A scalable method of transfer of CVD Graphene onto PET for Flexible Touch Panel Applications

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Abstract

Monolayer graphene is a promising material for flexible, transparent electronics. They could replace brittle indium tin oxide (ITO) coatings used in touch panels for smart devices. We show a cost-effective, do-it-yourself transfer method to transfer CVD-grown graphene from copper foil to PET substrates using a water-assisted lamination process.

To transfer graphene from Cu to PET, we first soak the graphene-on-Cu in deionized water. Then, we laminate it with a water-soluble PVA film using a desktop laminator set at 110 °C. After peeling it from the copper, we re-laminate it onto PET. Dissolving the PVA leaves us with clean graphene films that have high transparency, flexibility, and potential for large-area flexible electronic applications.

References

[1] Abhay Shivayogimath, Do-it-yourself transfer of large area graphene using a laminator and water, Chemistry of materials,2019,31, 2328-2336

Figures

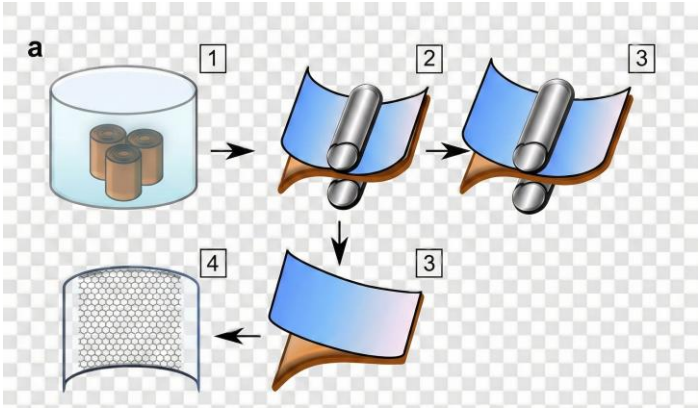

Figure 1: Cu foils with graphene coating laminated onto a PVA film [1]

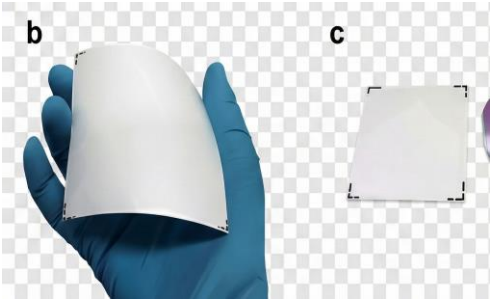

Figure 2: Graphene transferred to PVA foil [1]