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JNCASR develops novel anti-microbial coating

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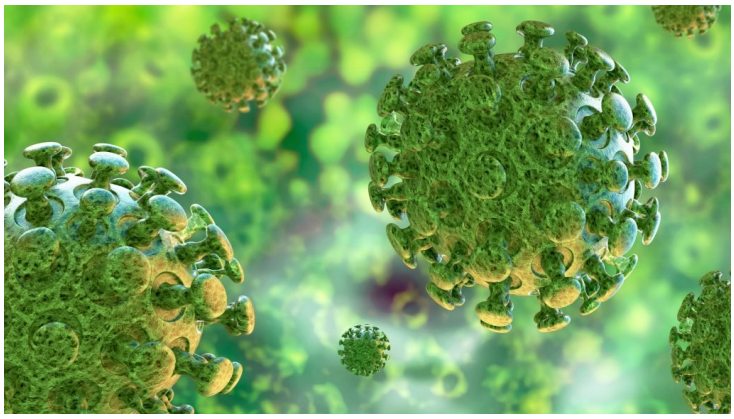
Could kill a range of virus types including COVID 19



Bengaluru based Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), an autonomous institution under the Department of Science and Technology, has developed a one-step curable anti-microbial coating which, when coated on different surfaces such as textile, plastic and so on could kill a range of virus types including COVID 19.

This covalent coating, the research paper about which has been accepted in the journal Applied Material and Interfaces, has been found to completely kill influenza virus as well as resistant pathogenic bacteria and fungi, including methicillin-resistant *Staphylococcus aureus* and fluconazole-resistant *C. albicans* spp.

The molecules developed have an ability to chemically cross-link with different surfaces upon UV irradiation. Upon the formation of the coating, it has been shown to permeabilize the membranes of pathogens (i.e. bacteria) leading to their inactivation.

Microbial attachment and their colony formation on different surfaces play a major role in the transmission of deadly infections in the community as well as healthcare settings. Keeping this in mind, an easy approach was developed to coat a wide range of substrates used in daily life as well as in clinical settings.

Considering the current corona virus outbreak, if shown to be active, the molecule can be synthesized in large scale through a CRO (Contract Research Organization) and can be coated on various personal protective tools such as masks, gloves, gowns, etc. in collaboration with the private organizations. The molecules can also be coated on other medical devices and tools to avoid hospital-acquired or nosocomial infections.