



Fig. 3. pH responsive self-assembling hydrogels for the long-term prevention of medical device related infection. (a) Self-assembling peptide is conjugated to surface of a medical device. (b) pH change, initiated by infection (e.g., increase in urinary catheter infection) drives formation of antimicrobial peptide hydrogel formation only when infection begins. (c) Formation of an antimicrobial and biocompatible hydrogel layer in response to infectious stimuli provides prolonged protection from superbug colonization/biofilm formation. This process replicates the evolutionary advantage awarded to organisms such as amphibians/frogs that secrete a thin peptide mucus on their skin to protect against infection with the hypothesis that this will provide protection against infection for longer than existing products.