

## Supplementary Materials

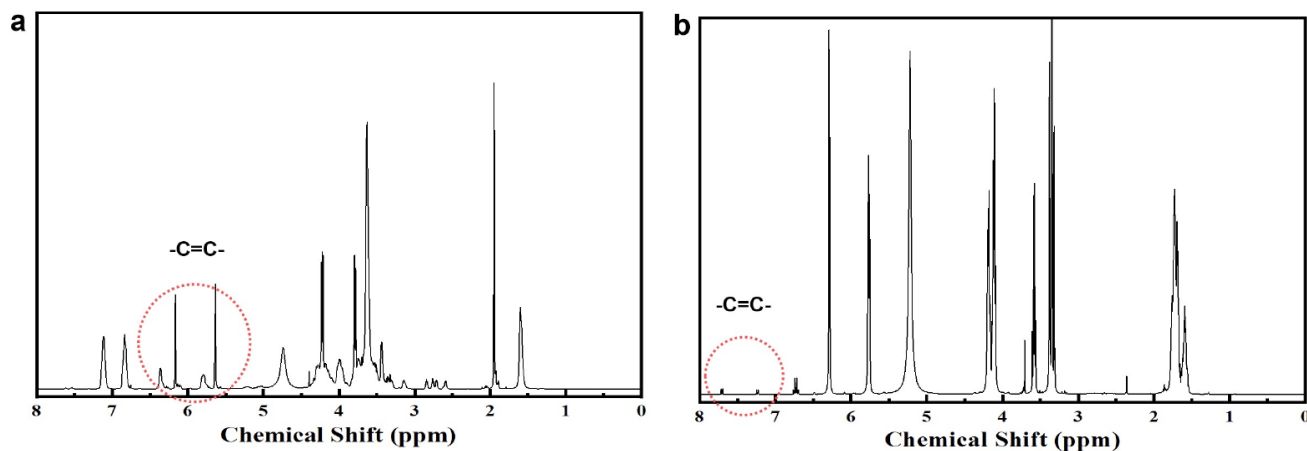


Figure S1: The  $^1\text{H}$  NMR spectra of (a) IAE and (b) IAB in  $\text{CD}_4\text{O}$ .

Table S1: Stress Values for 3D-Printed Hydrogels

	IAE hydrogel	IAB hydrogel	IAE/IAB hydrogel
Stress (KPa)	$87.4 \pm 2.0$	$95.2 \pm 2.0$	$170.1 \pm 3.1$

Table S2: The Key Data Obtained from TGA Tests for IAE/IAB Hydrogel

Weight (g)	$T_{\text{max}}$ ( $^{\circ}\text{C}$ )			Char at 600 $^{\circ}\text{C}$ (%)
	Peak 1	Peak 2	Peak 3	
IAE/IAB hydrogel	83	308	421	$4.0 \pm 0.1$

Table S3: Results from LOI, UL-94 and MCC for IAE/IAB Hydrogel

Samples	LOI (%)	UL-94	pHRR-1		pHRR-2		pHRR-3	
			T ( $^{\circ}\text{C}$ )	Value (W/g)	T ( $^{\circ}\text{C}$ )	Value (W/g)	T ( $^{\circ}\text{C}$ )	Value (W/g)
IAE/IAB hydrogel	$56.8 \pm 0.5$	V-0	$244 \pm 0.9$	$18.8 \pm 0.3$	$330 \pm 1.0$	$35.0 \pm 0.3$	$430 \pm 1.0$	$59.5 \pm 0.4$