Supporting information

Synthesis, Crystal Structure and Properties of Multicomponent Bis(ethylendithio)tetrathiafulvalene (ET) Charge Transfer Salts of the $[Mo_3S_7Br_6]^{2-}$ Cluster.

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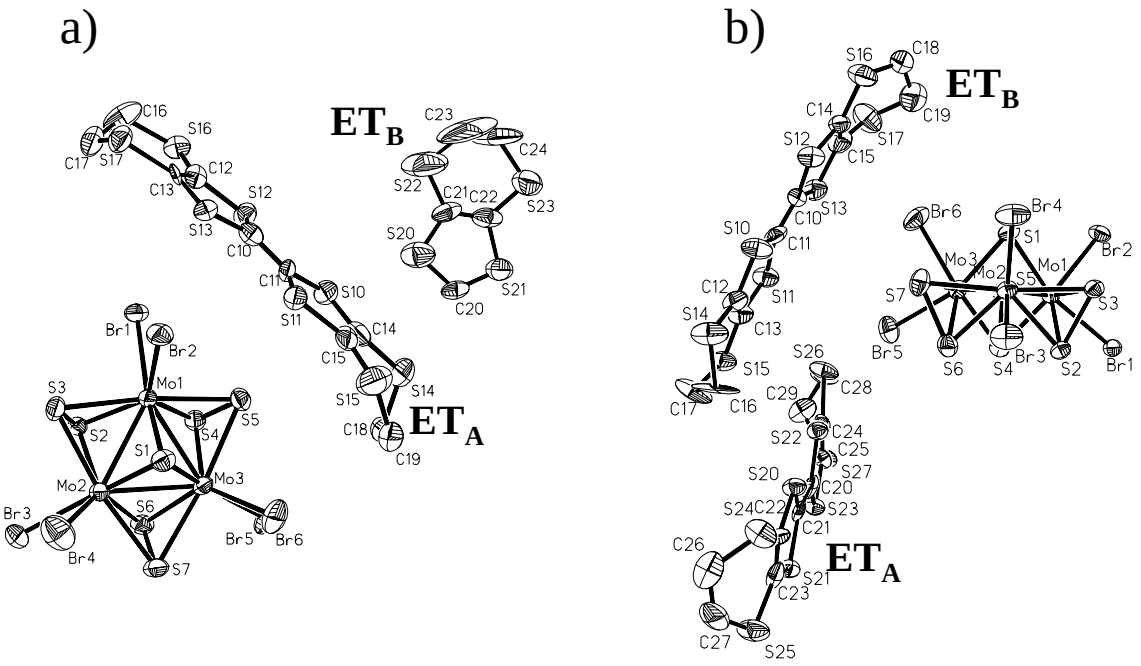

Figure 1. ORTEP representation (50 % thermal ellipsoids probability) with the atom numbering a) for compound $(ET_A)_2(ET_B)[Mo_3S_7Br_6]_2CH_2Br_2$ (**1**) and b) for compound $(ET_A)_2[Mo_3S_7Br_6]\cdot CH_2Br_2$ (**2**).

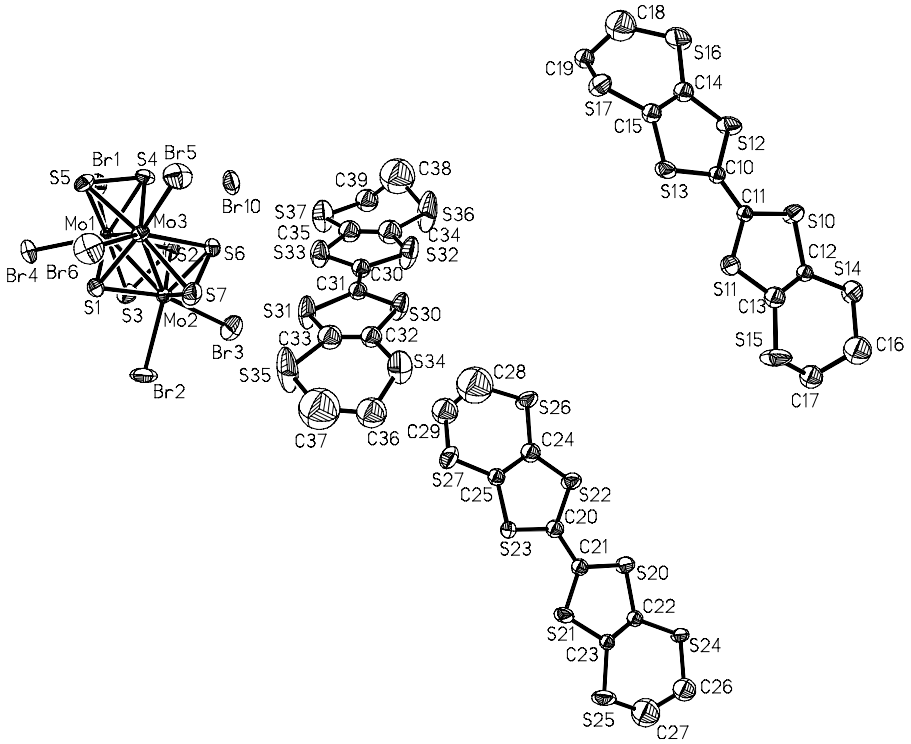

Figure 2. ORTEP representation (50 % thermal ellipsoids probability) with the atom numbering for compound $(ET_A)(ET_B)(ET_C)[Mo_3S_7Br_6]0.5DCE\cdot$ (**3**).

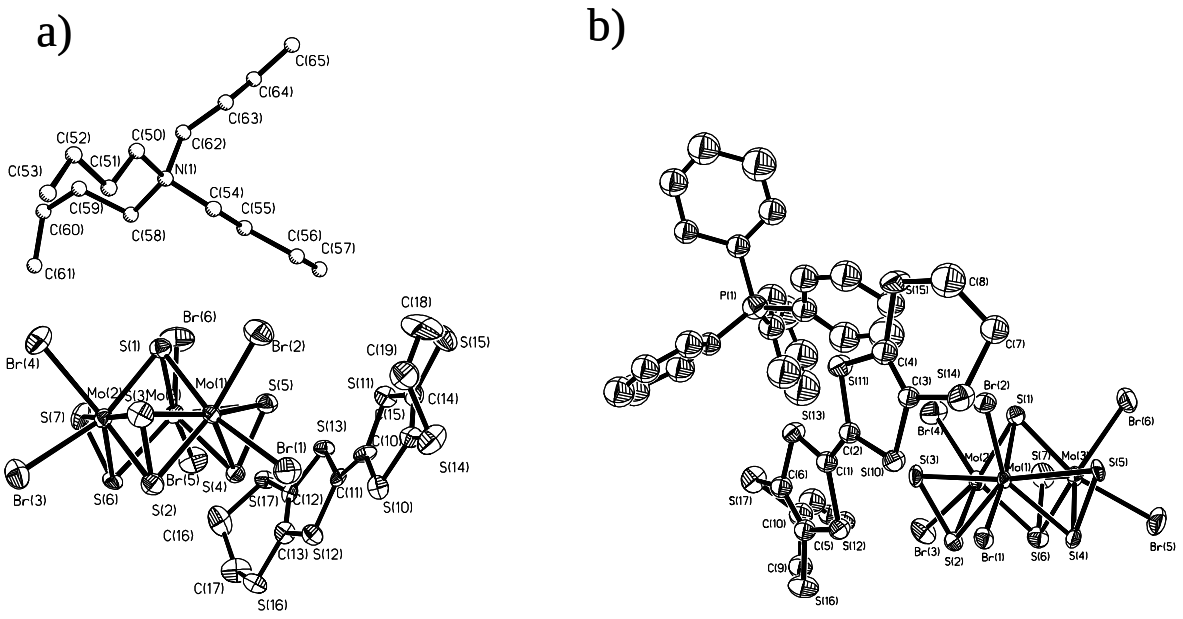

Figure 3. ORTEP representation (50 % thermal ellipsoids probability) with the atom numbering a) for compound $(ET_A)((n\text{-}Bu)_4N)[Mo_3S_7Br_6]$ (**4**) and b) for compound $(ET_A)(PPh_4)[Mo_3S_7Br_6]$ (**5**).

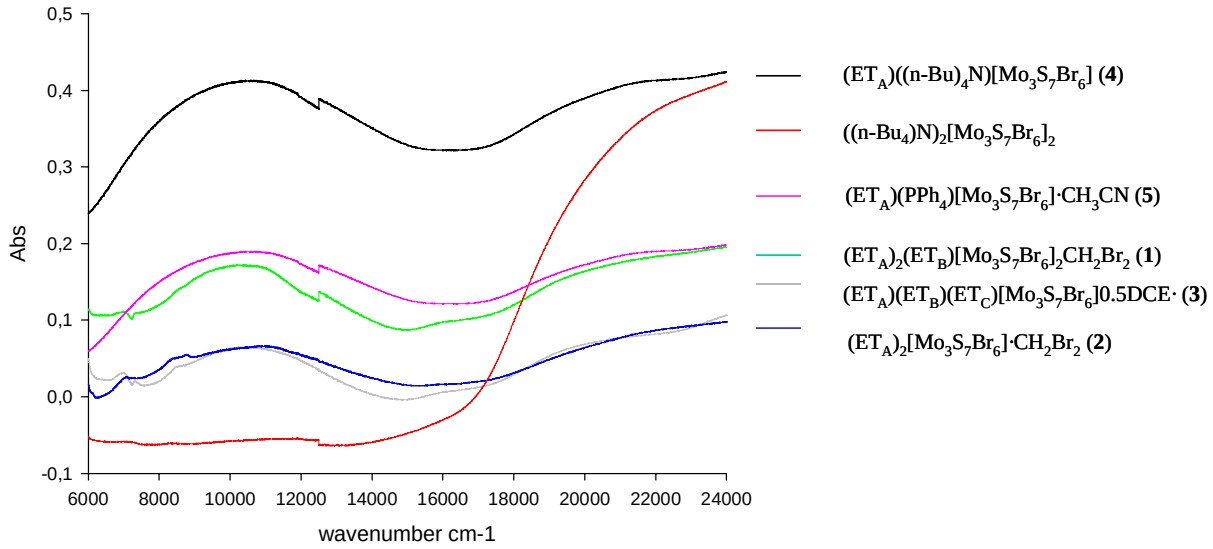

Figure 4. Electronic absorption spectrum of **1**-**5** and ((n-Bu)$_4$N)$_2$[Mo$_3$S$_7$Br$_6$] powders dispersed in KBr pellet (1:2000).

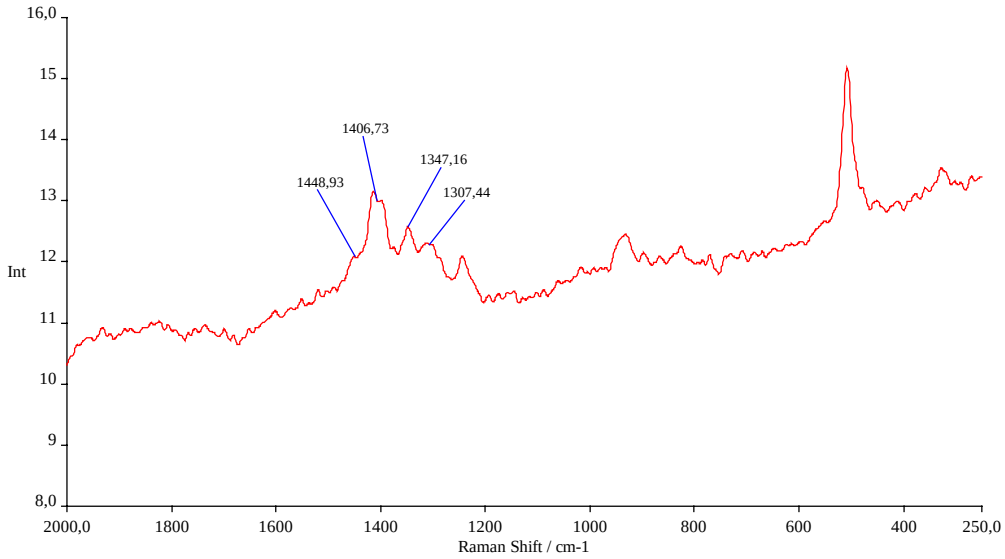

Figure 5. Compound $(ET_A)_2(ET_B)[Mo_3S_7Br_6]_2CH_2Br_2$ (**1**)

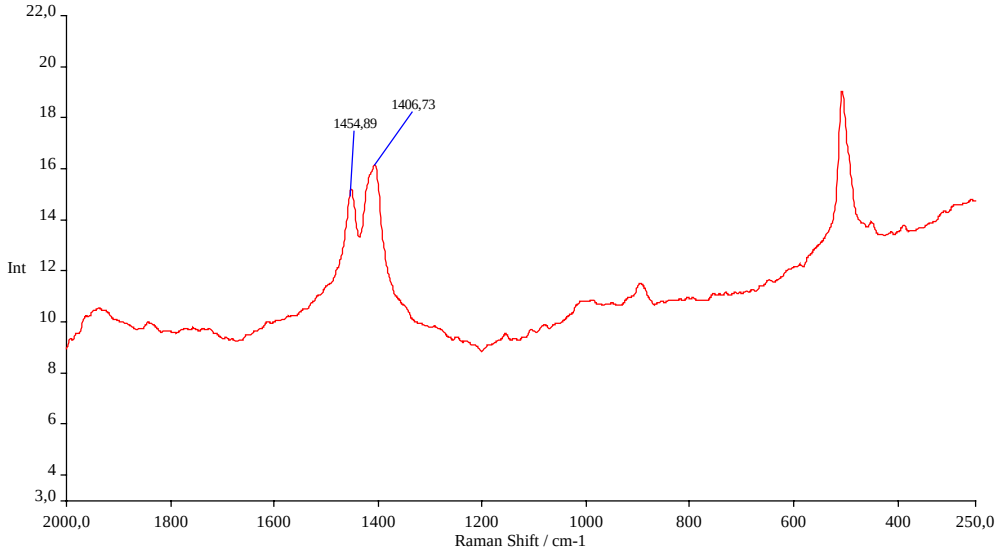

Figure 6. Compound $(ET_A)_2[Mo_3S_7Br_6]\cdot CH_2Br_2$ (**2**)

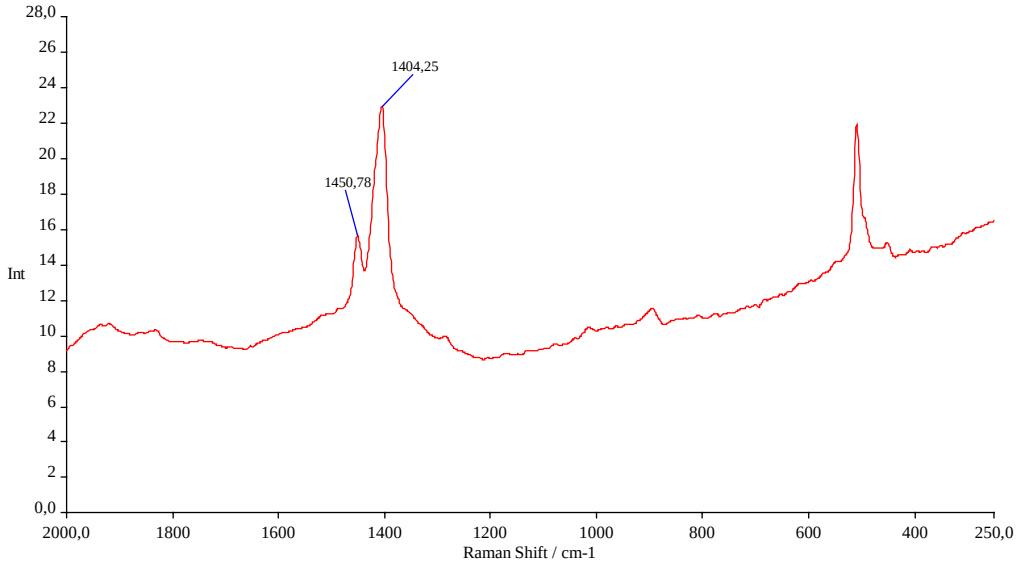

Figure 7. Compound $(ET_A)(ET_B)(ET_C)[Mo_3S_7Br_6]0.5DCE\cdot$ (**3**)

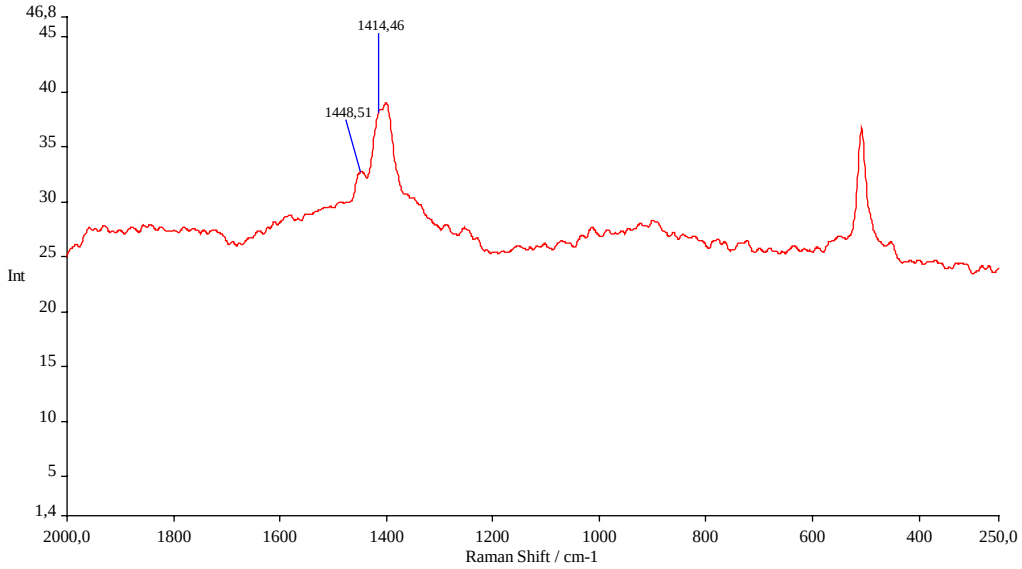

Figure 8. Compound $(ET_A)((n\text{-}Bu)_4N)[Mo_3S_7Br_6]$ (**4**)

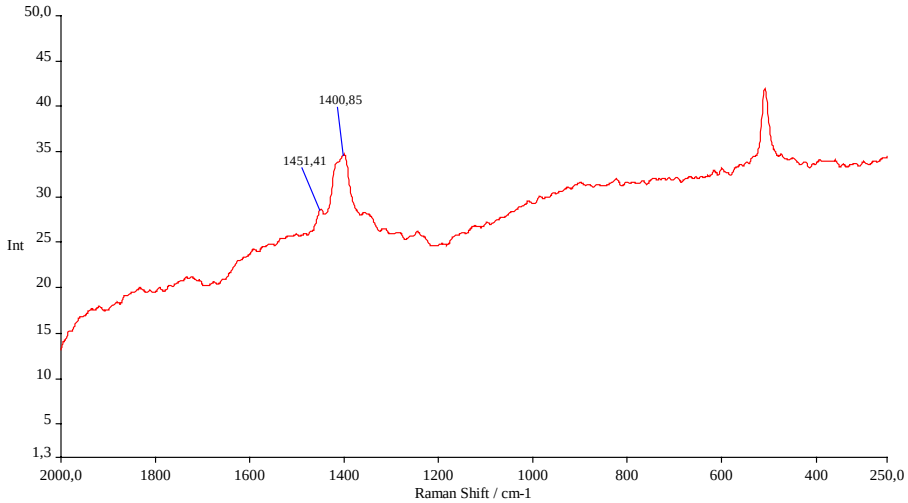

Figure 9. Compound $(ET_A)(PPh_4)[Mo_3S_7Br_6]\cdot CH_3CN$ (**5**)