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“Exploring Covid19 Infectious Mechanisms and Host Selection Process”

By mutating from RatG13 to SARS_Cov2 a virus confined in a species of bats in the Wuhan province in China has transformed in a pandemic infecting close to 90 million people and killing close to 2 million of them. Using innovative IT solutions created within the BioExcel Center of Excellence we explore the tricks used by RatG13 to jump to humans, the impact of human polymorphism in virus infectivity and the path followed by the virus to improve its infectivity profile. Shocking result derived from our calculations and already validated experimentally is that zoonotic barrier is weaker than expected and that SARS_Cov2 is a perfectly designed infective engine, able to jump to a variety of organisms.