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**SUPPORTING INFORMATION**

# Enzyme-controlled mesoporous nanomachine for triple-responsive delivery.

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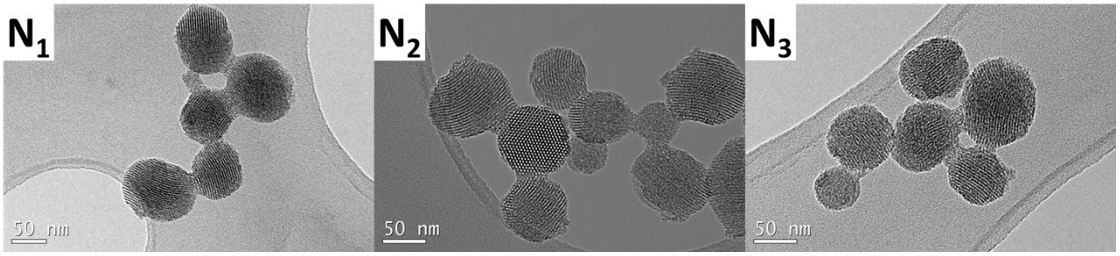


Figure 1S. Representative TEM images of solids $N_1$ – $N_3$.

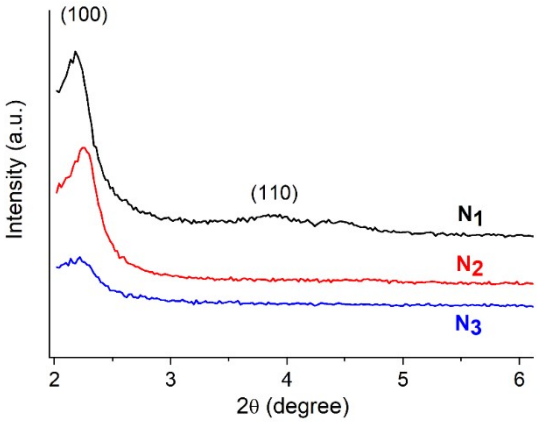


Figure 2S. Powder X-ray diffraction of solids $N_1$ – $N_3$.

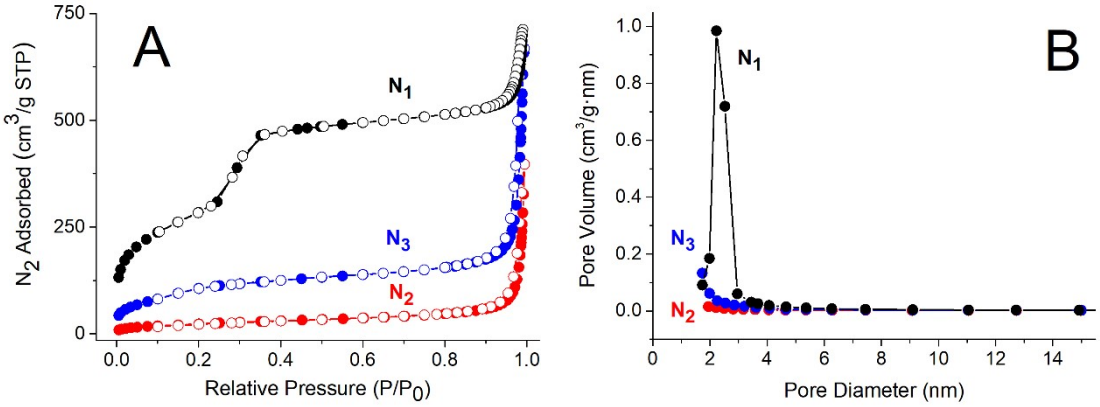


Figure 3S. Nitrogen adsorption (filled circles)/desorption (open circles) isotherms (A) and pore size distribution (B) of solids $N_1$ – $N_3$.

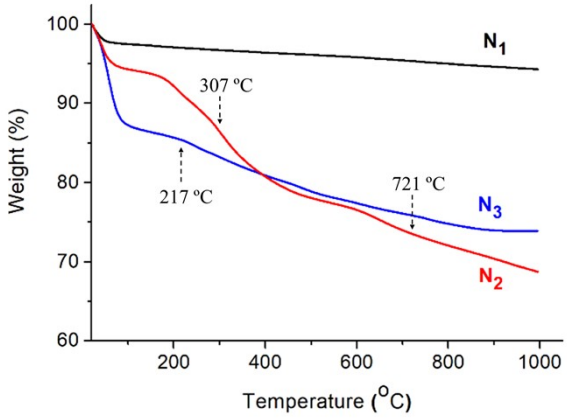


Figure 4S. Thermogravimetric analysis of solids $N_1$ – $N_3$.

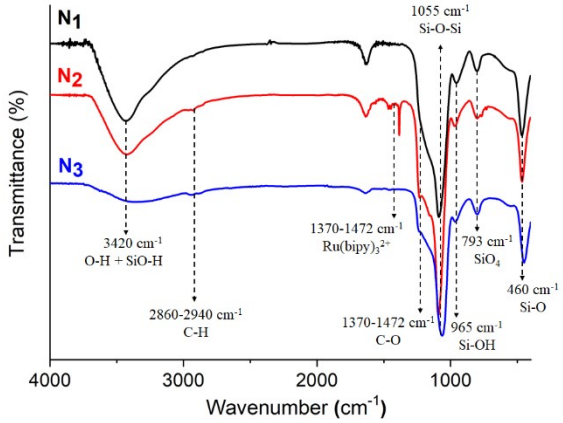


Figure 5S. FT-IR analysis of solids $N_1$ – $N_3$.

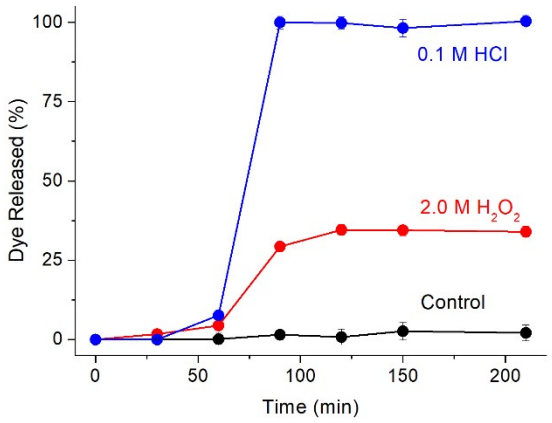


Figure 6S. Kinetics of dye release from the nanomachine $N_3$ in 100 mM sodium sulfate, pH 7.5, in the absence and the presence of 0.1 M HCl and 2.0 M $H_2O_2$, added after 60 min incubation. 100% represents maximum dye release in each experiment.

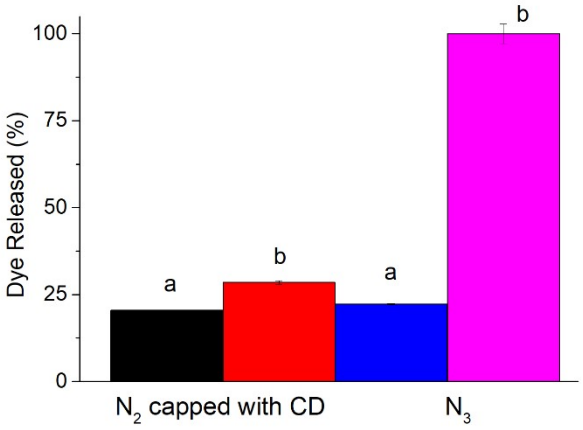


Figure 7S. Relative dye released from the solid $N_2$ capped with β-cyclodextrin and solid $N_3$ in 100 mM sodium phosphate buffer, pH 7.5, in the absence (a) and the presence of 100 mM D-glucose (b). 100% represents maximum dye release in each experiment.

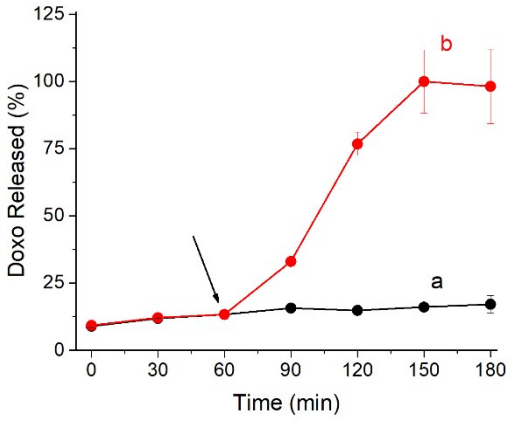


Figure 8S. Kinetics of Doxo release from the nanomachine **$N_4$** in 100 mM sodium phosphate buffer, pH 7.5 in the absence (a) and the presence (b) of 100 mM D-glucose, added after 60 min incubation. 100% represents maximum drug release in each experiment (n=3).

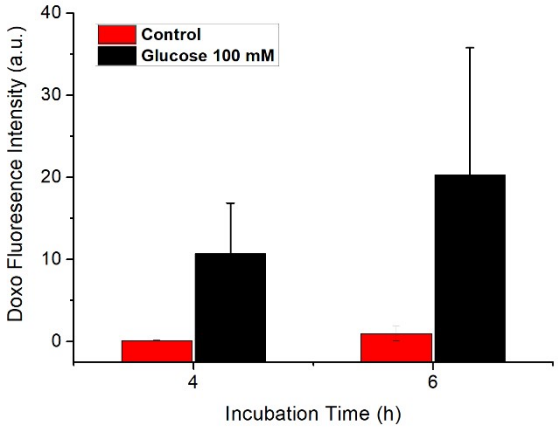


Figure 9S. Doxorubicin-associated fluorescence intensity in HeLa cells incubated with $N_4$, from confocal images at different incubation times and with or without the addition of 100 mM D-glucose.