

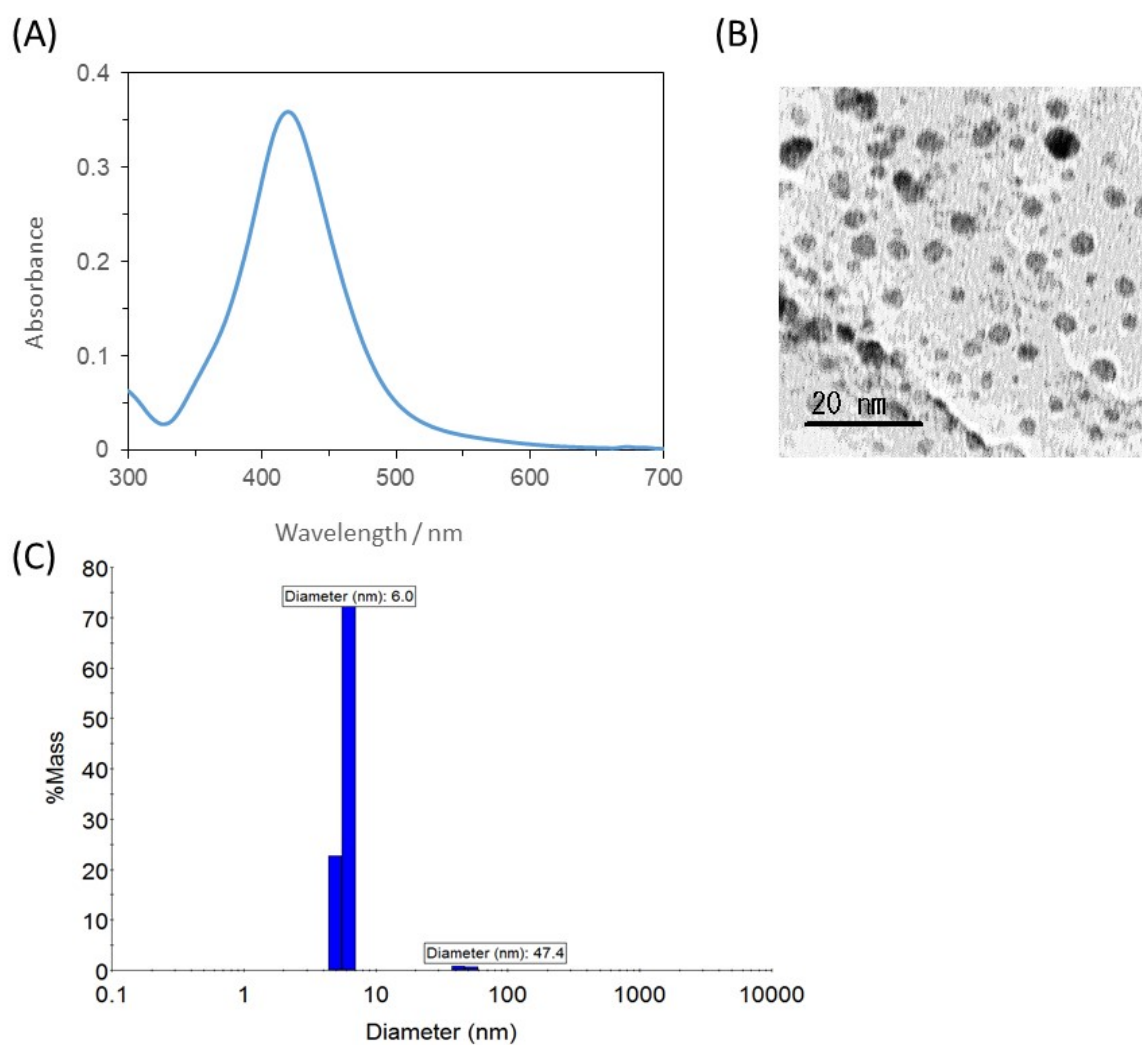


Figure S1 Characterization of Ag nanoparticles. (A) Absorbance spectrum (B) TEM image, and (C) DLS analysis

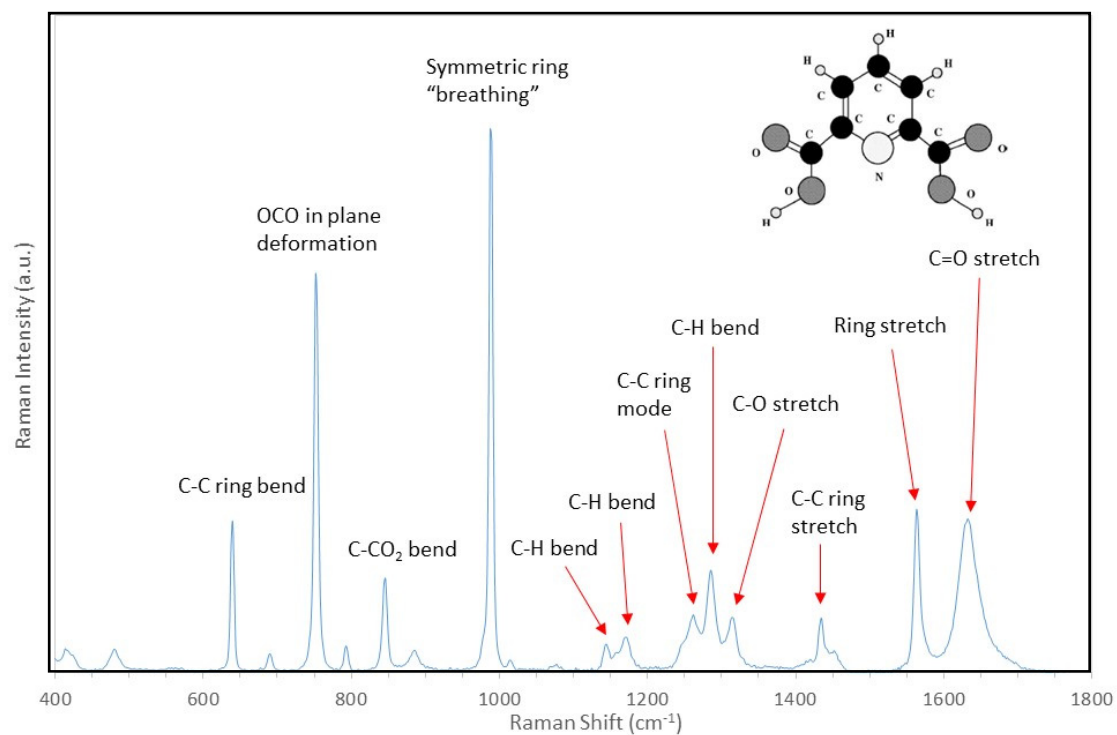


Figure S3 Raman spectrum of DPA.

RAMAN touch (Nano photon)

Excitation : 533nm, Exposure time : 10s

Cumulative Number:5, Laser power: 5mW

Table S1 Raman spectral bands of DPA powder and their attribution

Raman Shift (cm ⁻¹)	Assignment	Scale
639	C – C ring bend	Strong
748	OCO in-plane deformation	Strong
796	C – H out-of-plane	Very weak
844	C – CO ₂ bend	Weak
885	C – H out-of-plane	Medium
933	C – H out-of-plane	Very weak
987	Symmetric ring “breathing”	Very strong
1080	Trigonal ring “breathing”	Very weak
1146	C – H bend	Weak
1170	C – H bend	Weak
1262	C – C ring mode	Medium
1289	C – H bend	Medium
1317	C – O stretch	Medium
1437	C – C ring stretch	Medium
1569	Ring stretch	Strong
1638	C = O stretch	Very strong