

Deposition of Pt and Au nanoparticles on modified MoS₂ using polydopamine

_____, _____, _____^{*}
(ogchoi@kangwon.ac.kr^{*})

In this work, we report on a highly stable colloidal suspension of nanoparticles (i.e., Pt and Au)-deposited MoS₂ sheets, in which polydopamine serves as surface functional groups. The adoption of polydopamine coating onto the MoS₂ surface enables homogeneous deposition of nanoparticles in an aqueous solution. As-synthesized hybrids are thoroughly characterized by transmission electron microscopy (TEM), Raman spectroscopy, and X-ray diffraction (XRD) measurement. These intensive investigations reveal that noble metal nanocrystals are uniformly distributed to the surface of ultrathin MoS₂ sheets (~ 4 layers).