

## SUPPLEMENTARY INFORMATION

### MOKE magnetometry as a probe of surface magnetic impurities in electropolymerized magnetic thin films of the Prussian blue analogue $\text{Fe}_3[\text{Cr}(\text{CN})_6]_2 \cdot 15 \text{H}_2\text{O}^\dagger$

Eugenio Coronado,<sup>\*,a</sup> Magdalena Fitta,<sup>a</sup> Juan P. Prieto-Ruiz,<sup>a</sup> Helena Prima-García,<sup>\*,a</sup> Francisco M. Romero,<sup>\*,a</sup> and Ana Cros<sup>b</sup>

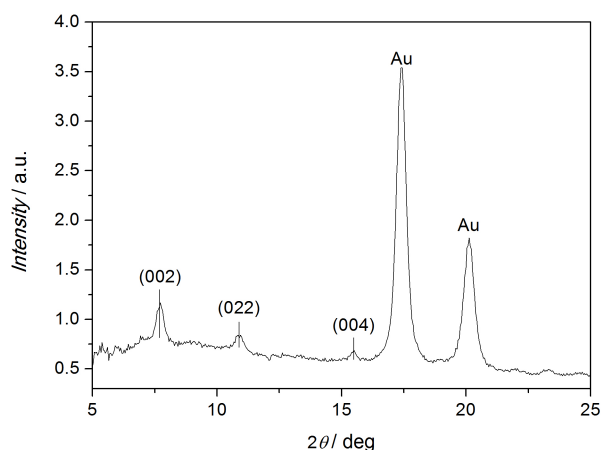


Fig. S1. X-ray diffractogram of a thin film of **1**. The lines correspond to the peaks expected for a cubic lattice of parameter  $a = 10.59 \text{ \AA}$ .

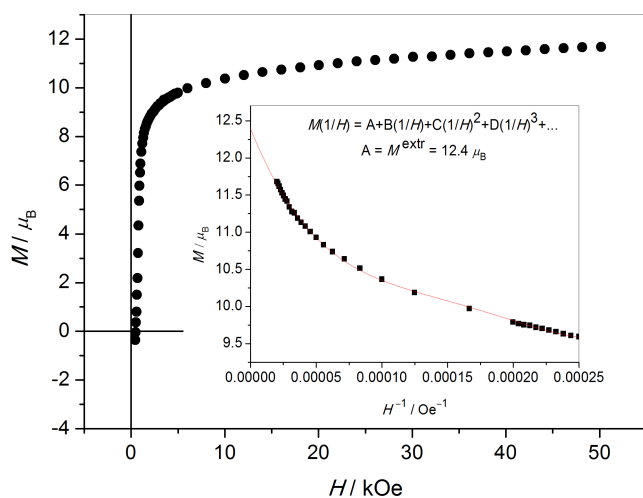


Fig. S2. Field dependence of the magnetization ( $M$ ) of a thin film of **1** at 2 K. Inset:  $M = f(H^{-1})$  plot. The red line indicates the best-fit to a polynomial expansion. The saturated magnetization was calculated from the extrapolation of this curve to  $H^{-1} = 0$ .

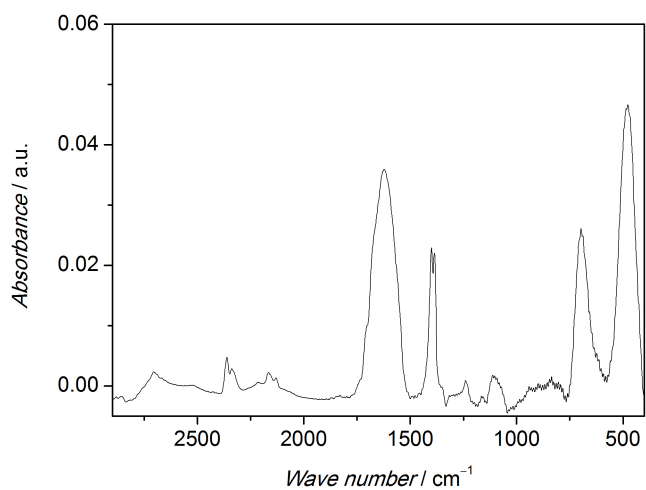


Figure S3. IR spectrum of 2.

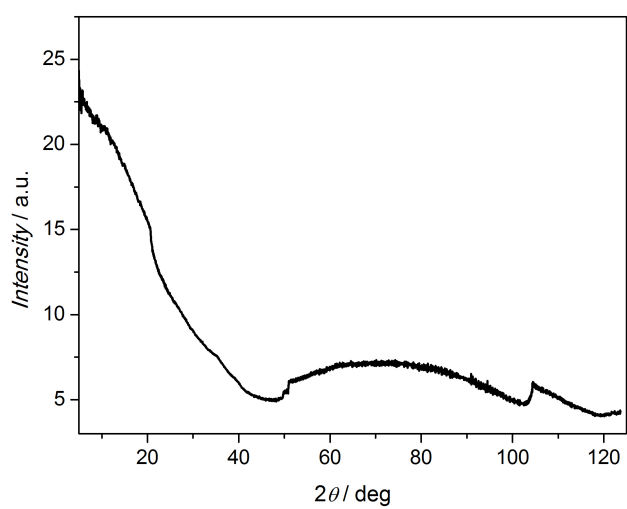


Figure S4. XRD pattern of 2.

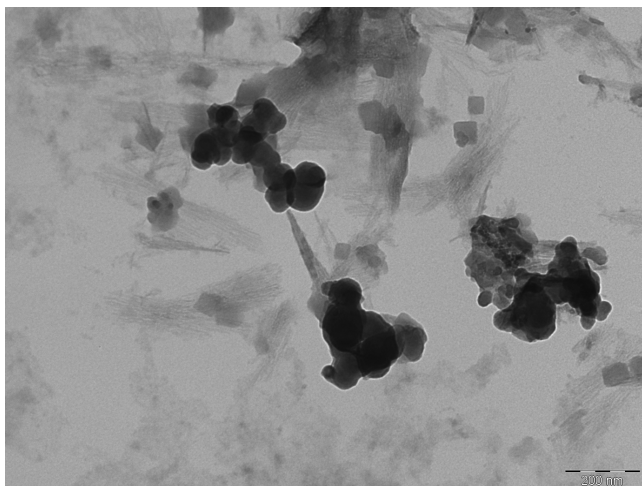


Figure S5. TEM micrograph of an aliquot of the electrolyte used in the electrodeposition of a thin film of 1.

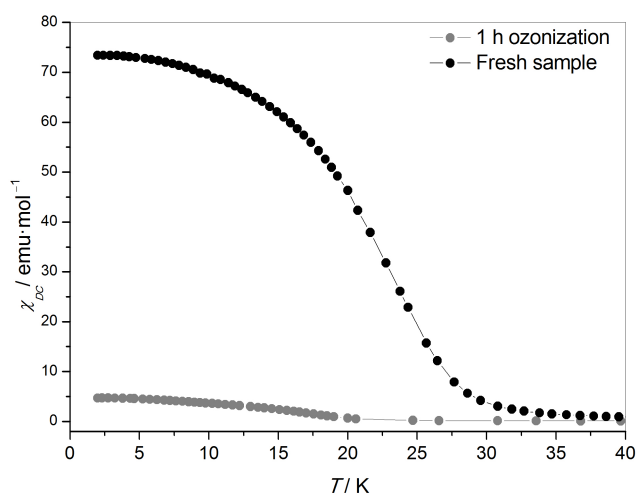


Figure S6. DC magnetic measurements of thin films of **1** before (black circles) and after (grey circles) 1 hour ozone treatment.

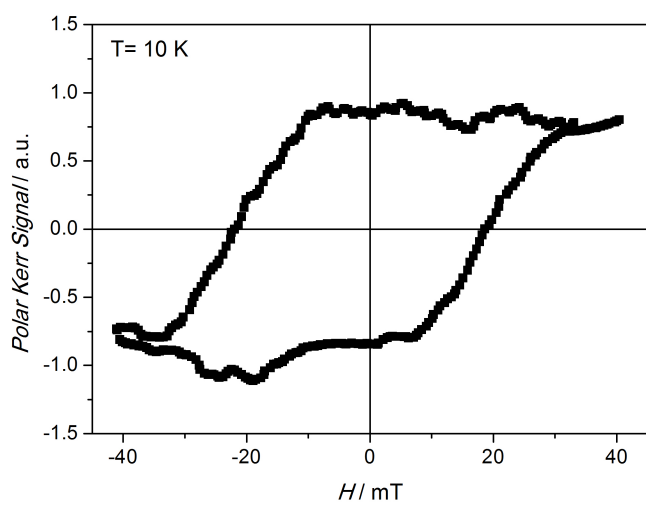


Figure S7. MOKE hysteresis loop of a film of **1** after 1 h ozone treatment. The measurement was performed at 10 K in polar configuration.