The science of COVID-19

Evidence submission to the House of Lords Science & Technology Select Committee

This document presents a summary of where the chemical sciences are contributing to the science of COVID-19. Contributions are described in relation to the problem they address and for each topic, some examples of research groups and companies who could speak to the science in more detail have been suggested. Our aim with submitting this overview is to ensure that these contributions are considered and appropriately covered in the inquiry. Note that this overview is not exhaustive.

Understanding the virus

To be able to effectively target a virus, with drugs or a vaccine, understanding is needed of properties that lend / # (. ' 1 . / * $) / - 1) / $ *)) $. - 0 + / $ *) * ! / # 1 $ - 0 . Z / $ *) N 0 # + - * + - / $ virus, its structural properties, and the way in which the virus interacts with cells in the human body as a host. Areas of chemistry that contribute to understanding of such viral properties include analytical tools, principles of organic biophysical and biomolecular chemistry, and molecular dynamics simulations.

- Biophysical chemistry to understand viruses - Dr Ehmke Pohl at Durham University is contributing to the * - $ 5 *) $ " $ " *) Virus-X $ 0 (Y Metagenomics for Innovation value Z N 0 physical N and structural characterisation / * *) / - $ 0 / / * / # 0) - . /) $) " * ! 1 $ - ' $ 1 - . $ / 4 would be expected to interplay with their hosts).
- Biochemistry for rapid sequencing of SARS-CoV-2 - Oxford Nanopore