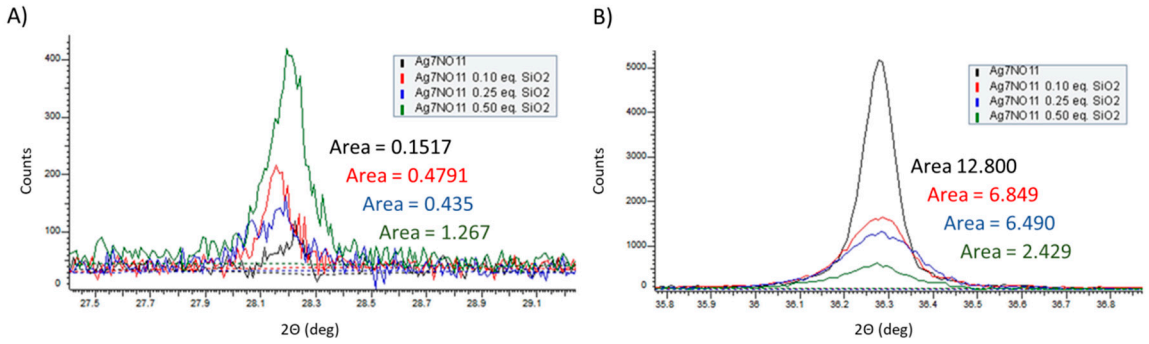

Figure S1. X-ray diffraction peak area of a) silver sulfate (28.1 °2Θ) and; b) silver oxynitrate (36.3 °2Θ) of Ag_7NO_{11}:SiO_2 over an increasing relative ratio of silicon dioxide (0.0:1 to 0.5:1 molar equivalents SiO_2:Ag).

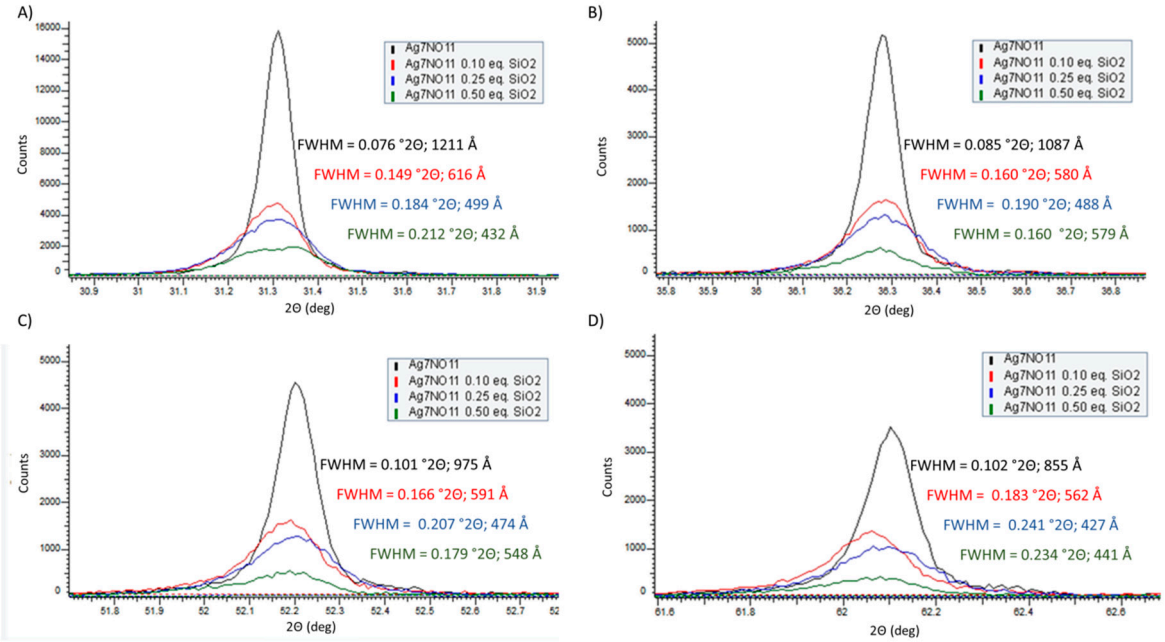

Figure S2. Full width at half max (FWHM) and crystal size (Å), as determined by the Debye-Scherrer equation, of Ag_7NO_{11}:SiO_2 over an increasing relative ratio of silicon dioxide (0.0: to 0.5:1 molar equivalents SiO_2:Ag) for silver oxynitrate diffraction peaks a) 31.3 °2Θ, reflection (222); b) 36.3 °2Θ, reflection (400); c) 52.2 °2Θ, reflection (220) and; d) 62.1 °2Θ reflection (622).

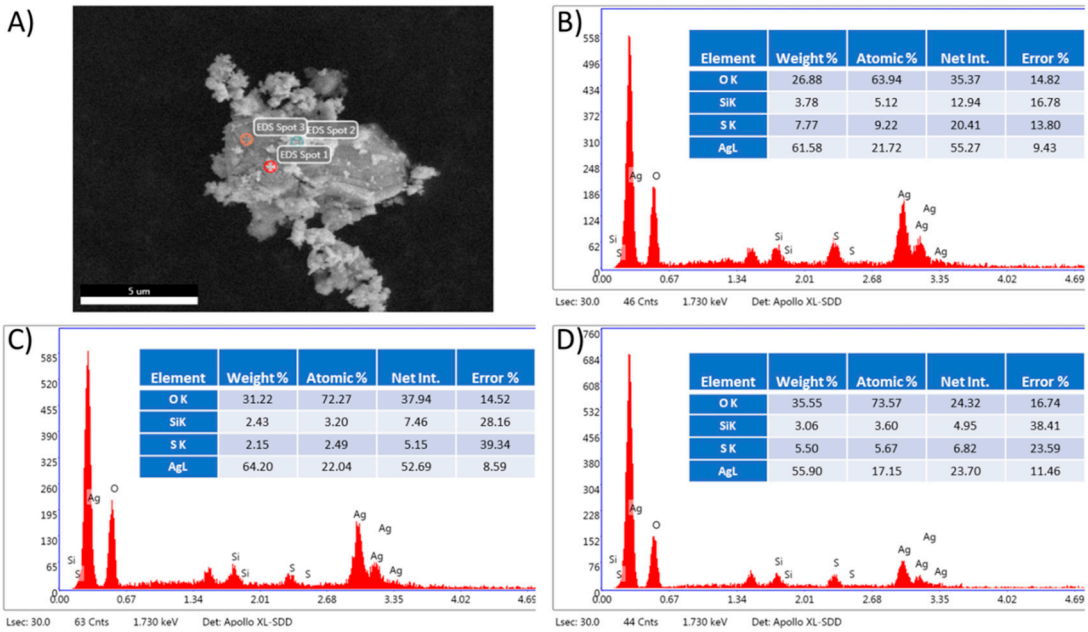

Figure S3. Energy-dispersive X-ray spectroscopy (EDX) analysis of Ag_7NO_{11}:SiO_2 (0.5 molar equivalents SiO_2:Ag). (a) EDX image of 0.5:1 SiO_2:Ag silver oxynitrate-silica co-deposition product and energy dispersive X-ray analysis spatial locations indicated as spot 1 through 3. EDX spectra and elemental distributions for analysis locations (b) EDS Spot 1; (c) EDS Spot 2; and (d) EDS Spot 3.

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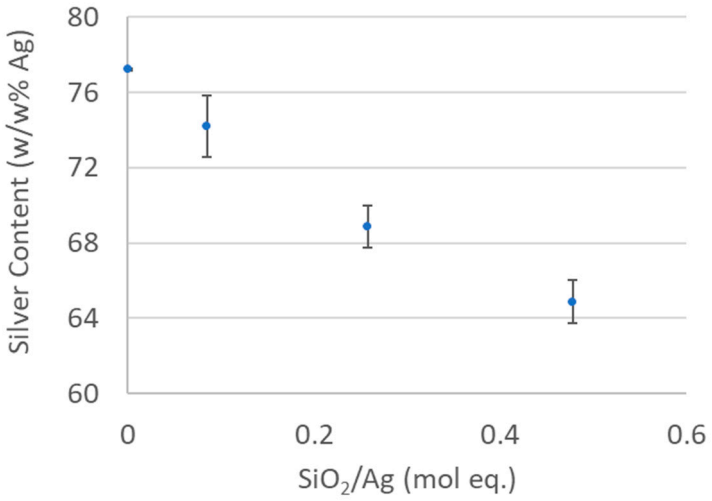

Figure S4. Silver content of Ag_7NO_{11}:SiO_2 (0.0:1 to 0.5:1 molar equivalents SiO_2:Ag) as determined by potentiometric titration. Results representing the average of triplicate data (n=3), error bars indicated represent standard deviations of the triplicate measurements.

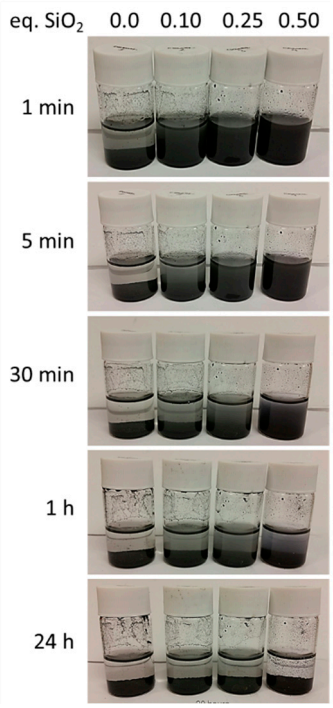

Figure S5. Visual observation of aqueous decomposition study solutions of Ag_7NO_{11}:SiO_2 (0.0:1 to 0.5:1 SiO_2:Ag) over a 24-hour stationary period following dispersion into aqueous media at room temperature.