Electronic Supplementary Material (ESI) for RSC Advances.

supporting information

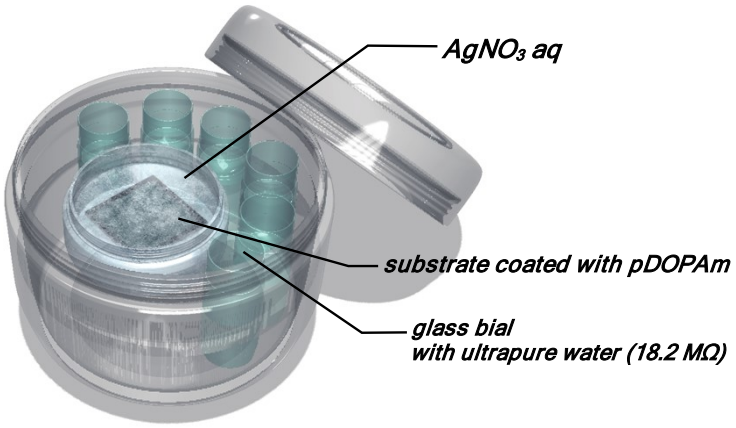

Figure S1. Method of thermally annealing in $AgNO_3$.

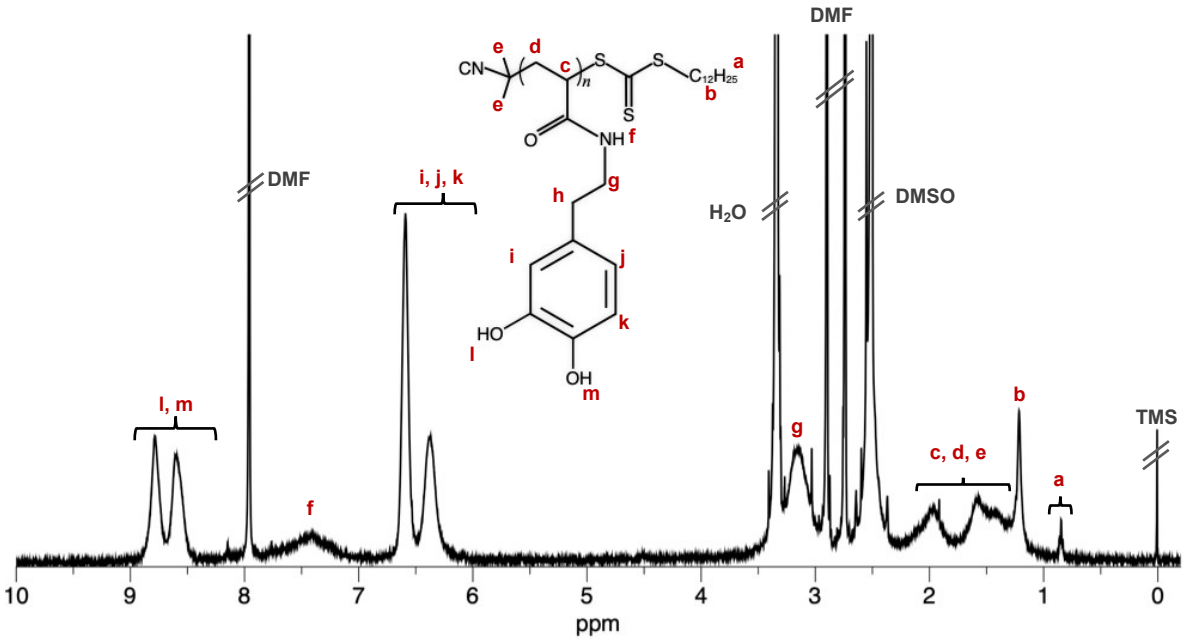

Figure S2. ^{1}H NMR spectra of pDOPAm in DMSO-d_6.

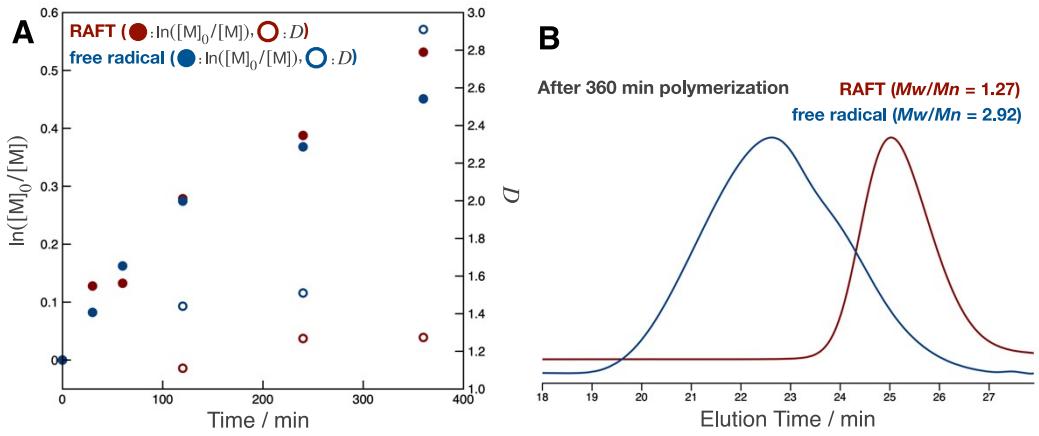

Figure S3. A: Conversion and molecular weight dispersity (*Mw/Mn*) of dopamine acrylamide via free radical polymerization and reversible addition–fragmentation chain transfer polymerization vs. polymerization time. **B**: GPC traces of pDOPAm free radical polymerization and RAFT polymerization after 360 min.

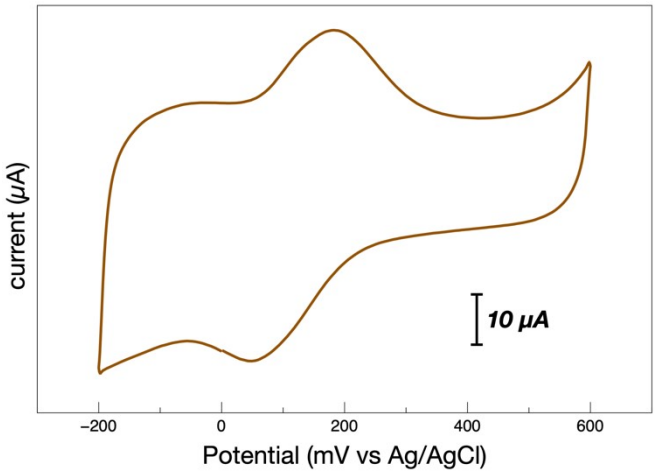

Figure S4. The cyclic voltammogram of pDOPAm in 0.1 M phosphate buffer at pH = 8 with a scan rate of 100 mV.

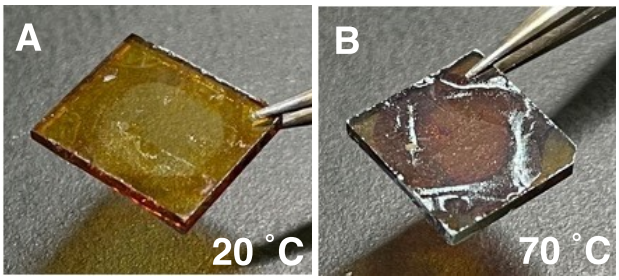

Figure S5. Images of pDOPAm thin films after 24 h of electroless deposition of silver at 20 ˚C (**A**) and 70 ˚C (**B**).

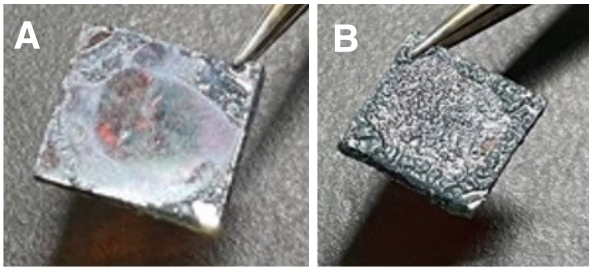

Figure S6. Images of pDOPAm thin films after 24 h of electroless deposition of silver. The film thickness 200 nm(**A**) and 300 nm (**B**).