

Tunable emission microwires Heterojunctions for optical waveguides

Hongyan Xia*, Yibin Zhu, Xueliu Chen, Tingkuo Chen, Dao Zhang, Xiang Li, Fangcheng Shen, Haiming Jiang, Kang Xie*

Address Dongyuan Synergy Innovation Institute for Modern Industries of GDUT, Guangdong University of Technology, Guangzhou 510006, China

*Corresponding authors

E-mail addresses: hyxia@gdut.edu.cn (H. Xia), kangxie@gdut.edu.cn (K. Xie).

Keywords polymer microwires; optical heterojunction; tunable emission; modulation

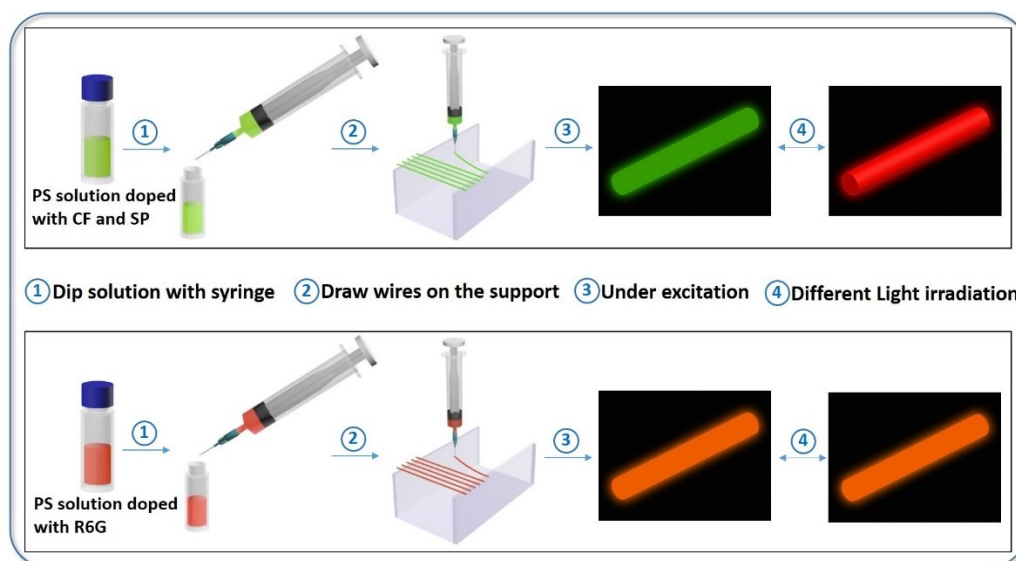


Fig. S1 Schematic illustration of preparation process for MW1 and MW2.

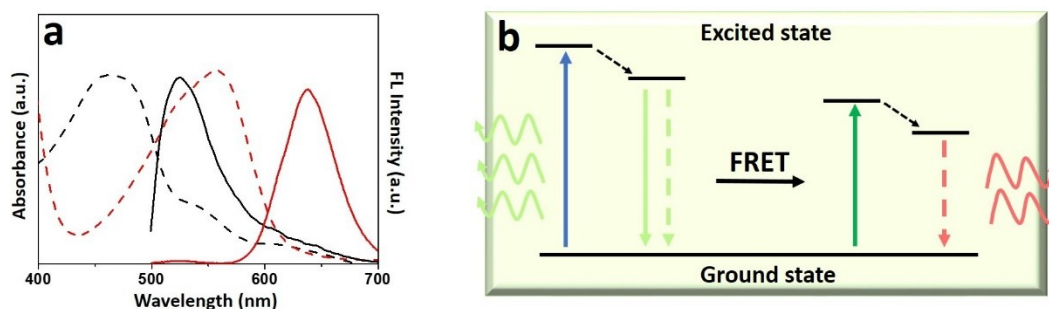


Fig. S2 (a) Absorption spectra (dashed lines) and FL spectra (solid lines) of CF (black lines) and spiropyran in the MC form (red lines). (b) Mechanism illustration of FRET between CF and spiropyran in the MC form.

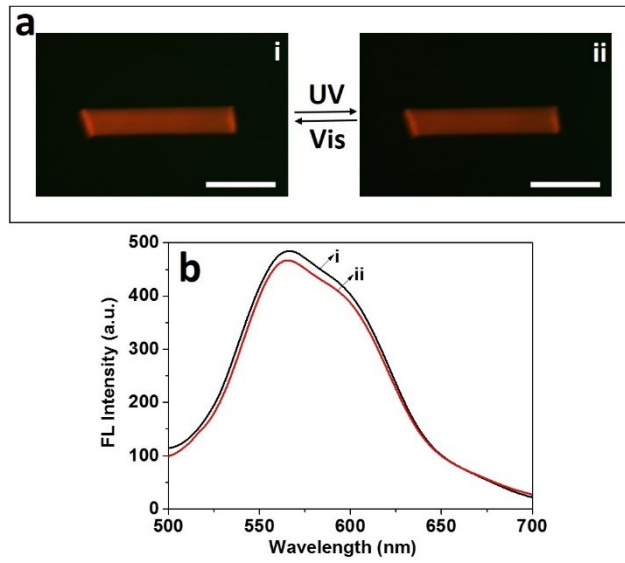


Fig. S3 (a) FL images of MW2 under different light irradiation, (i) Vis light, (ii) UV light. Scale bar: 5 μ m. (b) FL spectra for MW2 corresponding to (i) and (ii) of (a).

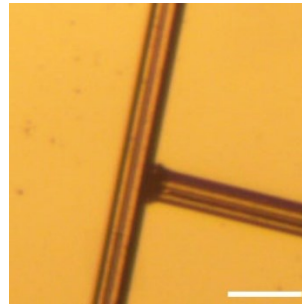


Fig. S4 Enlarged bright-field optical microscopy image for the connection region of two connected microwires. Scale bar: 5 μ m.

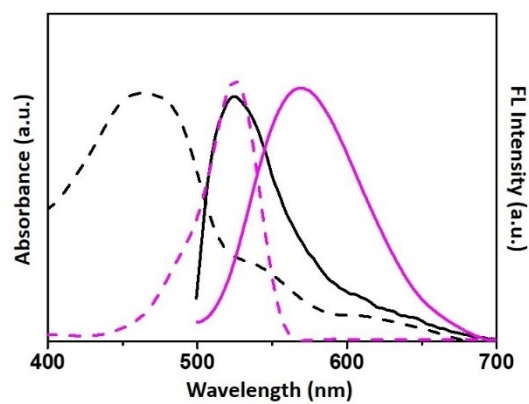


Fig. S5 Absorption spectra (dashed lines) and FL spectra (solid lines) of CF (black lines) and rhodamine 6G (red lines).

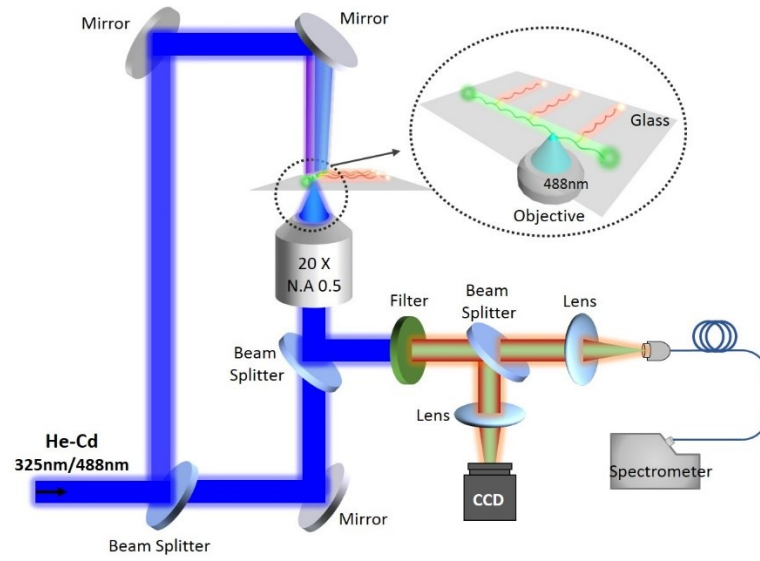


Fig. S6 Schematic illustration of the experimental setup for optical measurements.