

# Supporting Information

## Magnesium-based micromotors enable co-delivery of doxorubicin and curcumin

### Enhanced combination therapy of hepatoma carcinoma cells

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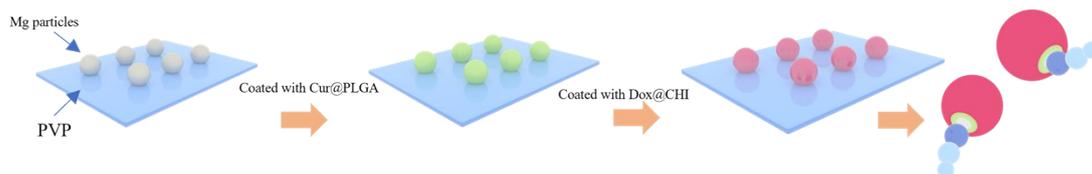
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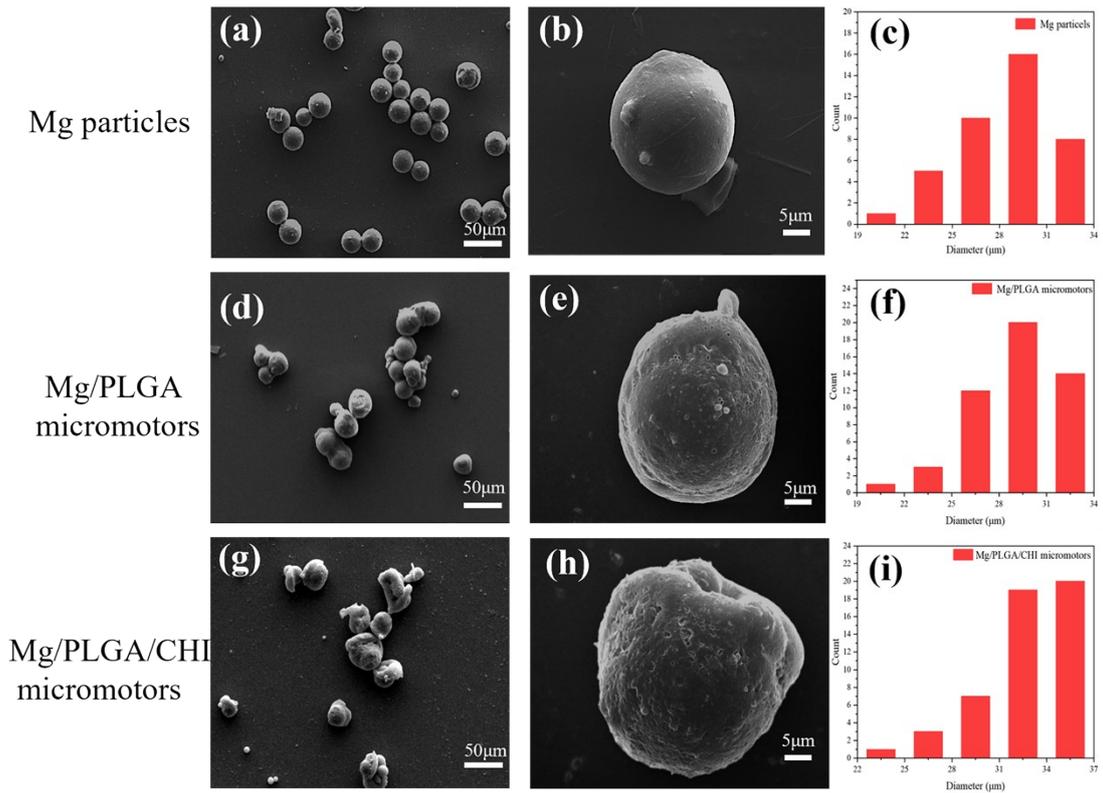
**Video S1:** The different motion behaviors of Mg/PLGA micromotors in 0.3M NaHCO<sub>3</sub> solution containing 0.1wt% SDS.

**Video S2:** The different motion behaviors of Mg/PLGA/CHI micromotors in 0.3M NaHCO<sub>3</sub> solution containing 0.1wt% SDS.

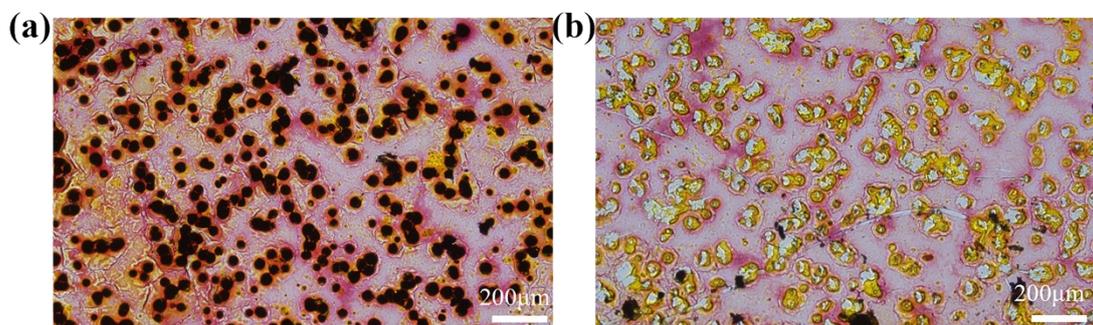
**Video S3:** The fully deposition of Mg cores of Mg/PLGA/CHI micromotors in 0.3M NaHCO<sub>3</sub> solution containing 0.1wt% SDS.



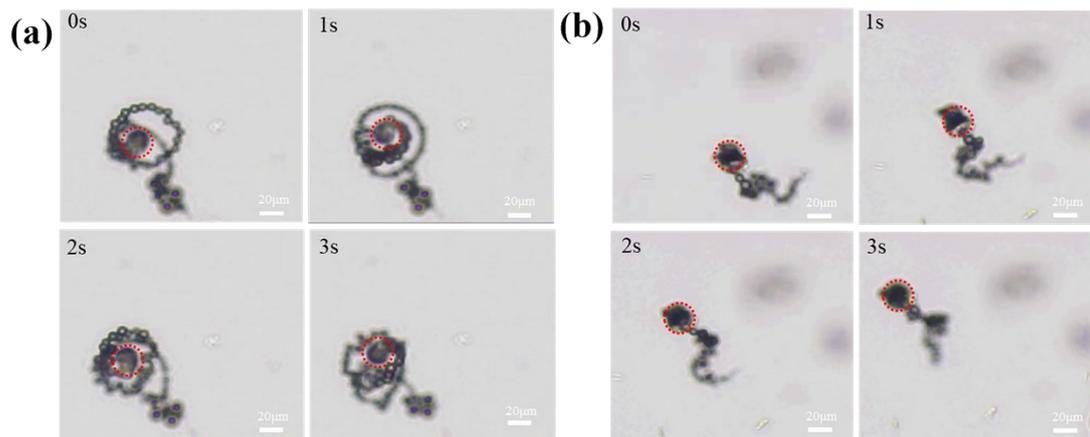
**Fig. 1 Schematic fabrication of Mg/PLGA/CHI micromotors.**



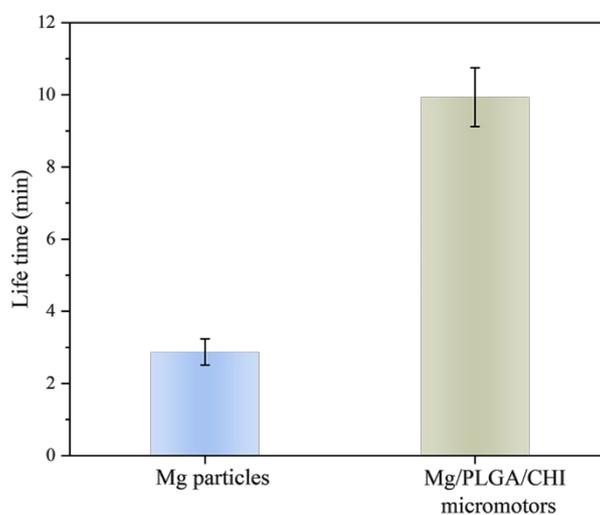
**Fig. S2 SEM images and size distribution of Mg microparticles (a-b: SEM images; c: size distribution), Mg/PLGA micromotors (d-e: SEM images; f: size distribution) and Mg/PLGA/CHI micromotors (g-h: SEM images; i: size distribution).**



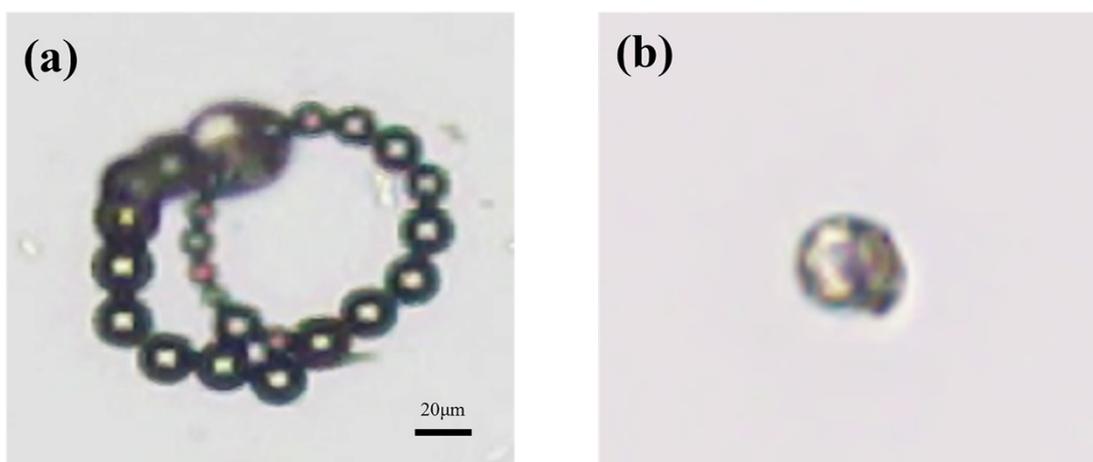
**Fig. S3 (a) Optical images of Cur loaded PLGA and Dox loaded CHI film over the Mg microparticles on glass substrate. (b) Optical images of glass substrate after the separation of drug loaded Mg/PLGA/CHI Janus micromotors by a blade-scratching method.**



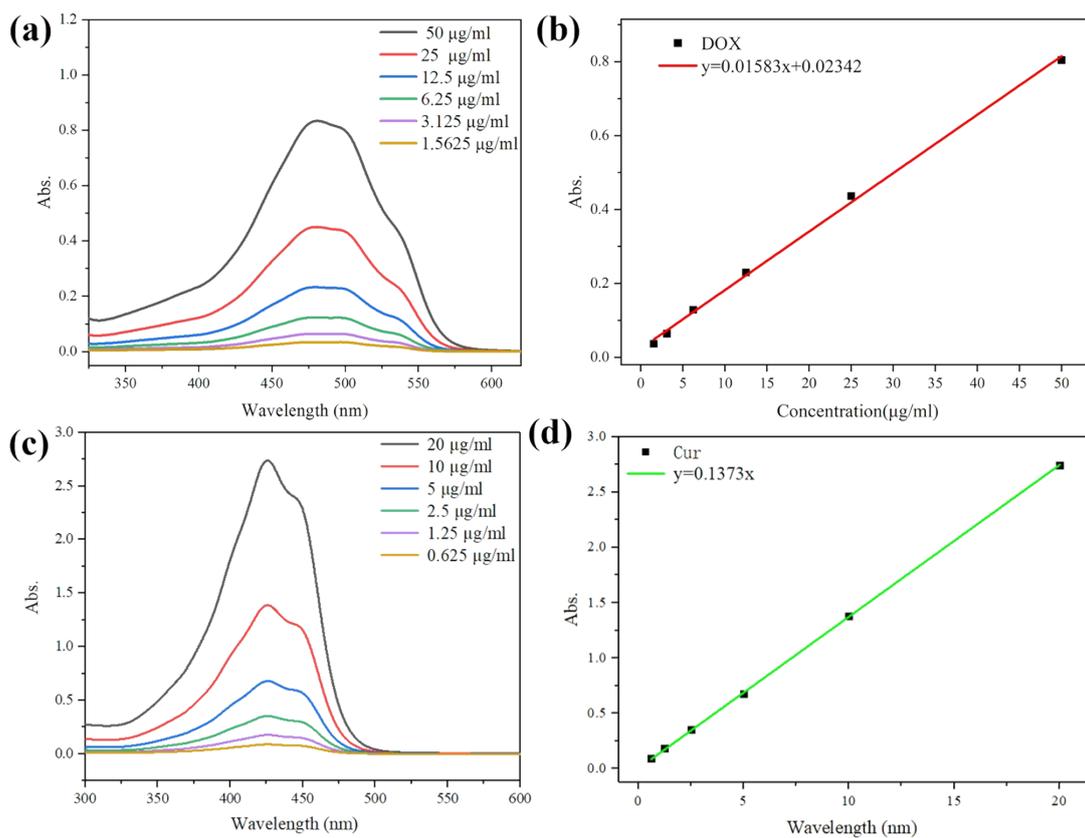
**Fig. S4** Moving trajectories of Mg/PLGA micromotors. (a) Spiral motion pattern of Mg/PLGA micromotor with a time interval of 3s. (b) Linear motion pattern of Mg/PLGA micromotor with a time interval of 3s.



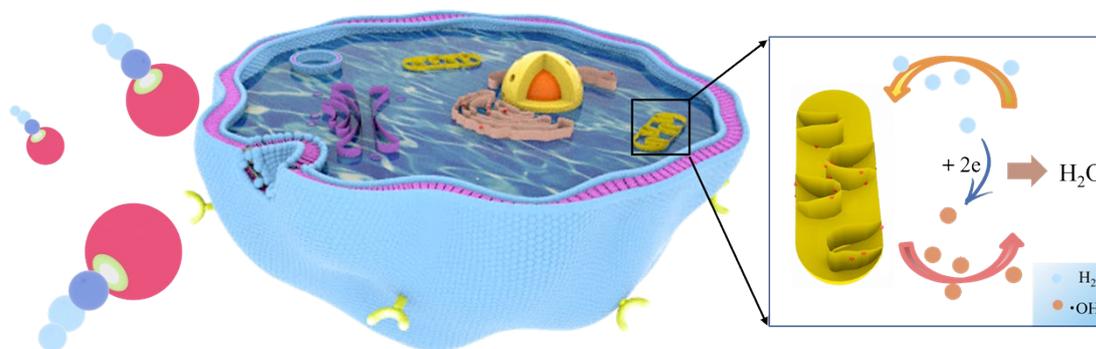
**Fig. S5** The life time of Mg particles and Mg/PLGA/CHI micromotors.



**Fig. S6** (a) Optical moving image of Mg/PLGA/CHI micromotor. (b) Optical image of Janus PLGA/CHI polymer shell after fully depletion of Mg core in culture medium.



**Fig. S7 UV-vis spectra of Dox (a) and Cur (c) at six known concentrations in PBS solutions. Standard curve of Dox (b) and Cur (d) at the peaks of 480 and 425 nm.**



**Fig. S8 Schematic illustration of Mg-micromotor for intracellular ROS scavenging.**