

Supporting Information for

**Anti-Biofilm Efficacy of Dual-Action Nitric Oxide-Releasing Alkyl Chain-Modified
Poly(amidoamine) Dendrimers**

*Brittany V. Worley, Kelci M. Schilly, and Mark H. Schoenfisch**

Department of Chemistry, University of North Carolina at Chapel Hill, Chapel Hill, North
Carolina 27599

*To whom correspondence should be addressed: schoenfisch@unc.edu

Supporting Information

Table S1. Nuclear magnetic resonance and surface tension characterization of single-action dendrimers.

Figure S1. Representative surface tension plots for G4 butyl and G4 hexyl dendrimers.

Figure S2. Representative UV-vis spectra for single- and dual-action dendrimers.

Figure S3. Confocal microscopy images of *P. aeruginosa* and *S. aureus* biofilms exposed to G1 hexyl/NO dendrimers.

Figure S4. Bactericidal efficacy of dendrimers against *S. aureus* biofilms.

Figure S5. Confocal microscopy images of untreated *P. aeruginosa* biofilms.

Figure S6. Confocal microscopy images of *S. aureus* biofilms before and after exposure to G1 hexyl dendrimers.

Table S1. Nuclear magnetic resonance and surface tension characterization of single-action dendrimers.

	No. Modified End Groups	%	Molecular Weight	CVC ($\mu\text{g/mL}$)
G1 butyl	5 ± 1	60	1776.1	3193 ± 3
G1 hexyl	6 ± 1	73	2010.9	553 ± 11
G2 butyl	11 ± 1	67	4026.4	3604 ± 2
G2 hexyl	11 ± 1	69	4359.4	661 ± 5
G3 butyl	24 ± 3	76	8667.3	2979 ± 3
G3 hexyl	25 ± 2	78	9423.0	725 ± 4
G4 butyl	43 ± 4	68	17330.2	3066 ± 2
G4 hexyl	51 ± 4	80	19323.2	653 ± 10

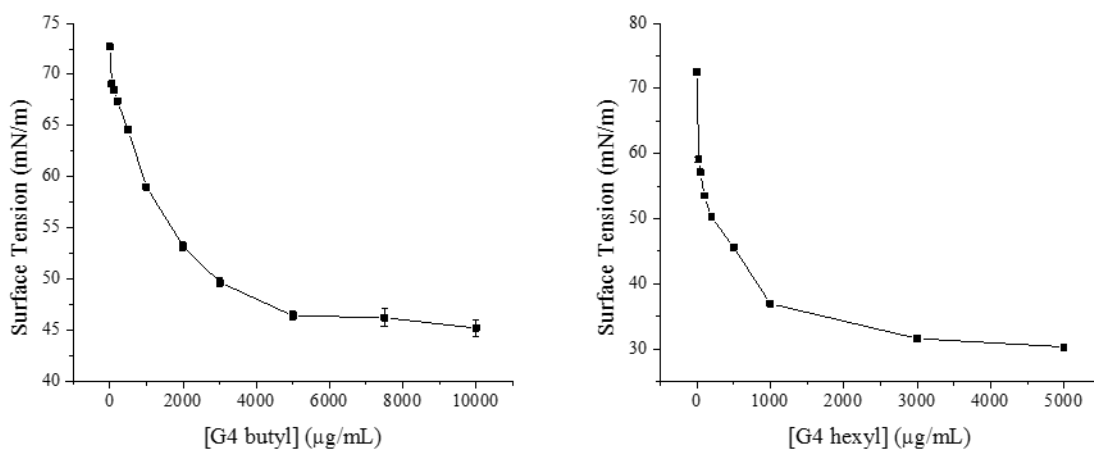


Figure S1. Representative surface tension plots for (A) G4 butyl and (B) G4 hexyl, demonstrating the leveling off of surface tension indicative of the CVC. Error bars represent standard deviation of the mean.

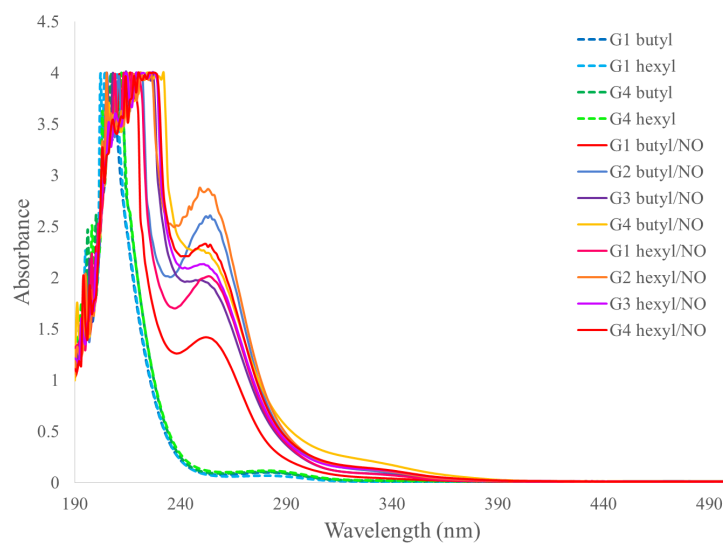


Figure S2. Representative UV-vis spectra for single- and dual-action dendrimers.

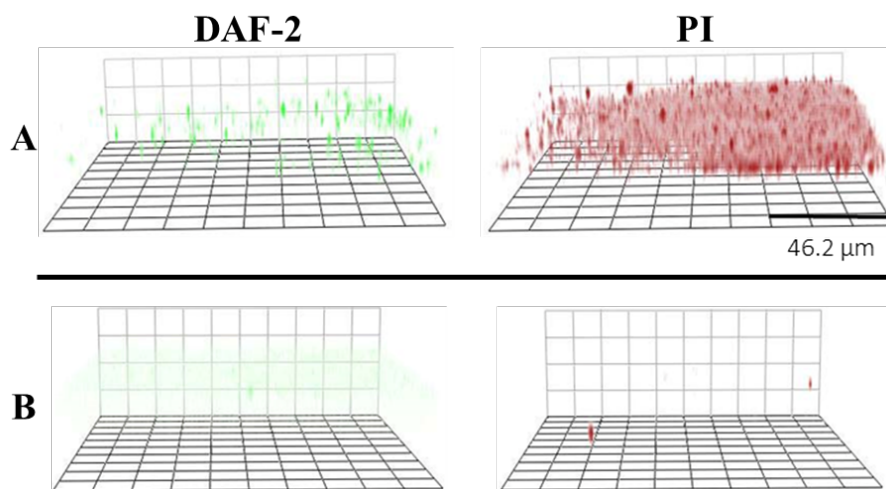


Figure S3. Confocal microscopy images of (A) *P. aeruginosa* and (B) *S. aureus* biofilms exposed to 100 $\mu\text{g/mL}$ G1 hexyl/NO dendrimers for 2 h. DAF-2 green fluorescence designates the presence of intracellular NO, while PI red fluorescence indicates compromised membranes. Threshold inverted for clarity. Confocal images in (A) are the same images as Figure 2B (2 h).

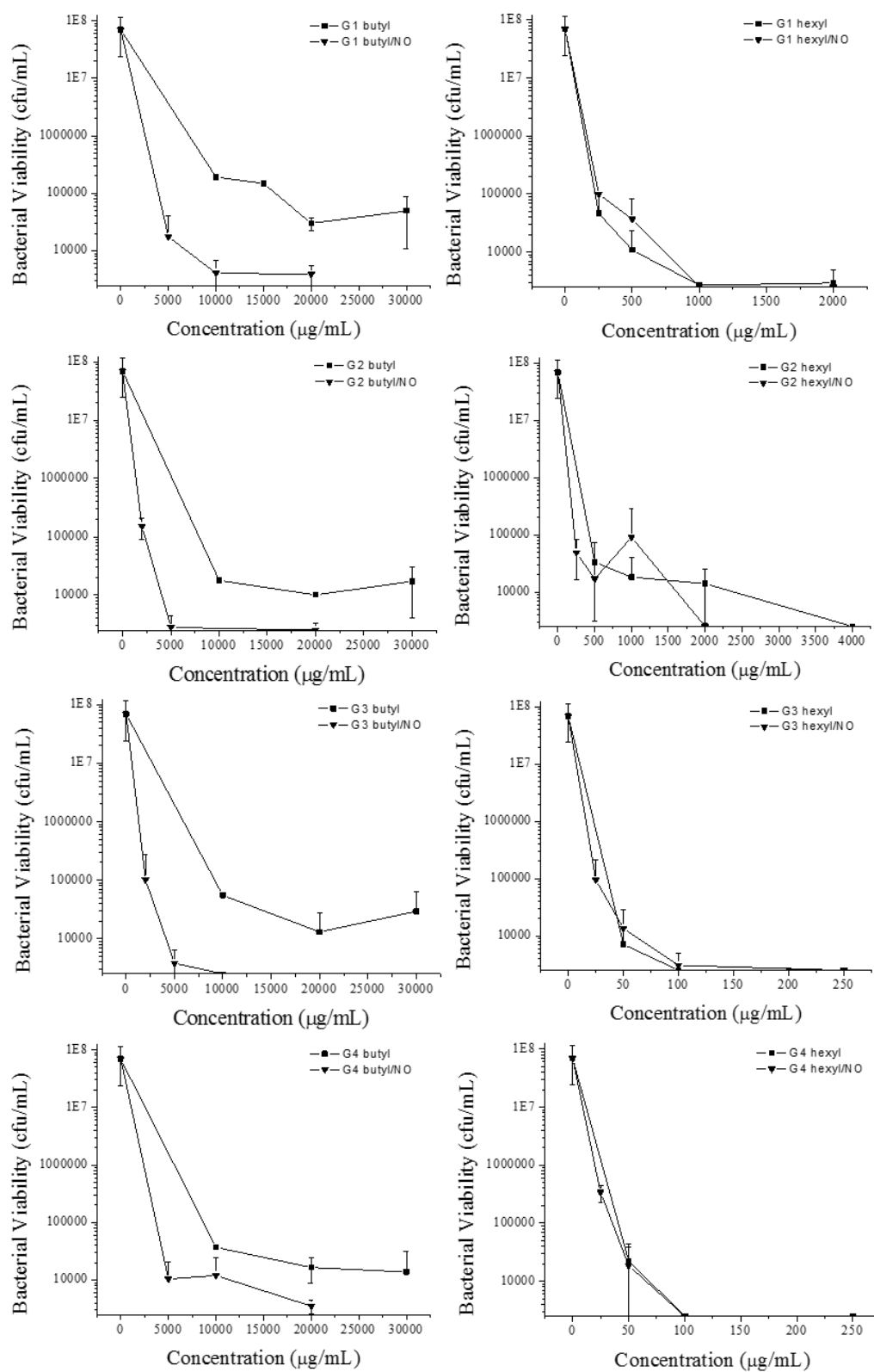


Figure S4. Bactericidal efficacy of single- and dual-action dendrimers against *S. aureus* biofilms. Error bars signify standard deviation of the mean viability (CFU/mL). For all measurements, $n \geq 3$ pooled experiments

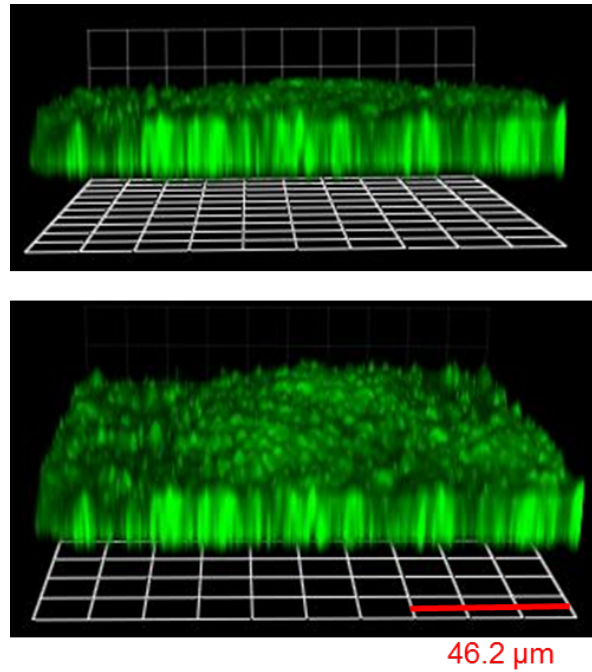


Figure S5. Confocal microscopy images of Syto9-stained untreated *P. aeruginosa* biofilms.

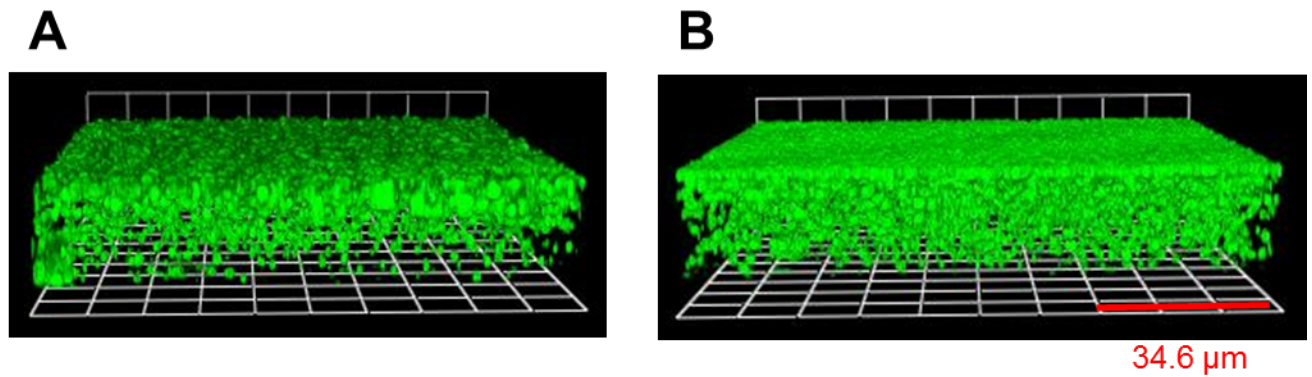


Figure S6. Confocal microscopy images of Syto9-stained *S. aureus* biofilms (A) before and (B) after exposure to 50 $\mu\text{g/mL}$ G1 hexyl dendrimers for 1 h.