

## Supplementary Information

### **Interfacial engineering of polypropylene/graphene nanocomposites: Improvement of graphene dispersion by using tryptophan as stabilizer**

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## 1. The two parallel experiments of binary-phase system

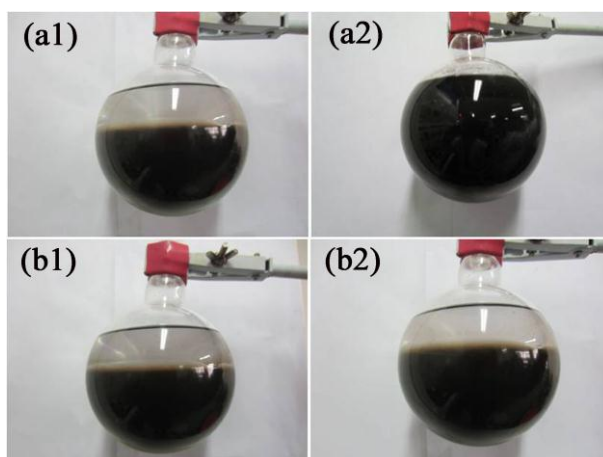


Figure S1. The binary phase of xylene (upper) and water (lower): (a1) and (a2) are the graphene/water and MAPP/xylene binary system before and after heating at 95 °C for 8 h; (b1) and (b2) are the *f*-graphene/water and PP/xylene binary system before and after heating at 95 °C for 8 h. PP or MAPP is in xylene phase, graphene or *f*-graphene is in water phase before heating.

## 2. X-ray photoelectron spectroscopy (XPS) of various samples

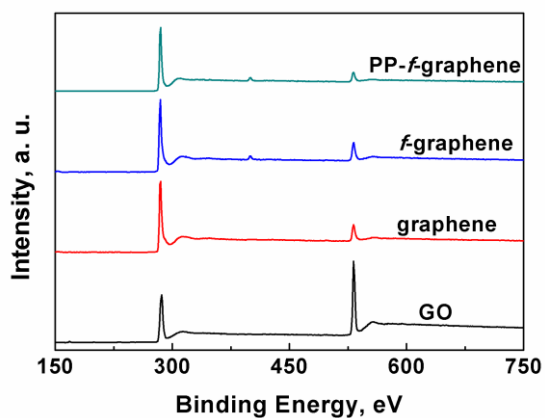


Figure S2. XPS spectra of GO, graphene, *f*-graphene and PP-*f*-graphene.

X-ray photoelectron spectroscopy (XPS) of each sample was recorded on a Kratos AXIS ULTRADLD system (Japan), using monochromatic Al K $\alpha$  radiation as exciting source.