

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

(51) . Int. Cl. ⁷ (11) 2002 - 0003549
C07C 331/24 (43) 2002 01 12

(21) 10 - 2001 - 7011754
(22) 2001 09 15
2001 09 15
(86) PCT/EP2000/02118 (87) WO 2000/55117
(86) 2000 03 10 (87) 2000 09 21

(71)

(71)

EP(EP)

(71)

- 51368

- 1422

14

- 1050

가

160/06

- 5600

6235

(72)	,		
	- 51519	3	
	,		
	- 42799	47	
	,		
	- 1640		7
	,		
	- 1000	21	
	, 가	,	
	- 5612		
	,		
	- 1275	58	

(74)

(54)

, (dock), , (piling), , , , (intake screen)

- n -

60 %

가

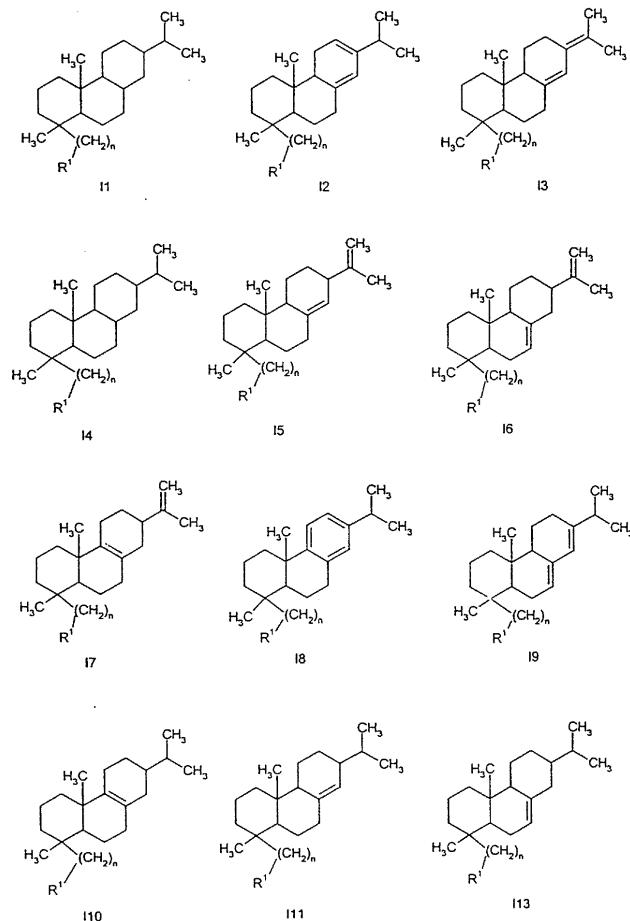
가

, ,

가,

< >

(1 1 13) 1 ,



R¹ NR² R³ { , R² , C₁ - C₈ - R³ C=OR⁴ [, R⁴ , OR⁵ NH
R⁵ (, R⁵ C₁ - C₈ -)] } ,
R¹ N=CR⁶ R⁷ (, R⁶ , C₁ - C₆ - , R⁷ C₁ - C₆ -)

n 0 1 .

, Cl, Br, I F , 1 8, 1 4

200

, C₁ - C₄ -

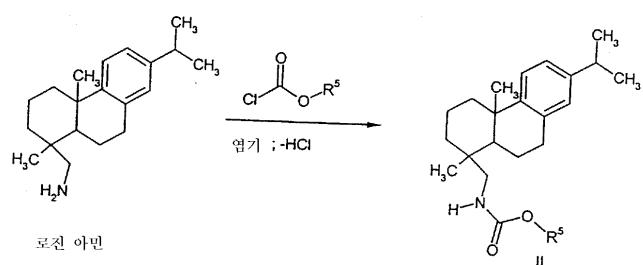
$$\begin{array}{ccccccccc}
 R^1 & NR^2R^3 \{ & & , R^2 & & , C_1 - C_4 - & R^3 & C=OR^4 [& , R^4 & , & OR^5 & NH \\
 R^5 & (& & , R^5 & & C_1 - C_4 - &) &] & \} & & & & \\
 \end{array}$$

$$R^1 - N = CR^6 R^7 [\quad , R^6 \quad , \quad , \quad] \quad (\quad) \quad , R^7 - C_1 - C_6 -$$

gress in Organic Coatings 20, 1992, 139 - 167)

1

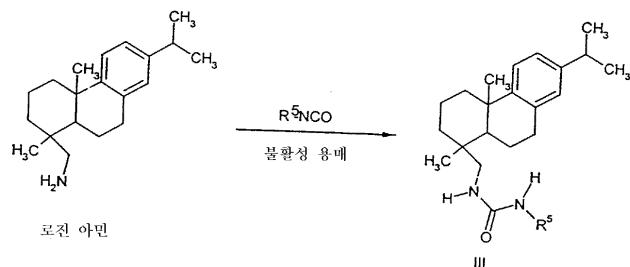
1



2

(III) (, ,)
 [(Houben - Weyl Vol. E4, 1983, 352 - 357)],
 () .

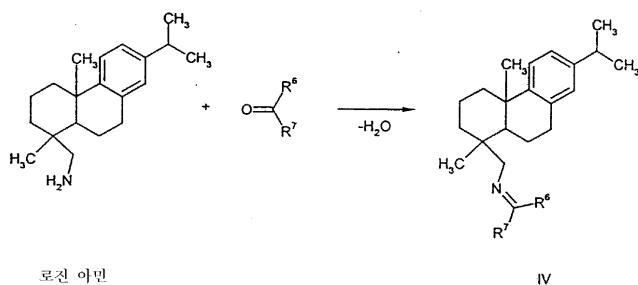
2



3

(Schiff - base) 가 (Houben - Weyl Vol. 11/2, 1958, 74 - 85).

3



(T. Ohsawa et al., Tetrahedron Lett., 1989, 845 - 846)].

(CAS - Nr.: 115 269 - 93 - 7)
Ozaki, Chem Rev. 72, 457 - 460) [3)

[(analogous sequence with phosgene: , - - (

(E. Corey et al., Tetrahedron Lett. 1981, 299 - 302)

n 0 (1) , - 1 - - (Stockel et al., Ca
n. J. Chem. 1963, 834 - 836) 가 .

- 1 - - (Chem. Pharm. Bull. 1985, 1472 - 1487)

(I, n=0) 가 .

가 ,

(*Phyla Chlorophyta*), (*Pharophyta*) (*Rhodophyta*)
 (algae);

(*Ciona intestinalis*), (*Diplosoma listerianum*)
 (*Botryllus sclosseri*) (*Asciidiacea*) (*Clava squamata*),
 (*Hydractinia echinata*), (*Obelia geniculata*) (*Tubul*
 larynx) (*Hydrozoa*) (tunicate);

(*Mytilus edulis*), (*Cassostrea virginica*), (*Ostre*
 dulis), (*Ostrea chilensis*), (*Lasaea rubra*) (*Dreissenidae*)
) (*Corbiculidae*) () , [,
 (*Electra pilosa*), (*Conopeum reticulatum*), (*Bugula neritina*),
 (*Bowerbankia gracilis*)] ;

(*Hydroides norvegica*), (*Pomatoceros triqueter*),
 (*Mercierella enigmata*) (*Spirorbis spp*) ;

(*Cirripedia*) () [, (*Balanus amphitrite*),
 (*Lepas anatifera*), (*Balanus balanus*), (*Balanus balano*)
), (*Balanus hameri*), (*Balanus cretus*), (*Balanus*
provisorus), (*Balanus geleatus*), (*Balanus eburneus*),
 (*Elminius modestus*), (*Balanus tulipiformis*), (*Balanus*
perforatus)] .

가 , , , , , , , (standpipe), , , .

가 . (, Cu) [, () , , -n -

(action spectrum)

가

(algicide)(, , , , ,
), (molluscicide)(, , , , ,
), [, , , , ,
 , (, , , , ,)]
 [, 2 - (N,N -) - 5 - , , , , 2 - t -
 - 4 - - 6 - - 1,3,5 - , 4,5 - - 2 - n - - 4 - - 3 - , 2,4,
 5,6 - , , , , , 2,4,6 - , 2,3,5,6 -
 - 4 - () - , , , , - - - 2 -
 - 1 - , .

0.5 60 %, 1 25 %

가 (I)

a) (, , , ,), b)

(Ungerer inChem. Ind.19851985, 37,
730 - 732 Williams inAntifouling Marine Coatings, Noyes, Park Ridge,19731973)

1

N - - - (1)

(D)

1

5

가

16

N - (: 86%).

: ; ^1H - NMR, (ppm): 7.94 - 8.23(1H), 7.15(1H), 6.99(1H), 6.89(1H), 5.46(1H), 2.76 - 3.27(5H), 1.22(6H), 1.21(3H), 0.95(3H).

2

(2)

N - 0 , (2.7) 가 . 0 1 (1.1) 20%
가 , 1 . 20% 가 ,
(: 85%).

: ; ^1H NMR, (ppm): 7.16(1H), 7.00(1H), 6.88(1H), 2.76 - 3.34(5H), 1.22(6H), 1.21(3H), 0.98(3H).

3

(3)

0 가 . 가 , 45 16 (1.5) 가 .
(: 87%).

: ; ^1H - NMR, (ppm): 7.16(1H), 6.99(1H), 6.89(1H), 3.37(2H), 2.90(2H), 2.82(1H), 1.22(6H), 1.21(3H), 0.96(3H).

가

(settlement rate)

(), (4 - n - - 25 40) 2 mL

27 \pm 2 24
A) , B) C)
가 , 20%

가 . 1) : , 2)
, 3) :

2 3
50 (EC - 50) - (Spearman - Karber method)

0.2 micron

γ

5 ppm

- n -

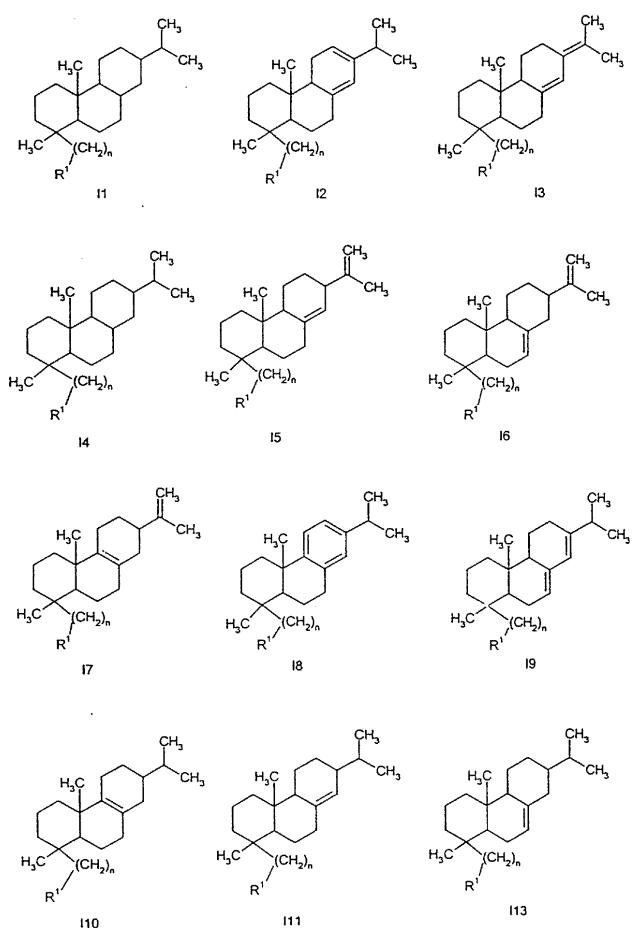
() 0

		EC50(ppm)
1		2.6
2		0.12
4.5 -	- n -	0.37

(57)

1.

(I)



R^1 $NR^2 R^3 \{ , R^2$, $C_1 - C_8 - R^3$ $C=OR^4 [, R^4$, OR^5 NH
 R^5 $(, R^5$, $C_1 - C_8 -)$, $]$ $\}$,

R^1 $N=CR^6 R^7 [, R^6$, $C_1 - C_6 - R^7$ $C_1 - C$
 R^6 - $]$,

R^1 , , ,

n 0 1 .

2.

1 ,

R^1 $NR^2 R^3 \{ , R^2$, $C_1 - C_4 - R^3$ $C=OR^4 [, R^4$, OR^5 NH
 R^5 $(, R^5$, $C_1 - C_4 -)$, $]$ $\}$,

R^1 $N=CR^6 R^7 [, R^6$, , $)$ (R^7 $C_1 - C_4 -$
 $($ $)$ $]$,

R^1 , , ,

3.

1 , R^1 $NR^2 R^3$, R^2 R^3 $C=OR^4 (, R^4$)

4.

1 (I) 1

, .

5.

1 (I) 1 1

6.

() 1 3 (I)

7.

1 (I) 1 ,