

## Supporting Information

# Lignin-incorporated nanogel serving as an antioxidant biomaterial for wound healing

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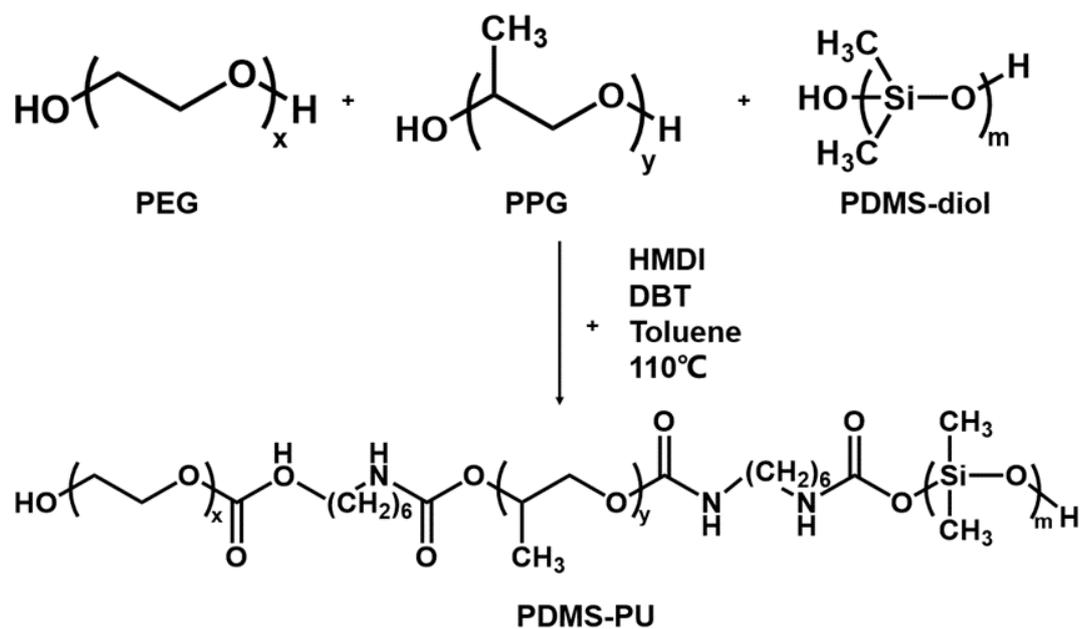


Figure S1. Synthetic scheme of PDMS-PU.

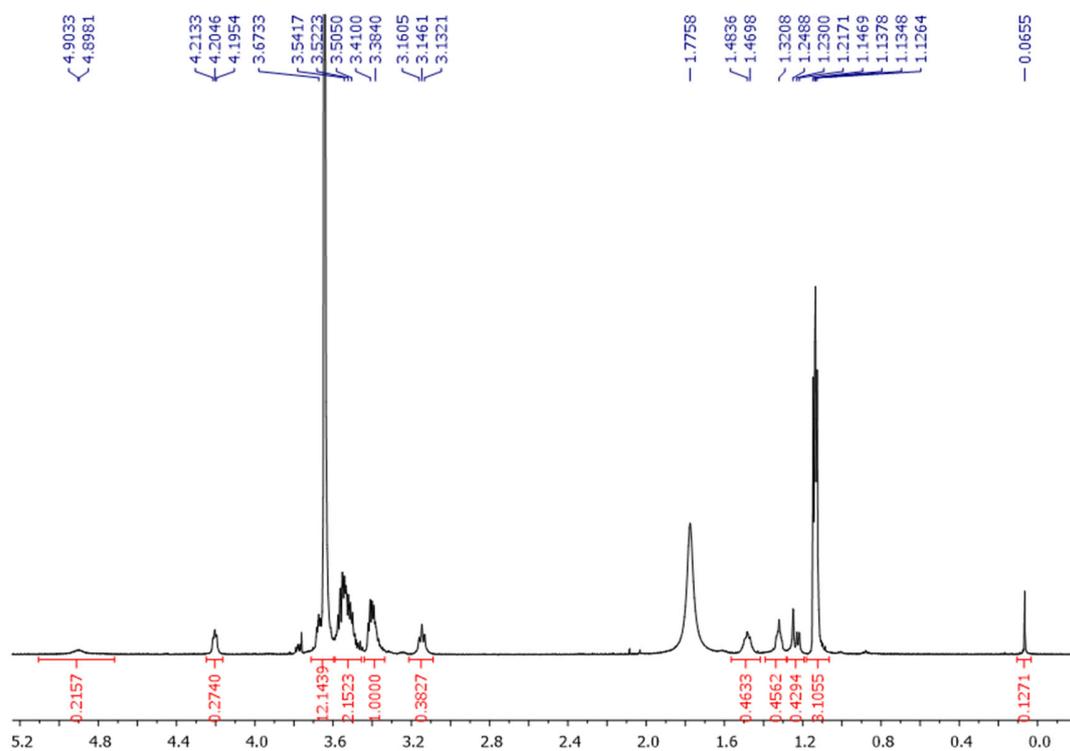


Figure S2.  $^1\text{H}$  NMR spectrum of PDMS-PU.

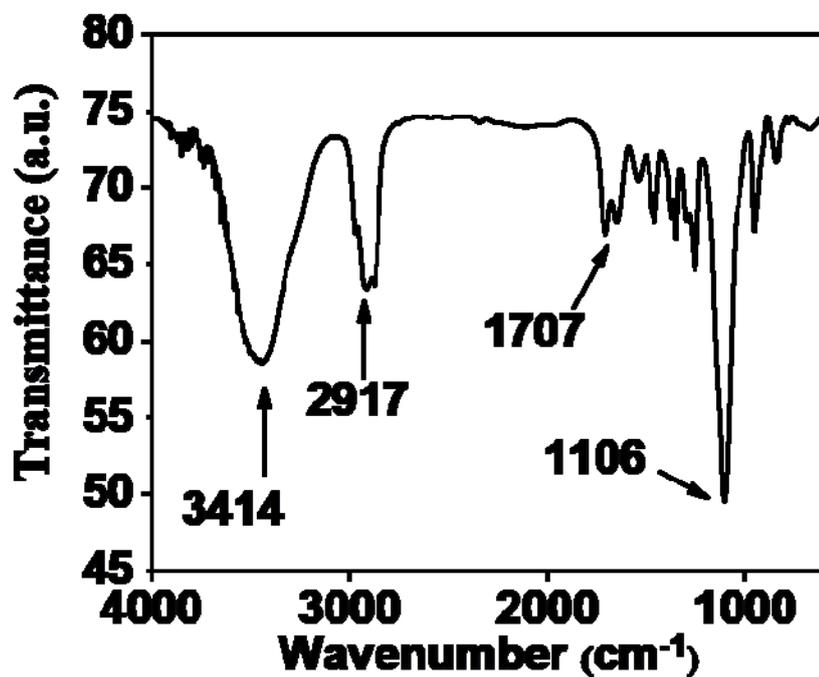


Figure S3. The FT-IR spectrum of PDMS-PU.

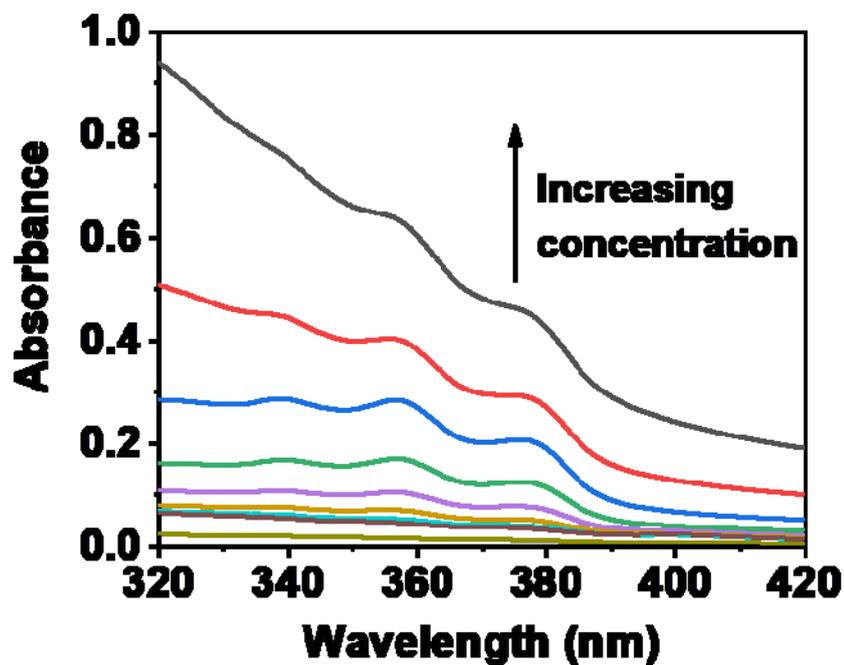
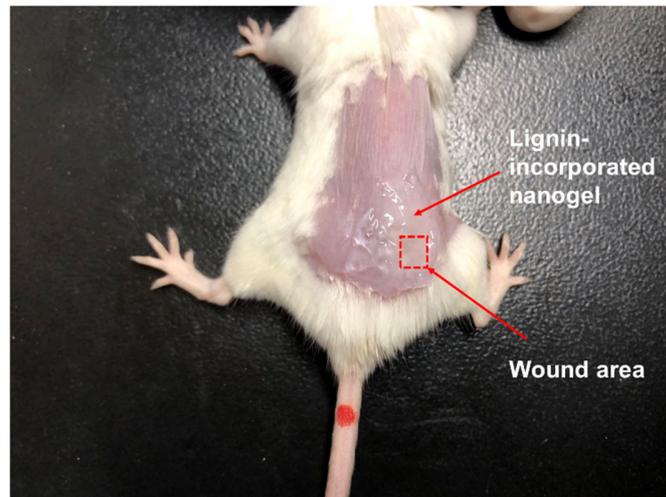
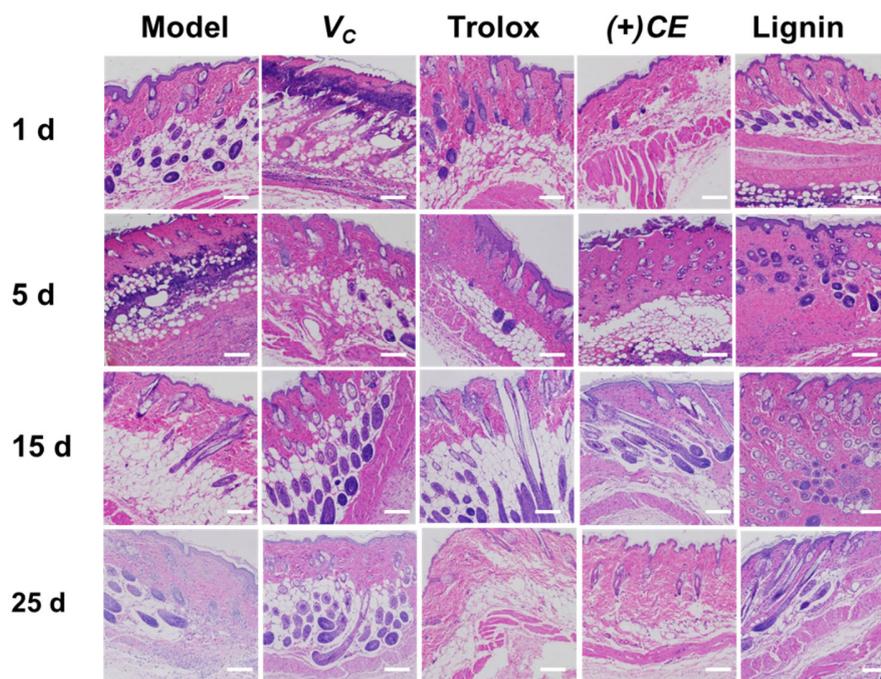


Figure S4. UV-Vis spectra of DPH with increasing concentration of lignin-incorporated thermogel in water at 25 °C.



**Figure S5.** A photo showing how the nanogel was initially applied as a wound dressing.



**Figure S6.** H&E stained images of the mice granulation tissue treated with V<sub>C</sub>, Trolox, (+) CE, and lignin group on day 1, 5, 15, and 25, respectively. Scale bar: 200 μm.