

# Clinical Application of Ultraviolet C Inactivation of Severe Acute Respiratory Syndrome Coronavirus 2 in Contaminated Hospital Environments

Table S1. The dosage effect of 254 nm UVC radiation on different time.

CtV = 13, n = 12	Control	Irradiation for 15 min	Irradiation for 20 min	Irradiation for 30 min	p-value
Positive rate, n (%)	5 (42)	0 (0)	1 (8)	0 (0)	0.005 <sup>a</sup>
human <i>RNAse P</i> gene, n (%)	5 (42)	1 (8)	2 (17)	1 (8)	0.118 <sup>b</sup>
CtV, mean±SE	33.2±1.9	32.2	34.9±1.2	32.8	0.928
<i>E</i> gene, n (%)	1 (8)	0 (0)	0 (0)	0 (0)	0.382 <sup>c</sup>
CtV, mean±SE	29.5	NA	NA	NA	NA
<i>N</i> gene, n (%)	5 (42)	0 (0)	1 (8)	0 (0)	0.005 <sup>d</sup>
CtV, mean±SE	32.9±1.4	NA	34.2	NA	0.720
<i>RdRP</i> gene, n (%)	2 (17)	0 (0)	0 (0)	0 (0)	0.100 <sup>e</sup>
CtV, mean±SE	32.1±3.4	NA	NA	NA	NA

UVC, ultraviolet C; CtV, cycle threshold value; SE, standard error; NA, not applicable. The categorical variables are presented as n (%), n: presented as the number of positive results of environmental sampling, (%): presented as the percentage of positive rate. The continuous variables are presented as mean ± SE. a.-p = 0.001 significance for Linear trend, dose effect b.-p = 0.031 significance for Linear trend, dose effect. c.-p = 0.109. d.-p = 0.001 significance for Linear trend, dose effect. e.-p = 0.022 significance for Linear trend, dose effect.

Table S2. The 254 nm irradiation on washbasin.

CtV = 18, n = 4	A	B	C	D
Before irradiation	+	–	+	–
human <i>RNAse P</i> gene	+	–	+	–
CtV	28.86	NA	28.16	NA
<i>E</i> gene	+	–	+	–
CtV	34.53	NA	32.47	NA
<i>N</i> gene	+	–	+	–
CtV	31.55	NA	29.16	NA
<i>RdRP</i> gene	–	–	–	–
Bleach Tx	No	No	Yes	Yes
UVC 15 min	–	–	–	–
human <i>RNAse P</i> gene	–	+	–	–
CtV	NA	35.22	NA	NA
<i>E</i> gene	–	–	–	–
<i>N</i> gene	–	–	–	–
<i>RdRP</i> gene	–	–	–	–
UVC 20 min	–	–	–	–
human <i>RNAse P</i> gene	+	–	–	–
CtV	36.1	NA	NA	NA
<i>E</i> gene	–	–	–	–
<i>N</i> gene	–	–	–	–
<i>RdRP</i> gene	–	–	–	–
UVC 30 min	–	–	–	–
human <i>RNAse P</i> gene	+	–	–	–
CtV	34.2	NA	NA	NA

<i>E</i> gene	–	–	–	–
<i>N</i> gene	–	–	–	–
<i>RdRP</i> gene	–	–	–	–

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CtV, cycle threshold value; UVC, ultraviolet C; NA, not applicable. Bleach cleaning was done on position C and D. +, any SARS-CoV-2 gene was detected; –, none of SARS-CoV-2 gene was detected.