

Phthalocyaninato lanthanide(III) acetates as a new class of molecular paramagnets with large magnetocaloric effect

**Victor V. Koroley, Tatyana N. Lomova, Anna G. Ramazanova
and Elena G. Mozhzhukhina**

Table S1 Long wave absorption band position in UV-VIS spectra of (AcO)LnPc, λ_{\max} , nm.

Solvent	λ_{\max} , nm	Solvent	λ_{\max} , nm
(AcO)GdPc		(AcO)TmPc	
DMSO	669.2	DMSO	673.4
DMF	670.0	DMF	670.0
Benzene	677.5	Benzene	677.5
Acetone	666.7	Acetone	666.7
Pyridine	675.7	Pyridine	675.7
Benzonitrile	718.4	Benzonitrile	718.4
	691.2		691.2
Acetonitrile	663.1	Acetonitrile	663.1
CHCl ₃	675.7	CHCl ₃	675.7
(C ₂ H ₅) ₂ O	670.2	(C ₂ H ₅) ₂ O	670.2
Methanol	668.4		
Ethanol	670.6		669.5

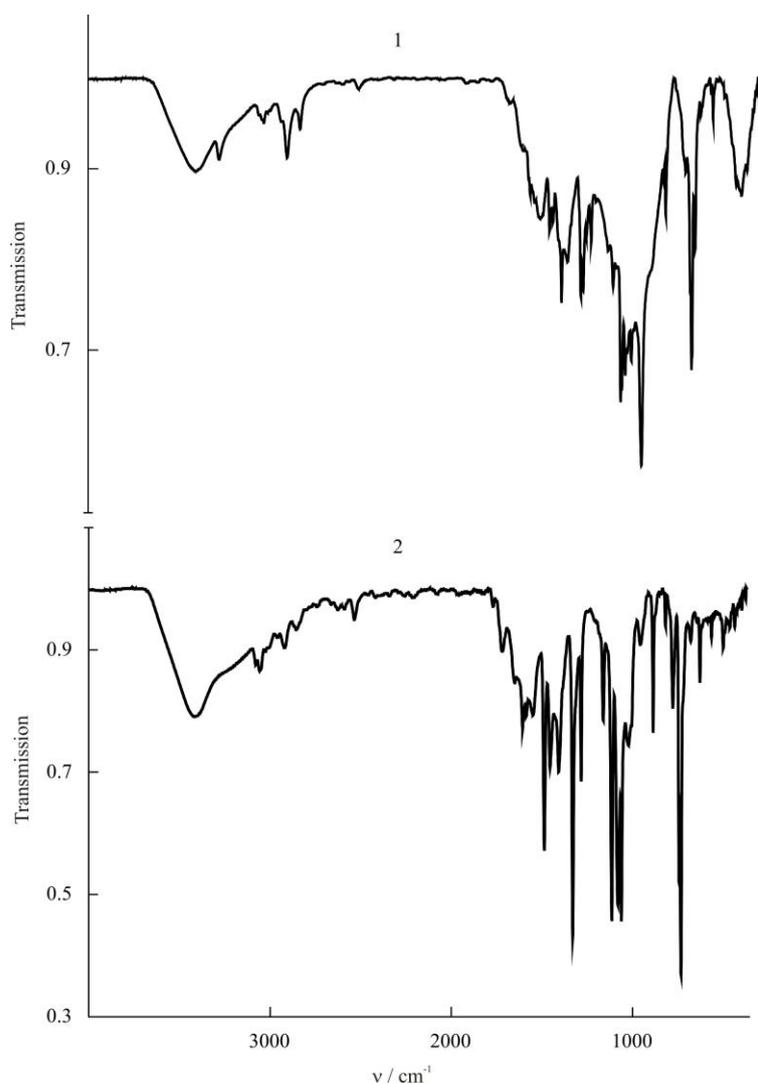


Figure S1 IR spectra of (1) (AcO)GdPc and (2) (AcO)TmPc in KBr.

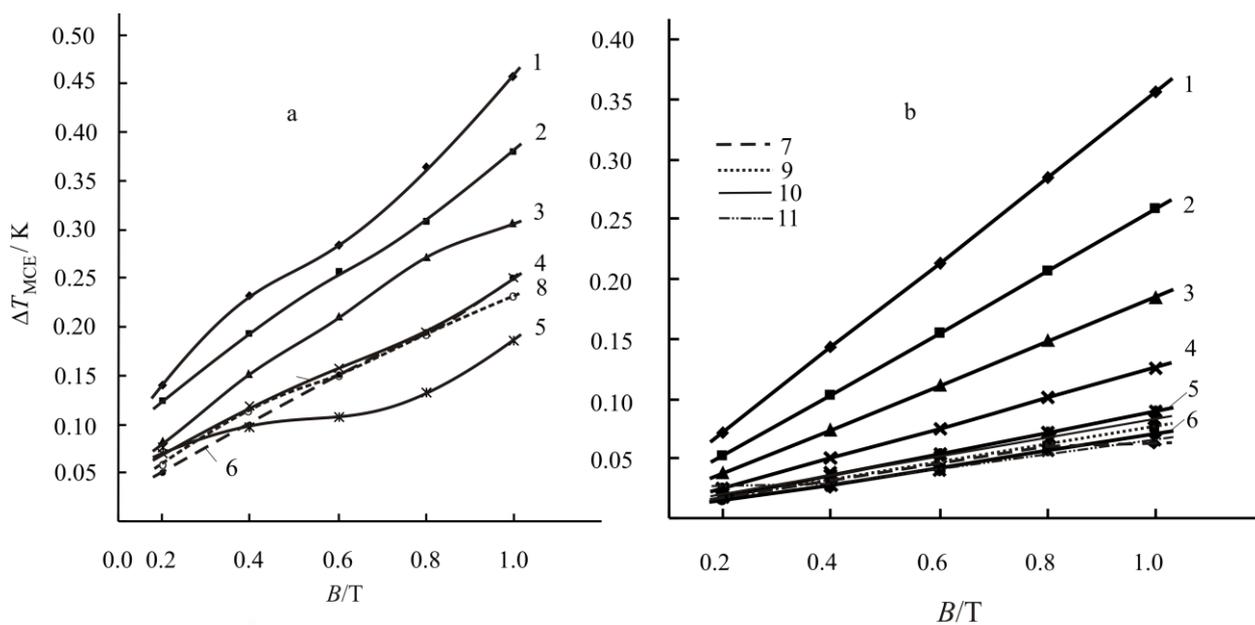


Figure S2 Field dependences of ΔT_{MCE} in (a) (AcO)GdPc and (b) (OAc)TmPc. T , K 278 (1), 288 (2), 298 (3), 308 (4), 318 (5), 328 (6), 335 (7), 338 (8), 342 (9), 348 (10), and 353 (11).

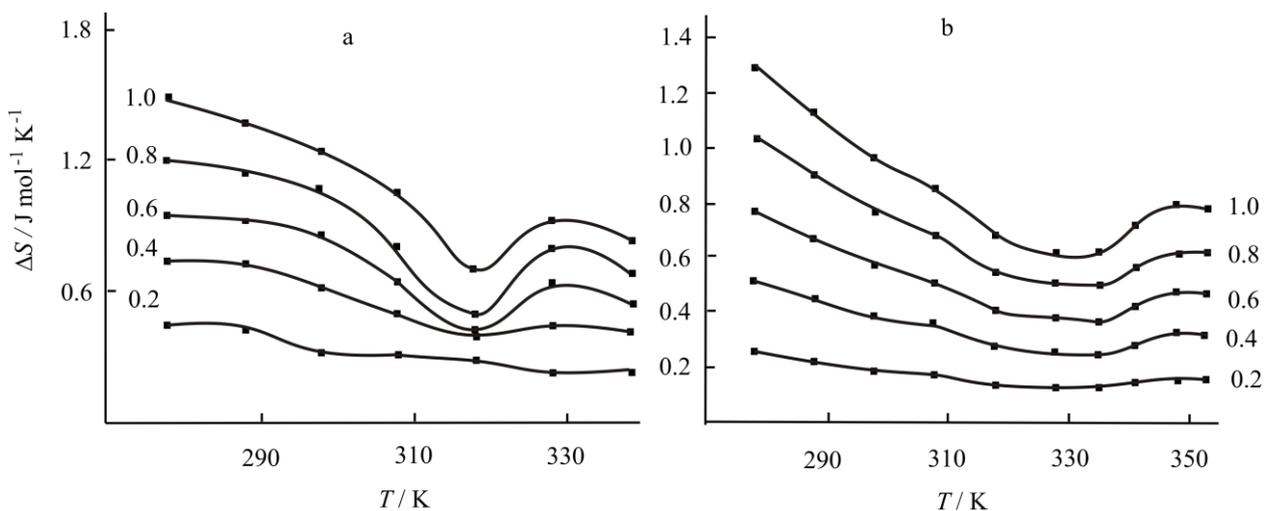


Figure S3 Temperature dependence of the entropy change, $\Delta S_{(\text{enth})}$ in (a) (AcO)GdPc and (b) (AcO)TmPc at the indicated field induction.

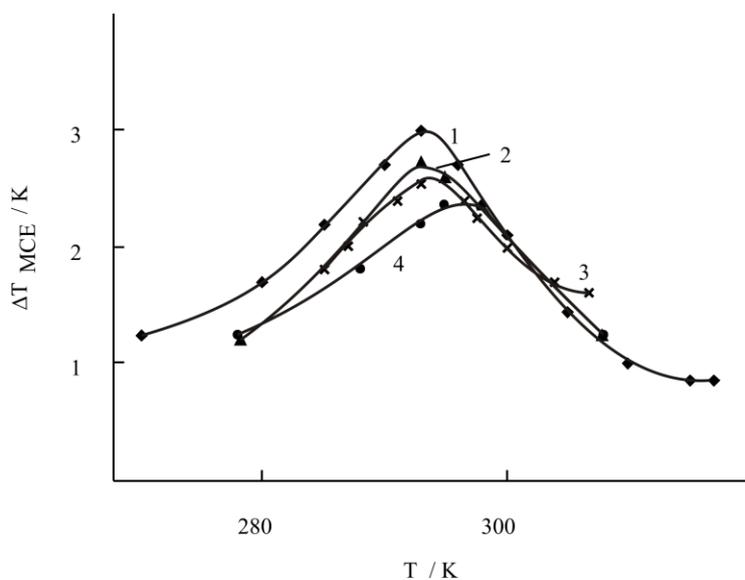


Figure S4 Temperature dependence of MCE in gadolinium in magnetic field 0–1 T: experimental data from the work¹ (1), our experimental data observed by the microcalorimetric method (2), experimental data from the work² (3), and our experimental data obtained by the microcalorimetric method, based on the heat capacity from the work.³

References

- 1 O. V. Melnikov, *PhD Thesis*, Moscow State University, Moscow, 2008, p. 23 (in Russian).
- 2 D. S. Simons, M. B. Salamon, *Phys. Rev. B*, 1974, **10**, 4680.
- 3 A. G. Gurek, T. Basova, D. Luneau, C. Lebrun, E. Kol'tsov, A. K. Hassan and V. Ahsen, *Inorg. Chem.*, 2006, **45**, 1667.