

ROS-releasing PVA sub-micron antimicrobial dressing with enhanced aqueous stability and mechanical properties

Joel Yupanqui Mieles^a, Cian Vyas^{ab}, Gavin Humphreys^c, Carl Diver^d, Paulo Bartolo^{ab}

^a Department of Mechanical, Aerospace and Civil Engineering, University of Manchester, UK

^b Singapore Centre for 3D Printing, School of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore 639798, Singapore

^c Division of Pharmacy & Optometry, University of Manchester, UK

^d Department of Engineering, Manchester Metropolitan University, UK

Corresponding authors: joel.yupanquimieles@manchester.ac.uk (J.Y.M.);
cian.vyas@ntu.edu.sg (C.V); pbartolo@ntu.edu.sg (P.B.)

Supplementary data

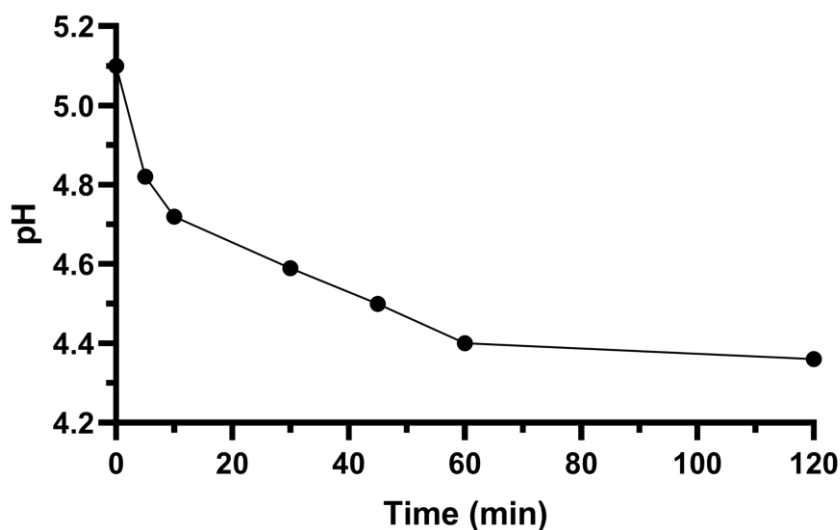


Figure S1. pH of PVA RO40 solution (including HCl) as it changes with time within a 2 h period.

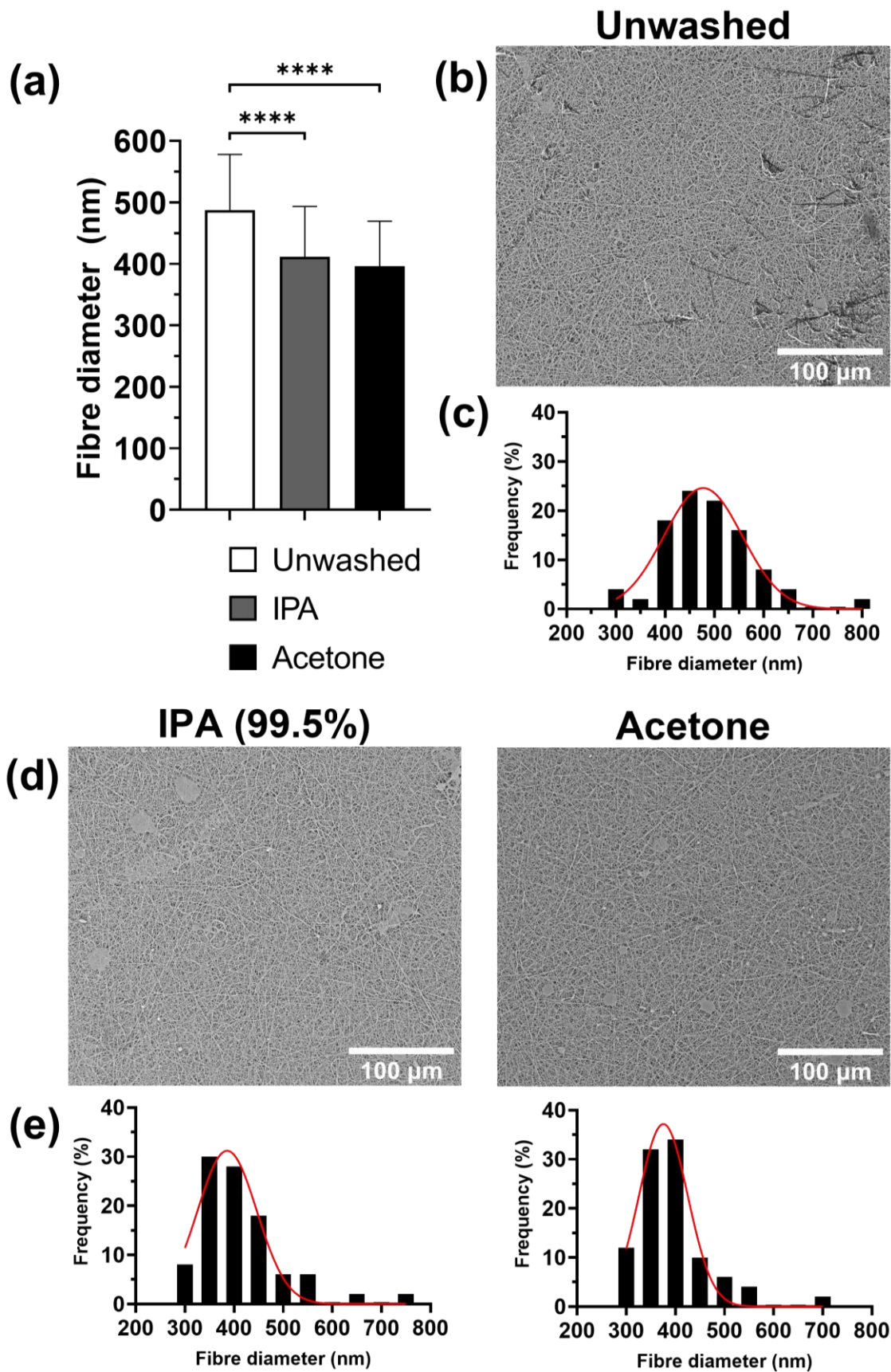


Figure S2. (a) Average fibre diameter of PVA RO40 Vap CL 2 h electrospun samples before and after acetone and IPA washes; (b) SEM image, and (c) fibre distribution of

unwashed PVA RO40 Vap CL 2 h mesh; (d) SEM images, and (e) fibre distributions of PVA RO40 Vap CL 2 h meshes after IPA and acetone washes.

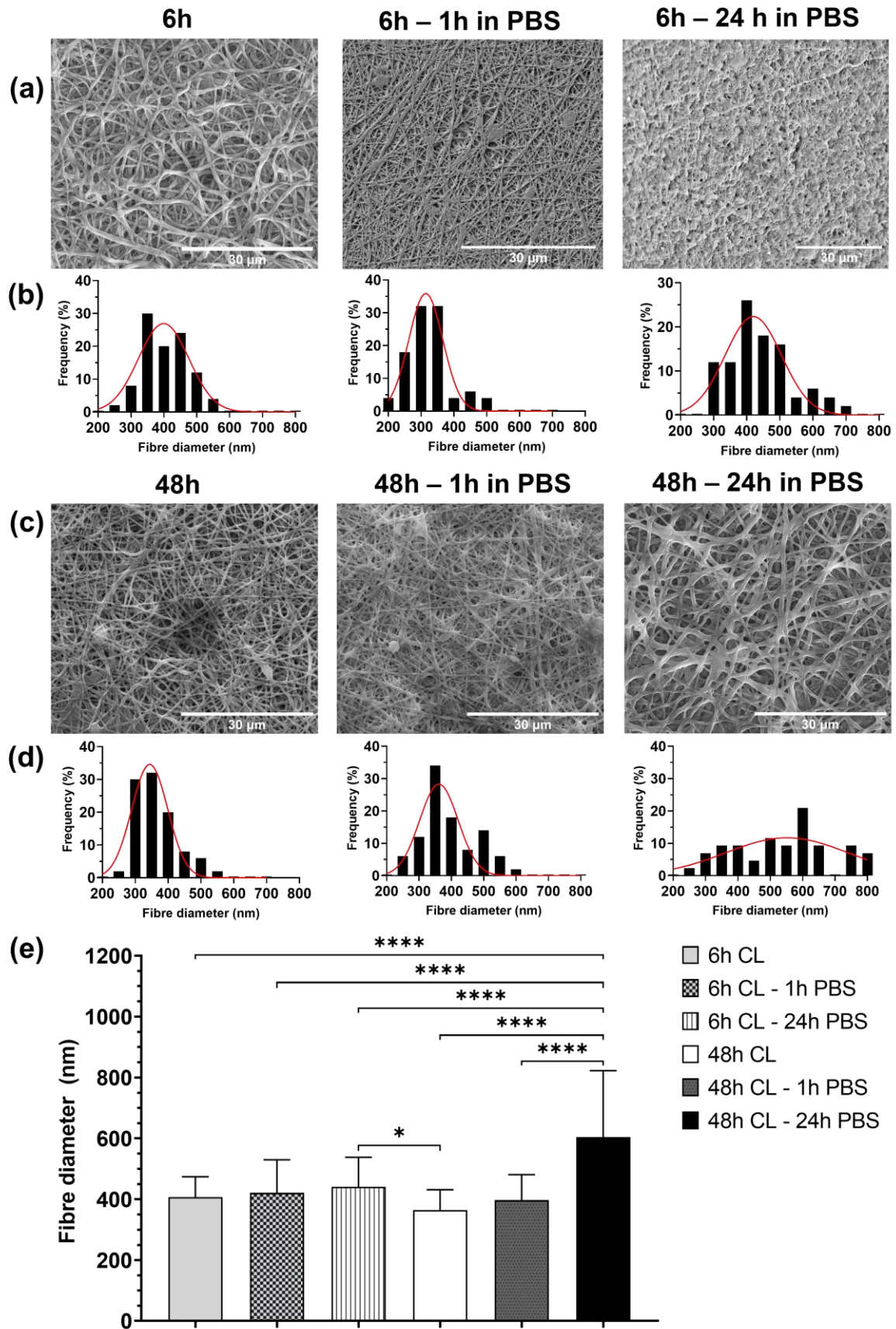


Figure S3. (a) SEM images and (b) fibre distributions of PVA RO40 Vap CL 6 h electrospun samples before and after immersion in PBS for 1 and 24 h; (c) SEM

images and (d) fibre distributions of PVA RO40 Vap CL 48 h electrospun samples before and after immersion in PBS for 1 and 24 h; (c) average fibre diameter of PVA RO40 Vap CL 6 h and 48 h electrospun samples before and after immersion in PBS for 1 and 24 h.

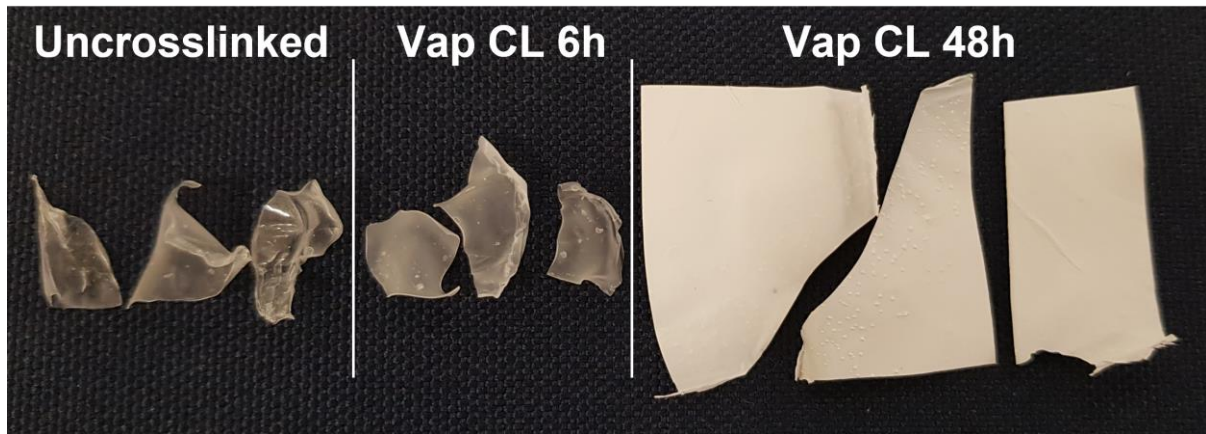


Figure S4. Digital pictures of uncrosslinked, Vap CL 6 h and Vap CL 48 h PVA RO40 electrospun samples after immersion in PBS for 24 h. Samples were dried in vacuum oven at 35°C for 24 h.