

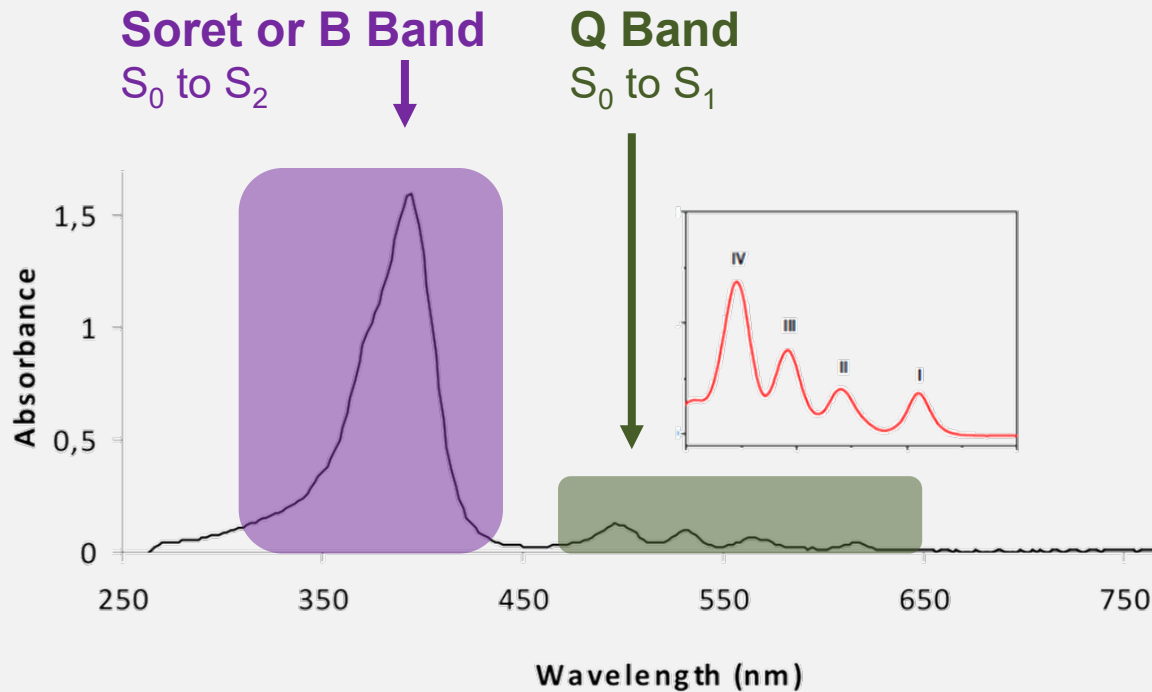
# Synthesis and Characterisation of Metallo-Porphyrin Dyads

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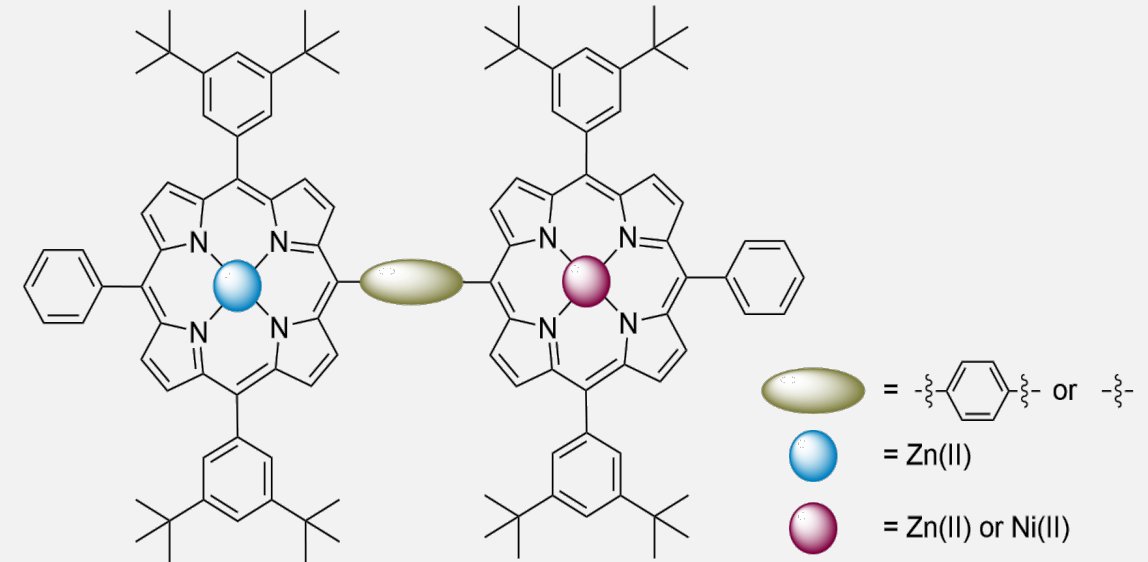
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# Introduction & Objectives



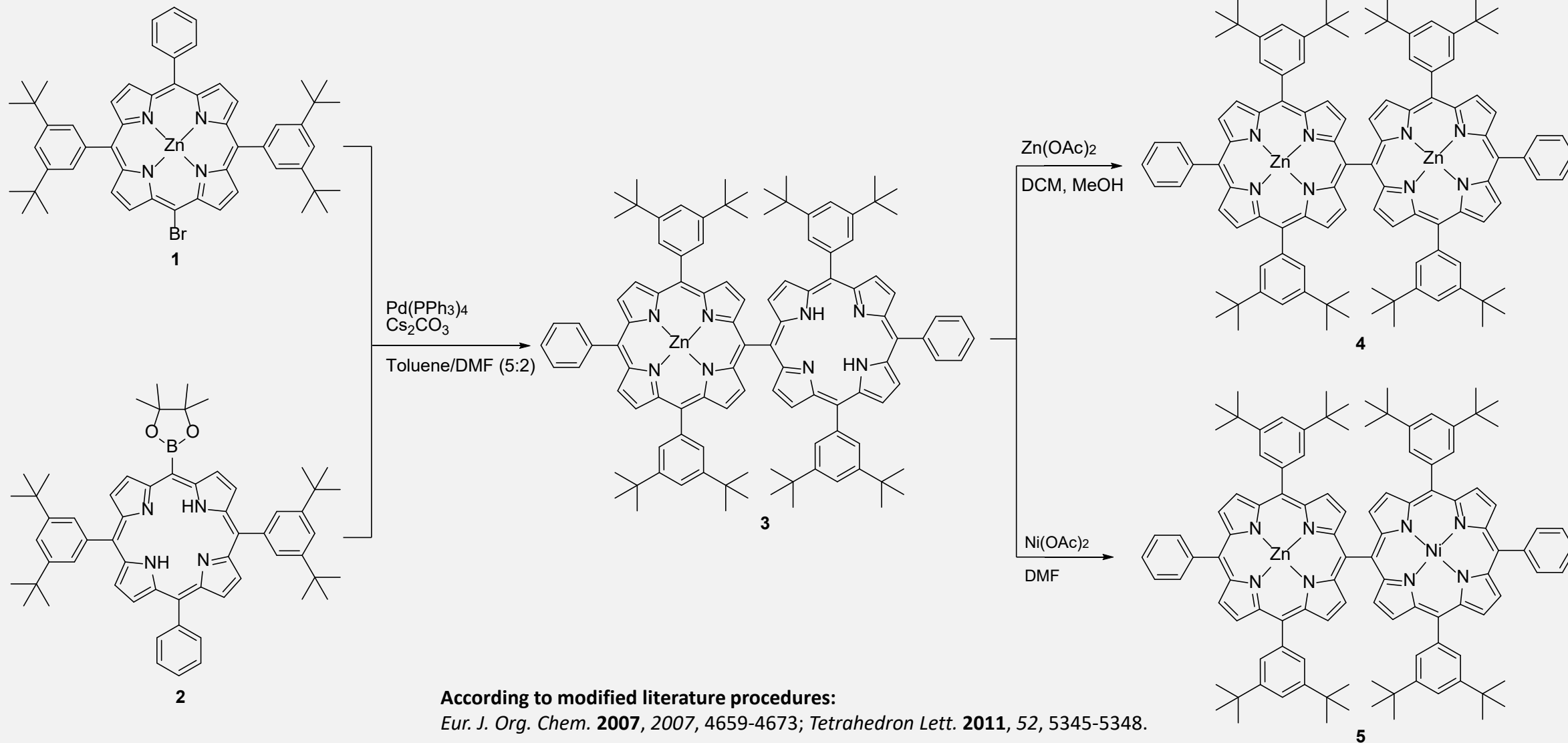
Macro to Nano Spectroscopy, 2012, ch. 6, 87-108.



- > 2D-Electronic Spectroscopy
  - Behaviour of individual monomer units
  - Intramolecular dynamics

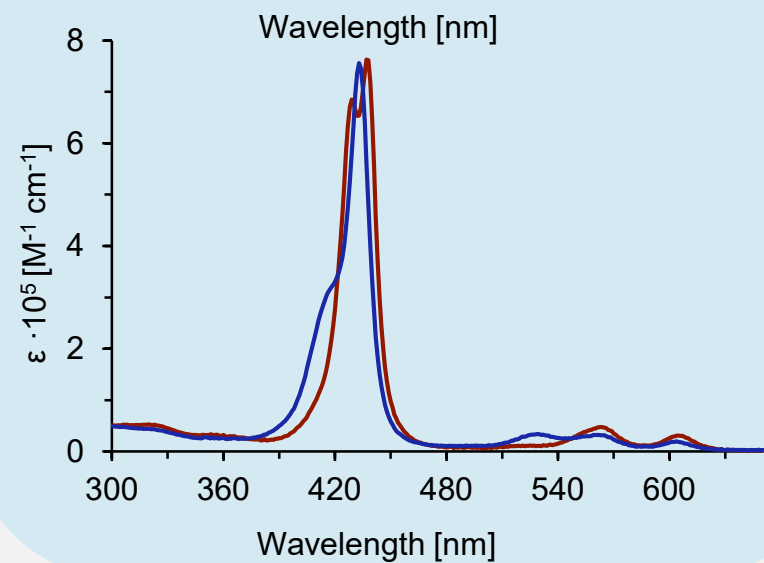
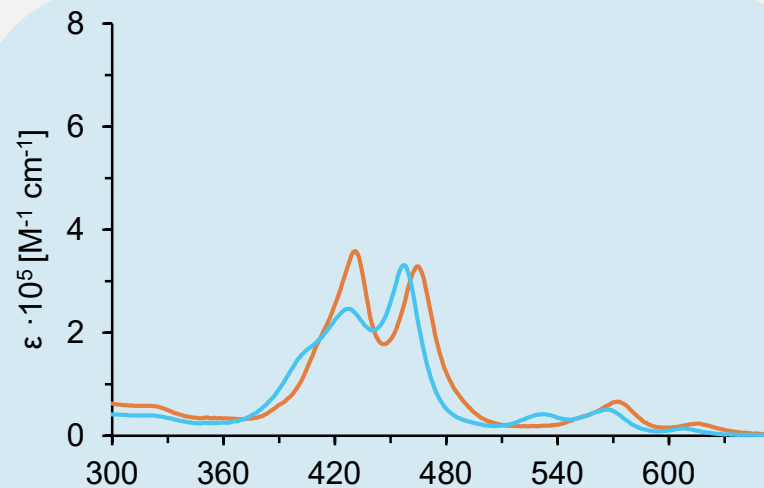
- > Porphyrin dyads with different electronic properties
  - Linker
  - Metal ion

# Synthesis – Porphyrin Dyads

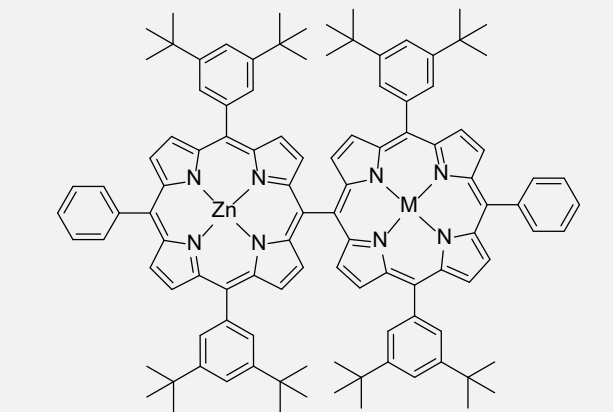


According to modified literature procedures:  
*Eur. J. Org. Chem.* **2007**, 2007, 4659-4673; *Tetrahedron Lett.* **2011**, 52, 5345-5348.

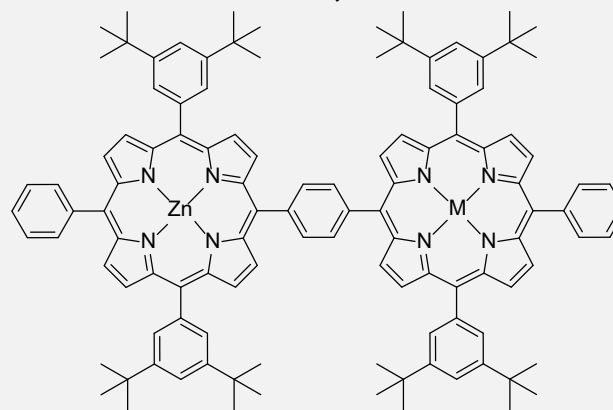
# Characterisation – UV-Vis Absorption and Fluorescence Emission Spectroscopy



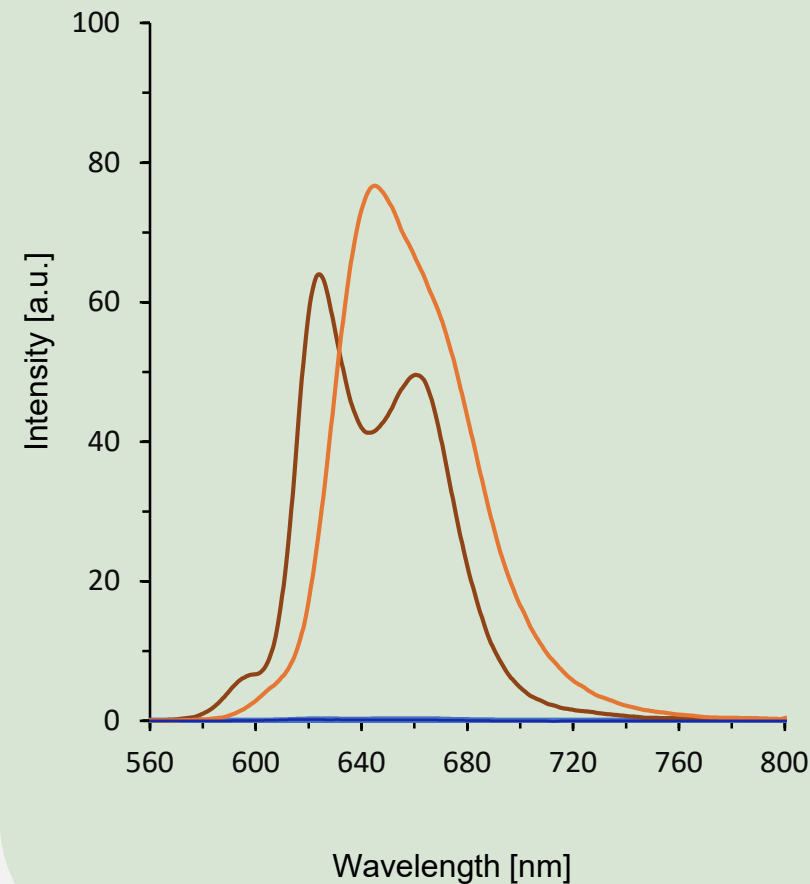
Conditions: Toluene



M: Zn, Ni



M: Zn, Ni



Conditions: Excitation at 432 nm, Toluene

# Conclusion & Outlook

- > 4 *meso-meso* linked zinc-zinc and zinc-nickel porphyrin dyads were successfully synthesized and characterized.
- > Electronic properties of the dyads are affected by insertion of different metal ions and linkers.
- > Detailed information on dynamics in ground and excited states of the dyads are going to be studied by 2D-Electronic spectroscopy at EPFL, which allows us to monitor energy transfer processes in the dyads.

## Acknowledgments

- > Collaborators: Chergui Group (EPFL)

