Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting information

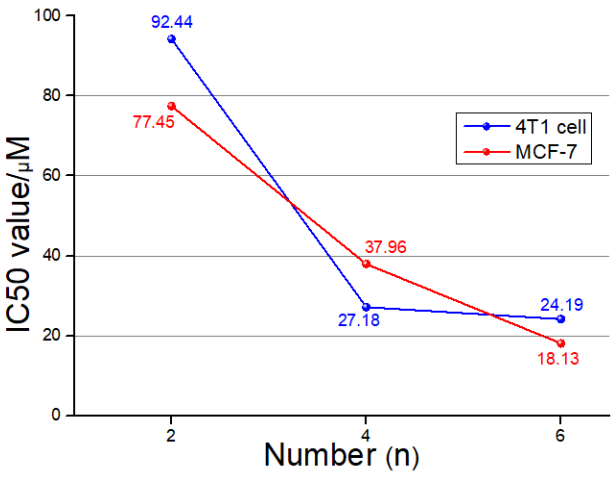
Synthesis and anticancer activity of cyclotriphosphazenes functionalized with 4-methyl-7-hydroxycoumarin

Jipeng Chen [a], Le Wang [a]*, Yu Fan [b], Yunxia Yang [a], Mengsheng Xu [a]and Xiangyang Shi [b,]*

[a] College of chemistry and Chemical Engineering, Shanghai University of Engineering Science, Shanghai, 201620, China. E-mail: wangle316@sues.edu.cn.

[b] College of Chemistry, Chemical Engineering and Biotechnology, Donghua University, Shanghai, 201620, China. E-mail: xshi@dhu.edu.cn.

CCK-8 assay of the newly synthesized compound (2a, 2b, 2c): A standard CCK-8 2b and 2c and the number of terminal coumarin moieties effect results were shown in Fig. S1.



* Number(n): Numbers of coumarin moieties on the surface of cyclotriphosphazenes as core assay was conducted against 4T1 and MCF-7 cells to evaluate the cytotoxicity of **2a, 2b** and **2c.**

Fig. S1 Antiproliferative activity (IC_{50} μM) of dendrimers (**2a**, **2b** and **2c**) in MCF-7 and 4T1 cells versus number of terminal coumarin moieties.

^{1}H-NMR and ^{13}C-NMR spectra

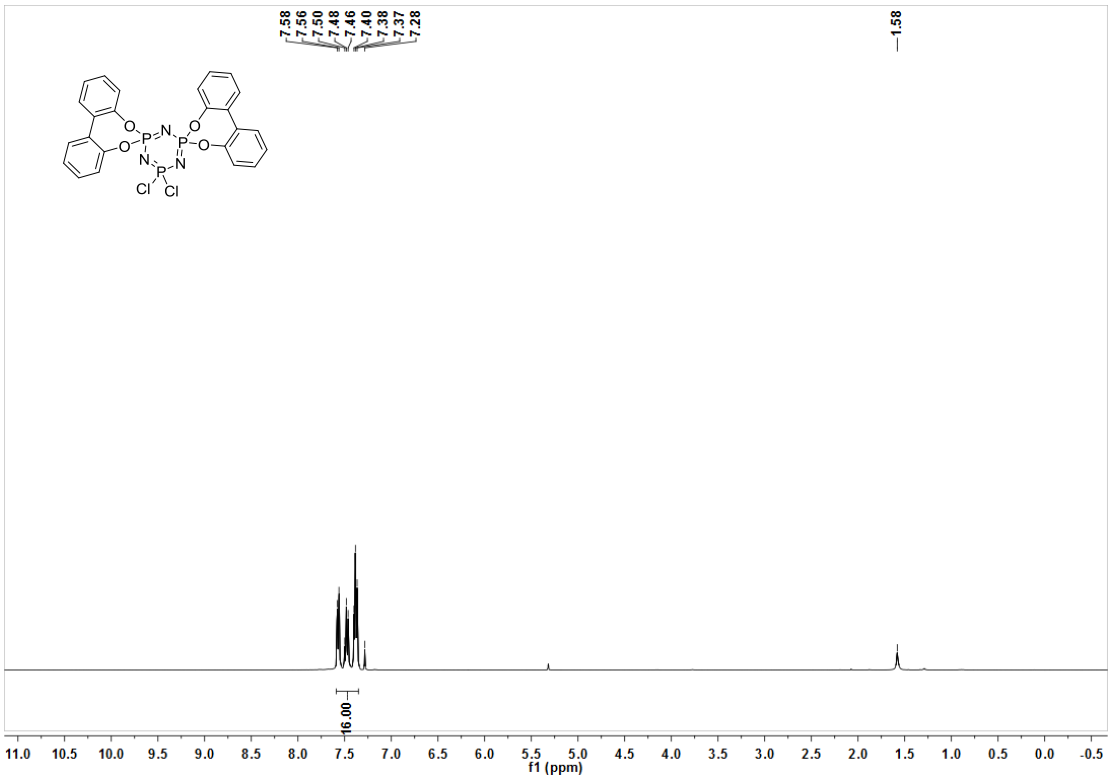


Fig.S2 ^{1}H NMR spectrum of **1a** in $CDCl_3$

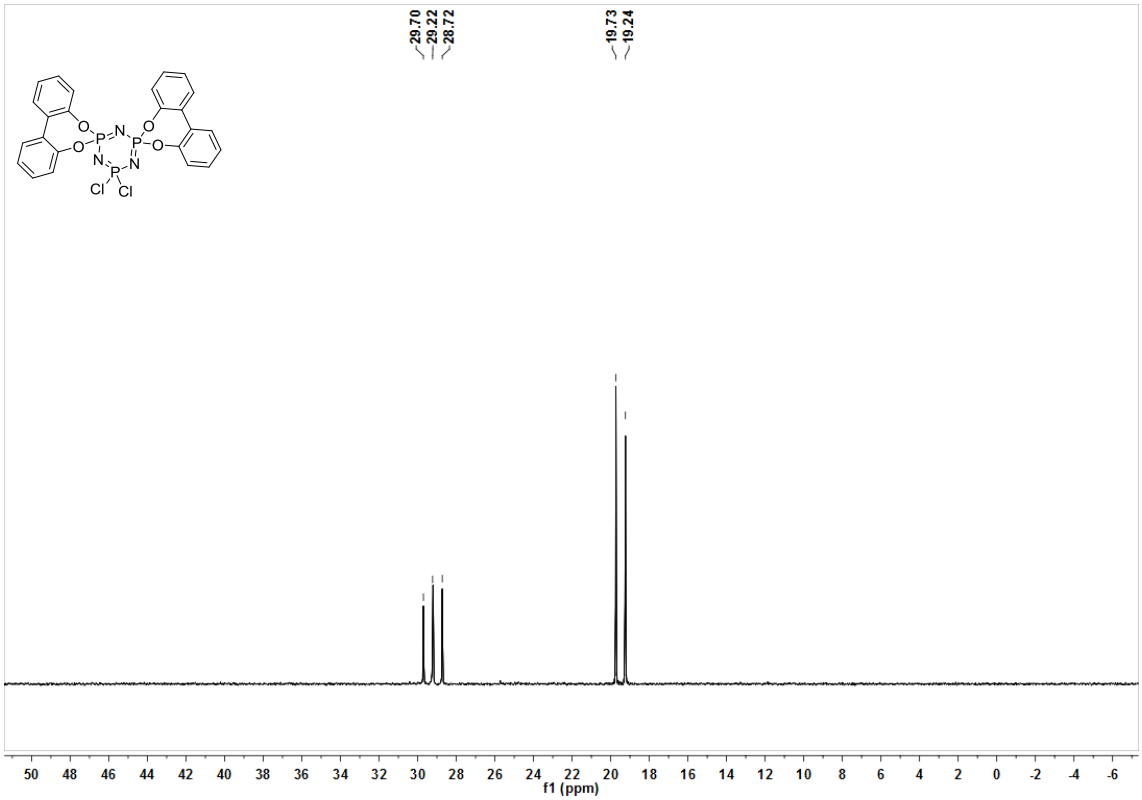


Fig.S3 ^{31}P NMR spectrum of **1a** in $CDCl_3$

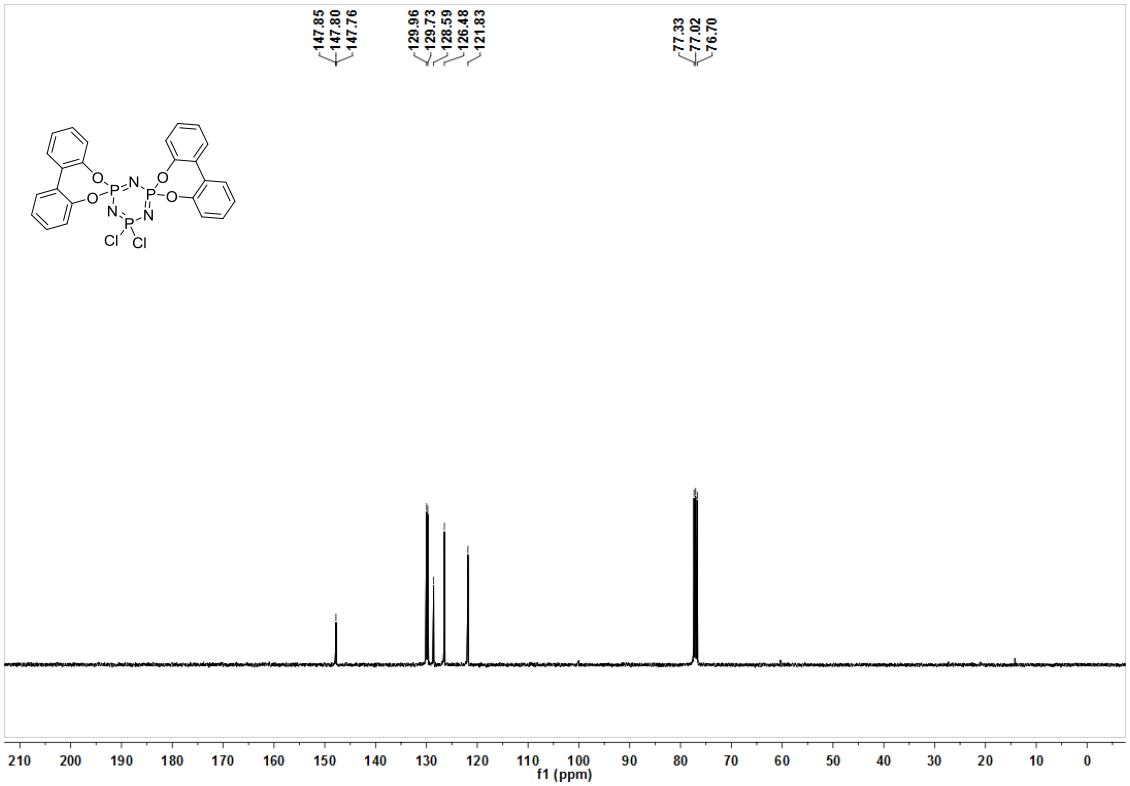


Fig.S4 ^{13}C NMR spectrum of **1a** in $CDCl_3$

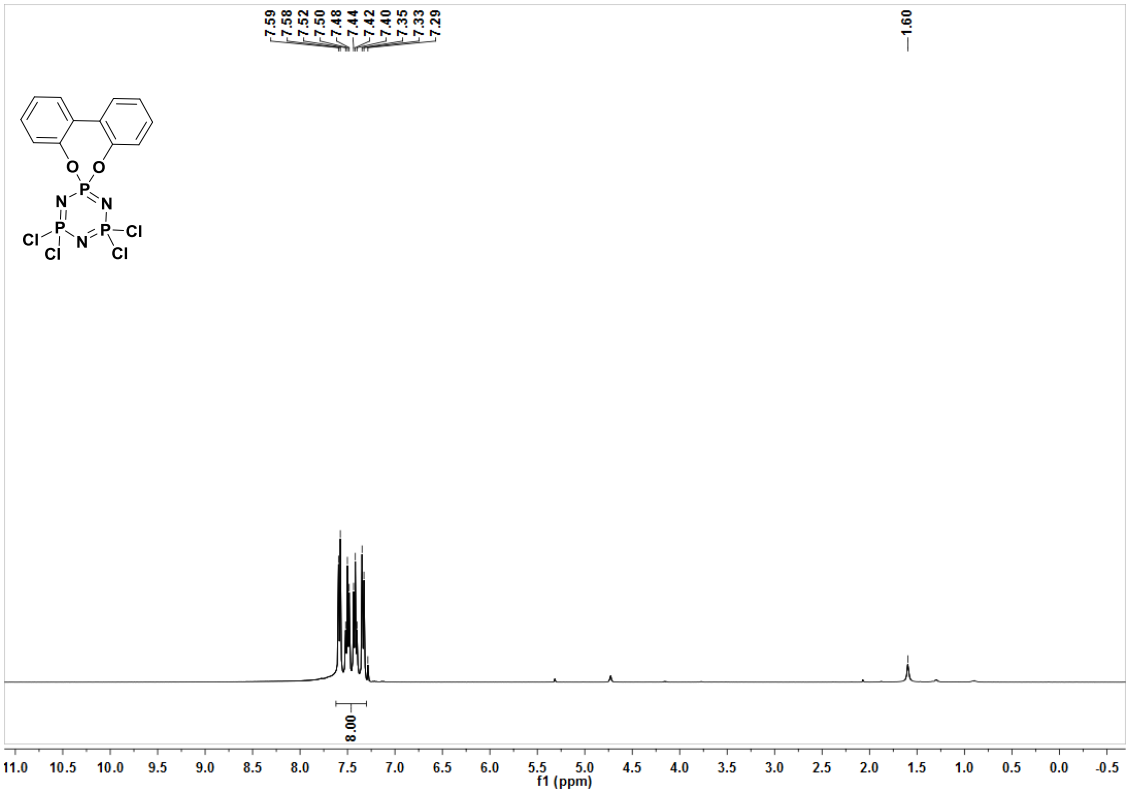


Fig.S5 ^{1}H NMR spectrum of **1b** in $CDCl_3$

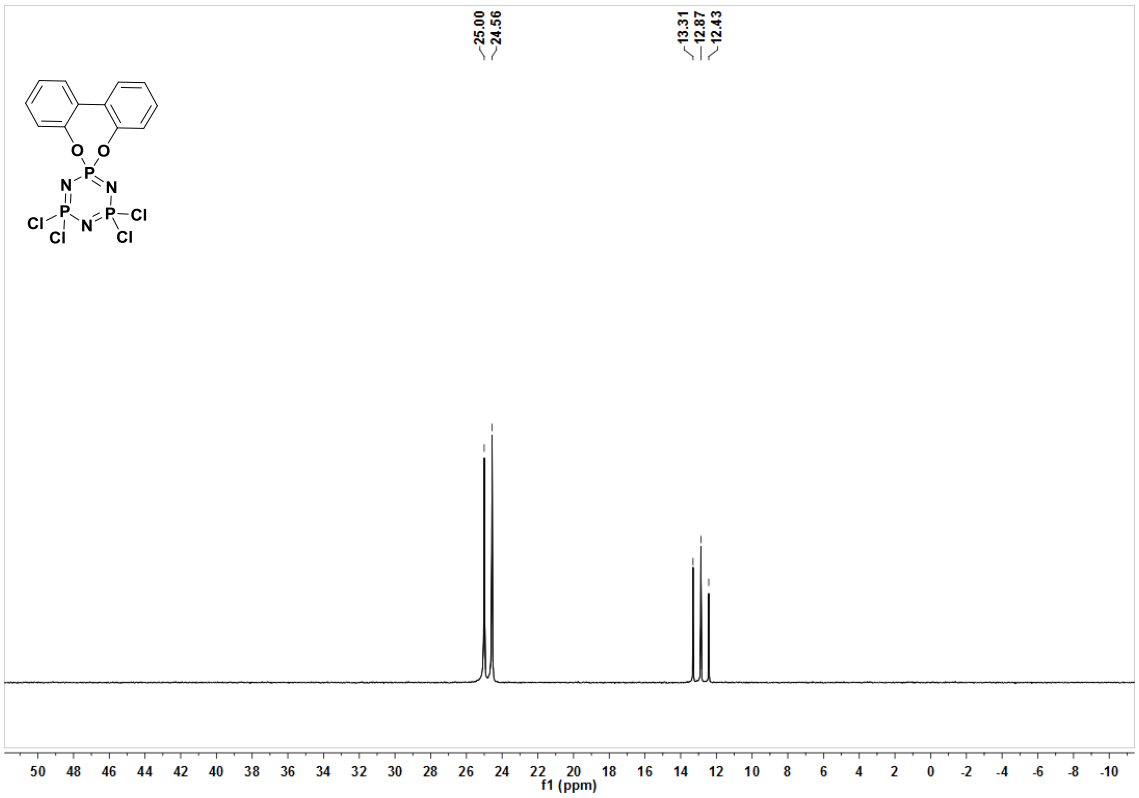


Fig.S6 ^{31}P NMR spectrum of **1b** in $CDCl_3$

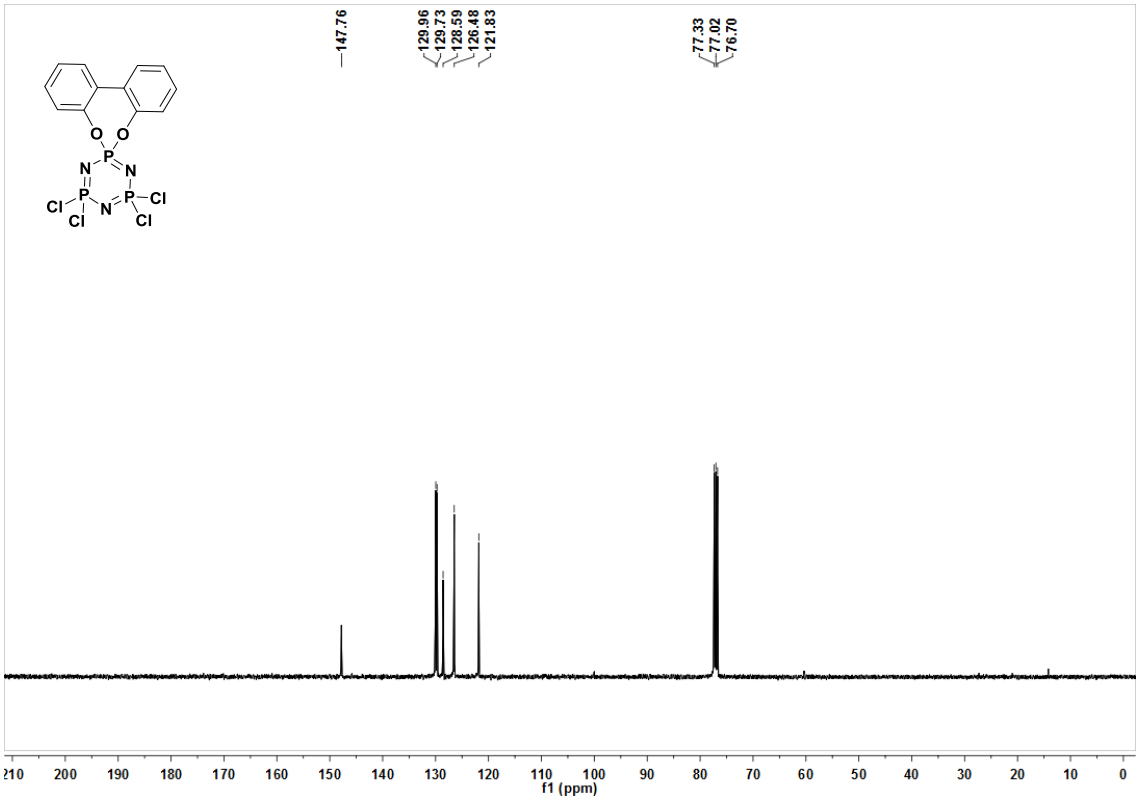


Fig.S7 ^{13}C NMR spectrum of **1b** in $CDCl_3$

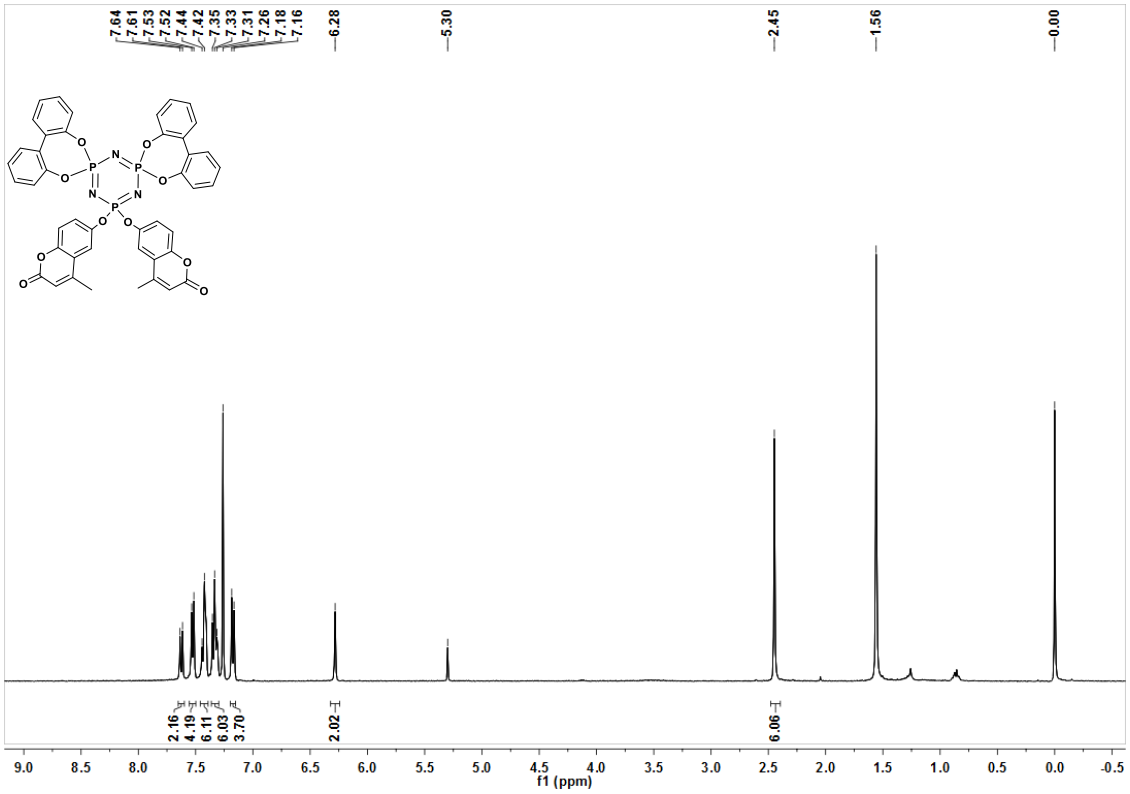


Fig.S8 ^{1}H NMR spectrum of **2a** in $CDCl_3$

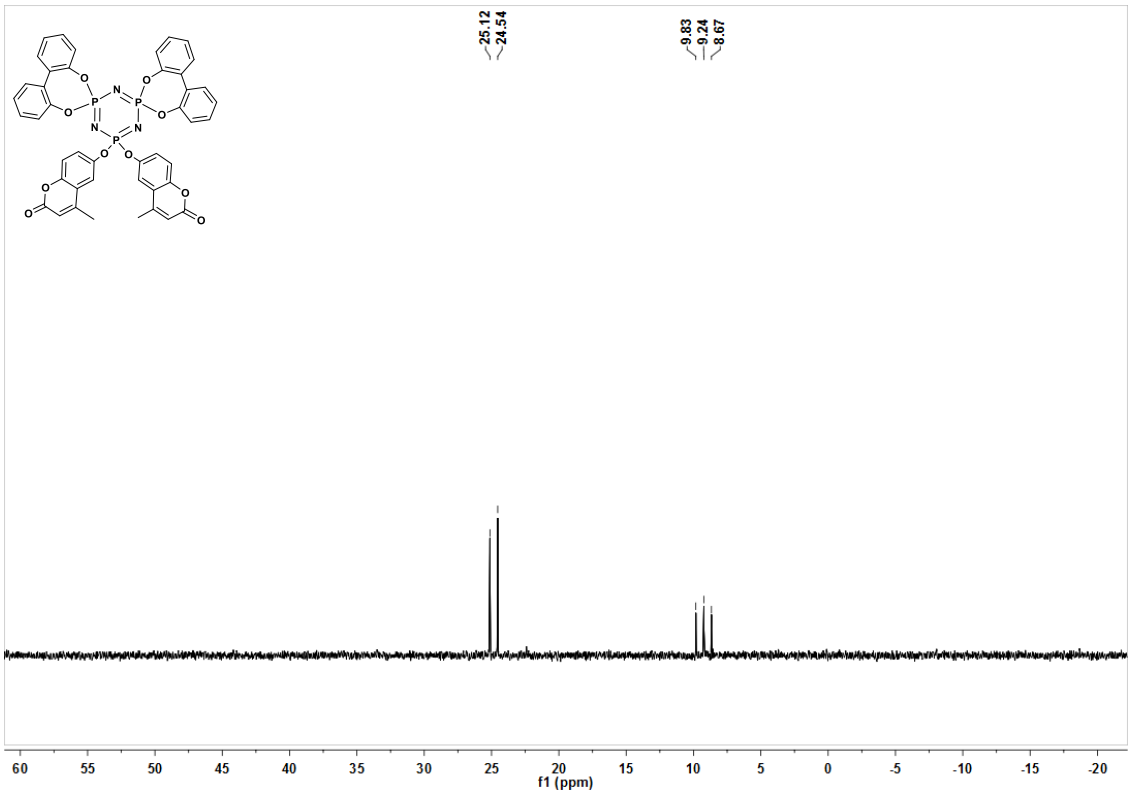


Fig.S9 ^{31}P NMR spectrum of **2a** in $CDCl_3$

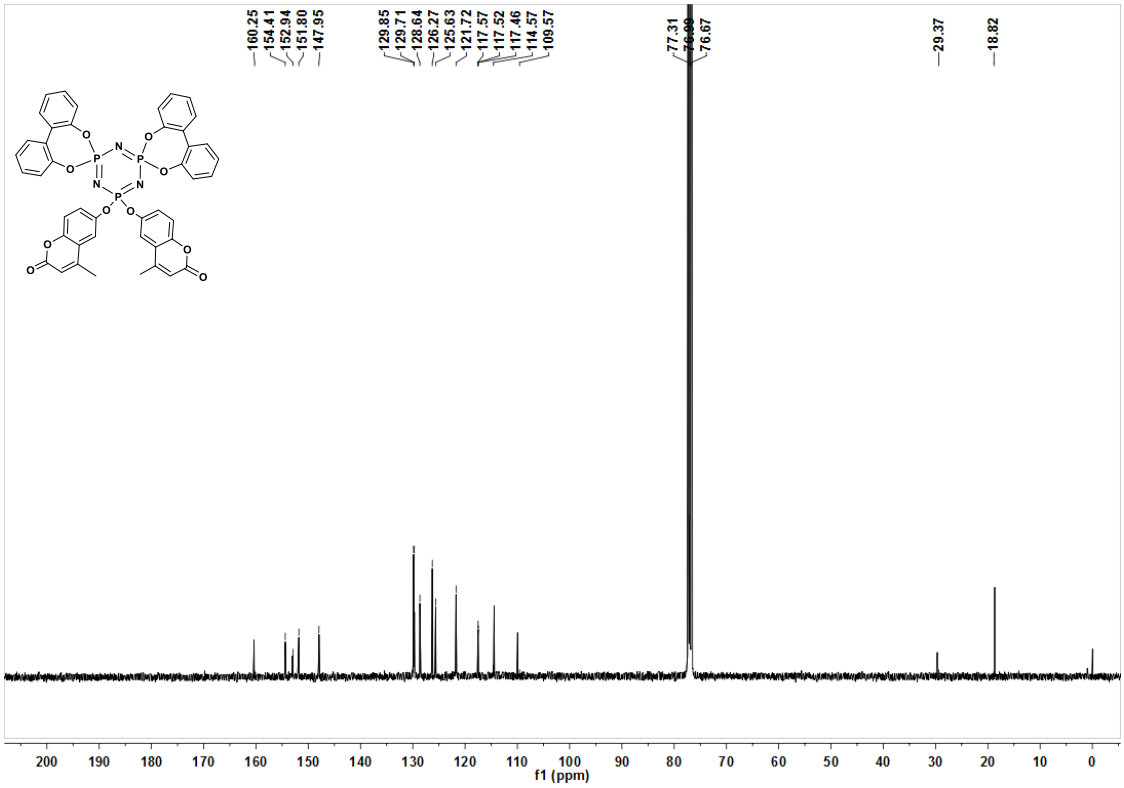


Fig.S10 ^{13}C NMR spectrum of **2a** in $CDCl_3$

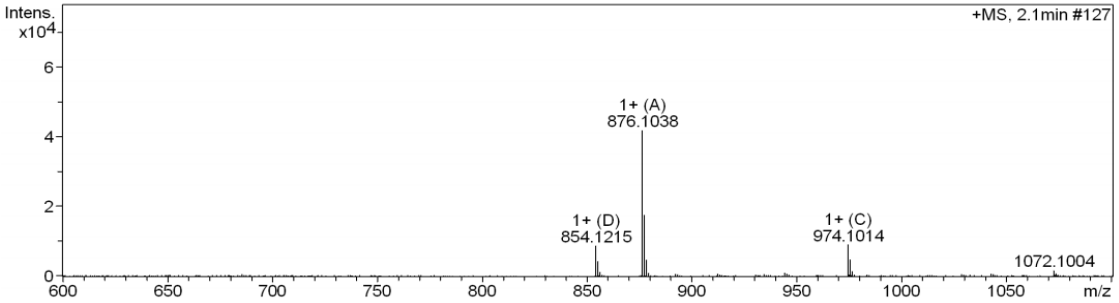


Fig.S11 The MS spectrum of 2a

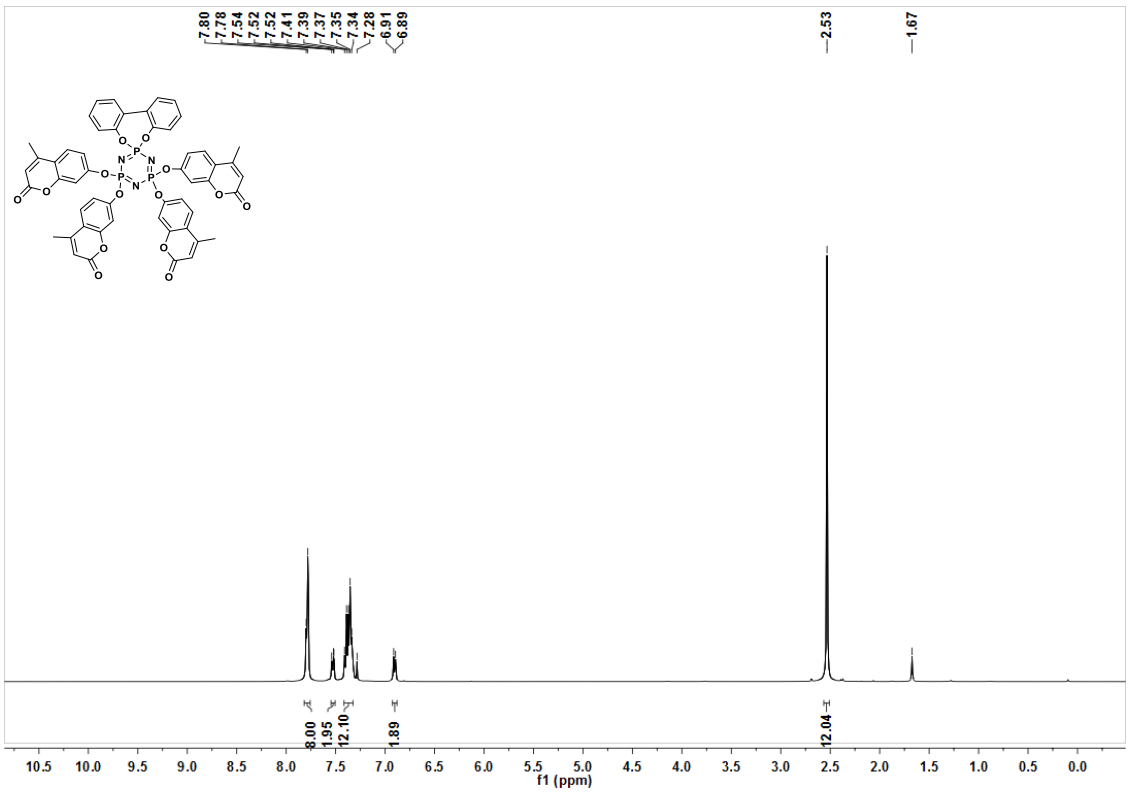


Fig.S12 ^{1}H NMR spectrum of **2b** in $CDCl_3$

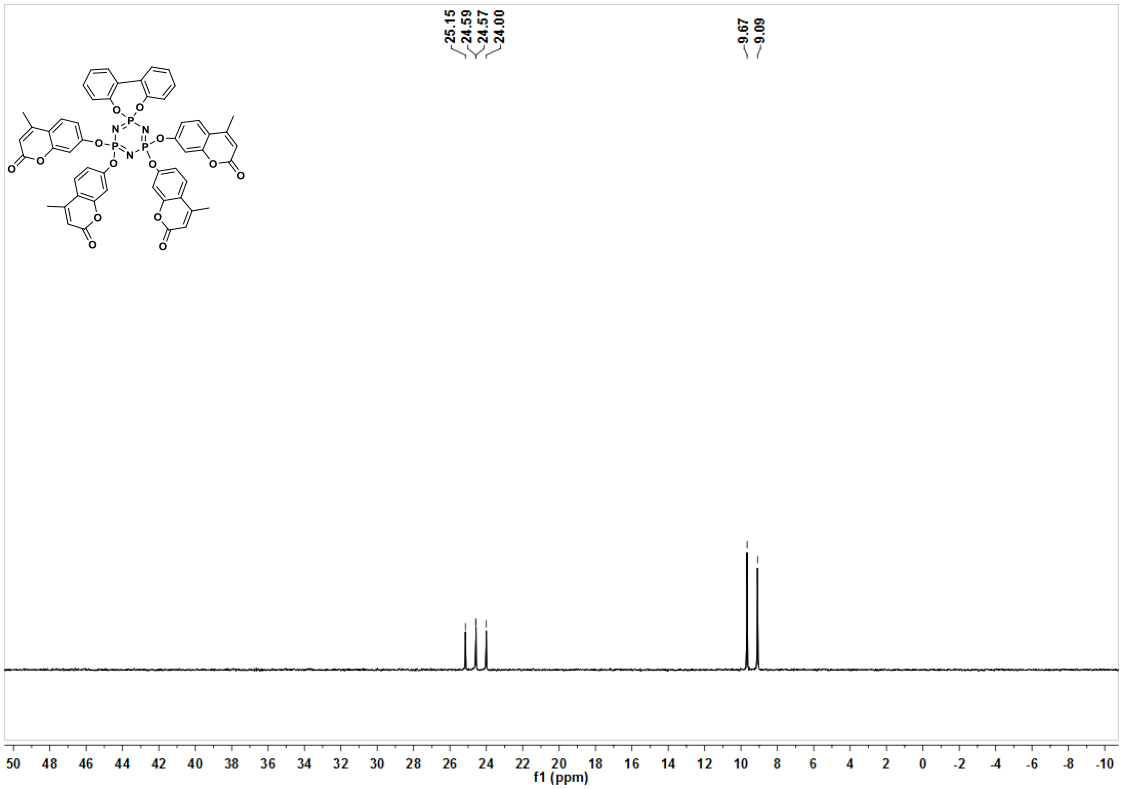


Fig.S13 ^{31}P NMR spectrum of **2b** in $CDCl_3$

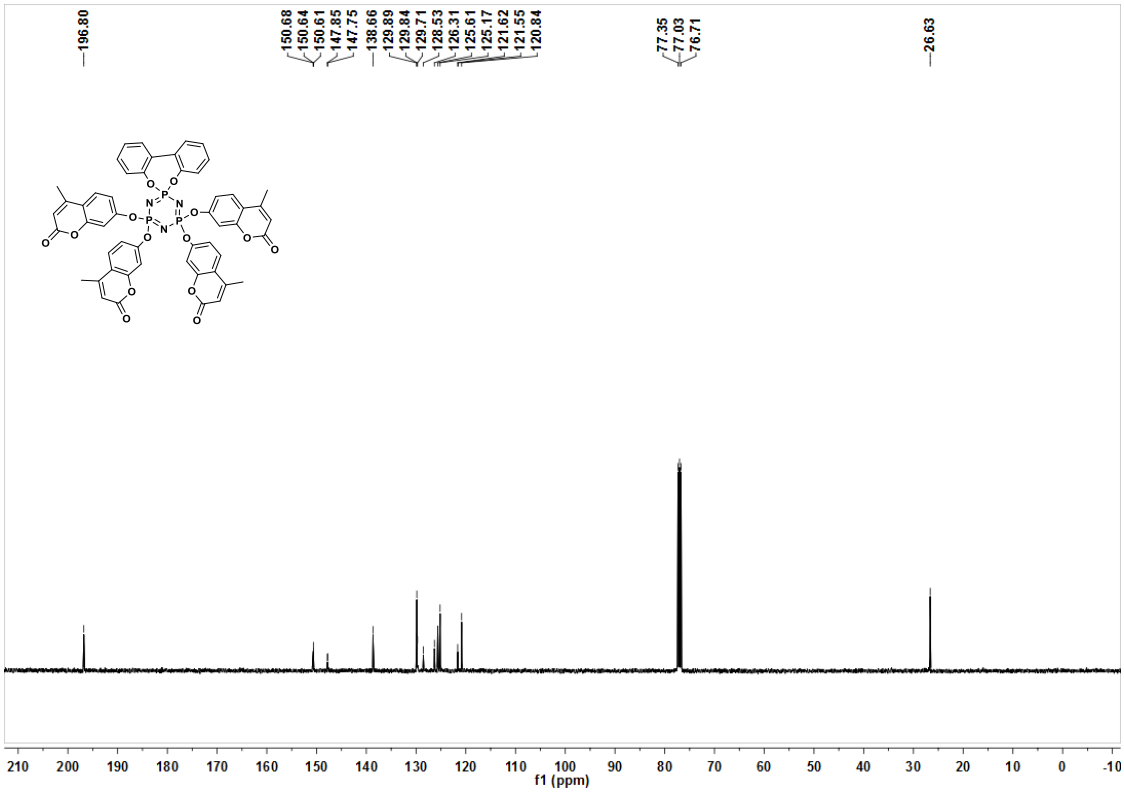


Fig.S14 ^{13}C NMR spectrum of **2b** in $CDCl_3$

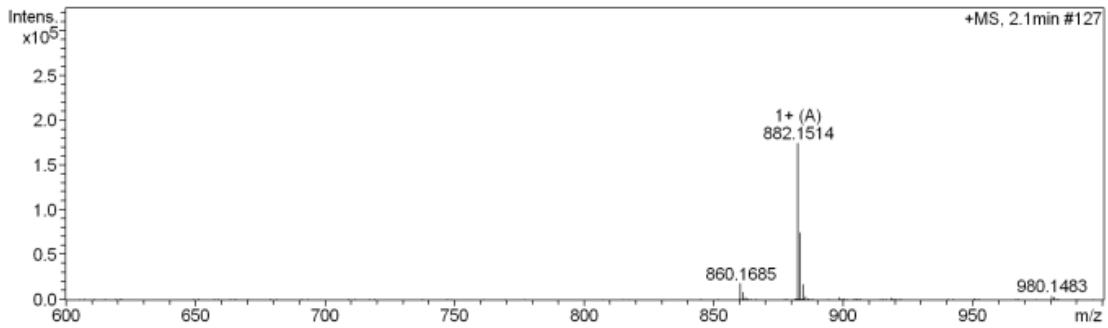


Fig.S15 The MS spectrum of 2b

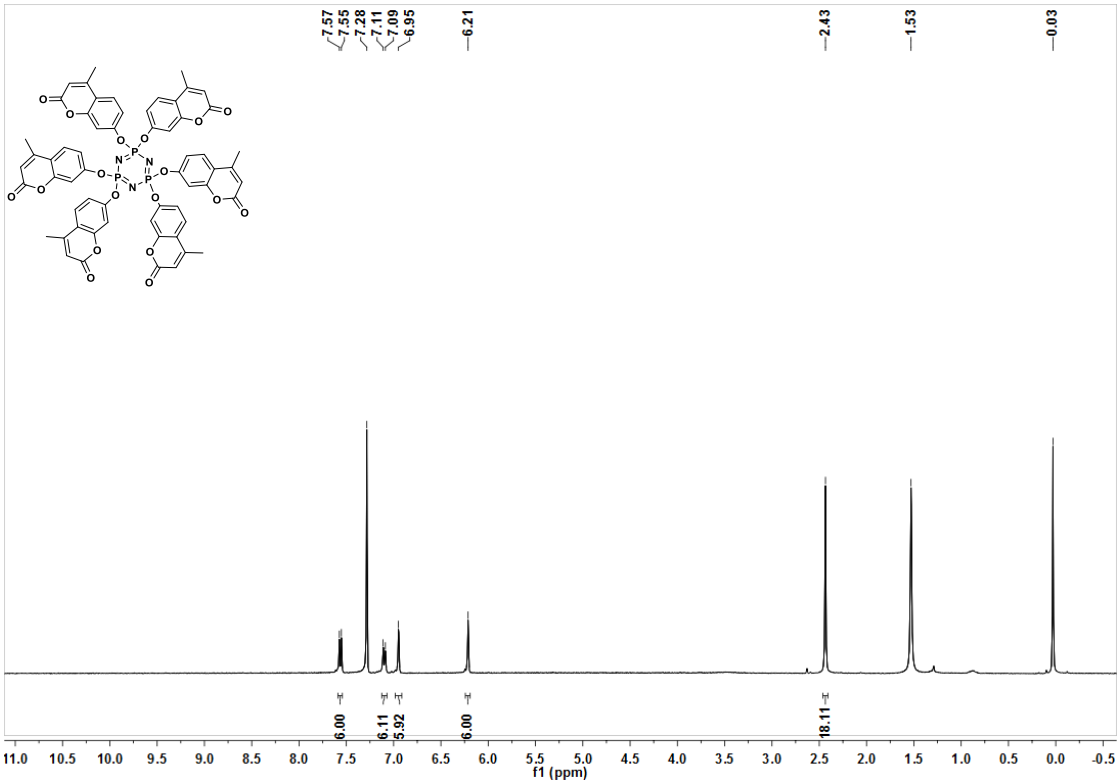


Fig.S16 ^{1}H NMR spectrum of **2c** in $CDCl_3$

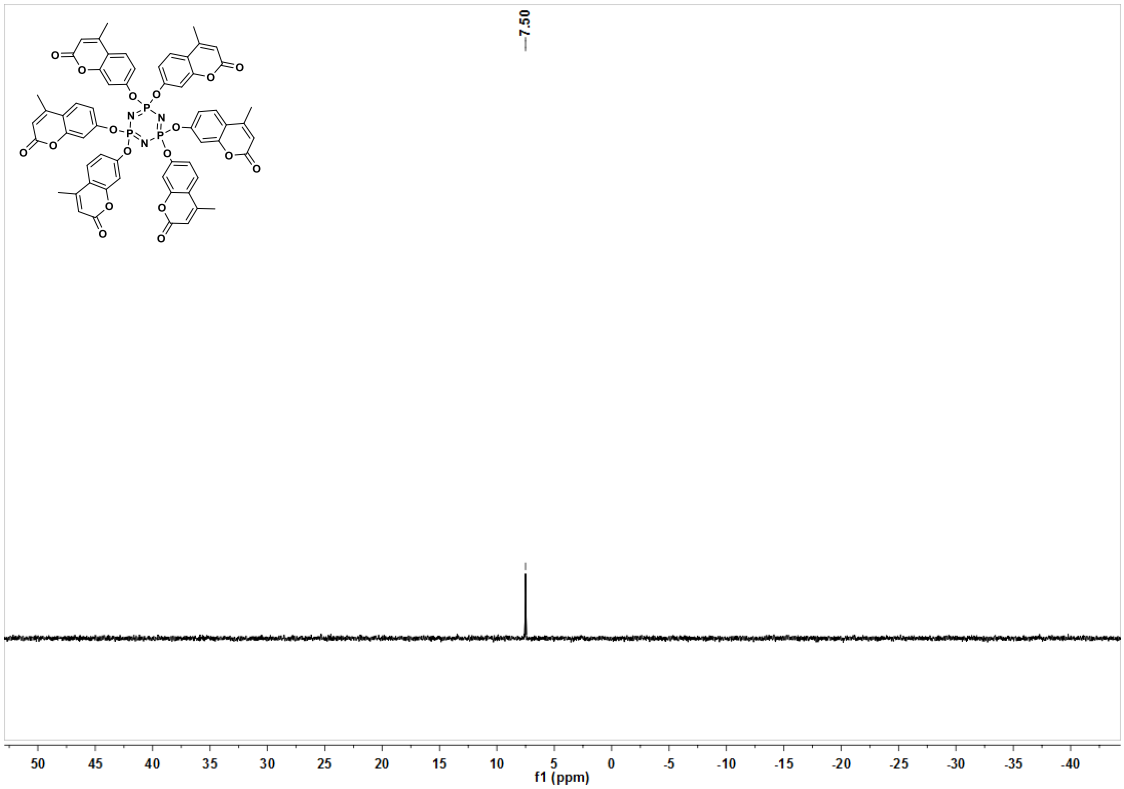


Fig.S17 ^{31}P NMR spectrum of **2c** in $CDCl_3$

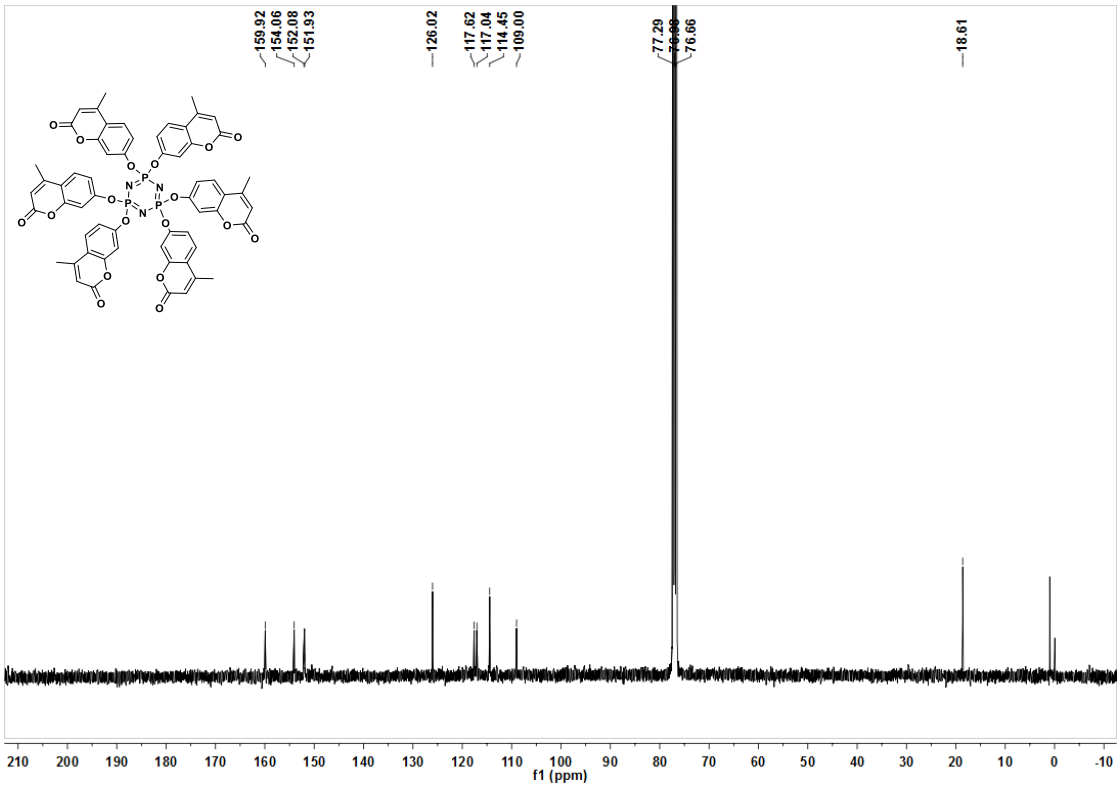


Fig.S18 ^{13}C NMR spectrum of **2c** in $CDCl_3$

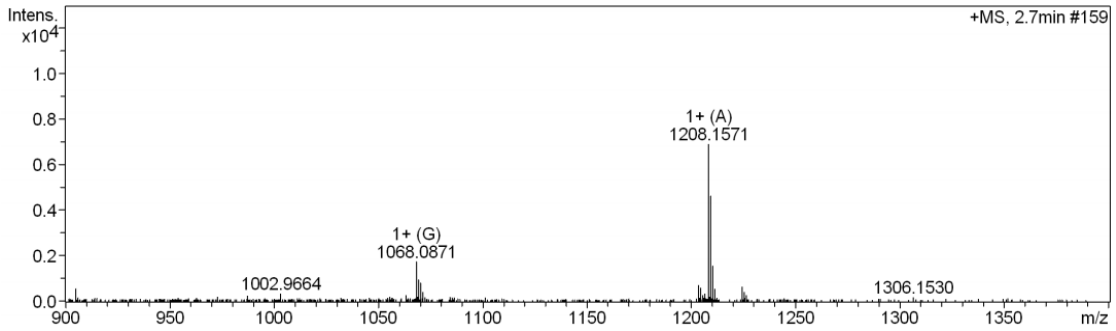


Fig.S19 The MS spectrum of **2c**

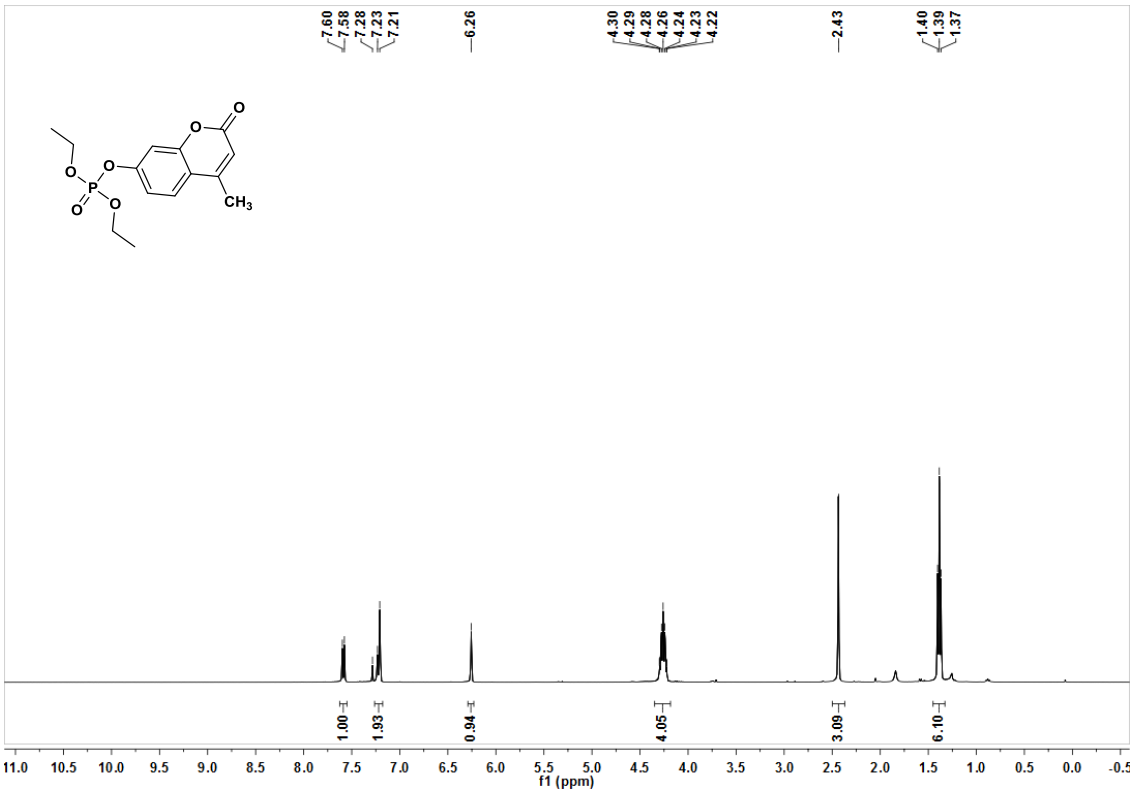


Fig.S20 ^{1}H NMR spectrum of **3a** in $CDCl_3$

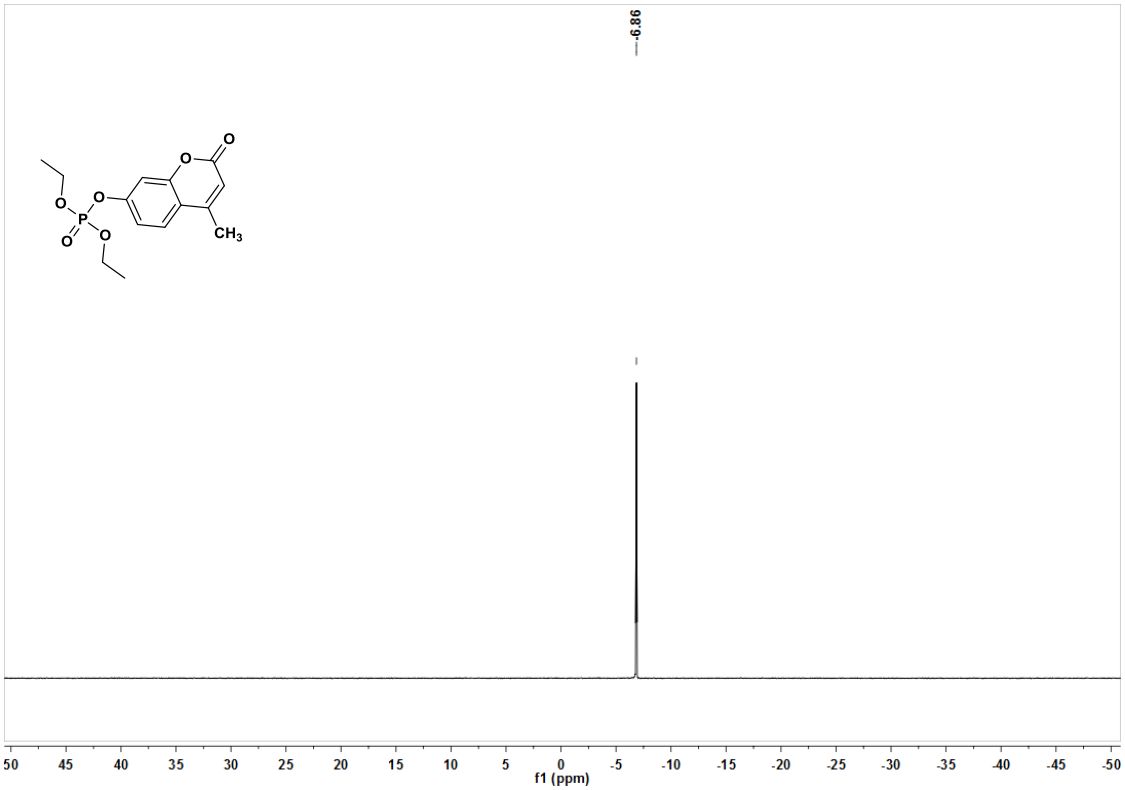


Fig.S21 ^{31}P NMR spectrum of **3a** in $CDCl_3$

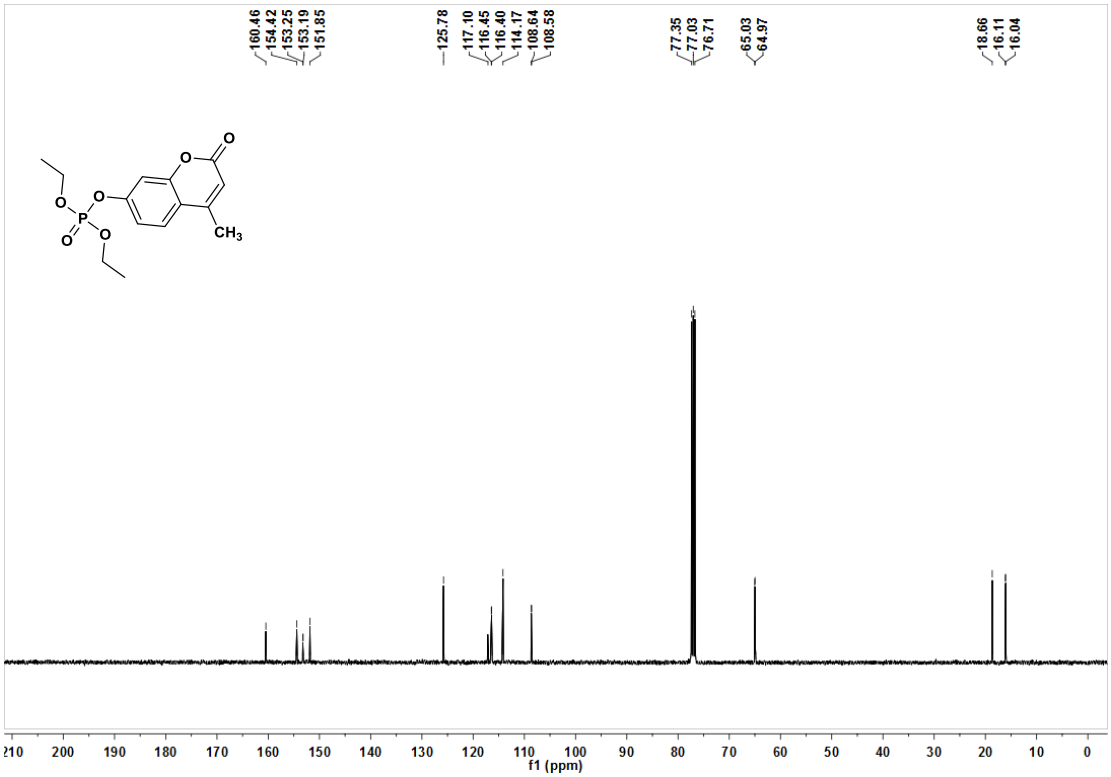


Fig.S22 ^{13}C NMR spectrum of **3a** in $CDCl_3$

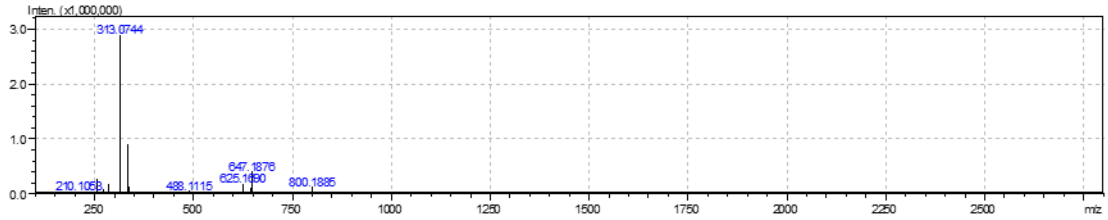


Fig.S23 The MS spectrum of **3a**