Electronic Supplementary Information for:

Small-scale heat detection using catalytic microengines irradiated by laser

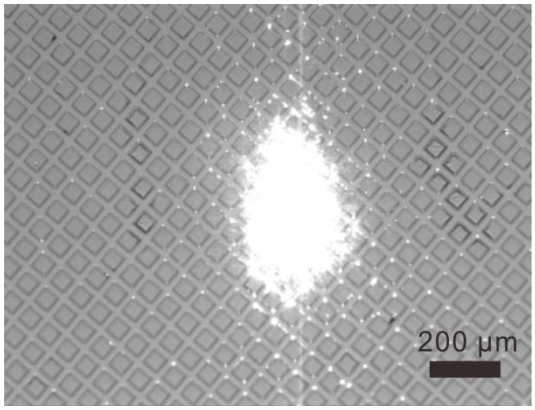
Zhaoqian Liu,[a,b] Jinxing Li, [a,b] Jiao Wang,[a] Gaoshan Huang,[a] Ran Liu,*[b] and Yongfeng Mei*[a,b]

[a] *Department of Materials Science, Fudan University, Shanghai 200433, People's Republic of China. Email: yfm@fudan.edu.cn; Fax: +86-21-6564 3615; Tel: +86-21-65642829*
[b] *State Key Lab of ASIC and System, Fudan University, Shanghai 200433, People's Republic of China. E-mail: rliu@fudan.edu.cn*

One supplementary figure and four supplementary videos:

(1). Supplementary-Figure 1.
(2). Calculation of the laser power density.
(3). Suppl Video 1 real time for Fig.1b and c.wmv.
(4). Suppl Video 2 real time for Fig.2.wmv.
(5). Suppl Video 3 real time Fig.3.wmv.
(6). Suppl Video 4 real time for Fig.4.wmv.
(7). Suppl Video 5 real time for Fig.5.wmv.

(1) Supplementary-Figure 1.



Supplementary-Figure 1. Optical image of a focused laser spot on a patterned substrate.

(2). Calculation of the laser power density.

The 980 nm laser used in our work has a maximum power of 1 W, and the diameter of the laser beam is ~0.8 cm. Thus, as a rough estimation, we can calculate the average power density by assuming a uniform power distribution in the laser spot:

Power density=total power/area of the spot=1 W/(π×0.4 cm×0.4 cm)=2 W/cm^2.