

(19)
(12)

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2002 - 0083664
2002 11 04

(21) 10 - 2001 - 0023159
(22) 2001 04 28

(71) 2 358 - 5 213
(72) 2 358 - 5 213
171664 - 14
105 1506
132 - 106
73 - 87
209 701
1 1169 - 2
12 803

(74)
:

(54)

()
(Matrix) 10 90 % 10 500 ()
290MPa 17GPa
90 10 % , ()
0 500 () , () (Matrix) 10 1

90 % 90 10 % , .

1

, , , ,

1 (L -) .

2 (L -) (1)

3 L - /

4

5 (4)

(implant) , , (nails), (anchors), , , (clamps), (hooks),

2

가

4,279,249 ()

()

4,743,257

4,843,112 가 (calcium phosphate ceramic) (bone cement) (

4,604,097

5,108,755 가 (ketene acetal)
 (ortho ester) , - (calcium - sodium meta
 phosphate)

5,468,544

5,338,772 (calcium phosphate)

5,092,884

5,578,046 (core) 가 (shell)
 가

6,171,338 (空洞) (tissue cavity)
 (helical)

가

가

" ") , 가 (

(Matrix) 10 90 % 10 500 () 90 10 %
 290MPa 17GPa

()

(Matrix) 10 90 500 () , ()
 % 90 10 %

10 500

가 : 가 %
 10 90% : 90 10%, 30 70% : 70 30% 가

가 (Aspect ratio) 10^4 10^8

(Copolymers of glycolide), (Polyglycolide),
 (Glycolide - lactide copolymers),
 (Glycolide - trimethylene carbonate copolymers), (Polylactides),
 - L - (Poly - L - lactide), - D - (Poly - D - lactide), - DL - (Poly - DL - lactide), L -
 /DL - , L - /D - ,
 (- valerolactone) /
 (- DL -) [Polydepsipeptides(glycine - DL - lactid
 e copolymer)], / 3,6 - - 1,4 - - 2,5
 (Asymmetrically 3,6 - substituted poly - 1,4 - dioxane - 2,5 - diones), - -
 (Poly - - hydroxybutyrate), - - / - (- hydroxyvalerate)
 (Poly - - valerolactone), - p - , - -

가

290MPa 80 120MPa 280MPa 10 17GPa 17GPa

10 500 가 10^4 10^8 ()

30 70% : 70 30% : () 10 90% : 90 10%,

1 (L -) 5% 10kV
 2 1 180 3
 L - / 12% 8kV
 4 N - N - (N - methyl morpholine N - oxide)
 5 4

25 가 3.2 (L -) [po
 ly(L - lactide)] (methylene chloride) 4.5%
 1mm 10kV 200
 (freez mill) 120 12
 / 가 6.5×10^5
 (Hexafluoroisopropanol) 25 가 2.3 (p -)
 Freeze Mill) 가 $300 \mu\text{m}$ (L -) [poly(L - lactide)]
 (p -) [poly(p - dioxanaone)] (/ = 30/70 :)
 , 2.5 110
 320MPa , 18GPa
 2

25 가 4.5 (L -) [po
 ly(L - lactide)] (methylene chloride) 3.6%
 0.8mm 8kV 160
 (freez mill) 120 12
 / 가 7.5×10^5
 (Hexafluoroisopropanol) 25 가 2.3 (p -)
 (Freeze Mill) 가 $300 \mu\text{m}$ (L -) [poly(L - lactide)]
 (p -) [poly(p - dioxanaone)] (/ = 30/70 :)
 , 2.5 110
 340MPa , 19.5GPa
 3

25 가 3.8 D,L - /
 [poly(D,L - lactide - co - glycolide), : 50/50] (methylene chloride)
 1.2% 1mm 10kV
 80 (f
 reez mill) 24 /
 가 8.0×10^5 가 0.7 D,L - /
 glycolide), : 50/50] (Freeze Mill) 가 $350 \mu\text{m}$ [poly(D,L - lactide - co -
) [poly(L - lactide)] (/ = 25/75 :) (L -)
 , 2.5 50
 300MPa , 18GPa
 4

25 가 3.2 (DL -) [p
 oly(DL - lactide)] (methylene chloride) 5%
 0.mm 10kV 180
 (freez mill) 120 12
 / 가 7.0×10^5
 (Hexafluoroisopropanol) 25 가 2.3 (p -)
 (Freeze Mill) 가 $200 \mu\text{m}$ (DL -) [poly(DL - lactide)]
 (p -) [poly(p - dioxanaone)] (/ = 35/65 :)
) , 2.5 110
 325MPa , 19.7GPa

5

ly(L - lactide)]
 1mm
 (methylene chloride)
 10kV
 4.5%
 가 3.2 (L -) [po
 190
 (freez mill)
 120 12
 / 가 6.5×10^{-5}
 (Hexafluoroisopropanol) 25 가 2.5 (p -) (
 Freeze Mill) 가 $200 \mu\text{m}$ (L -) [poly(L - lactide)] (
 P - / [poly(p - dioxanone/glycolide), =80/20)] (/ =
 40/60 :) , 2.5 108
 325MPa , 18GPa .

(57)

1.

(Matrix) 10 90 % 10 500 ()
 90 10 % , 290MPa 17GPa

2.

1 , %가 30 70%

3.

1 , 가 10^4 10^8

4.

1 , 가 (Polyglycolide),
 (Copolymers of glycolide), - (Glycolide - lactide copolymers),
 - (Glycolide - trimethylene carbonate copolymers), (Polylact
 ides), - L - (Poly - L - lactide), - D - (Poly - D - lactide), - DL - (Poly - DL - lact
 ide), L - /DL - , L - /D - , -
 / - , - (- valerolactone) ,
 (- DL -) [Polydepsipeptides(glycine - D
 L - lactide copolymer)], / , 3,6 - - 1,4 -
 - 2,5 - (Asymmetrically 3,6 - substituted poly - 1,4 - dioxane - 2,5 - diones), - -
 (Poly - - hydroxybutyrate), - - / - (- hydroxyva
 lerate) , - - (Poly - - hydroxypropionate), - p - , -

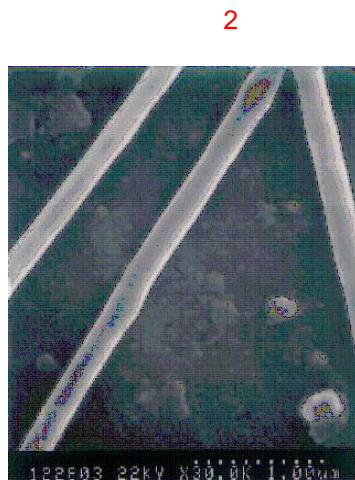
- (Poly - - valerolactone), - - ,

5.

() , 10 500
90 10 % () , () (Matrix) 10 90 %

6.

5 , : %가 30 70% : 70 30%



3



4



5

