

Supplementary Materials

Janus Membranes with Asymmetric Cellular Adhesion Behaviors for Regenerating Eardrum Perforation

Zhili Zhang,^{†a} Jin-Bo Li,^{†b} Xu Li,^c Cheng-Ye Zhu,^c Liujie Ren,^{*d} Xiao-Jun Huang,^{*c}

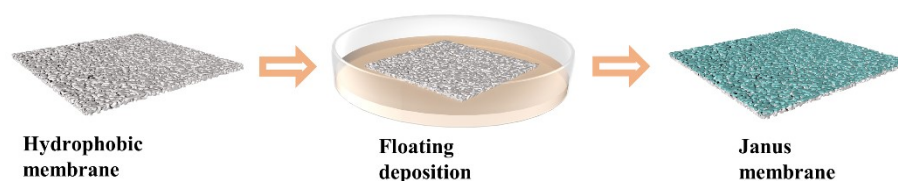
Jian Wu,^{*b} Jian Ji,^c Zhi-Kang Xu^{*c}

^a*Department of Otorhinolaryngology Head and Neck Surgery, The first affiliated hospital of Zhejiang University School of Medicine, Hangzhou 310003, China.*

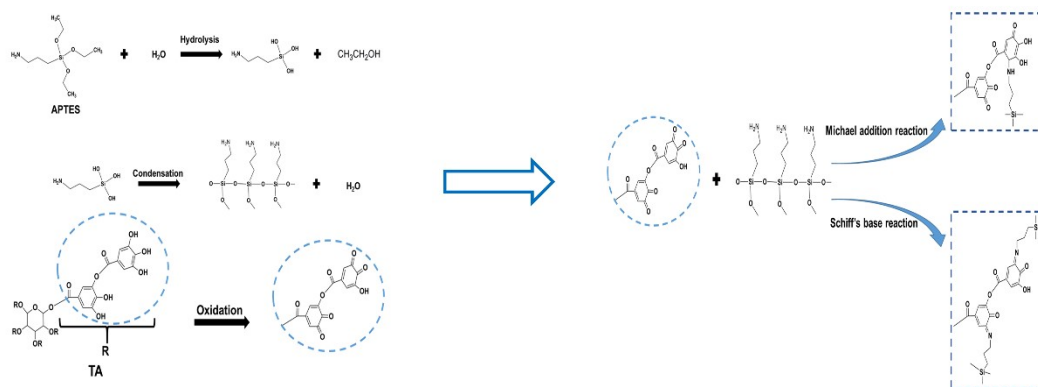
^b*Department of Chemistry, Zhejiang University, Hangzhou 310027, China.*

^c*MOE Key Laboratory of Macromolecular Synthesis and Functionalization, and Key Laboratory of Adsorption and Separation Materials & Technologies of Zhejiang Province, Department of Polymer Science and Engineering, Zhejiang University, Hangzhou 310027, China.*

^d*Department of FPRS, Eye & ENT Hospital of Fudan University, Shanghai 200031, China.*



Scheme S1. Preparation process of Janus membranes.



Scheme S2. Reaction mechanism of TA and APTES.

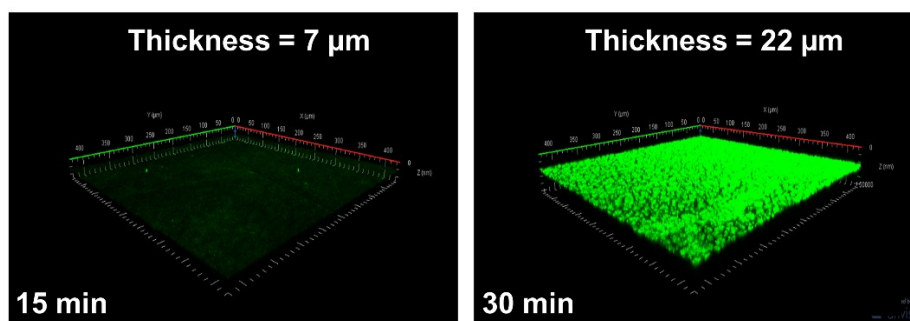


Figure S1. 3D LSCM images of JMs with different hydrophilization depths.

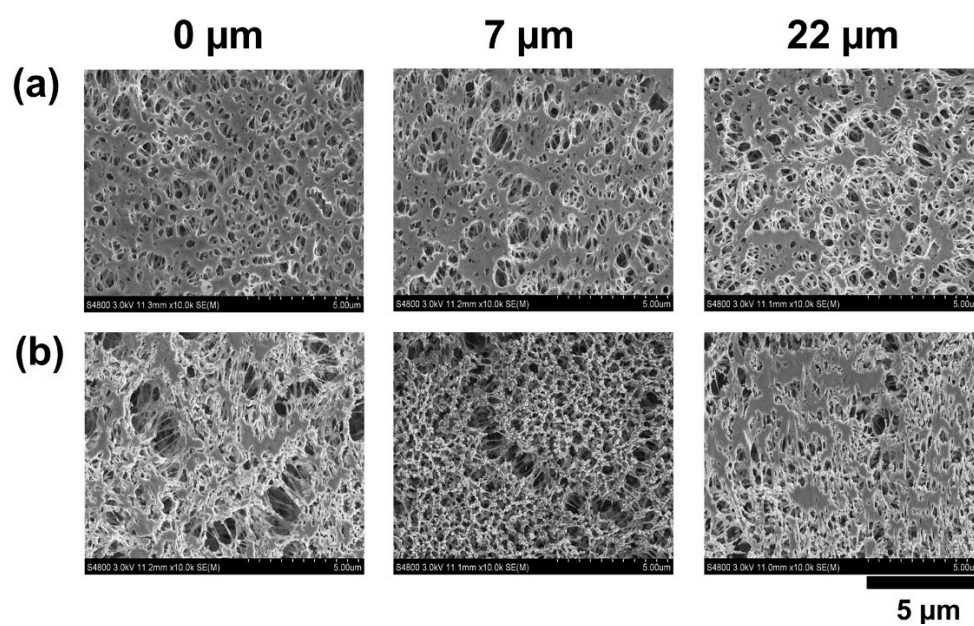


Figure S2. SEM images of JMs for (a) deposited surface and (b) undeposited surface with different hydrophilization depths.

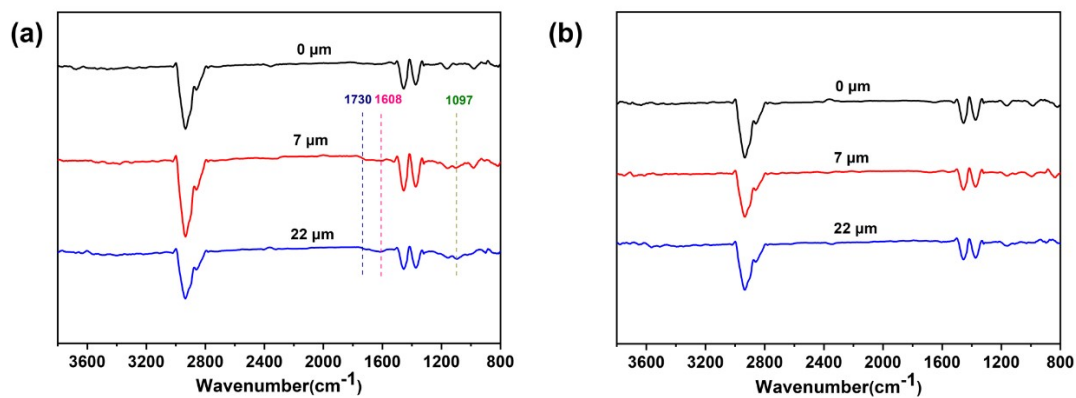


Figure S3. FT-IR/ATR spectra of JMs for (a) deposited surface and (b) undeposited surface with different hydrophilization depths.

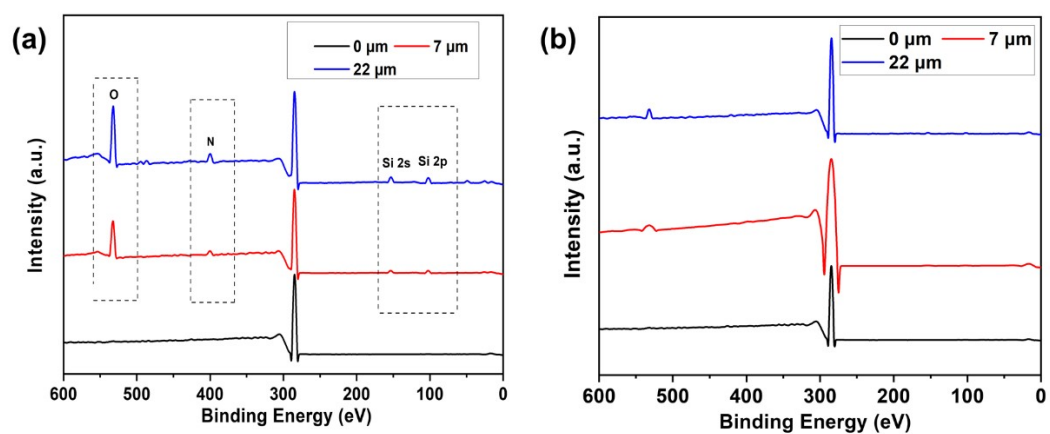


Figure S4. XPS spectra of JMs for (a) deposited surface and (b) undeposited surface with different hydrophilization depths.

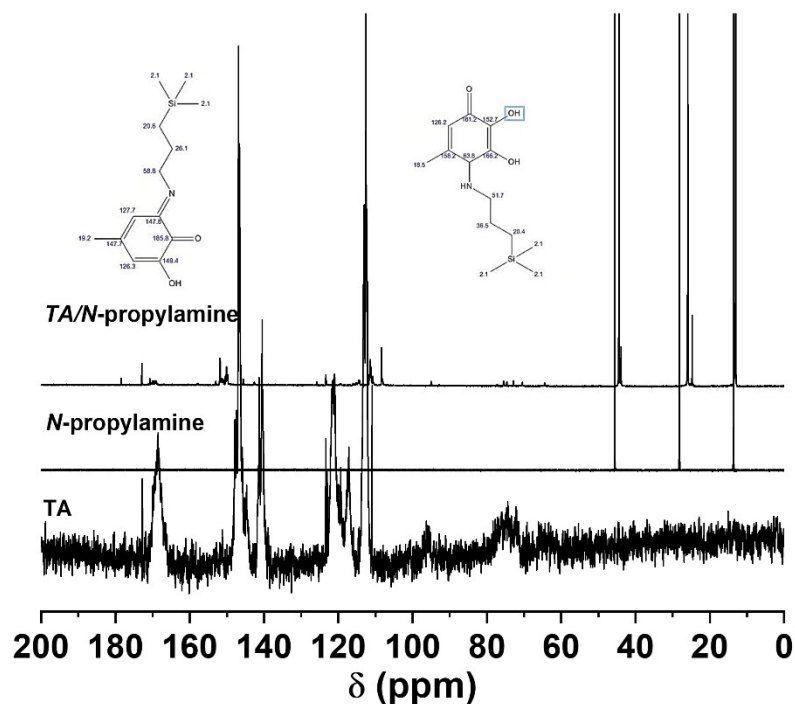


Figure S5. ^{13}C NMR of TA, n-propylamine, and TA/of n-propylamine in D_2O . (The reaction time was 30 min)

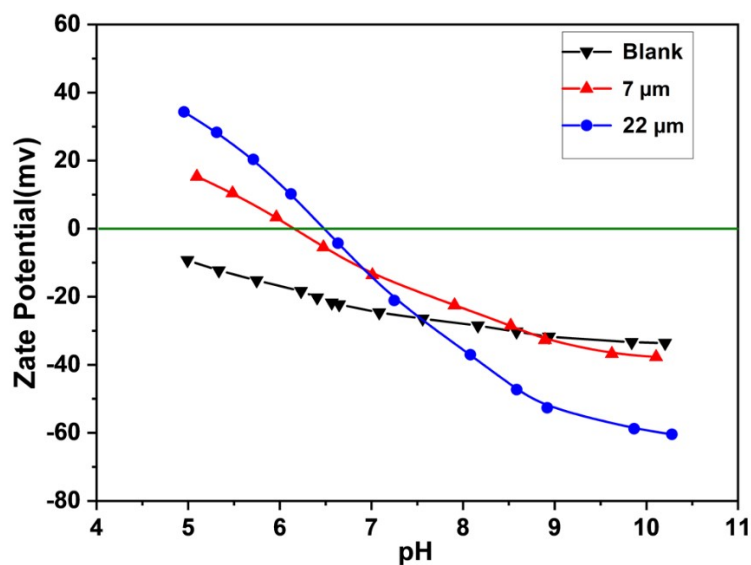


Figure S6. Surface zeta potential of JMs with different hydrophilization depths in different pH environments.

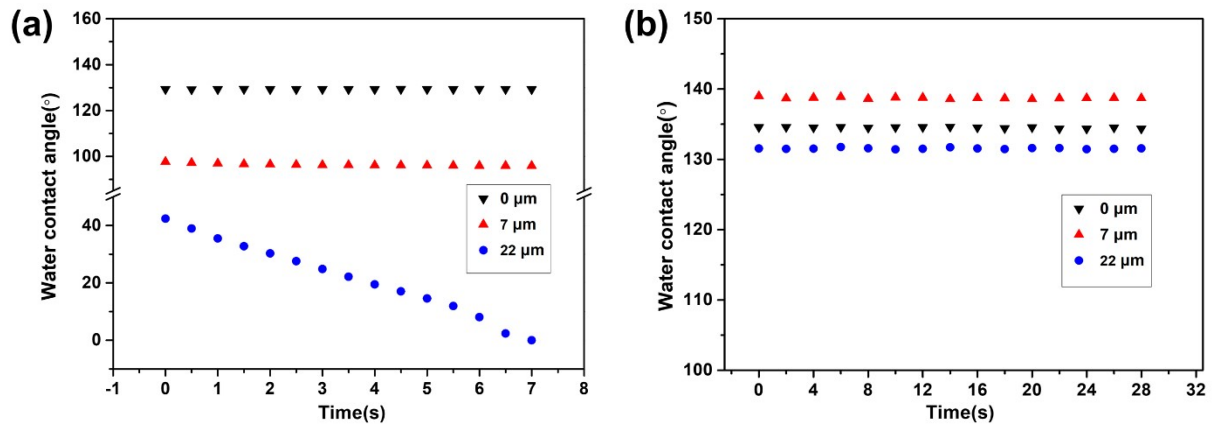


Figure S7. Dynamic water contact angle of JMs for (a) deposited surface and (b) undeposited surface with different hydrophilization depths.

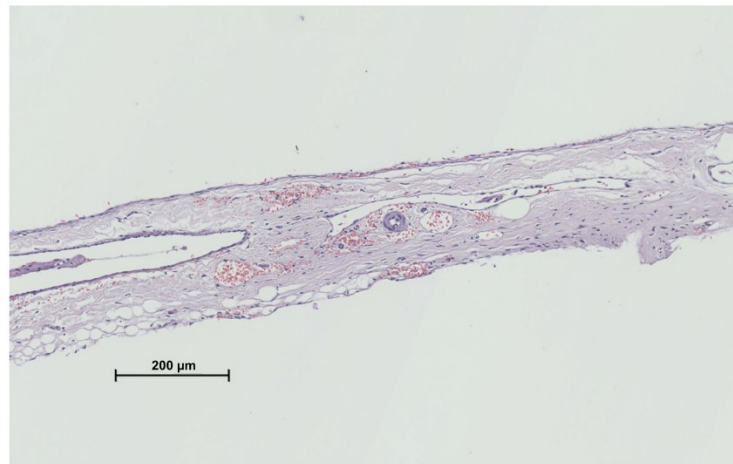


Figure S8. Histology of normal TM, 100 \times magnification.