

# Supplementary Information

## Intercalation and Electrical Behavior of $\text{Ta}_x\text{Mo}_{1-x}\text{S}_2$ ( $x > 0.5$ ) Layered Mixed Disulfides

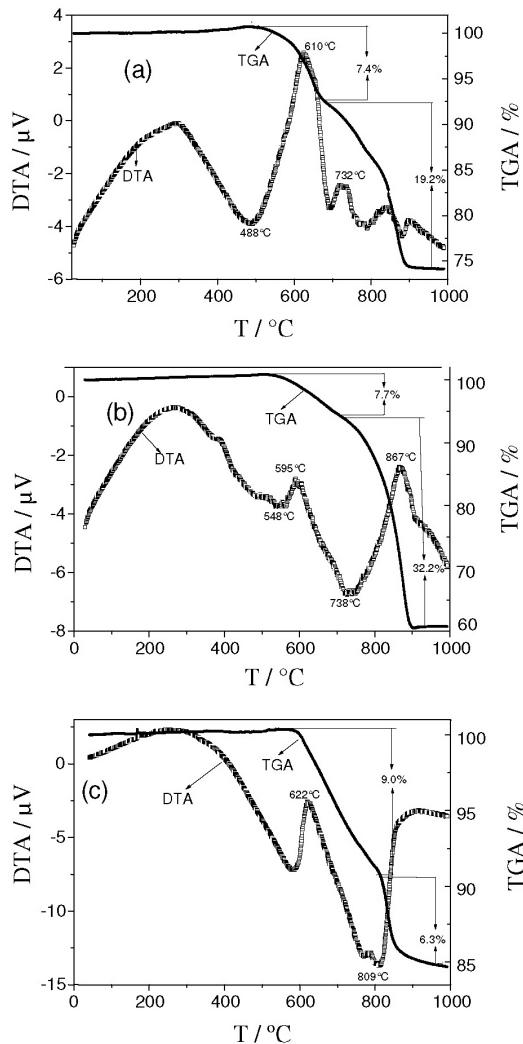
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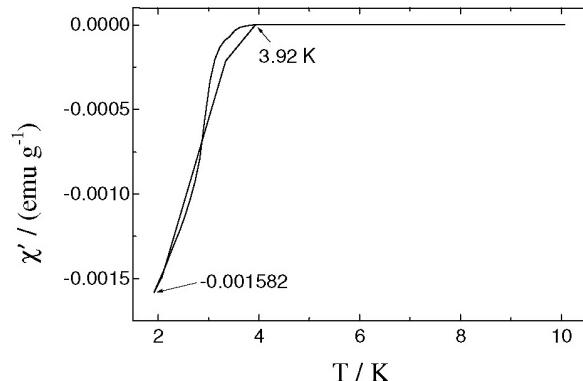
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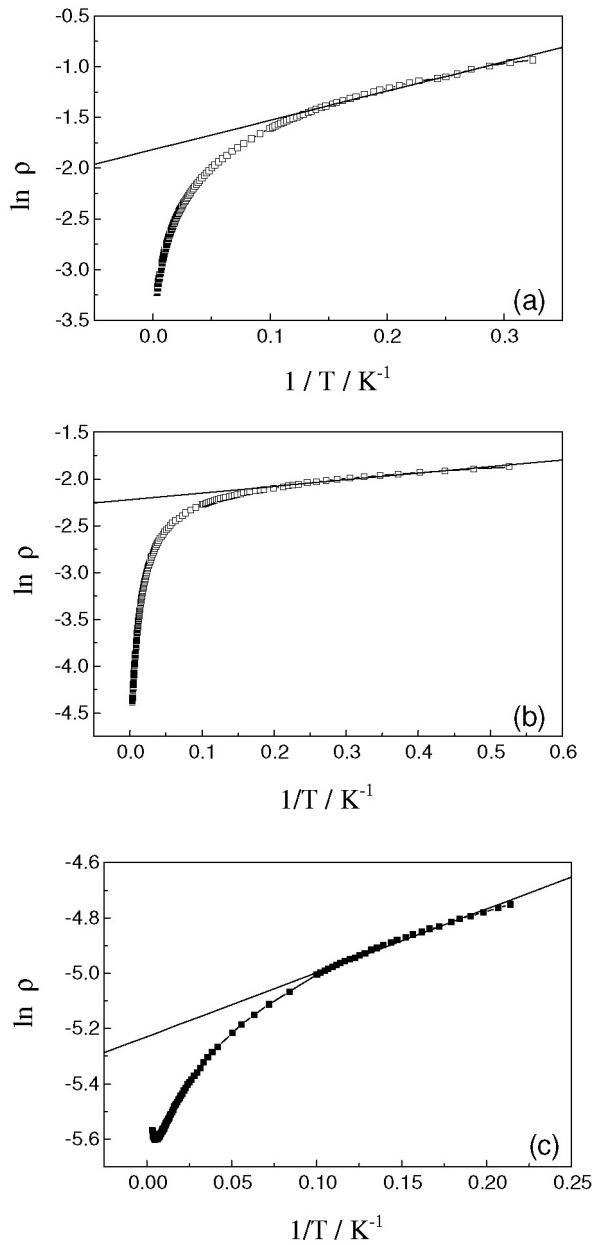
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 Las Palmeras 3427, Ñuñoa, Santiago, Chile



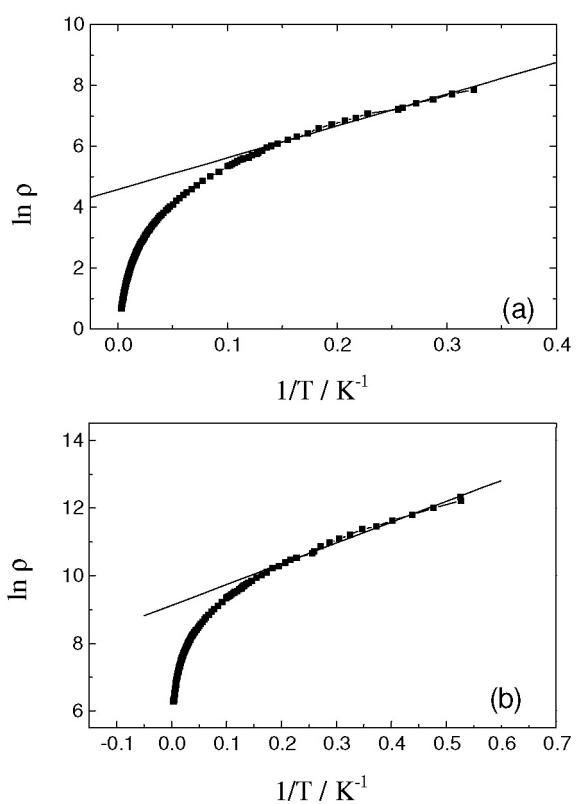
**Figure S1.** TGA-DTA curves obtained under  $\text{N}_2$  flow for (a)  $\text{Ta}_{0.55}\text{Mo}_{0.45}\text{S}_2$ , (b)  $\text{Ta}_{0.75}\text{Mo}_{0.25}\text{S}_2$  and (c)  $\text{Ta}_{0.90}\text{Mo}_{0.10}\text{S}_2$ .



**Figure S2.** Variation of the real component of the ac magnetic susceptibility with temperature for  $\text{Ta}_{0.90}\text{Mo}_{0.10}\text{S}_2$ .



**Figure S3.** Resistivity ( $\rho$ ) vs.  $1/T$  for the pyridine intercalation compounds: (a)  $\text{Ta}_{0.55}\text{Mo}_{0.45}\text{S}_2 \cdot 0.32\text{Py}$ , (b)  $\text{Ta}_{0.75}\text{Mo}_{0.25}\text{S}_2 \cdot 0.41\text{Py}$  and (c)  $\text{Ta}_{0.55}\text{Mo}_{0.45}\text{S}_2 \cdot 0.46\text{Py}$ .



**Figure S4.** Resistivity ( $\rho$ ) vs.  $1/T$  for the PEO intercalation compounds: (a)  $\text{Li}_{0.97}\text{Ta}_{0.55}\text{Mo}_{0.45}\text{S}_2 \cdot 2.3\text{PEO}$  and (b)  $\text{Li}_{0.99}\text{Ta}_{0.90}\text{Mo}_{0.10}\text{S}_2 \cdot 2.2\text{PEO}$ .