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(81) : , , , , , , , , , , , ,
EP : , , , , , , , , , , , ,
(30) 19837067.9 1998 08 17 (DE)

(30) 19837067.9 1998 08 17 (DE)

(71)

- 51368

(72) , - 40789 52
, - 42113 112

(74)

(54) 1 - - 5 -

2,4 - () () , 가
() , 90% 1 - - 3 - 1 - - 5 - , III

1 - - - 5 - , , , ,

2,4 - 1 - - , 1,3 - - 5 -
, 2,4 -

2,4 - 1 - - 5 -

, , , , 2,4 -
 - - - 3 - 2,5 -
 1:1 [Austr. J. Chem. 36, 135 - 147 (1983)]. 35:65
 [Chem. Ber. 59, 1282 (1926)],
 . , O -
 (15:85).

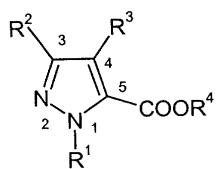
EP - A 029 363

N - - , N -
 가 1,5 - 가 1,3 - , ,
 , , (, ,)

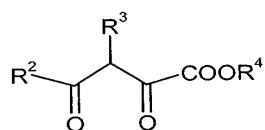
EP - A 854 142 , 1 - - 5 - 2,4 -

, 1,3 - 가 , 1 - - 5 -

, II 2,4 - () , III
 () , () , 90%
 III | 1 - - 5



11



111



$$\mathbb{R}^1 \quad \mathbb{R}^4 \quad C_1 - C_6 - \dots, C_3 - C_7 - \\ C_7 - C_{12} - \dots; \quad$$

$$\begin{matrix} R^2 & R^3 \\ C_3 - C_7 - & & & & C_1 - C_6 - \\ & & , & & , \\ & & C_7 - C_{12} - & & \end{matrix}$$

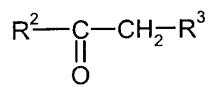
$$C_7 - C_{12} - \dots - (\dots) C_6 - C_{10} - \dots - (\dots) (\dots) \dots - C_1 - C_4 - \dots - (\dots) \dots .$$

1

IV

V

IV



V



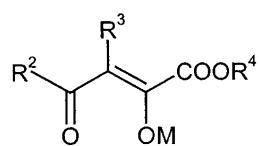
\mathbb{R}^2 , \mathbb{R}^3 , \mathbb{R}^4

1

[Organicum, 16, 1976, p.472].

IV V

III , 90% III
II , 95 100%
x%↑

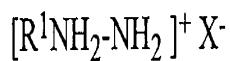


$\mathbb{R}^2, \mathbb{R}^3 \quad \mathbb{R}^4$

M

vii

vii



R¹

X-

二

Ⅴ , Ⅵ , Ⅲ Ⅳ
Ⅶ Ⅰ Ⅵ Ⅱ
Ⅲ , Ⅵ , Ⅰ

, VII	II	VI	, III	가	가
,				.	.
,				.	.
()	,			가	
.	1	+	100	2000 Mℓ	
1000 Mℓ	,	250	500 Mℓ	.	
15	40	%	.	+	
10	60	%			

III VII
0.1 200 % 1 III
5 20 % .

vi

IV

90 %

IV

V

1 10 %

IV

viii

VIII

 $M(OR^6)_n$

M VI ,

R⁶ C₁ - C₄ - ,

n M 가 .

0.9	1.1	V	0.9	1.1	IV	0.9	0.99
가 .						VIII	

III	R ⁵ COOH	VII
, 2가		1 200 %

,	R ⁵ COOH	VI
가 .		
50 가 .	- 20 + 100	. 0 80 가 . , 0
8 (= " " , 2 5	+ .	0.5 12 . 1

2,4 -	2,4 -	2,4 -	2,4 -	2,4 -
, , 2,4 -	, , 2,4 -	, , 2,4 -	, , 2,4 -	, , 2,4 -
, , , n - , i -	, , , n - , i -	, , , n - , i -	, , , n - , i -	, , , n - , i -
),),),),),
n - , i - , s -	n - , i - , s -	n - , i - , s -	n - , i - , s -	n - , i - , s -
t -	t -	t -	t -	t -

III	- , - , n -	- , i -	- , n -	- , t -	- , - , n -
-----	-------------	---------	---------	---------	-------------

,	2,4 -
---	-------

, 2,4 -	2 -	([Organicum, 19 , p.4
, , ,			
90 (1993)] .	50	, 1	
(1.1:1) 가 .			

가 (), 2가
가 (), 2가

- 3 - ") - 5 - 8 , 10 (= "1 -

1 - - - 5 - . , |
(), 가 |
가 |

| 1 - - - 5 - ()
(463 756 , 526 004 , WO 94/28902
19 27 429) ,
89 - 114 466) .

1

10.4 g 50 Mℓ , 50 Mℓ 2,4-
42.9 g , 5 10 (가 : 10).
가 30 5 10 ,
1 - - 3 - n - - - 5 - 125 128 (13 mm) .
78.3% . 가 (166 168 /13 mm), (= " 1 - - 5 - n - .
- 3 -) 7.9% . ,
10:1 .

2 2()

1				2,4 -		42.9 g		50 Mℓ
10.4 g	5	10			1	가	.	1
			,	40.5%	1 -	- 3 - n -	-	- 5 -
51%	1 -	- 5 - n -	-	- 3 -		.	,	
	5:4	.						

3 3

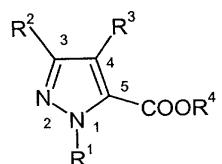
1462 g 1 4
 20 % , - 2 - 776 g 가 . 25 40
 50 , 1 , 3400 g 1 50
 50 , 1 , 600 g (10) 5
 30 1 가 , 10 50
 2,4 - 2 가 ,
 8 15 45 55 가 가 , 가
 60 g 가 , 가 88
 2000 Mℓ, 5000 Mℓ, (Mersolat(H30) 500 g 20 g
 200 Mℓ . , 5 % 2000 g 20
 00 Mℓ 60 mbar 가 70
 74.7 % 1 - - 3 - n - - 5 - 5.8 % 1 - - 5 - n -
 - 3 - 1748 g 13:1
 1 11 mbar 121 (GC) 가 99.9% 1152
 g 65%

(57)

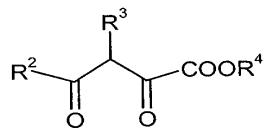
1.

II 2,4 - () () III ()
 , , 90% | 1 - - - 5 -

< | >



< II >



< III >



R¹ R⁴ C₁ - C₆ - , C₃
 - C₇ - C₁₂ - ;

R² R³ C₁ - C₆ - , C₃ - C₇ -
 C₇ - C₁₂ -

2.

1 ,

R¹ C₁ - C₄ - ,

R² R³ C₁ - C₄ - ,
 C₃ - C₆ - ,

R⁴ C₁ - C₄ - .

3.

1 2 , 95 100% III

4.

1 2 , III , , II
 가 .

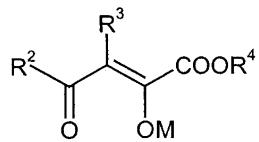
5.

1 3 , , ,
 가 .

6.

1 5 , II VI

< VI >



R², R³ R⁴ 1 I ,

M

7.

16

VII

< VII >



— 1 —

$$\mathbb{P}^1 \quad \quad 1 \quad \quad \quad \mid$$

x-

8.

1 7

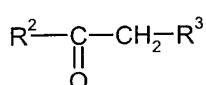
IV

V

1

VII

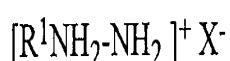
IV>



< V >



VII



$\mathbb{R}^1 \quad \mathbb{R}^2 \quad \mathbb{R}^3 \quad \mathbb{R}^4$

1

1

X

9.

1 8 , III , ,
 0.1 200 % III

10.

1 9 , - 20 +100 0.5 12 (= "
" +) .