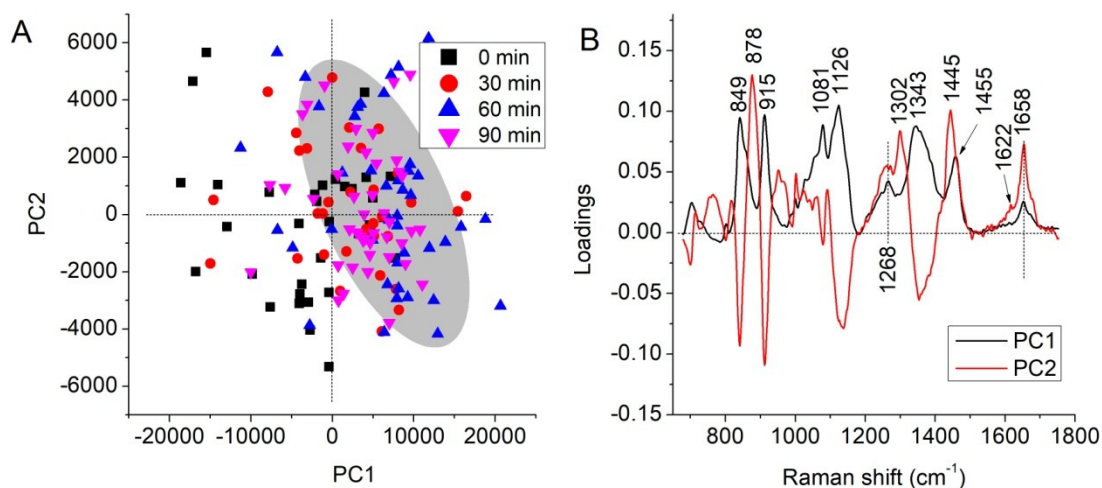
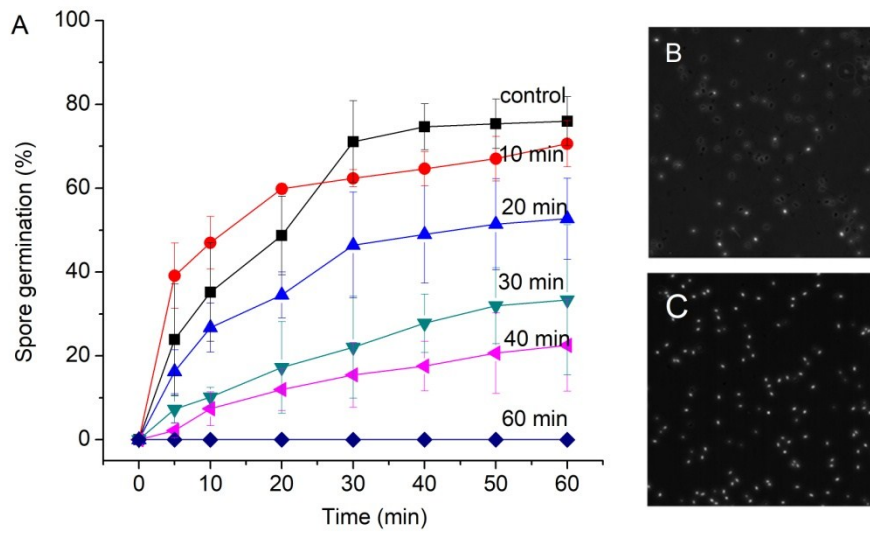


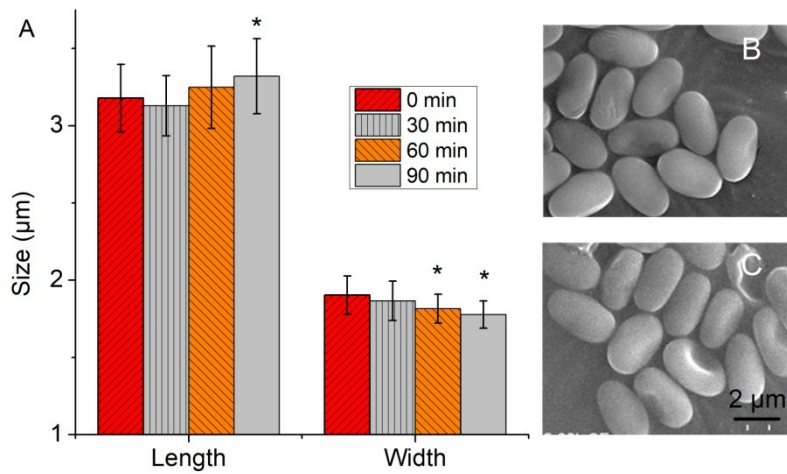
**Fig. S1** (A) Real-time Raman spectra of *N. bombycis* spores and Raman spectrum of 10% formaldehyde. (B) Intensity kinetics of peaks 915, 1450, 785, and 1658  $\text{cm}^{-1}$  for a single *N. bombycis* spore suspended in 10% formaldehyde at various times. The data in panel B were shown as mean and standard deviation (n=10).



**Fig. S2** Principal component analysis of Raman spectra of *N. bombycis* spores after treatment with 10% formaldehyde for various periods of time. A, plot of PC1-PC2; B, loadings of PC1 and PC2. n=40.



**Fig. S3** (A) Germination of *N. bombycis* spores and (B, C) phase-contrast images at 60 min. Spores were treated by 0.2% formaldehyde for various periods of time. B, 0 min; C, 40 min.



**Fig. S4** (A) Average size and (B, C) SEM images of *N. bombycis* spores after treatment with 10 % formaldehyde for 0, 30, 60, or 90 min. The asterisk represents the significance between treatment and 0 min at  $p=0.05$  level ( $n=40$ ). B, 0 min; C, 90 min.