

## Supporting information:

### General procedure for synthesis of complexes

#### Synthesis of complex III

A mixture of [Ru(dnbpy)<sub>2</sub>]Cl<sub>2</sub> ( 0.25 g, 0.25 mmol) in THF (15 ml) and silver triflate ( 0.13g, 0.05 mmol) was stirred at RT in the absence of light. The suspension was filtered through celite to remove the chloride salt. Then 2,2'-bipyridine ( 0.0395g, 0.25 mmol) was subsequently added and the mixture heated to reflux in the absence of light for 8 h. The mixture was cooled down, an excess of NaCl added and stirred for additional 1 h. The resulting residue was purified by chromatography using silica gel as adsorbent and methanol and water mixture as eluent. The red band was collected and dried under vacuum to obtain complex **III** as deep red black solid. Anal. Calculated for : C<sub>66</sub>H<sub>96</sub>N<sub>6</sub>Cl<sub>2</sub>Ru: C, 69.20; H, 8.45; N, 7.34; Found : C, 69.16; H, 8.43; N, 7.32.

#### Synthesis of complex IV

RuCl<sub>3</sub>.nH<sub>2</sub>O (0.1 g, 0.38 mmol) and 2, 2'-bipyridine (0.485 g, 1.19 mmol) in the presence of LiCl (0.156, 8 mmol) were treated with 25 ml of ethanol and was refluxed for 10 h. The reddish brown complex formed remained in ethanol solution. The raw product was purified by silica gel column chromatography (ethyl ether–acetone–methanol gradient elution). The purity was confirmed by microanalysis. Anal. calculated for C<sub>84</sub>H<sub>132</sub>N<sub>6</sub>RuCl<sub>2</sub> : C, 72.17; H, 9.52; N, 6.01; Found : C, 72.14; H, 9.50, N, 5.98.

**Captions:**

**Figure S1:** Absorption spectra of  $[\text{Ru}(\text{bpy})_2(\text{dnpby})]^{2+}$  (**I**) in the presence of anionic micelle, SDS, at different concentrations.

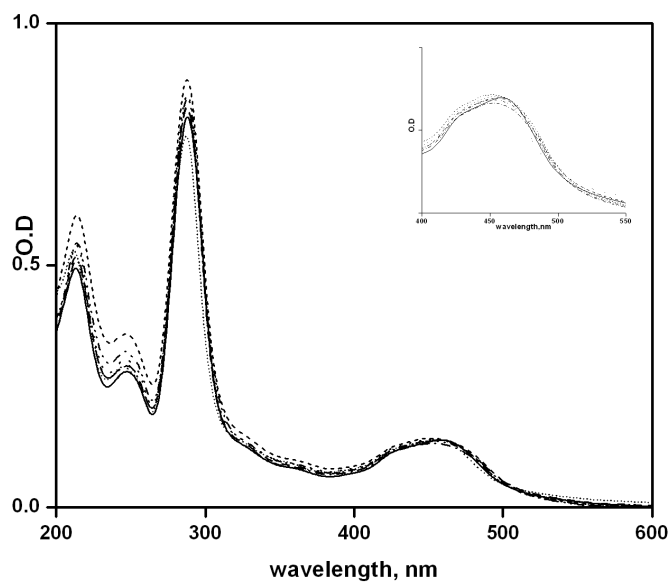
**Figure S2:** Absorption spectra of  $[\text{Ru}(\text{bpy})(\text{dnpby})_2]^{2+}$  (**II**) in the presence of anionic micelle, SDS, at different concentrations.

**Figure S3:** Emission spectra of  $[\text{Ru}(\text{bpy})(\text{dnpby})_2]^{2+}$  (**III**) in the presence of anionic micelle, CTAB, at different concentrations.

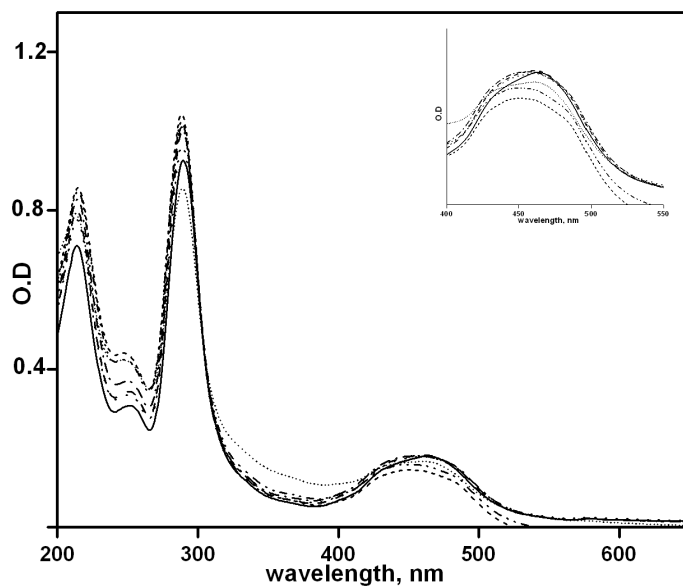
**Figure S4:** Emission spectra of  $[\text{Ru}(\text{bpy})(\text{dnpby})_3]^{2+}$  (**IV**) in the presence of cationic micelle, CTAB, at different concentrations.

**Figure S5:** Emission spectra of  $[\text{Ru}(\text{bpy})_2(\text{dnpby})]^{2+}$  (**II**) in the presence of neutral micelle, TX-100, at different concentrations.

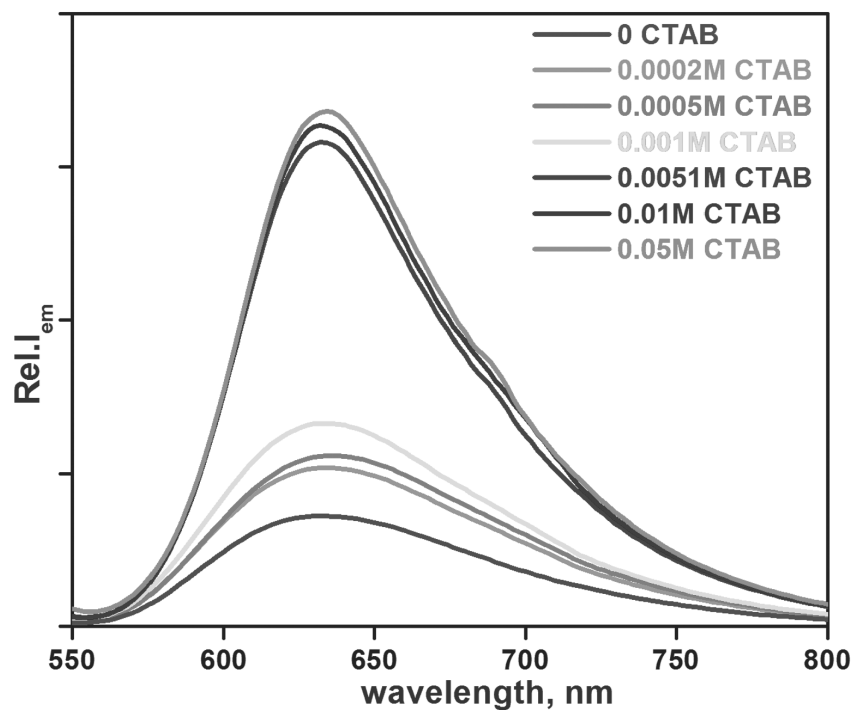
**Figure S6:** Emission spectra of  $[\text{Ru}(\text{bpy})(\text{dnpby})_2]^{2+}$  (**III**) in the presence of neutral micelle, TX-100, at different concentrations.



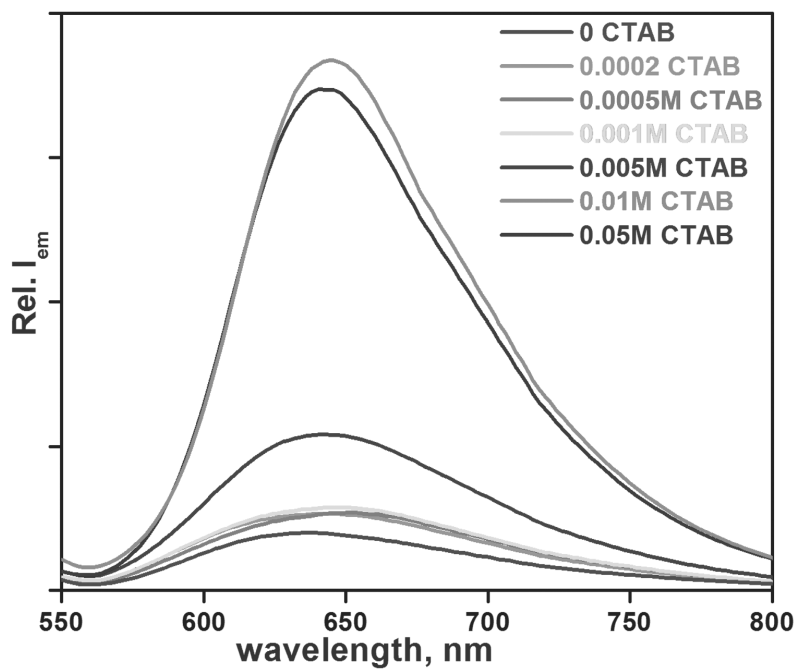
**Figure S1:** Absorption spectra of  $[\text{Ru}(\text{bpy})_2(\text{dnpby})]^{2+}$  in the presence of anionic micelle, SDS, at different concentrations.



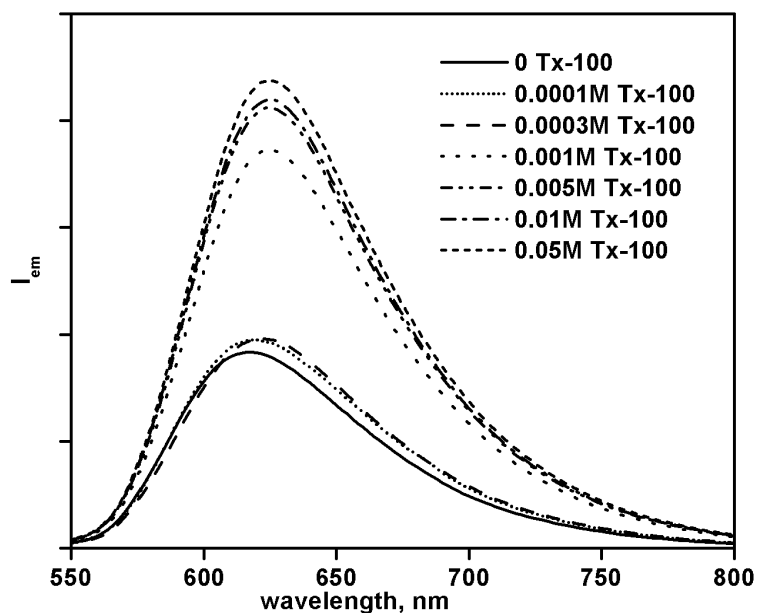
**Figure S2:** Absorption spectra of  $[\text{Ru}(\text{bpy})(\text{dnpby})_2]^{2+}$  in the presence of anionic micelle, SDS, at different concentrations.



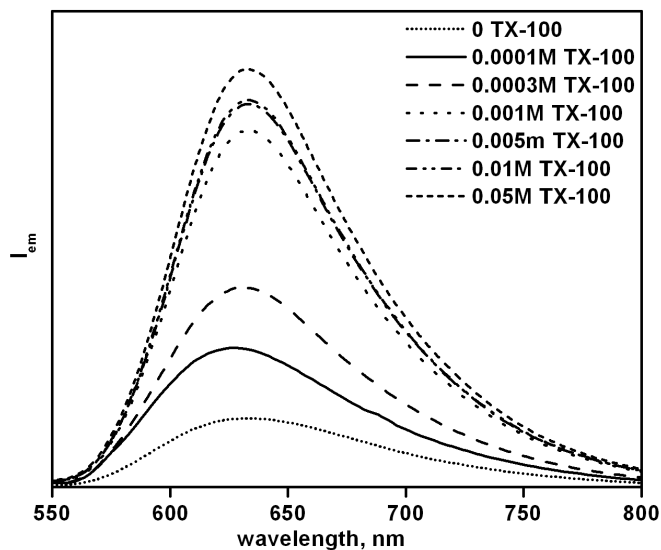
**Figure S3:** Emission spectra of  $[\text{Ru}(\text{bpy})(\text{dnpy})_2]^{2+}$  (III) in the presence of anionic micelle, CTAB, at different concentrations



**Figure S4:** Emission spectra of  $[\text{Ru}(\text{bpy})(\text{dnpy})_3]^{2+}$  (IV) in the presence of cationic micelle, CTAB, at different concentrations.



**Figure S5:** Emission spectra of  $[\text{Ru}(\text{bpy})_2(\text{dnpy})]^{2+}$  in the presence of neutral micelle, TX-100, at different concentrations.



**Figure S6:** Emission spectra of  $[\text{Ru}(\text{bpy})(\text{dnpy})_2]^{2+}$  in the presence of neutral micelle, TX-100, at different concentrations.

#### References:

1. Bowers, J.; Danks, M. J.; Webster, J. R. P. *Langmuir* **2003**, *19*, 299.

2. Bowers, J.; Danks, M. J.; Bruce, D. W.; Webster, J. R. P. *Langmuir* **2005**, *21*, 1346.
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