Supporting Information

Nonlinear Optical Investigations in Nine-Atom Silver Quantum Clusters and Graphitic Carbon Nitride Nanosheets

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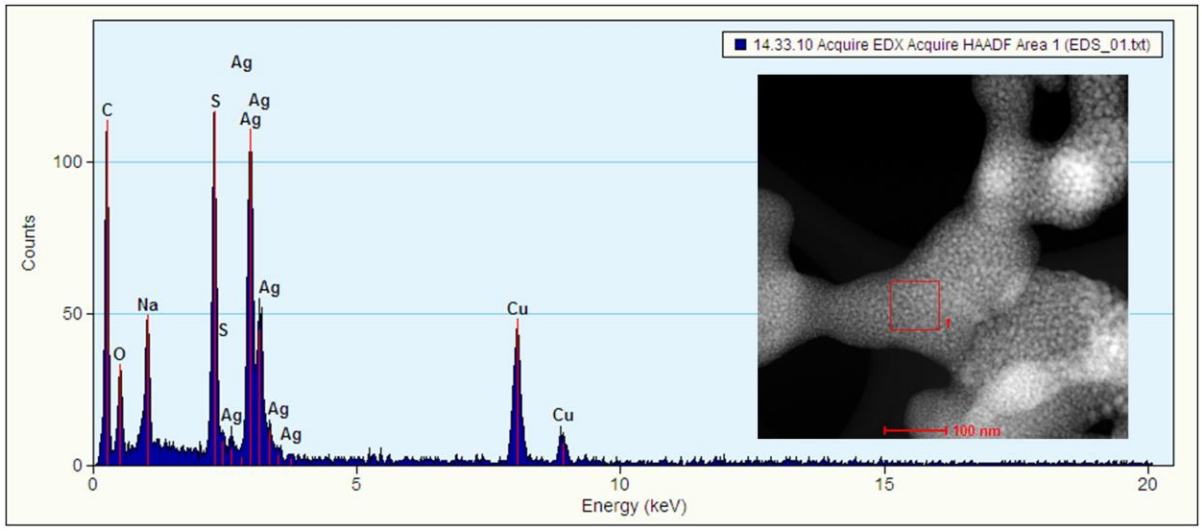

Figure S1. Energy dispersive X-ray spectra obtained from the area marked in the HAADF-STEM image shown in the inset. The presence of the elemental peaks from Ag, S, and Na confirm the formation of Ag_9 QCs. Cu peaks correspond to the substrate.

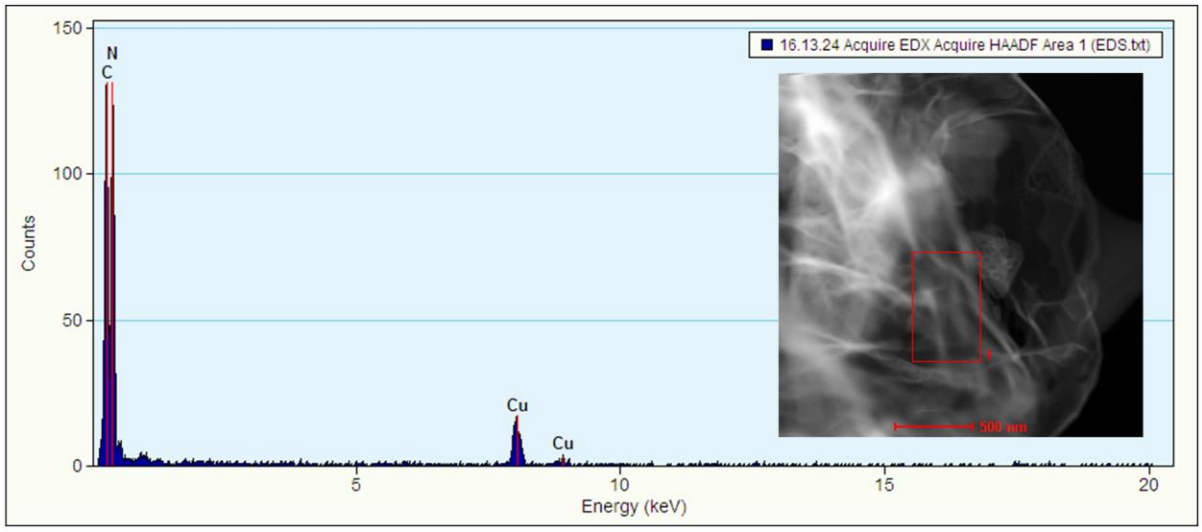

Figure S2. Energy dispersive X-ray spectra obtained from the area marked in the HAADF-STEM image shown in the inset. The presence of the elemental peaks from C and N confirm the formation of GCN. Cu peaks correspond to the substrate.

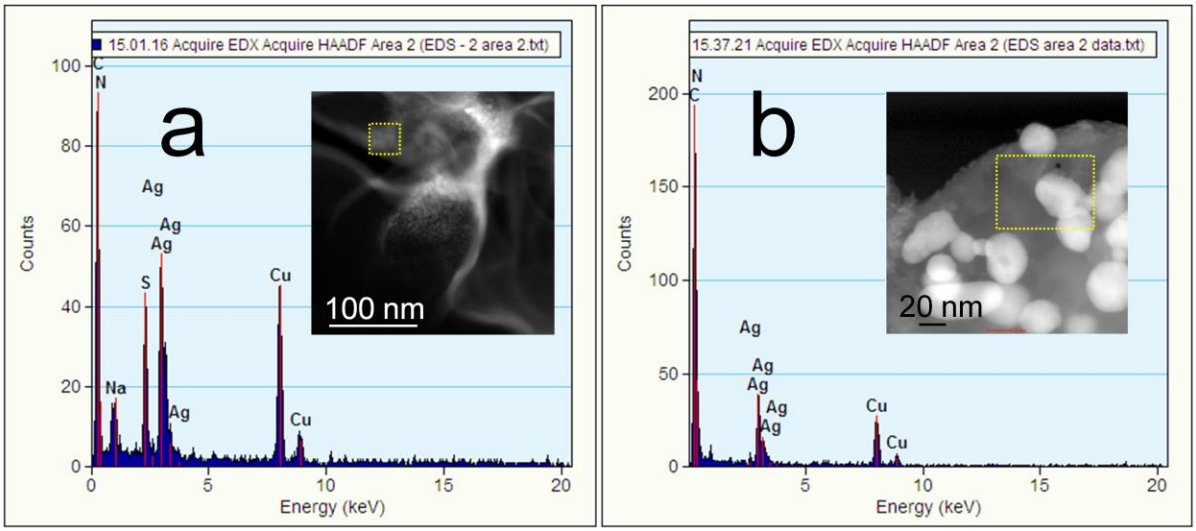

Figure S3. Energy dispersive X-ray spectra of (a) Ag_9 QCs-GCN and (b) Ag NPs-GCN, obtained from the area marked in the HAADF-STEM image shown in the insets. In both (a) and (b), the presence of the elemental peaks from C and N confirm the formation of GCN. The presence of elemental peaks from Ag, Na and S confirm the formation of Ag_9 QCs (a), while the Ag peaks confirm the formation of Ag NPs (b). Cu peaks correspond to the substrate.

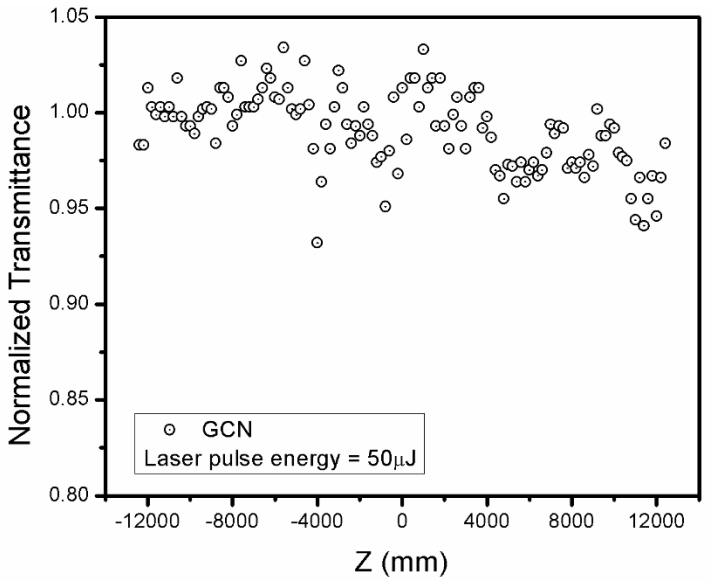

Figure S4. Open aperture Z-scan data of GCN measured using 5 ns laser pulses at 532 nm, at the input laser pulse energy of 50 μJ.

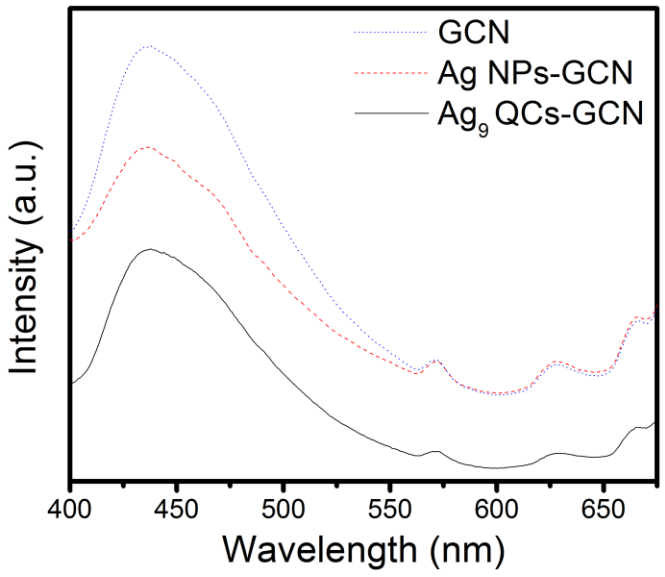

Figure S5. Photoluminescence spectra of GCN, Ag NPs-GCN and Ag_9 QCs-GCN excited at 350 nm. The significant reduction in the PL intensity for Ag_9 QCs-GCN indicates that electrons are effectively transferred from GCN to Ag_9 QCs.