

## **Supporting Information**

### **MXene-Functionalized Light-Induced Antimicrobial and Waterproof Polyacrylate Coating for Cementitious Materials Protection**

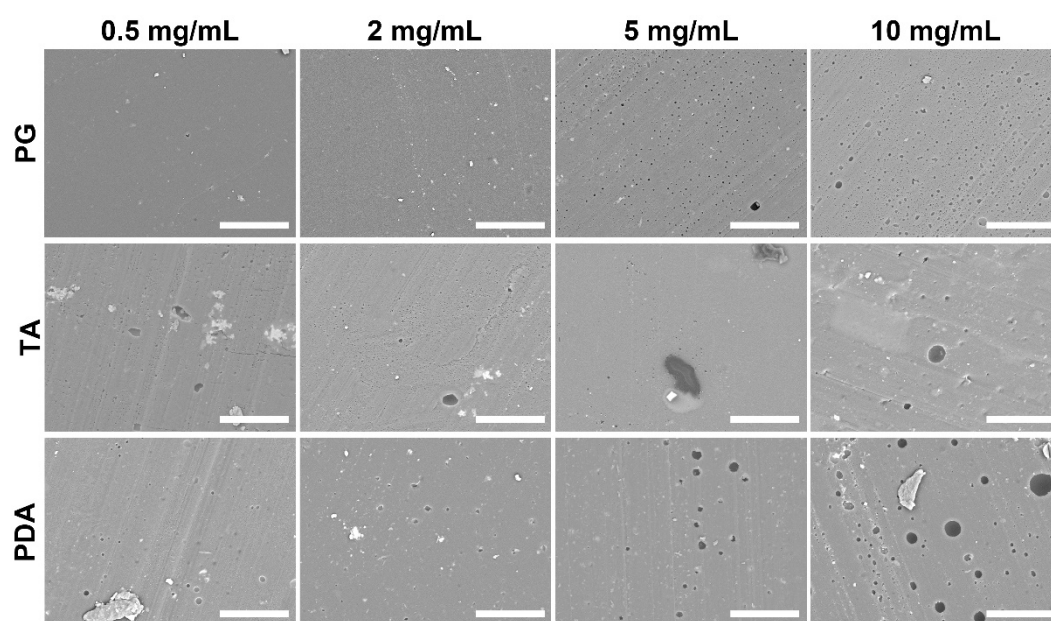
Hongping Zhang <sup>1,\*</sup>, Pengfei Tang <sup>2</sup>, Youhong Tang <sup>3,\*</sup>, Kun Yang <sup>1</sup>, Qingyuan Wang <sup>1,2</sup>

<sup>1</sup> School of Mechanical Engineering, Institute for Advanced Study, Chengdu University, Chengdu 610106, China.

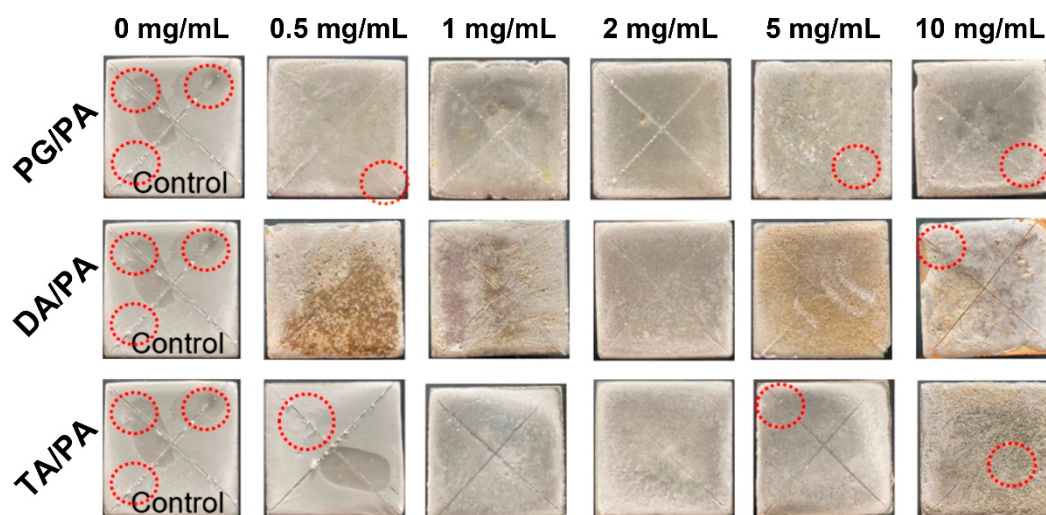
<sup>2</sup> Failure Mechanics and Engineering Disaster Prevention and Mitigation Key Laboratory of Sichuan Province, College of Architecture and Environment, Sichuan University, Chengdu 610065, China.

<sup>3</sup> Institute for Nanoscale Science and Technology, College of Science and Engineering, Flinders University, South Australia 5042, Australia

\* Correspondence: zhanghongping@cdu.edu.cn or zhp1006@126.com (H.Z.); youhong.tang@flinders.edu.au (Y.T.)



**Figure S1.** The microscopy of the polyacrylate coating with various phenols (DA, TA, and PG) contents, the scale bar is 50  $\mu\text{m}$ .



**Figure S2.** the diagrammatic sketch of the crosshatch method of coating with various phenol concentrations.