

## Supporting Information

### For RSC Advances

#### **Layered composites composed of multi-walled carbon nanotubes/manganese dioxide /carbon fiber cloth for microwave absorption in X-band**

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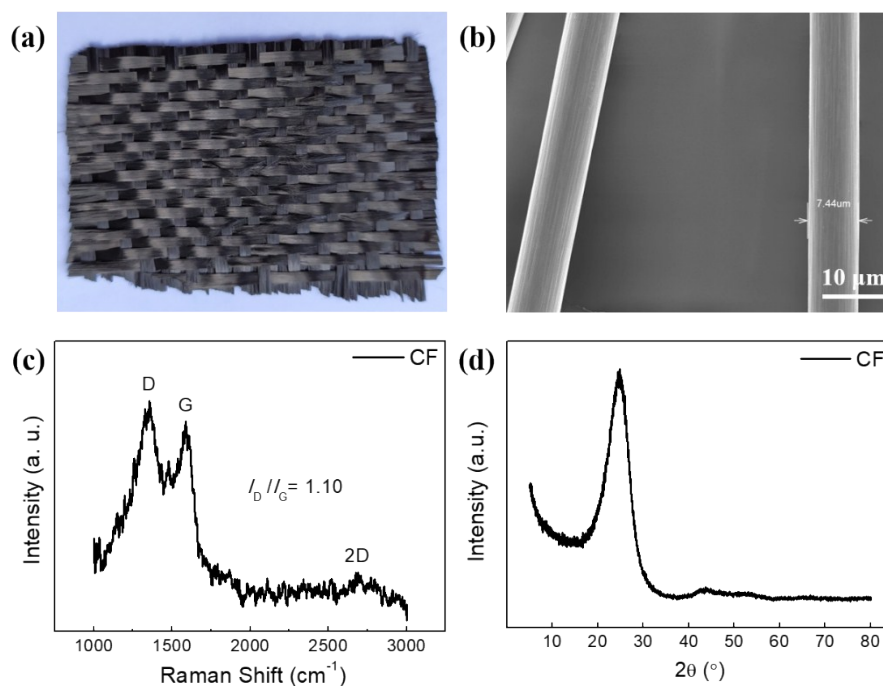
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Morphologies of the CF cloth are shown in **Figure S1a** and **S1b**. The digital photo shows criss-cross CF bundles shining with metallic luster. It can be seen from the FESEM image that the diameter of CF with smooth surface is around 7.5  $\mu\text{m}$ . Examining the Raman spectrum of CF, there are two prominent Raman peaks at 1350 and 1580  $\text{cm}^{-1}$ , as shown in **Figure S1c**, corresponding to G-band and D-band of CF, respectively. The intensity ratio of D-band to G-band ( $I_D/I_G$ ) is 1.10, showing high crystallinity of the as-received CF. **Figure S1d** shows the XRD pattern of the CF cloth. There exists a strong peak at 24.9°, corresponding to the graphitic structure of (002) plane diffraction. A weak peak appears at 43.2° related to the structure of graphite (100) diffraction.



**Figure S1** Characterization of CF cloth: (a) digital photo, (b) SEM image, (c) Raman spectrum and (d) XRD pattern