

Synthesis, metal binding and spectral properties of novel bis-1,3-diketone calix[4]arenes

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Electronic Supplementary Information

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† Electronic supplementary information (ESI) available. For ESI
see DOI: XXXXXXXXXXXXXXX

1. UV-Vis absorption spectra of Ln-L

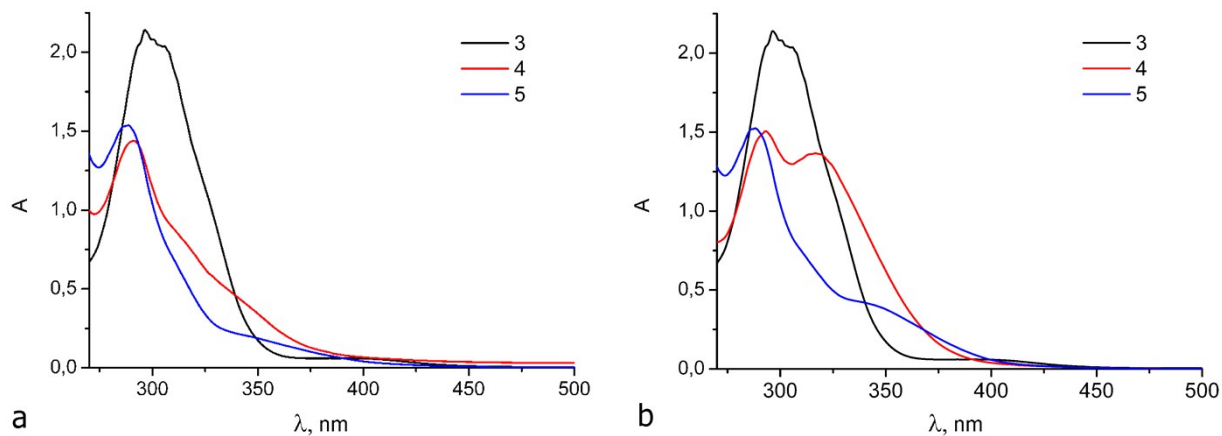


Figure S1. UV-Vis absorption spectra of ligands **3**, **4** and **5** ($C_L=0.1$ mM) in DMF in alkalinized DMF ($C_{TEA}=0.8$ mM) after 1 (a) and 4 (b) day storage of solution.

2. Excitation spectra of Tb-L and Eu-L complexes

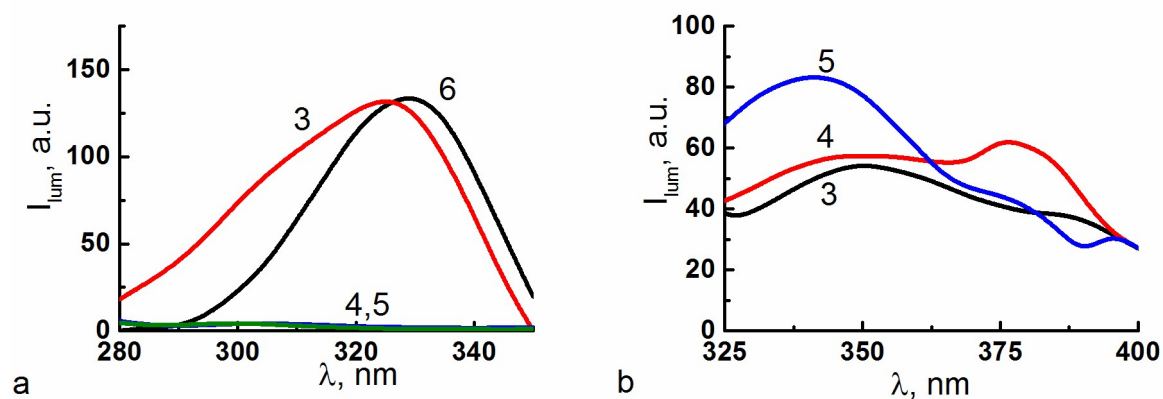


Figure S2. Excitation spectra of alkalinized DMF solutions of ligands **3-6** with Tb^{3+} (a) and Eu^{3+} (b). $C_L = C_{Ln^{3+}} = 0.1$ mM, $C_{TEA} = 0.4$ mM. $\lambda_{em} = 545$ nm (a) and 612 nm (b).

3. Luminescence decay curves of Tb-L complexes

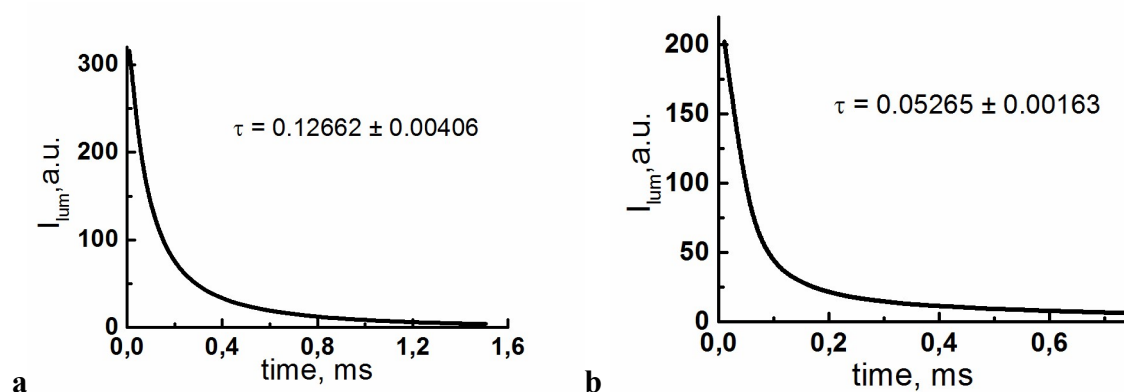


Figure S3. Luminescence decay curves of alkalized DMF solutions of Tb^{3+} with **3** (a) ($\lambda_{ex} = 320$ nm, $\lambda_{em} = 545$ nm. $R^2=0.992$) and **6** (b) ($\lambda_{ex} = 325$ nm, $\lambda_{em} = 545$ nm. $R^2=0.989$). $C_L = C_{Tb(III)} = 0.1$ mM, $C_{TEA} = 0.4$ mM.

4. Luminescence spectra of Gd-L complexes

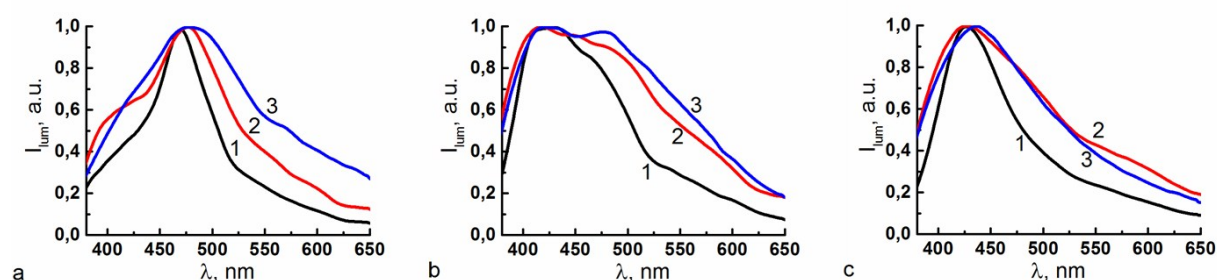


Figure S4. Luminescence spectra of alkalized DMF solutions of ligands **3** (a), **4** (b), **5** (c) with Gd^{3+} at different delay times: 1 (1), 10 (2) and 20 (3) μs . $C_L = C_{Ln^{3+}} = 0.1$ mM, $C_{TEA} = 0.4$ mM.