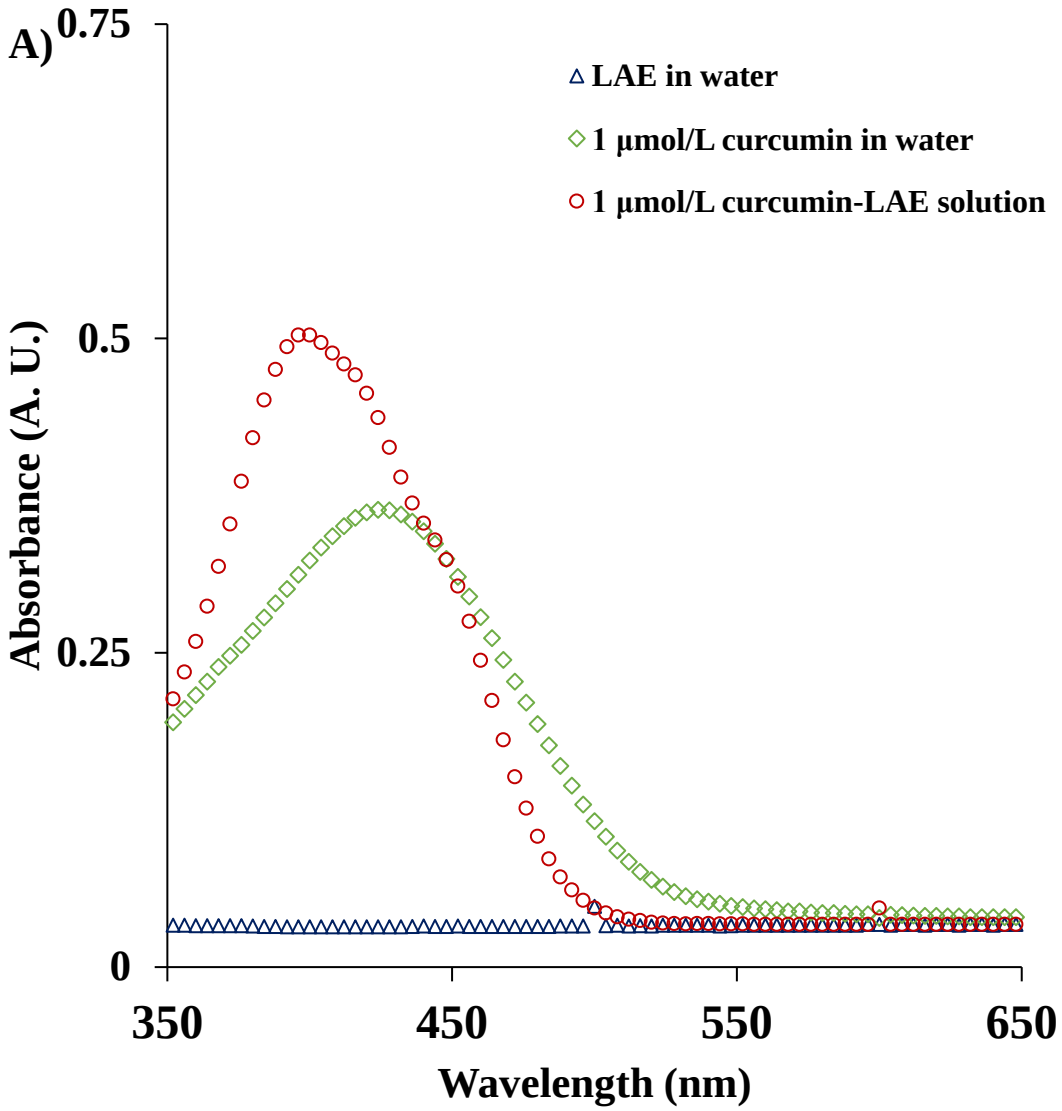
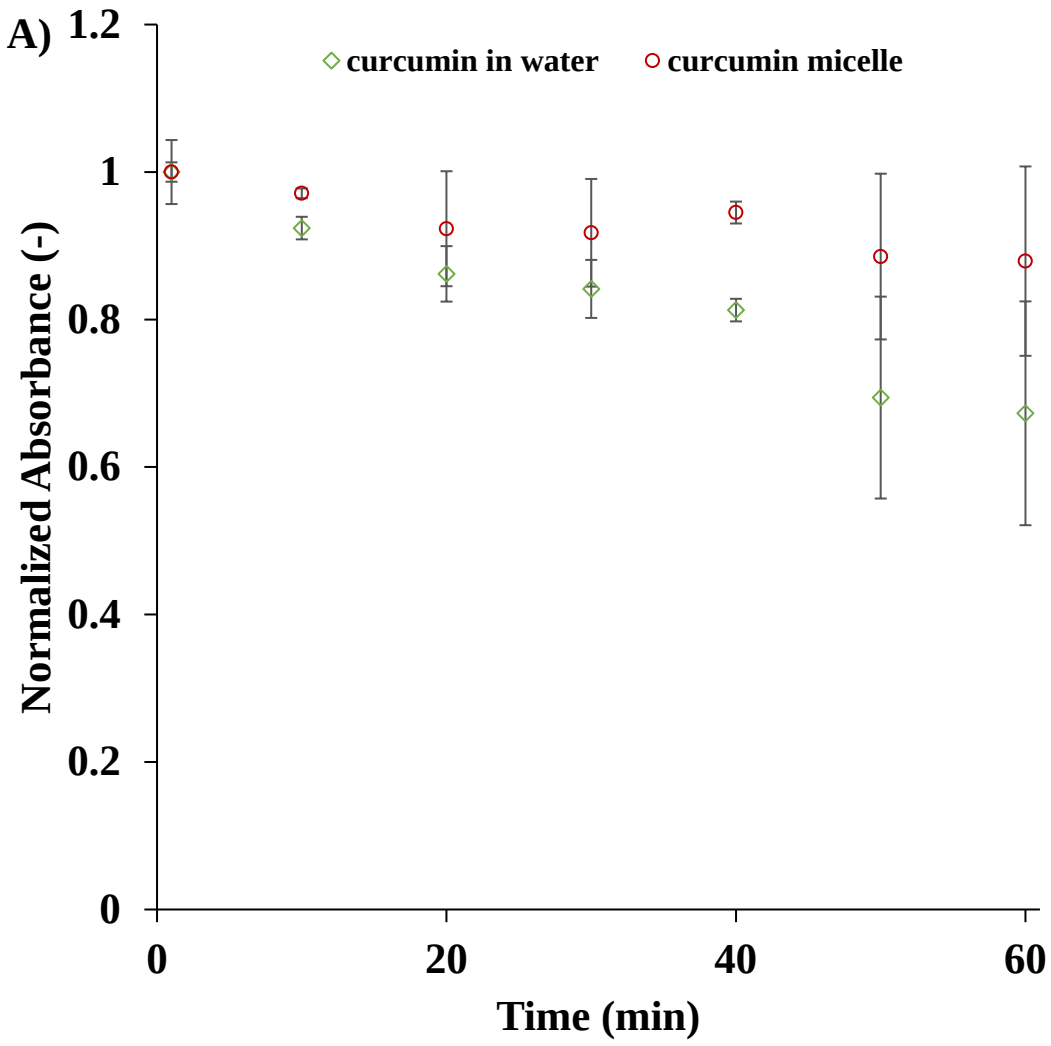
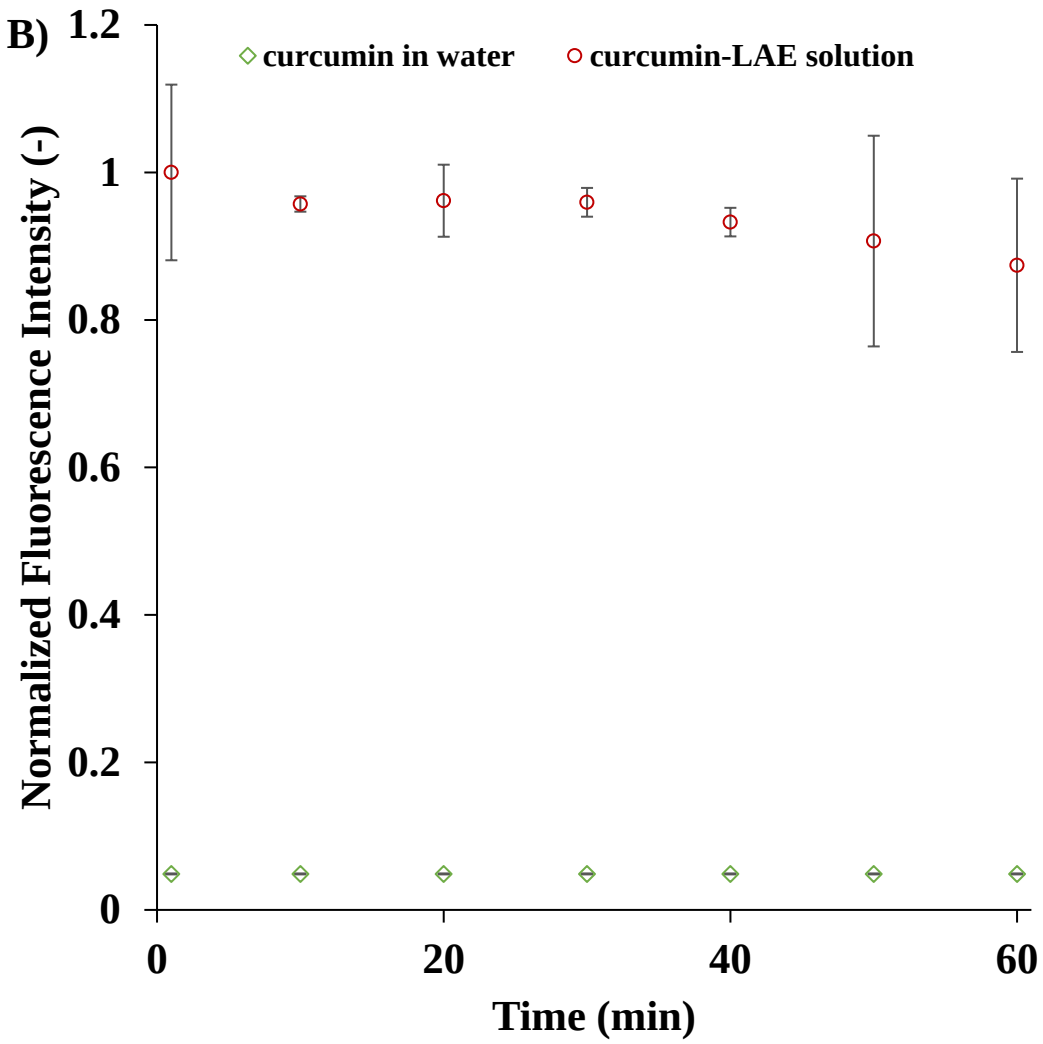
Supplementary Figure S1: Absorbance spectra of diluted curcumin-LAE micelle and its components



Supplementary Figure S1. Absorbance spectra of the diluted LAE micelles, unencapsulated curcumin in pH 3.5 water, and curcumin-LAE solution after 10 min.

Supplementary Figure S2: Stability of diluted curcumn-LAE micelle

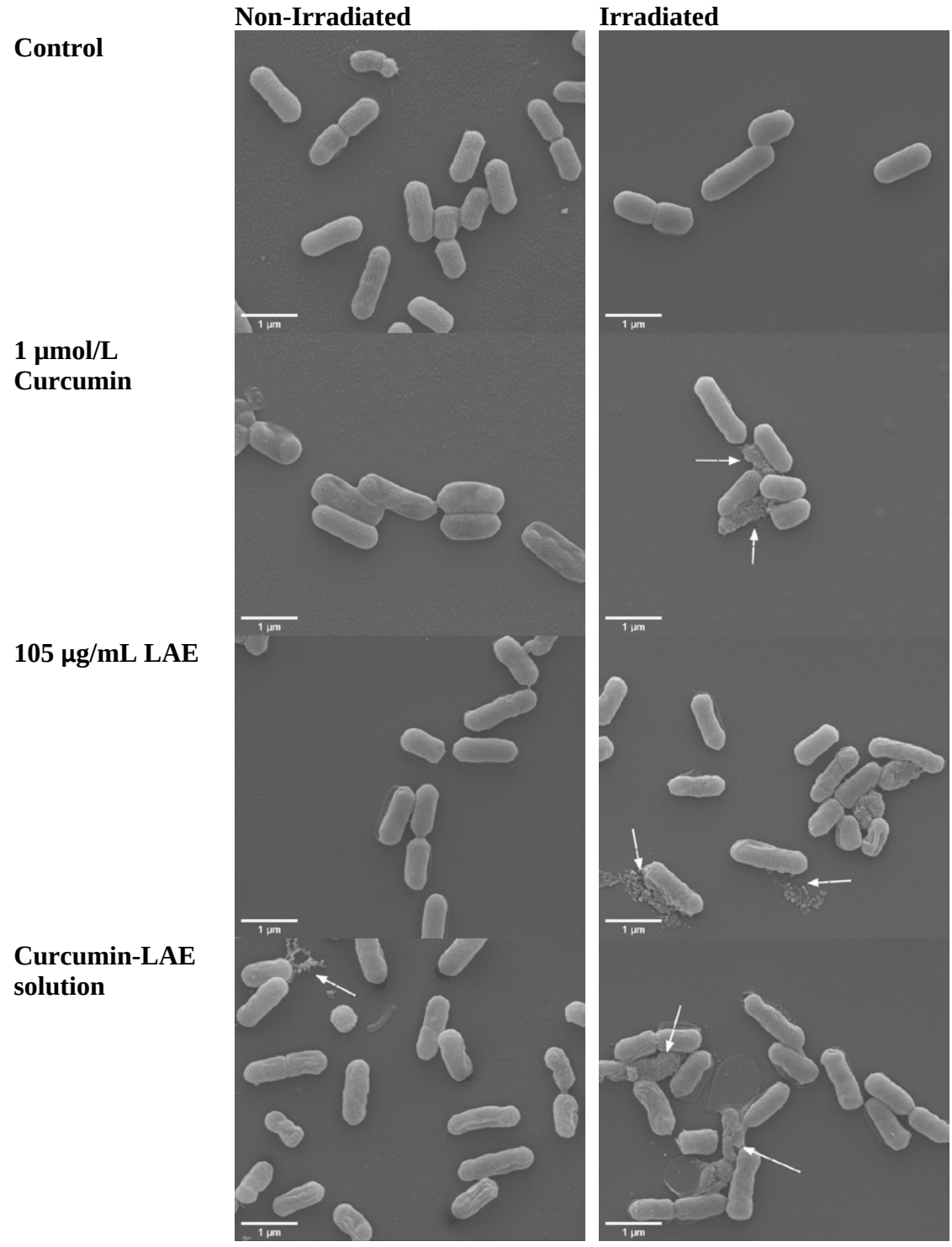




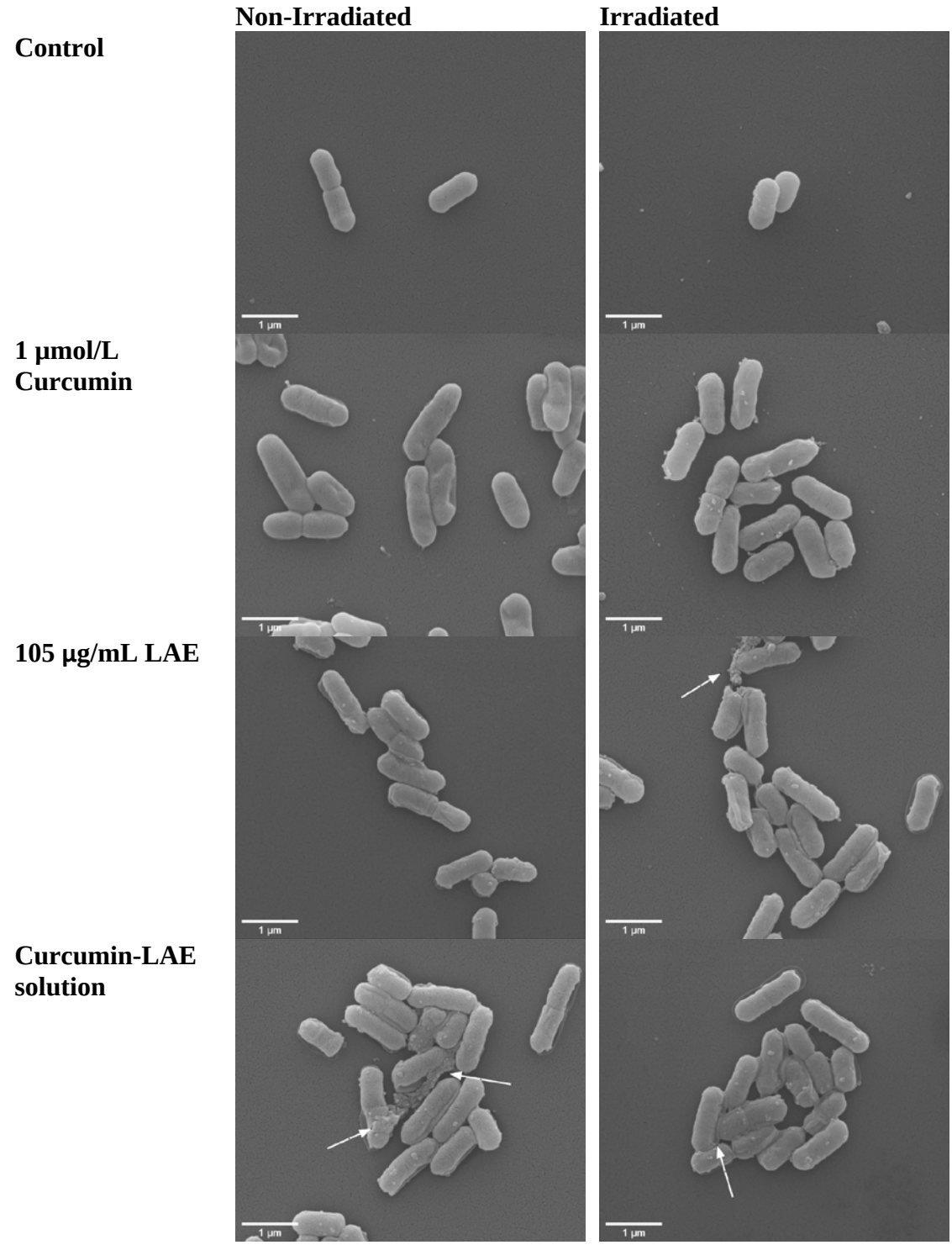
Supplementary Figure S2. A) Normalized absorbance (at 400 nm) and B) fluorescence emission intensity (λ_{exc}=365 nm, λ_{em}= 540 nm) of diluted curcumin and curcumin-LAE solutions in water at pH 3.5 as a function of time.

Supplementary Figure S3: SEM micrograph of treated *L. innocua* cocktail

A)



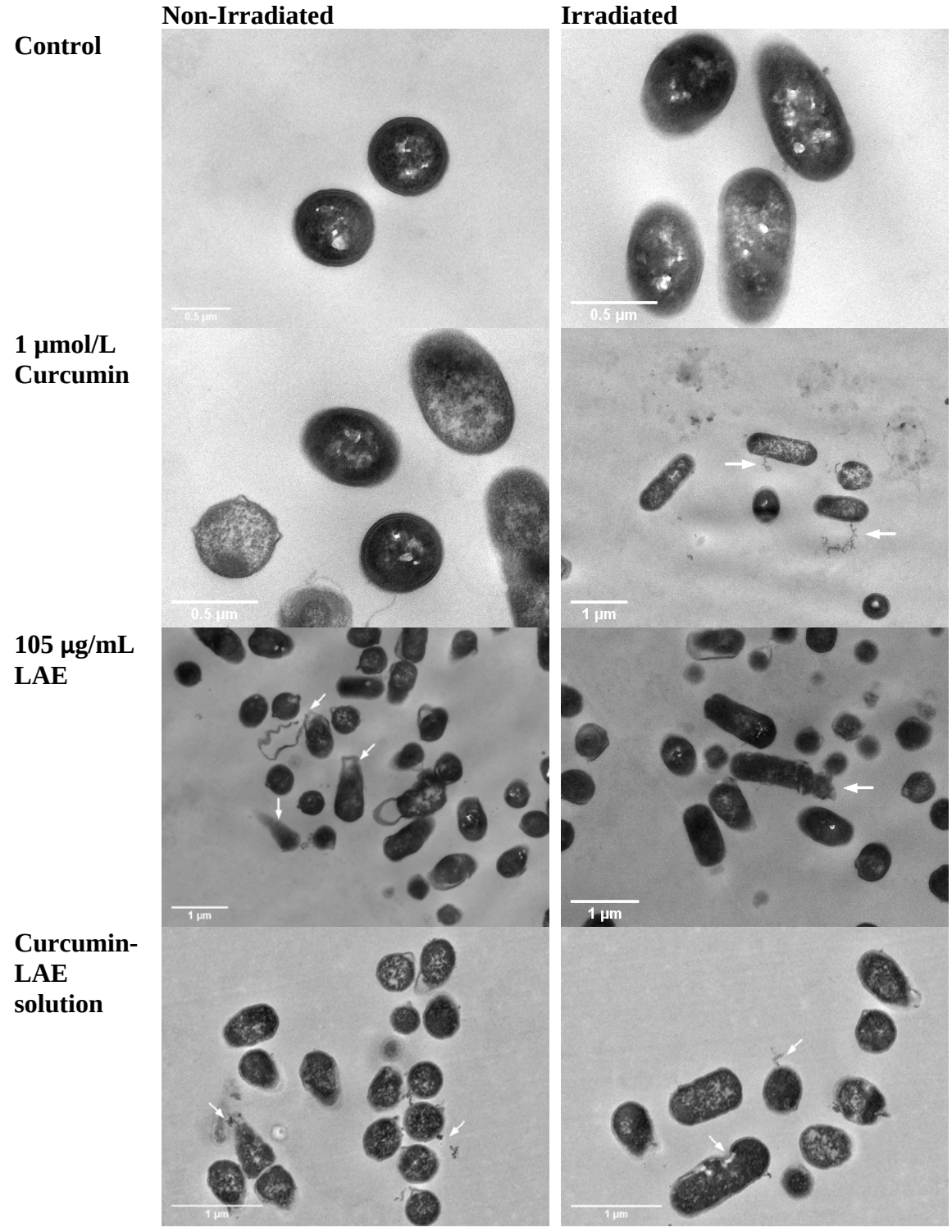
B)



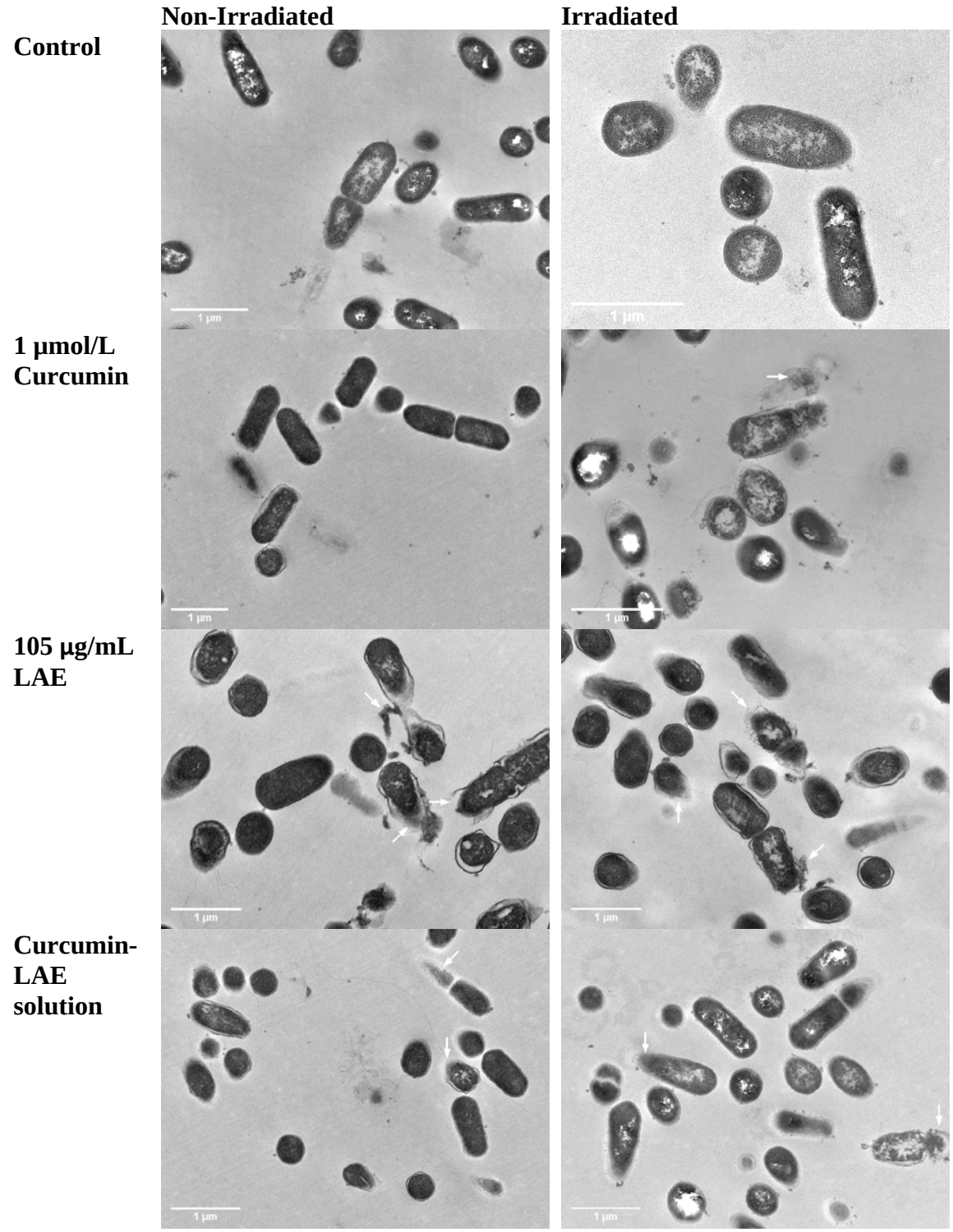
Supplementary Figure S3. SEM micrograph of non-irradiated and irradiated cocktail of *L. innocua* treated with curcumin, LAE, curcumin-LAE solutions at A) pH 3.5 and B) pH 7. The white arrows indicate damage and leakage from the cell.

Supplementary Figure S4: TEM micrograph of treated *L. innocua* cocktail

A)



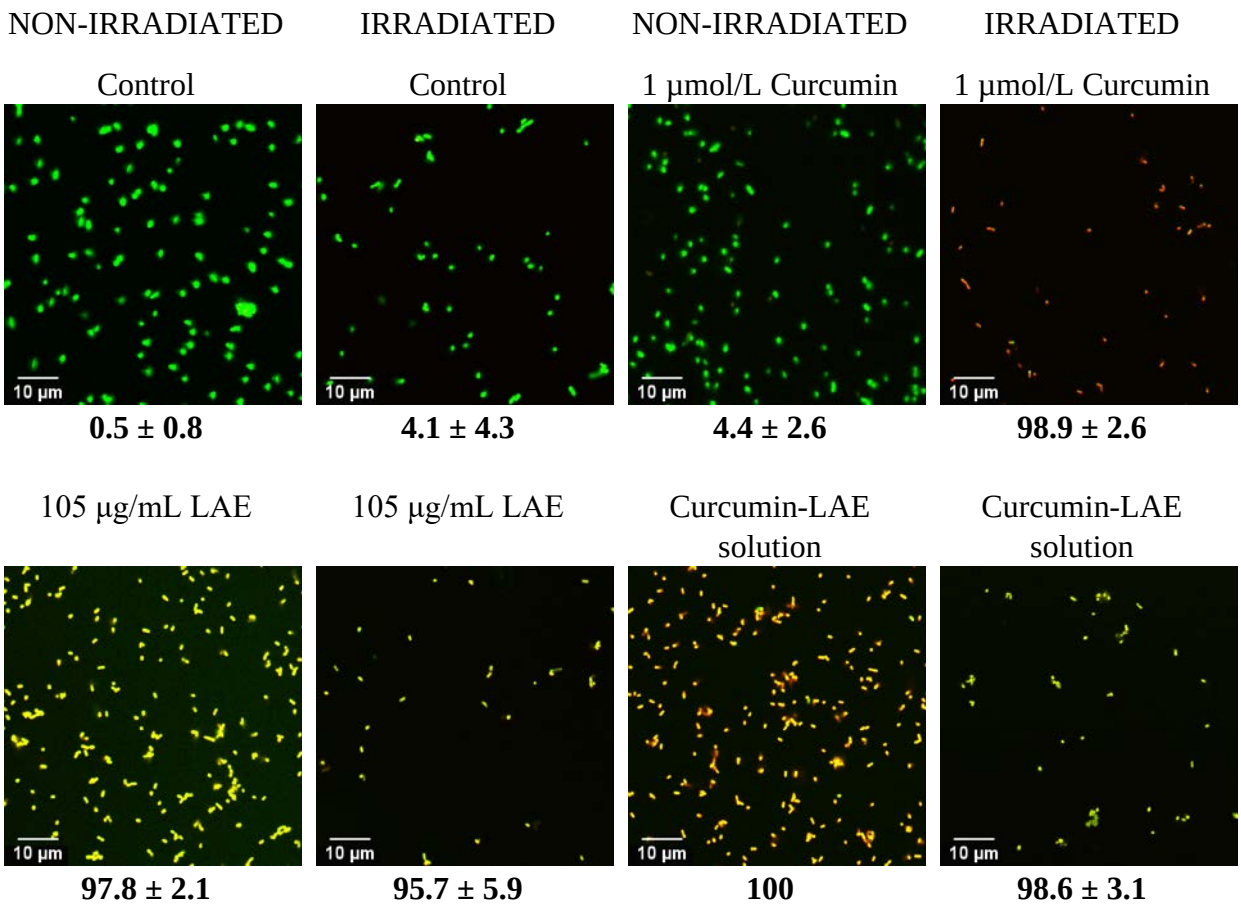
B)



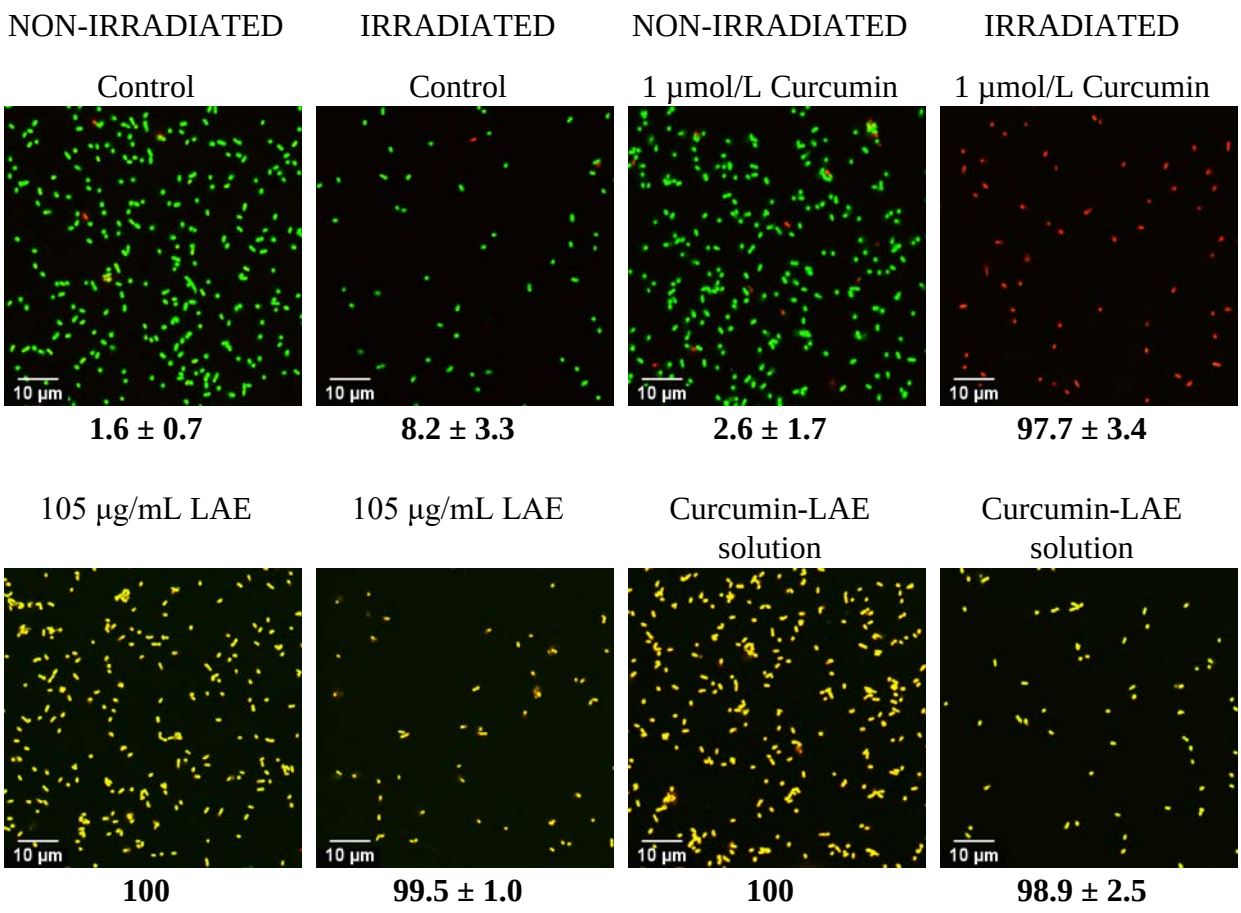
Supplementary Figure S4. TEM micrograph of non-irradiated and irradiated cocktail of *L. innocua* treated with curcumin, LAE, curcumin-LAE solutions at A) pH 3.5 and B) pH 7. The white arrows indicate dissolution of cellular membrane and leakage from the cell.

Supplementary Figure S5: live/dead cell assay of treated *L. innocua* cocktail

A)



B)



Supplementary Figure S5. Micrographs of non-irradiated and irradiated cocktail of *L. innocua* treated with curcumin, LAE, curcumin-LAE solutions at A) pH 3.5 and B) pH 7, stained with Syto9 (green) and propidium iodide (yellow, red). The percentage of cocktail of *L. innocua* at pH 3.5 or pH 7 with permeable membranes (yellow, red) is listed below each micrograph.