

Photophysical and bactericidal properties of pyridinium and imidazolium porphyrins for photodynamic antimicrobial chemotherapy

Florent Le Guern ¹, Tan-Sothea Ouk ², Issabayev Yerzhan ³, Yesmurzayeva Nurlykyz ³, Phillippe Arnoux ³, Céline Frochot ³, Stéphanie Leroy-Lhez ², Vincent Sol ^{2,*}

¹ Université Paris-Saclay, UVSQ, CNRS, Institut Lavoisier de Versailles, 78035, Versailles, France

² Université de Limoges, Laboratoire PEIRENE, EA 7500, 123 Avenue Albert Thomas, 87060 Limoges Cedex, France.

³ Université de Lorraine, Laboratoire Réactions et Génie des Procédés (LRGP), UMR 7274 CNRS, ENSIC, 1 rue Grandville, 54000 Nancy, France.

*Corresponding author: Tel.: +33(0)-5-5545-7490; fax: +33(0)-5-5545-7202; e-mail: vincent.sol@unilim.fr

Figure S1. 1H NMR analysis of 1a	2
Figure S2. 1H NMR analysis of 1b	2
Figure S3. 1H NMR analysis of 1d	3
Figure S4. 1H NMR analysis of 2a	3
Figure S5. 1H NMR analysis of 2b	4
Figure S6. 1H NMR analysis of 2d	4
Figure S7. 1H NMR analysis of 3a	5
Figure S8. 1H NMR analysis of 3b	5
Figure S9. 1H NMR analysis of 3c	6
Figure S10. 1H NMR analysis of 4a	6
Figure S11. 1H NMR analysis of 4b	7
Figure S12. 1H NMR analysis of 4c	7
Figure S13. 1H NMR analysis of 5a	8
Figure S14. 1H NMR analysis of 5b	8
Figure S15. 1H NMR analysis of 5e	9
Figure S16. 1H NMR analysis of 6a	9
Figure S17. 1H NMR analysis of 6b	10
Figure S18. 1H NMR analysis of 6e	10
Figure S19. Fluorescence spectrum of 4d in ethanol ($\lambda_{exc} = 414$ nm). The primary amine function does not lead to the quenching of the emission in this case	11

FL-AN-01bis dans CDCl₃+CD3OD - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

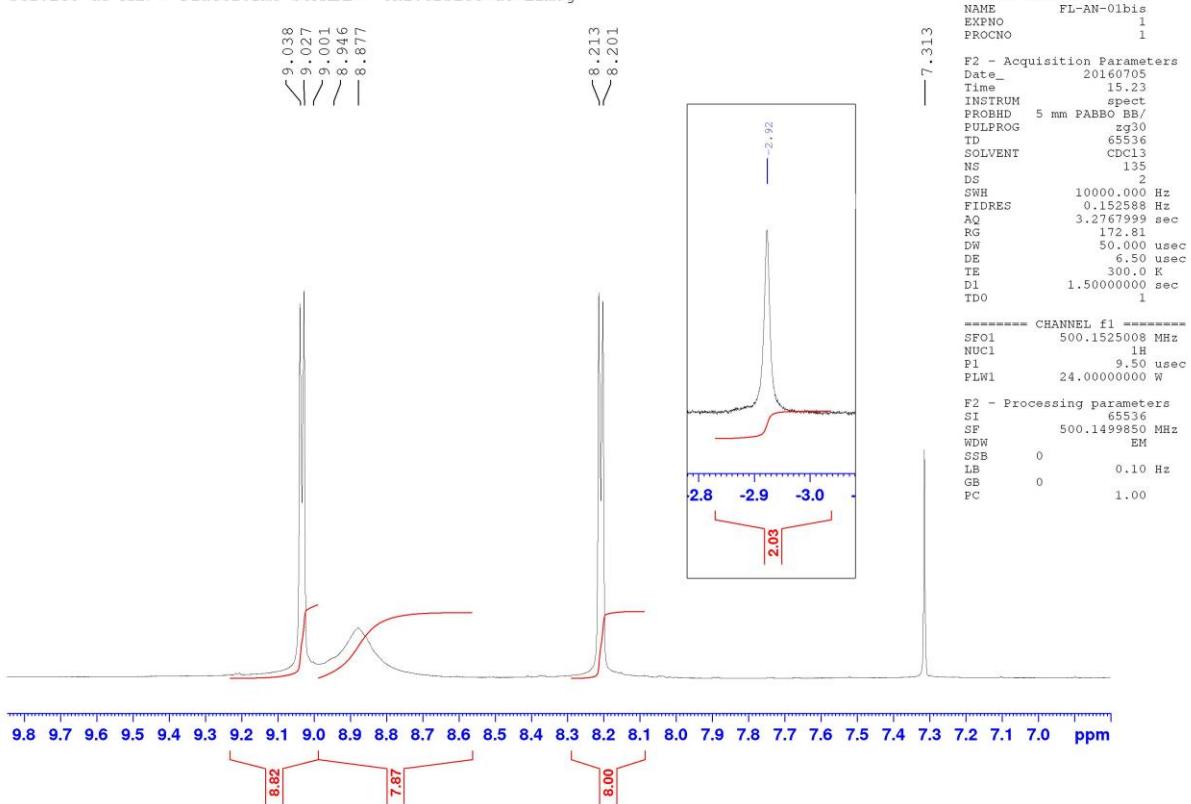


Figure S1. 1H NMR analysis of 1a.

FL-AN-05-TFA dans CDCl₃(90) / CD3OD(10) + TFA - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

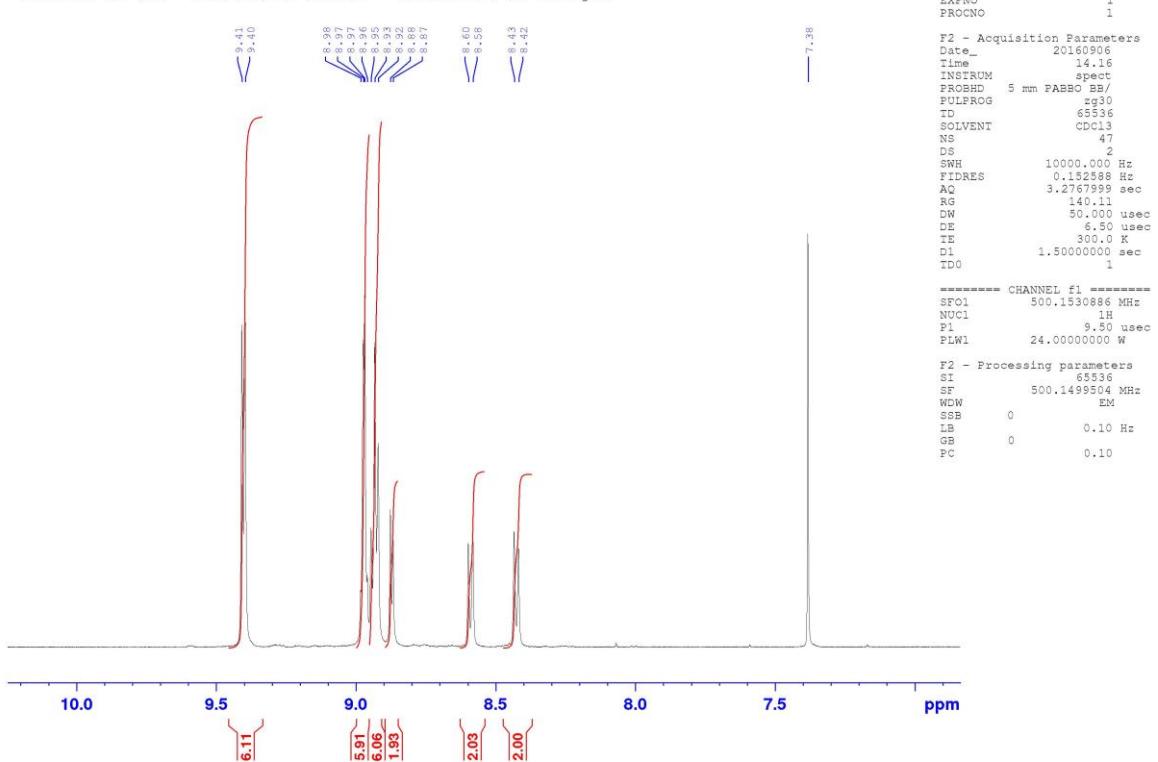


Figure S2. 1H NMR analysis of 1b.

FL-AN-03 dans CDCl₃ (90) + CD₃OD (10) - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

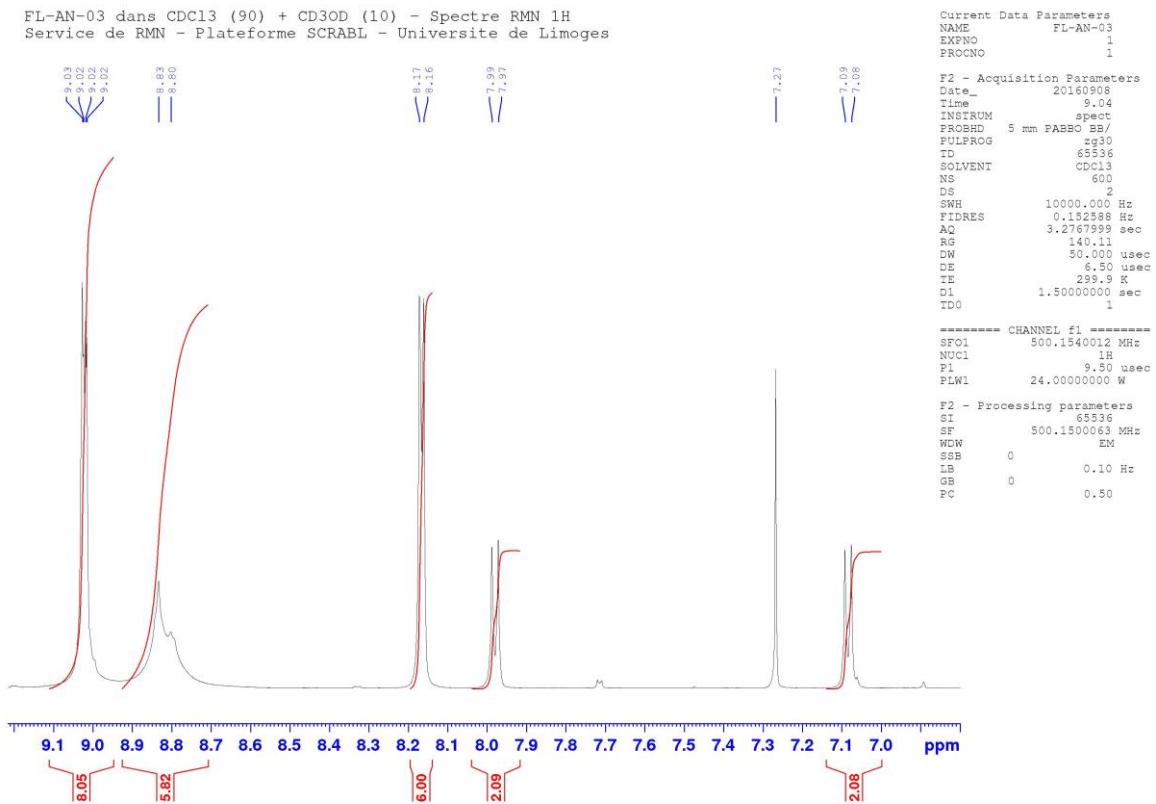


Figure S3. 1H NMR analysis of 1d.

FL-AN-02 dans DMSO-d₆ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

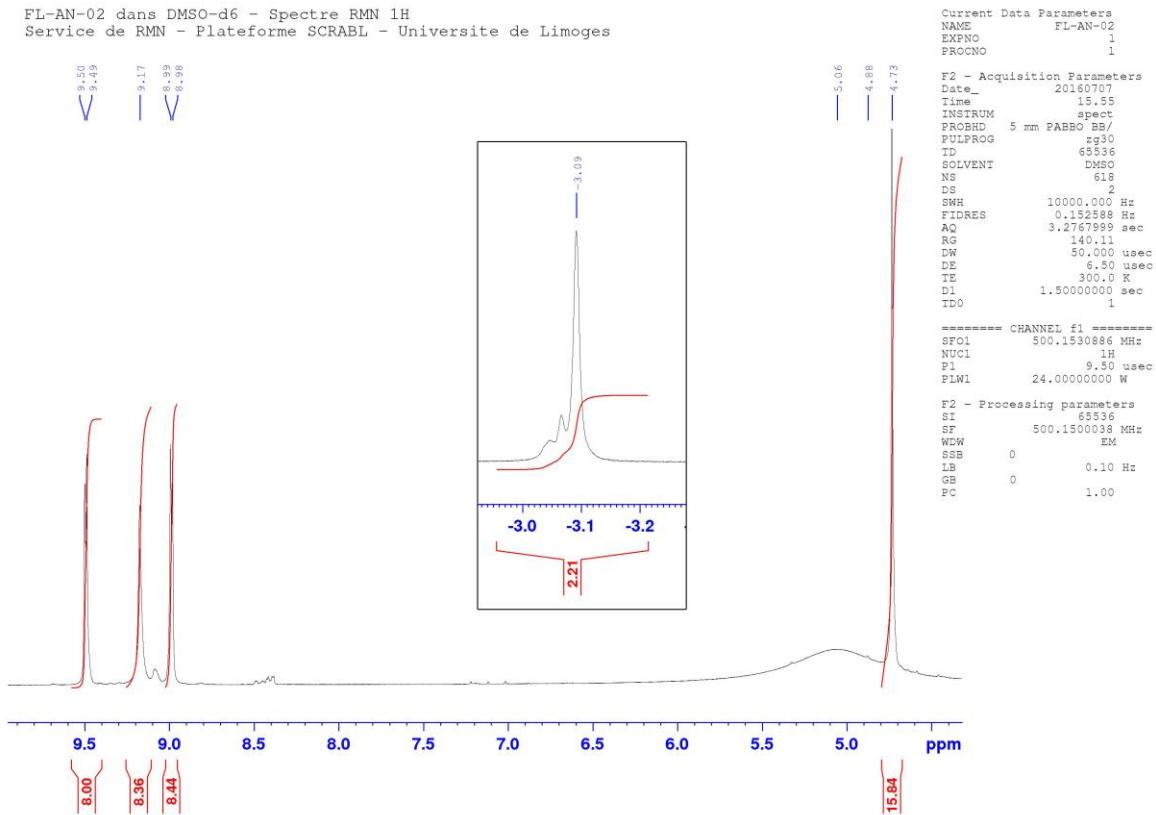


Figure S4. 1H NMR analysis of 2a.

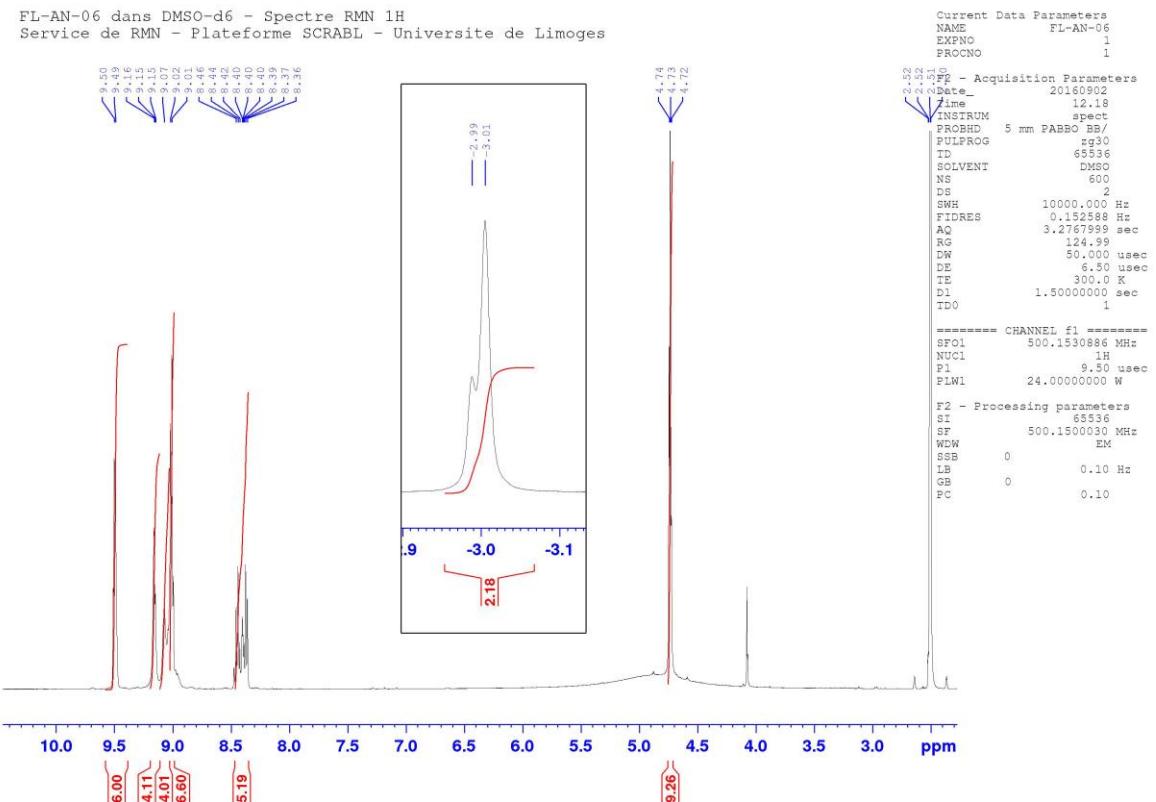


Figure S5. ^1H NMR analysis of 2b.

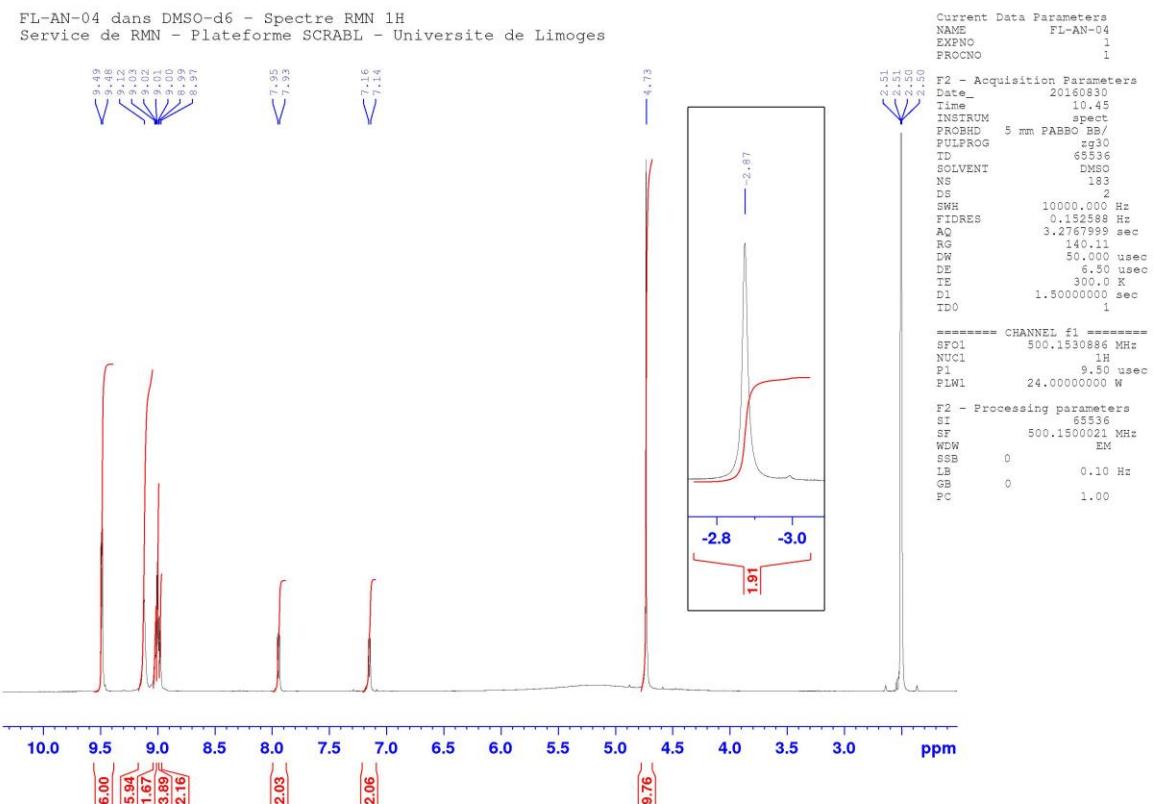


Figure S6. ^1H NMR analysis of 2d.

FL-AN-07 dans CDCl₃ (90) + CD₃OD (10) - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

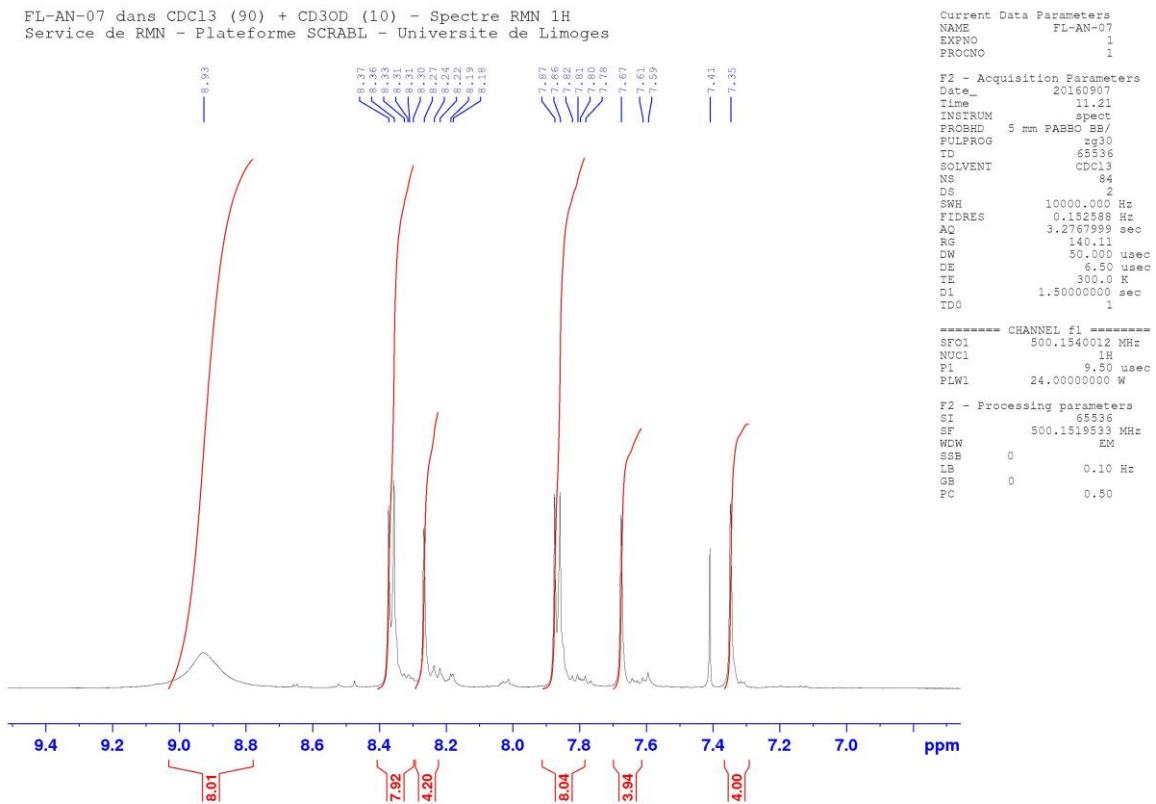


Figure S7. 1H NMR analysis of 3a.

FL98 dans CD₃OD+CD₂C₁₂ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

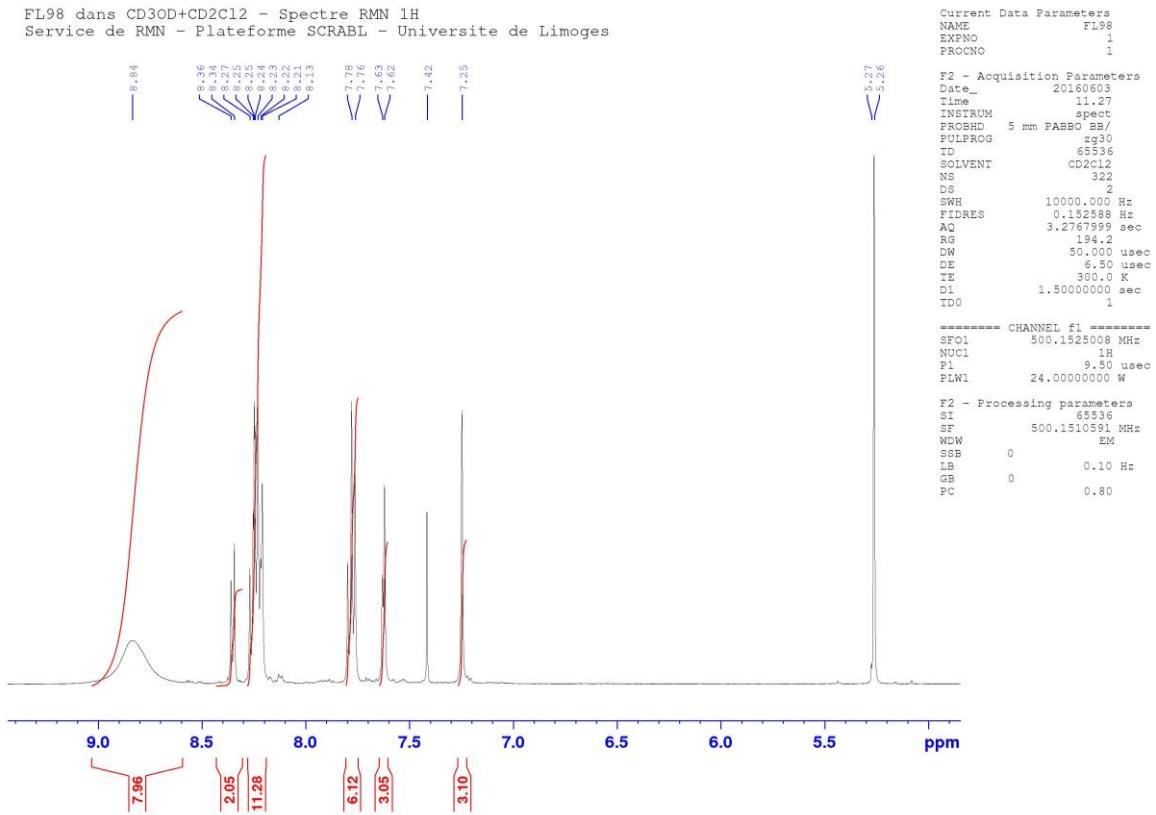


Figure S8. 1H NMR analysis of 3b.

FL94-1 dans CDCl₃ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

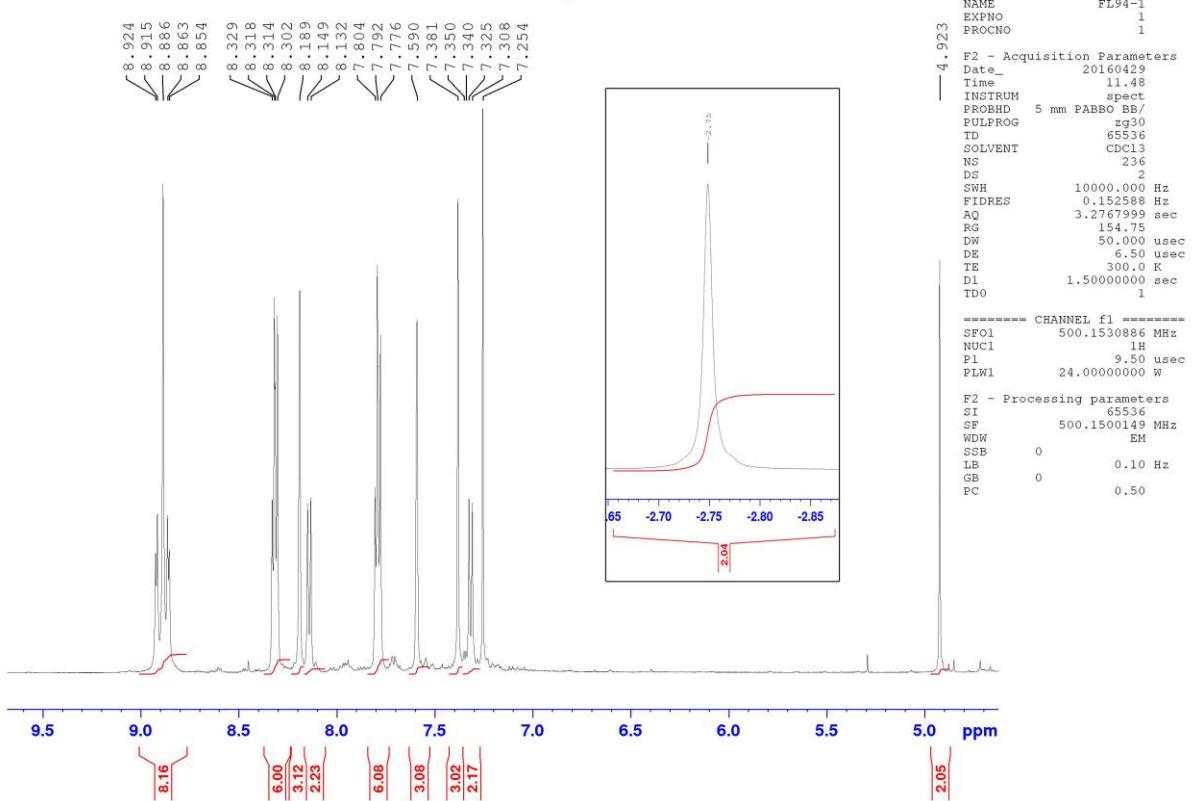


Figure S9. 1H NMR analysis of 3c.

FL-AN-08 dans DMSO-d₆ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

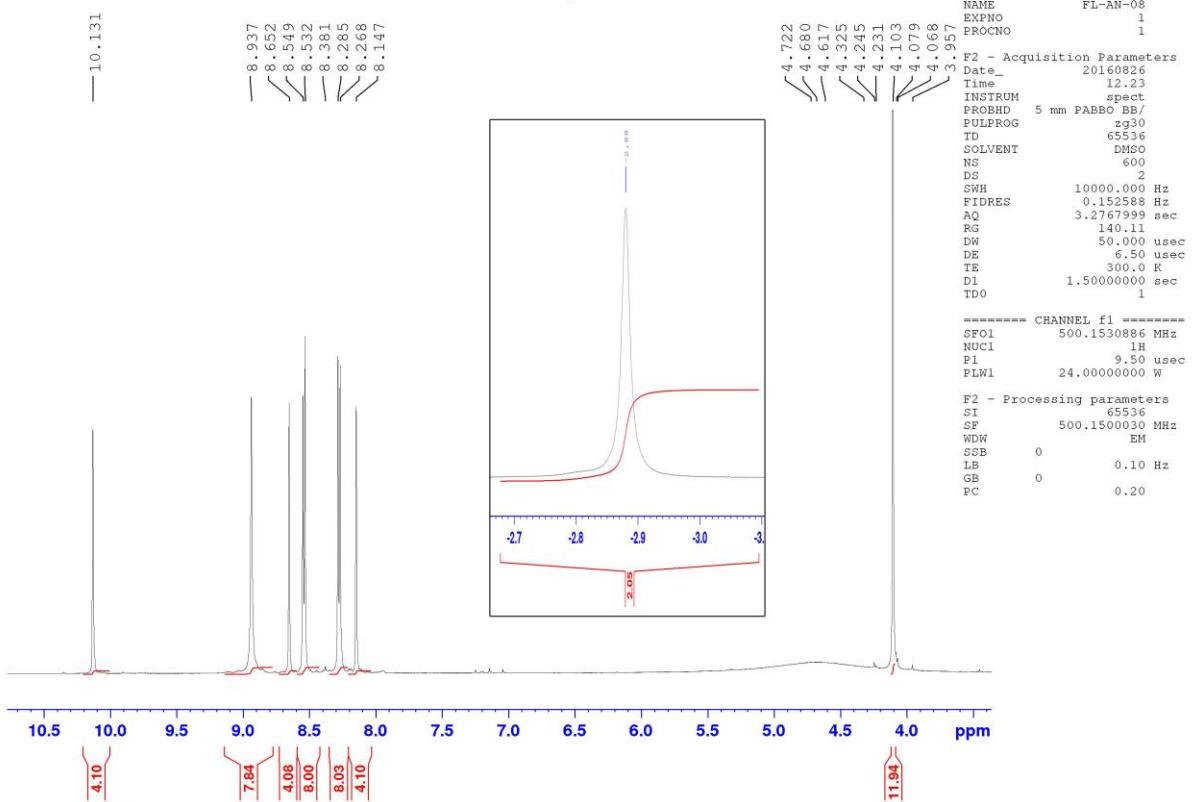


Figure S10. 1H NMR analysis of 4a.

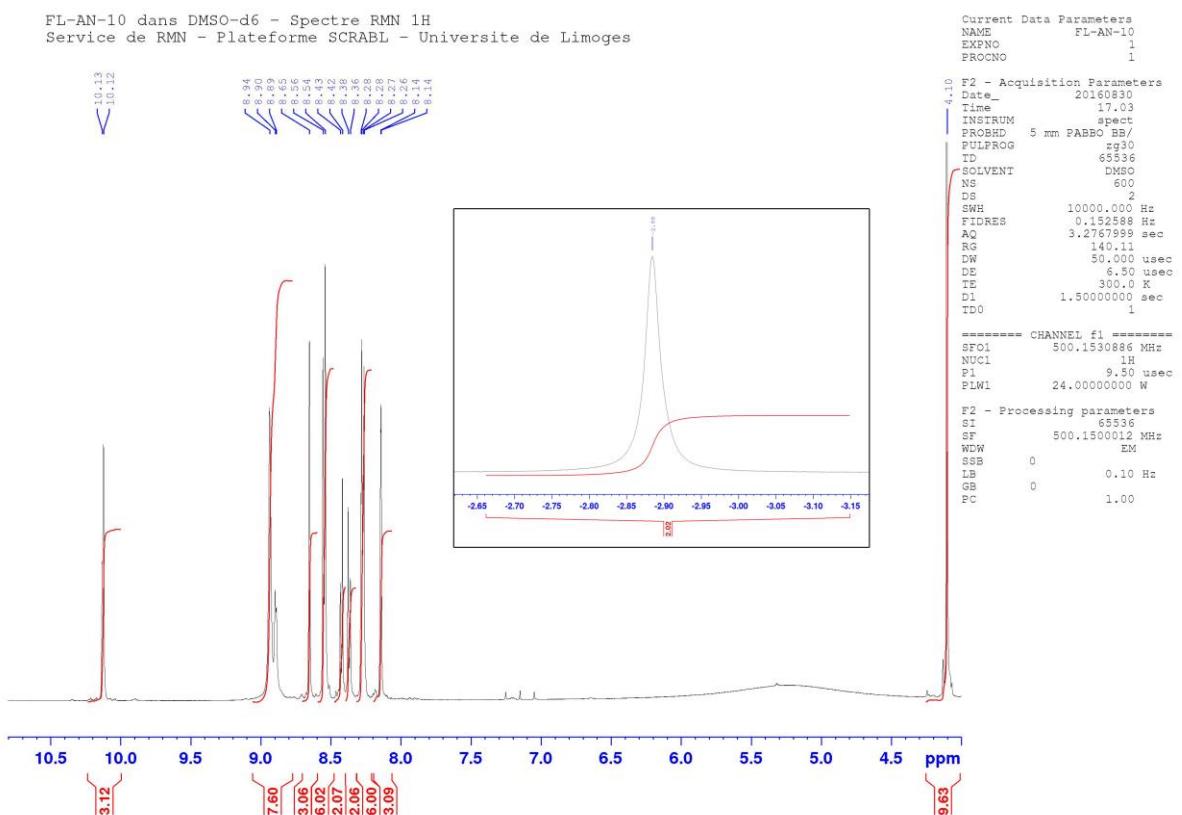


Figure S11. ^1H NMR analysis of 4b.

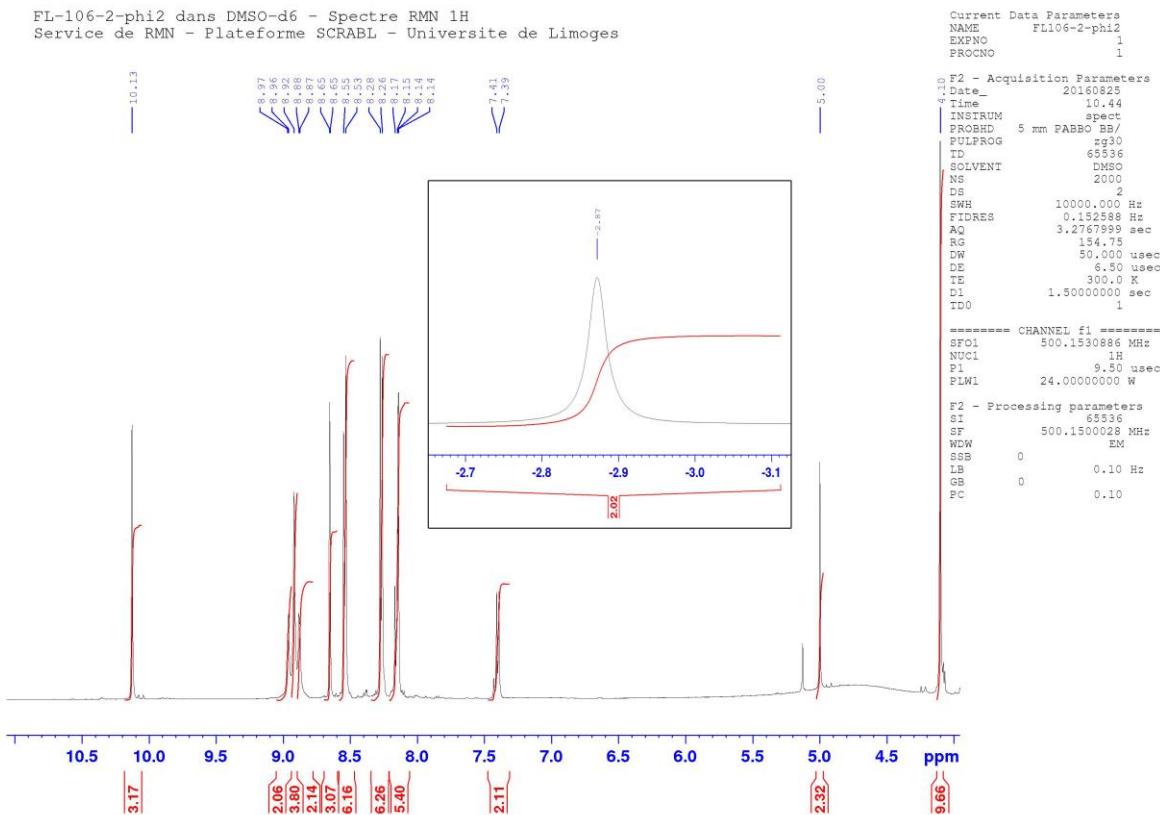


Figure S12. ^1H NMR analysis of 4c.

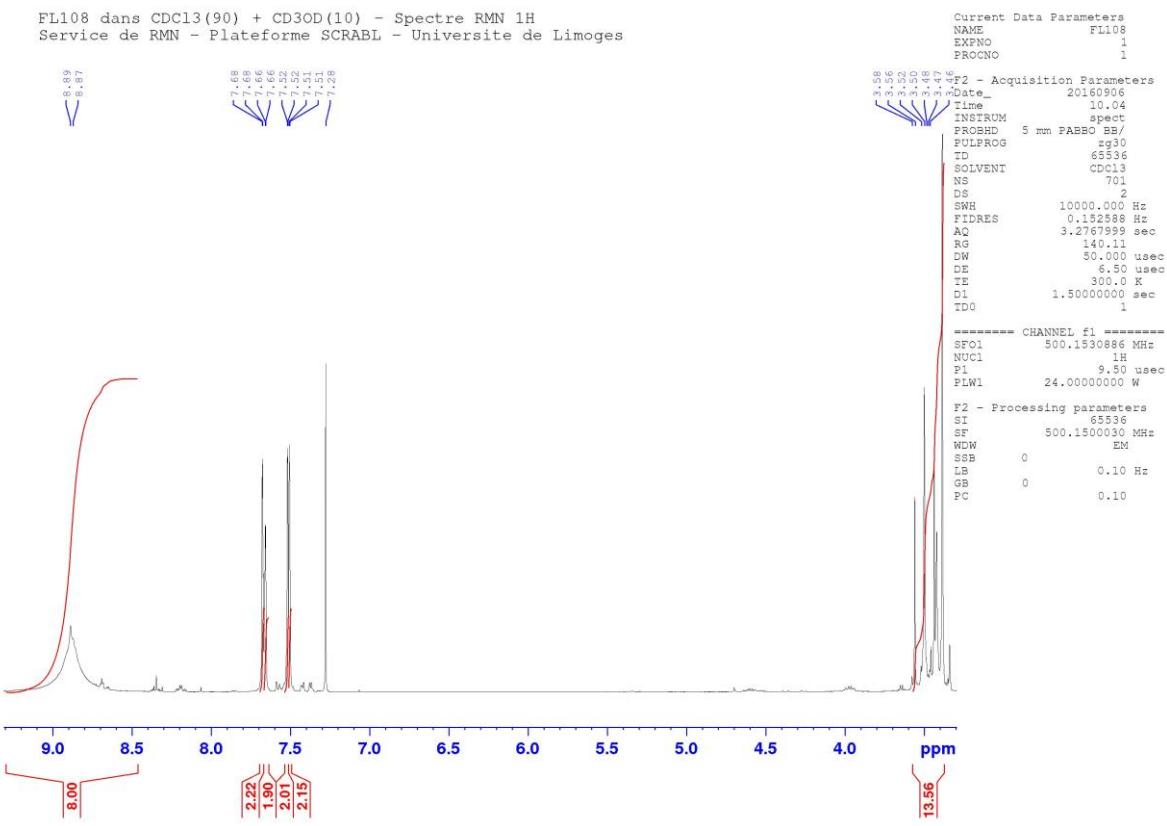


Figure S13. ^1H NMR analysis of 5a.

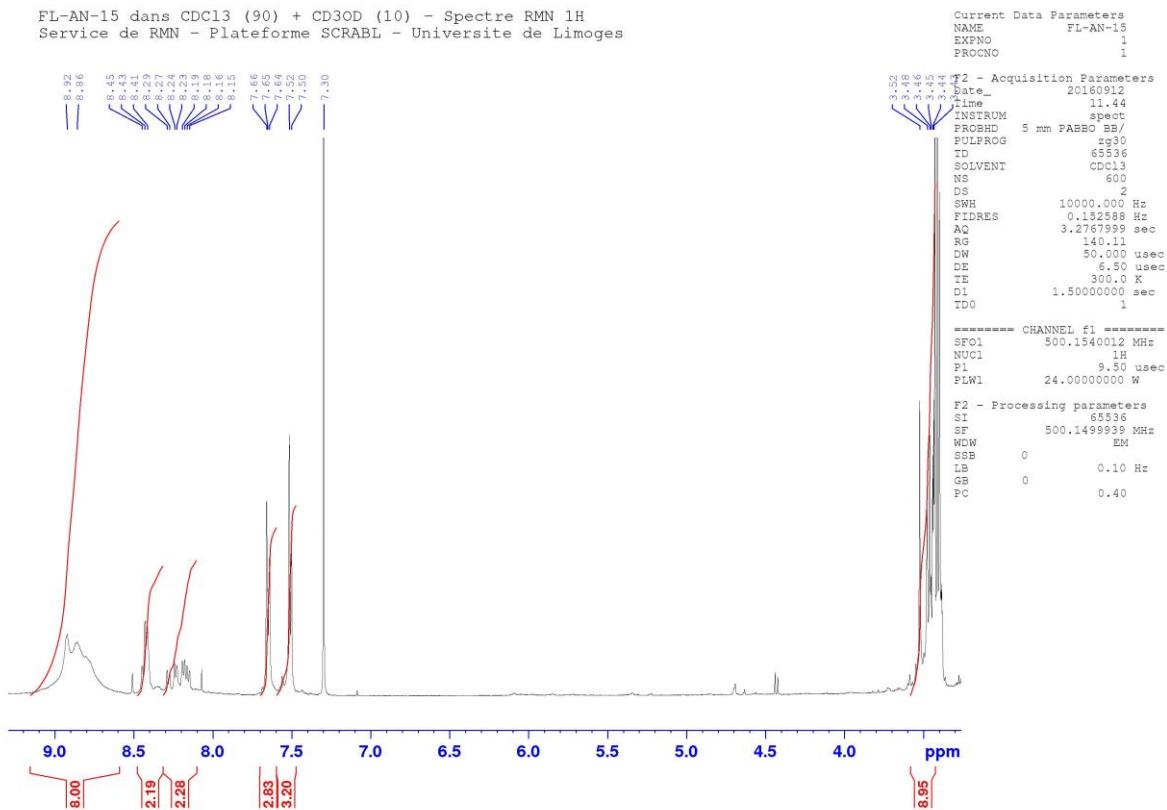


Figure S14. ^1H NMR analysis of 5b.

FL103-1 dans CDCl₃ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

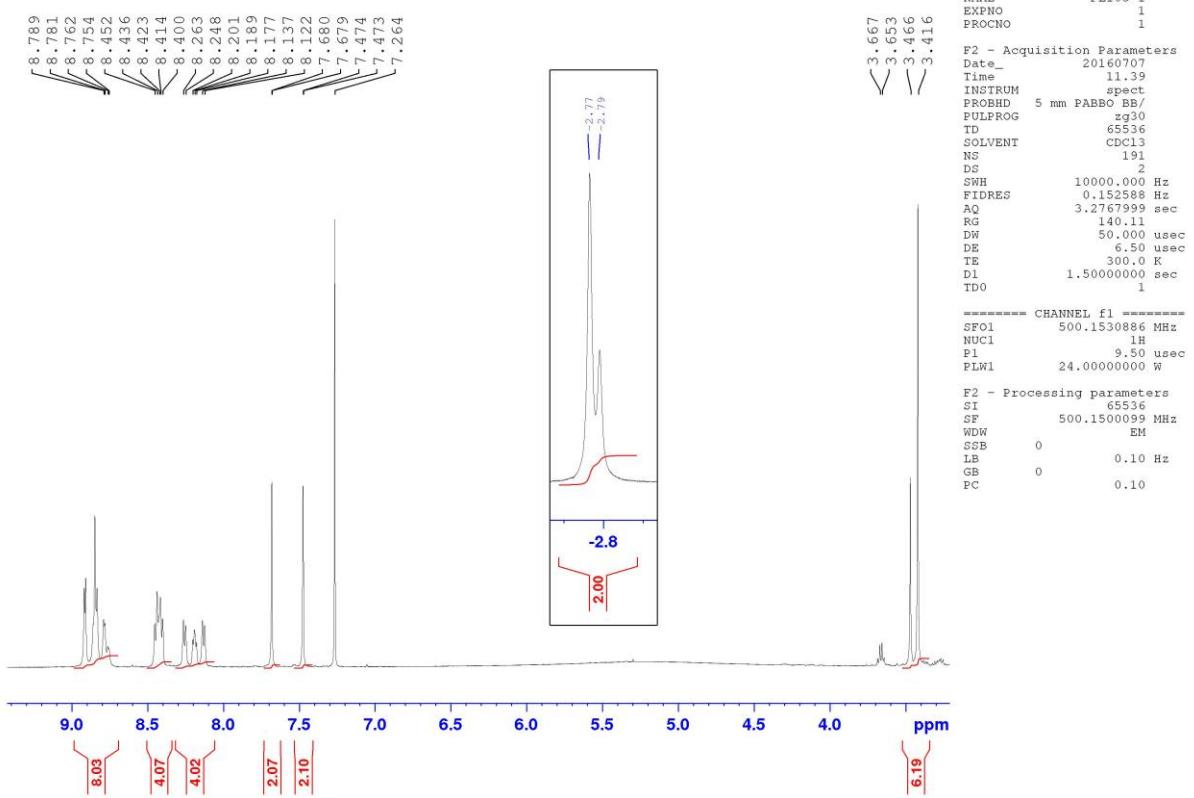


Figure S15. 1H NMR analysis of 5e.

FL108-2-C18(bis) dans DMSO-d6 - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

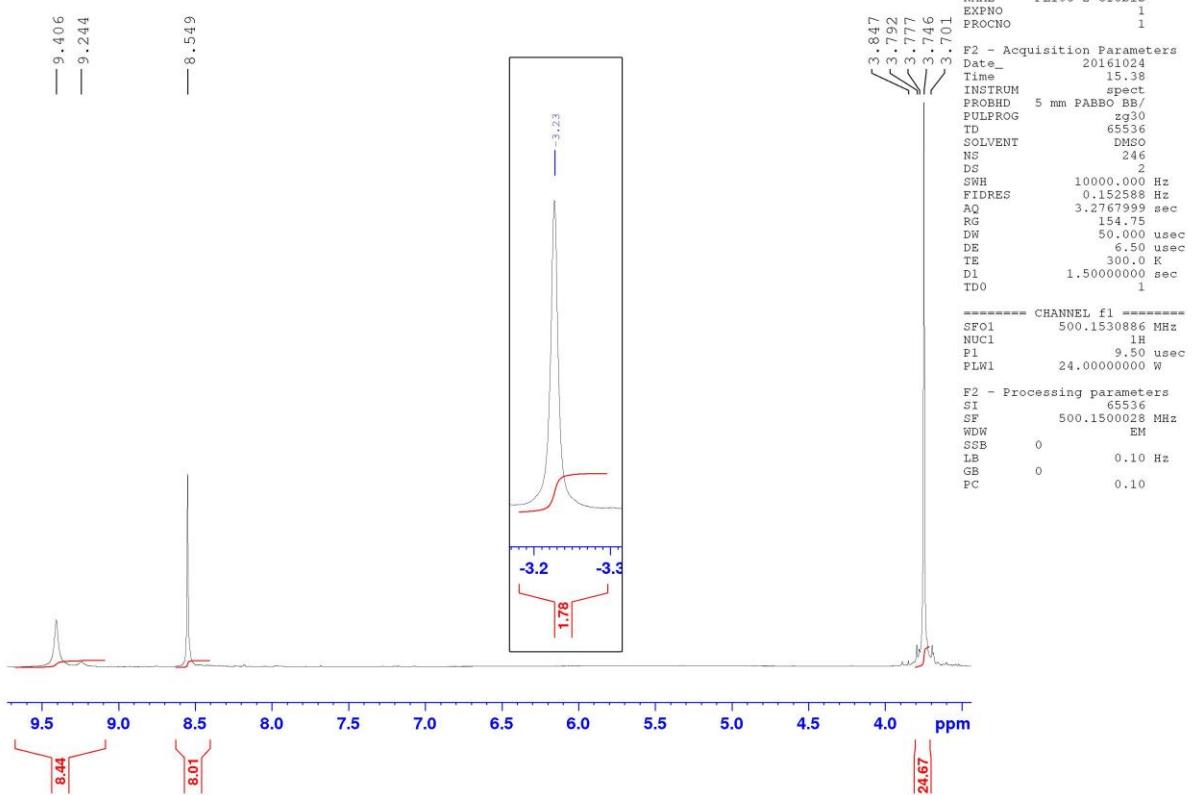


Figure S16. 1H NMR analysis of 6a.

FL-AN-16 dans DMSO-d₆ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

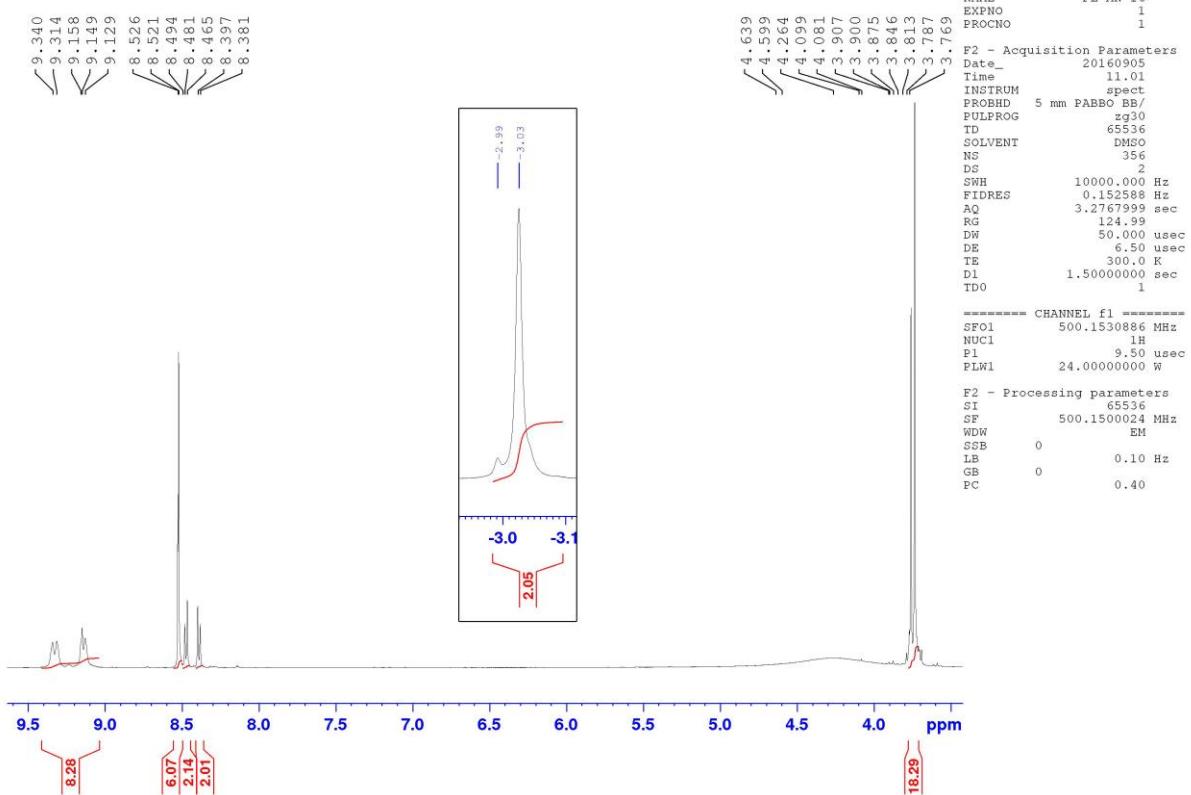


Figure S17. 1H NMR analysis of 6b.

FL-AN-18 dans DMSO-d₆ - Spectre RMN 1H
Service de RMN - Plateforme SCRABL - Université de Limoges

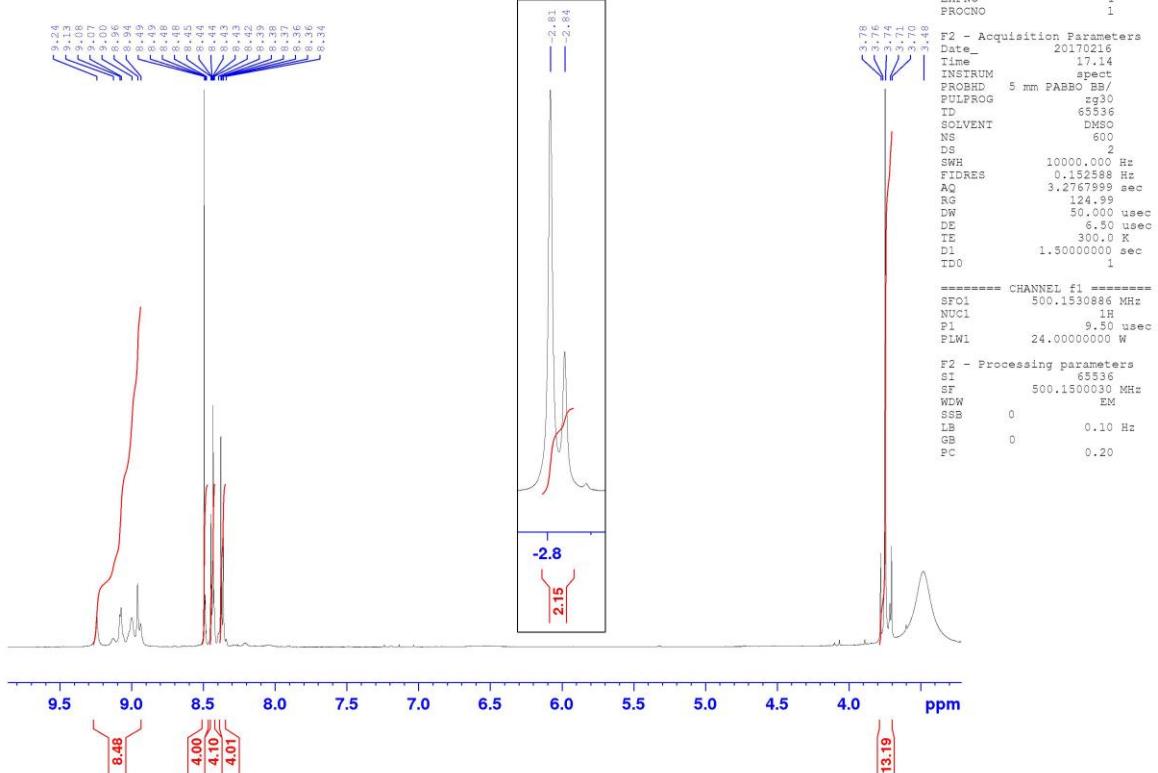


Figure S18. 1H NMR analysis of 6e.

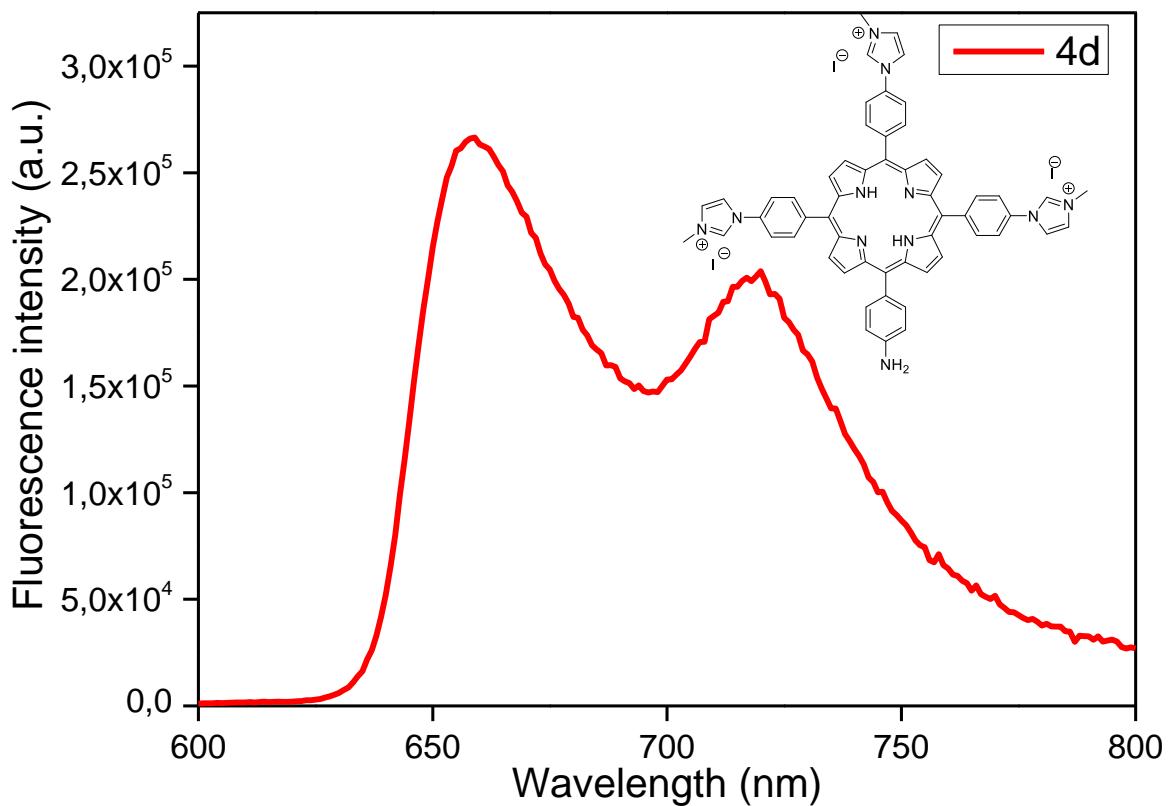


Figure S19. Fluorescence spectrum of 4d in ethanol ($\lambda_{\text{exc}} = 414 \text{ nm}$). The primary amine function does not lead to the quenching of the emission in this case.