

Fig.1 AFM image of gold nanoparticles formed on graphite surface by aggregation

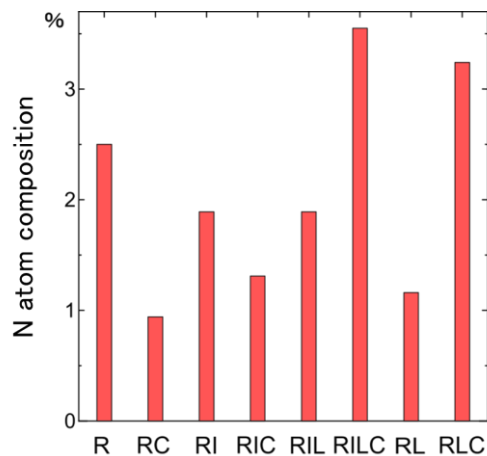


Fig.2 N atom composition ratio under each irradiation condition. RILC: Radical + Ion + Light + Catalyst.

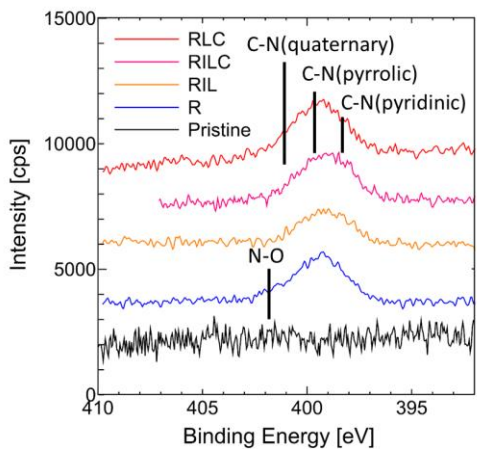


Fig.3 N1s XPS spectrum for each irradiation condition. RILC: Radical + Ion + Light + Catalyst.

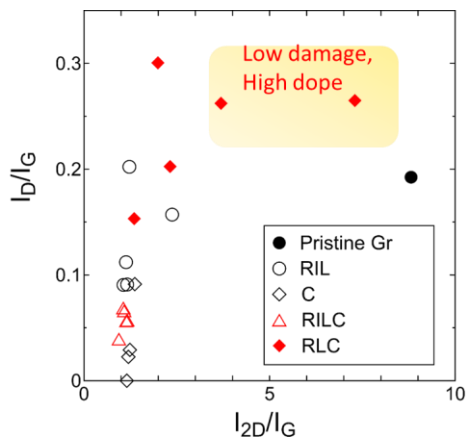


Fig.4 Raman scattering intensity ratio of graphene for each irradiation condition. RILC: Radical + Ion + Light + Catalyst.