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(73) 가 가 가
 가가 가 147 - 1

(72) 가가 가 498
 가가 1472
 가가 290 - 2
 가가 2704
 가가 가 290 - 2
 가 가 676 - 4
 가가 가 가 7 164

(74)

(54) 4 - - 5 - ()

4 - - 5 - () , 4 - - 5 - () ,
 4,5 - () N - ,

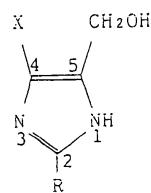
4 - - 5 - ()

4 - - 5 - () 4 - - 5 -

4 - - 5 - () 5 - () N -
 4
 64428/1988 , 2 n - , n - , t - ,
 , m - , p - , p -
) 23868/1988 2 n - ,
 4 - - 5 - () .

5 - ()
 , 5 - , , ,
 , , , ,
 5 - () 4 - - 5 - () , , ,

4,5 - ()
) 4 - - 5 - ()
 4 - - 5 - () , 4,5 - () , ,
 ,

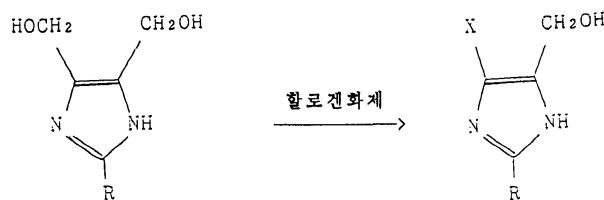


, R , , ,

X

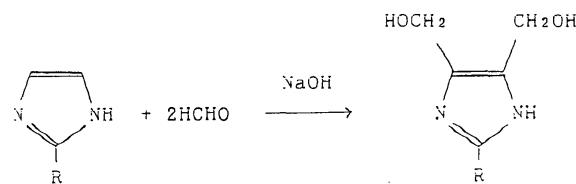
, 4 - - 5 - (0 100) 4,5 - (20 50),
가 1 24 , 2 5 . ,

, R X



4 - - 5 - () , 4 - - 5 - ()
)
가
가

, , 가 가
4,5 - () 2
,
,
4,5 - ()
2

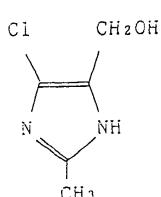


R

4,5 - ()
) , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - -
 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - -
 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - -
 , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - - 4,
 5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - - 4,5 - () , 2 - -
) , 2 - (1 -) - 4,5 - ()

Detailed description: This is a scatter plot with 'N -' on the vertical axis and the ratio $A_2 / (\rho^2)$ on the horizontal axis. The x-axis has major ticks at 0.5, 1.0, and 1.5. The y-axis has major ticks at 0.8, 1.0, and 1.2. There are approximately 15 data points represented by small circles. Most points are clustered between x=0.6 and x=1.0, with y-values between 0.85 and 1.15. As the x-value increases towards 1.5, the y-value also tends to increase.

$A_2 / (\rho^2)$	$N -$
0.60	0.85
0.65	0.88
0.70	0.90
0.75	0.92
0.80	0.94
0.85	0.96
0.90	0.98
0.95	1.00
1.00	1.02
1.05	1.04
1.10	1.06
1.15	1.08
1.20	1.10
1.25	1.12
1.30	1.14
1.35	1.16
1.40	1.18
1.45	1.20



, m.p. : 166 167

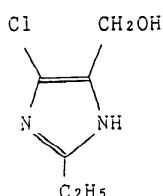
TLC(-): Rf 0.42

IR(KBr): v3100, 1600, 1527, 1414, 1366, 1244, 1230, 1217, 1110, 1038, 1023, 1008, 784 cm⁻¹

NMR(d₄ -): 4.47(s, 2H), 2.29(s, 3H)

MS : m/e 146(M⁺)

2 - - 4 - - 5 - ()



, m.p., 134 136

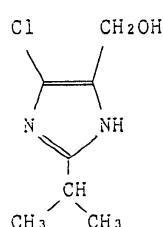
TLC(-): Rf 0.69

IR(KBr): v3080, 1600, 1516, 1450, 1430, 1392, 1355, 1323, 1272, 1240, 1220, 1110, 1067, 1010, 960, 850, 774, 710, 680 cm⁻¹

NMR(d₄ -): 4.49(s, 2H), 2.65(q, 2H, J=8Hz), 1.25(t, 3H, J=8Hz)

MS: m/e 160(M⁺)

2 - - 4 - - 5 - ()



, m.P.: 170 176

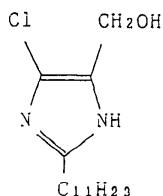
TLC(-). Rf 0.72

IR(KBr): v2980, 1600, 1514, 1450, 1395, 1366, 1327, 1305, 1265, 1244, 1220, 1160, 1105, 1094, 1010, 840, 767, 725 cm⁻¹

NMR(d₄ -): 4.48(s,2H), 2.95(m,1H), 1.27(d,6H,J=7Hz)

MS: m/e 174(M⁺)

2 - - 4 - - 5 - ()



, m.p.: 103 114

TLC(): Rf 0.56

IR(KBr): ν3140, 3090, 2920, 2860, 1600, 1520, 1470, 1455, 1425, 1234, 1110, 998, 850, 796, 712 cm⁻¹

NMR(d₄ -): 4.47(s, 2H), 2.61(t, 2H, J=8Hz), 1.59(m, 2H), 1.28(br. s. 16H), 0.89(t, 3H, J=6Hz)

MS: m/e 286(M⁺)

1

N - (10.4 mmol),	1.45 g(10.9 mmol),	2 - 2 - ()	1.91g
100 ml	1.4 - 40 ml	가	18
,	,	1.00 g(51%)	,
2 - - 4 - - 5 - ()			
가			

2 - - 4 - - 5 - () TLC

, 141 147

TLC (): Rf 0.73

IR (KBr): ν2975, 1598, 1524, 1456, 1392, 1355, 1304, 1284, 1269, 1240, 1222, 1106, 1023, 860, 800, 726, 715 cm⁻¹

NMR (d₄ -): 4.48(s, 2H), 2.62(t, 2H, J=7Hz), 1.82 1.16(m, 4H), 0.94(t, 3H, J=6Hz)

MS: m/e 188(M⁺)

2

N - 3.86 g(28.9 mmol) , 2 - - 4,5 - () 3.87 g
 (27.2 mmol) 50 ml 40 가 . ,
 20 , ,
 ,
 ,
 ,
 g(60.2%) (-) 2 - - 4 - - 5 - () 2.4
 TLC 2 - - 4 - - 5 - ()

3

N - 1.76 g(13.2 mmol) , - 4,5 - () 2.06 g(1
 3.2 mmol), 100 ml 1,4 - 40 ml 11 가 . ,
 3 , 50 30 ,
 ,
 ,
 - 4 - - 5 - () 0.82 g(39.0%) 3 TLC 2 -
 - 4 - - 5 - () 2 -

4

N - 2.81 g(21 mmol) , 40 45 2 - - 4,5 - ()
 () 3.47 g(20.4 mmol) 220 ml 25 가 .
 2 ,
 ,
 2 - - 4 - - 5 - () 1.69 g(4
 7.4%) LC 2 - - 4 - - 5 - () T

5

N - 1.10 g(8.3 mmol) , 40 45 2 - - 4,5 - ()
 2.15 g(7.6 mmol) 200 ml 23 가 .
 2 ,
 ,
 2 - - 4 - - 5 - () 1.16 g(
 53.1%) TLC 2 - - 4 - - 5 - ()

6

1.53 g(6.6 mmol), 2 - - 4,5 - () 2.0
 3 g(13 mmol), 100 ml 1,4 - 40 ml 10 가
 . . ,
 ,
 4 - - 5 - () (-) 0.78 g(37.4%) TLC 2 -
 3 .

7

g(16.2 mmol) 9.7% 11.5 g(15 mmol), 2- 4,5- () 2.53
 50 ml 가 . 가 , 1
 ,
 ,
 .
 2- 4,5- ()
 1.48 g ,
 - 4- - 5- () 0.46 g(, 43.0%)
 -
 .
 TLC , 3

8

9

) 3.68 g(20 mmol), 40 ml 15 ml 2 - - 4,5 - (가
 40 60 2 .
 2 - - 4 - - 5 - () 1.60 g(, 42.5%) 2

10

2.56 g(10 mmol) , 40 45 2 - - 4,5 -

() 3.68 g(20 mmol), 40 ml 15 ml 가
 . 50 60 3 . . 2
 2 - - 4 - - 5 - () 1.90 g(, 50%) . . 2

11

N - 3.56 g(20 mmol) , 45 50 2 - - 4,5 - ()
 3.68 g(20 mmol), 40 ml 15 ml 가
 . 30 , 2 - - 4 - - 5 - () 2.36 g(, 51%)

12

N - 3.56 g(20 mmol) , 45 50 2 - - 4,5 - ()
 4.36 g(20 mmol), 80ml 30 ml 가
 . 24 , 2 - - 4 - - 5 - () 2.1 g(, 39%)

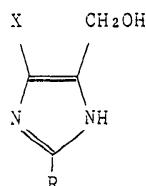
13

N - 2.34 g(17.5 mmol) , 50 2 - - 4,5 - ()
 3.26 g(16 mmol), 24 ml 37 ml 가
 . 24 , 2 - - 4 - - 5 - () 1.0 g(, 30%)
 . 4 - - 5 - () ,

(57)

1.

4,5 - () ,
 4 - - 5 - () .



, R , , , X .

2.

1 N -

3.

1 ,

4.

1 ,