

*Electronic Supplementary Information*

**Light-controlled two-dimensional TiO<sub>2</sub> plate Micromotors**

Ying Wang,<sup>ab</sup> Zhen Li,<sup>b</sup> Alexander A. Solovev,<sup>a</sup> Gaoshan Huang,<sup>a\*</sup> and Yongfeng

Mei<sup>a\*</sup>

<sup>a</sup>Department of Materials Science, Fudan University, Shanghai 200433, People's Republic of China. E-mail: gshuang@fudan.edu.cn

<sup>b</sup>Department of Physics and Mathematics, Shanghai University of Electric Power, Shanghai 201300, People's Republic of China.

**Supplementary Information Contains:**

**1. Supplementary Figures**

Figure S1. (a) Top view and (b) side view SEM images of the Am-2D-TiO<sub>2</sub> micromotor.

**2. Supplementary Videos**

Video S1: Locomotion of an Am-2D-TiO<sub>2</sub> micromotor in 10 wt. % H<sub>2</sub>O<sub>2</sub>.

Video S2: Locomotion of an Am-2D-TiO<sub>2</sub> micromotor in 10 wt. % H<sub>2</sub>O<sub>2</sub> solution irradiated by UV light with different intensities.

Video S3: Locomotion of an Am-2D-TiO<sub>2</sub> micromotor in H<sub>2</sub>O<sub>2</sub> solution with different concentrations. The power density of UV light is 0.5 W cm<sup>-2</sup>.

Video S4: Locomotion of an Am-2D-TiO<sub>2</sub> micromotor in 10wt. % H<sub>2</sub>O<sub>2</sub>. The power density of UV light is 0.5 W cm<sup>-2</sup>.

Video S5: Locomotion of an Am-2D-TiO<sub>2</sub> micromotor in 10 wt. % H<sub>2</sub>O<sub>2</sub> with and without

SDS.

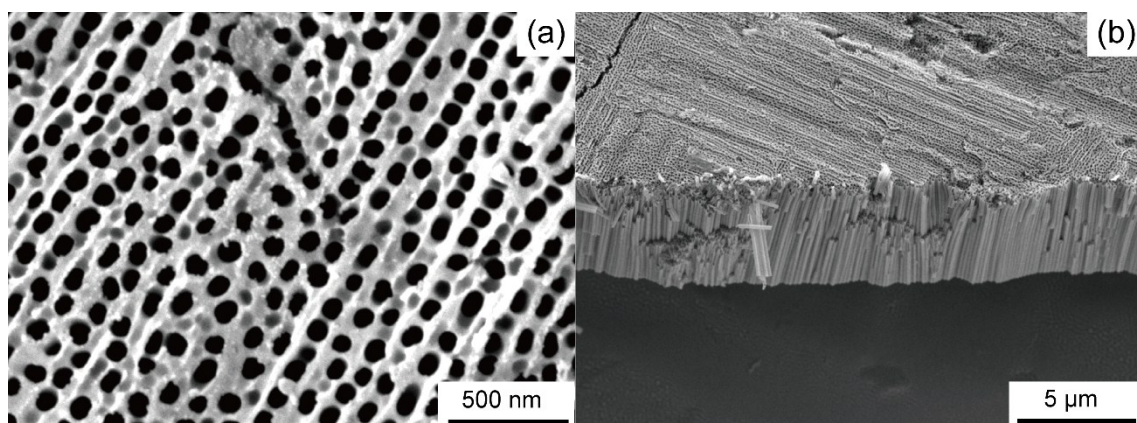


Figure S1. (a) Top view and (b) side view SEM images of the Am-2D-TiO<sub>2</sub> micromotor.