

## Supporting information.

*Crystal structure of 1 at 150 K:* Crystal data of **1**: C<sub>76</sub>H<sub>62</sub>Cl<sub>8</sub>CrFeN<sub>8</sub>, M<sub>r</sub> = 1478.79, triclinic, P  $\bar{1}$ ,  $a = 10.5331(12)$ ,  $b = 12.3100(11)$ ,  $c = 14.9616(13)$  Å,  $\alpha = 98.283(7)$ ,  $\beta = 110.587(9)$ ,  $\gamma = 106.472(9)^\circ$ ,  $V = 1676.1(3)$  Å<sup>3</sup>,  $Z = 1$ ,  $\rho_{\text{calcd}} = 1.465$  g·cm<sup>-3</sup>,  $T = 150(2)$  K, data/parameters/restraints 17996/ 522/ 455,  $R_1 = 0.0974$ ,  $wR_2 = 0.2338$ , G.O.F = 1.071 The intensity data for **1** were collected on an Oxford diffractions "Gemini-R" CCD diffractometer with graphite monochromated MoK $\alpha$  radiation at low temperatures using an Oxford Instrument Cryojet system. Raw data reduction to F<sup>2</sup> was carried out using CrysAlisPro, Oxford Diffraction Ltd. The structures were solved by direct method and refined by the full-matrix least-squares method against F<sup>2</sup> using SHELX-97.<sup>1</sup> Non-hydrogen atoms were refined in the anisotropic approximation. Positions of hydrogen atoms were calculated geometrically. Subsequently, the positions of H atoms were refined by the "riding" model with U<sub>iso</sub> = 1.2U<sub>eq</sub> of the connected non-hydrogen atom or as ideal CH<sub>3</sub> groups with U<sub>iso</sub> = 1.5U<sub>eq</sub>. To keep the structure and thermal parameters of the disordered units close to real one we use SAME and DELU instruction in SHELXL what provides large enough number of restraints.

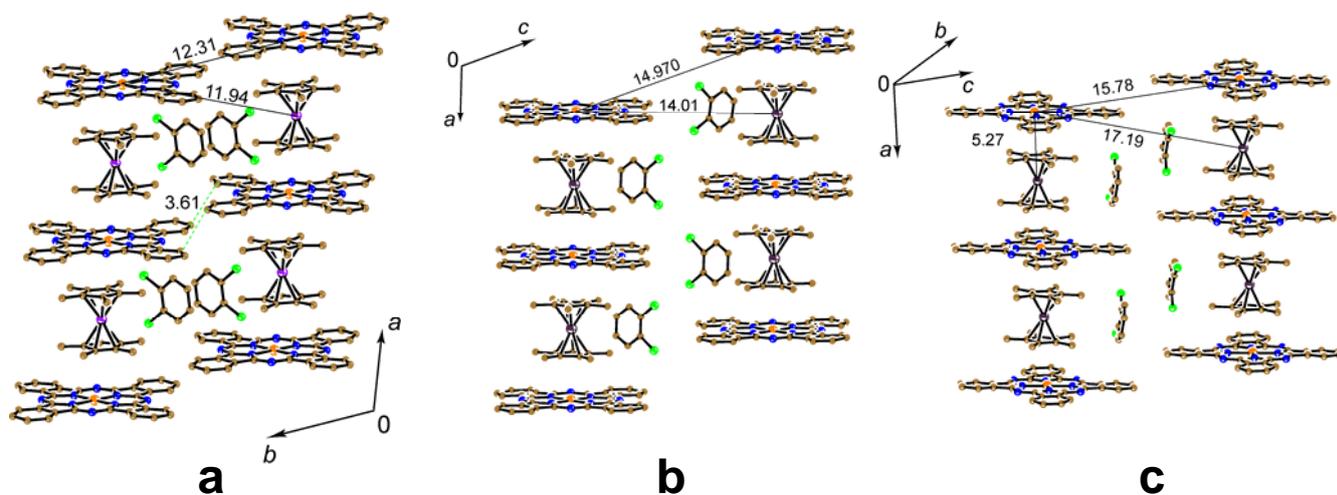
## References.

- (1) SHELX97, Sheldrick, G.M. University of Göttingen, Germany, **1997**.

**Table S1.** IR-spectra of starting compounds and complex **1**.

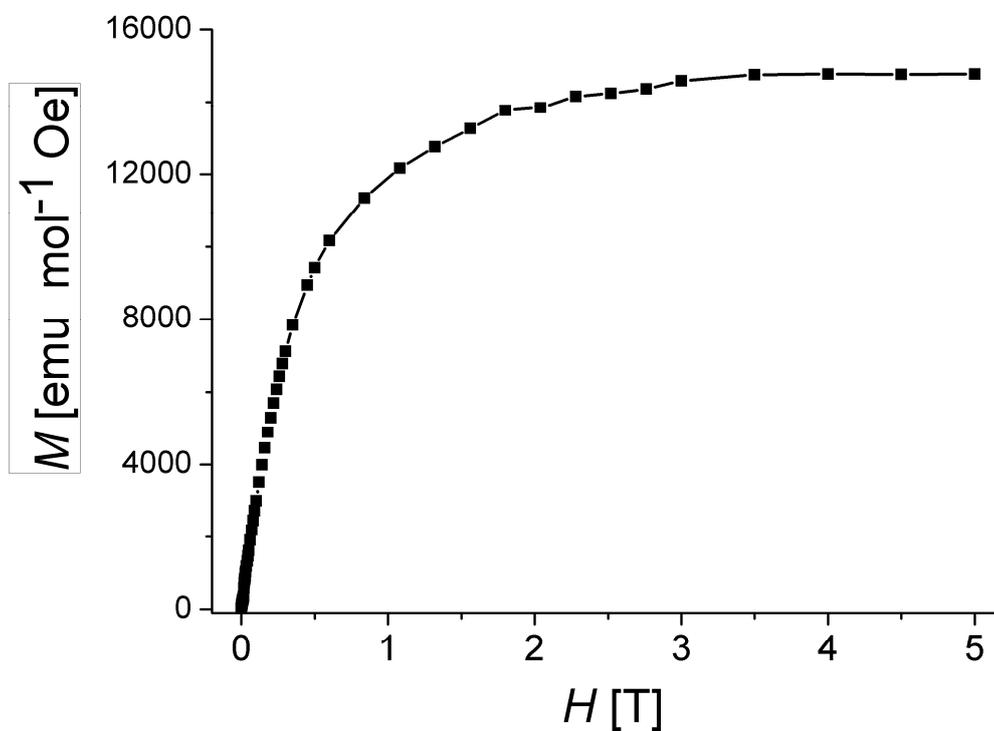
Components	$\text{Cp}^*_2\text{Cr}$	$\text{Fe}^{\text{II}}\text{Pc}$	$\text{C}_6\text{H}_4\text{Cl}_2$	<b>1</b>
<b><math>\text{Cp}^*_2\text{Cr}</math></b>	418w			436w
	549w			548w
<b><math>\text{Fe}^{\text{II}}\text{Pc}</math></b>	1021s			1025w
	1060w			-
	1375s			1380m
	1413w			-
	1448w			-
		434w		
		515w		440w
		572w		518w
		688w		572w
		733s		688w
	757s		728s	
	780m		754s*	
	820w		770w	
	877w		-	
	893w		873w	
	909w		893w	
	1002w		911w	
	1083s		1001w	
	1118s		1090m	
	1163m		1119s*	
	1288m		1165m	
	1331s		1289w	
	1422s		1331w	
	1466w		1423s	
	1495w		1482w	
	1512w		1506m	
<b><math>\text{C}_6\text{H}_4\text{Cl}_2</math></b>			657w	658w
			748s	754s*
			1030m	1034m
			1122m	1119s*
			1453m	1455m

## Peculiarities of crystal structure.



**Figure 1S.** View of crystal structure of **1**. Two chains from the  $\text{Cp}^*_2\text{Cr}^+$  and  $\text{Fe}^{\text{I}}\text{Pc}^-$  ions are shown in the direction parallel to the  $c$ -axis (a); the  $b$ -axis (b) and to the diagonal for the  $bc$  plane (c).

## Magnetic measurements



**Figure 2S.** The dependence of isothermal magnetization,  $M(H)$  vs applied magnetic field ( $H$ ) at 2K.