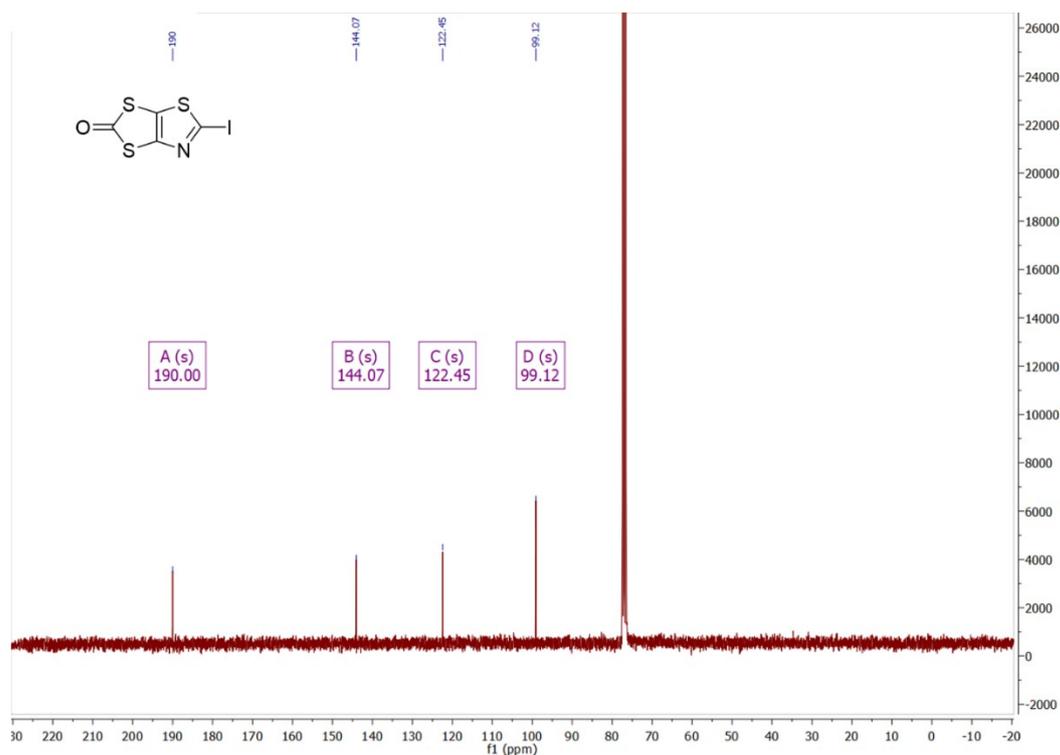


## Halogen bonded metal bis(dithiolene) 2D frameworks†

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### Supplementary information



**Fig. S1**  $^{13}\text{C}$  NMR of **2** in  $\text{CD}_3\text{Cl}$

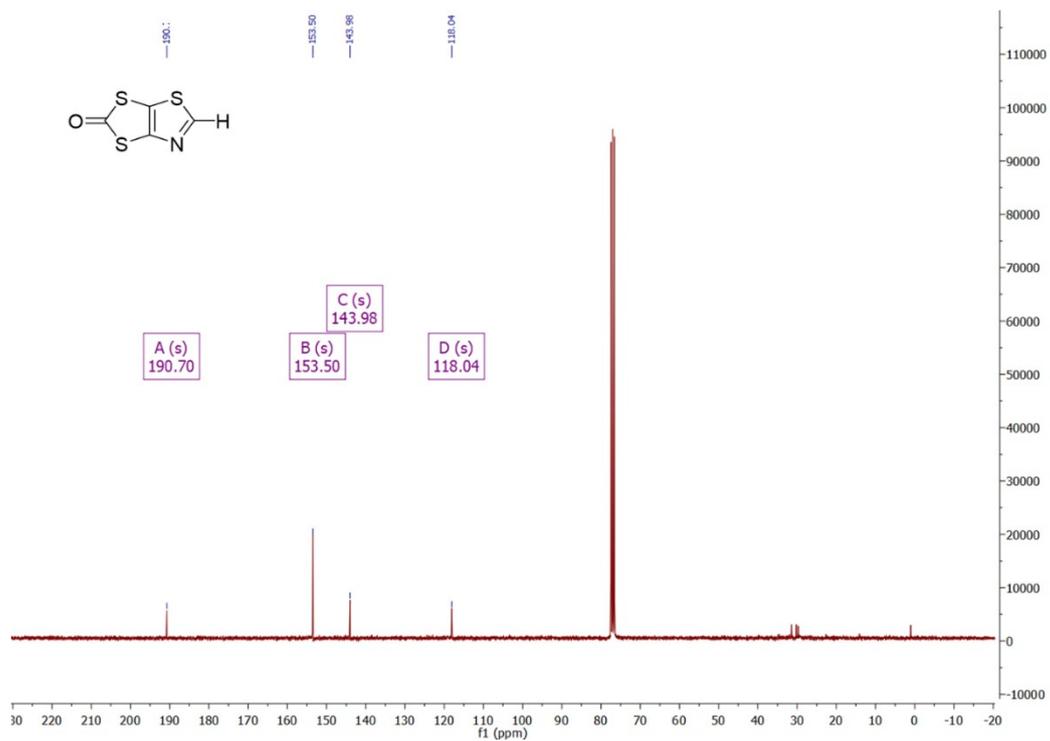


Fig. S2  $^{13}\text{C}$  NMR of **3** in  $\text{CD}_3\text{Cl}$

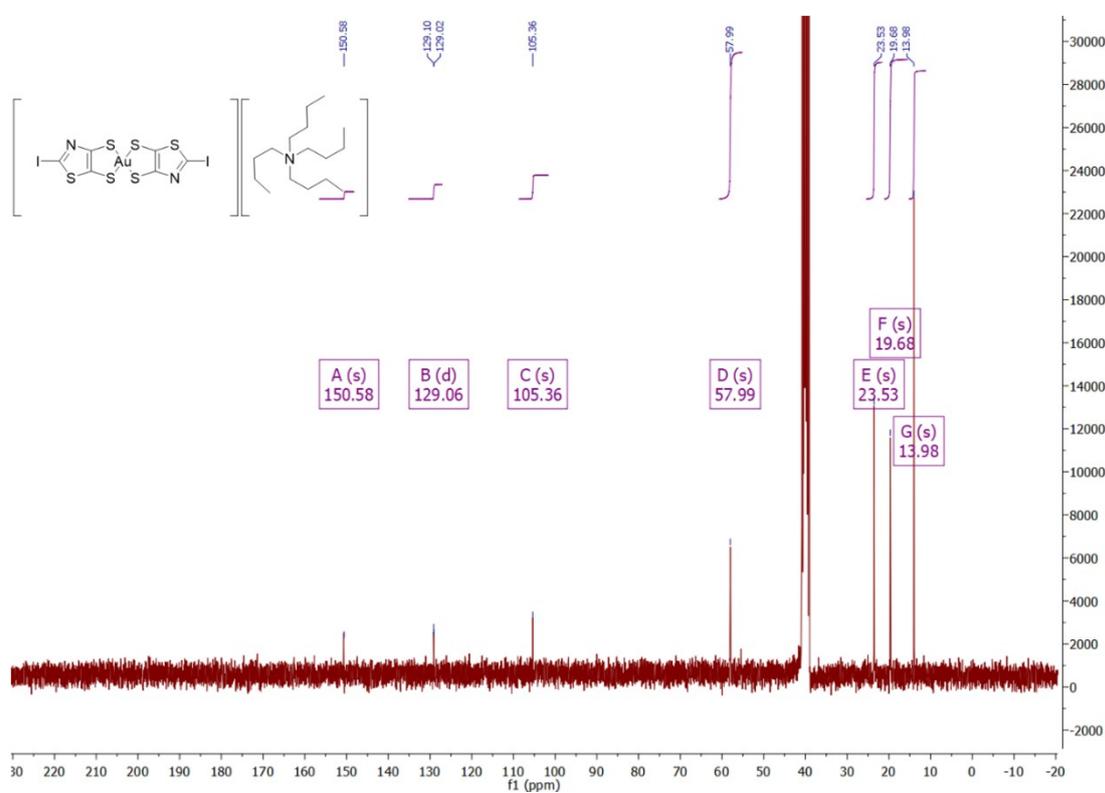


Fig. S3  $^{13}\text{C}$  NMR of  $[\text{NBu}_4][\text{Au}(\text{I-tzdt})_2]$  in  $(\text{CD}_3)_2\text{SO}$

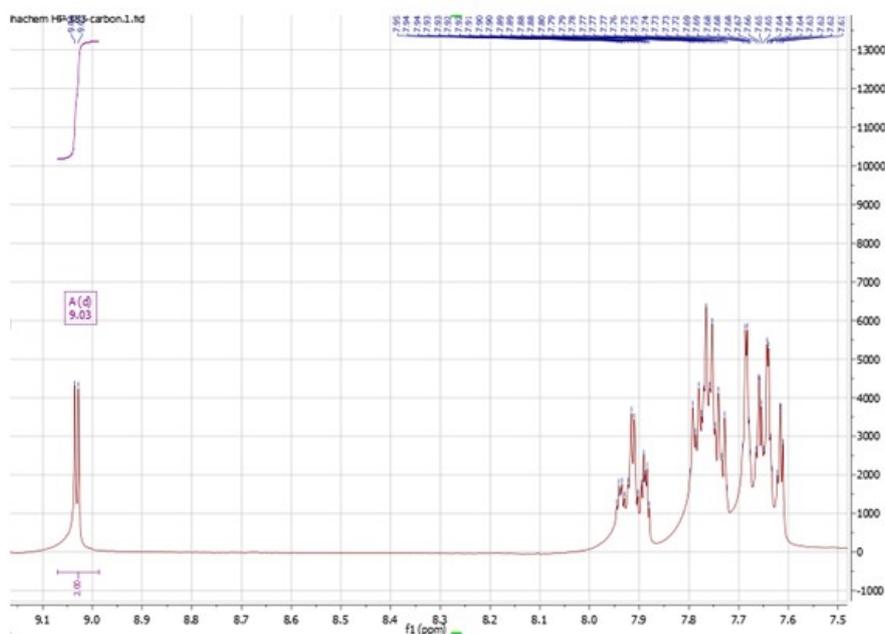


Fig. S4  $^1\text{H}$  NMR of  $[\text{Ph}_4\text{P}][\text{Au}(\text{H-tzdt})_2]$  in  $\text{CD}_2\text{Cl}_2$

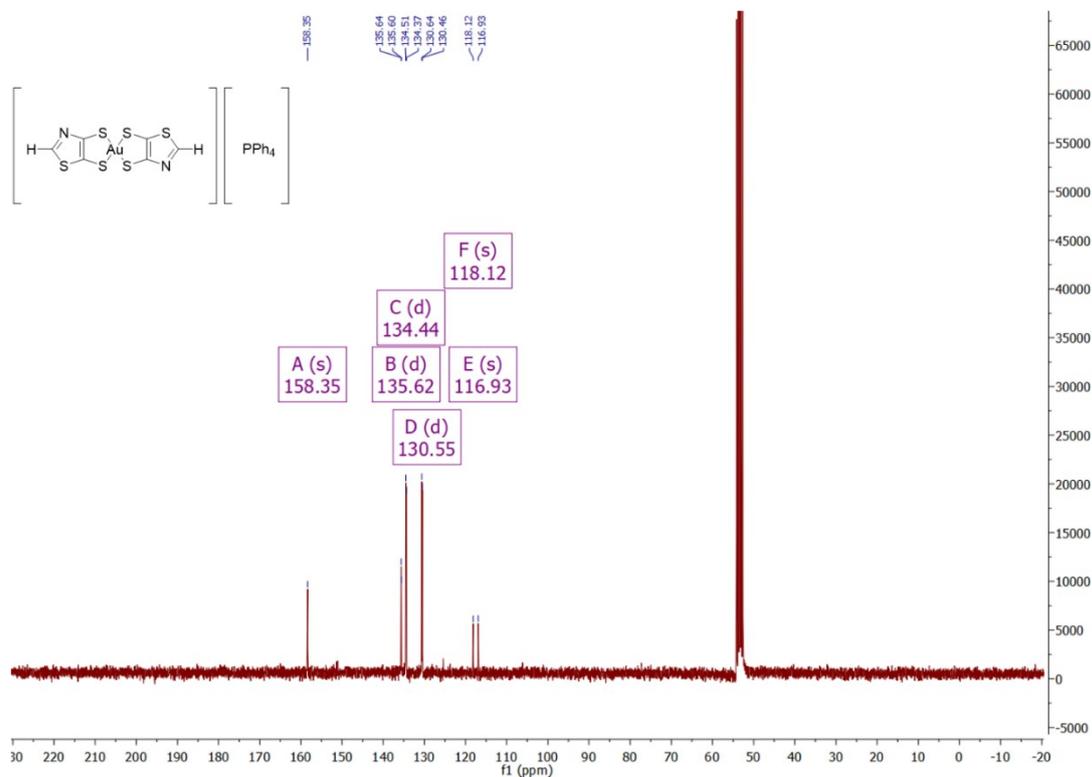
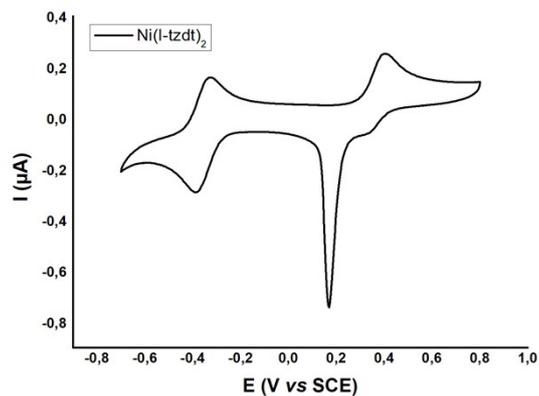
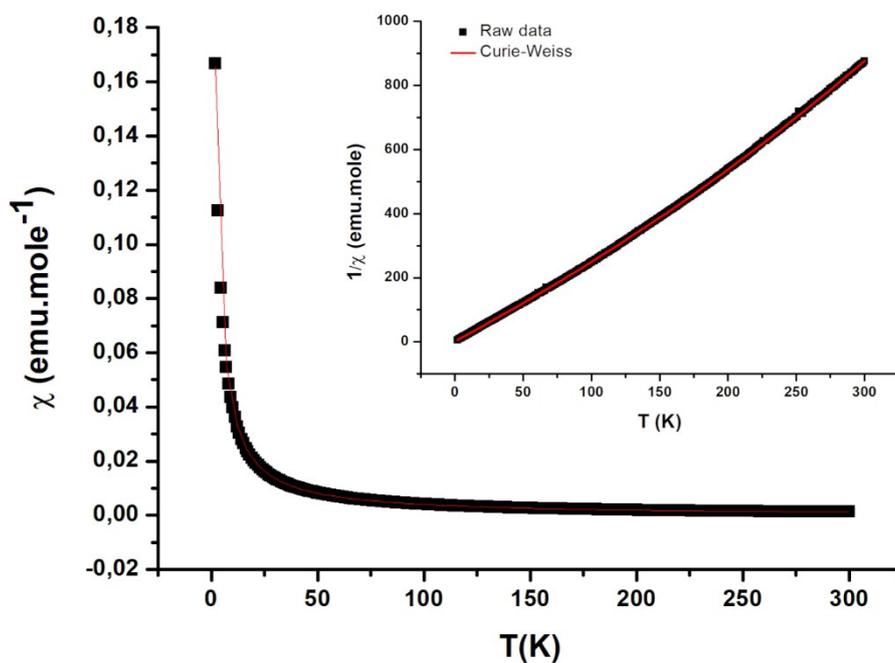


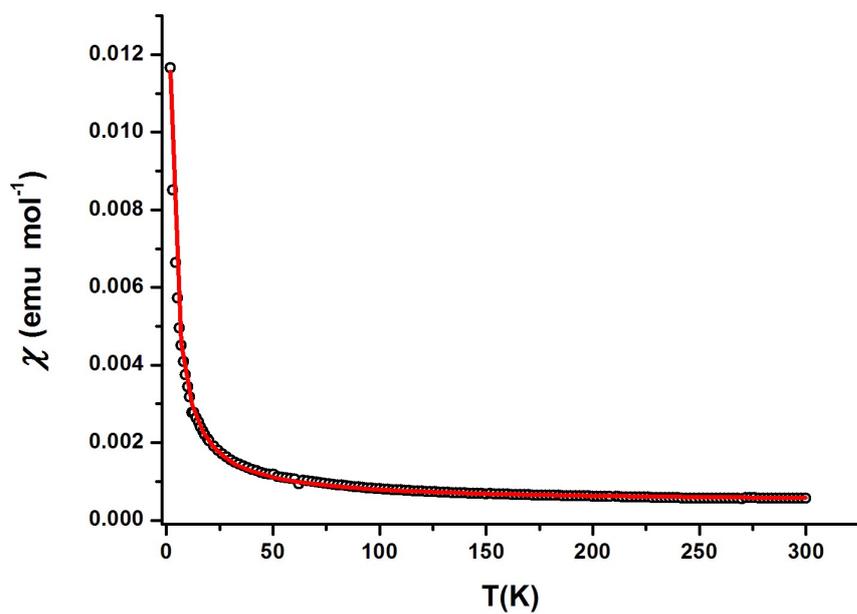
Fig. S5  $^{13}\text{C}$  NMR of  $[\text{Ph}_4\text{P}][\text{Au}(\text{H-tzdt})_2]$  in  $\text{CD}_2\text{Cl}_2$



**Fig. S6** CV of  $[\text{Bu}_4\text{N}][\text{Ni}(\text{I-tzdt})_2]$  in  $\text{CH}_2\text{Cl}_2$  with 0.1M  $\text{NBu}_4\text{PF}_6$ , at  $100 \text{ mV}\cdot\text{s}^{-1}$



**Fig S7.** Temperature dependence of the magnetic susceptibility of  $[\text{Bu}_4\text{N}][\text{trans-Ni}(\text{I-tzdt})_2]$ . In insert the  $1/\chi$  vs.  $T$  description. The solid line is a fit to the Curie Weiss law with  $\chi = \chi_0 + C/(T-\theta)$  which gives  $\chi_0 = -0.21(2) \cdot 10^{-3}$ ,  $C = 0.4212(8)$  and  $\theta = -0.541(6)$  K.



**Fig S8.** Temperature dependence of the magnetic susceptibility of  $[\text{Au}(\text{I-tzdt})_2]$ . The solid line is a fit to the Curie Weiss law with  $\chi = \chi_0 + C/(T-\theta)$  which gives  $\chi_0 = 0.47(3) \times 10^{-3} \text{ cm}^3 \text{ mol}^{-1}$ ,  $C = 0.0327(1)$  and  $\theta = -0.94(2) \text{ K}$ .