

*Supplementary material*

**Janus *N,N*-Dimethylformamide as solvent for gradient porous wound dressing of poly(vinylidene fluoride) and as reducer for *in situ* nano-silver production: anti-permeation, antibacterial and antifouling activity against multi-drug-resistant bacteria from *in vitro* to *in vivo***

Menglong Liu<sup>1</sup>, Ying Wang<sup>1</sup>, Xiaodong Hu<sup>2</sup>, Weifeng He<sup>1</sup>, Yali Gong<sup>1</sup>, Xiaohong Hu<sup>1</sup>, Meixi Liu<sup>1</sup>, Gaoxing Luo<sup>1\*</sup>, Malcolm Xing<sup>1,4\*</sup>, Jun Wu<sup>1,3\*</sup>

<sup>1</sup> Institute of Burn Research, State Key Laboratory of Trauma, Burn and Combined Injury, Southwest Hospital, Third Military Medical University (Army Medical University), Chongqing 400038, China

<sup>2</sup> State Key Laboratory of Polymer Materials Engineering, Polymer Research Institute of Sichuan University, Chengdu, 610065, China.

<sup>3</sup> Department of Burns, the First Affiliated Hospital, SunYat-Sen University, Guangzhou 510080, China.

<sup>4</sup> Department of Mechanical Engineering, University of Manitoba, Winnipeg MB, R3T 2N2, Canada.

\* Corresponding authors:

Gaoxing Luo, E-mail address: logxw@yahoo.com;

Malcolm Xing, E-mail address: malcolm.xing@umanitoba.ca;

Jun Wu, E-mail address: editorinchief@burninchina.com, Tel: 0086-23-68754173,

Fax: 0086-23-65461677.

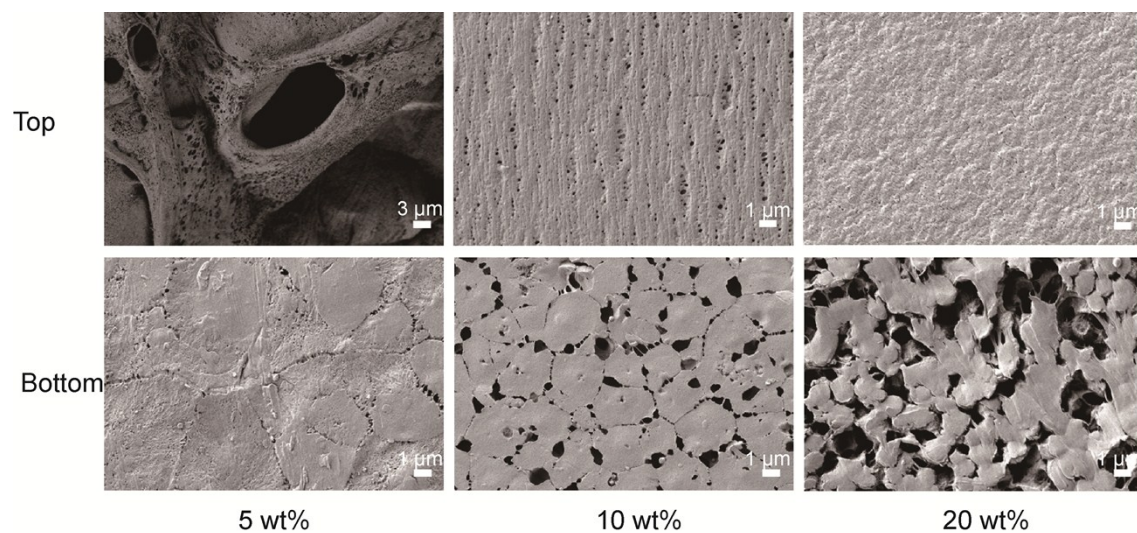


Fig. S1. Morphology of PVDF films formed with different polymeric concentrations using phase inversion method.

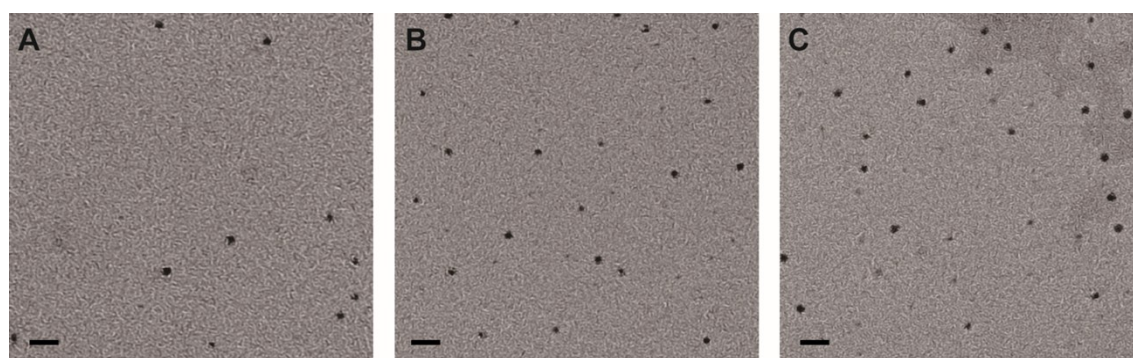


Fig. S2. The TEM images of NS from (A) PVDF/NS10, (B) PVDF/NS25 and (C) PVDF/NS50 solutions after 24 h incubation. Scale bars: 20 nm.

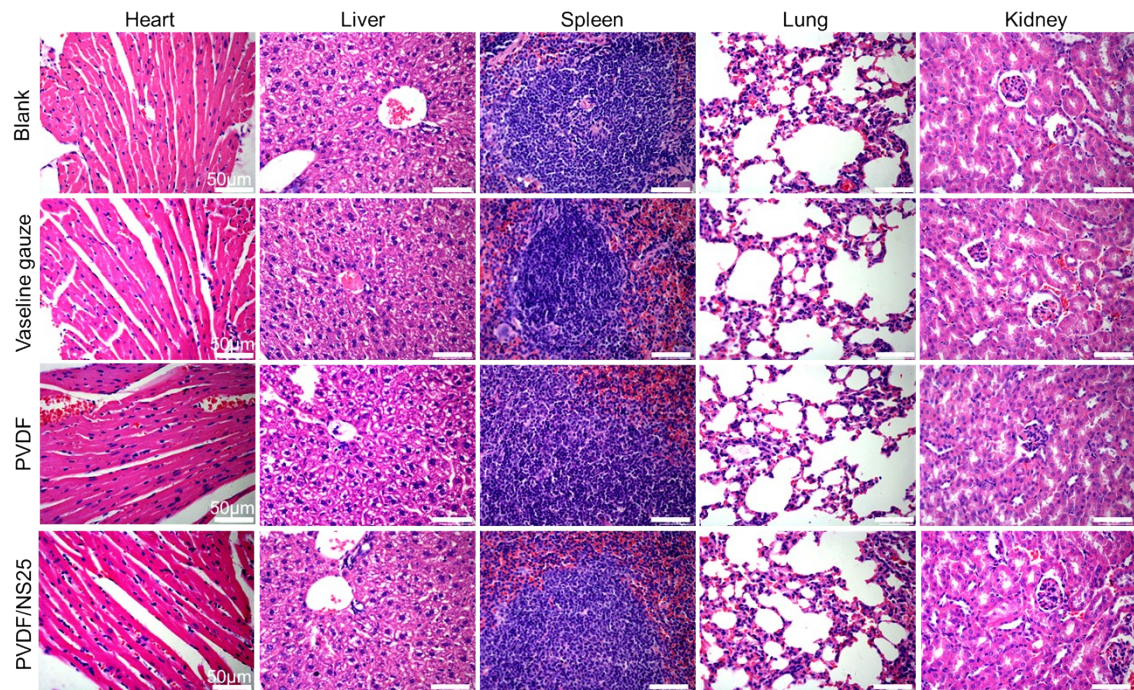


Fig. S3. The histological images of heart, liver, spleen, lung and kidney obtained from mice treated by nothing, Vaseline gauze, PVDF and PVDF/NS25 films after 7 days.