

- Supporting Information -

**Optimisation of GraPhage13 Macro-Dispersibility *via* Understanding the pH-Dependent Ionisation During Self-assembly: Towards the Manufacture of Graphene-based Nanodevices**

*Kate Stokes*<sup>1</sup>, *Yiwei Sun*<sup>1</sup>, *Paolo Passaretti*<sup>2</sup>, *Henry White*,<sup>3</sup> *Pola Goldberg Oppenheimer*<sup>1,4,\*</sup>

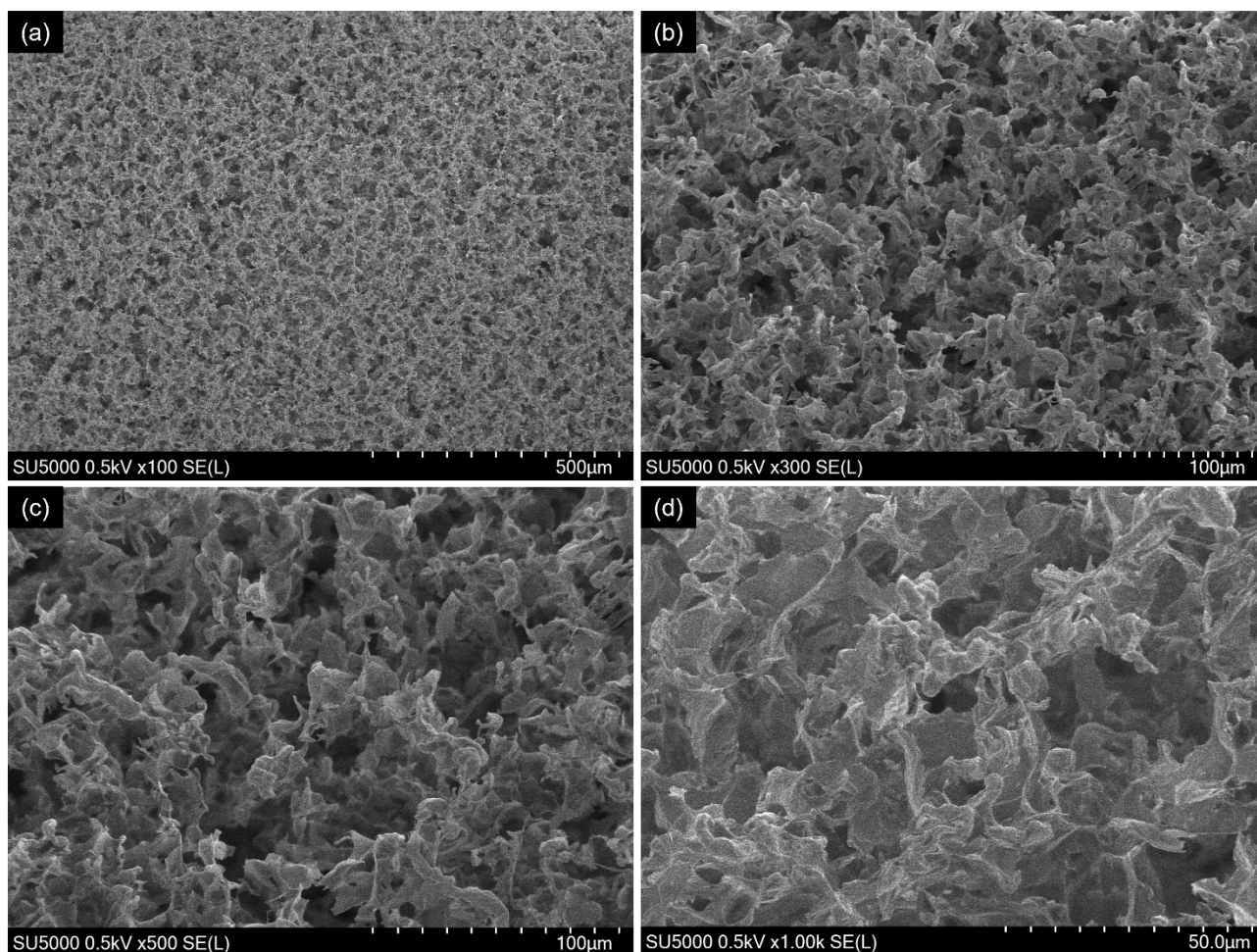
<sup>1</sup>School of Chemical Engineering, Advanced Nanomaterials Structures and Applications Laboratories, College of Engineering and Physical Sciences, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK

<sup>2</sup>Institute of Cancer and Genomic Sciences, College of Medical and Dental Sciences, University of Birmingham, B15 2TT, UK

<sup>3</sup>BAE-Systems, Air Sector, Buckingham House, FPC 267, Filton, Bristol, UK

<sup>4</sup>Healthcare Technologies Institute, Institute of Translational Medicine, Mindelsohn Way, Birmingham, B15 2TH, UK

**S1. SEM Characterisation:**



**Figure S1.** SEM images of GraPhage13 aerogels (GPA) at (a) 100x, (b) 300x, (c) 500x and (d) 1000x magnifications.

## S2. EDX Analysis:

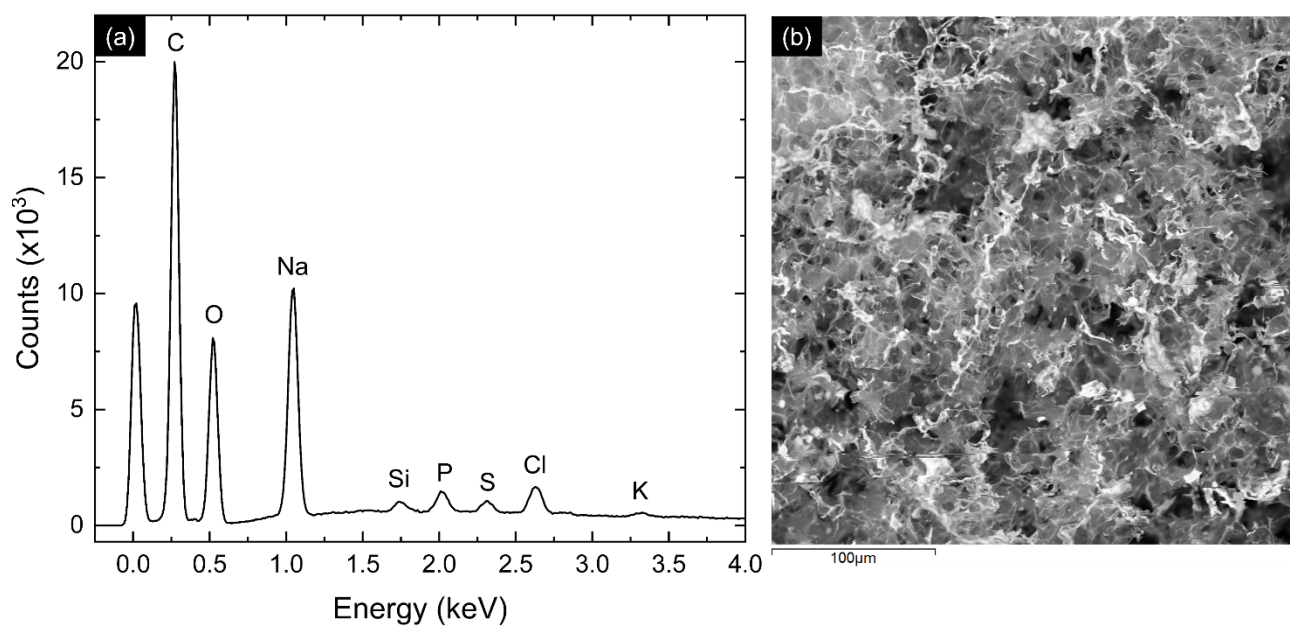


Figure S2. (a) EDX of GraPhage13 aerogel, generated from a map scan over the area shown in the SEM image (b).

## S3. UV-Vis Analysis:

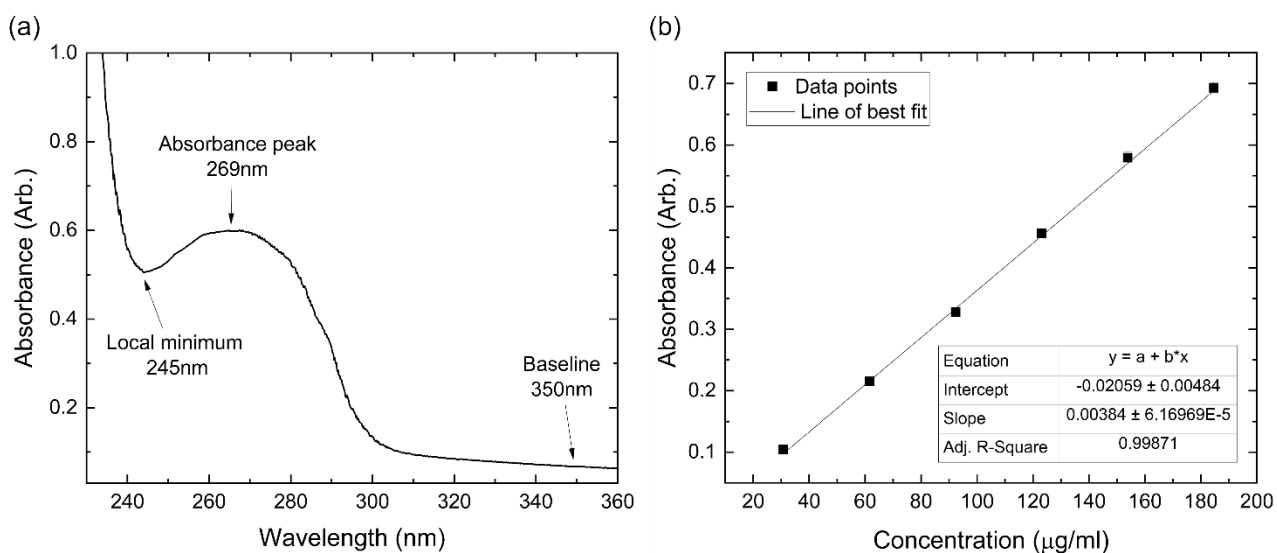


Figure S3. (a) Representative UV-Vis spectrum of M13 bacteriophage with the characteristic features labelled. The absorbance at 269nm was measured at various M13 concentrations, generating the corresponding (b) calibration curve.