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(A)

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(30) 09/078,116 1998 05 13 (US)

(71)

(72)	.	0	1	0	92
	15205				500

	15222	1015
	15203	1223

(74) :
.....

(54)

$$10\text{mJ/cm}^2 \quad 175\text{mJ/cm}^2 \quad (\quad , \quad , \quad , \quad 200 \quad 300\text{nm} \quad)$$

, , , , UV

(Cryptosporidium parvum)
(oocyst)

xx

가

가 ("UV")

(: Lorenzo - Lorenzo et al., J. Parasitol. 1993, 79, 67 - 70) (G)

iardia muris)[: E.L.Jarol, " Effect of disinfectants on Giardia cysts" , CRC Critical Reviews in Environmental Control, 1988, 18, 1 - 28]

3000mJ/cm² UV

(Snowball)

, 350 400mJ/cm² U

V [: 9416287.2 (1984.11.8); Wat. Res., 1995, 29, 25
83 - 2586].

350 400mJ/cm² UV

2

가

" "

[: M.J. Lorenzo - Lorenzo, M.E. Area - Mazea, I. Villacorta - Martinez de Maturana and D. Duran - O reiro, " Effect of Ultraviolet Disinfection of Drinking Water on the Viability of Cryptosporidium parvum Oocysts" , J. Parasitol. 1993, 79(1), 67 - 70] () Hg UV 150

2

UV 5000mJ/cm²

, 150 UV

DNA

UV

[: A. Bushnell, W. Clark, J. Dunn and K. Salisbury, " Pulsed Light Sterilization of Products Packaged by Blow - Fill - Seal Techniques" , Pharm. Engin. 1997, Sept/Oct, 74 - 83]

가 " " UV UV

1000mJ/cm²

UV

[: R. LaFrenz, " High Intensity Pulsed UV for Drinking Water Treatment" , Proc. AWWA WQT Conference, Denver, CO, Nov., 1997]

200mJ/cm²

6

100% "

UV 가 " DNA

Hg

가

가

가

" " " " DNA 가 , " " (" ")
 UV UV

200 300nm (UV) , UV DNA, RNA
 A() DNA 가 DNA RNA
 , , 2
 , UV

(200 300nm) UV 10mJ/cm²
 30mJ/cm² 4.5
 UV 가
 1 () ,
 2 (bench scale)

111L(29.4gal) UV 6 x 1kW UV 가
 1 μ 215gpm(814L/min)
 4
 (8.3) () UV

2 UV 100% 100 71.7 (1.39). 71.7%
 , (1), (1.39)
 , 100% , ()
 %) UV (%)

%)

(%)

UV (mJ/cm ²)			
20	113 ± 36	145 ± 38	174 ± 14
69	110 ± 34	176 ± 38	103 ± 48
137	37 ± 17	83 ± 21	68 ± 32
152	13 ± 14	29 ± 31	31 ± 13
167	8 ± 7	33 ± 10	33 ± 8

) 100%

100%

UV (mJ/cm ²)	
20	3.9
69	4.5
167	4.5

[1]

UV

	(n="3")			(n="3")	
	UV (mJ/cm ²)			UV (mJ/cm ²)	
- 30/3/98					
1		82.0 ± 4.0	81.4 ± 8.1		90 ± 7.1
UV		71.7 ± 15.4	61.7 ± 4.9	29.7 ± 1.1	45 ± 7
- 31/3/98					
2		90.4	6 ± 1.2	79.8 ± 4.3	97.3 ± 2.5
UV	167	4.9 ± 4.5		167	19.9 ± 2.7
- 01/04/98					
3		88.7 ± 1.0	56 ± 9.8	89 ± 2.7	*
UV	69	73.6 ± 4.1	72.7 ± 2.3	67	55 ± 13
- 06/04/98					
4		76.6 ± 4.4	80.4 ± 1.7		99 ± 1
UV	152	8.5 ± 1.4	12.1 ± 1.5	152	23 ± 9.6
07/04/98					
2UV		45.3 ± 16.8	49.3 ± 4.0		96.7 ± 1.2
UV	137	25 ± 8.9	34.3 ± 4.0	137	36.4 ± 9.1
08/04/98					
5		79.7 ± 5.1	77.3 ± 4.2		94.7 ± 3.1
UV	20	75.3 ± 6.8	47 ± 7.8	72.7 ± 1	*
				21	92.7 ± 1.2

[2]

UV

	UV (mJ/cm ²)	1	2	3
1				
	25	75	150	
(%)(#/)	5.3%(2/28)	35%(14/40)	62.5%(15/23)	
1				
	50	500	5,000	
(%)(#/)	44%(11/15)	100%(20/20)	100%(23/23)	
UV 31/03/98				
	1,000	10,000	100,000	
(%)(#/)	191	0%(0/24)	0%(0/12)%*	0%(0/24)
UV 01/04/98				
	1,000	10,000	100,000	
(%)(#/)	79	0%(0/22)	0%(0/26)	0%(0/25)
UV 08/04/98				
	1,000	10,000	100,000	
(%)(#/)	23	0%(0/18)	0%(0/18)	4.5%(1/22)

가

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(57)

1.

10mJ/cm² 175mJ/cm² ,

2.

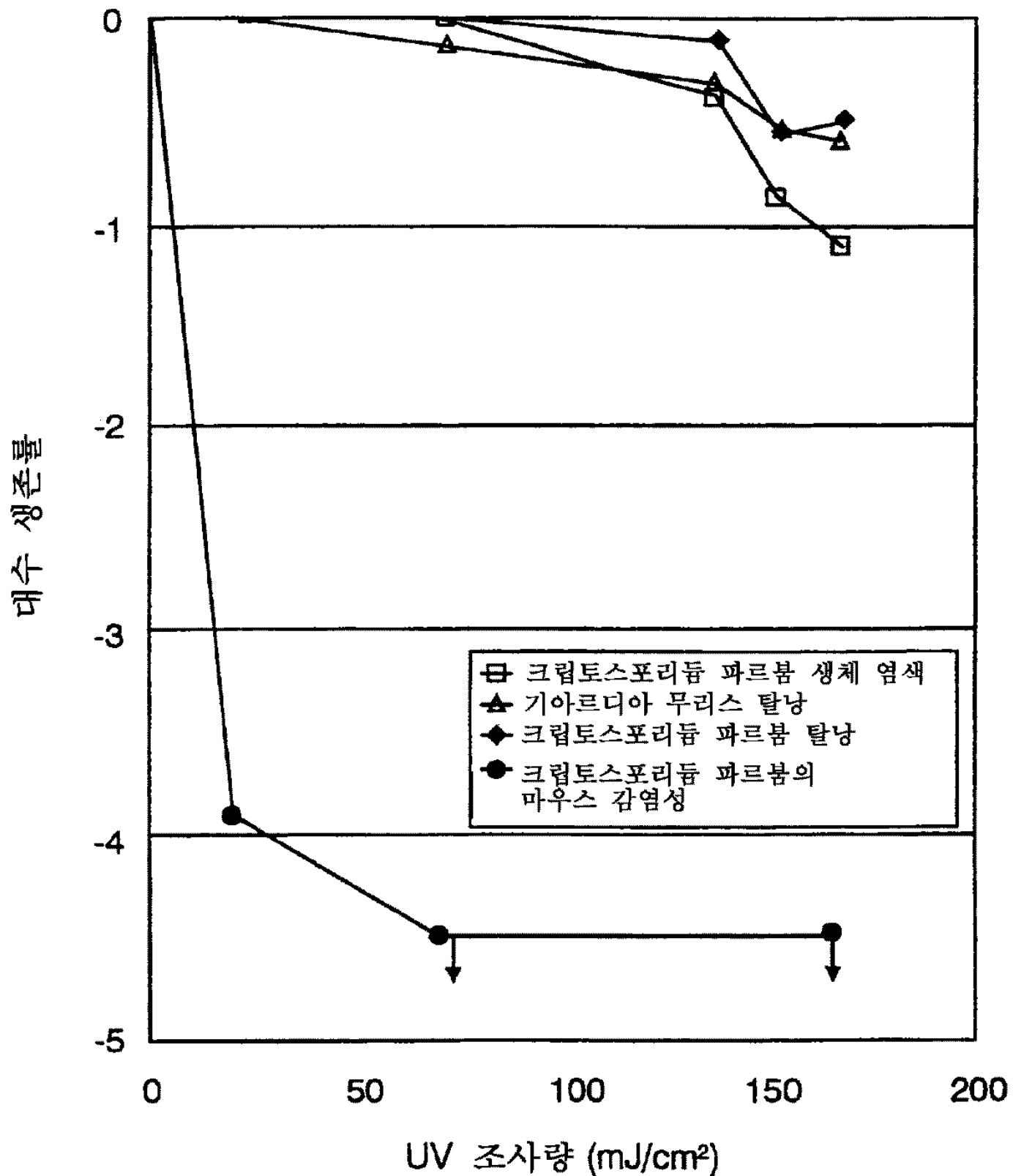
1 , 가 UV 200 300nm .

3.

1 2 , 20mJ/cm² 30mJ/cm² .

1

대수 생존률 대 UV 조사량



2

대수 생존률 대 UV 조사량

