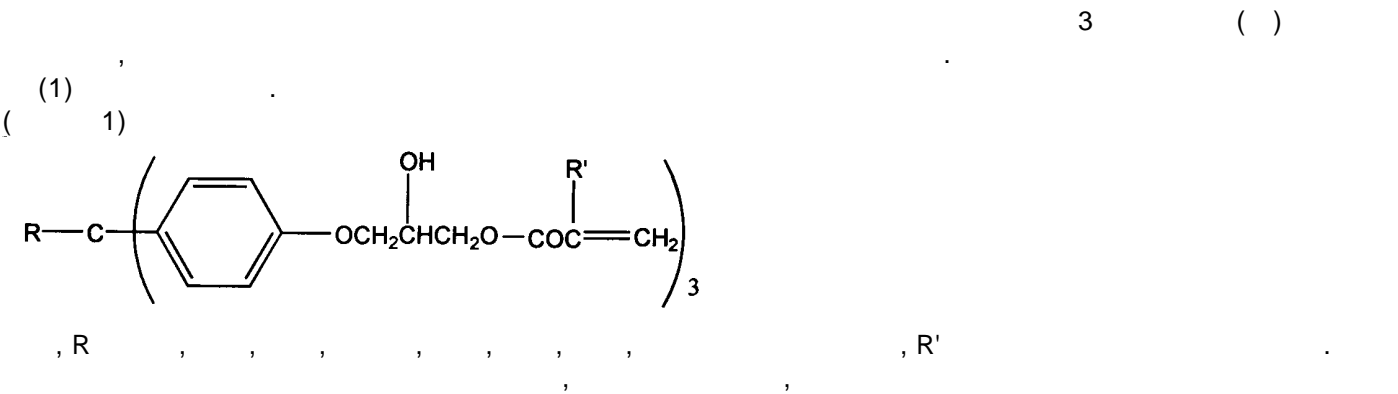


(19) (KR)
(12) (B1)

(51) 。 Int. Cl. ⁷ C07C 69/732		(45) (11) (24)	2003 11 03 10-0404233 2003 10 22
(21)	10-2001-0006946	(65)	2002-0066648
(22)	2001 02 13	(43)	2002 08 21

(73)	134		
(72)	2 847-1	103 704	
	152-1	110 1104	
	224		

(74)			
(54) 3	()		



), , 1900

가
2

, 2

,

가

, 2,2- [4-(2- -3-

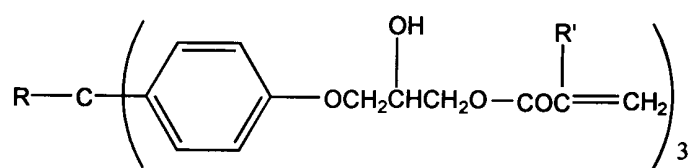
)] ('bis-GMA') 1,6- (2-
) ('UDMA') 가

bis-GMA UDMA
(Biomaterials 17 431).

가

가 3, bis-GMA UDMA가 2 (difunctional) ()
(Dent. Mater. 10 343 (1994) J.
Dent. Res. 71 434 (1992)).
3 ()

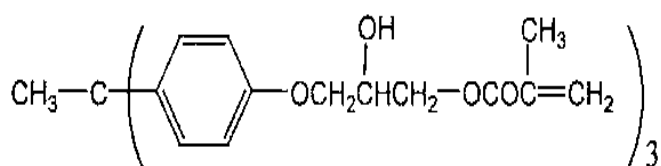
(1) 가 .


$$R = \begin{pmatrix} 1 & 0 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 \end{pmatrix} \quad (1)$$
$$R' = R - \frac{1}{2} \frac{R^2}{\rho} \quad (2)$$

3 가

3

(2)



THMPE

가 .

가 . ,

0.

02 20 가 . , , , ,

5 85 % 가 ,

가 가 .

가 ,

40

50% , bis-GMA UDMA

가

-GMA , bis

10% bis-GMA

2 bis-GMA

3

90MPa bis-GMA

bis-GMA

가

가

< 1>

1,1,1- [4-(2- -3-)] (THMPE)

1,1,1- [4-] (10.5g, 34.3), (47.55g, 514) 15

(8.22g, 206) 112 3

(16.44g, 412) 60 가 90 5

가 2

1,1,1,-

(TPETGE) foam (14.3g, 88%)

TPETGE . ¹H NMR (300MHz, CDCl₃) (ppm) 2.1 (s, 3H),

2.7 (m, 3H), 2.9 (m, 3H), 3.3 (m, 3H), 3.9 (m, 3H), 4.2 (m, 3H), 6.8 (m, 6H), 6.96 (m, 6H).

1,1,1,- (TPETGE) (10g, 21.1) ,

9.07g (105.4), (0.039g), (0.04g) 90 9

가 0.5M , 0.1M

가

[4-(2- -3-)] (THMPE) foam

(13.2g, 85%) . ¹H NMR (CDCl₃, 300MHz): (ppm) 1.96 (s, 9H), 2.1 (s, 3H), 4.01-4.40

(m, 15H), 5.62 (s, 3H), 6.15 (s, 3H), 6.78-7.00 (m, 12H).

< 2>

TEGDMA, CQ, DMAEMA 60 : 40 : 1 : 1 NaCl 420-500nm 가

1609 cm⁻¹ (1637 c

m⁻¹) 3

(C=C흡수띠면적 / 벤젠환 흡수띠면적)_{노광후}

전환율(%) = (1 - $\frac{\text{(C=C흡수띠면적 / 벤젠환 흡수띠면적)}_{\text{노광전}}}{\text{(C=C흡수띠면적 / 벤젠환 흡수띠면적)}_{\text{노광후}}}$) x 100

THMPE 40 , 40 47%

bis-GMA 48%

< 3>

(25ml) , TEGDMA, CQ, DMAEMA 60 : 40: 1 : 2 , 25 x 2 x 2 mm , 6
0 , (%) .
3

$$\text{중합 수축률 (\%)} = \frac{d_{\text{polymer}} - d_{\text{monomer}}}{d_{\text{polymer}}} \times 100$$

THMPE 가 5.63% , bis-GMA , 7.43% .

< 4>

3 , TEGMDA, , CQ, DMAEMA 15 : 10 : 75 : 0.25 : 0.5
25mm x 2mm x 2mm

가 420-500nm 가 60 (Instron) 0.75 ± 0.2
5mm/min cross-head speed 가 가 load .

flexural strength MPa
= $3F / 2bh^2$ F: 가 load

l: 0.01mm

b: width

h: thickness

, THMPE 가 98 (± 11) MPa

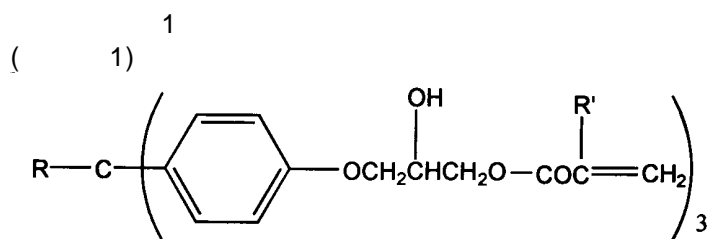
, bis-GMA가 103 (14) MPa .

3

()

(57)

1.

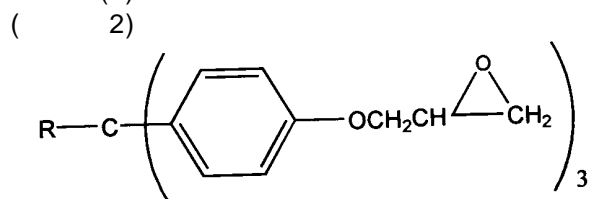


, R , , , , , , , R' .

2.

3.

(2)



, R , , , , , .

4.

1 1

5.

1 1