Supporting Information

3D graphene oxide supramolecular hybrid hydrogel with well-ordered interior microstructure prepared by a host-guest inclusion-induced self-assembly strategy

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**Scheme S1.** Synthesis route of Py-PEG

**Fig. S1** FT-IR spectra of mPEG, Py and Py-PEG. IR (KBr, cm$^{-1}$): 2889 ($\nu_{\text{C-H}}$), 1737 ($\nu_{\text{C=O}}$), 1468 ($\nu_{\text{C-H}}$), 1242 ($\nu_{\text{C-O}}$), 1113 ($\nu_{\text{C-O-O}}$), 1690, 843 (Pyrene group).
**Fig. S2** UV-vis spectra of Py and Py-PEG.

**Fig. S3** $^1$H NMR spectrum of Py-PEG in CDCl$_3$. 
**Fig. S4** Calibration curve of DOX

**Fig. S5** Dynamic and steady rheological behaviors of the Py-PEG/α-CD sol with same concentration of Py-PEG and α-CD in hybrid hydrogels.

**Fig. S6** Viscosity changes of G2 monitored between low shear rate (0.1 s⁻¹) and high shear rate (10 s⁻¹) at 20 °C