SUPPORTING INFORMATION

Antimicrobial Laser-Activated Sealants for Combating Surgical Site Infections

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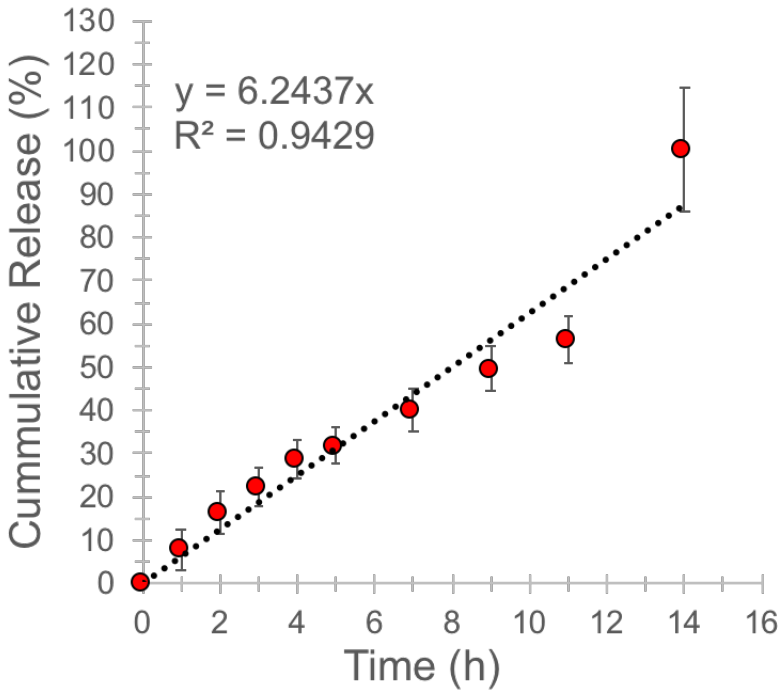


Figure S1. Vancomycin release from silk films for the first 14 h as fit to a zero-order kinetics model (trendline). Data points indicate mean ± one standard deviation.

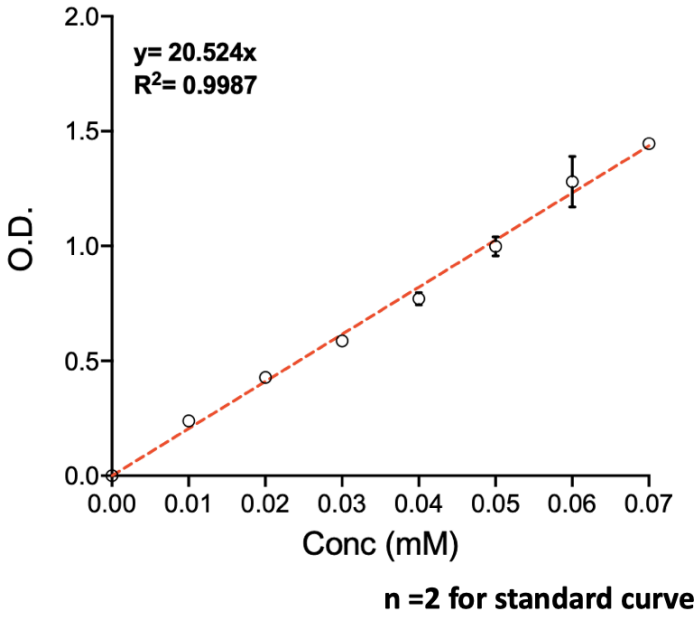


Figure S2. A calibration curve for absorbance with concentration for ICG in PBS (0.00 - 0.07 mM).

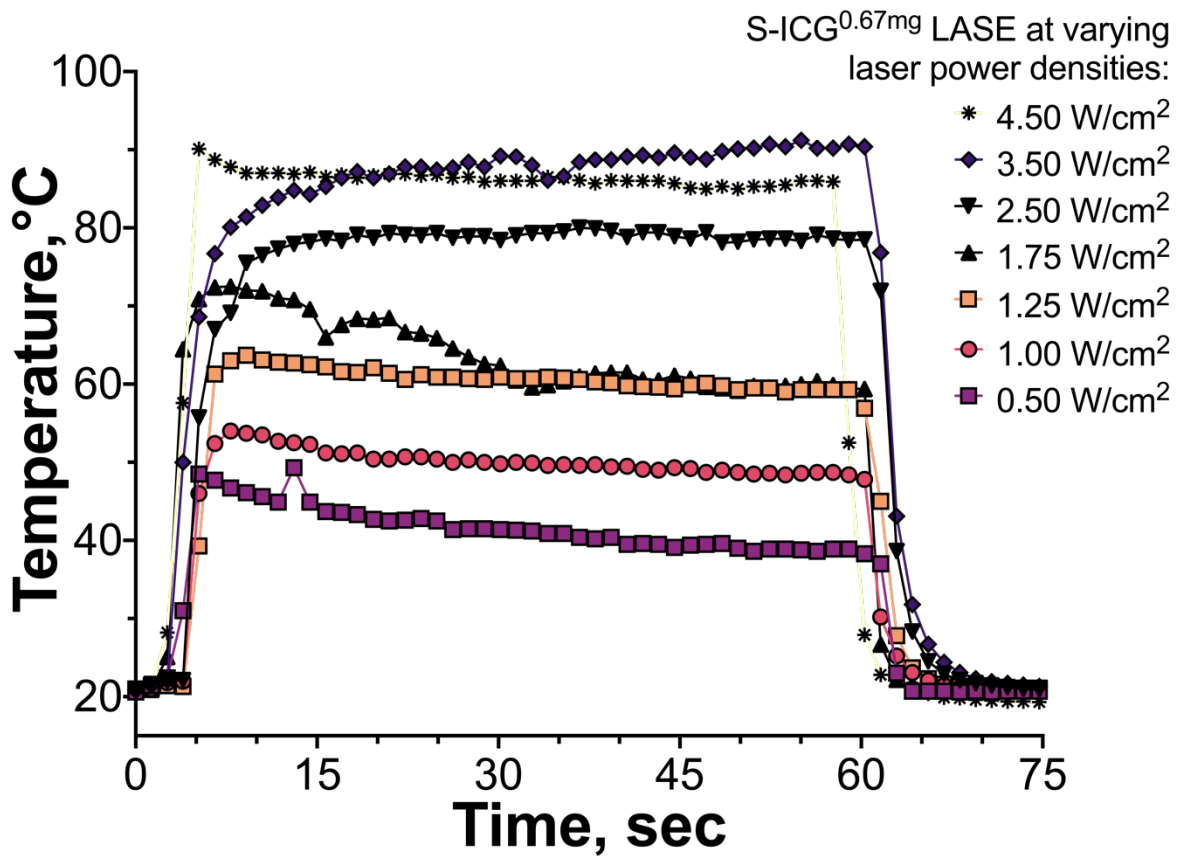
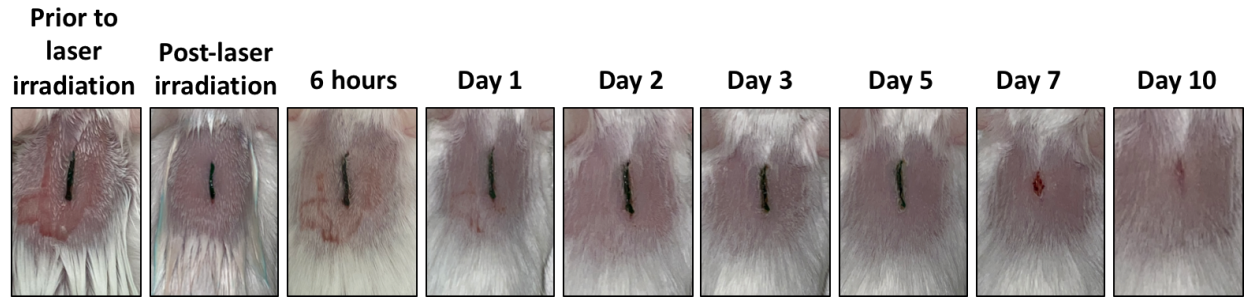
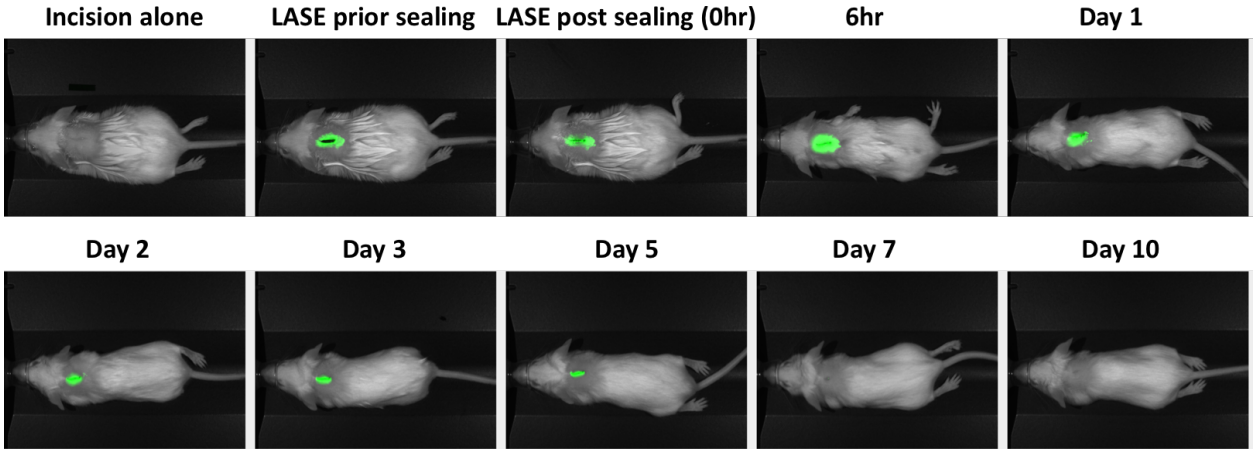


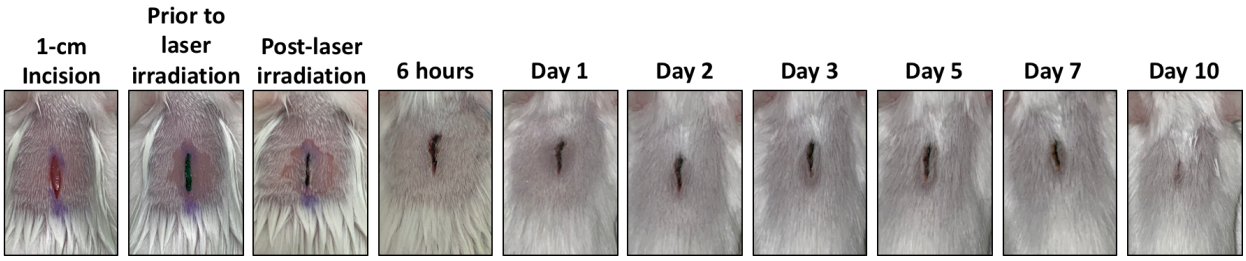
Figure S3. Photothermal response of silk-indocyanine green (S-ICG$^{0.67mg}$) LASE. Dry films were irradiated with NIR (800-nm) laser for approximately 60 sec. Laser exposure commenced at time 0 sec and terminated at time 60 sec. Representative profiles from n=3 independent experiments are shown.

Mouse 1





Mouse 2



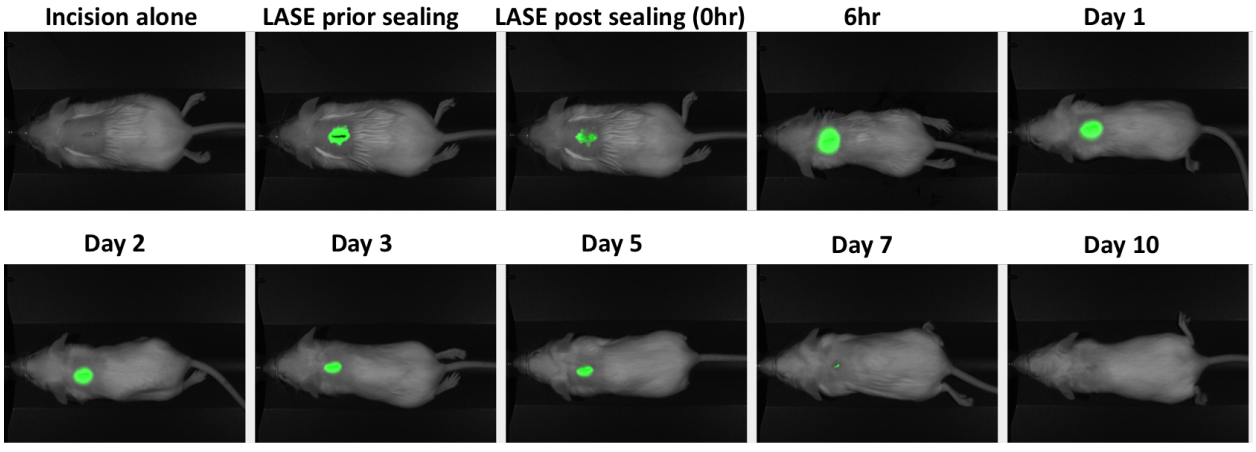


Figure S4. White light and fluorescence imaging of S-ICG LASEs in BALB/c mice before and after laser sealing. These images are additional n=2 for the images shown in Figure 4 in the main manuscript.

	RFU @ 800nm channel		
Timepoints	**Mouse 1**	**Mouse 2**	**Mouse 3**
0 hour	18700	4650	6560
6 hours	38900	26900	15100
Day 1	19800	17500	11700
Day 2	12400	8790	9560
Day 3	11000	10800	7420
Day 5	9560	9830	7790
Day 7	601	9130	957
Day 10	554	726	833

Table S1. Fluorescence intensity of ICG in three mice used for investigating the persistence of S-ICG LASEs over a period of 10 days.

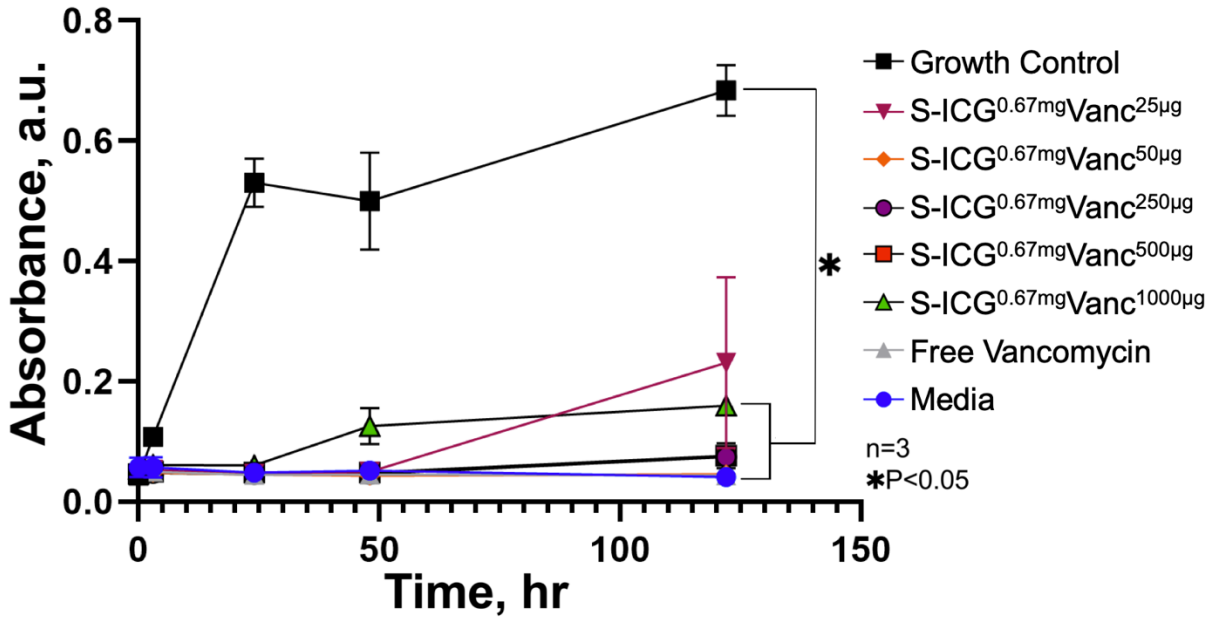


Figure S5. Efficacy of vancomycin-loaded S-ICG$^{0.67mg}$ LASE films against MRSA *in vitro*. MRSA growth in the presence of free vancomycin at 2 µg/mL or S-ICG$^{0.67mg}$ LASE films loaded with various vancomycin concentrations. The data represent n=3 independent experiments, and * indicates p values < 0.05 between groups as determined by unpaired t test. With 50 µg being the lowest vancomycin that significantly reduced MRSA growth, 50 µg was defined as the minimum inhibitory concentration when loaded within S-ICG$^{0.67mg}$ LASE films.