Supplementary information:

$^1$H NMR spectra of polypyridine ligand L (top) and its silver complex 1 (bottom) in aromatic region.

Polymeric structure of silver complex is retained in solution, as indicated by comparison of NMR spectra presented on Fig. X. Distinct signals of pyrazine bridged ligand are distributed through the region of ca. 1.7 ppm together with their readily discernible multiplicity. Upon coordination to Ag(I) ions, signals merge and become significantly broadened, what is attributed to existence of polymeric species.