

# SUPPORTING INFORMATION

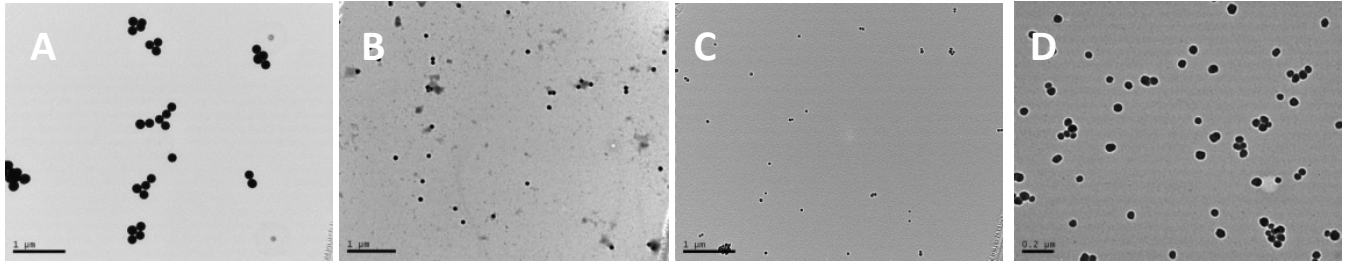
## Influence of Scaffold Size on Bactericidal Activity of Nitric Oxide-Releasing Silica Nanoparticles

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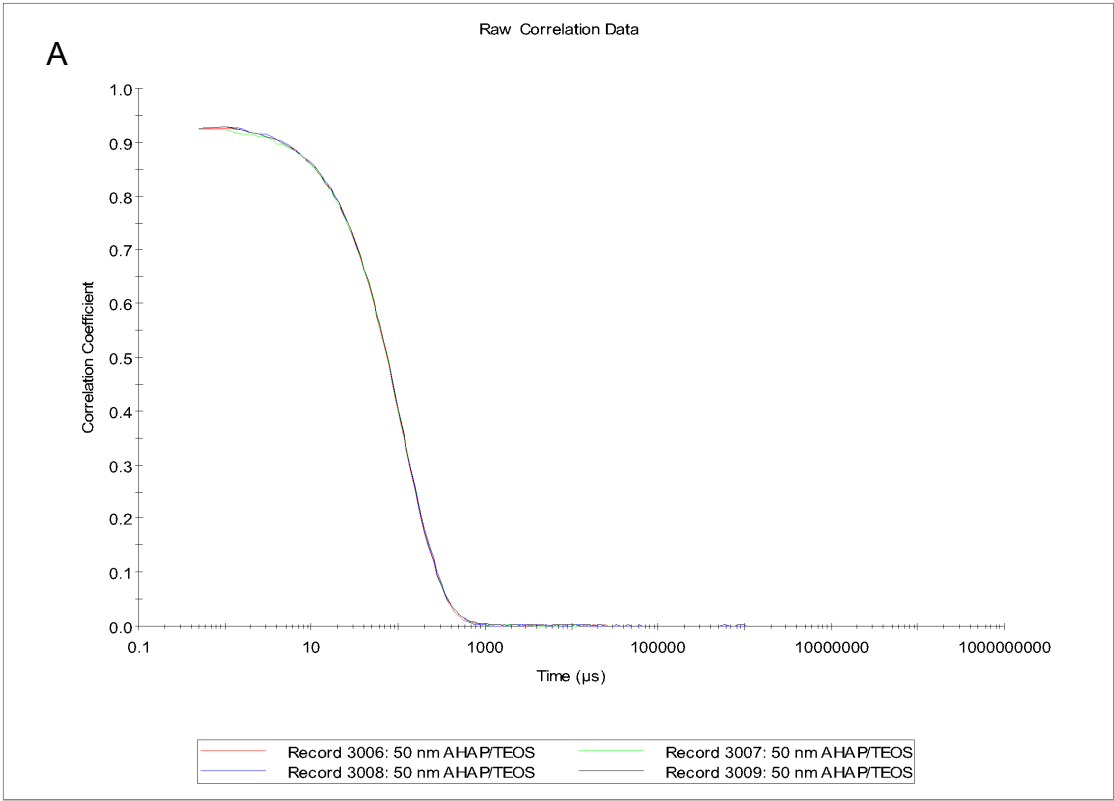
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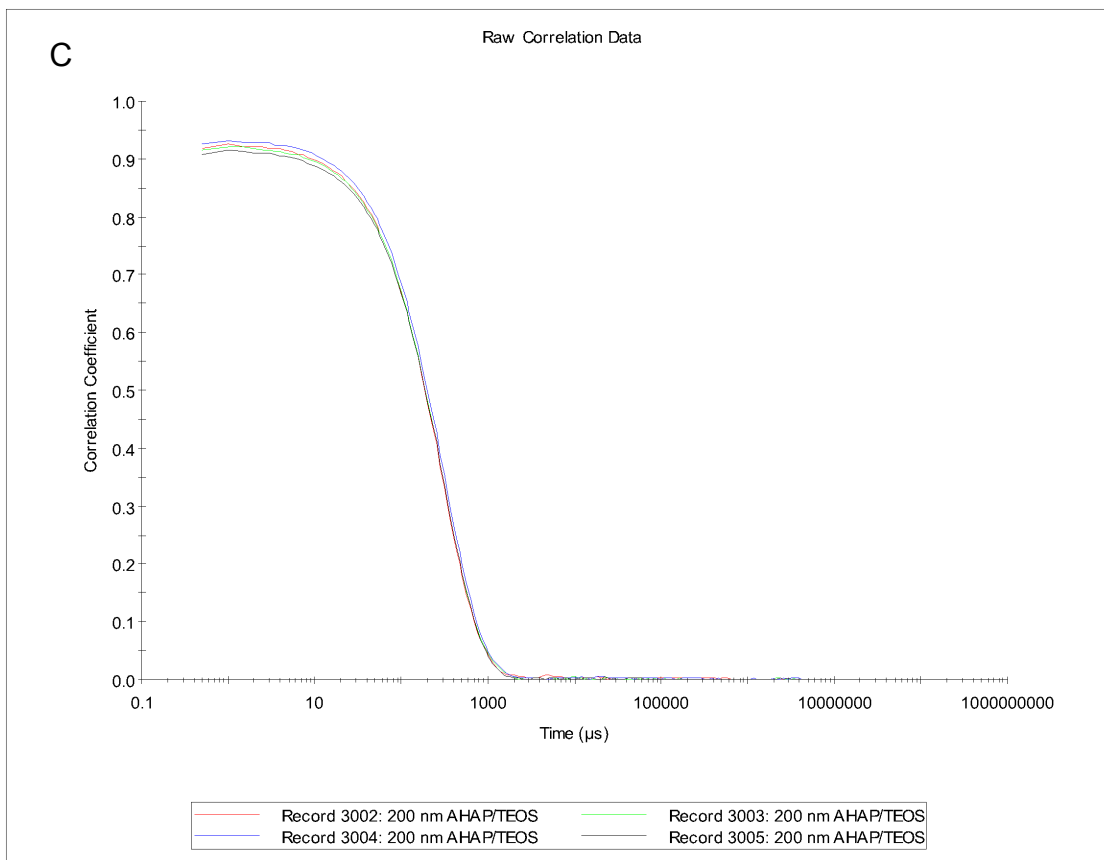
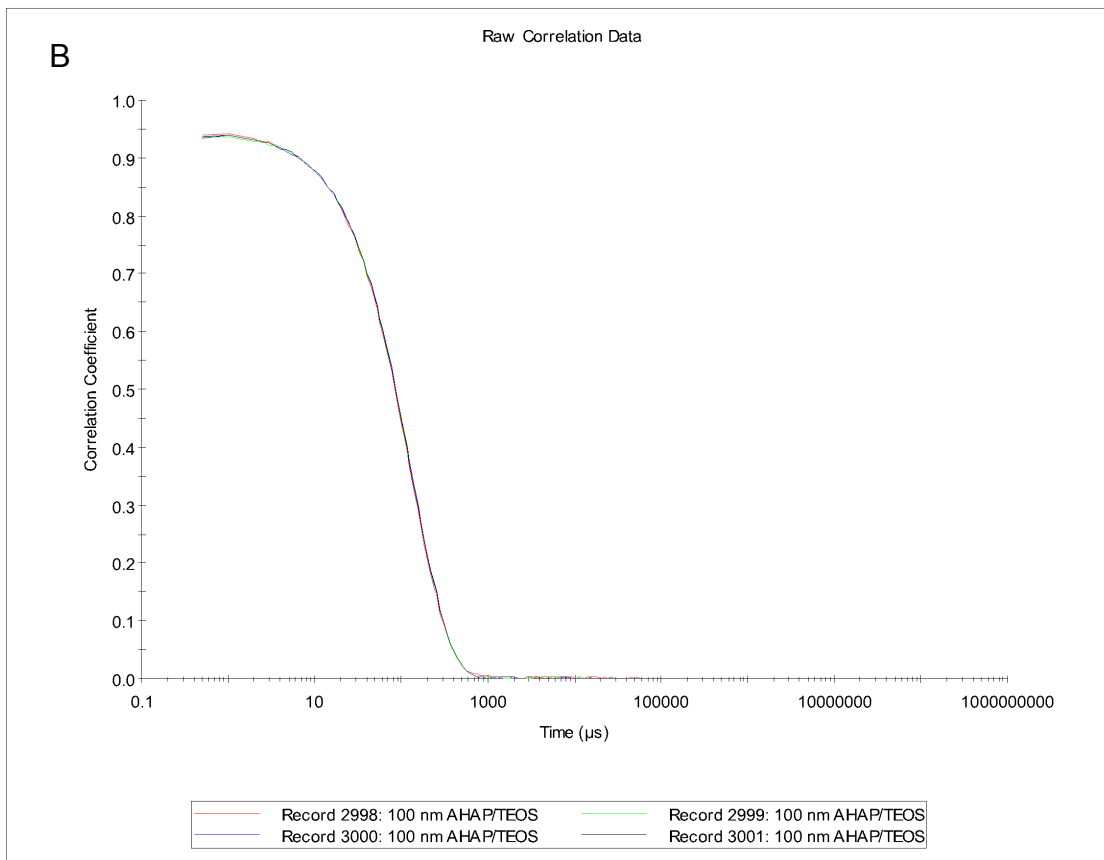
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**Figure S1.** TEM micrographs of (A) 200, (B) 100, and (C,D) 50 nm AHAP/TEOS silica nanoparticles. Scale bar is 1  $\mu\text{m}$  for A–C and 0.2  $\mu\text{m}$  for D.





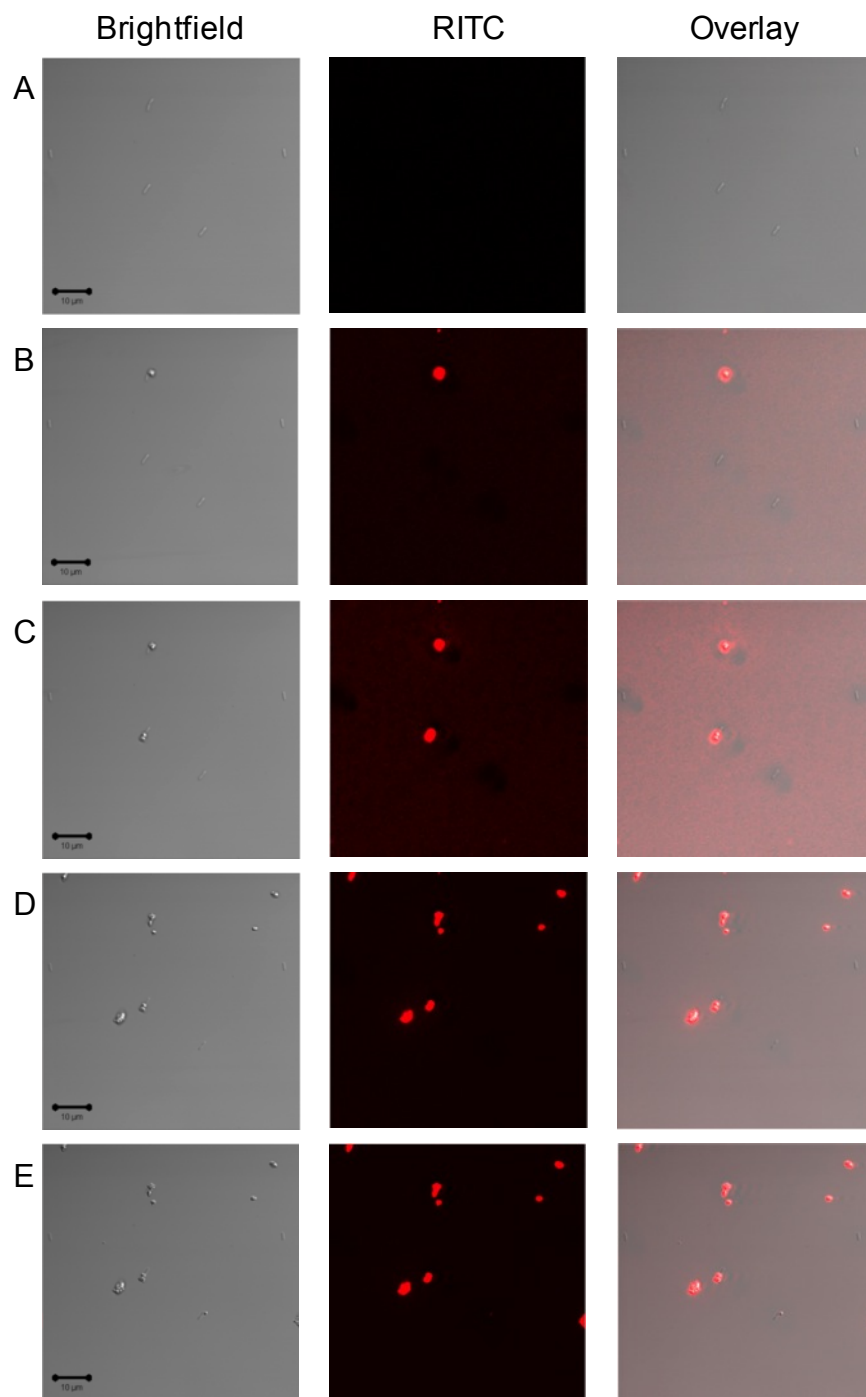
**Figure S2.** Dynamic light scattering (DLS) correlation function plots obtained for (A) 50, (B) 100, and (C) 200 nm particles.

**Table S1.** Concentration of NO corresponding to the particle concentrations tested in cytotoxicity assays.

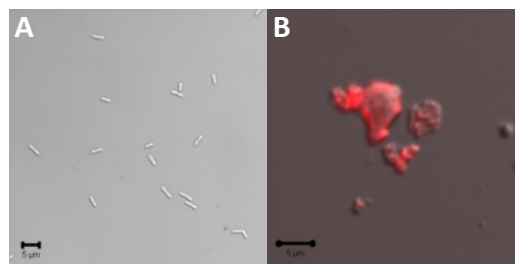
Particle Size (nm)	Particle Dose (mg mL <sup>-1</sup> )	Total NO Dose	
		2 h	24 h
		(μmol)	
50	0.1	0.05	0.15
	0.2	0.09	0.30
	0.4	0.19	0.60
	0.8	0.37	1.19
	1.6	0.75	2.38
	3.2	1.49	4.77
100	0.1	0.04	0.13
	0.2	0.08	0.25
	0.4	0.15	0.50
	0.8	0.30	1.01
	1.6	0.61	2.02
	3.2	1.22	4.03
200	0.1	0.04	0.10
	0.2	0.08	0.20
	0.4	0.17	0.40
	0.8	0.34	0.81
	1.6	0.68	1.62
	3.2	1.35	3.23

**Table S2.** Bacteria cell viability of blank (i.e., in PBS only) nor control (i.e., non-NO-releasing control AHAP/TEOS particles). Initial bacteria concentration is 10<sup>6</sup> CFU/mL.

	Dose mg/mL	Exposure Time h	Bacterial Viability CFU/mL
Blank (PBS)	0	2	6.3(±0.5)x10 <sup>6</sup>
	0	24	8.6(±0.2)x10 <sup>6</sup>
50 nm	0.8	2	1.2(±0.2)x10 <sup>6</sup>
	0.2	24	9.6(±2.3)x10 <sup>6</sup>
100 nm	1.5	2	3.5(±0.4)x10 <sup>6</sup>
	0.2	24	2.7(±0.2)x10 <sup>6</sup>
200 nm	1.5	2	1.27(±0.03)x10 <sup>6</sup>
	0.4	24	5.2(±1.5)x10 <sup>6</sup>



**Figure S2.** Scanning confocal images of *P. aeruginosa* treated with 50 nm RITC-modified NO-releasing AHAP/TEOS nanoparticles. Brightfield, fluorescence (RITC), and overlay images were acquired (A) 0 (addition of particles), (B) 2.4, (C) 6.4, (D) 19.5, and (E) 39 min after addition of  $10 \mu\text{g mL}^{-1}$  nanoparticles. Scale bars are  $10 \mu\text{m}$ .



**Figure S3.** Scanning confocal images of *P. aeruginosa* treated with 50 nm RITC-modified NO-releasing AHAP/TEOS nanoparticles. Brightfield image (A) was acquired before addition of  $10 \mu\text{g mL}^{-1}$  nanoparticles and fluorescence overlay image (B) was acquired after 10 min incubation with nanoparticles. Scale bars are  $5 \mu\text{m}$ .