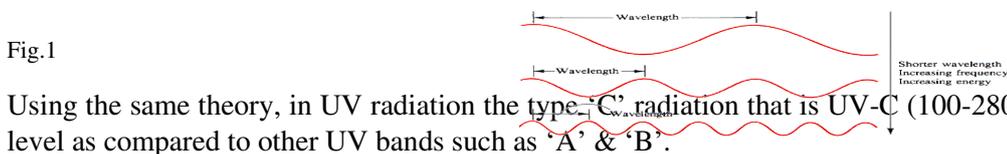


Theoretical Study of Ultra-Violet Radiation over SARS Viruses, Bacteria & Cells

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Introduction-

Ultraviolet Radiation (UV) that is ranged from 100 to 400nm of wavelength in visible light spectrum. Theories stated that lower the wavelength higher frequency and higher the energy of wave (See below figure-1).



If light spectrum with such low wavelength and higher energy is transmitted and radiated over a cell wall, virus or any other microorganism(Subject) than such high energy destroy the structure of subject.

Study & Working -

Now as per the theories it can be theoretically concluded that some of the major viruses and bacteria can be killed or their DNA and wall be destroyed using light spectrum of UV-C.

It can be studied¹ using Ultraviolet radiation infected sample of Corona virus can be disinfected within 40 Minutes.

Fig. 2 Graphs are the graphs

Depict

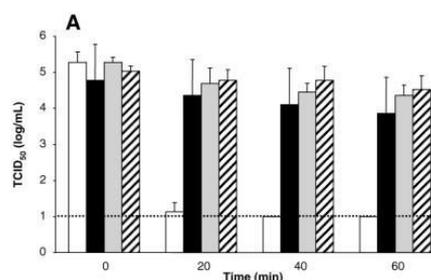
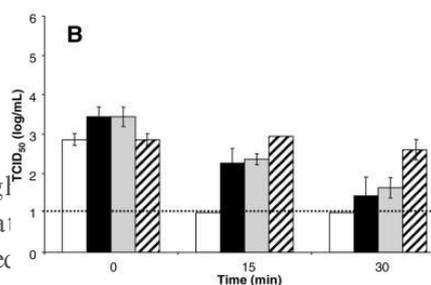
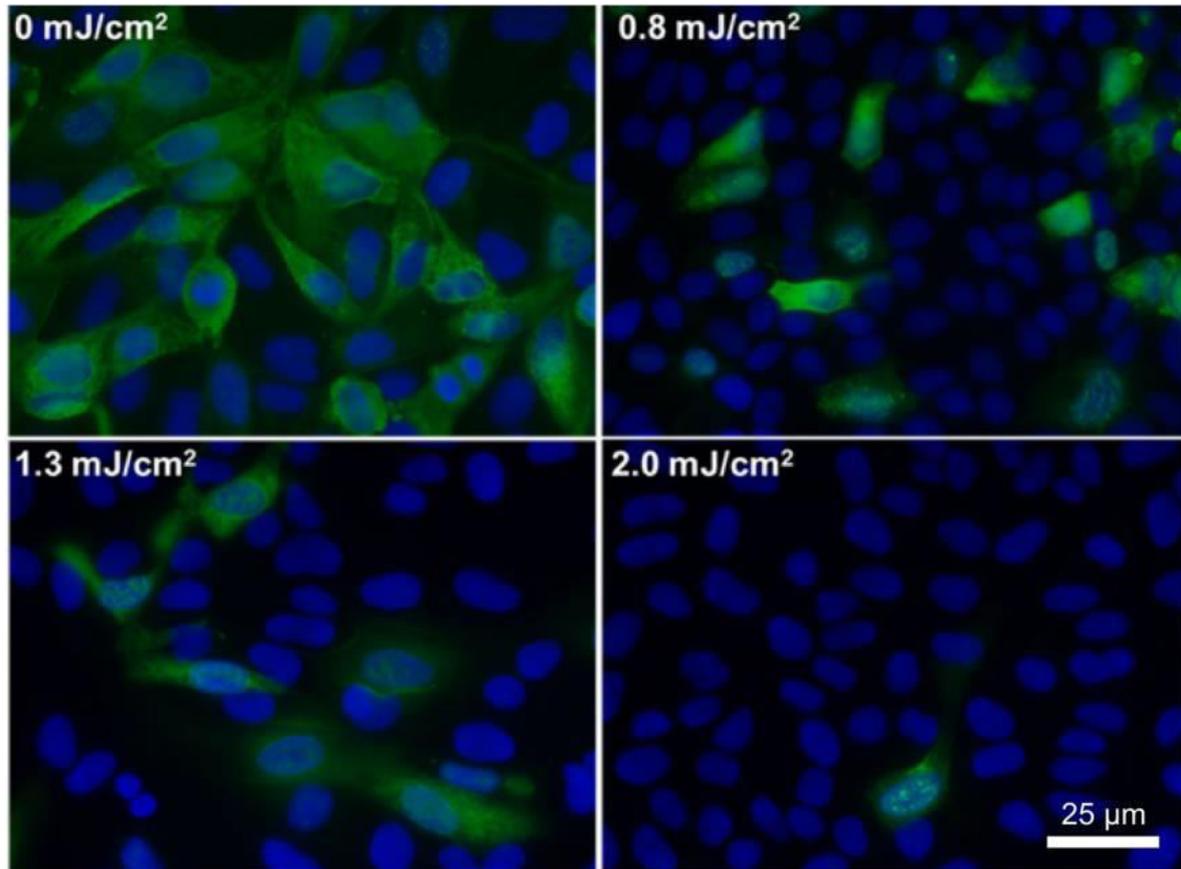


Fig 2¹



[Inactivation of SARS-CoV by ultraviolet light and exposed to UVC light for the indicated times. (A) Virus was mixed with 10 percent BSA; (□) 16 percent BSA; (▨) 25 percent BSA. (B) Virus was mixed with 10 percent BSA, psoralen; (□) DMEM, no psoralen; (■) 10 percent BSA, no psoralen. Psoralen was added to half of the viral samples. All viral samples were analyzed for TCID₅₀ after exposure to UVA. The broken line shows the limit of detection for the assay.]¹

Further studied that with exposure to the UV radiation how sars virus seems to be cleaning



*Above image is sourced from <https://www.nature.com/articles/s41598-018-21058-w>

Conclusion – The increase of corona virus pandemic caused many lives to death and has contributed to massive decrease in GDP. The countries are using alcoholic sanitization process for disinfect rather than this UV-C light is more impactful and powerful, if it is used at proper wavelength it kills bacteria in 4-5 seconds. Health authorities worked closely in affected countries to prepare better clinical, epidemiological and logistic support and to bring outbreak

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under control. The researchers are continued to find ways to combat with this virus, Many countries and states are also using this UV-C technology to disinfect vegetables, accessories and many day to day live things. This paper considers UV-C radiation may depends upon various factors such as walls of various bacteria as viruses eccentric and may be subjected to research.

- Reference 1 - Paper Published PMID: 17002634

PMCID: PMC7201869, DOI: [10.1111/j.1537-2995.2006.00976.x](https://doi.org/10.1111/j.1537-2995.2006.00976.x) National Centre for Biotechnology Information

Also It can be reported same from the BBC Report for which link is below mentioned -[https://www-bbc-com.cdn.ampproject.org/v/s/www.bbc.com/news/amp/business-](https://www-bbc-com.cdn.ampproject.org/v/s/www.bbc.com/news/amp/business-51914722?amp_js_v=a2&_gsa=1&usqp=mq331AQFKAGwASA%3D#referrer=https%3A%2F%2Fwww.google.com&aoh=15858435306007&_tf=From%20%251%24s&share=https%3A%2F%2Fwww.bbc.com%2Fnews%2Fbusiness-51914722)

[51914722?amp_js_v=a2&_gsa=1&usqp=mq331AQFKAGwASA%3D#referrer=https%3A%2F%2Fwww.google.com&aoh=15858435306007&_tf=From%20%251%24s&share=https%3A%2F%2Fwww.bbc.com%2Fnews%2Fbusiness-51914722](https://www-bbc-com.cdn.ampproject.org/v/s/www.bbc.com/news/amp/business-51914722?amp_js_v=a2&_gsa=1&usqp=mq331AQFKAGwASA%3D#referrer=https%3A%2F%2Fwww.google.com&aoh=15858435306007&_tf=From%20%251%24s&share=https%3A%2F%2Fwww.bbc.com%2Fnews%2Fbusiness-51914722).

Major Reference- Various websites resulted from Google Search (google.inc).