

Supplementary Information

Design and Characterization of Bioinspired Green Lipoic Acid-Syringic Acid-Based Hydrogel for Wound Healing

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Table of Content

Fig.s

| | | |
|---------|--|---|
| Fig. S1 | ^1H NMR spectrum of LA in DMSO- d_6 at 400 MHz | 3 |
| Fig. S2 | ^1H NMR of SA in DMSO- d_6 at 400 MHz | 4 |
| Fig. S3 | ^1H NMR of poly-LA hydrogel (LA-G) in DMSO- d_6 at 400 MHz | 5 |
| Fig. S4 | ^1H NMR of poly-LA-SA hydrogel (LAS-G) in DMSO- d_6 at 400 MHz | 6 |
| Fig. S5 | EDX spectra of LA-G and LAS-G hydrogels | 7 |
| Fig. S6 | High-resolution deconvoluted S2p spectra of hydrogels via non-linear curve fitting: a) LA-G and b) LAS-G | 8 |
| Fig. S7 | Macroscopic images of wounds: Control, Standard, LA-G, and LAS-G group post-wound induction | 8 |

Tables

| | | |
|----------|---|---|
| Table S1 | Surface elemental composition of LA-G and LAS-G gel | 9 |
|----------|---|---|

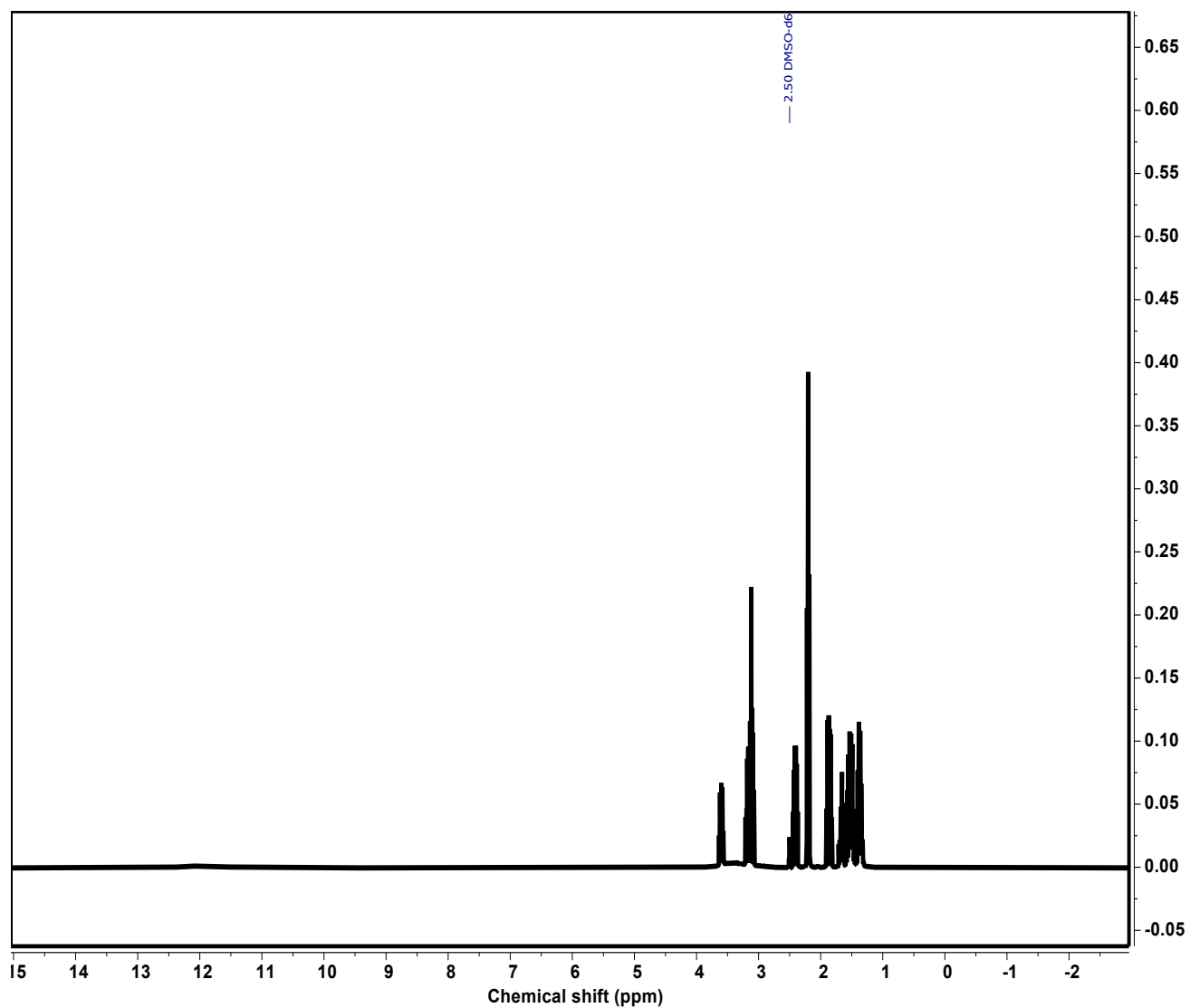


Fig. S1: 1H NMR spectrum of LA in DMSO-d6 at 400 MHz

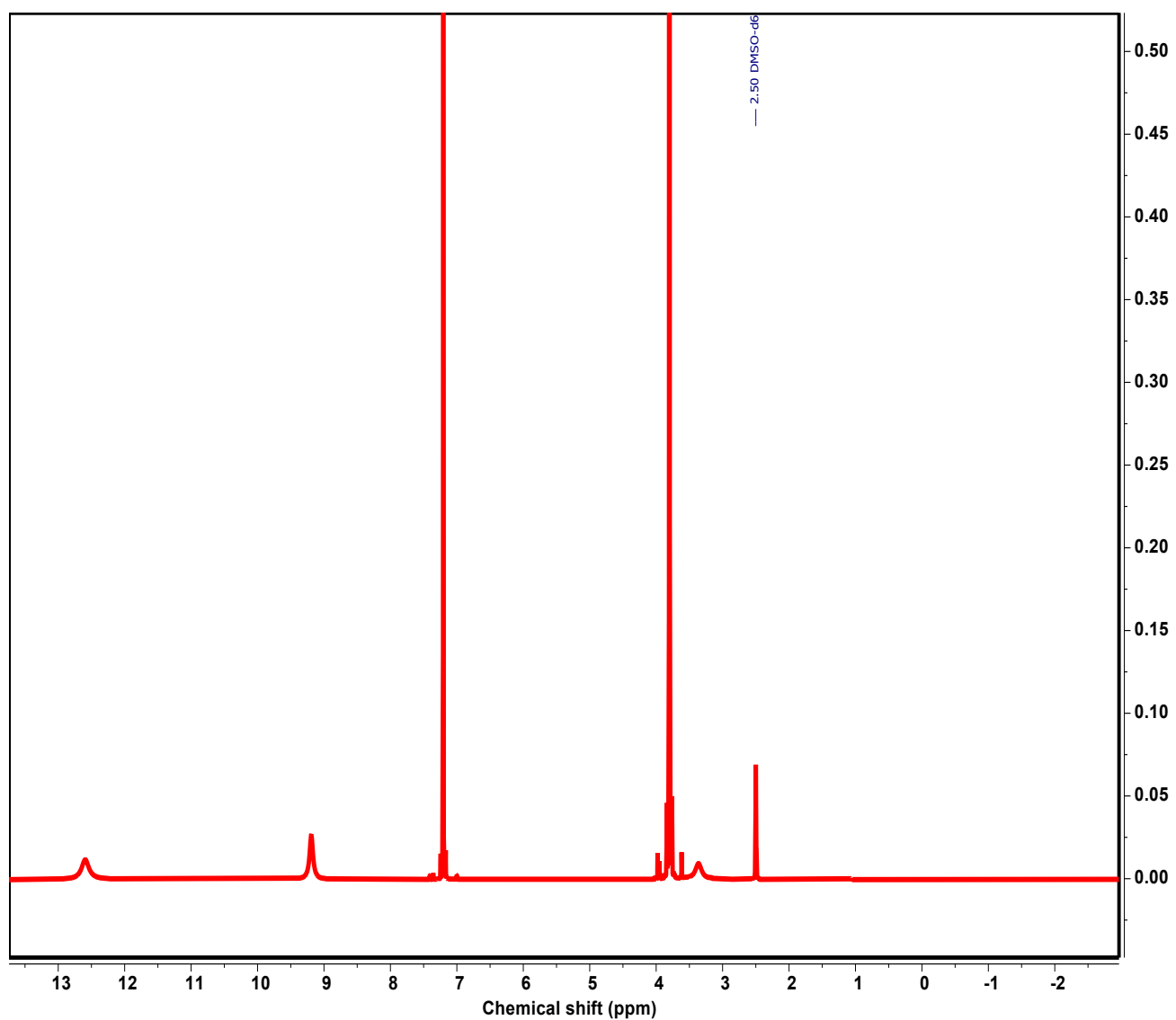


Fig. S2: ^1H NMR spectrum of syringic acid (SA) in DMSO-d_6 at 400 MHz

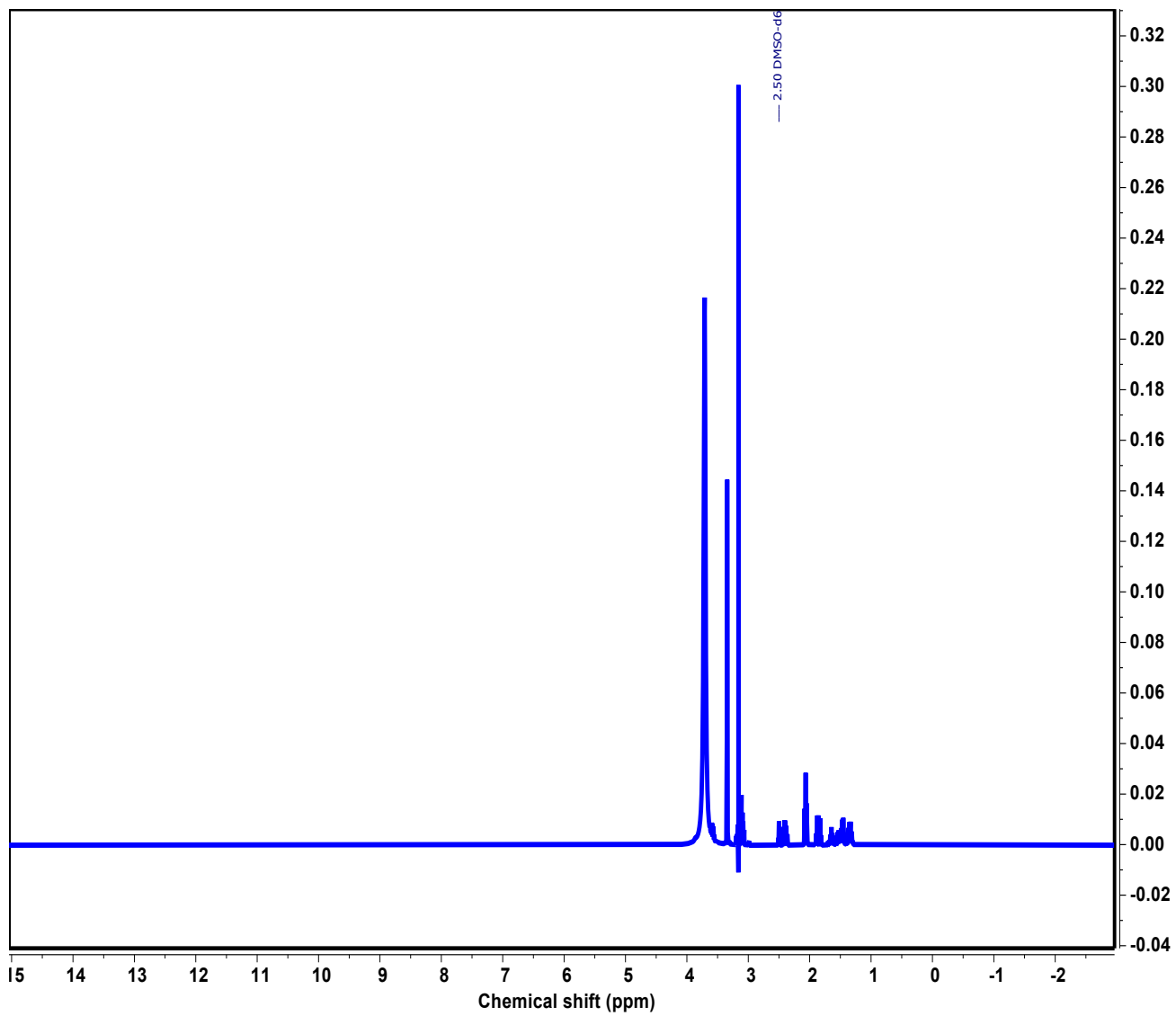


Fig. S3: ¹H NMR spectrum of poly-(α -lipoic acid) hydrogel (LA-G) in DMSO-d₆ at 400 MHz

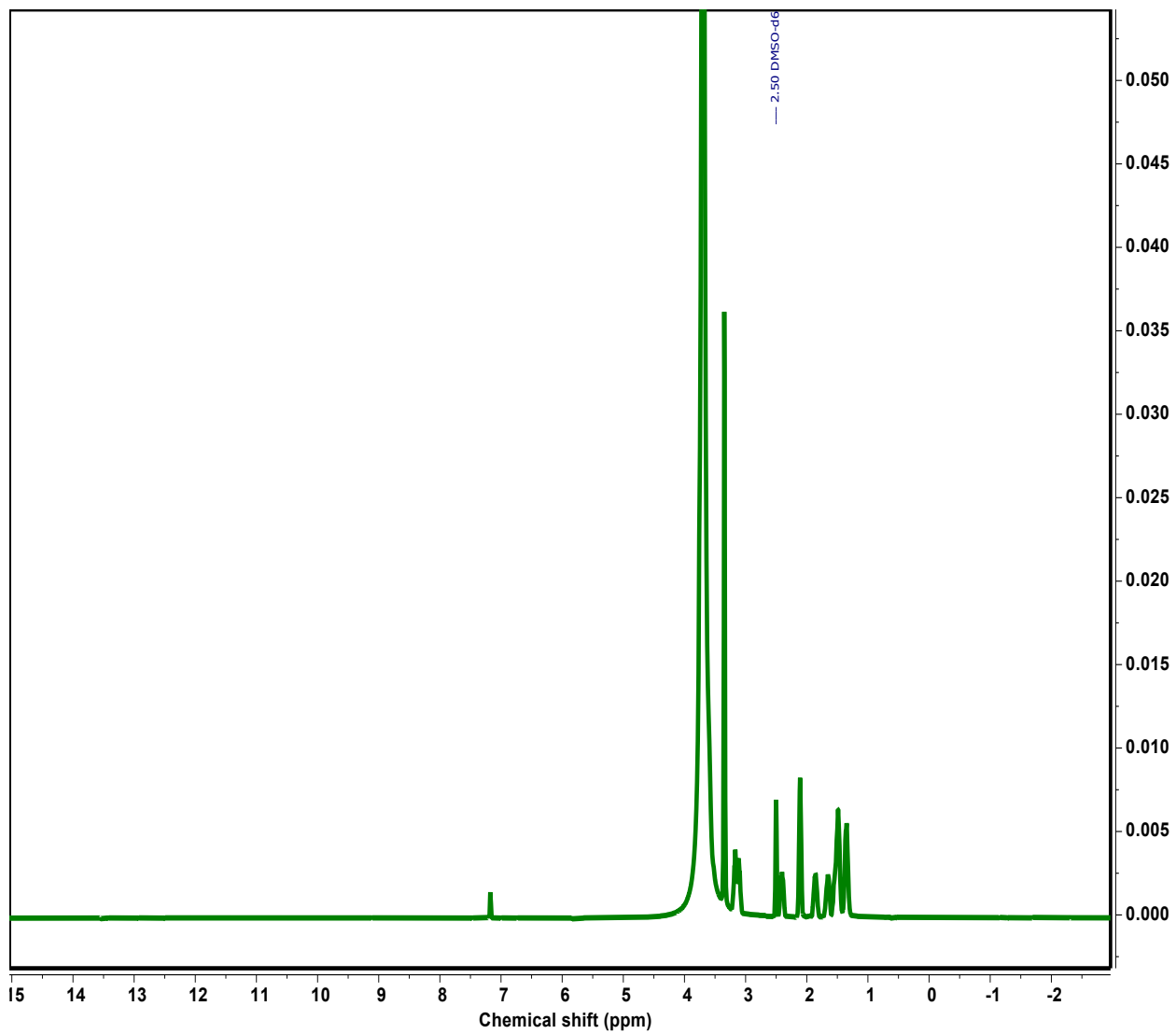


Fig. S4: ^1H NMR spectrum of poly-LA-SA (LAS-G) in DMSO-d_6 at 400 MHz

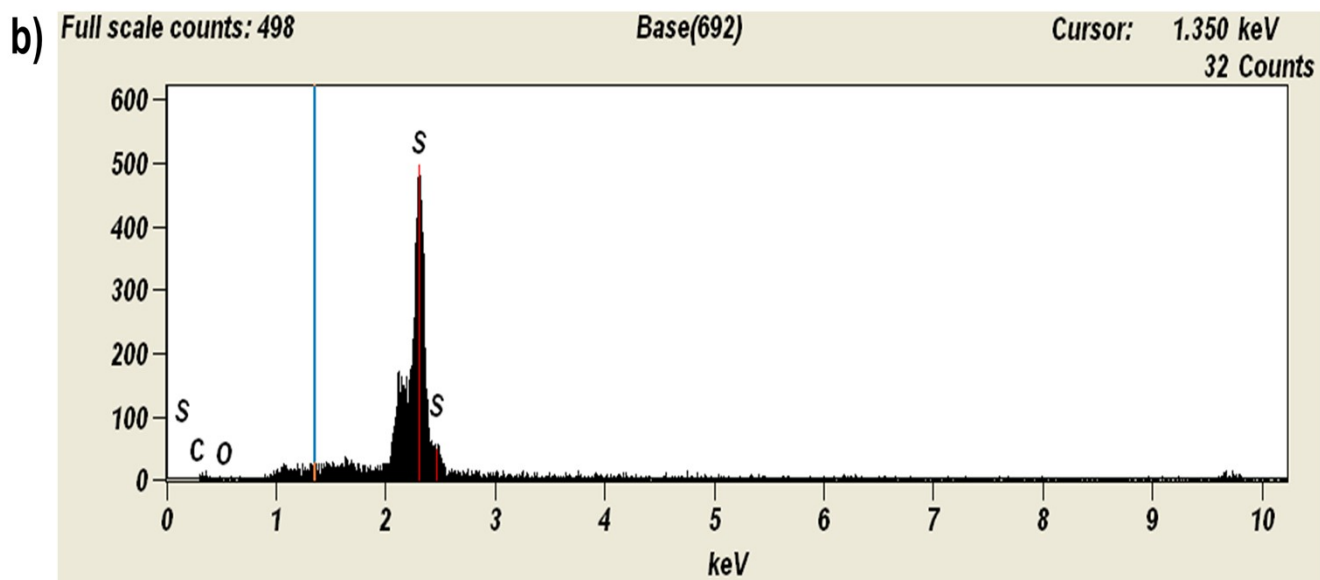
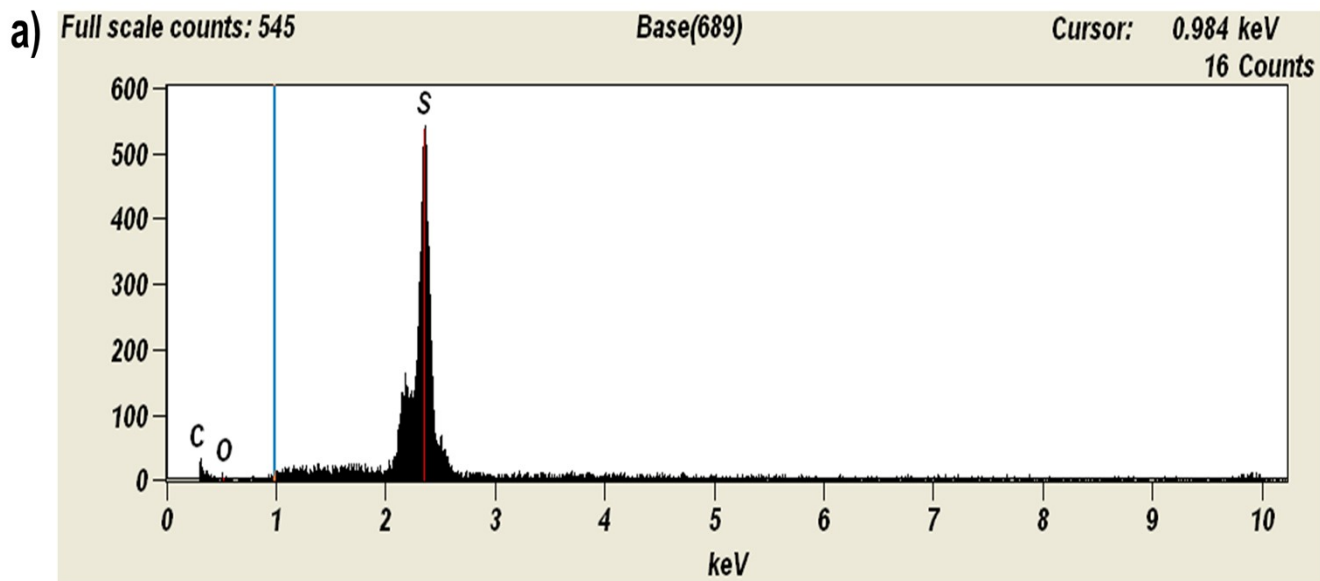


Fig. S5: EDX spectra: **a)** poly-LA hydrogel (LA-G); **b)** poly-LA-SA (LAS-G) hydrogel

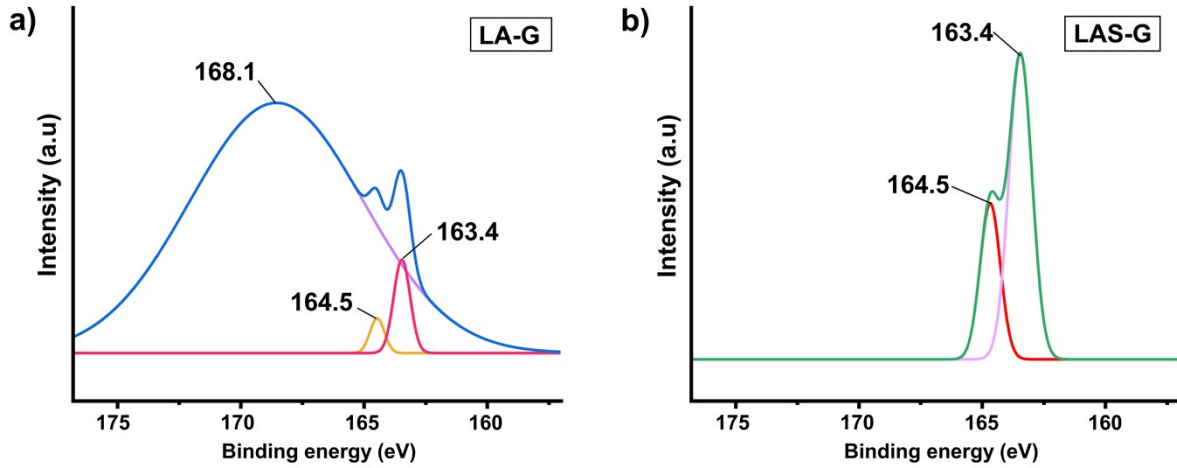


Fig. S6: High-resolution deconvoluted S2p spectra of hydrogels via non-linear curve fitting: a) LA-G and b) LAS-G

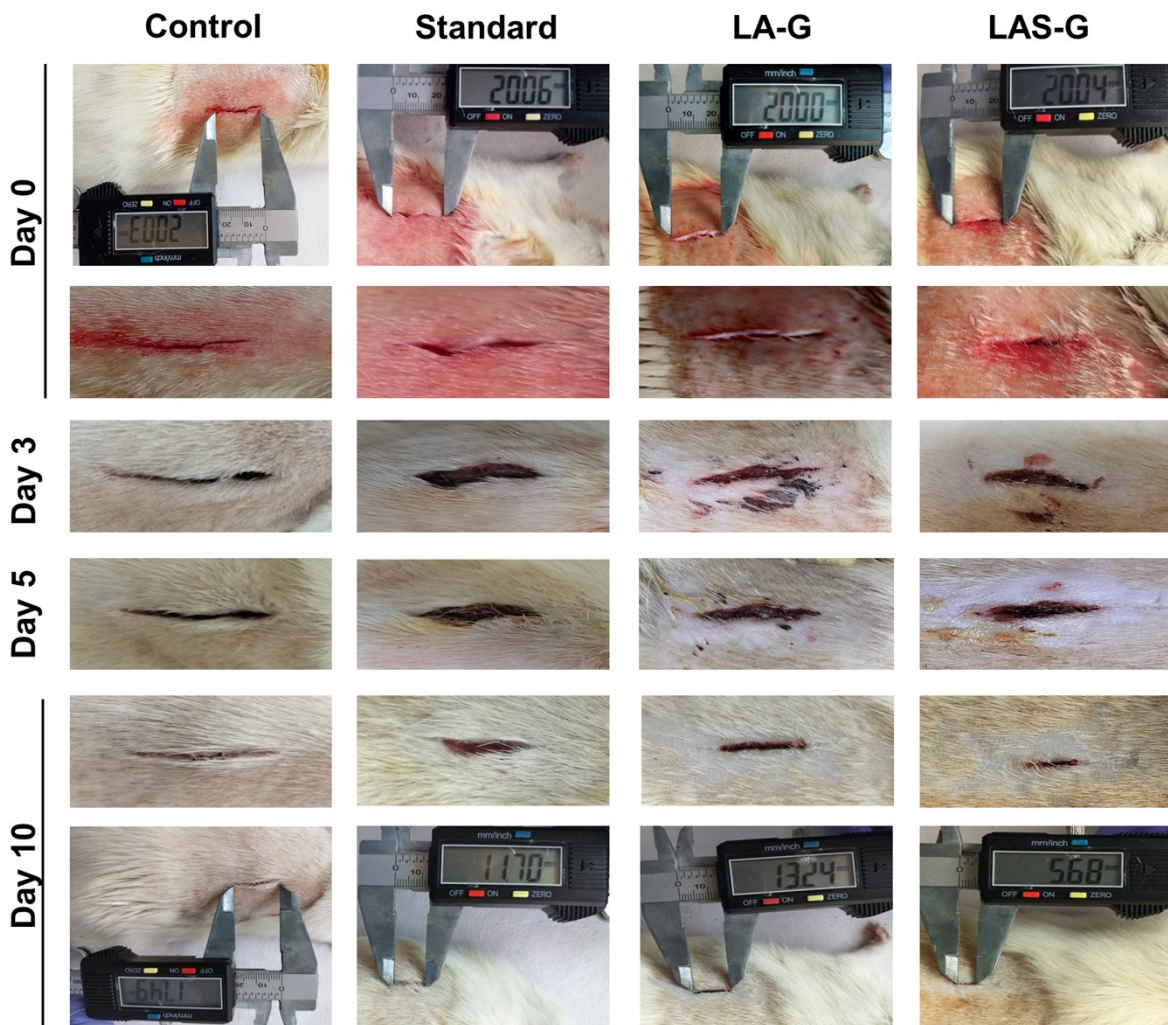


Fig. S7: Macroscopic images of wounds: Control, Standard, LA-G and LAS-G group- post wound induction.

Table S1: Surface elemental composition of poly-LA hydrogel (LA-G) and poly-LA-SA hydrogel (LAS-G)

| LAS-G | | |
|--------------|--------------------------|----------|
| Name | Peak Binding Energy (eV) | Atomic % |
| S2p | 164.17 | 11.19 |
| C1s | 285.52 | 62.49 |
| O1s | 532.71 | 22.29 |
| N1s | 401.88 | 4.04 |
| LA-G | | |
| Name | Peak Binding Energy (eV) | Atomic % |
| S2p | 168.02 | 17.87 |
| C1s | 285.58 | 34.14 |
| O1s | 532.76 | 47.99 |