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Author for correspondence:

The Royal Society Open Science Editorial Team e-mail: openscience@royalsociety.org

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Low-frequency Raman Spectroscopy as a diagnostic tool for COVID-19 and other coronaviruses

The Royal Society Open Science Editorial Team

A. Stage 1 Title: Low-frequency Raman Spectroscopy as a diagnostic tool for COVID-19 and other coronaviruses.

B. Stage 1 Authors and Affiliations: Jacobi, Leor; Bar-Ilan University, Ramat Gan, Israel. Damle, Vinayaka Harshothama; Bar-Ilan University, Ramat Gan, Israel. Rajeswaran, Bharathi; Bar-Ilan University, Ramat Gan, Israel. Tischler, Yaakov R.; Bar-Ilan University, Ramat Gan, Israel.

C. Stage 1 Abstract: Amidst the current worldwide COVID-19 pandemic, improved diagnostic tools are of vital importance. Low-frequency Raman (LFR) Spectroscopy provides a robust theoretical scientific basis for eventual development of a non-invasive Diagnostic Tool for specimens or patients directly. This preliminary research will begin mapping the nanostructure of COVID-19 via LFR and regular Raman Spectroscopy, in comparison with different Coronaviruses and other viral materials, helping to lay a groundwork for future research. In addition to its distinct nanostructure, effects on it by thermal fluctuations or decomposition, decay under laser excitation, and interference from buffers with be examined.

D. Date of Stage 1 in-principle acceptance: 8 April 2020.

E. Date of withdrawal: 6 April 2021.

F. Reason for the withdrawal: Attempts to measure or identify viral material were not successful.

G. URL to the approved Stage 1 manuscript: https://osf.io/ y54h3.

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