Supporting information

Optical properties

Table S1. IR spectra of starting compounds and salts **1**

Components	H_2TPyP	$Tb(TMHD)_3$	C_6H_{14}	$[\{H_2T(4Py)P\}\cdot\{Tb^{III}(TMHD)_3\}_2]\cdot 2.84C_6H_{14}$ (**1**)
H_2TPyP	413w			410w*
	531m			-
	555m			-
	565m			-
	640w			-
	659s			-
	675w			668m
	723s			732m*
	785s			785m
	800s			800m*
	842m			-
	850w			-
	882s			885m*
	971s			971m
	980m			980w
	1004m			-
	1069m			1070w*
	1082w			-
	1190w			1181m
	1211w			-
	1230w			1225m
	1258w			1246m*
	1351m			1357s*
	1401s			1400vs*
	-			1414vs
	1469m			1478w
	1542m			1538s*
	1557w			1552w*
	1594s			1590s
	-			1605m
	3021w			-
	3056w			-
	3093w			-
	3310w			3319w
$Tb(TMHD)_3$		409w		410w*
		476s		475m
		563w		-
		602m		601w
		737m		732m*
		762m		756w*
		795m		800m*
		870s		868m
		953w		-
		1024w		1021m
		1132s		1139m
		1180m		-
		1127s		-
		1248w		1246m*
		1281m		1285w
		1358vs		1357s*
		1385s		1388s
		1404s		1400vs*
		1452m		1451m*
		1503vs		1506vs
		1539s		1538s*
		1553m		1552w*
		1574vs		1574vs
		2868s		2864w
		2907m		2903w
		2955vs		2955m
C_6H_{14}			722s	732m*
			758w	756w*
			882m	885m*
			1065m	1070w*
			1342m	-
			1373s	-
			1460s	1451m*

* - bands are coincided w – weak, m –middle, s – strong and vs – very strong intensity

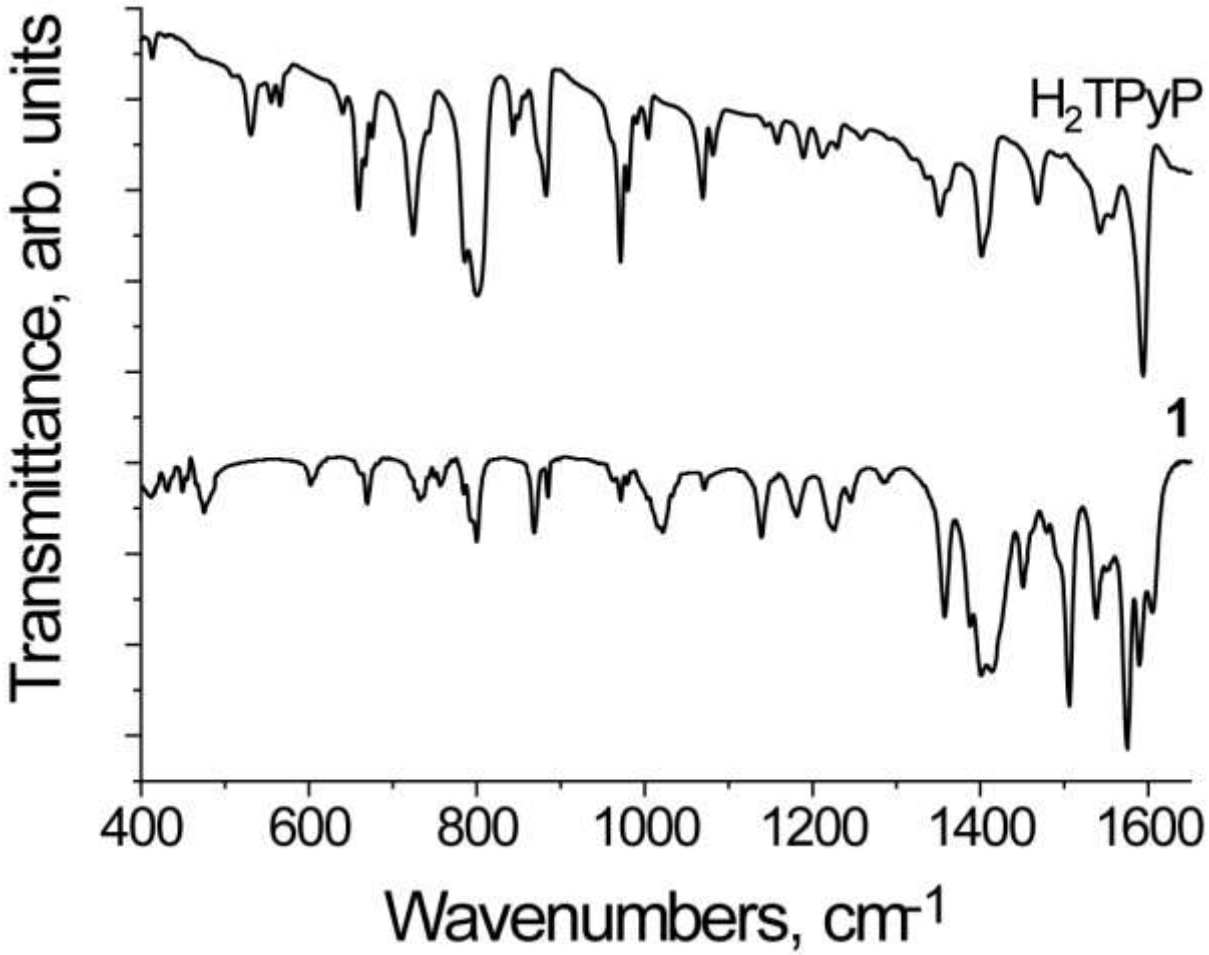

Figure S1. IR spectra of starting porphyrin and complex **1** in KBr pellets. Pellet for **1** was prepared in anaerobic condition.

Crystal structure

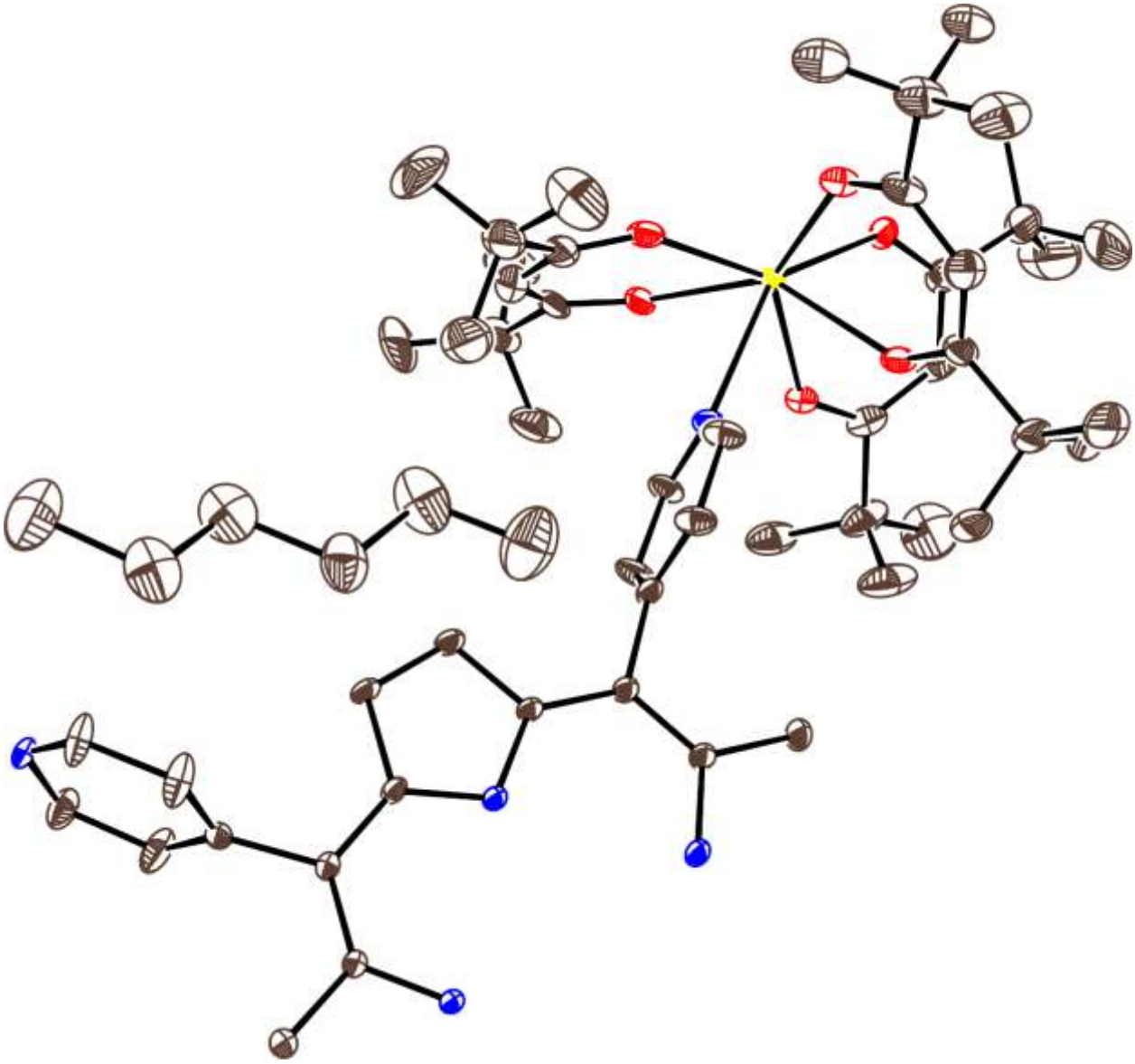

Figure S2. Crystallographically independent part of complex **1**. Thermal ellipsoid plot with the 30% probability is shown. All fragments are shown in major orientations. Hydrogen atoms are omitted for clarity.

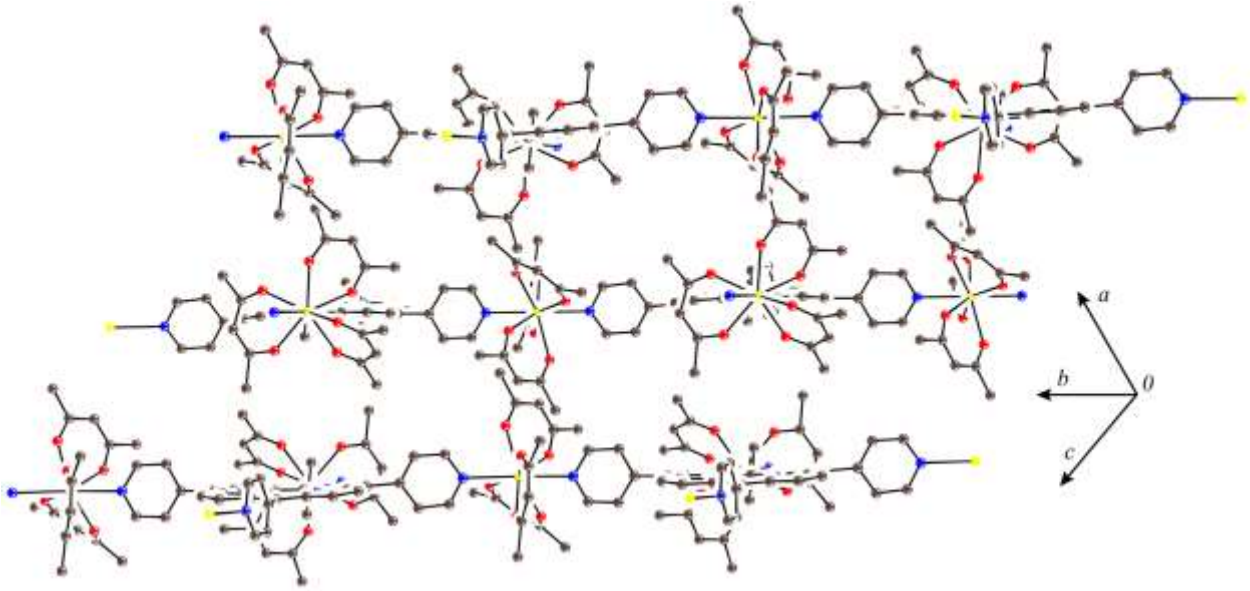

Figure S3. View along the polymeric layers in **1**. Solvent molecules, methyl substituents of *tert*-butyl groups of TMHD in $Tb(TMHD)_3$ and hydrogen atoms are omitted for clarity.

Magnetic properties

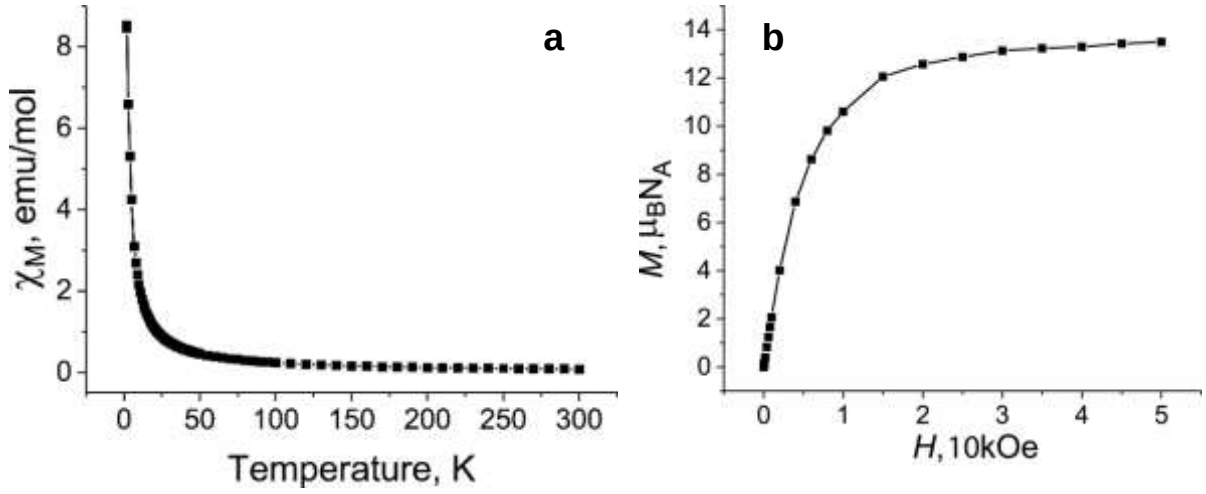

Figure S4. (a) Temperature dependence of molar magnetic susceptibility for salt **1**; (b) magnetization curve at 2 K up to the 50 kOe magnetic field. .