

# Excited-state spectroscopic investigations of multinuclear complexes based on $[\text{Ru}(\text{bpy})_3]^{2+}$ moieties connected to 2,2'-bipyridine and 2,2';6',2''-terpyridine ligands

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**KEYWORDS** (*Word Style "BG\_Keywords"*). If you are submitting your paper to a journal that requires keywords, provide significant keywords to aid the reader in literature retrieval.

## SUPPLEMENTARY INFORMATION

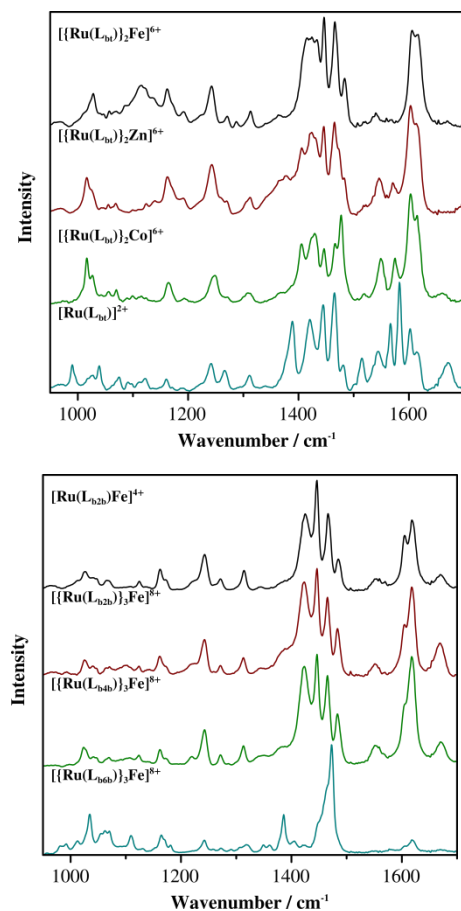


Figure S1. FT-IR spectra of the L<sub>bt</sub> containing complexes (top) and the L<sub>bnb</sub> containing complexes (bottom), acquired in KBr.

**Table S1. MAD values and scale factors for the calculated spectra.**

	Raman cm <sup>-1</sup>	IR	Scale Factor
[{Ru(L <sub>bt</sub> ) <sub>2</sub> Fe] <sup>6+</sup>	5	4	0.9736
[{Ru(L <sub>bt</sub> ) <sub>2</sub> Zn] <sup>6+</sup>	9	5	0.9758
[{Ru(L <sub>bt</sub> ) <sub>2</sub> Co] <sup>6+</sup>			
[Ru(L <sub>bt</sub> ) <sup>2+</sup>	11	7	0.9709
[Ru(L <sub>b2b</sub> )Fe] <sup>4+</sup>	4	6	0.9736
[{Ru(L <sub>b2b</sub> ) <sub>3</sub> Fe] <sup>8+</sup>			

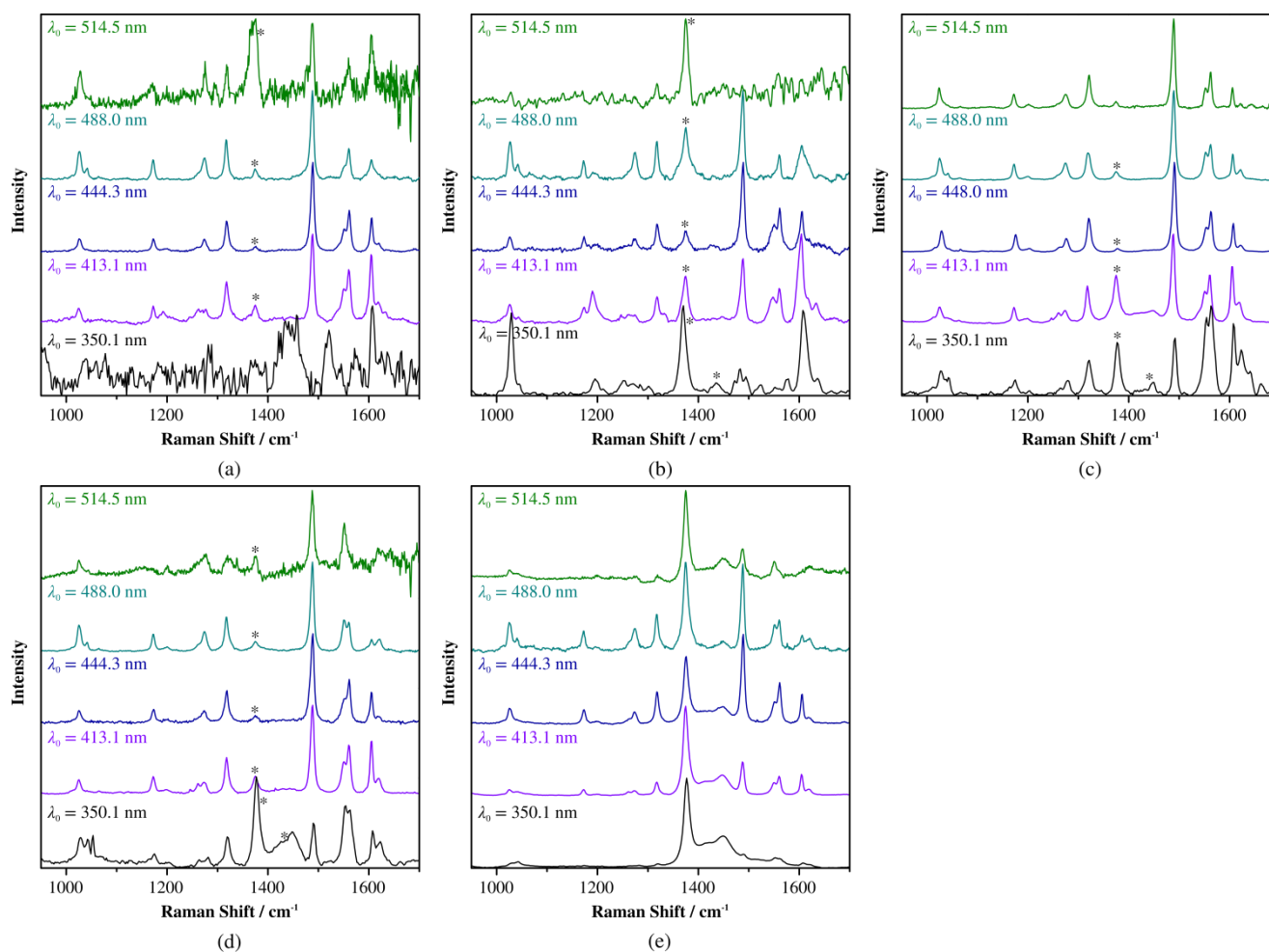


Figure S2. Resonance Raman spectra of (a) [Ru(L<sub>bt</sub>)<sup>2+</sup>, (b) [{Ru(L<sub>bt</sub>)<sub>2</sub>Zn]<sup>6+</sup>, (c) [Ru(L<sub>b2b</sub>)Fe]<sup>4+</sup>, (d) [{Ru(L<sub>b4b</sub>)<sub>3</sub>Fe]<sup>8+</sup>, (e) [{Ru(L<sub>b6b</sub>)<sub>3</sub>Fe]<sup>8+</sup>. All spectra were acquired in CH<sub>3</sub>CN. Solvent peaks are marked with asterisks.

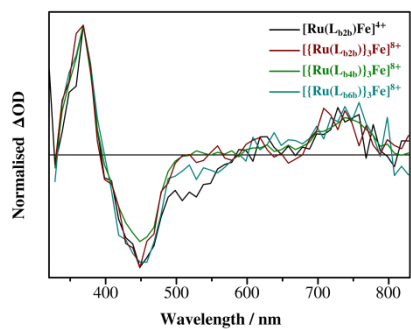


Figure S3. Transient absorption spectra of the  $\text{L}_{\text{hnb}}$ -based complexes, integrated over the first 10 ns.

