

A single component conductor based on radical gold dithiolene complex with alkyl-substituted thiophene-2,3-dithiolate ligand

Toshiki Higashino,^{†,‡} Olivier Jeannin,[†] Tadashi Kawamoto,[‡] Dominique Lorcy,[†] Takehiko Mori,[‡] and Marc Fourmigué^{*,†}

[†] Institut des Sciences Chimiques de Rennes (ISCR), Université Rennes 1, UMR CNRS 6226, Campus de Beaulieu, 35042 Rennes (France)

[‡] Department of Organic and Polymeric Materials, Tokyo Institute of Technology, O-okayama 2-12-1, Meguro-ku, 152-8552, Japan.

E-mail: marc.fourmigue@univ-rennes1.fr

Supplementary material

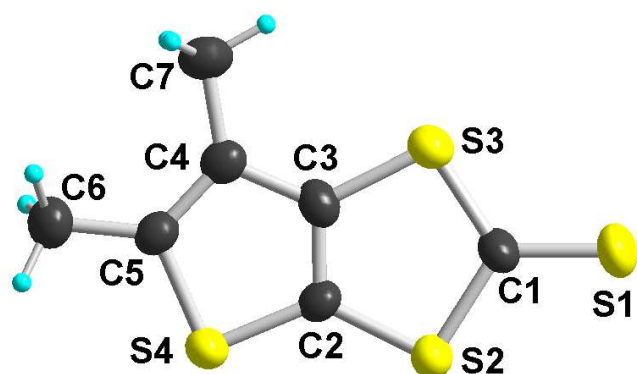


Figure S1. Molecular structure of **1a**. Ortep ellipsoids at 50% probability level.

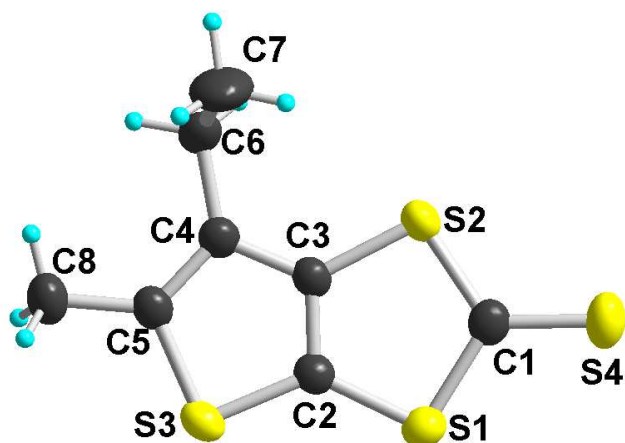


Figure S2. Molecular structure of **1b**. Ortep ellipsoids at 50% probability level.

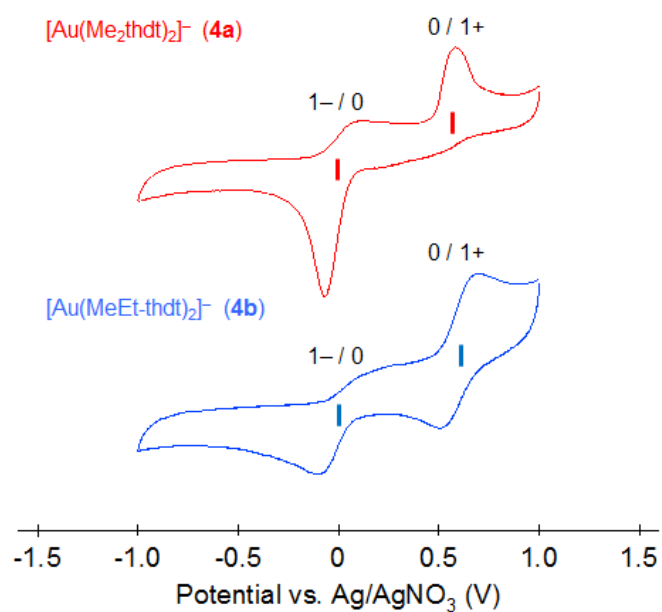


Figure S3. Cyclic voltammograms of **4a** (top) and **4b** (bottom) measured at a scan rate of 100 mV/s.

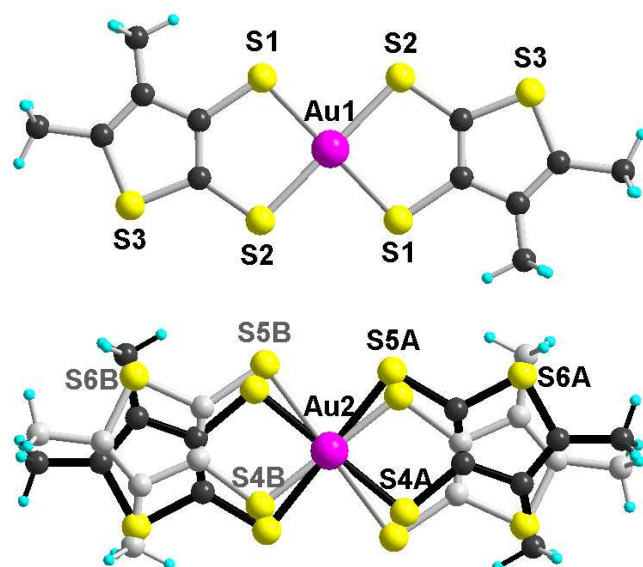


Figure S4. Molecular structures of the two crystallographically independent complexes in the $\text{PPh}_4[\text{Au}(\alpha\text{-Me}_2\text{tpdt})_2]$ salt **4a**.

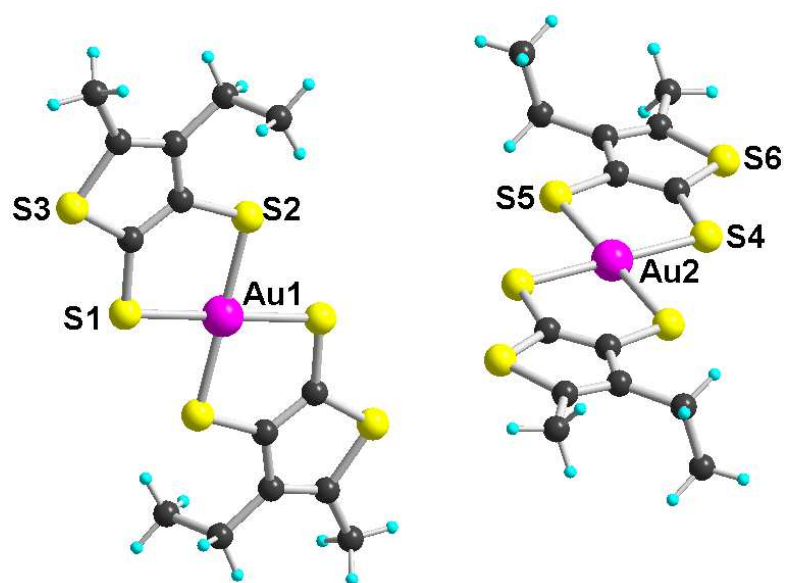


Figure S5. Molecular structures of the two crystallographically independent complexes in the $\text{PPh}_4[\text{Au}(\alpha\text{-EtMetpdt})_2]$ salt **4b**.

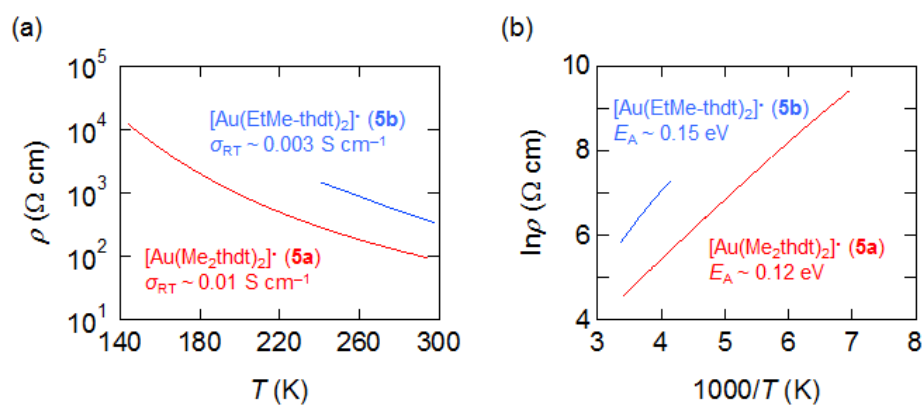


Figure S6. (a) Temperature dependence of the resistivity and (b) the Arrhenius plot for **5a** (red) and **5b** (blue).

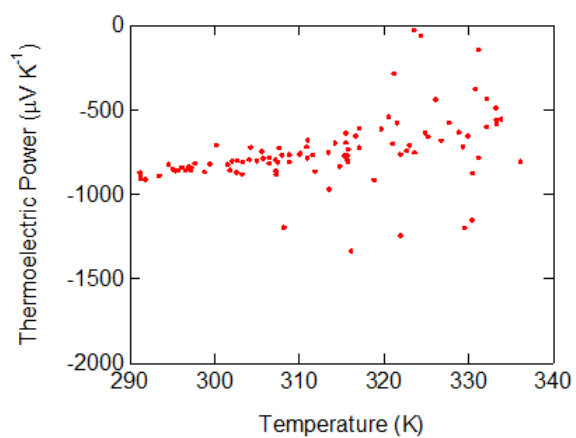


Figure S7. Temperature dependence of the thermoelectric power of $[\text{Au}(\alpha\text{-EtMetpdt})_2]$ **5b.**