

Supplementary Materials: Preparation of Few-Layer Graphene/Carbon Nanotube Hybrids Using Oxide Spinel Catalysts

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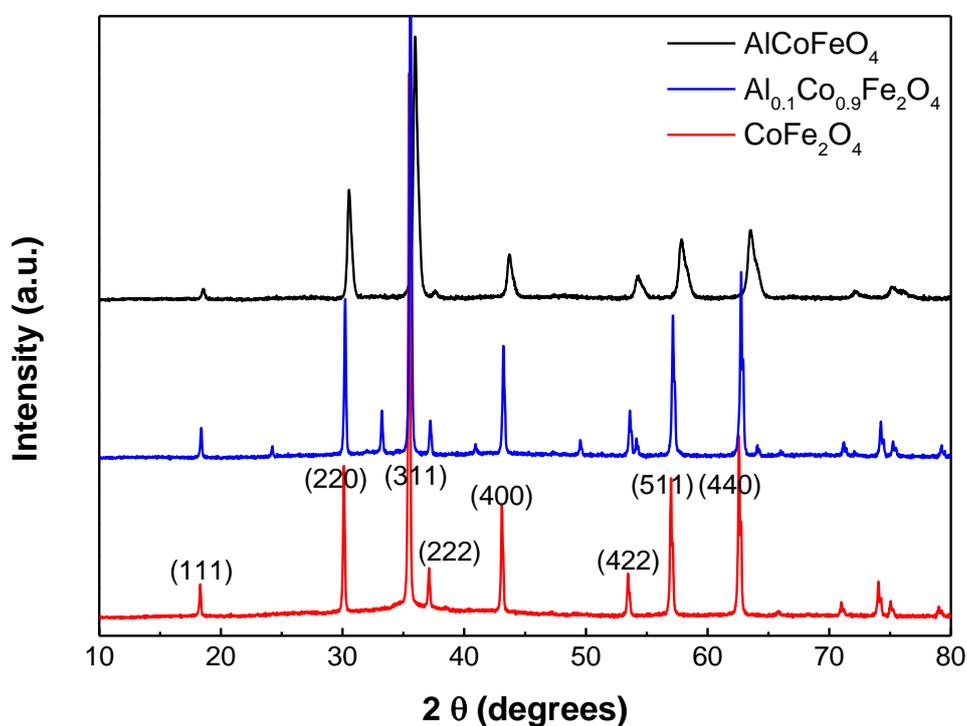


Figure S1. Powder X-ray diffractograms of CoFe_2O_4 , $\text{Al}_{0.1}\text{Co}_{0.9}\text{Fe}_2\text{O}_4$, and AlCoFeO_4 catalysts after calcination at 800 °C.

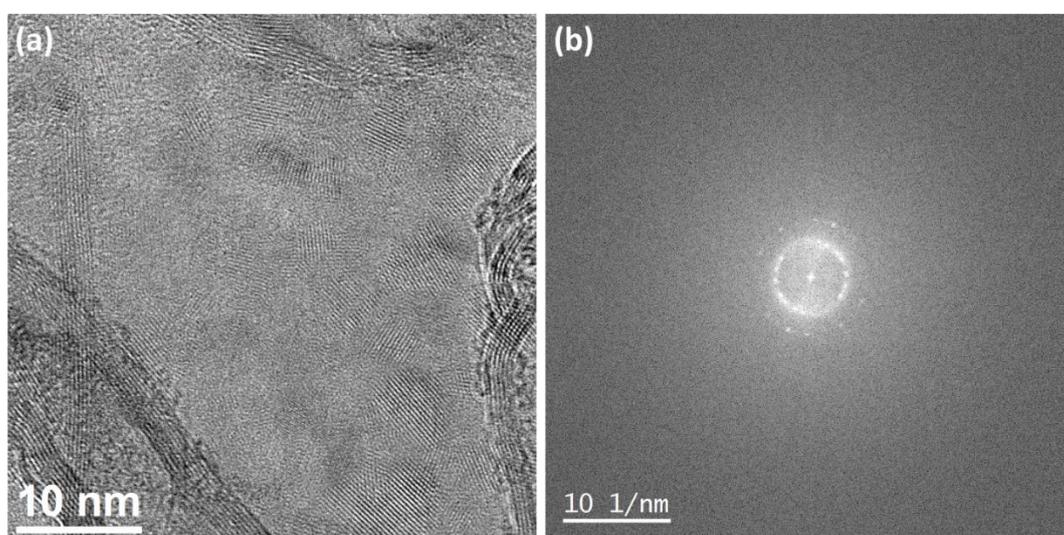


Figure S2. (a) High-resolution TEM micrograph of the FLG-CNT hybrid (scale bar = 10 nm) and (b) electron diffraction pattern of the FLG portion.

The FFT in Figure S2(b) confirms that the FLG in the hybrid is crystalline; our previous work on FLG synthesis [1] has shown that the individual graphene layers are randomly stacked and rotated with respect to each other.

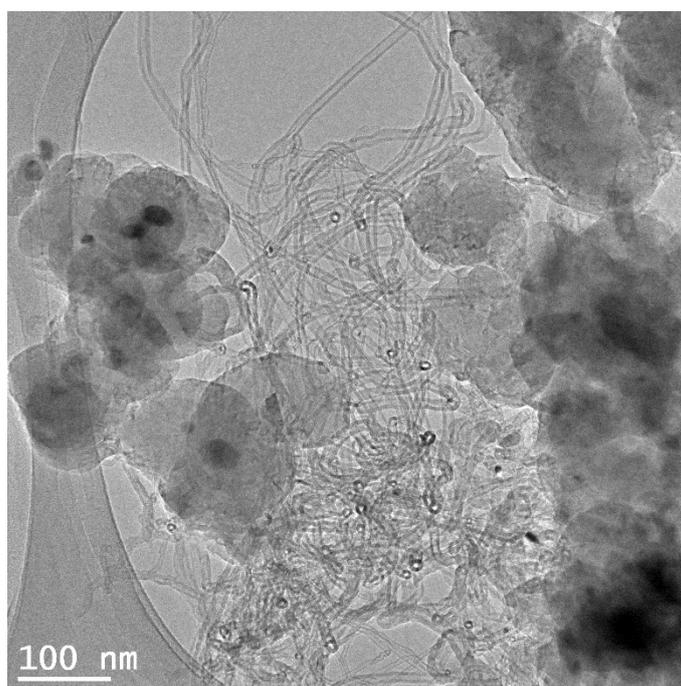
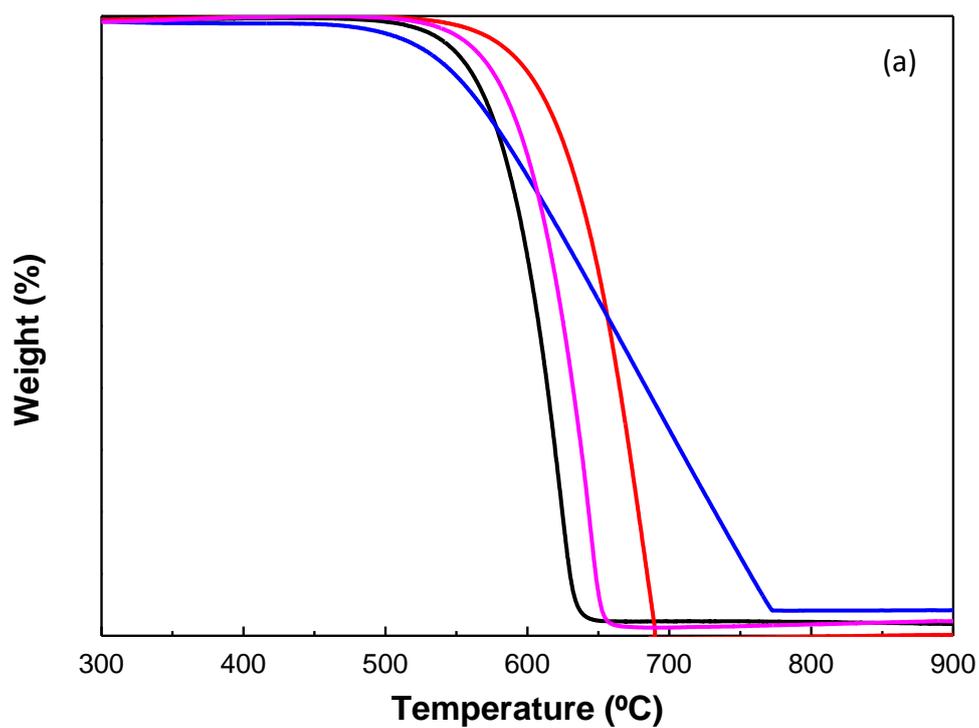


Figure S3. TEM micrograph of the hybrid material grown from a single catalyst with 10 mol % Al ($\text{Al}_{0.1}\text{Co}_{0.9}\text{Fe}_2\text{O}_4$) (scale bar = 100 nm)—method-3. Well-graphitized large spheres are seen along with CNTs.



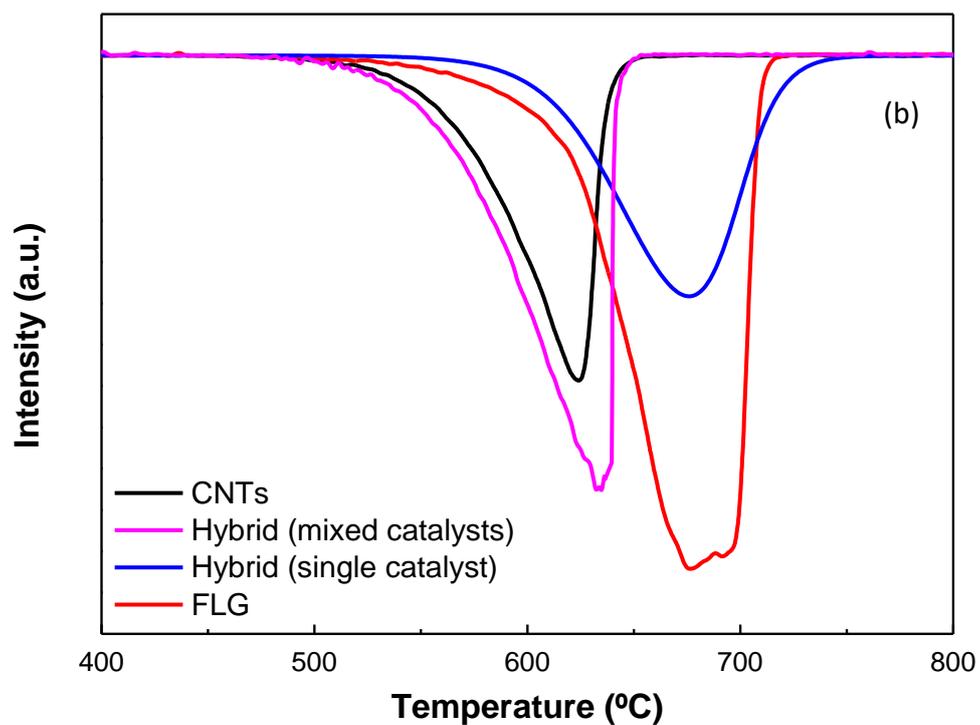


Figure S4. (a) TGA curves and (b) TGA first derivative in air atmosphere for CNTs, FLG, and FLG-CNT hybrids obtained from both single catalyst and mixed catalysts.

1. Bacsa, R.R.; Cameán, I.; Ramos, A.; Garcia, A.B.; Tishkova, V.; Bacsa, W.S.; Gallagher, J.R.; Miller, J.T.; Navas, H.; Jourdain, V., et al. Few layer graphene synthesis on transition metal ferrite catalysts. *Carbon* **2015**, *89*, 350–360, doi:10.1016/j.carbon.2015.03.054