Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Electronic Supplementary Information

Microfluidic synthesis of graphene oxide/MnO_2-incorporated self-propelling micromotors for organic dye removal

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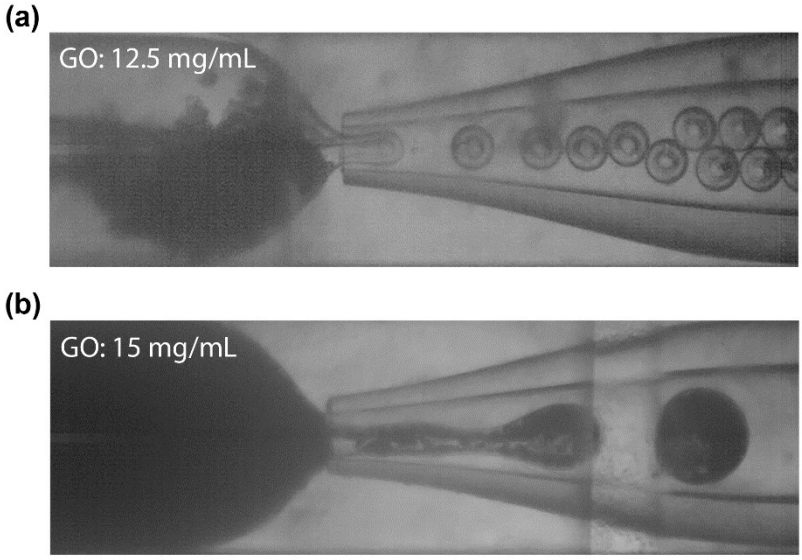

Fig S1. The micromotors fabrication regime with different GO concentration, (a) 12.5 mg/mL and (b) 15 mg/mL.

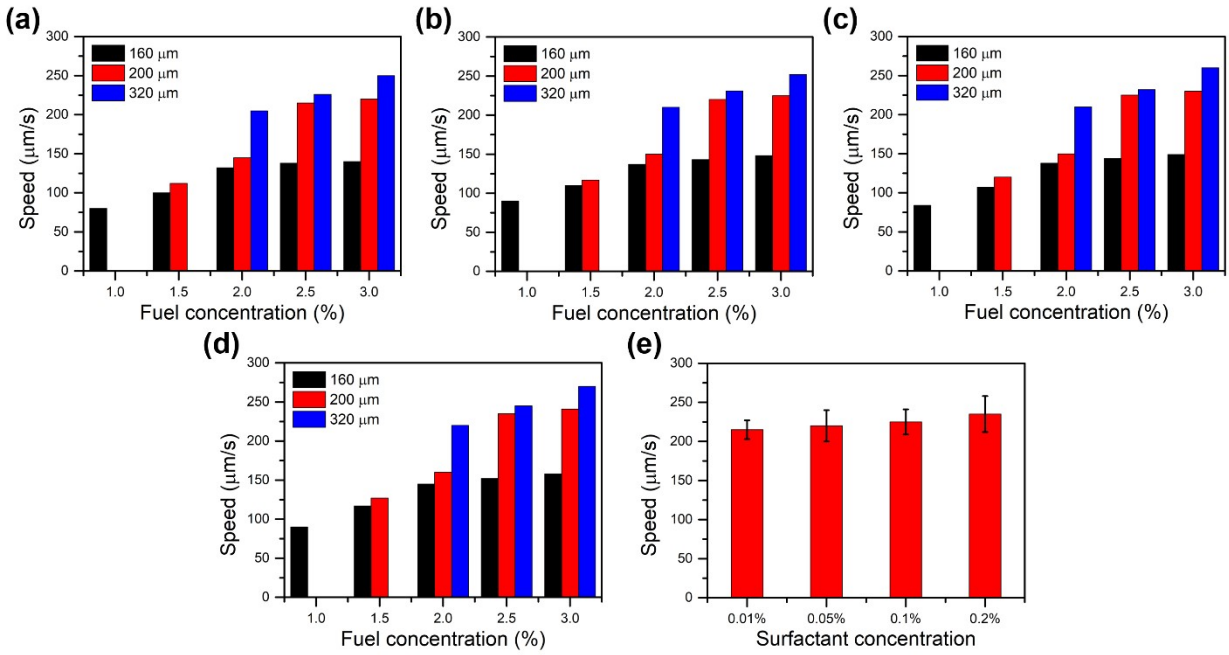

Fig S2. The effect of different surfactant concentration on the movement speed of the micromotors in varying fuel concentrations and sizes of the micromotor, the chosen surfactant concentration for examination were (a) 0.01 wt%, (b) 0.05 wt%, (c) 0.1 wt% and (d) 0.2 wt%. For each displayed value, five of the quickest-moving micromotors were chosen and analyzed. (e) The speed of 200 µm micromotors in 2.5 wt% fuel concentration with different surfactant concentration plotted against each other.

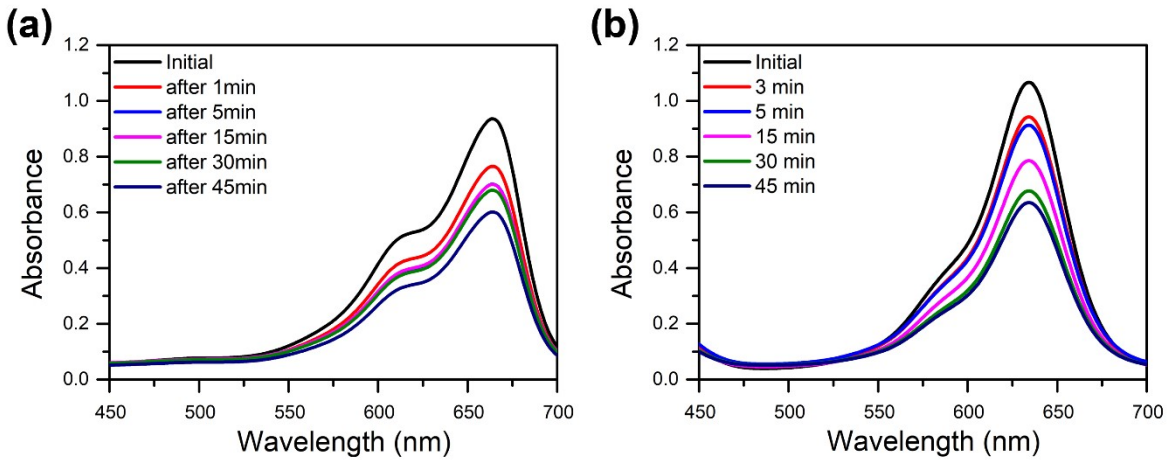

Fig S3. UV-Vis measurements of the adsorption process of (a) Methylene Blue and (b) Brilliant Green using non-catalyst GO-imbedded stationary microbeads.

Video S1. Bubble propulsion of the micromotor in the fuel solution. The micromotor's size is 200 μm, the fuel is 2.5 wt% H_2O_2 solution with 0.1 wt% Triton X-100.

Video S2. The real time adsorption process of Methylene Blue by micromotors in wastewater solution. The wasterwater is 5mg/l Methylene Blue in 2.5 wt% H_2O_2 solution with 0.1 wt% Triton X-100.