Supporting Information

Fluorescence Enhanced Lab-on-a-chip patterned by Hybrid Technique of Femtosecond Laser Direct Writing and Anodized Aluminum Oxide Porous Nanostructuring

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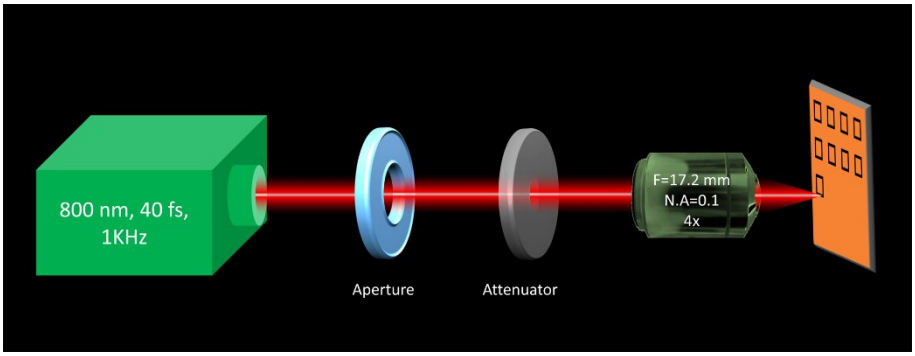
Scheme S1



Scheme S1. A schematic experimental setup for femtosecond laser processing the LOC device.

Figure S1

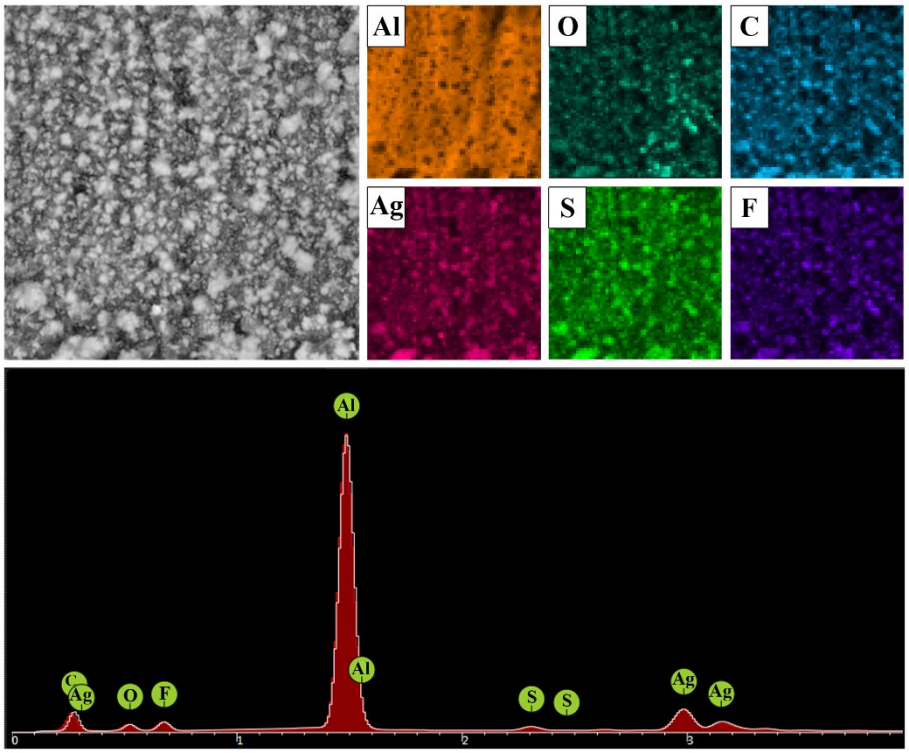


Figure S1. SEM and EDS analysis of the Al foil after the modification of Ag nano-structure.

Figure S2

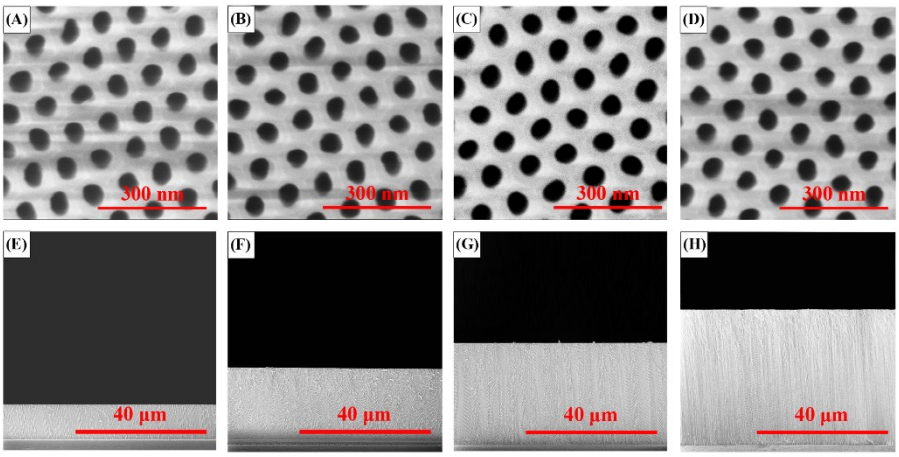


Figure S2. SEM characterization of the AAO platform with different anodization times (1, 2, 3, 4 h), surface morphology (A-F) and sectional view (F-H).

Figure S3

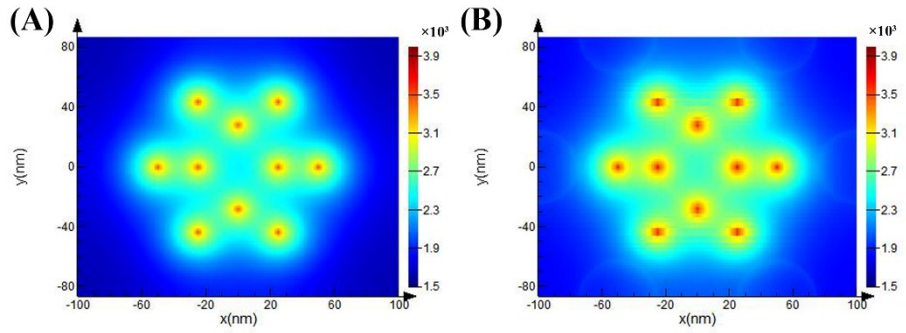


Figure S3. The Simulated electromagnetic field distribution for an excited dye molecule at its maximum emission 548 nm adsorbed on Al (A) and AAO surface at different positions.

Figure S4

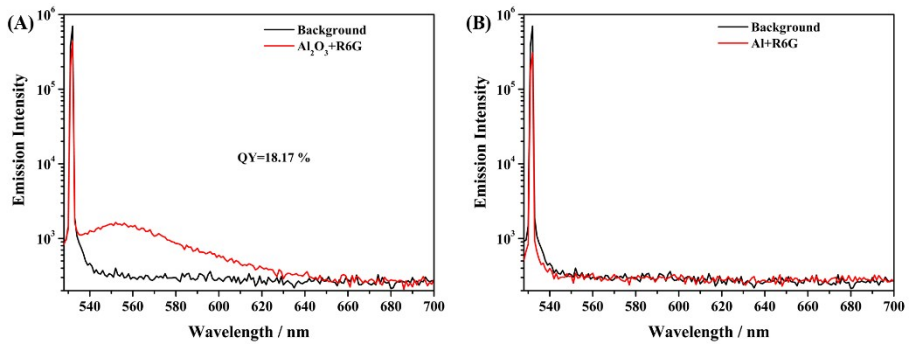


Figure S4. The emission spectra of Al_2O_3+R6G (A) and Al+R6G (B) compared with background.

Figure S5

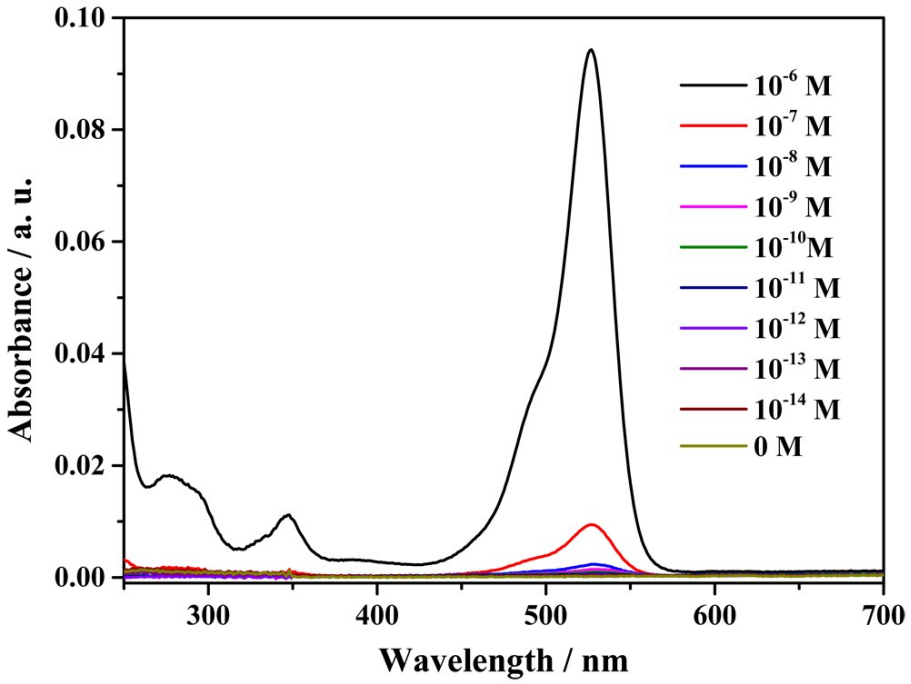


Figure S5. The UV-Vis spectra of the R6G molecules diluted in water with different concentration

Figure S6

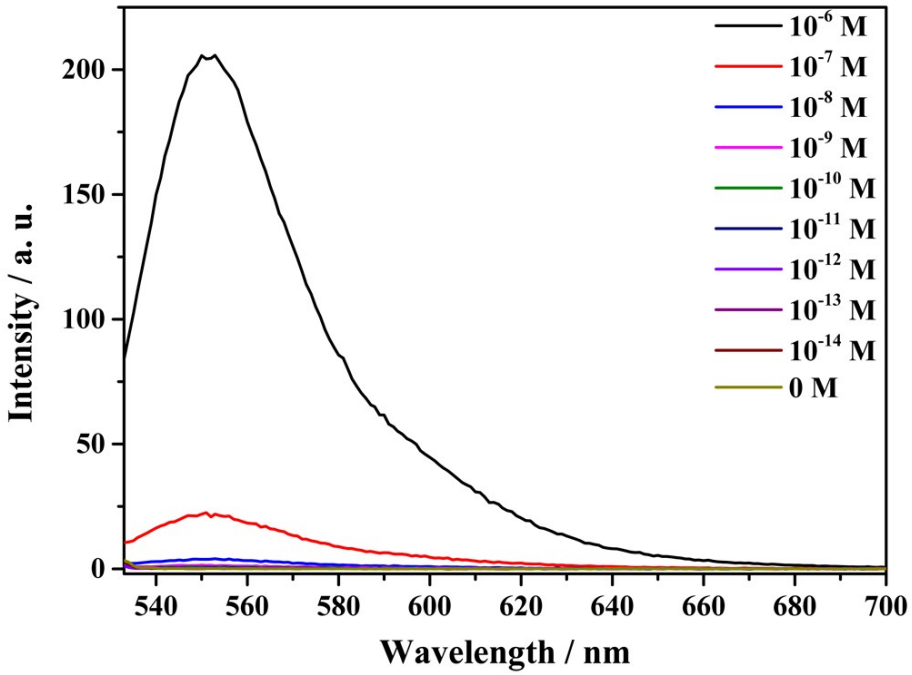


Figure S6. The UV-Vis spectra of the R6G molecules diluted in water with different concentration

Figure S7

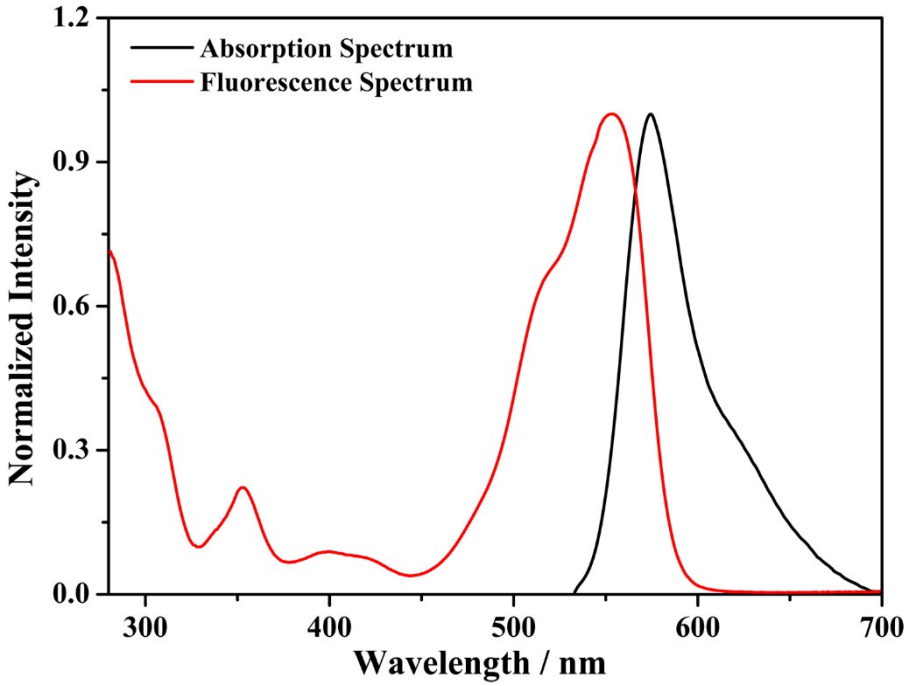


Figure S7. Absorption and fluorescence spectra (B) of RhB molecule.

Figure S8

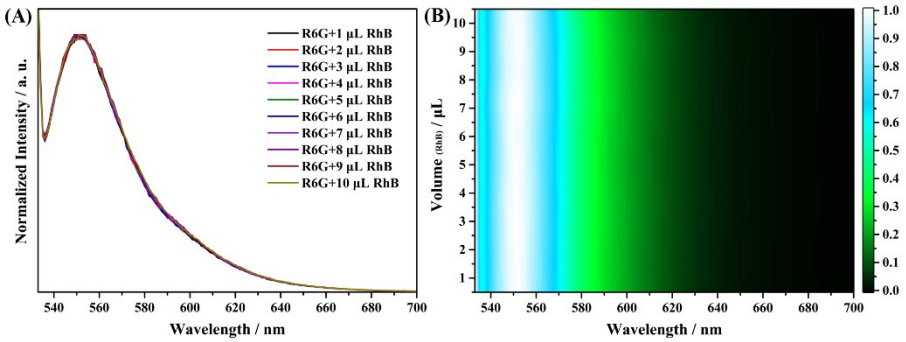


Figure S8. Fluorescence spectra of 100 μL R6G mixed with different volume of RhB from 1 to 10 μL in liquid (A) and fluorescence mapping analysis of the mixture components.