Supporting Information for

High performance SERS active substrates fabricated by directly growing graphene on Ag nanoparticles

Shicai Xu*[a], Jihua Wang*[a], Yan Zou [a], Hanping Liu[a], Guiying Wang[a], Xiumei Zhang[a], Shouzhen Jiang[b], Zhen Li[b], Dongyan Cao[a], Rongxia Tang[a]

[a] College of Physics and Electronic Information, Shandong Provincial Key Laboratory of Biophysics, Dezhou University, Dezhou 253023, China

[b]School of Physics and Electronics, Shandong Normal University, Jinan 250014 China

E-mail address: shicaixu@dzu.edu.cn (S.C. Xu); jhw25336@126.com (J.H.Wang)

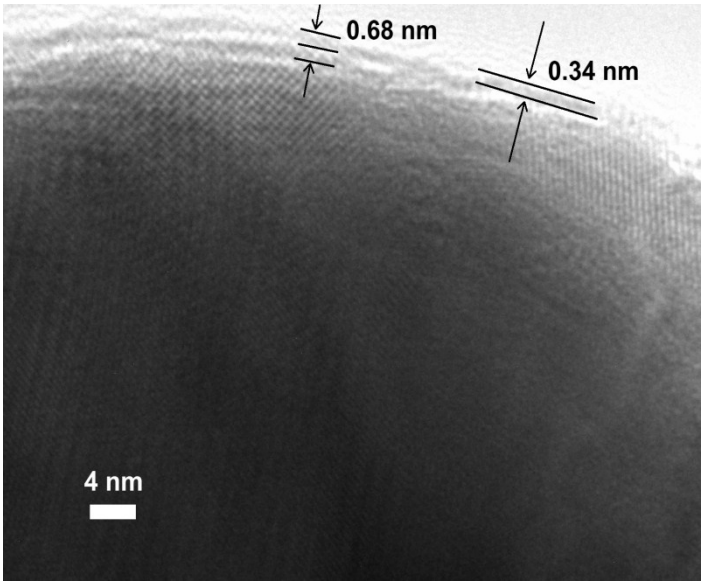

Figure S1. HRTEM image of G/AgNPs nearby interface of graphene and AgNPs.

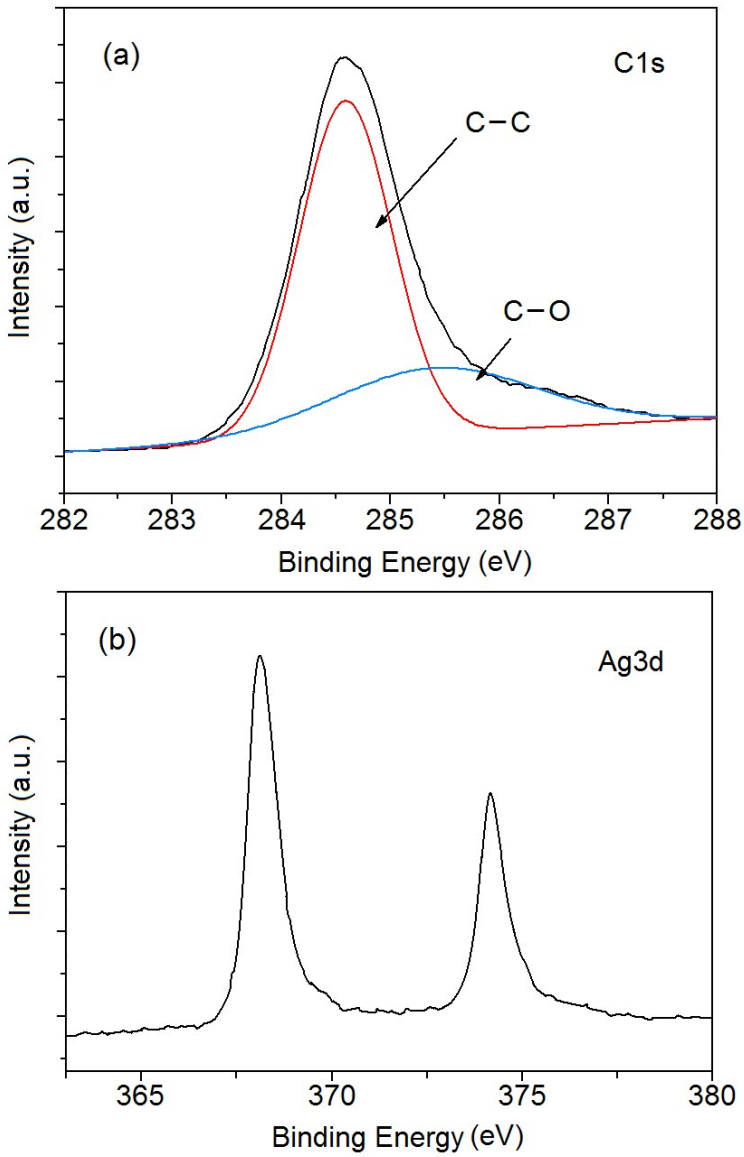

Figure S2. XPS of G/Ag NPs. (a) C_{1s} peak of G/AgNPs. (b) Ag_{3d} peak for G/AgNPs.

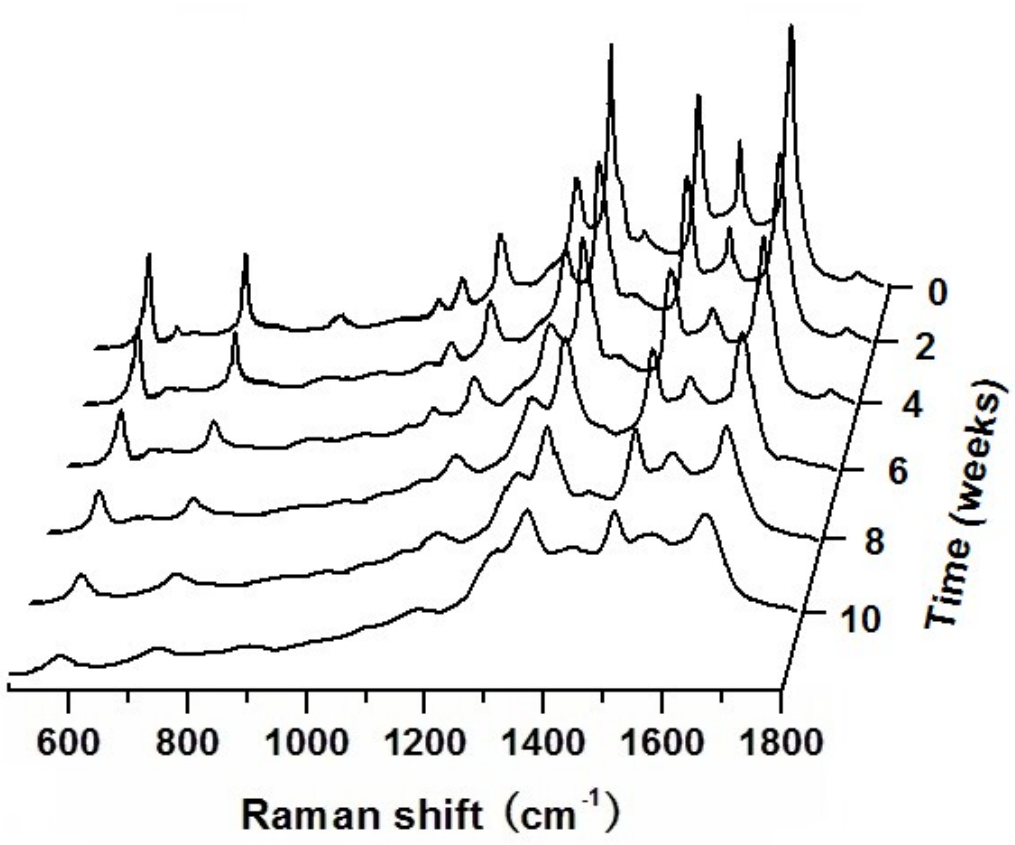

Figure S3. SERS spectra of 10^{-7} M R6G were recorded from bare AgNP substrates stored over a number of weeks under ambient conditions.

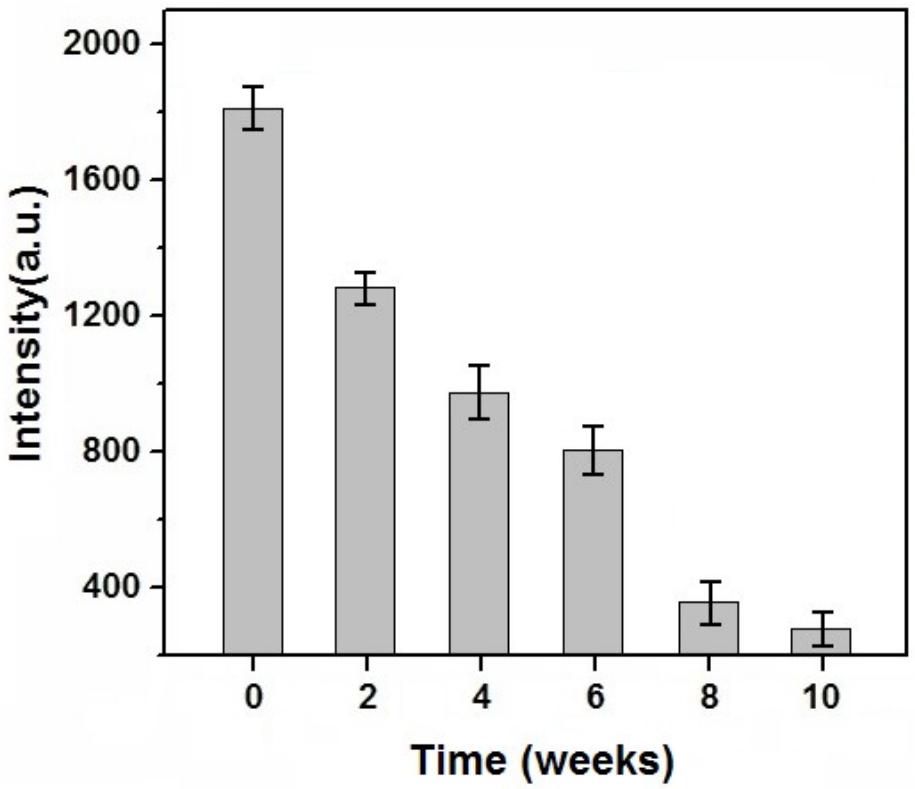

Figure S4. Intensity of 10^{-7} M R6G recorded from bare AgNP substrates versus stored time based on the measurement at 613 cm^{-1} over 10 weeks. Error bars show the standard deviations.