Supporting Information

Urushiol-functionalized mesoporous silica nanoparticles and its self-assembly Janus membrane as a highly efficient hemostatic material

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List of the contents of the material supplied as Supporting Information:

The EDS dates of MSN, MSN-MPS and MSN@U particles were shown in Table S1. There was no carbon element in MSN particles. When MSN was modified by MPS, carbon element could be detected. When the surface of MSN-MPS particles was further modified by urushiol, the relative content of carbon element increased because urushiol is a natural organic polymer with long alkyl side chains ($C_{15\text{-}17}$) including 0-3 double bonds in different location. It indicated that urushiol has been grafted onto the surface of MSN particles.

Table S1. The EDS dates of MSN, MSN-MPS and MSN@U partilces

Sample	WT (%)			AT (%)		
	Si	O	C	Si	O	C
MSN	48.72	51.28	/	35.11	64.89	/
MSN-MPS	36.26	51.55	12.19	23.35	58.29	18.35
MSN@U	36.19	38.99	24.82	22.25	42.08	35.67

The conjugated value of urushiol on MSN was measured by TGA-DTG. Figure S1 showed the thermograms of MSN and MSN@U. 3.76% of weight loss of MSN was water molecule. The thermogravimetric curve of MSN@U was divided into two

stages that were the evaporation of water molecule and the degradation of organic matter. Owing to the urushiol conjugated on the surface of MSN, the fastest evaporation temperature of water rose from 40°C to 51°C and the content of adsorptive water decreased obviously. The fast decomposition temperature of MSN@U was 336°C corresponding with the degradation of urushiol. The weight loss was about 15.02%. It could be deduced that the urushiol conjugated on the surface of MSN was about 15.02%. This certified the formation of MSN@U again.

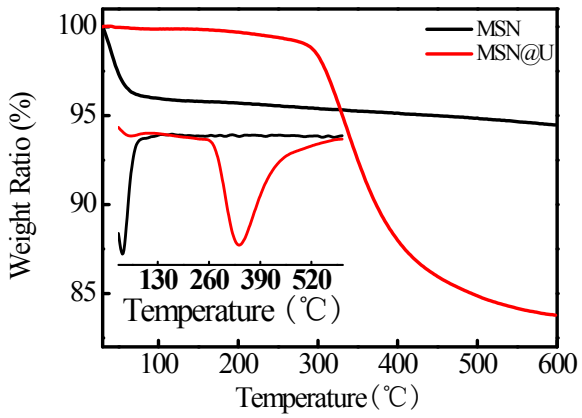

Figure S1. TGA-DTG curves of MSN and MSN@U.