

Supporting information:

New Fluorescent Tetraphenylporphyrin-Based Dendrimers with Alkene
-Linked Fluorenyl Antennae designed for Oxygen Sensitization

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1. ^1H NMR spectra of D1-PhBr and D2-PhBr intermediates

Figure S1: ^1H NMR spectrum (400 MHz) of **D1-PhBr** in CDCl_3 .

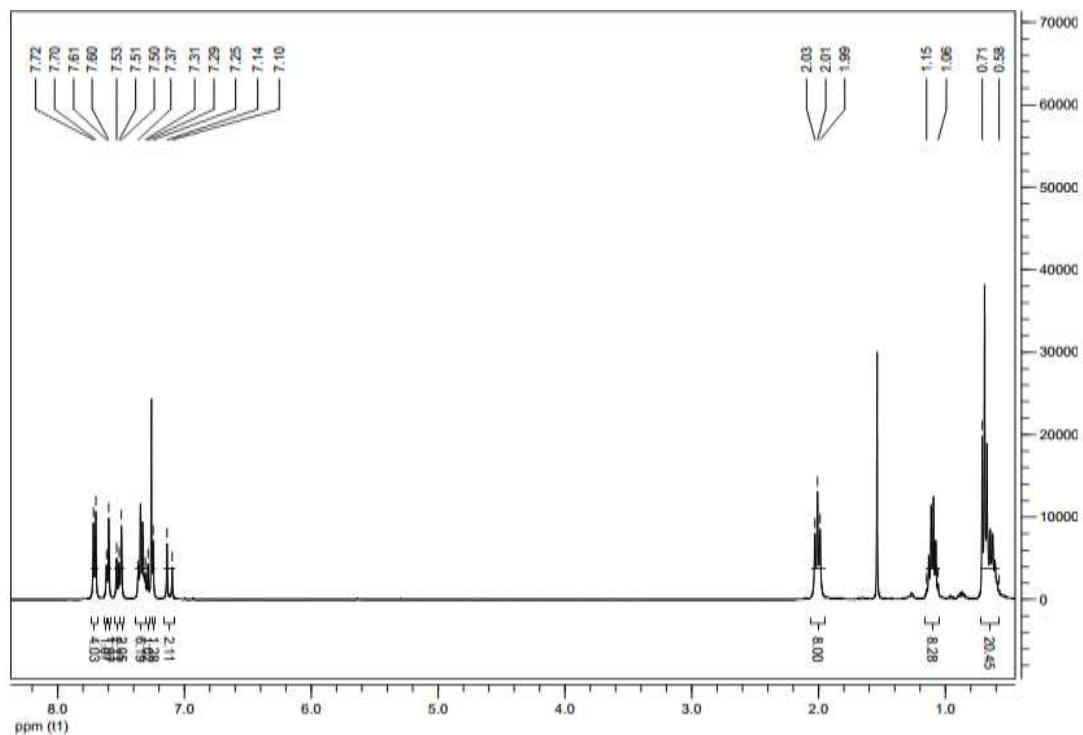
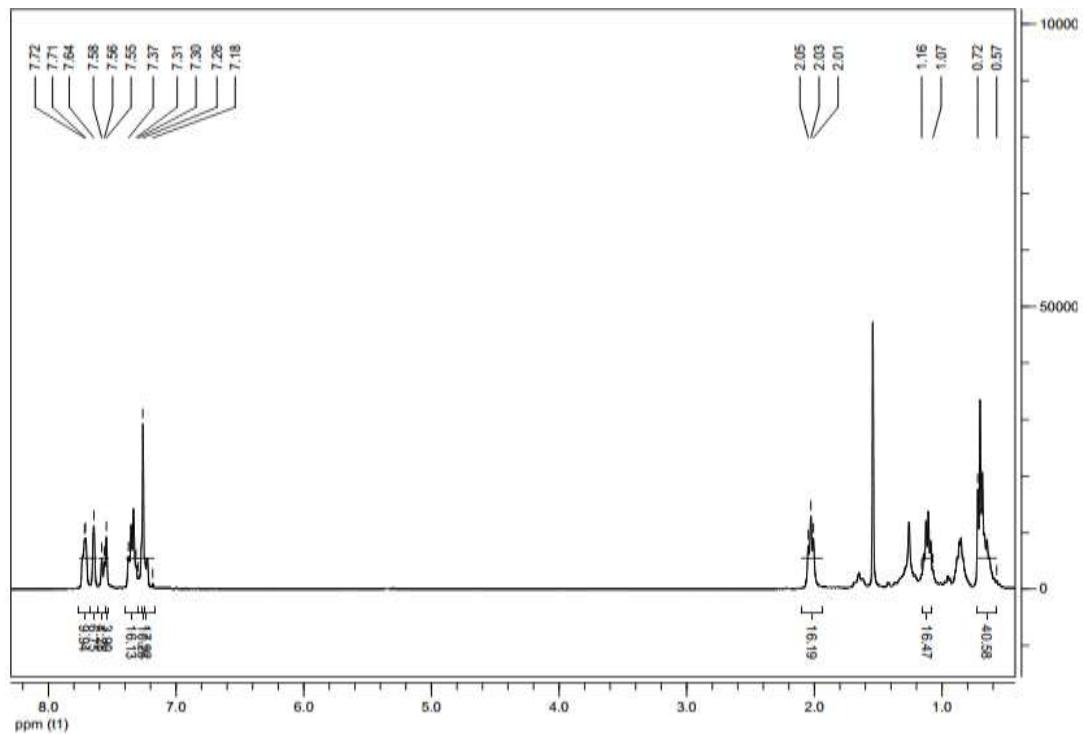


Figure S2: ^1H NMR spectrum (400 MHz) of **D2-PhBr** in CDCl_3 .



2. ^1H NMR spectra of the new dendrons D1-PhCHO and D2-PhCHO

Figure S3: ^1H NMR spectrum (400 MHz) of **D1-PhCHO** in CDCl_3 .

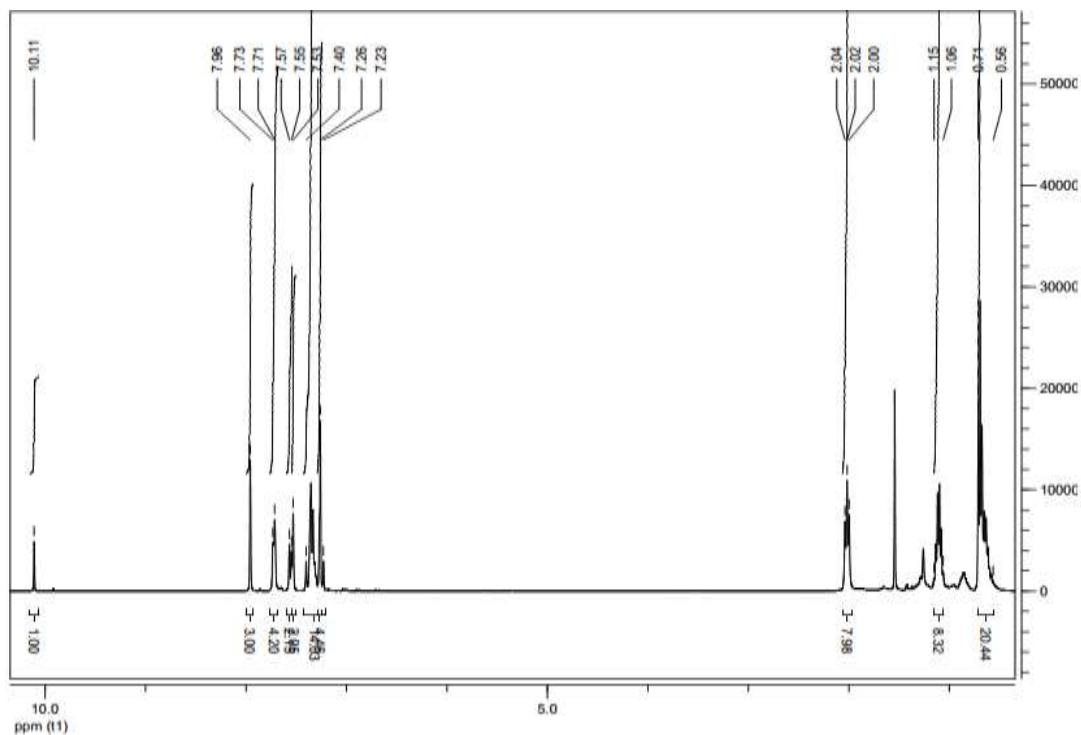
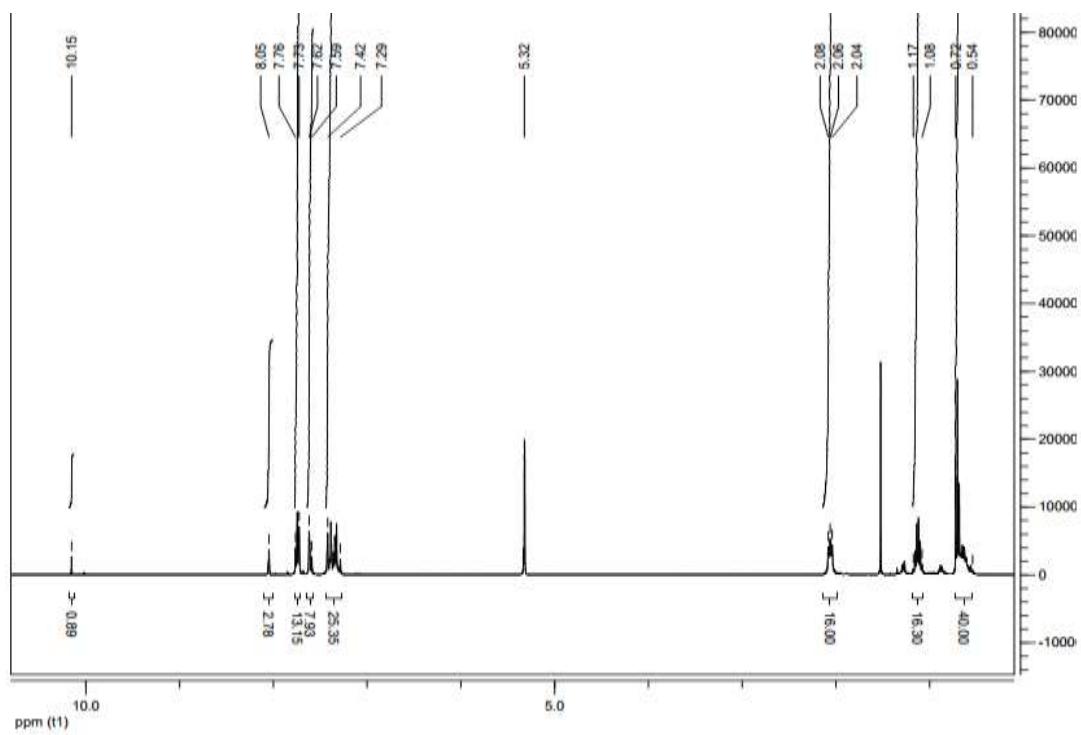


Figure S4: ^1H NMR spectrum (400 MHz) of **D2-PhCHO** in CD_2Cl_2 .



3. ^1H NMR spectra of dendrimers TPP-D2, ZnTPP-D2 and overlay of the partial spectra of TPP-D2 and the corresponding zinc complex ZnTPP-D2

Figure S5: Partial (a) and full (b) ^1H NMR spectrum (400 MHz) of **TPP-D2** in CDCl_3 .

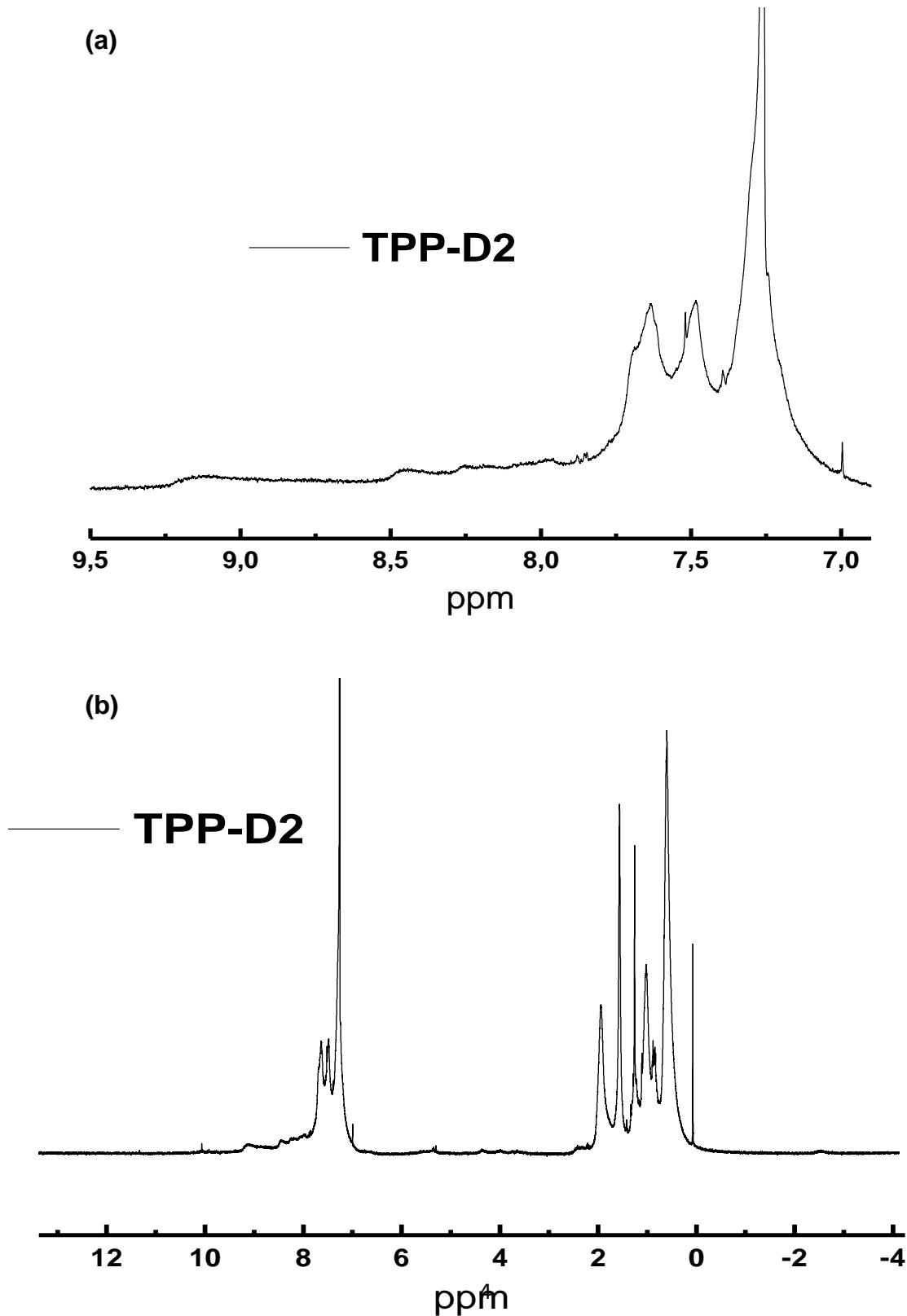


Figure S6: Partial (a) and full (b) ^1H NMR spectrum (400 MHz) of **ZnTPP-D2** in CD_2Cl_2 .

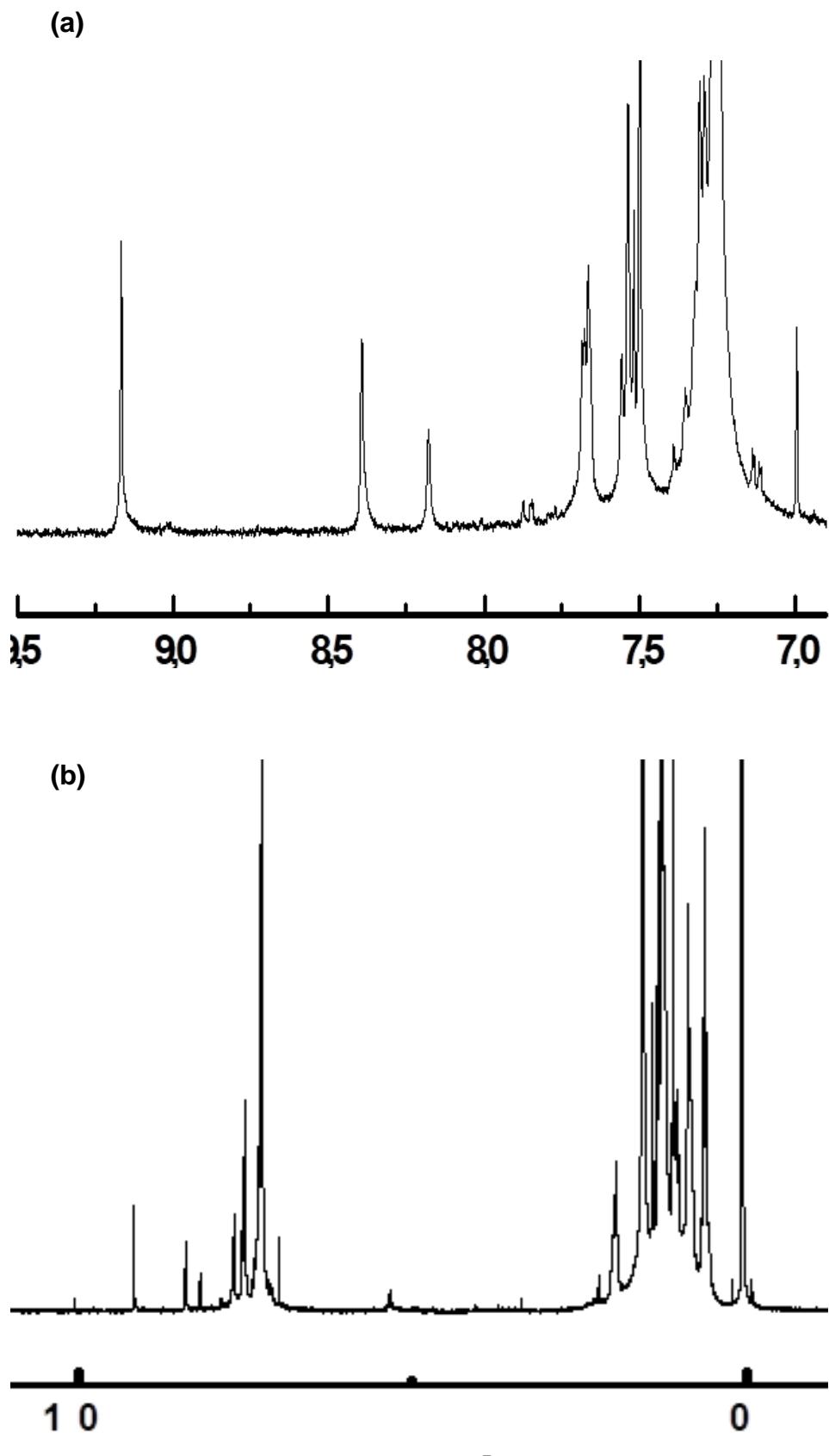
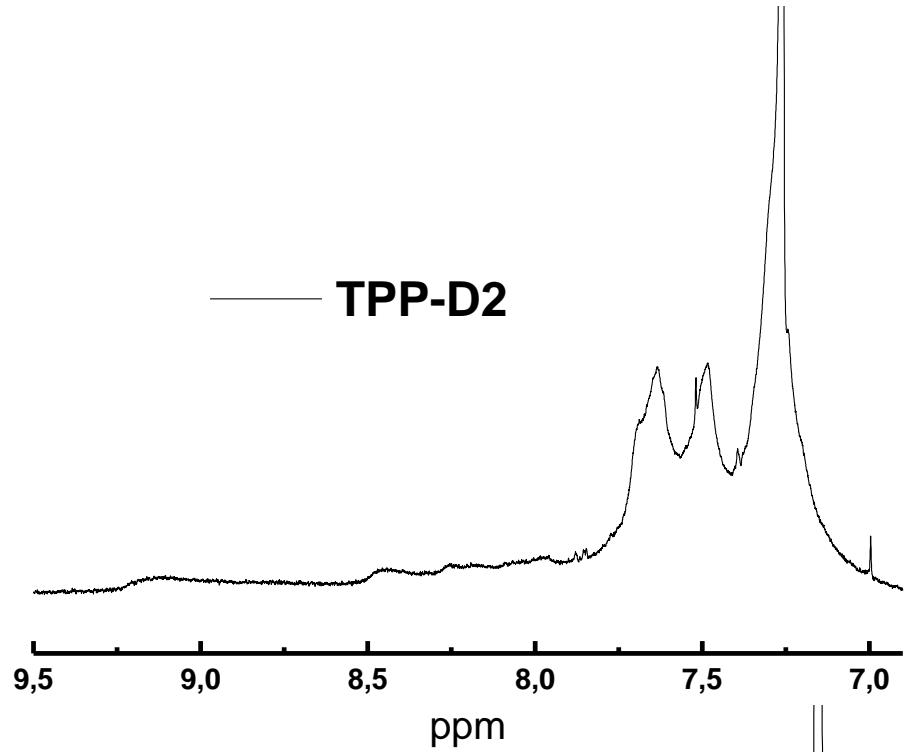
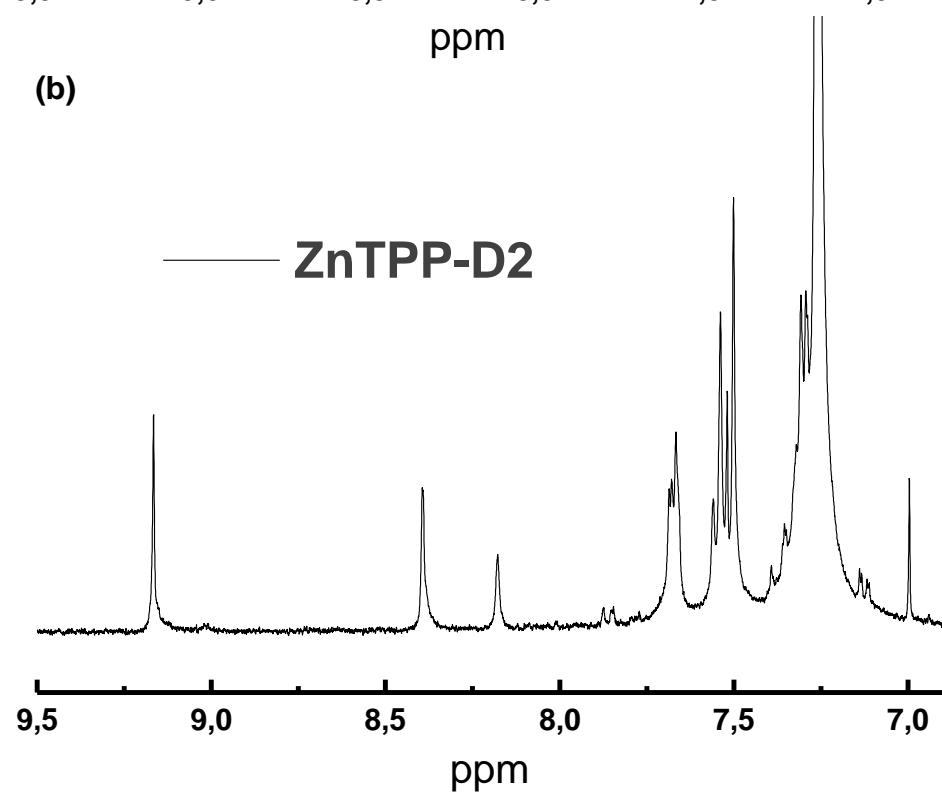


Figure S7: Overlaid partial ^1H NMR spectra (400 MHz) of **TPP-D2** (a) and **ZnTPP-D2** (b) in CDCl_3 .

(a)

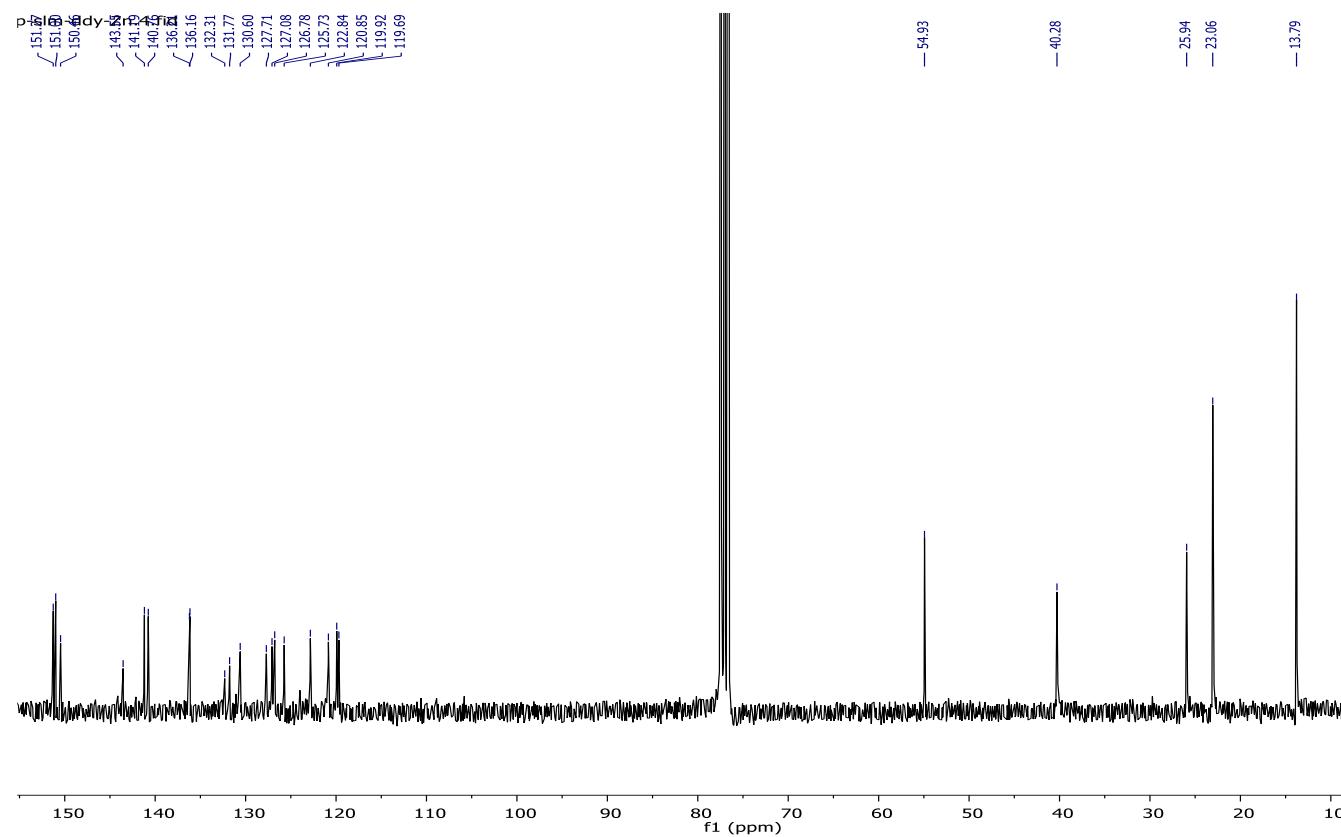


(b)



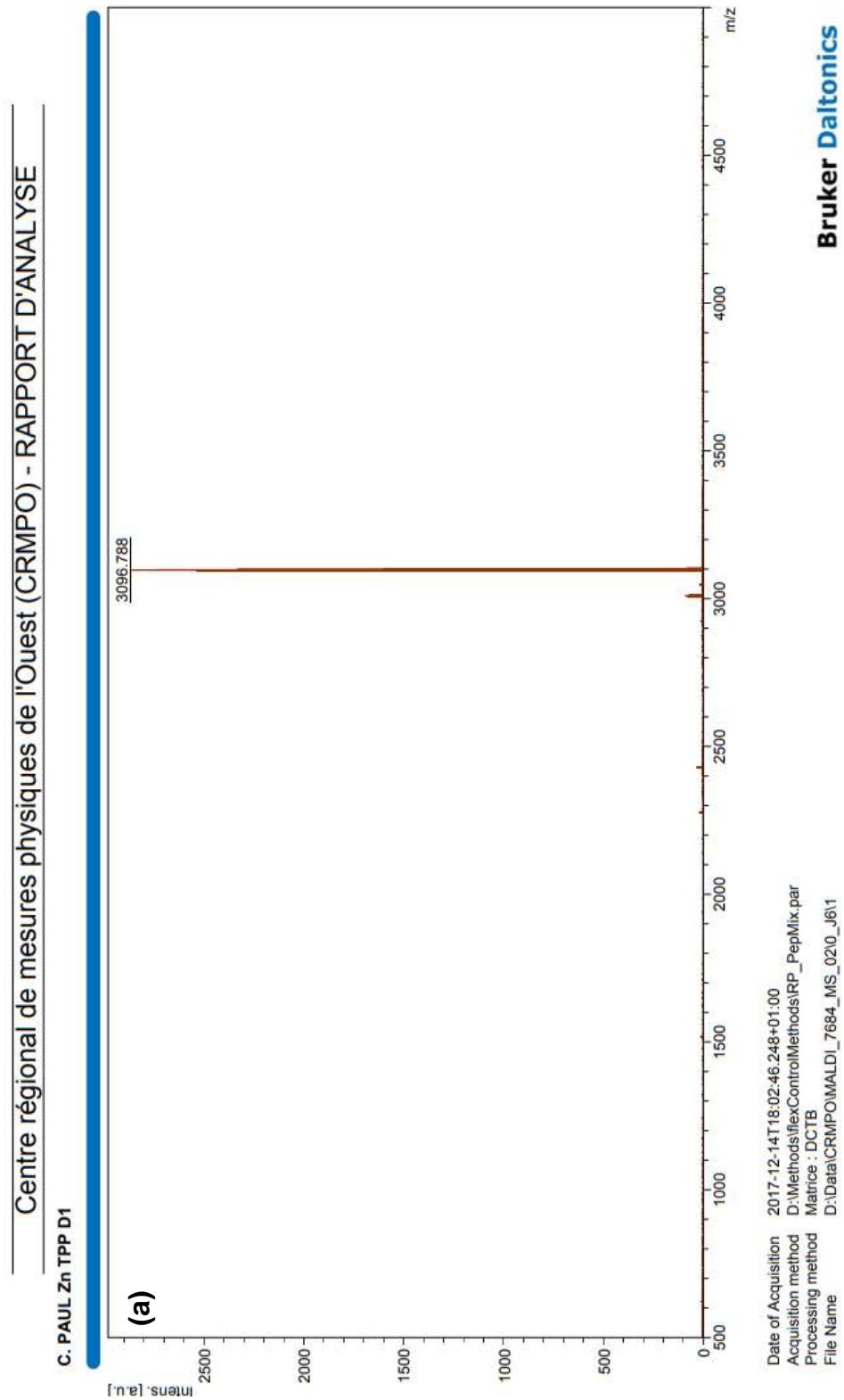
4. ^{13}C NMR spectrum of dendrimer Zn TPP-D1

Figure S8: ^1H NMR spectrum (400 MHz) of ZnTPP-D1 in CDCl_3 .



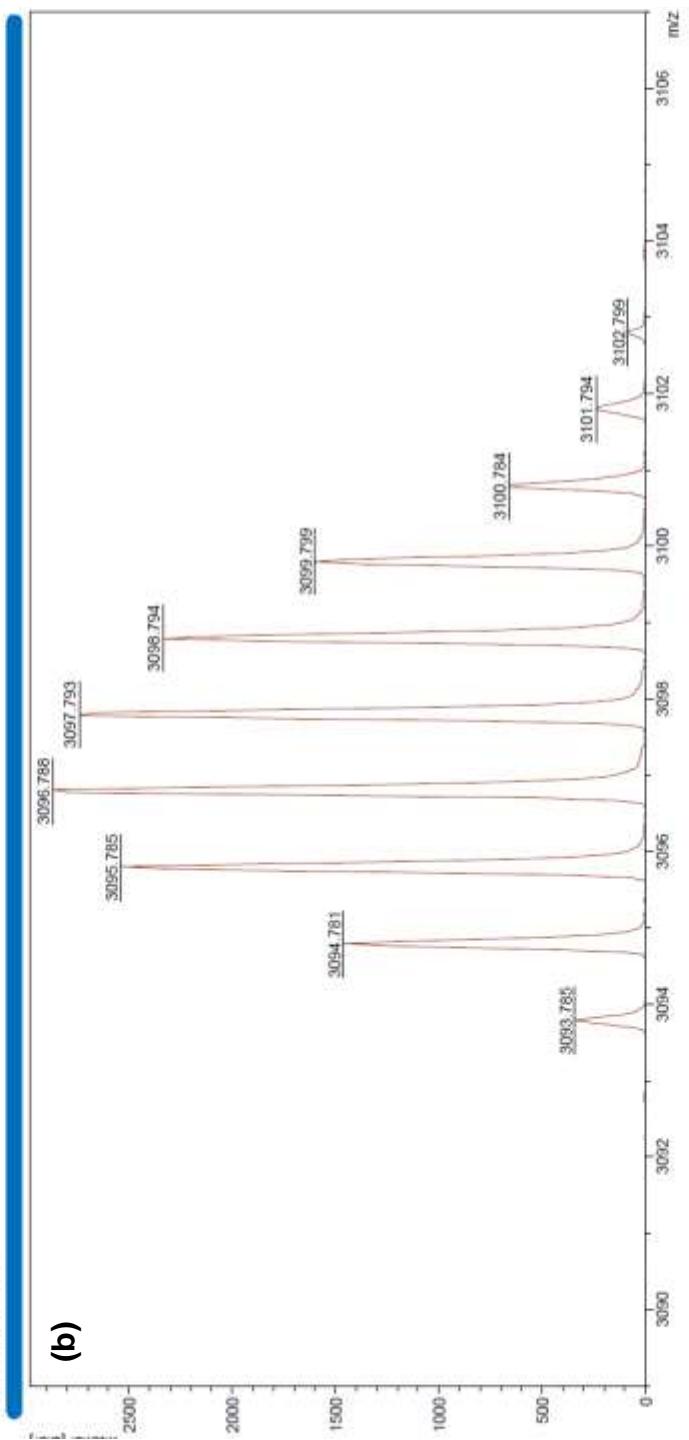
5. High resolution mass spectra of dendrimer ZnTPP-D1

Figure S9: HRMS of **ZnTPP-D1** (a) and detail of the molecular paak (b).



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C. PAUL_Zn TPP D1

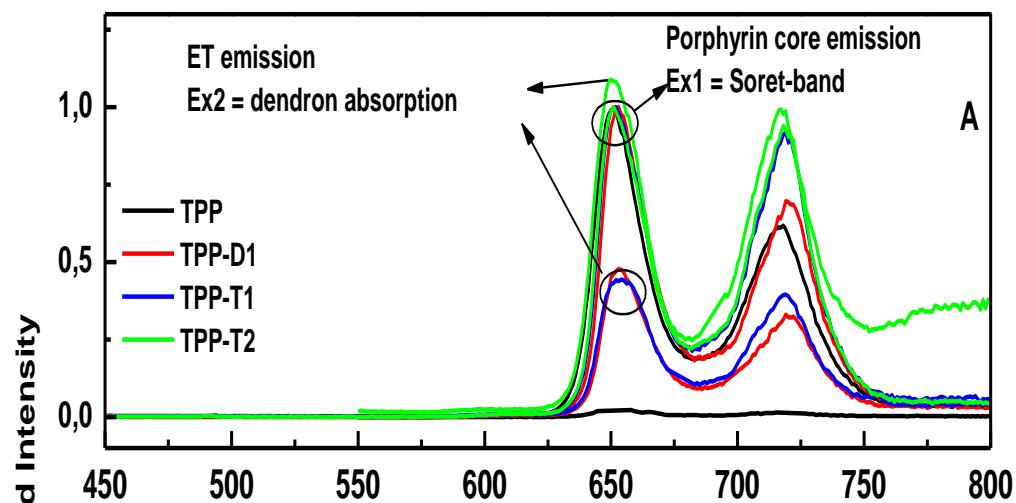


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6. Photophysical study of the intramolecular energy transfer process

Figure S10: Emission spectra recorded using two excitation wavelengths: Ex₁ in the Soret-band and Ex₂ in the dendron absorption for TPP-cored Dendrimers: **TPP**, **TPP-D1** compared to **TPP-T1**, **TPP-T2** (for **TPP**, Ex₂ is performed at 325 nm). All intensities are normalizing the intensity of porphyrin core emission on the Q(0,0) band.



7. Dependence of Intensity vs. Fluence for Dendrimers ZnTPP-D1 and ZnTPP-D2

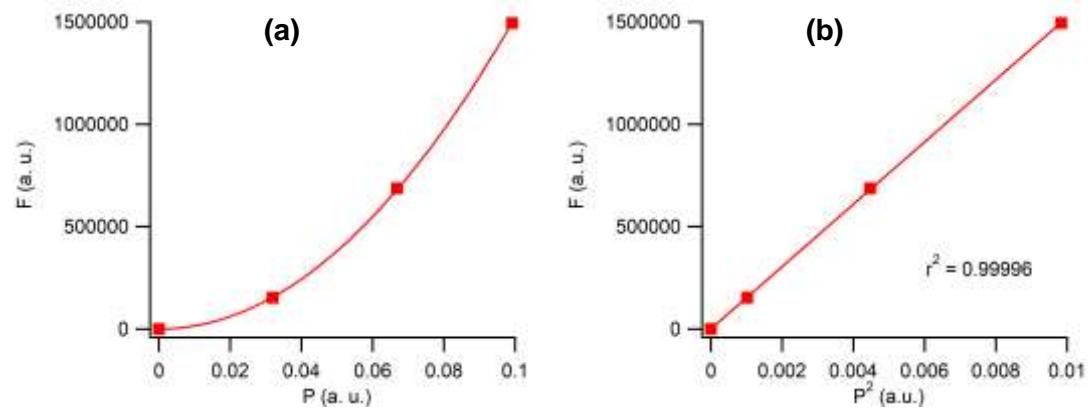


Figure S11. (a) Quadratic Dependence of the Emission Intensity (F) on the Laser Excitation Power (P) and (b) Dependence of F on P^2 for Compound **ZnTPP-D1** at 790 nm.

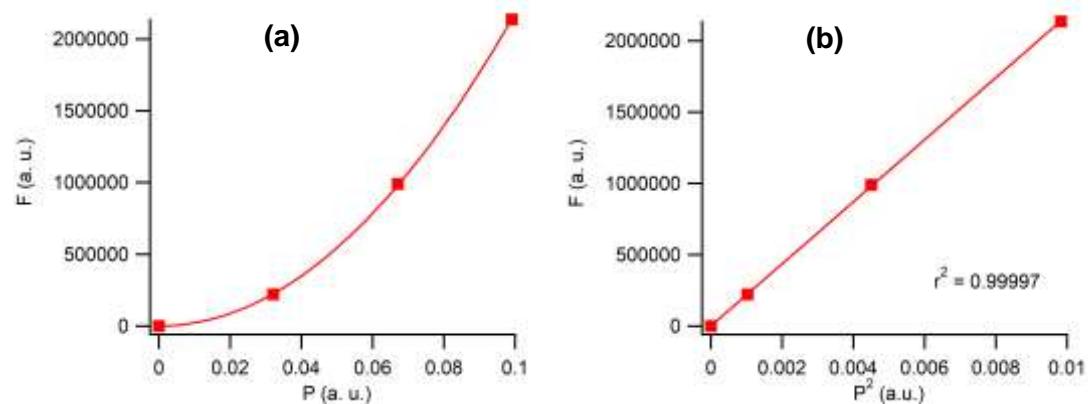


Figure S12. (a) Quadratic Dependence of the Emission Intensity (F) on the Laser Excitation Power (P) and (b) Dependence of F on P^2 for Compound **ZnTPP-D2** at 790 nm.