

## Supporting information

### Crown-substituted naphthalocyanines: synthesis and supramolecular control over aggregation and photophysical properties

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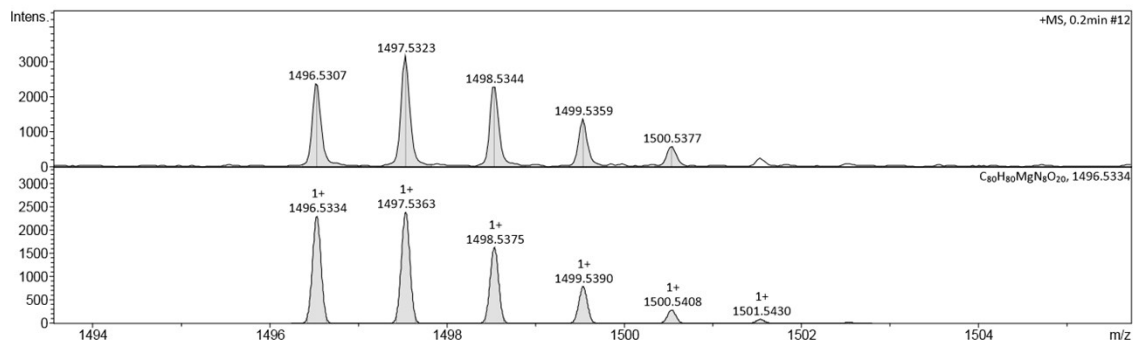


Fig. S1 HR ESI mass-spectrum of 1Mg

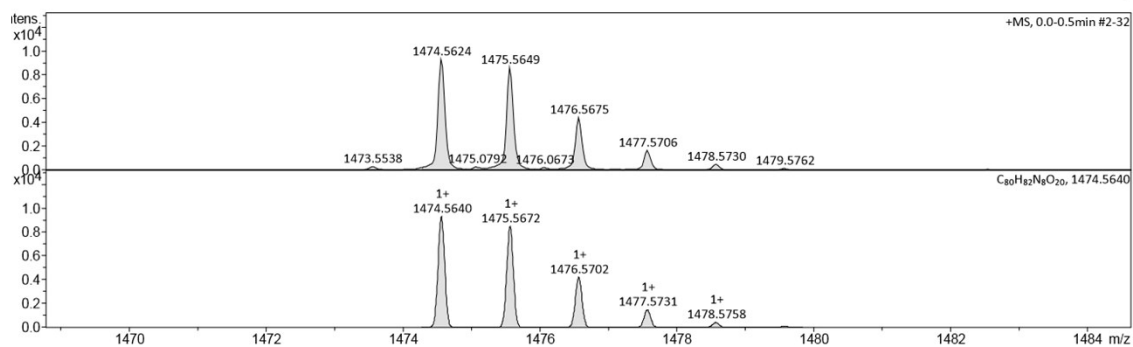


Fig. S2 HR ESI mass-spectrum of 1H<sub>2</sub>

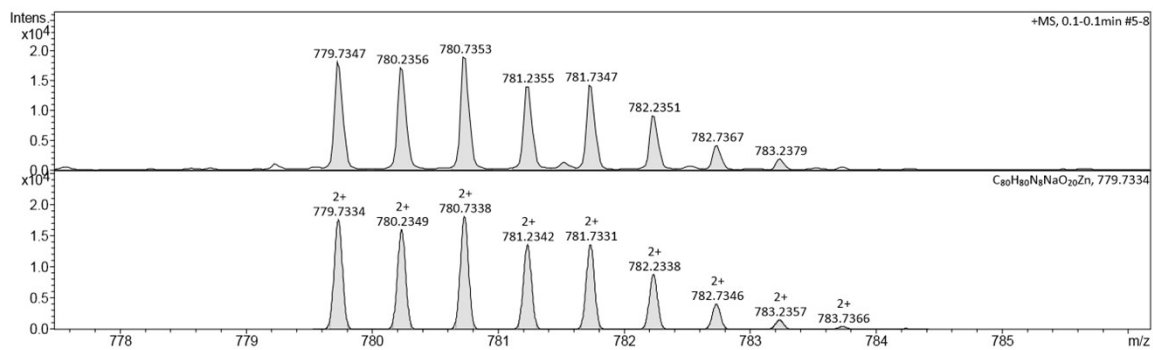
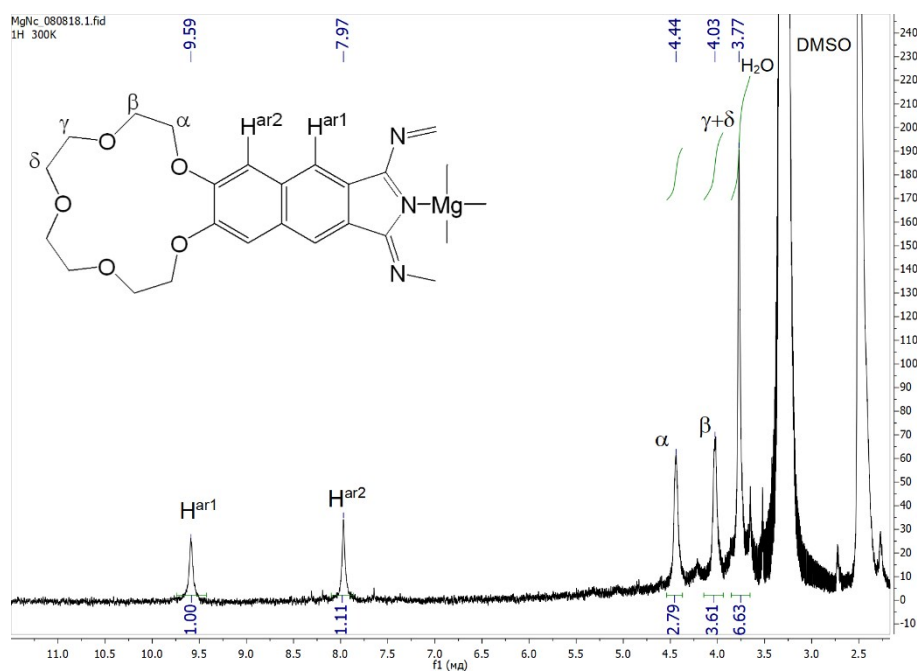
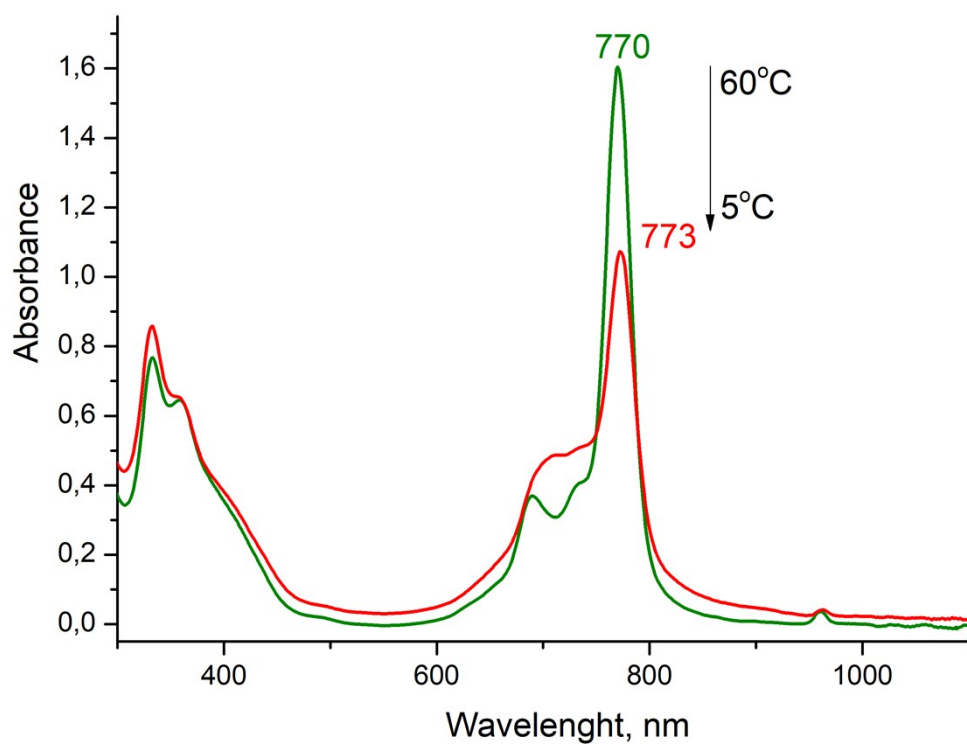


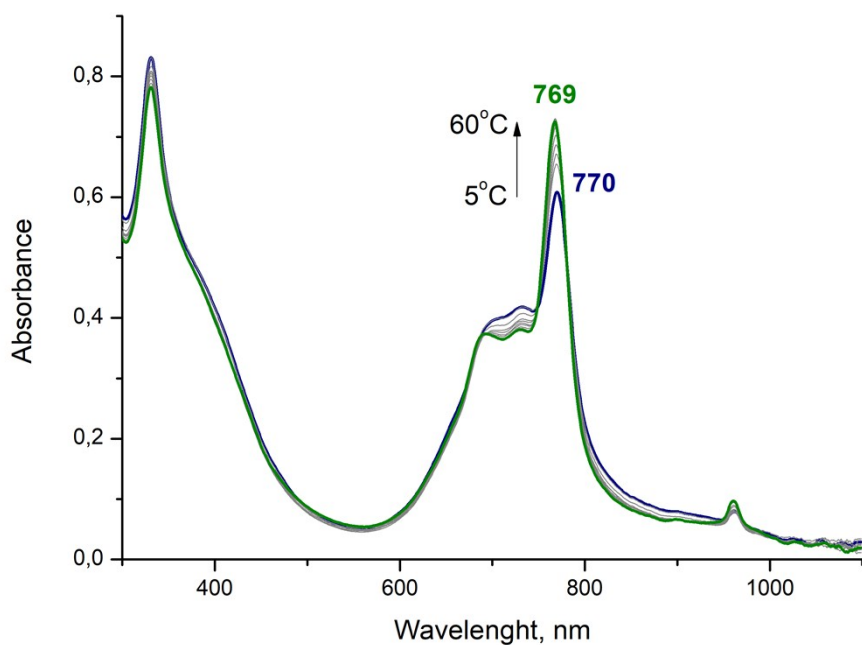
Fig. S3 HR ESI mass-spectrum of 1Zn



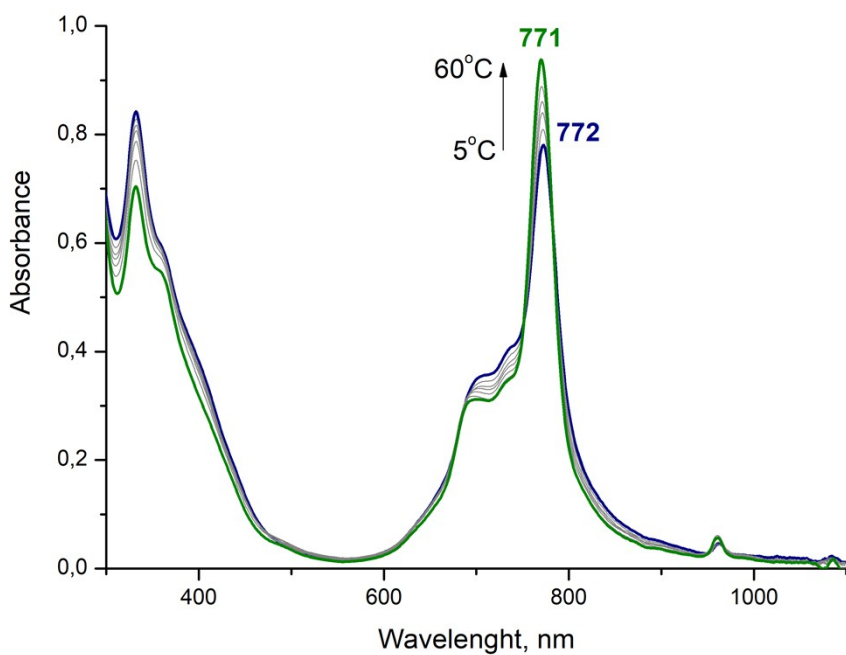
**Fig. S4** <sup>1</sup>H NMR spectrum of **1Mg** in DMSO-*d*<sub>6</sub>



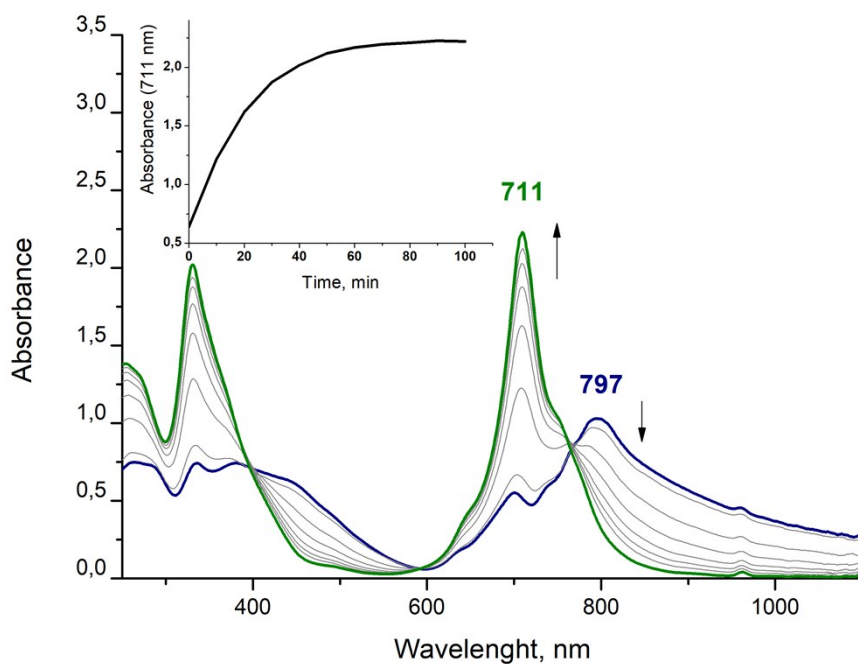
**Fig. S5** Dependence of UV-Vis spectra of **1Mg** in CHCl<sub>3</sub>:MeOH (9:1) on temperature. Starting solution of the monomeric form was obtained by heating of the aggregated complex in CHCl<sub>3</sub>:MeOH (9:1) to 65°C (see Fig 2 in the paper).



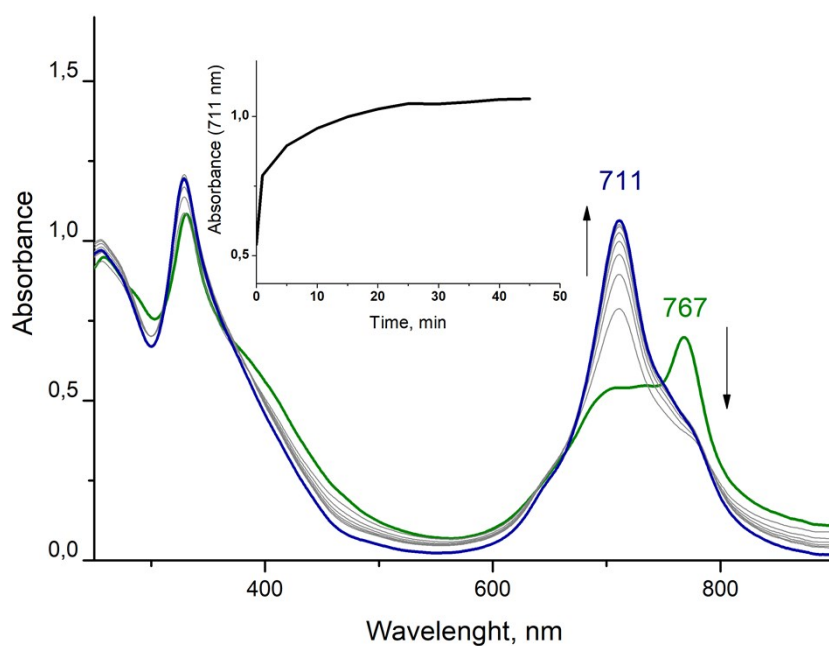
**Fig. S6** Dependence of UV-Vis spectra of **1Zn** in CHCl<sub>3</sub>:MeOH (9:1) on temperature (heating from 5°C to 60°C)



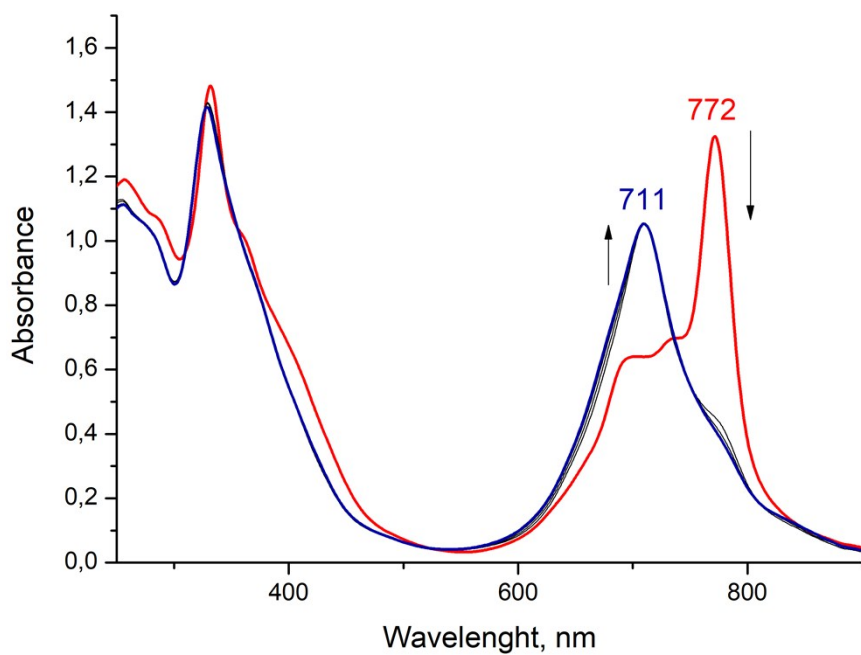
**Fig. S7** Dependence of UV-Vis spectra of **1H<sub>2</sub>** in CHCl<sub>3</sub>:MeOH (9:1) on temperature (heating from 5°C to 60°C)



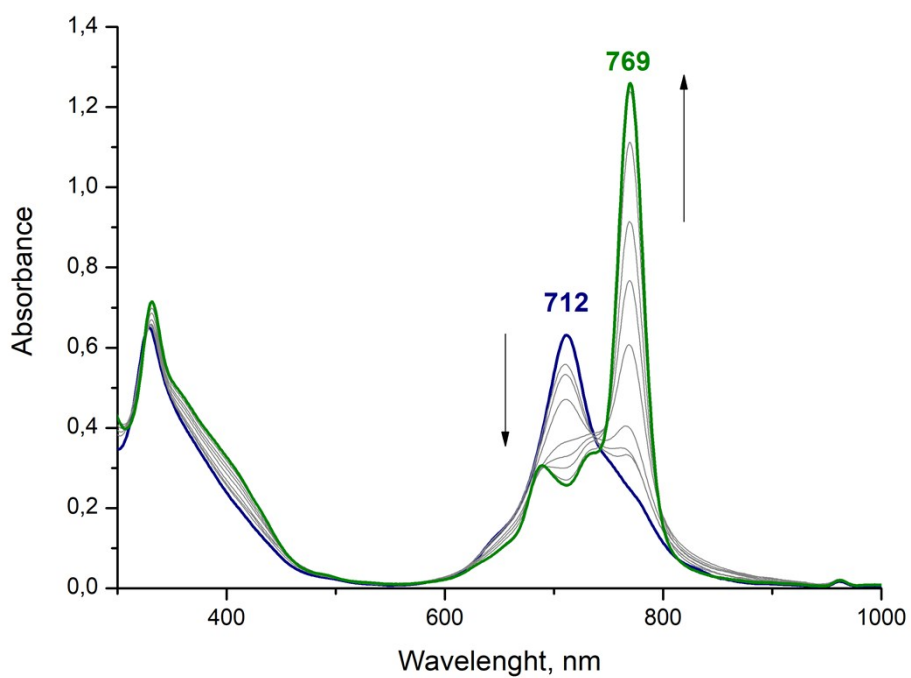
**Fig. S8** Interaction of **1Mg** in  $\text{CHCl}_3:\text{MeOH}$  (9:1) with 2 eq. KOAc in time



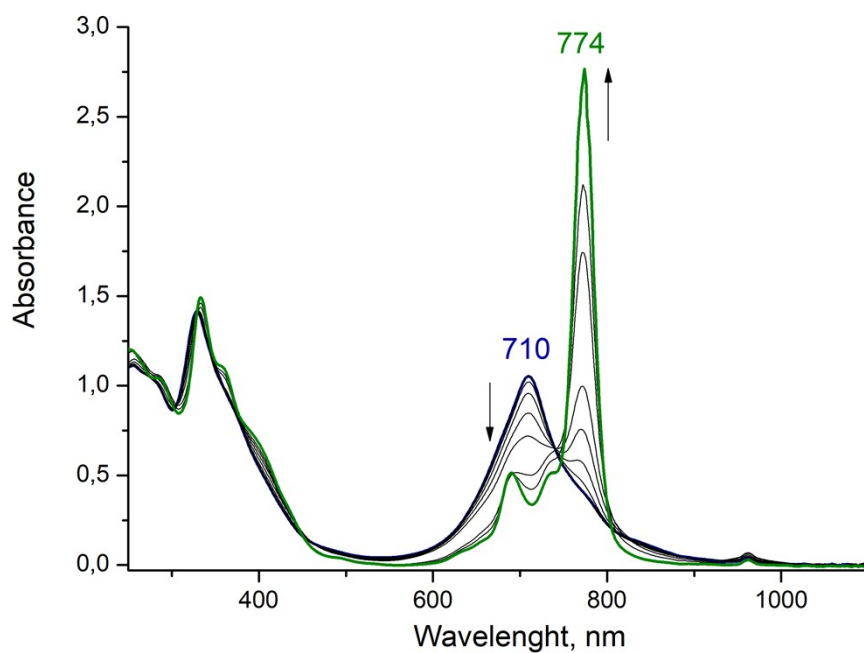
**Fig. S9** Interaction of **1Zn** in  $\text{CHCl}_3:\text{MeOH}$  (9:1) with 2 eq. KOAc in time



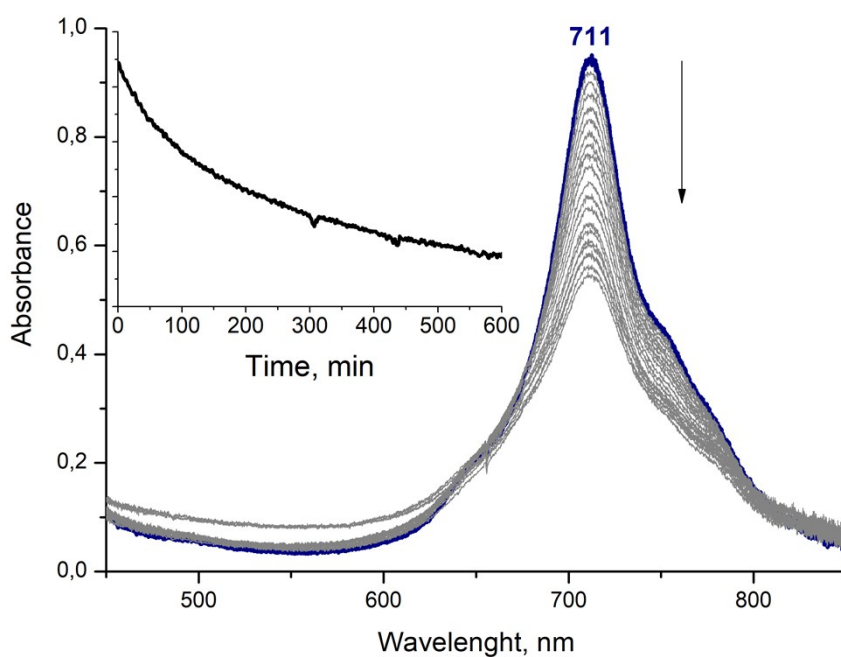
**Fig. S10** Interaction of **1H<sub>2</sub>** in CHCl<sub>3</sub>:MeOH (9:1) with 2 eq. KOAc



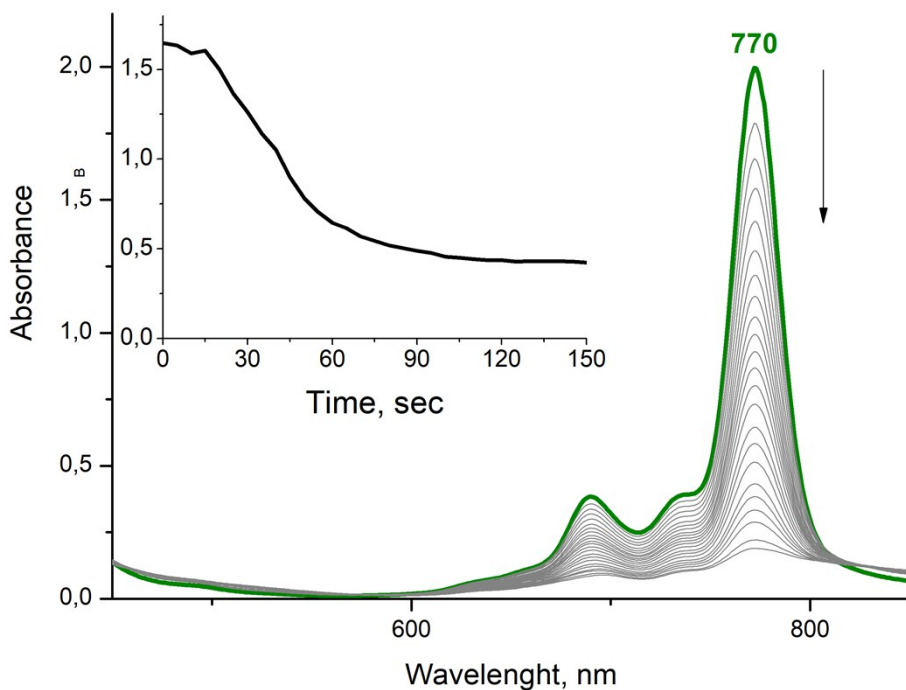
**Fig. S11** Spectrophotometric titration of cofacial dimer (**1Zn**)<sub>2</sub>K<sub>4</sub> in CHCl<sub>3</sub>:MeOH (9:1) with [2.2.2]cryptand



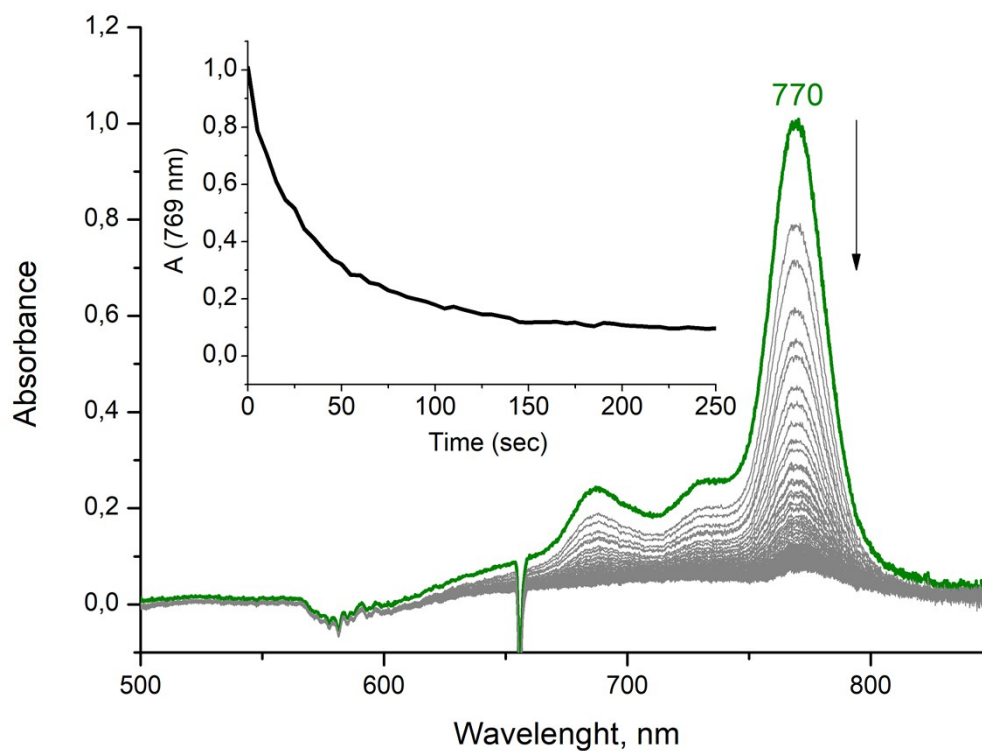
**Fig. S12** Spectrophotometric titration of cofacial dimer  $(\mathbf{1H}_2)_2\text{K}_4$  in  $\text{CHCl}_3:\text{MeOH}$  (9:1) with [2.2.2]cryptand



**Fig. S13** Changes in UV-Vis spectrum of dimer  $(\mathbf{1Mg})_2\text{K}_4$  in  $\text{CHCl}_3\text{-MeOH}$  (9:1) upon irradiation of laser ( $\lambda=670$  nm)

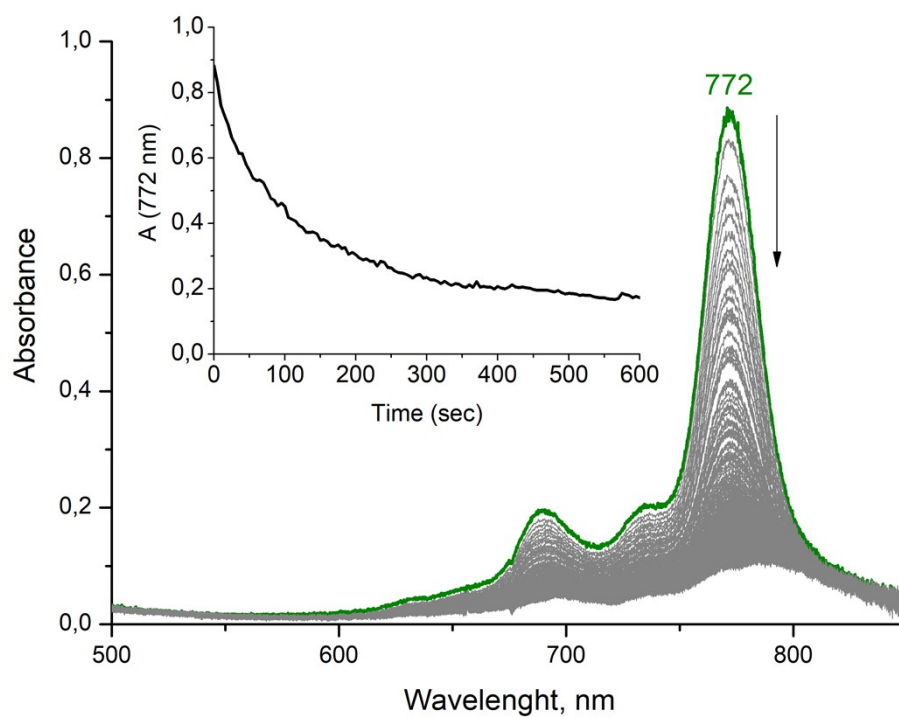


**Fig. S14** Changes in UV-Vis spectrum of monomer **1Mg** upon irradiation of laser ( $\lambda=670$  nm) in  $\text{CHCl}_3\text{-MeOH}$  (9:1)



**Fig. S15** Changes in UV-Vis spectrum of monomer **1Zn** upon irradiation of laser ( $\lambda=670$  nm) in  $\text{CHCl}_3\text{-MeOH}$  (9:1)





**Fig. S16** Changes in UV-Vis spectrum of monomer **1H<sub>2</sub>** upon irradiation of laser ( $\lambda=670$  nm) in CHCl<sub>3</sub>-MeOH (9:1)