

## High Durability and Low Toxicity Antimicrobial Coatings Fabricated by Quaternary Ammonium Silane Copolymers

Hairui Li,<sup>a,b</sup> Hongqian Bao,<sup>b</sup> Ke Xin Bok,<sup>a</sup> Chi-Ying Lee,<sup>b</sup> Bo Li,<sup>b</sup> Melvin T. Zin<sup>b</sup> and Lifeng Kang<sup>\*a</sup>

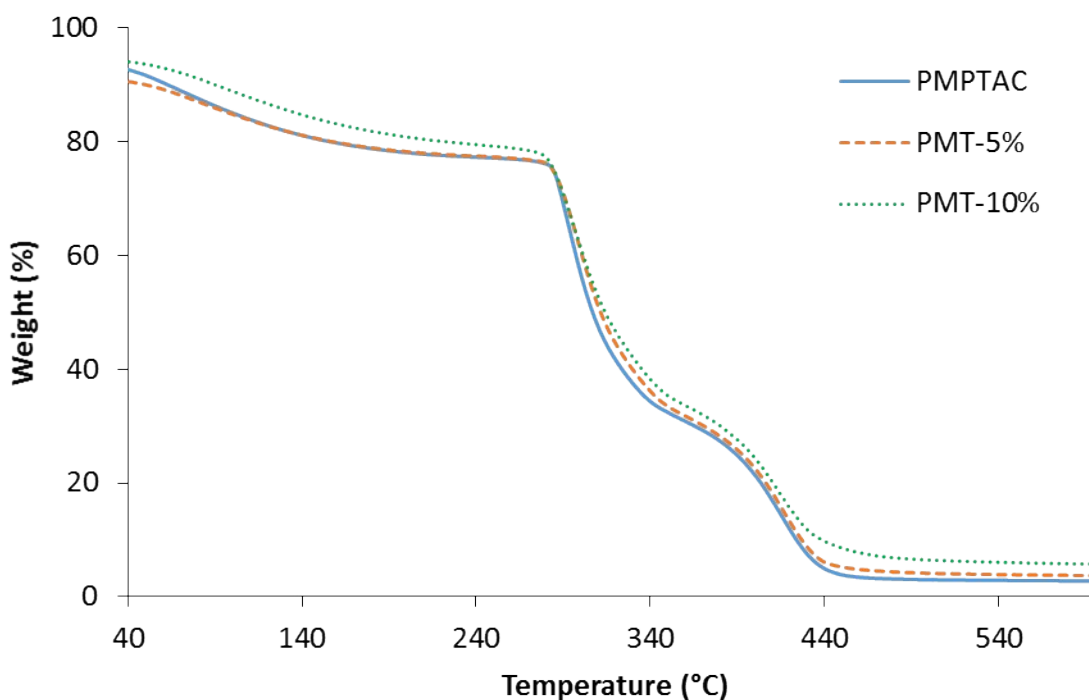
<sup>a</sup>Department of Pharmacy, National University of Singapore, 18 Science Drive 4, Singapore 117543.

<sup>b</sup>3M Innovation Singapore, 100 Woodlands Avenue, Singapore 738205.

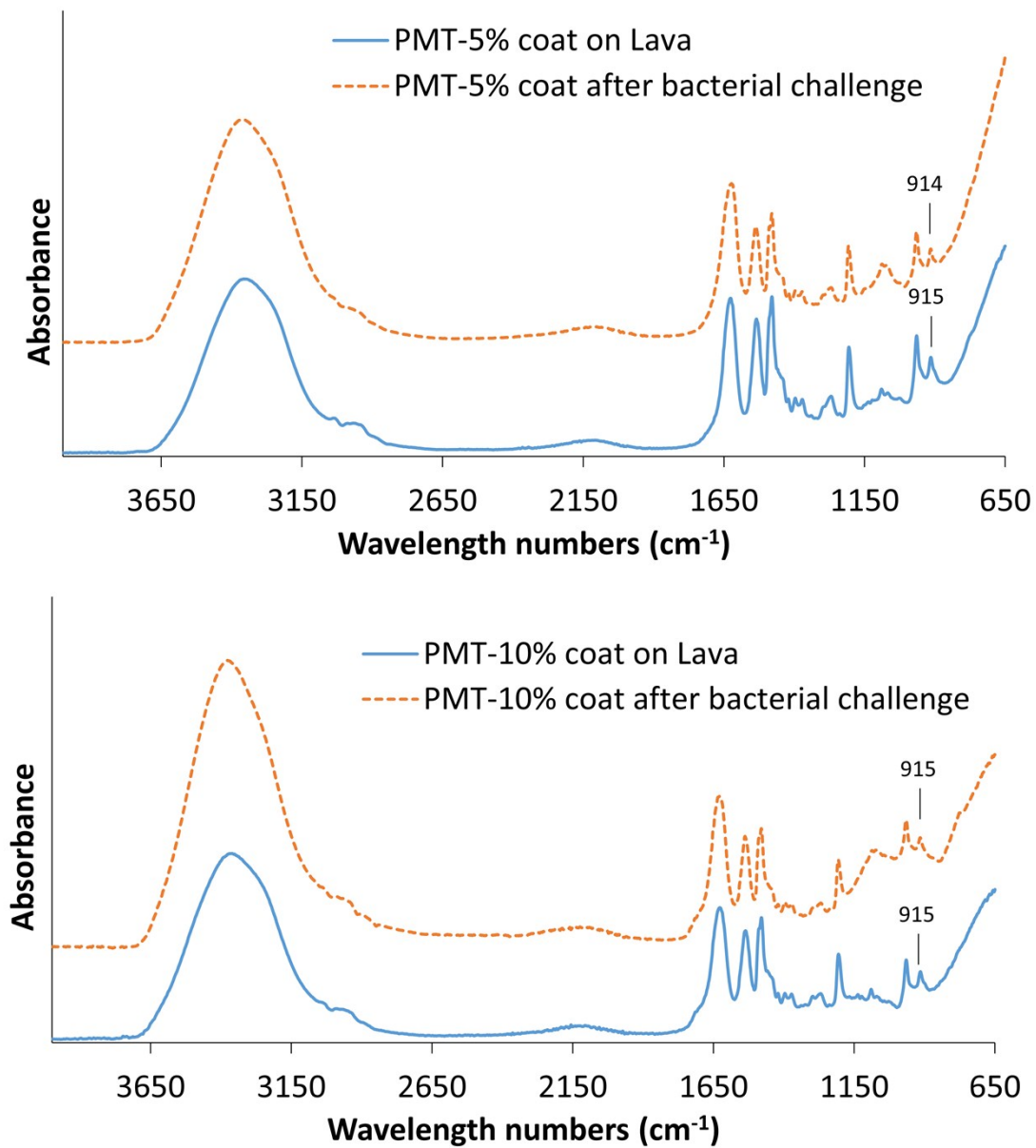
\* Corresponding author. Department of Pharmacy, National University of Singapore, 18 Science Drive 4, Singapore 117543.

Tel: + 65 6516 7519, Fax: +65 6779 1554. E-mail address: lkang@nus.edu.sg.

**Thermal analysis of synthesized polymers:** Mass loss of synthesized polymers, weighing approximately 10 mg, were measured by thermogravimetric analysis (TGA), using a TGA-Q5000 apparatus (TA Instruments Ltd, USA). The samples were heated from room temperature to 600 °C at 10 °C/min in a nitrogen gas flow of 20 cm<sup>3</sup>/min. The result was shown in **Fig. S1**.



**Fig. S1** TGA of PMPTAC, PMT-5% and PMT-10%.



**Fig. S2** ATR-FTIR spectra of: (A) PMT-5% coating on Lava restoratives before and after tested against *S. aureus*; (B) PMT-10% coating on Lava restoratives before and after tested against *S. aureus*.