Solution based Rapid Synthesis of AgCuO$_2$ at Room Temperature

Figure S1. A thermogram of AgCuO$_2$ harvested at fifth minute. The intermediate forming at 257°C has been identified to be Ag$_2$Cu$_2$O$_3$ (b) by X-ray powder diffraction. The final residue consists of Ag and CuO confirmed by XRD (c).
Theoretically, AgCuO$_2$ is predicted to be a low band gap material (~ 1.5 eV).$^{12}$ This is attributed to the overlap between Cu 3d and O 2p orbitals.$^{29}$ Our experimental value may have contributions from the particle size effect as well as excess oxygen.

Fig. S2. Squared absorption coefficient of AgCuO$_2$ versus photon energy.