C₁₂ ,)

R¹ R²가 H 가 , R¹ R²가 H 가 . R¹ R² R¹ R² :
 가 (II)



(consists essentially of)



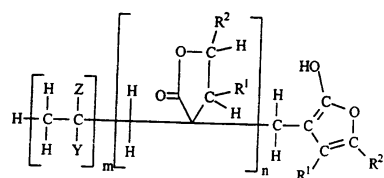
, m=0 200 , n=0 200 m+n> 1 ;

Y Z H, -CH(O), -CN, , -C(O)OR⁵, -C(O)NR⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -C(O)NR¹⁰ COR¹¹, -OC(O)R¹², -OR¹³, ; Y
 Z Y Z가 -C(O)OR⁵, -C(O)NR⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -C(O)NR¹⁰ COR¹¹, -OC(O)R¹², -OR¹³, ;

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹ R¹² H, , , ; R¹³ , , ;

(C₁ C₁₂ ,)

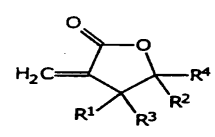
10 % :



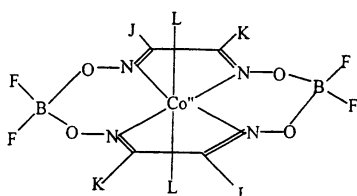
, m=0 200 , n=0 200 m+n> 1 , Y Z

3- , 3,4- , 4- , 4- , 4- , 4- , 4- , 4- , 2- , 2- , N,N'- , 2- , -2- -1- , [2- ()] , 2- , 2- (N,)] , [2- ()] , [2- ()]- , () , () , 2- , 2- , 2- , 2- , 2- , 2- , () , 2- , 2- , 2- , III

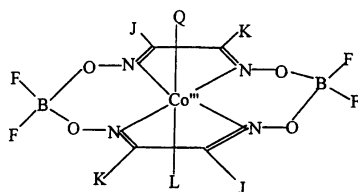
< III >



	, R ¹ R ²	, R ³ R ⁴	(I)	(II)
			(II)	(III)
6	18	4,680,352 , 87/03605 , (, ,)	4,694,054 , 5,362,826 ,	5,324,879 , 1987 5,264,530
	(Enikolopov, N.S.)	664,434 (1978);	(Golikov, I.)	
856,096 (1979);	(Belgovskii, I.M.)	871,378 (1979);		
1,306,085 (1986)		-	가	100 1(ppm)
	(II)	(III)		



- Co(II)(DPG - BF₂)₂, J=K=Ph, L=
- Co(II)(DMG - BF₂)₂, J=K=Me, L=
- Co(II)(EMG - BF₂)₂, J=Me, K=Et, L=
- Co(II)(DEG - BF₂)₂, J=K=Et, L=
- Co(II)(CHG - BF₂)₂, J=K= - (CH₂)₄ -, L=



- QCo(III)(DPG - BF₂)₂, J=K=Ph, R= , L=
- QCo(III)(DMG - BF₂)₂, J=K=Me, R= , L=
- QCo(III)(EMG - BF₂)₂, J=Me, K=Et, R= , L=
- QCo(III)(DEG - BF₂)₂, J=K=Et, R= , L=
- QCo(III)(CHG - BF₂)₂, J=K= - (CH₂)₄ -, R= , L=

QCo(III)(DMG - BF₂)₂, J=K=Me, R= , L=

L 가 . Q (,)
 , 1- 1-

COBF
 (2-) - N'N''N'''N''''(A)(B) (III) - [(1,2- R* -) (2-)O:O' -
 , A (, ,) , B
 (, , , ,) . R*가 , A가 B가

() (AIBN); 4,4' - (4- ; 2,2' - (2-) - ; 2,2' -
 (- 1-) ; 2 - (t-) - 2- ; 1,1' -

50 150 240
 (CSTR) 가 5
 1000 가 30 12

(CELLOSOLVES,) ; 2

(ladder)

(- - -) - - - [(J. March), " Advanced Organic Chemistry: Reactions, Mechanisms and Structure" , 4 , Wiley Interscience, New York, 1992 p.641] (compatibilizers),

가 (finishes) 가

[(D.F. Shriver) , " The Manipulation of Air Se nsitive Compounds" , 2 , Wiley Interscience, 1986]

¹H - NMR 300 MHz QE300 NMR (General Electric Co.; 94539))

K⁺ IDS [M]K⁺ 가 K₂ O (MAT (USA),) (Finnegan) 4615 GC/MS 1x10⁻⁶ torr . 200

MW DP (SEC) , 100 A, 500 A, 1 000 A 5000 A WISP 712 (Waters Corp.,)

(Aldrich Chemical Co.;)

(VAZO) - 67()2,2' - (2 -) (DuPont Co.;))

- 88()1,1' - (- 1 -) (;)

AIBN2,2' - ()

TAPCo - Co

HPCo - IX - Co

A

Co CTC

60 3.25 g/ AIBN 1,2 - - - 50 %
 2 (- - -) 가 NMR (6.07 5.7
 4 ppm)가 (SEC)
 M_n 101,000 M_n 210,000

1

Co CTC

- - 3.25 g/ AIBN 0.05 g/ TAPCo 1,2 - -
 50 % 60 8 . SEC 7.15, 7.38 7.4 ppm
 NMR M_n 3500

2

Co CTC

- - 3.25 g/ AIBN 0.01 g/ TAPCo 1,2 - -
 50 % , NMR
 60 7.3 7.7 ppm SE
 C DP_n 38 . NMR (> 7.1 ppm)
 -CH2O- (4.2 - 5.0 ppm) 1:14 DPn 가 ,
 가 Co CTC가

3

Co CTC

3 g/ () - 88 0.02 g/ COBF , 17 % - - -
 33 % 1,2 - 90 8
 . K⁺ IDS 70 % 7.1 7.4 ppm
 1 - - -

B

Co CTC

3 g/ () - 88 , 17 % - - - 33 %
 1,2 - 3 90 8 . Co
 가 (40,000)

4

Co CTC

4.5 g/ () - 67
37 %

0.02 g/ HPCo , 12 % -
1,2 - 70 8
NMR

, 7.1 7.5 ppm
K⁺ IDS / - -

C

Co CTC가

4.5 g/ () - 67 , 12 % - 4 - - 70 37 %
1,2 - 8
(40,000) . C

(57)

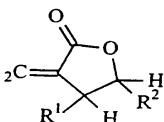
1.

II

240

(- - -)

< II >



, R¹ R² H, -CH(O), -CN (I), -C(O)OR⁵, -C(O)N
R⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -C(O)NR¹⁰ COR¹¹, -OC(O)R¹², -OR¹³,
(II) ; R¹ R²가 (II) , R¹ R²

R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹ R¹² H, , , ; R¹³ , ,

C₁ C₁₂ ,

2.

1 , R¹ R²가 H .

3.

1 , R¹ R²가 H .

4.

1 3 , 가 50 150 .

5.

1 , 가 (II) (III)

6.

1 , .

7.

1 , - .

8.

1 , .

9.

1 , 가 .

10.

9 , 가 ; 2,2' - (2 -) - ; 2,2' - ()
 (AIBN); 4,4' - (4 -) ; 2 - (t -) - 2 - , 1,1' - (-1
 -) .

11.

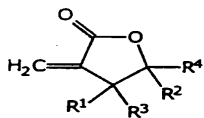
1 , , , ; , ;
 , ; ; , (CELLOSOLVES,) ,
 ; 2

12.

1 .

, N,N' - , 2- -2- -1- , , 2-
 , [2- ()] , 2-
 , 2- (N,N' -) - , , 2-
 , [2- ()] , 2- ()
 , 2- () , [2- ()] -
 , 4- , , ,
 () , 2- , () ,
 , , , ,
 - , , , ,
 , , , ,
 , N - tert - , N - n - , N - -
 , N - - () , ()
) , - - - () , () ,
 () , 2- , 2- , 2-
 () , 2- () , 2- 2-
 , 2- 2- () , 2- 2-
) , 2- 2- () , 2- ()
 III - - -

< III >

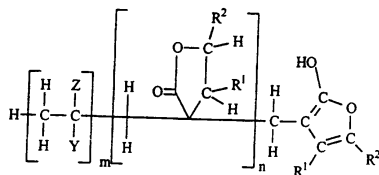


, R¹ R²

, R³ R⁴

R¹ R²

15.



, m=0 200 , n=0 200 m+n > 1 ;

R^1 R^2 H, -CH(O), -CN (I), -C(O)OR⁵, -C(O)NR⁶R⁷, -C
 R^8 (O), -C(O)OC(O)R⁹, -C(O)NR¹⁰COR¹¹, -OC(O)R¹², -OR¹³, , ,
 (II) ; , R^1 R^2 가 (II) , R^1 R^2 ; R^{13} , ,
 ; R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} R^{12} H, , , ; R^{13} , ,
 ; C_1 C_{12} , ;

Y Z H, -CH(O), -CN, , -C(O)OR⁵, -C(O)NR⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -
 $C(O)NR^{10}$ COR¹¹, -OC(O)R¹², -OR¹³, , , ; Y
 Z Y Z가 -C(O)OR⁵, -C(O)NR⁶R⁷, -CR⁸(O), -C(O)OC(O)R⁹, -C(O)NR¹⁰ COR¹¹, -OC(O)R¹²,
 -OR¹³, , , ;

R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} R^{12} H, , , ; R^{13} , ,
 ;
 C_1 C_{12} , .