Submitted to small NANO MICRO

Transdermal Delivery Devices: Fabrication, Mechanics and Drug Release from Silk

W.K. Raja et al.

Science and Technology Center, Tufts University, 4 Colby Street, Medford, MA 02155 USA

Supplementary Figures

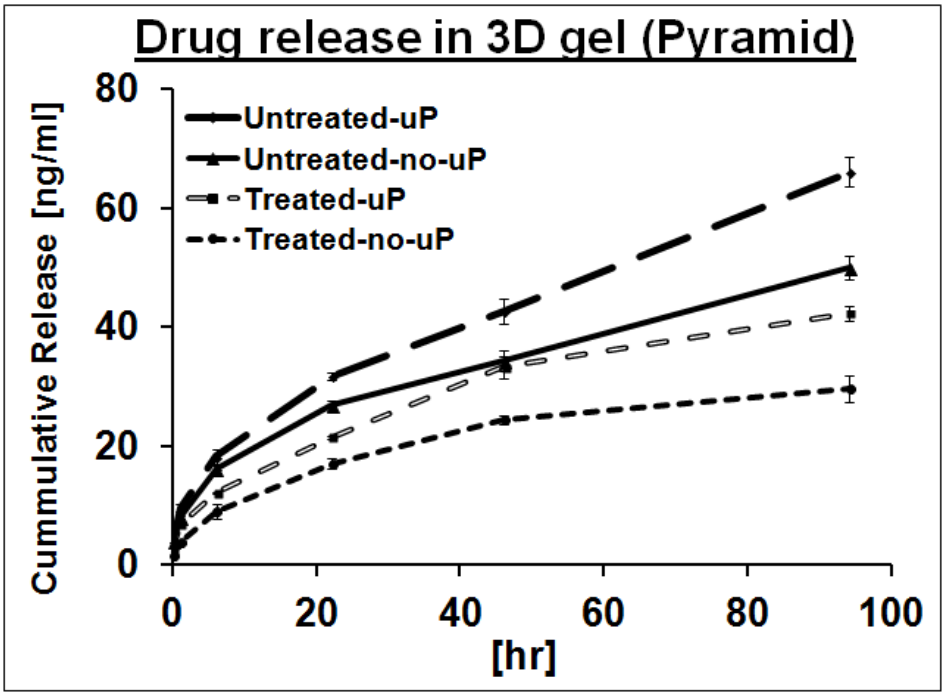

Figure 1S: Drug released in 3D gel from pyramid shape MN. The MN patches were fabricated with drug in the matrix and also loaded with microparticles containing same drug.

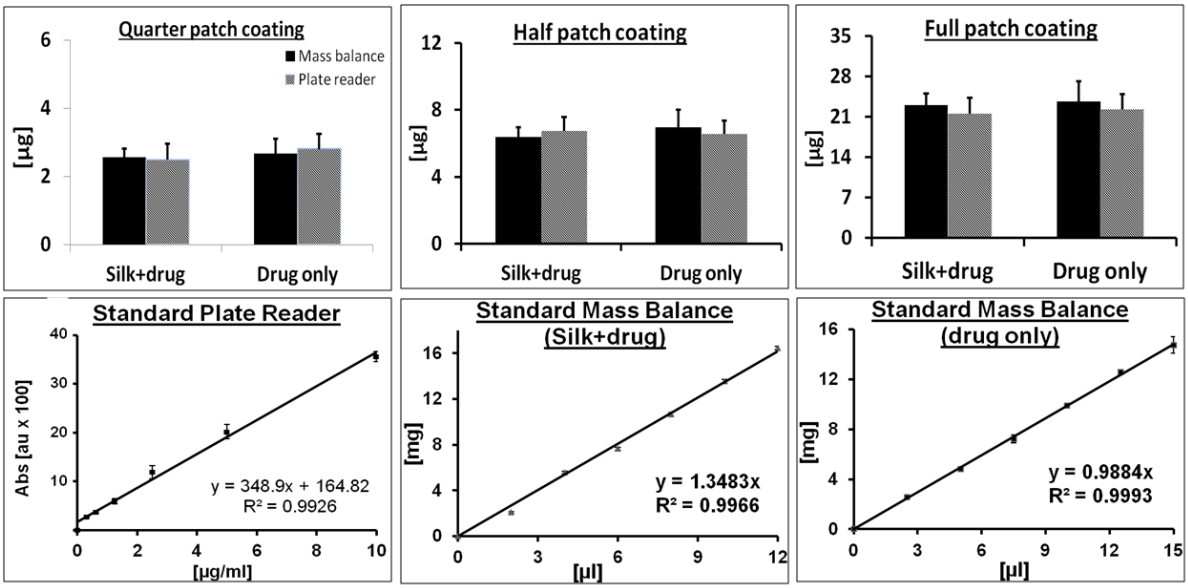

Figure 2S: Quantification of drug coated onto silk MN patches with two different techniques. Two different formulations were used for coating, formulation one was drug in di-water and formulation two was silk plus drug solution. Top row showing the increase in the patch size vs. amount of drug coating and bottom row showing the standard cures for each technique and formulation.

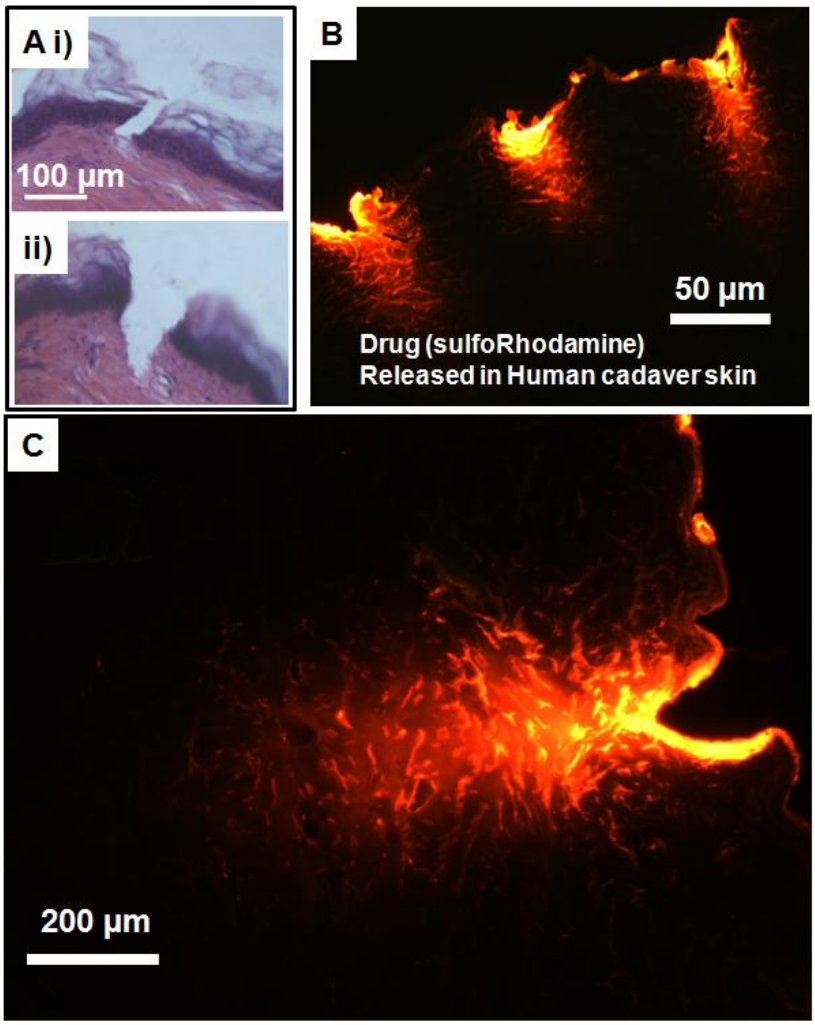

Figure 3S: A) H&E stained histology of the skin treaded with pyramid shaped MN, (i) representative image of the skin treated with MN loaded with microparticles and no post fabrication treatment (no water vapor) (ii) skin histology from the MN patch treated with water vapor containing no microparticles. B) Sulforhodamine released into human cadaver skin from the MN patch with no microparticles and no post fabrication treatment. C) Zoomed image of the skin treated with the sulforhodamine silk MN patch where the MN patch was loaded with microparticles and treated with water vapor.