Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Electronic Supplementary Information for:

Postsynthetic Functionalization and Ligand Exchange Reactions in Gold(I) Phenylthiolate-based Coordination Polymers

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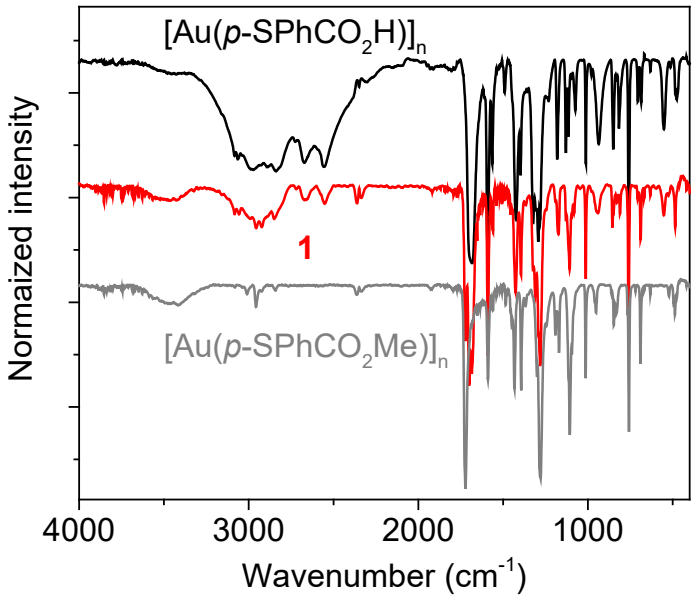

Figure S1. FT-IR spectra of the starting $[Au(p\text{-}SPhCO_2H)]_n$ solid (black), the compound **1** (red) issued from the esterification $[Au(p\text{-}SPhCO_2H)]_n$ and $[Au(p\text{-}SPhCO_2Me)]_n$ (grey) as a reference.

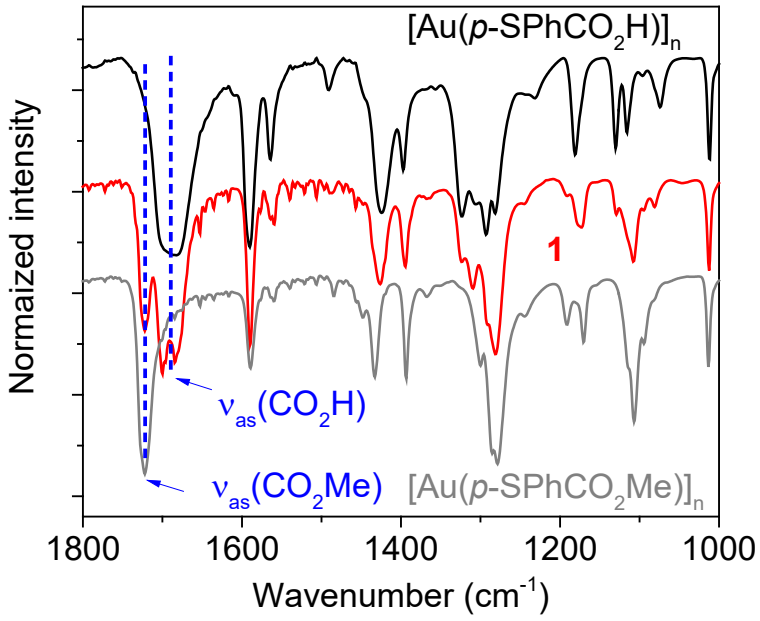

Figure S2. Zoom on the FT-IR spectra of the starting $[Au(p\text{-}SPhCO_2H)]_n$ solid (black), the compound **1** (red) issued from the esterification $[Au(p\text{-}SPhCO_2H)]_n$ and $[Au(p\text{-}SPhCO_2Me)]_n$ (grey) as a reference. Dotted blue lines represent the antisymetrical vibration of CO_2 of the ester function at 1720 cm^{-1} and of the carboxylic acid groups at 1690 cm^{-1}.

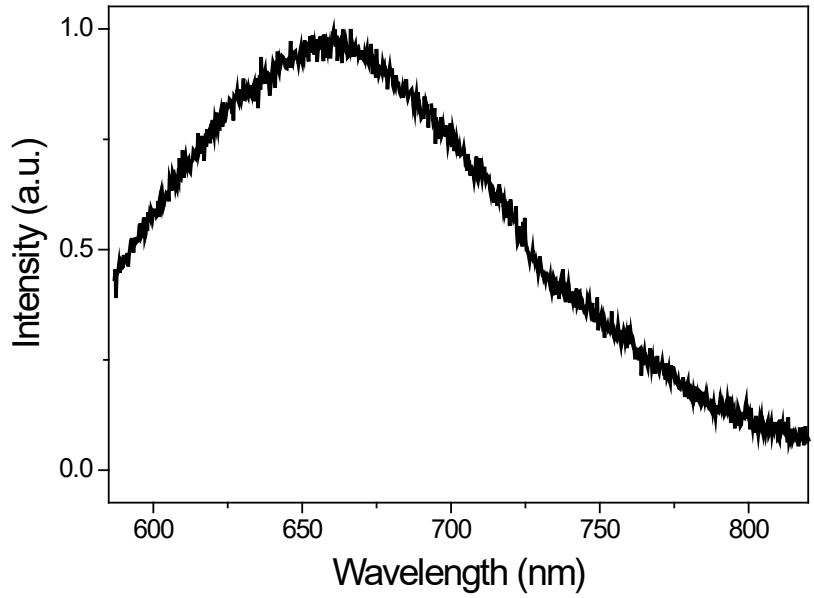

Figure S3. Emission spectrum of **1** carried out in the solid state at room temperature (λ_{ex} = 320 nm).

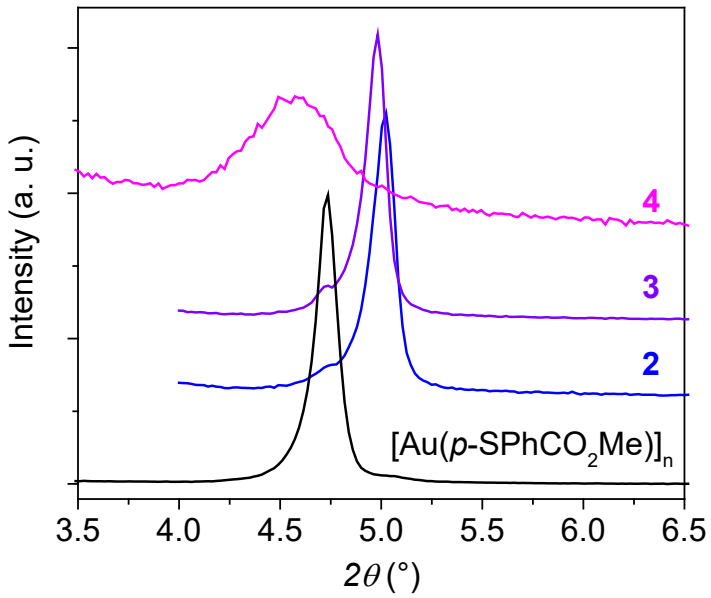

Figure S4. Zoom on the PXRD patterns of [Au(*p*-SPhCO$_2$Na)]$_n$ (**2**, blue), [Au(*p*-SPhCO$_2$K)]$_n$ (**3**, purple) and [Au(*p*-SPhCO$_2$Cs)]$_n$ (**4**, pink) compounds issued from the saponifications of [Au(*p*-SPhCO$_2$Me)]$_n$ solid (black).

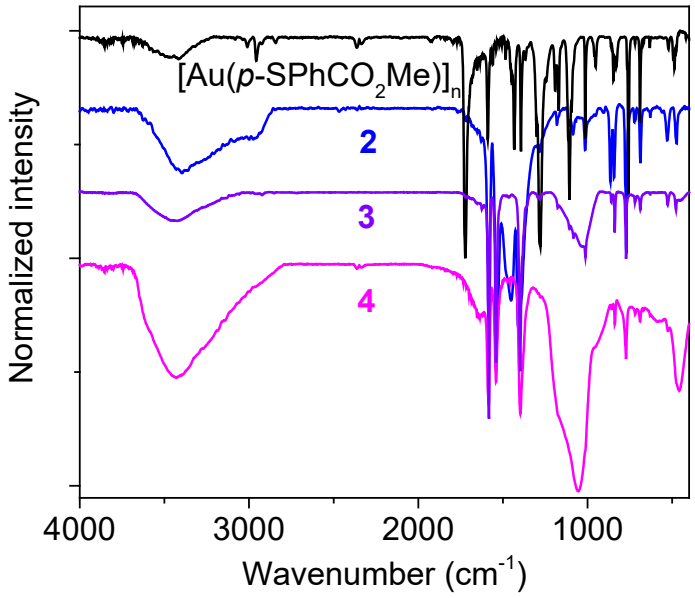

Figure S5. FT-IR spectra of [Au(*p*-SPhCO$_2$Na)]$_n$ (**2**, blue) ,[Au(*p*-SPhCO$_2$K)]$_n$ (**3**, purple) and [Au(*p*-SPhCO$_2$Cs)]$_n$ (**4**, pink) compounds issued from the saponification of [Au(*p*-SPhCO$_2$Me)]$_n$ solid (black).

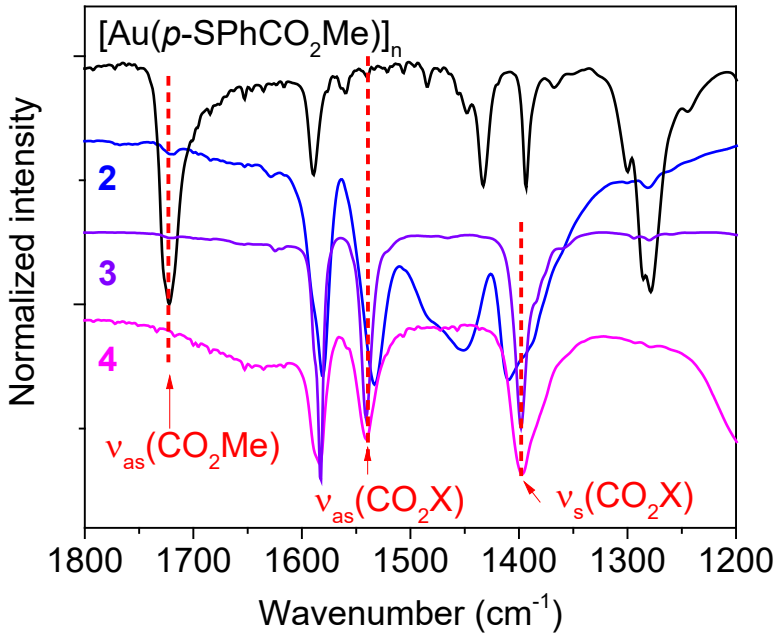

Figure S6. Zoom on the FT-IR spectra of [Au(*p*-SPhCO$_2$Na)]$_n$ (**2**, blue) ,[Au(*p*-SPhCO$_2$K)]$_n$ (**3**, purple) and [Au(*p*-SPhCO$_2$Cs)]$_n$ (**4**, pink) compounds issued from the saponification of [Au(*p*-SPhCO$_2$Me)]$_n$ solid (black). Dotted red lines represent the antisymetrical vibration of CO_2 of the ester function at 1720 cm^{-1} and of the carboxylic salts at 1540 cm^{-1}. The symmetric vibration of CO_2X is at 1400 cm^{-1}.

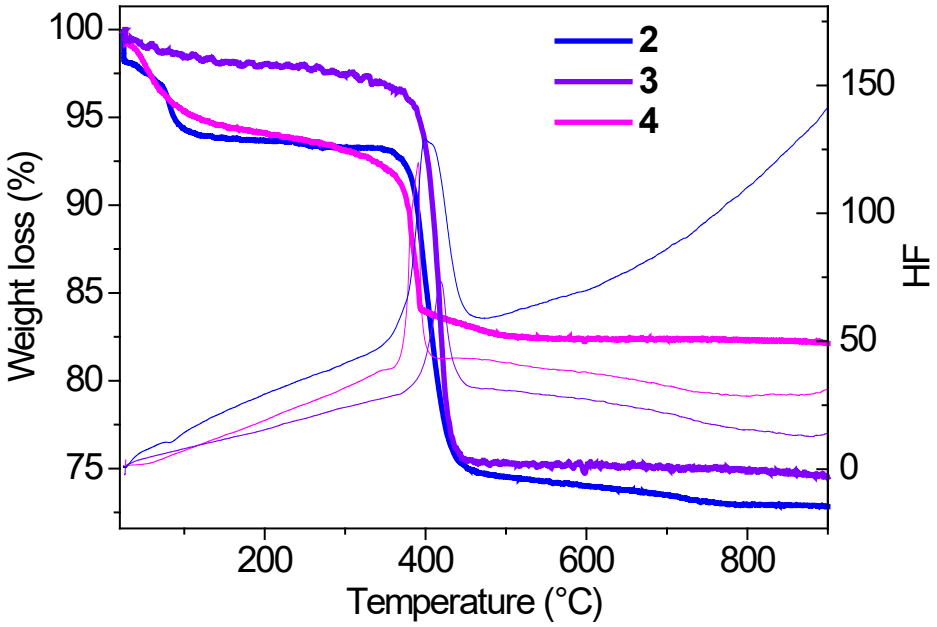

Figure S7. TGA/DTA of compounds **2**, **3** and **4** carried out under air at 10°C.min^{-1}.

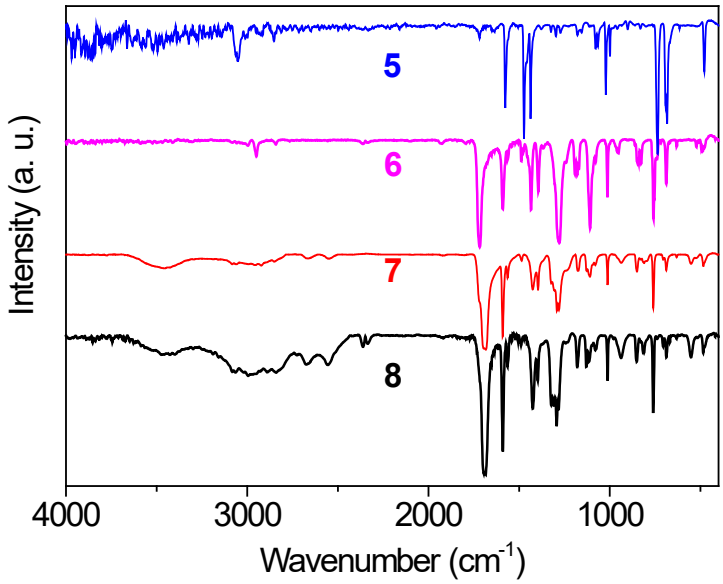

Figure S8. FT-IR spectra of compounds **5**, **6**, **7** and **8** obtained from ligand exchange reactions.

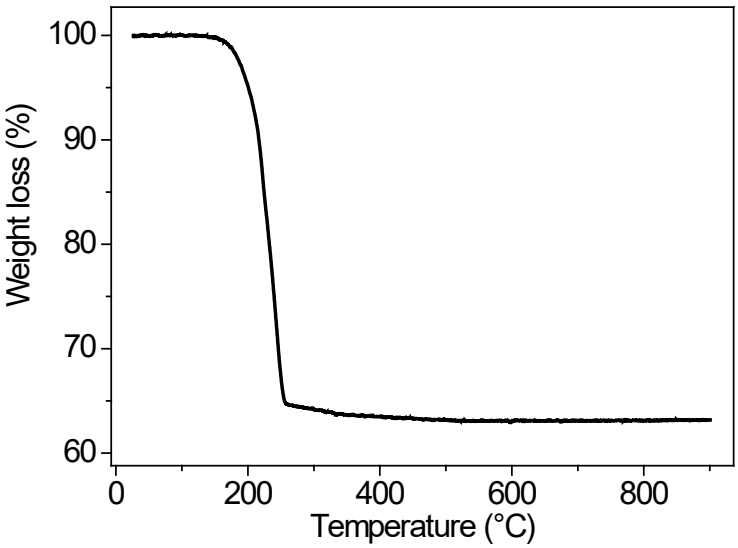

Figure S9. TGA of compound **5** carried out under air at 10°C.min^{-1}.

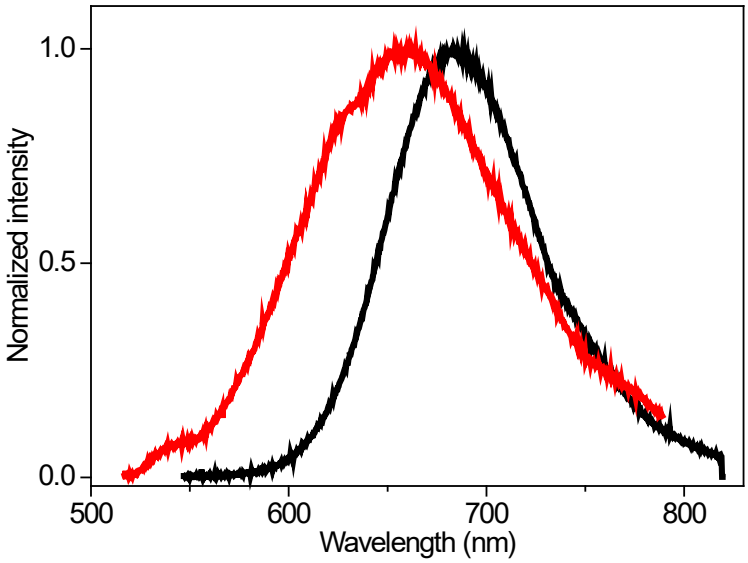

Figure S10. Emission spectra of **5** (black) and **6** (red) carried out in the solid state at room temperature with λ_{ex} = 320 nm.