

Supporting Information

Surface Wettability-Directed Propulsion of Glucose-Powered Nanoflask Motors

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Figure S1. Water contact angle of a hydrophilic nanoflask (L-CNF) and a hydrophobic nanoflask (B-CNF) monolayer.

Figure S2. Characterization of B-CNF motors.

Figure S3. SEM images of CNF motors.

Figure S4. TEM images of L-CNF motors infused enzymes for different perfusion times.

Figure S5. GOx activity assay of B-CNF motors.

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Figure S7. The propulsion velocity of three types of B-CNF motors in different substrates.

Figure S8. The SEM images of L-CNF motors with different neck length..

Video S1. Motion of L-CNF motors in 10 mM glucose solution.

Video S2. Motion of B-CNF motors in 10 mM glucose solution.

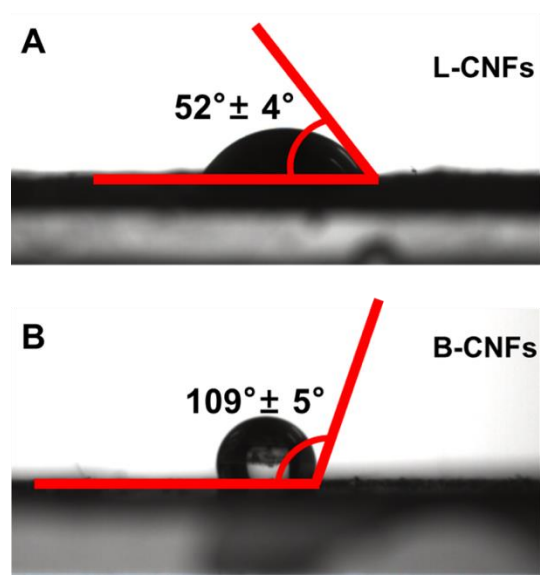


Figure S1. Water contact angle of a hydrophilic nanoflask (L-CNF) and a hydrophobic nanoflask (B-CNF) monolayer.

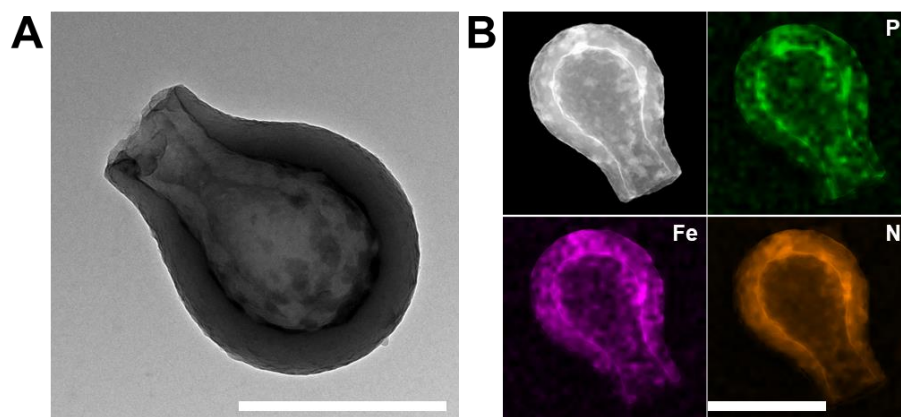


Figure S2. Characterization of hydrophobic nanoflask (B-CNF) nanomotors. (A) TEM image of a B-CNF motor. (B) A STEM image of B-CNF motor and corresponding EDX mapping images. Scale bar: 500 nm.

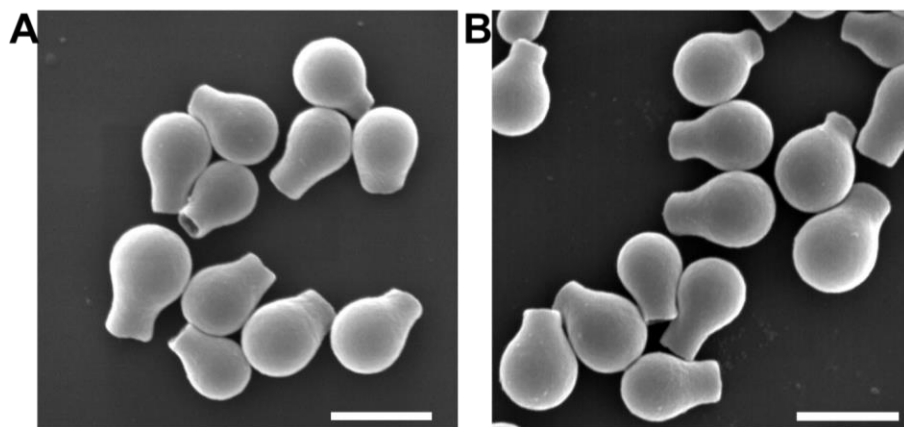


Figure S3. SEM images of CNF motors. (A) SEM image of L-CNF motors. (B) SEM image of B-CNF motors. Scale bar: 1 μm .

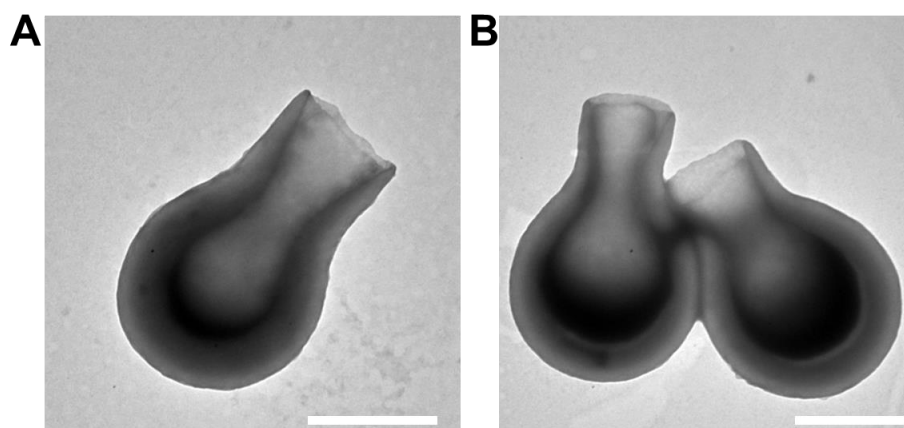


Figure S4. TEM images of L-CNF motors infused enzymes for different perfusion times. (A) TEM image of L-CNF motors infused enzymes for three times. (B) TEM image of L-CNF motors infused enzymes for five times. Scale bar: 500 nm.

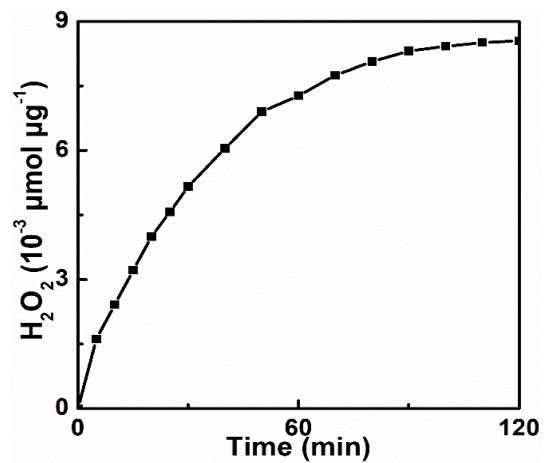


Figure S5. GOx activity assay of B-CNF motors.

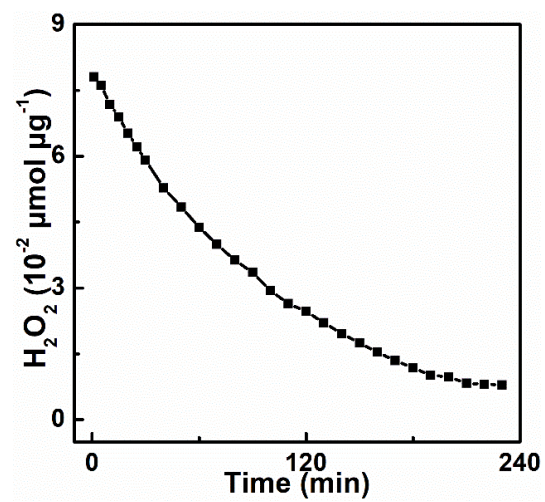


Figure S6. Cat activity assay of B-CNF motors.

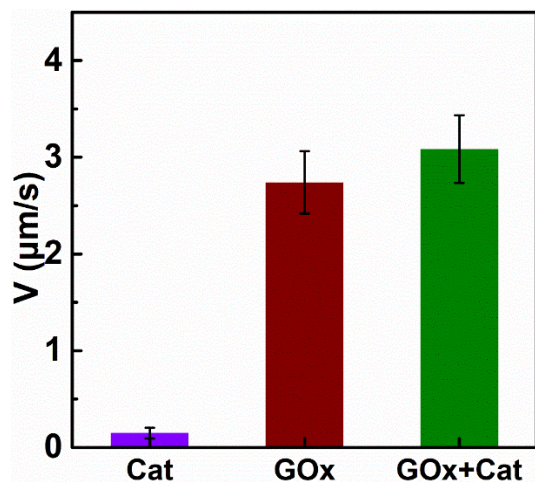


Figure S7. The propulsion velocity of three types of B-CNF motors in different substrates. The substrate of Cat-motors is H_2O_2 , the substrate of the GOx-motors and (GOx+Cat)-motors is the glucose.

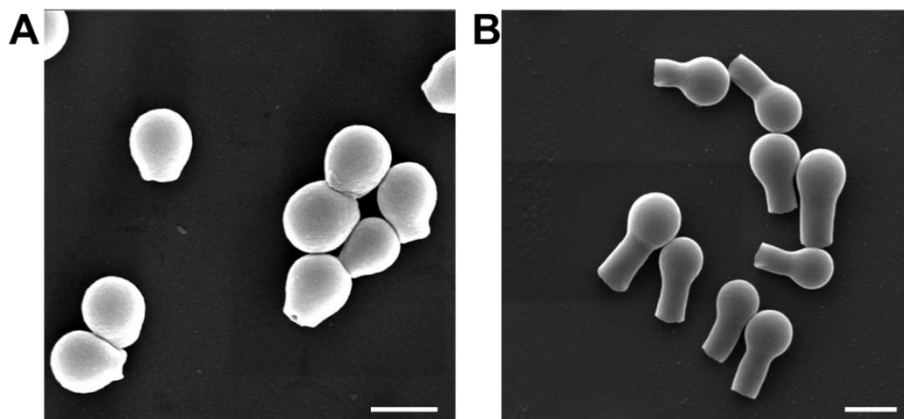


Figure S8. The SEM images of L-CNF motors with different neck length. L-CNF motors prepared by controlling the hydrothermal time for 8 h (A) and 21 h (B). Scale bar: 500 nm.