

(19) (KR)
(12) (A)

(51) 。 Int. Cl.⁷ (11) 10-2004-0044347
C08F 8/06 (43) 2004 05 28

(21) 10-2003-0080996
(22) 2003 11 17

(30) 10/302,574 2002 11 20 (US)

(71) 19720 1000

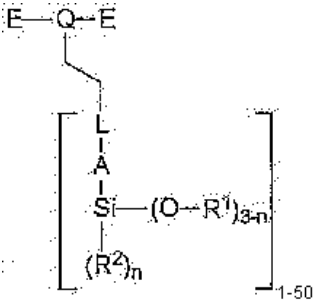
(72) 08844 24

(74)

:

(54) ,

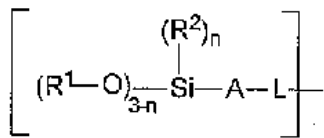
가



, E ; A ; L ; Q -

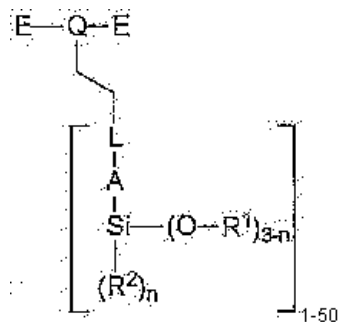
, , , ,

(segment),
/ (, ' ' ' ' ' ' / ')
가
.
.
- , 가
.
.
1 50 가
(co-reactive functionality)
N- , N- -2- , N,N'- -2- -1,4- , N-
, 2-(1-)
1,3- , , 가
, , , 가 ()
가 가
- 가
가
.
,
,
,
,
,
.
:
:



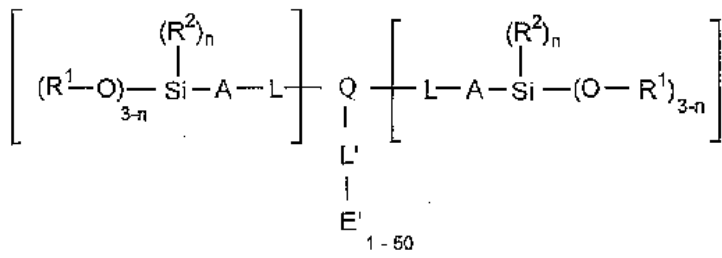
, n 0, 1, 2 ; R¹ ; R² 1 4 ;
A ; L
가 (linking group) 1 .

가
- , -
- , -
- , N- -()-
- , N-
- , 3-
- , 3-
- , 3-
(, 가)
가 .



, Q -
1 ; R² ; n ; A 0, 1, 2 ; R (hydroc
aryl group), ; L
; E

가 가
가 :
가



, Q, A, L, R¹, R²

; L' E' Q

; E'

; L' Q

E

L L'

가(hydrosilation)

0.005 20.0 %

가

99 %

가

가

가

가

1

(가

)가

),

(

0.5 % 30 %, 1 % 20 % 가

2,2'-

(2-

) 2,2'-

(2-

)

Ciba Specialty Chemicals

Irgacure

가

가

가

70

250

10

3

가

가

(fumed)

가

20 %

90

%

1

가

가

가

가 , 2 .
 , 가 , ,
 , () ()
 가 20% 1 , 가 ,
 가 .

1: ()(PBD)

1:1 Boutevin, G.,
 Ameduri, B., Boutevin, B., Joubert, J-P., *Journal of Applied Polymer Science*, 75 , 1655 - 1666, 2000

10 PBD 2- 가 가 85
 1.6 (AIBN) 가 , 4
 가 8 , 가 AIBN 가 2

2:

1 , 가 / 가 3
 () 가 , 60 가
 10 가 , 1 60 가 3 가 . ,
 ,

3: () - - SM-E

1:1
 Schapman, F., Couvercelle, J.P., Bunel, C., *Polymer* , 1998, Vol. 39, No. 20
 가 ()

20% 1 .
 10 ()
 가 85 , 1.6 AIBN 가 , 4 2 가
 8 , AIBN 가 .

4:

1 , 가 / 가 3
 , 60 가 . 가 1
 10 가 , 60
 가 3 가 .

5:

1 가 3 THF 10 가 ,
 1 THF 12
 가 MgSO₄

6:

1 , 50% NaOH, 1
 53 5 , 75 5
 3 MgSO₄

7:

E.W. Collington A.I. Meyers, *J. Org. Chem.* **36**, 3044(1971) . 1
 1.1 S-
 1 . 0 , 1.1
 . 0 1-1.5 ,
 가 - (1:1) , 가 가 . s-
 (NaSO₄), ,

8:

1 0 가 4 ,
 1 가 /

9:

가 1 Dean Stark 4 , 1
 . (110). 4 Dean Stark
 . 가 30 ,
 , 4
 , 30 ,
 , /

10: 가

1 (H₂ PtCl₆, Aldrich) 가 , (IV)
 가 80 가 1 80 가 , 1
 , 80 가 1 가

11:

T. Nishikubo, E. Takehara A. Kameyama, *Polymer Journal*, **25**, 421(1993)
 . 1 1 /
 가 3 . 80 2 가 .

12:

1 1
 80-85 가 6 가 . () (I) 가 ,

13: ()

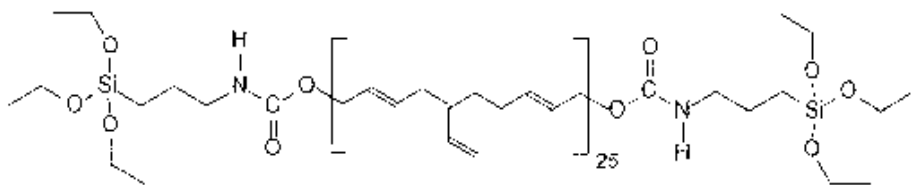
1 PBD 가 , 2 60 가 . 1 가 , 가
 2117 cm⁻¹ Si-H 가 2
 3 PBD , 60 8 가 , PBD

14:

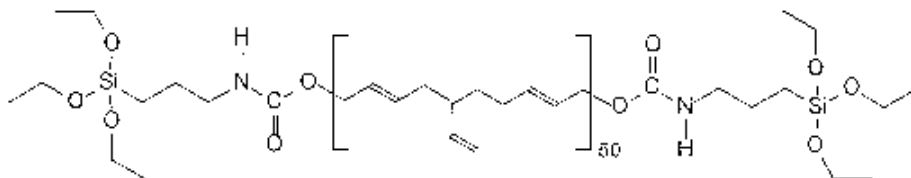
1 0 4 1

SM

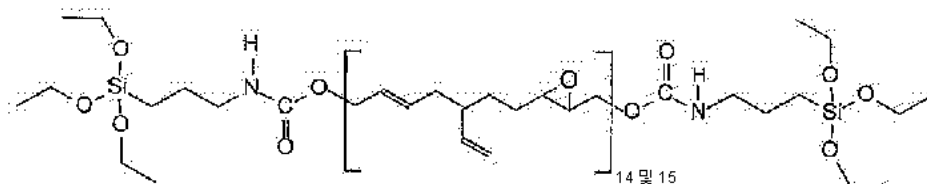
SM-A: 2 SM-G SM-V



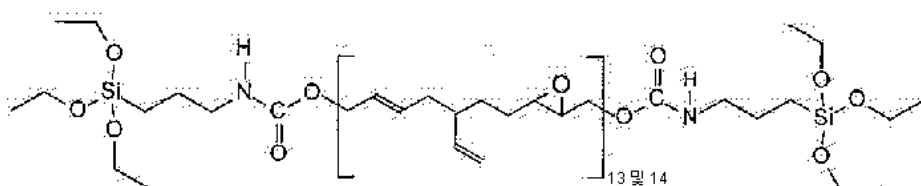
SM-B: 2 PBD SM-H SM-V



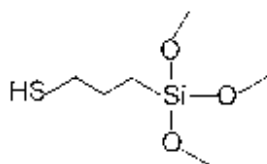
SM-C: 2 SM-I SM-V



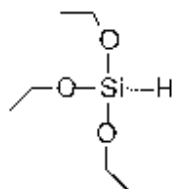
SM-D: 2 PBD SM-19 SM-V



SM-E: - , Witco Corp. Silquest A-189

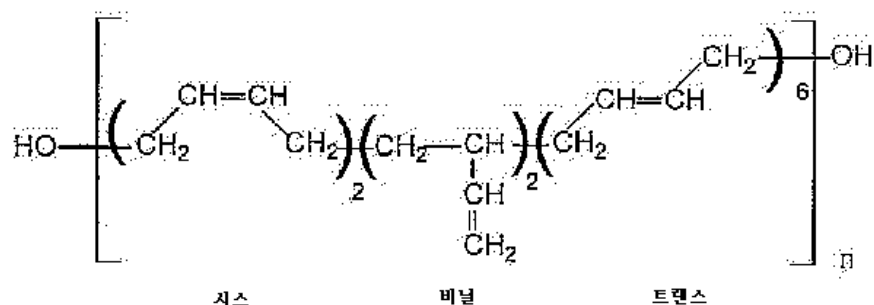


SM-F: , Wright Corporation .

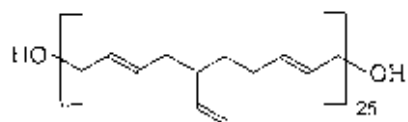


SM-G: PBD, Elf Atochem

PolyBD R-2OLM

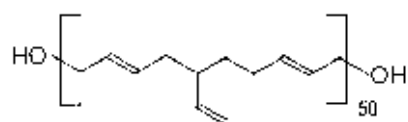


20% , 20% , 60% , n 25



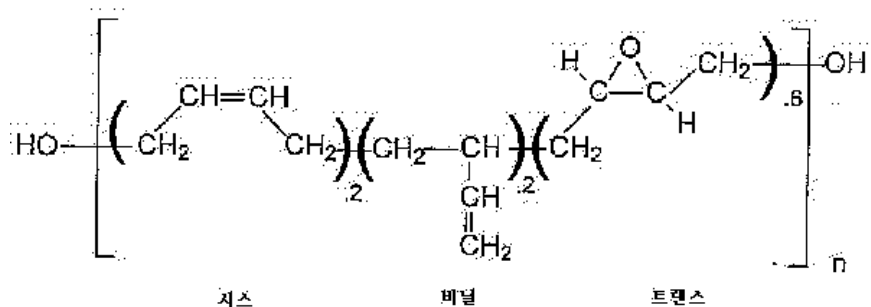
SM-H: PBD, Elf Atochem
n 50

PolyBD R-45 HTLO
SM-G

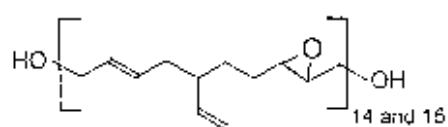


SM-I: PBD, Elf Atochem

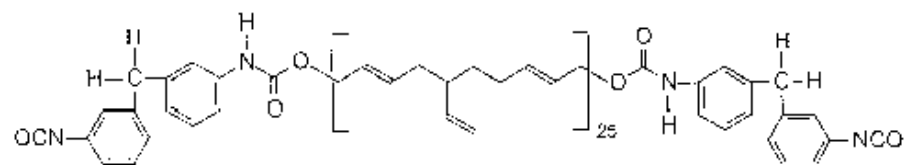
Poly bd 600



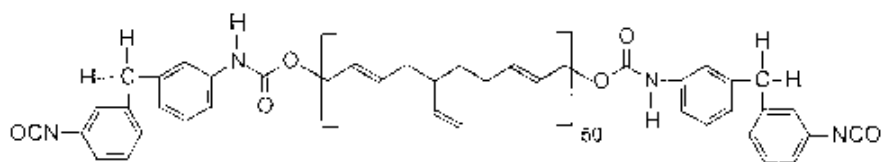
5, 20%, 20%, 60%, n 14, 1, n 15, 1).



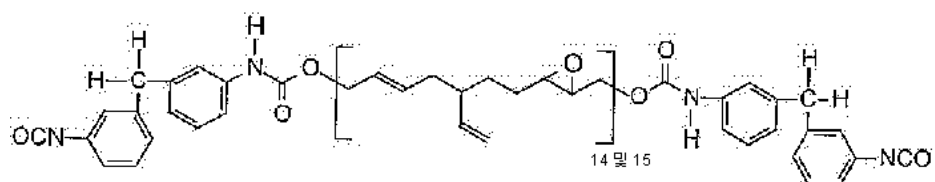
SM-J: 2, 4,4'-(MDI) SM-G



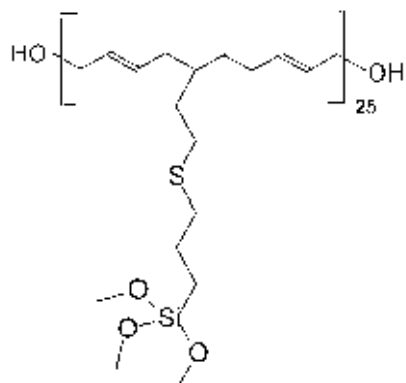
SM-K: 2 MDI SM-H



SM-L: 2 MDI SM-I

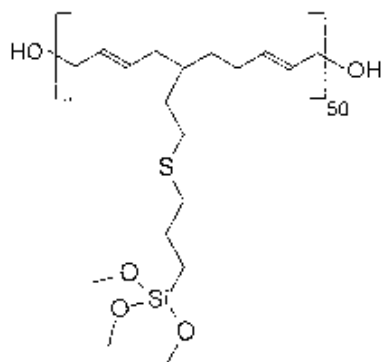


SM-M: 3 SM-E SM-G

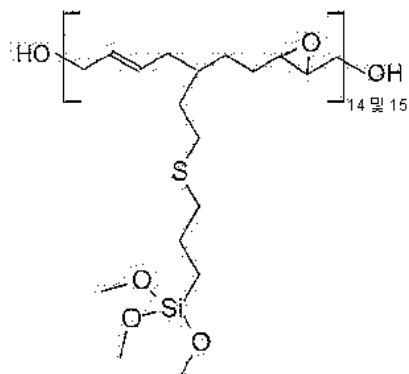


SM-N: 3 -

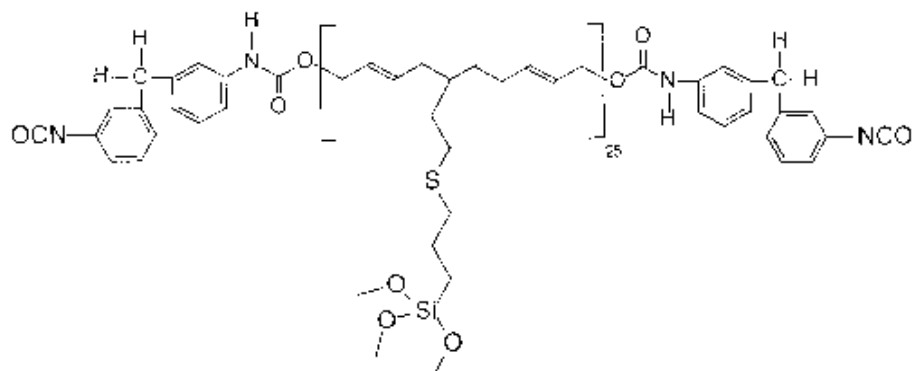
SM-E SM-H



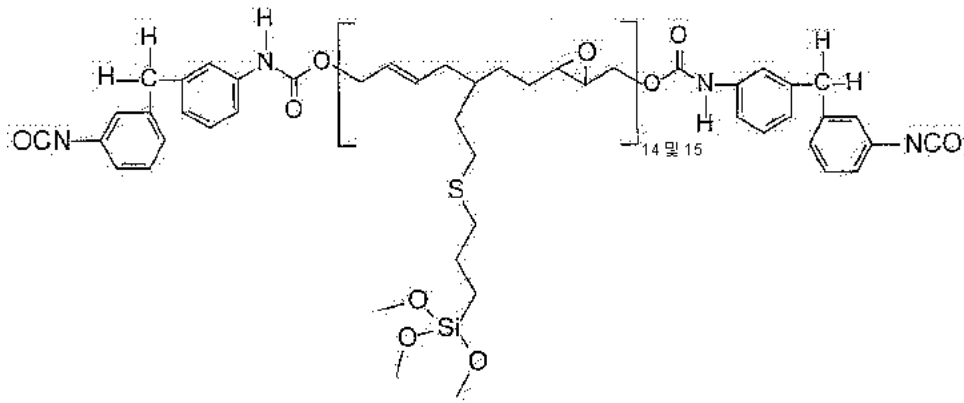
SM-O: 3 SM-E SM-I



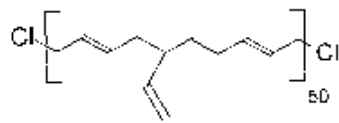
SM-P: 2 MDI SM-M



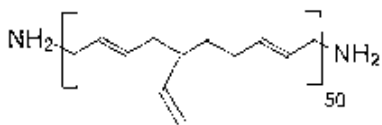
SM-Q: 2 MDI SM-O



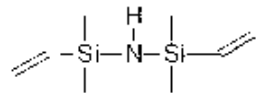
SM-R: 7 SM-H



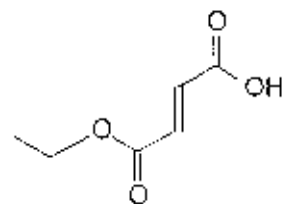
SM-S: 5 SM-R NH₃



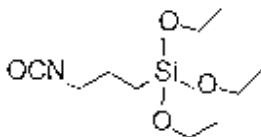
SM-T: 1,3- , Wright Corporation



SM-U:



SM-V: - , Witco Corp. Silquest A-1310

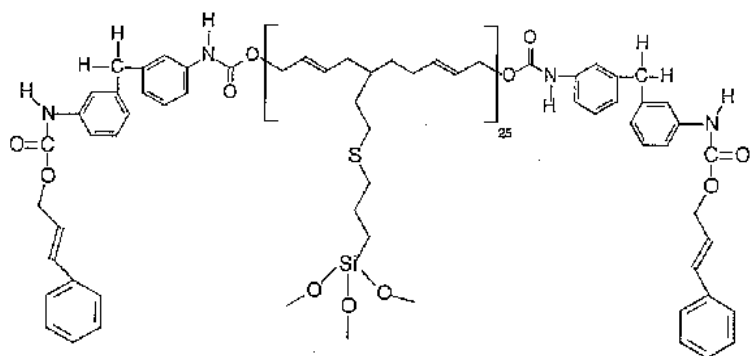


1-17

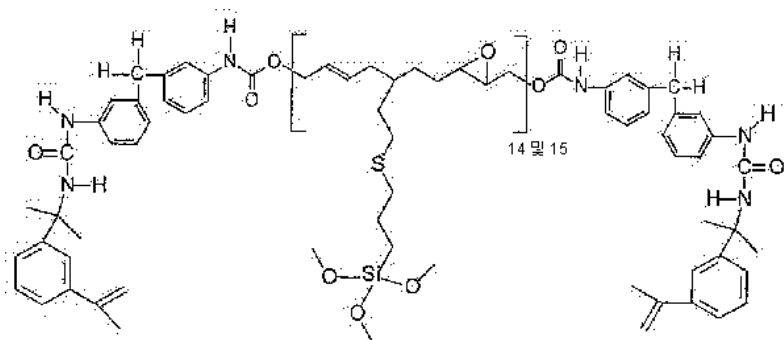
1 17

가 ,

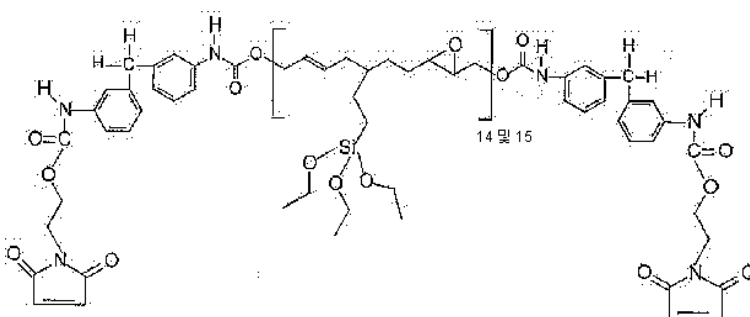
1: 2 SM-P



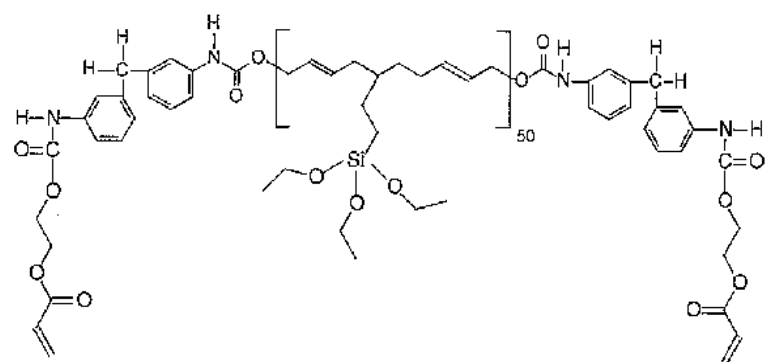
2: 4 SM-Q 3- - , -



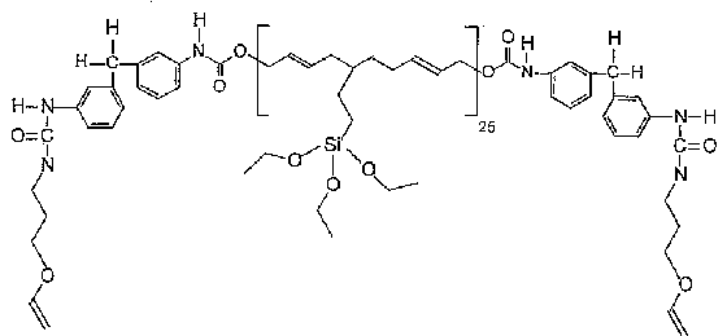
3: 10 SM-L SM-F , 2



4: 10 SM-K SM-F , 2



5: 10 SM-J SM-F , 2

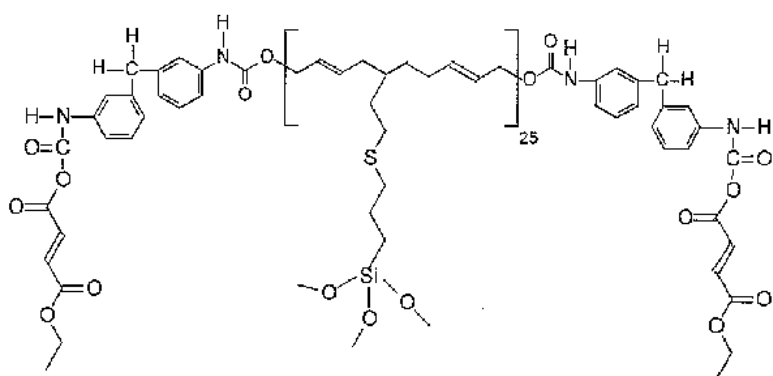


6:

11

SM-P

SM-U



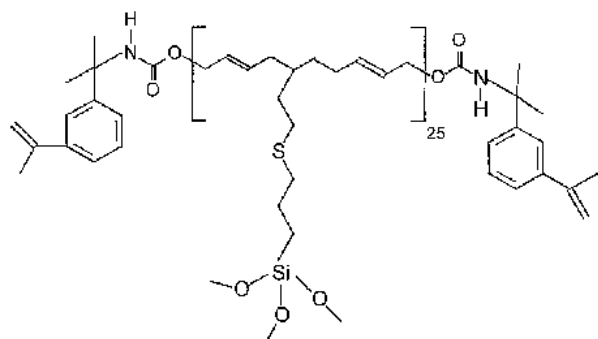
7:

2

SM-M

3-

-, -



8:

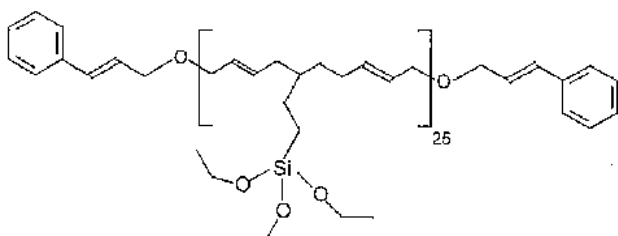
6

SM-G

,

10

SM-F

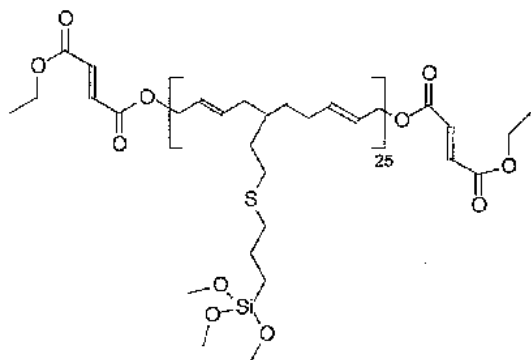


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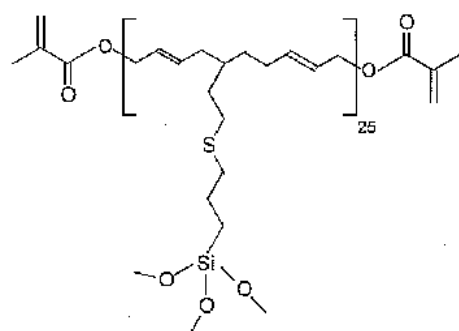
9

SM-M

SM-U

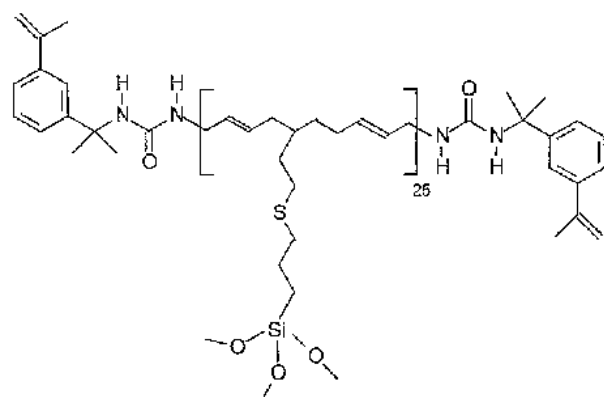


10: 8 SM-M 2-



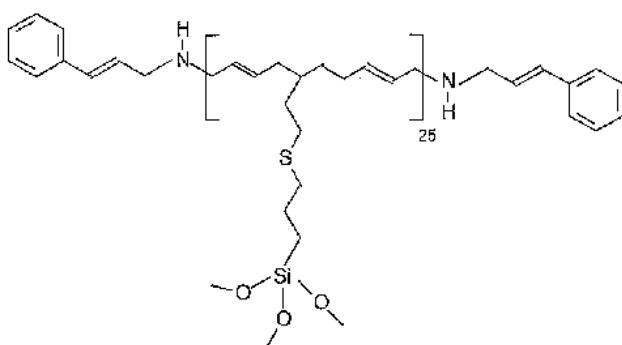
11: 3 SM-S SM-E

, 4 3- - , -



12: 5 SM-S

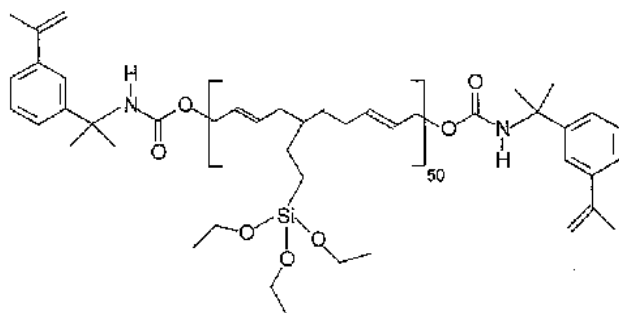
, 3 SM-E



13: 2 SM-H 3-

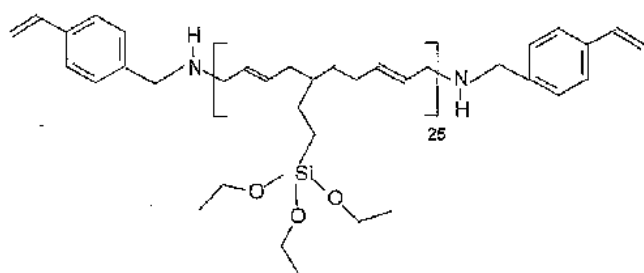
- , - ,

10 SM-F

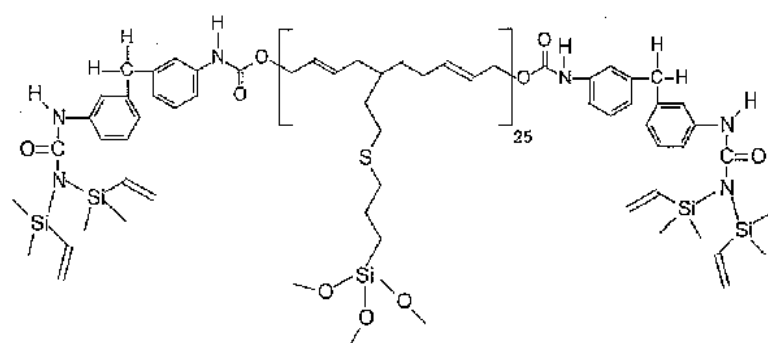


14: 4 SM-S 4-

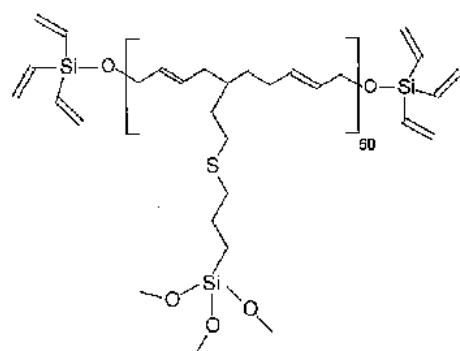
10 SM-F



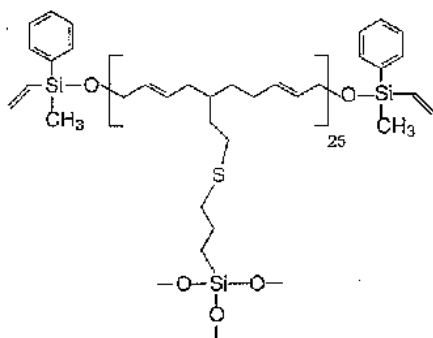
15: 4 SM-T SM-P



16: 14 SM-N



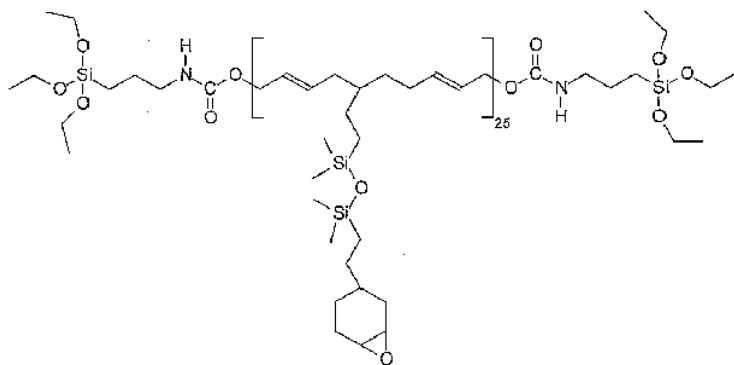
17: SM-M

**18-20**

18 20 ,

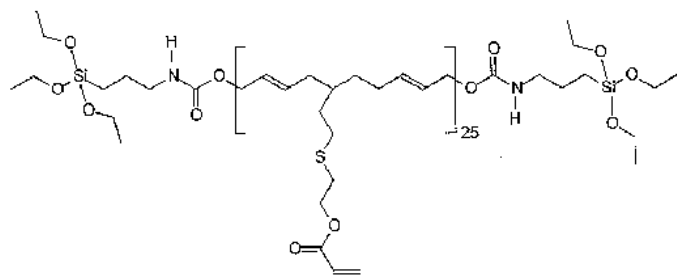
가

18: 3- -7- [4.1.0] (12) 1,1,3,3-
 1-[2-(3-[7- [4.1.0]])-1,1,3,3- (13
) , 10 SM-A 가 . SM-B, SM-C SM-D



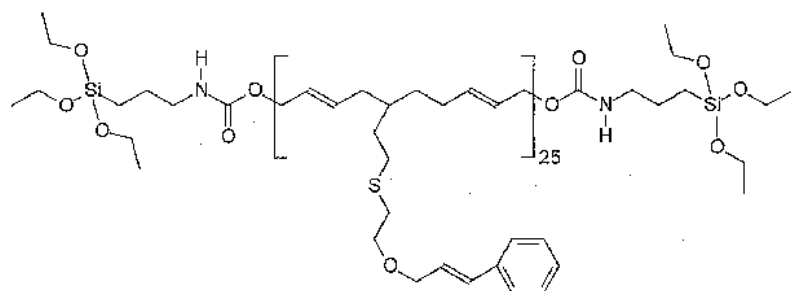
19: 1 SM-A

8



20: 1 SM-A

6

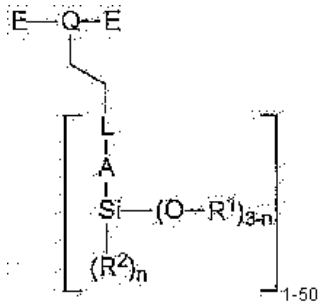


가

(57)

1.

가 :



,

(i) Q - ;

(ii) E ;

(iii) R¹ ;(iv) R² 1 4 , , ;

(v) A (hydrocarbyl group) ;

(vi) L ,
(linking group) ;

(vii) n 0, 1, 2 .

2.

1 ,

Q가 () .

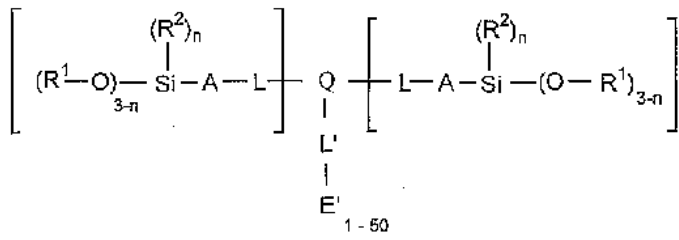
3.

1 ,

E가 , - 가 .

4.

가 :



(i) Q - ;

(ii) R¹ ;

(iii) R² 1 4 , , ;

(iv) A ;

(v) L , Q ;

(vi) n 0, 1, 2 ;

(vii) L' Q E' ;

(viii) E' .

5.

4 ,

Q가 () .

6.

1 4 ,

7.

1 4 ,