Supporting Information - 1

Time dependent change in the UV-visible behaviour of the Newman's silver reagent (Ag_n).

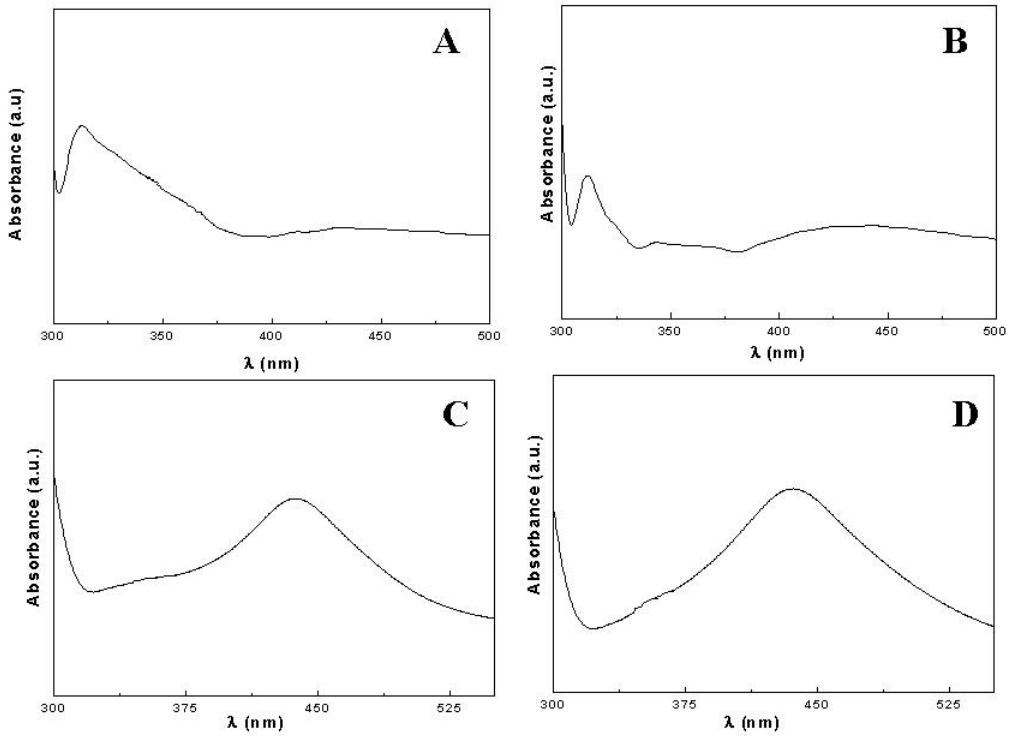
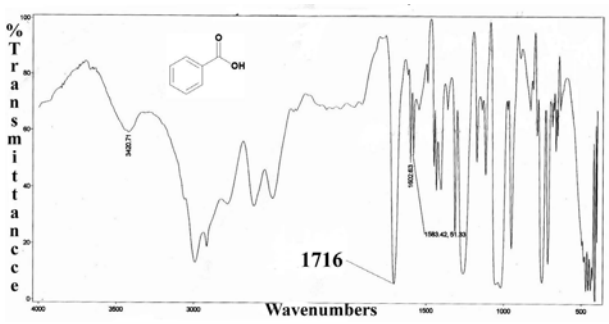


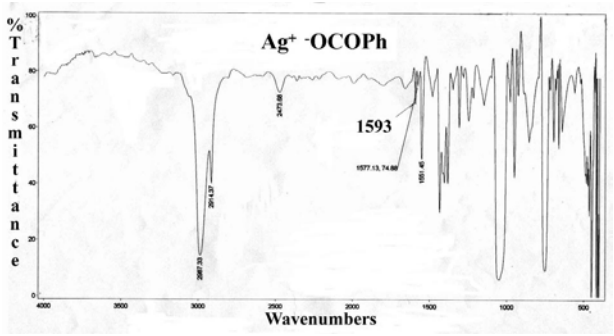
Figure 1: UV-visible spectra of the Newman's silver reagent (Ag_n) in Toluene at different time intervals, (A) 30 min (B) 12 h (C) 24 h (D) seven days.

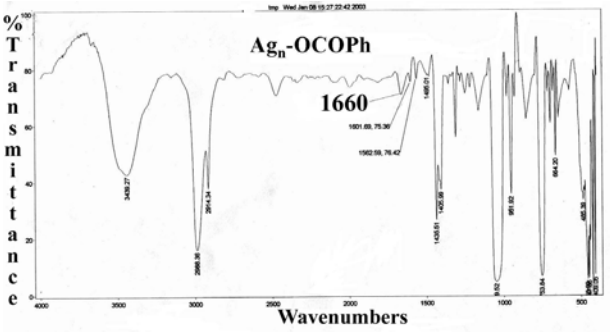
Supporting Information - 2

FTIR-spectroscopic analysis

Solvent: DMSO+$CHCl_3$





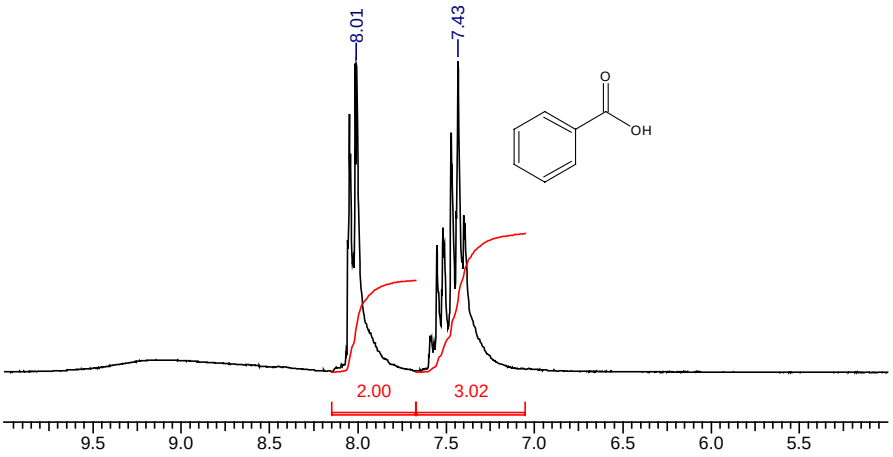


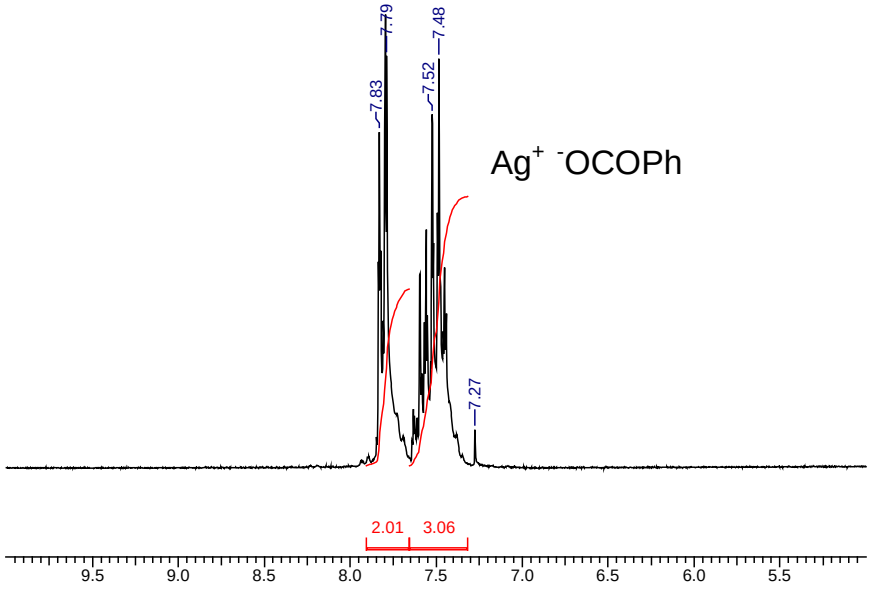
Supporting Information - 3

^{1}H NMR Spectroscopic analysis

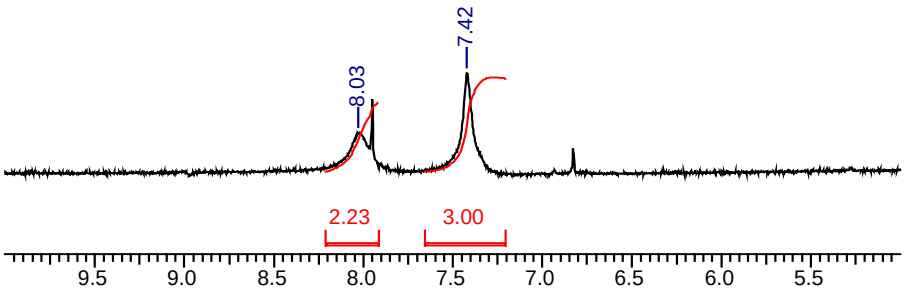
Solvent: $CDCl_3$ + DMSO-d_6

Internal standard: Tetramethylsilane





Ag_n-OCOPh



Supporting information – 4

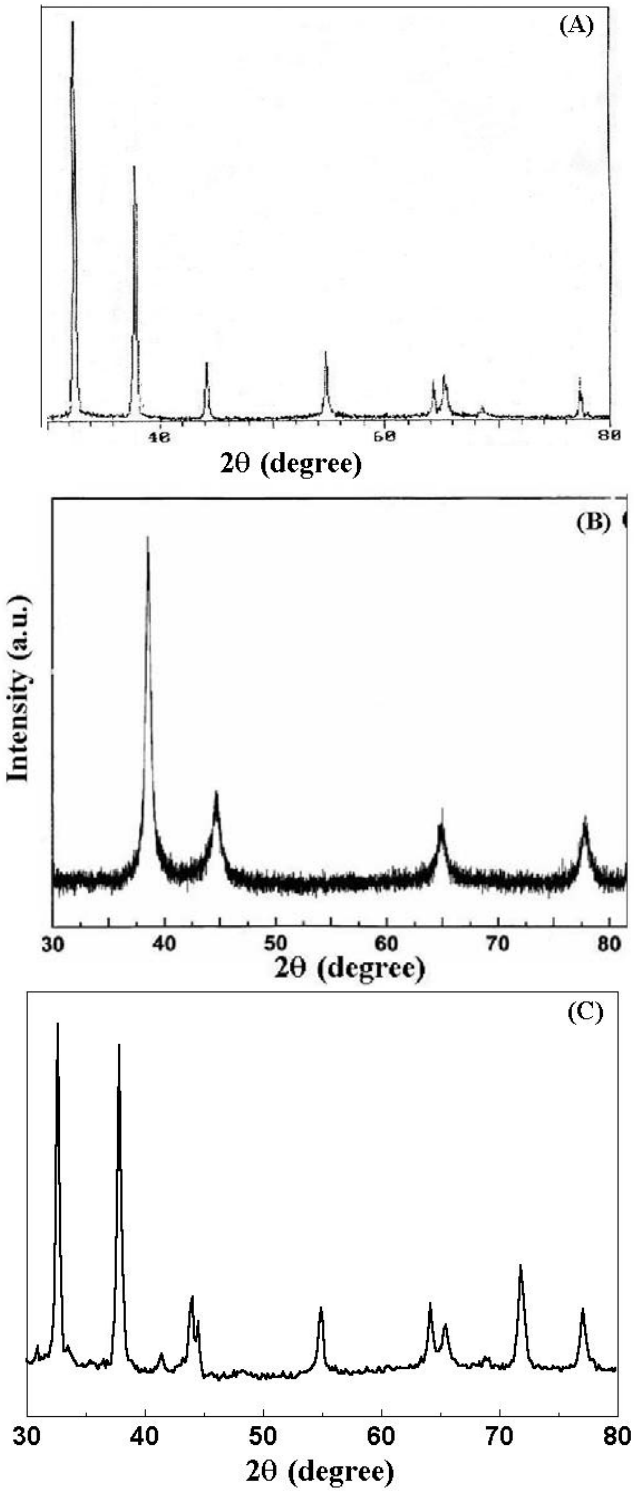


Fig 4: Powder X-ray diffraction pattern for (A) Silver(I) oxide [Cubic],(B) Silver clusters [Ag_n, FCC], (C) Ag-agglomerate formed following an electron transfer between Ag_2O and $Na_2S_2O_3$ respectively.

Supporting Information 5

General Procedure for TEM analysis:

TEM micrographs were obtained using an electron beam of 120 keV energy over from a GEOL 200EX Electron Microscopy. Samples were prepared by drop casting the appropriate solutions of silver nanoclusters (toluene, triethyl amine or 1,4-dioxane) on carbon coated copper grids at room temperature, followed by slow evaporation under nitrogen stream.

Reference: Williams, D. B.; Carter, C. B. *Transmission Electron Microscopy*, Plenum Press: New York, 1996, Vol. 1.