

## Supplementary information

### **Silica encapsulated fluorescein as a hybrid dyes for blue-LED based lighting devices**

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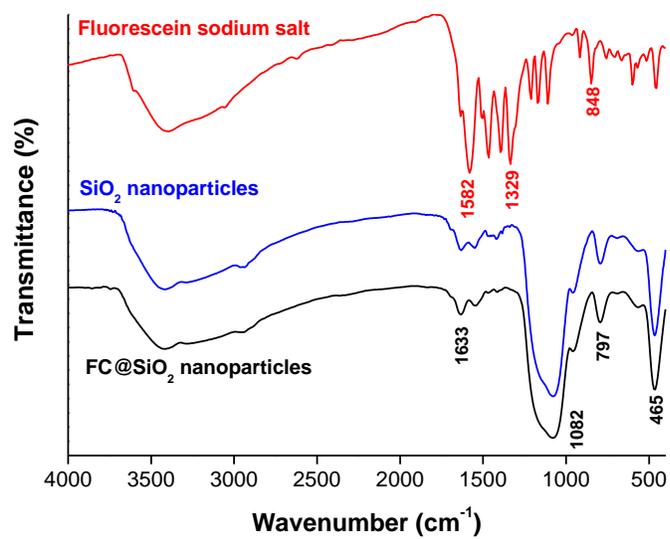
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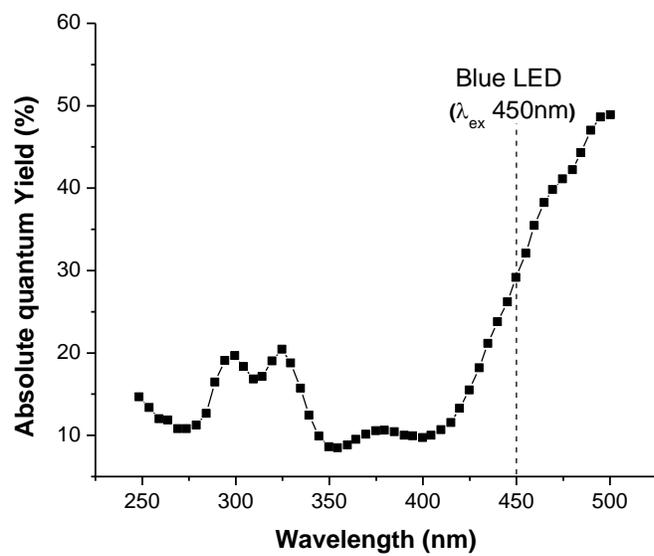
**Figure S1**

FT-IR spectra of FC@SiO<sub>2</sub> nanoparticles and fluorescein sodium salt powder.

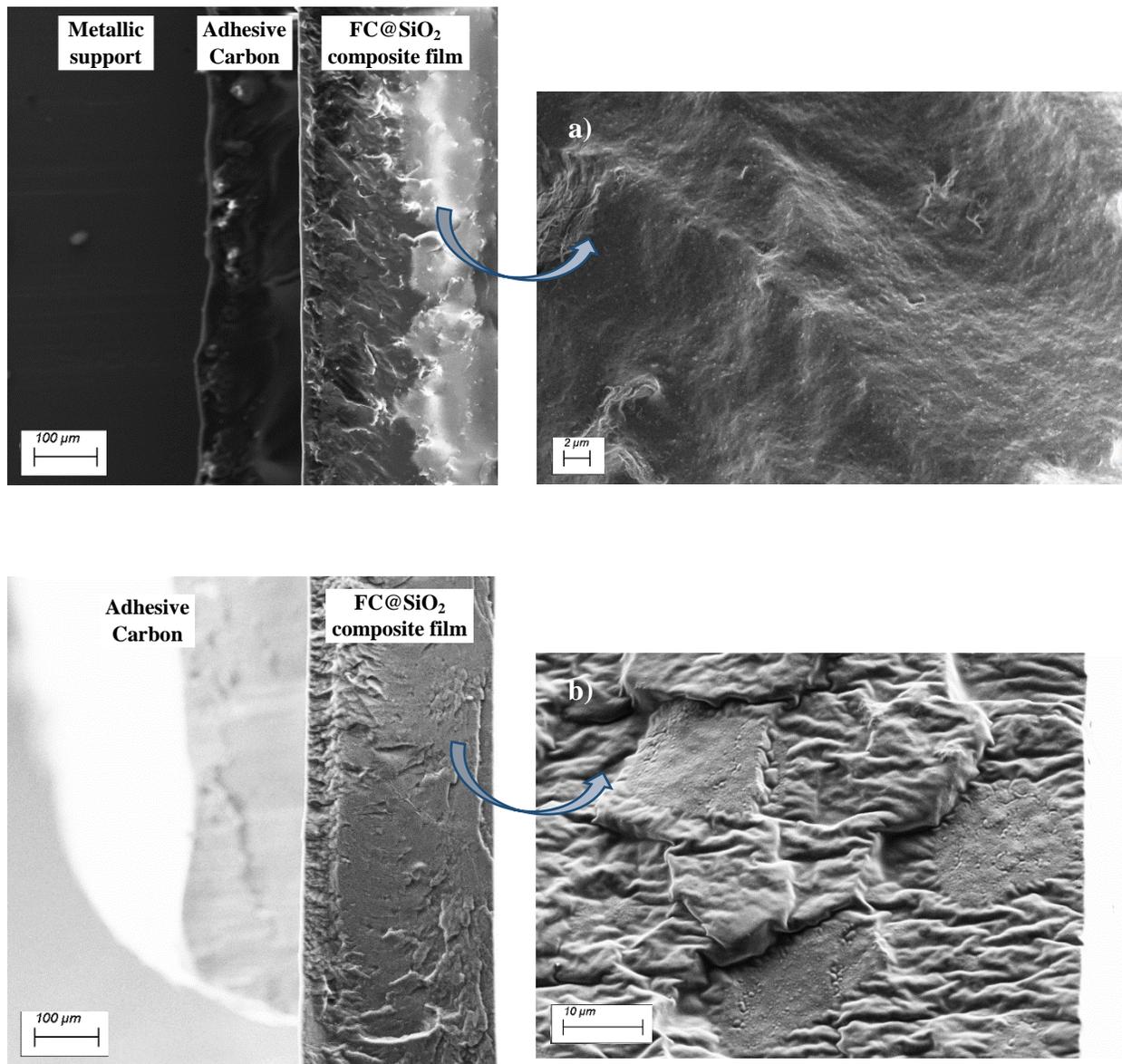


## Figure S2

The absolute quantum yield efficiency of FC@SiO<sub>2</sub> nanoparticles (prepared from 10mM fluorescein solution) presented between 250-500 nm light illuminations.



**Figure S3**



SEM images of cross-section of a) 10wt% FC@SiO<sub>2</sub> and b) 15% FC@SiO<sub>2</sub> in composite film

**Figure S4**

Schematic diagram of an FC@SiO<sub>2</sub>/silicone hybrid LED, prepared using a commercial blue LED (450nm) and FC@SiO<sub>2</sub> nanoparticles dispersed in silicone film.

