

## Supplementary Materials

# Application prospects of FTIR spectroscopy and CLSM to monitor the drugs interaction with bacteria cells localized in macrophages for diagnosis and treatment control of respiratory diseases

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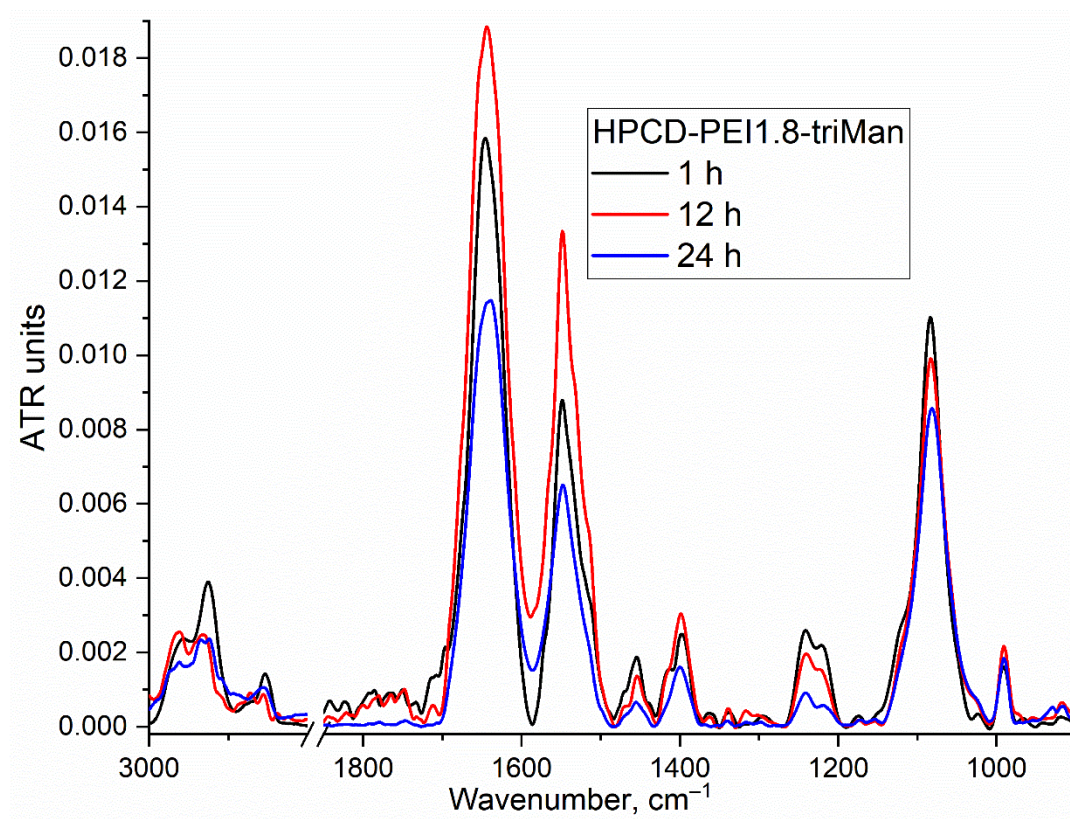
## Content

**Figure S1.** FTIR spectra of *E. coli* incubated with drug delivery system HPCD-PEI1.8-triMan. T = 22 °C.

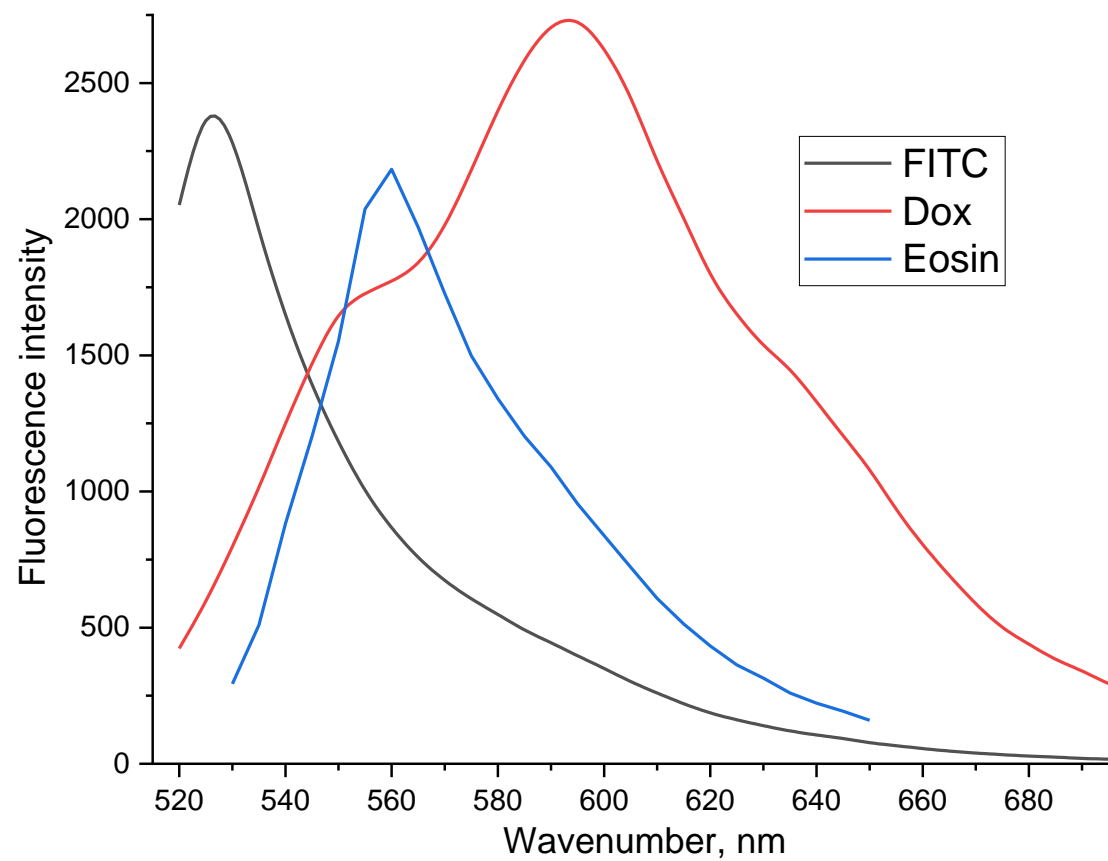
**Figure S2.** Emission fluorescence spectra of FITC (drug delivery system labelled), eosin (*E. coli* labelled) and Dox obtaining by CLSM.  $\lambda_{em} = 488$  nm (multiline Argon laser).

**Figure S3.** Confocal laser scanning images of CD206+ macrophages with absorbed eosin-labelled *E. coli*. Incubation with Dox and FITC-labeled HPCD-PEI1.8-triMan. The scale segment is 100  $\mu\text{m}$  (division value is 20  $\mu\text{m}$ ); 4–6 channels are shown: red, Dox; green, FITC; magenta, eosin; gray, transmission light mode; and overlay.  $\lambda_{em} = 488$  nm (multiline Argon laser).

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**Figure S2.** Emission fluorescence spectra of FITC (drug delivery system labelled), eosin (*E. coli* labelled) and Dox obtaining by CLSM.  $\lambda_{em} = 488$  nm (multiline Argon laser).



**Figure S3.** Confocal laser scanning images of CD206+ macrophages with absorbed eo-sin-labelled E. coli. Incubation with Dox and FITC-labeled HPCD-PEI1.8-triMan. The scale segment is 100  $\mu\text{m}$  (division value is 20  $\mu\text{m}$ ); 4–6 channels are shown: red, Dox; green, FITC; magenta, eosin; gray, transmission light mode; and overlay.  $\lambda_{\text{em}} = 488 \text{ nm}$  (multiline Argon laser).

