

Supporting Information

Novel BODIPY dyes with electron donor variety for dye-sensitized solar cells

Junxu Liao ^{a, b}, Hongbin Zhao ^{a, *}, Yongjun Xu ^{a, *}, Weinan Zhou ^a, Fei Peng ^a, Yong Wang ^a and Yutang Fang ^b

^a School of Chemical Engineering and Energy Technology, Dongguan University of Technology, Dongguan 523808, People's Republic of China

^b School of Chemistry and Chemical Engineering, South China University of Technology, Guangzhou 510641, People's Republic of China

Table of contents:

Fig. 1, Fig. 2 ¹ H NMR spectrum of compound 2b and 3a	S2
Fig. 3 ¹ H NMR spectrum of compound 3d	S3
Fig.4, Fig.5 ¹ H NMR and ¹³ C NMR spectra of compound 7a	S4
Fig.6, Fig.7 ¹ H NMR and ¹³ C NMR spectra of compound 7b	S5
Fig.8, Fig.9 ¹ H NMR and ¹³ C NMR spectra of compound 7c	S6
Fig.10, Fig.11 ¹ H NMR and ¹³ C NMR spectra of compound 7d	S7
Fig.12, Fig.13 ¹ H NMR and ¹³ C NMR spectra of compound CB1	S8
Fig.14, Fig.15 ¹ H NMR and ¹³ C NMR spectra of compound CB 2	S9
Fig.16, Fig.17 ¹ H NMR and ¹³ C NMR spectra of compound CB3	S10
Fig.18, Fig.19 ¹ H NMR and ¹³ C NMR spectra of compound CB4	S11
Fig.20, Fig.21 MALDI-TOF-MS spectra of compound 7a and 7b	S12
Fig.22, Fig.23 MALDI-TOF-MS spectra of compound 7c and 7d	S13
Fig.22, Fig.23 MALDI-TOF-MS spectra of compound CB1 and CB2.....	S14
Fig.24, Fig.25 MALDI-TOF-MS spectra of compound CB3 and CB4.....	S15

* Corresponding author. Tel.: +86-158-1831-8389; fax: +86-769-2286-2601; e-mail: zhaohbhanlf@163.com.

* Corresponding author. Tel.: +86-139-2583-6155; fax: +86-769-2286-2605; e-mail: hnllxjy@126.com.

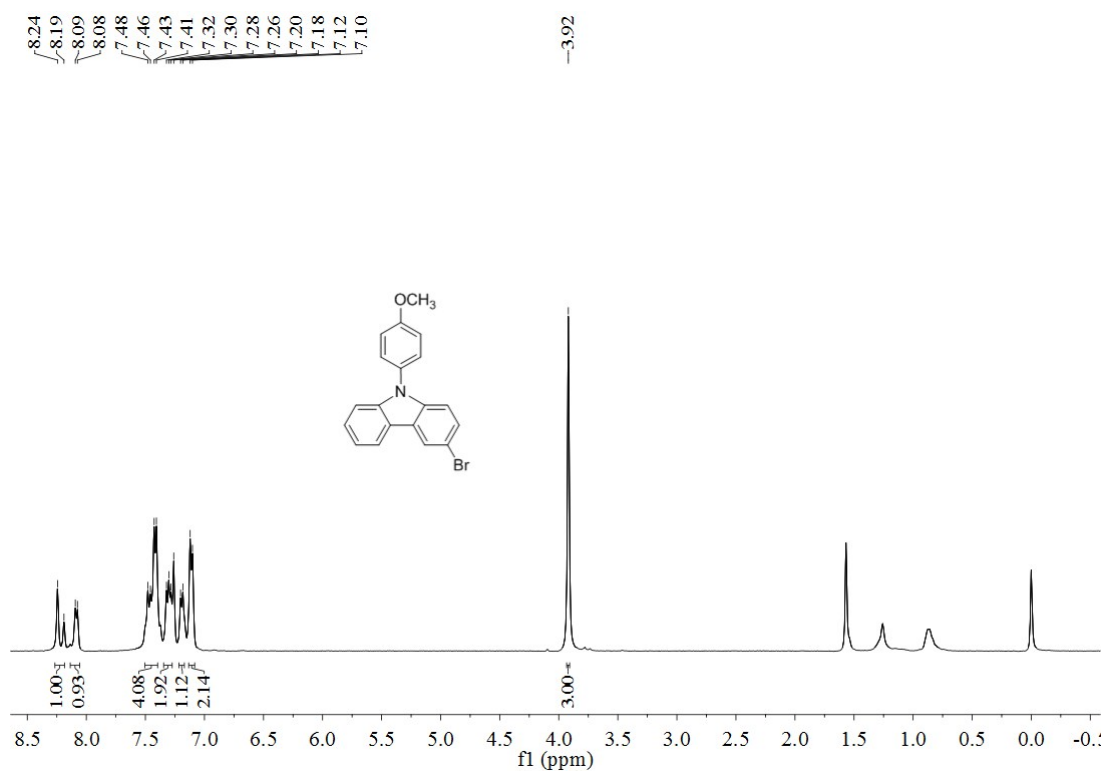


Fig. 1 ¹H NMR spectra of compound **2b**

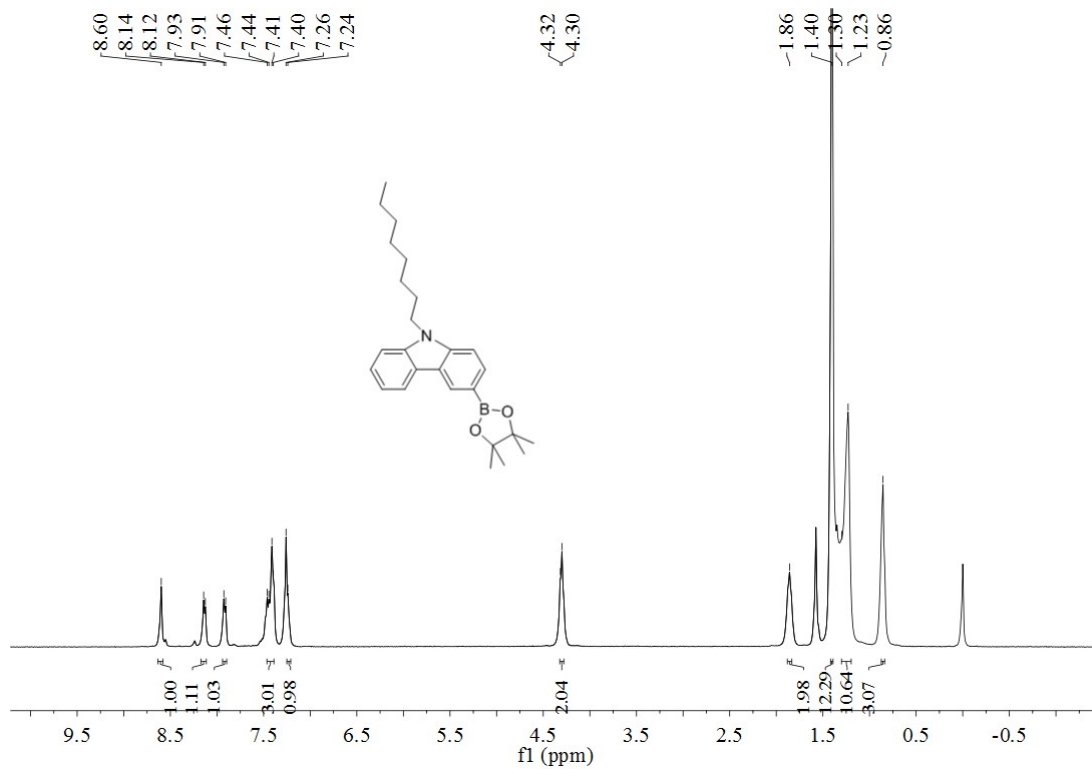


Fig. 2 ¹H NMR spectra of compound **3a**

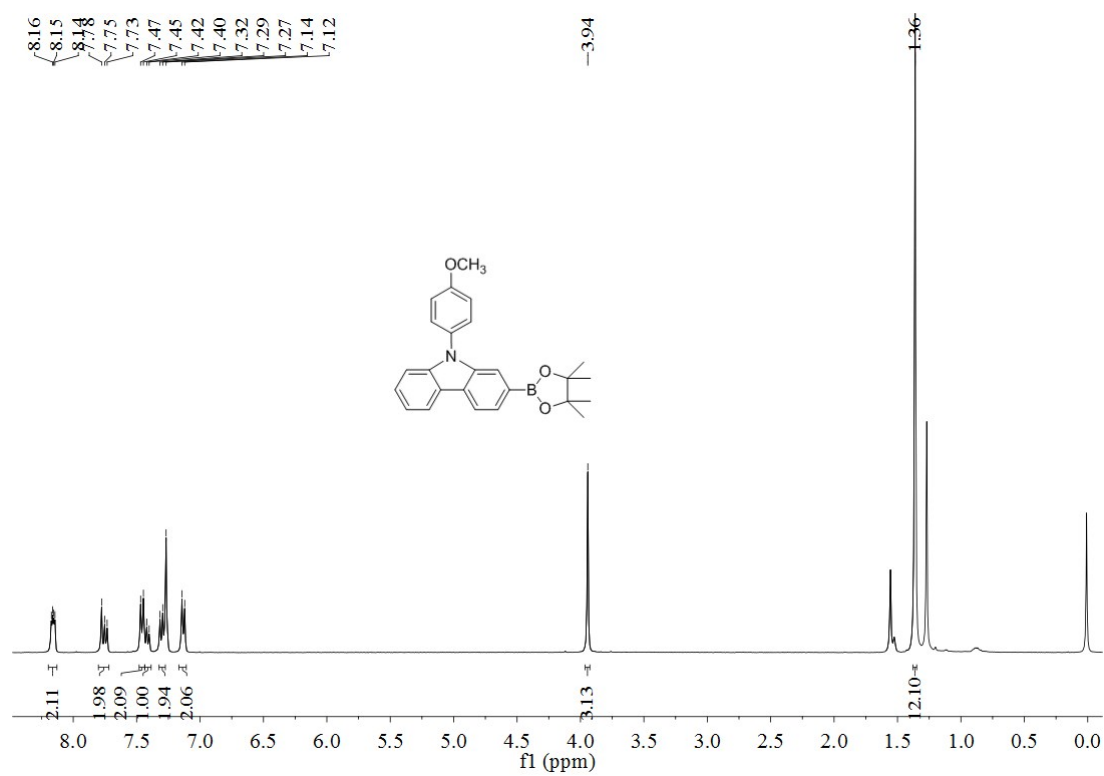
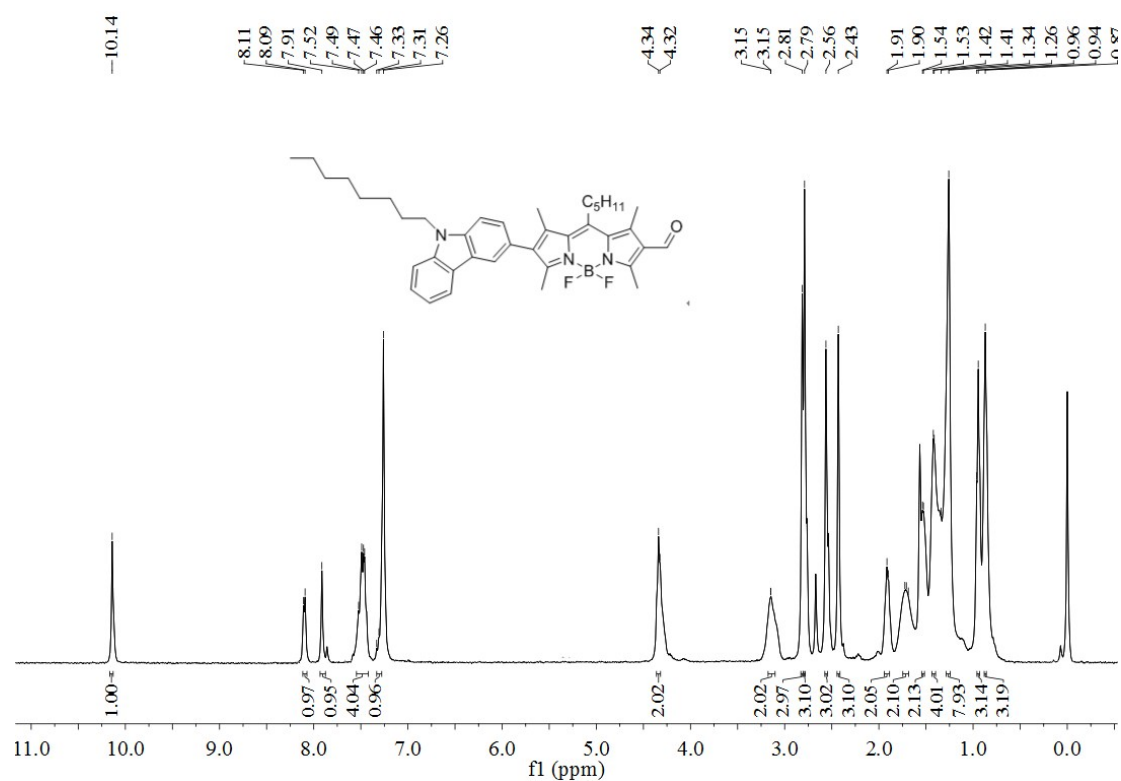


Fig. 3 ¹H NMR spectra of compound **3d**



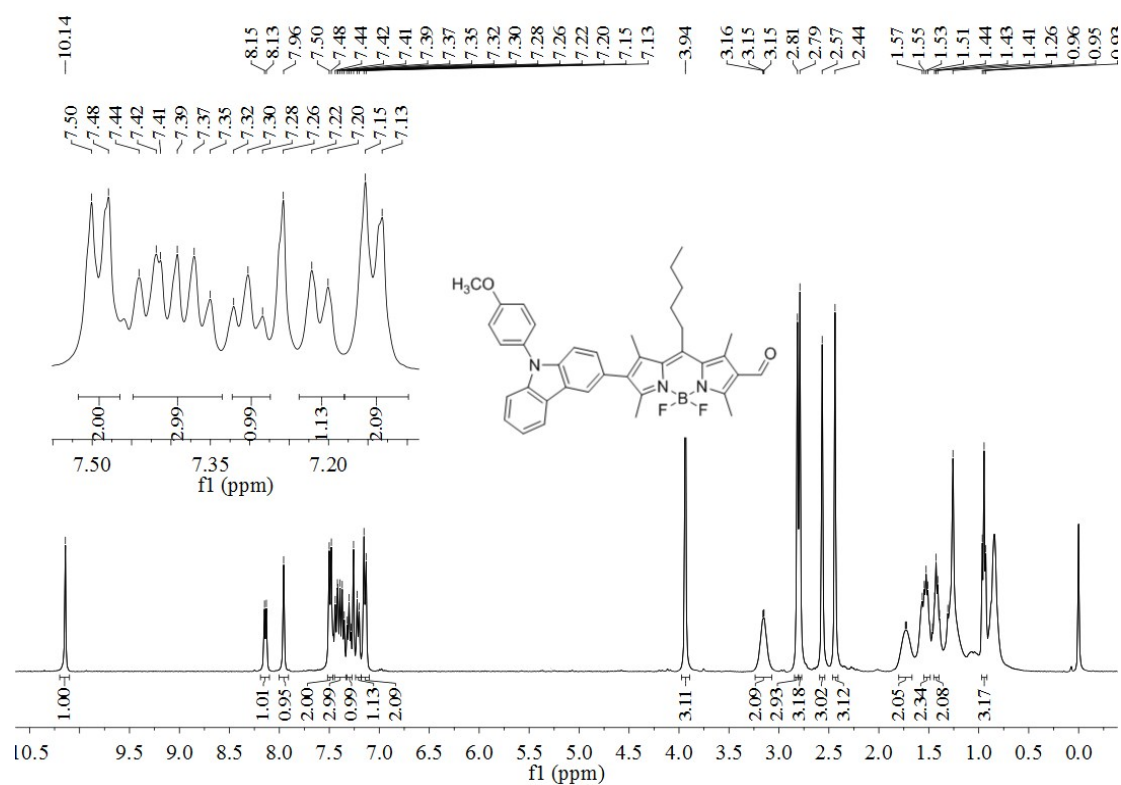


Fig. 6 ¹H NMR spectra of compound **7b**

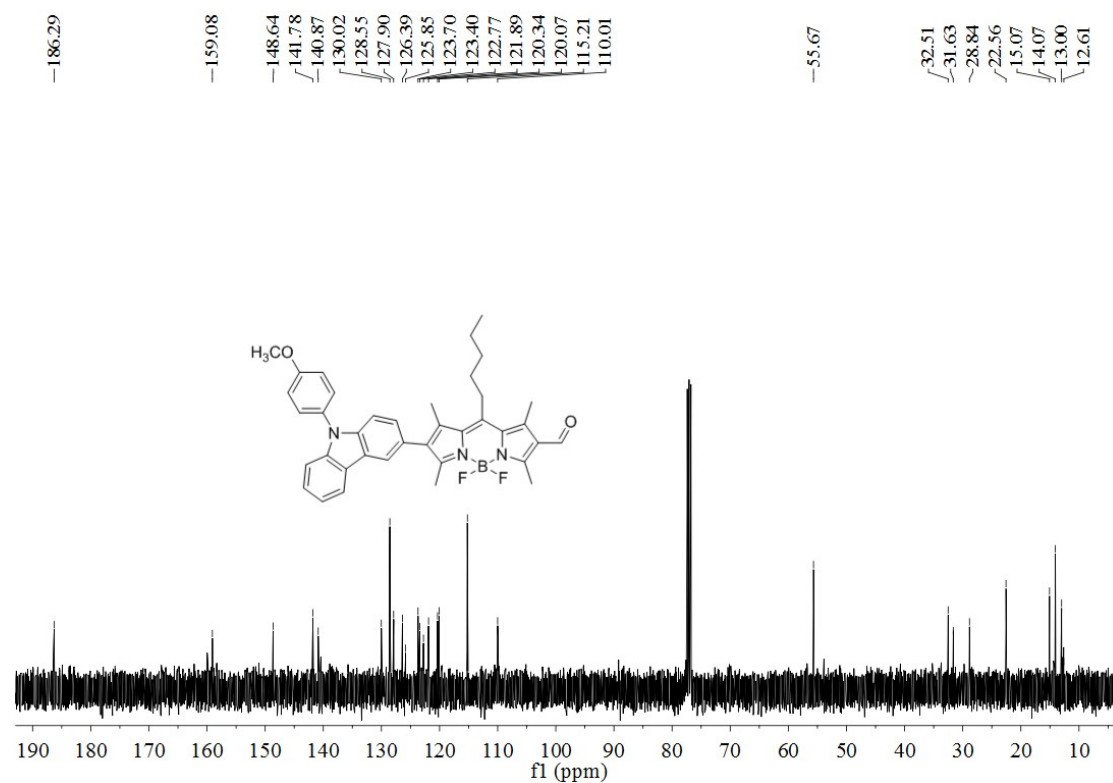


Fig. 7 ¹³C NMR spectra of compound **7b**

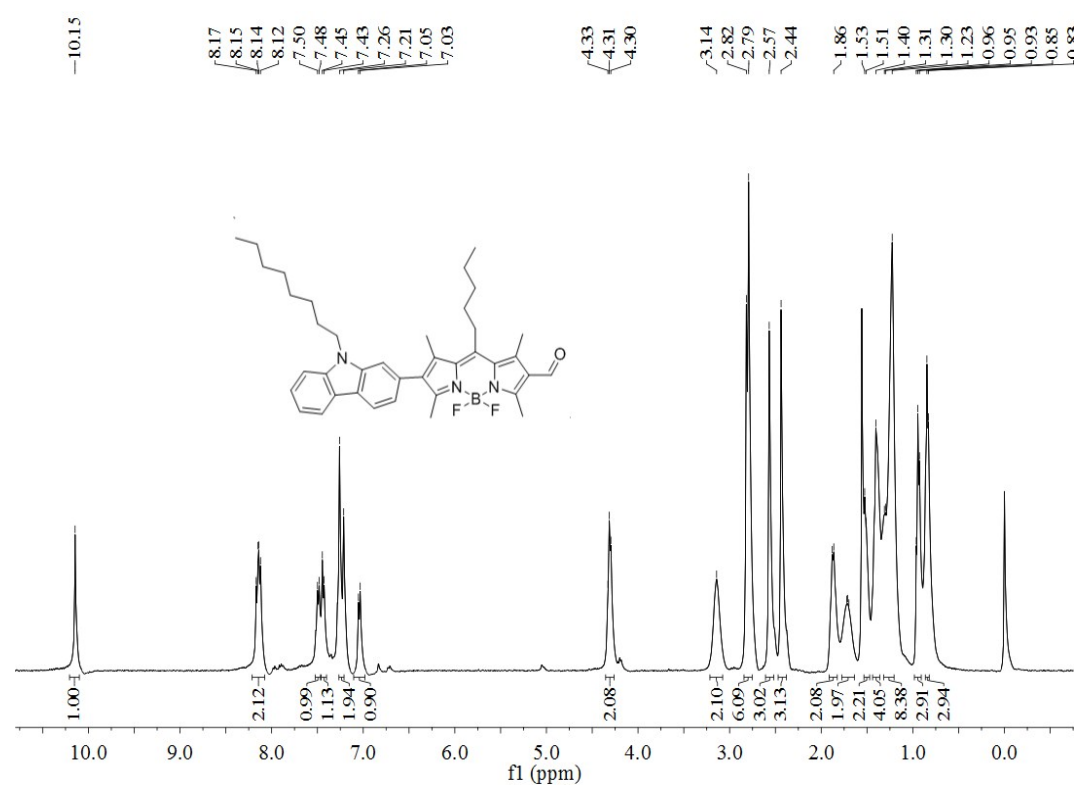


Fig. 8 ¹H NMR spectra of compound 7c

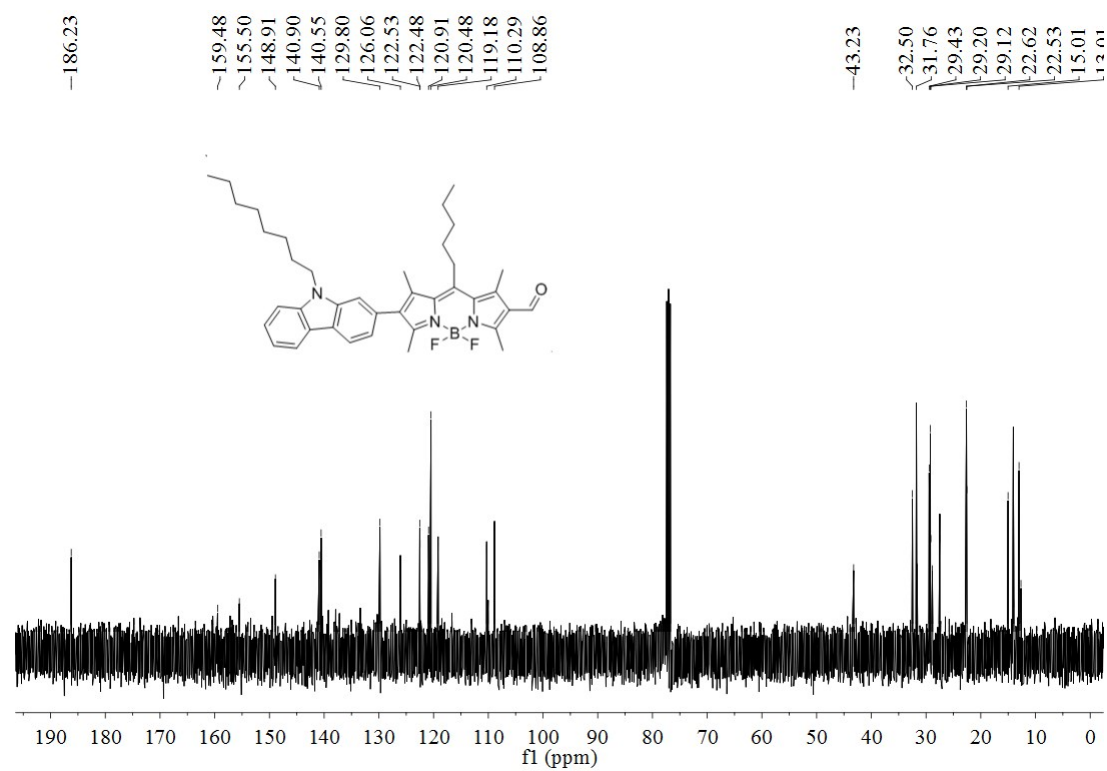


Fig. 9 ¹³C NMR spectra of compound 7c

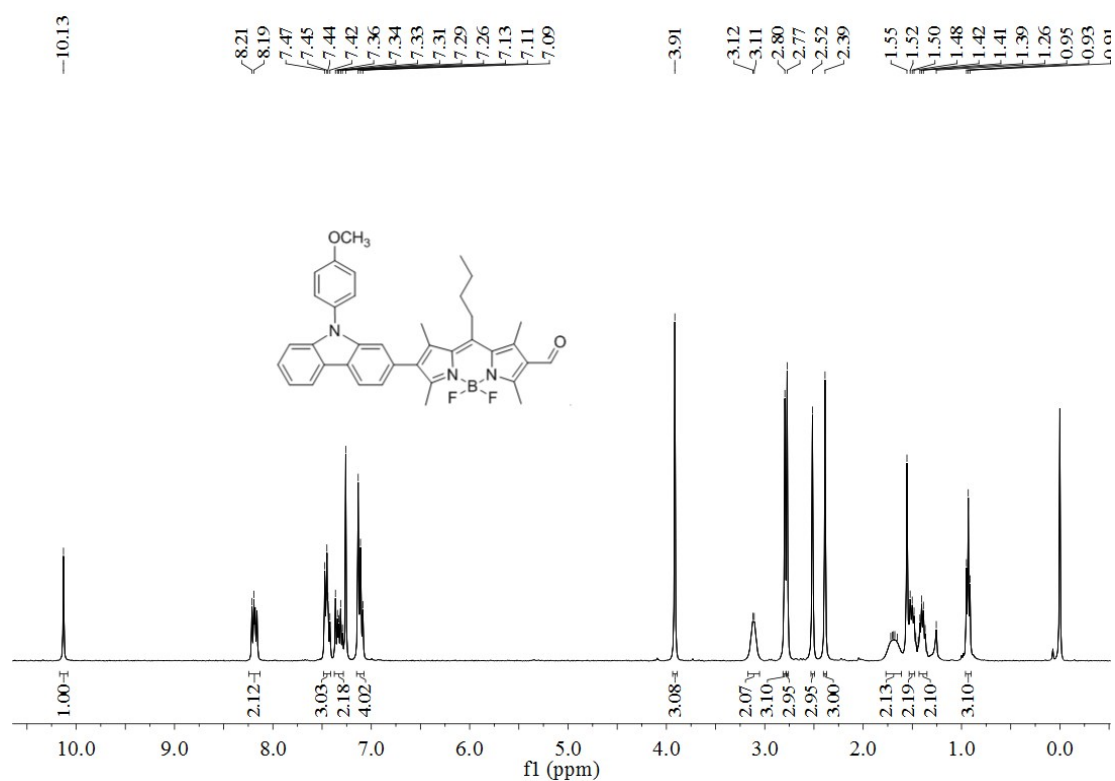


Fig. 10 ¹H NMR spectra of compound 7d

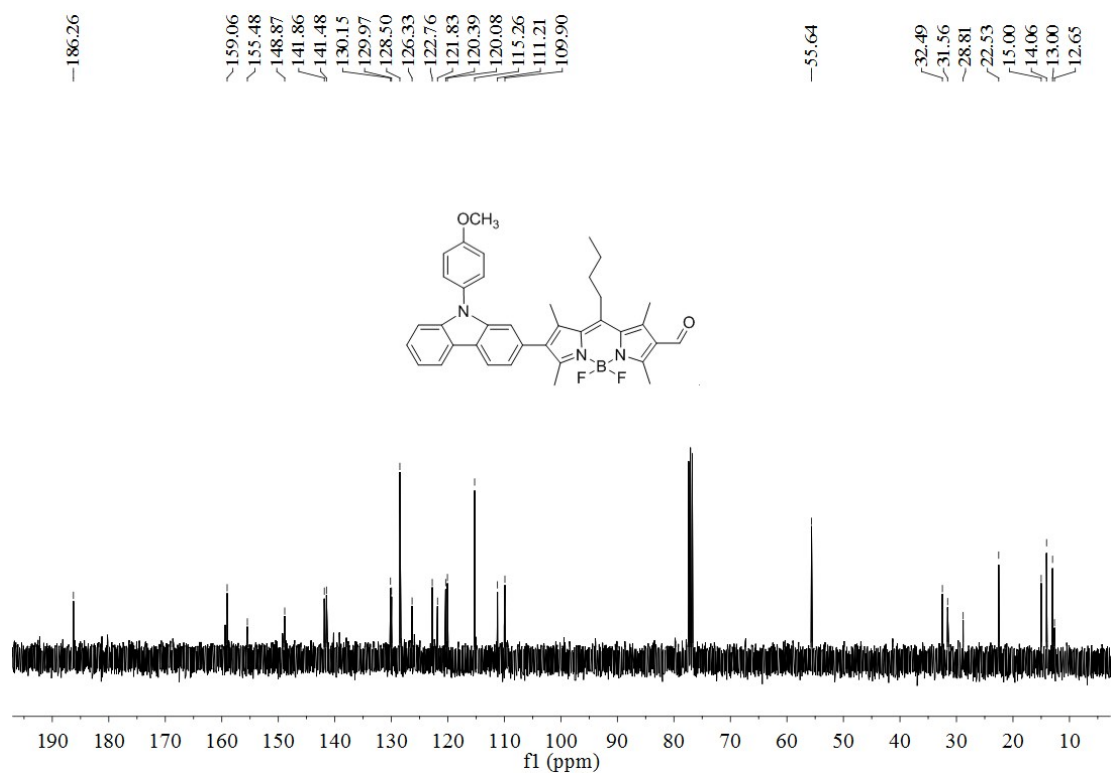
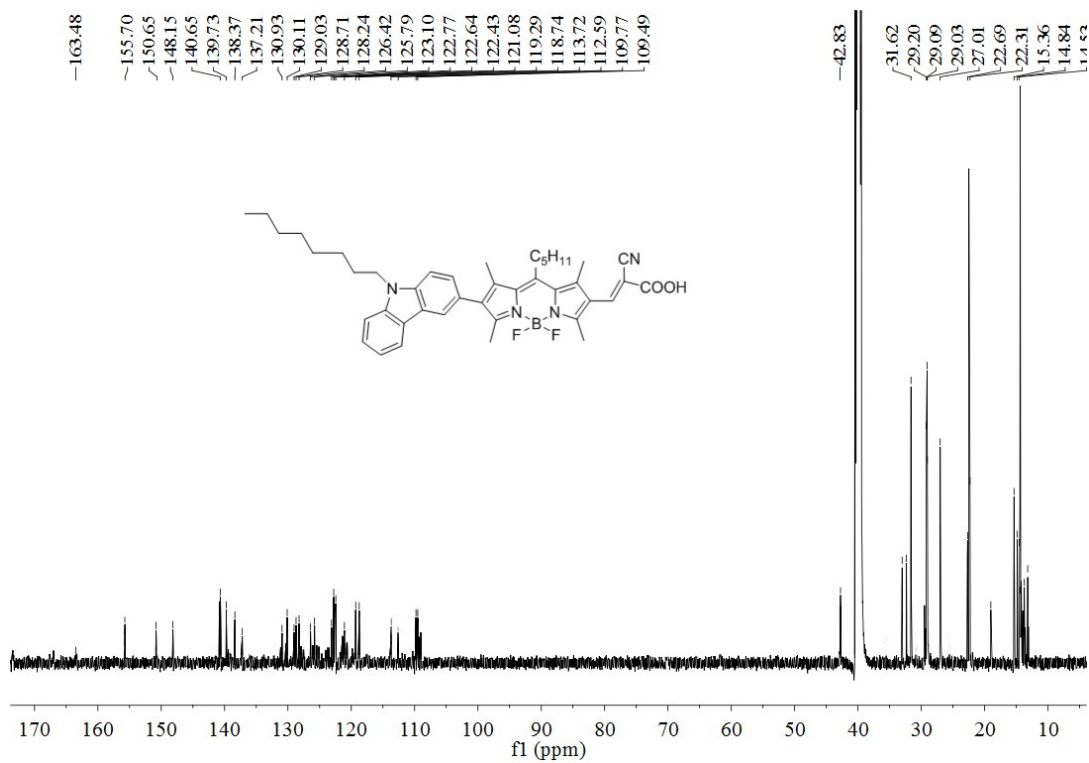
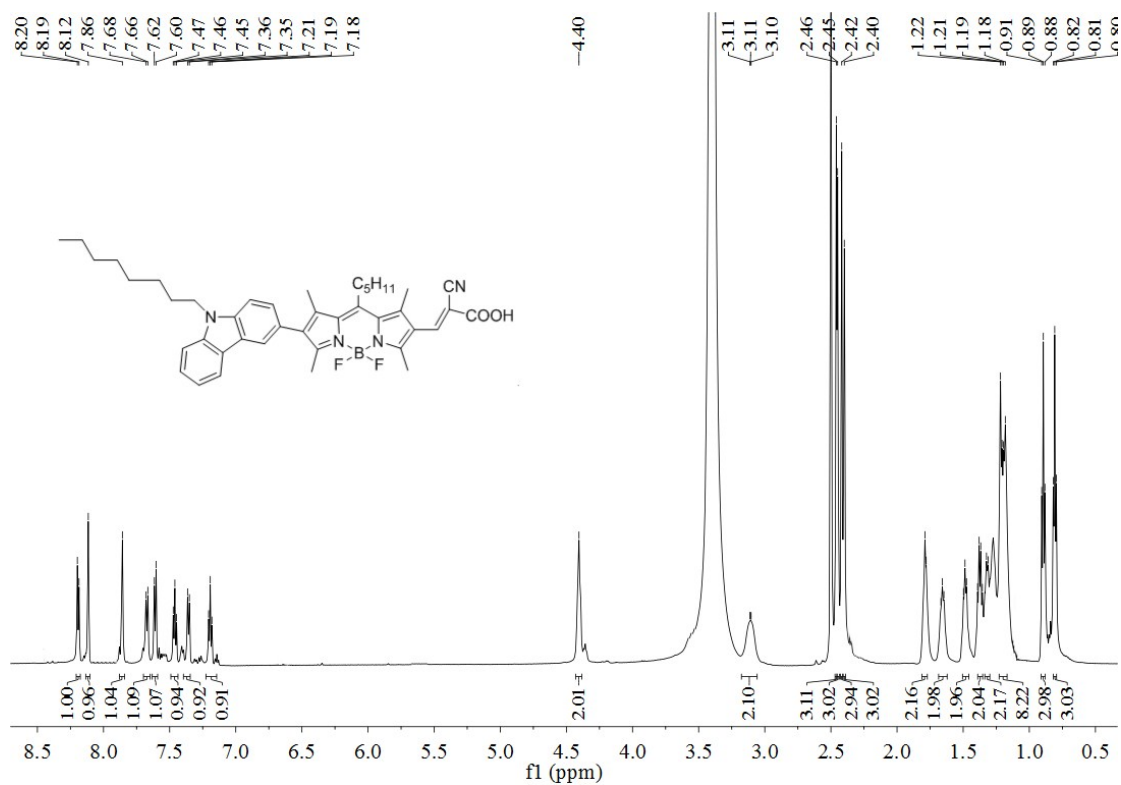


Fig. 11 ¹³C NMR spectra of compound 7d



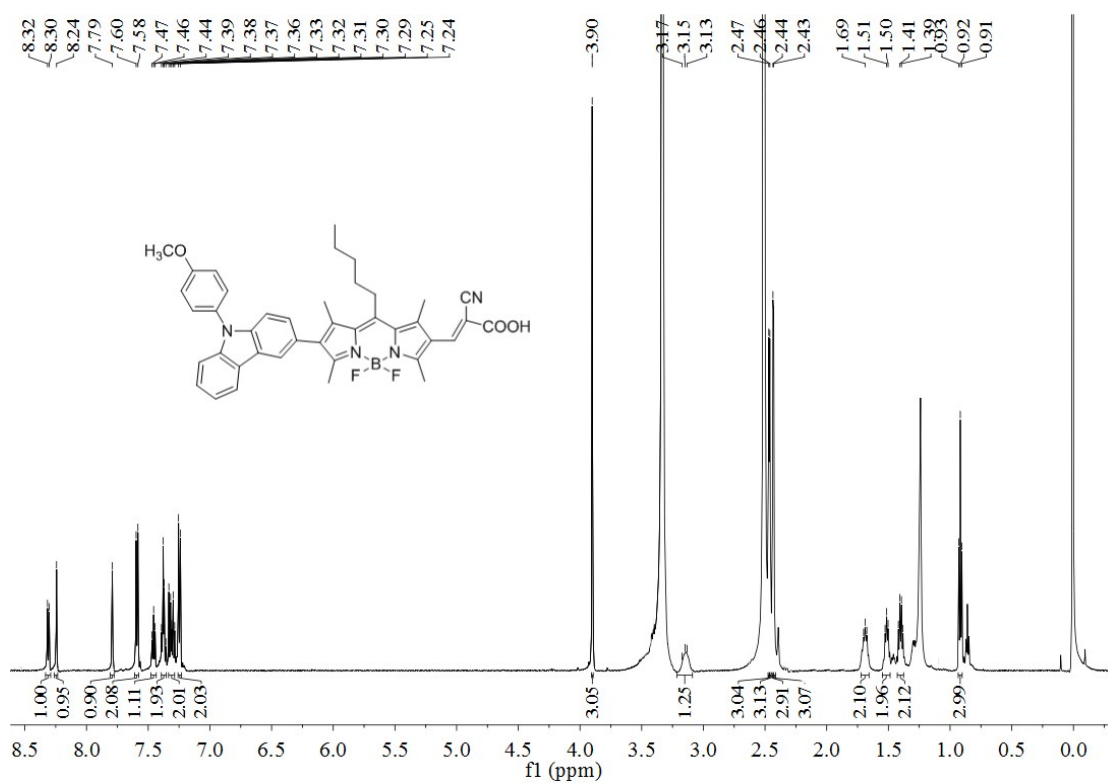


Fig. 14 ¹H NMR spectra of compound **CB2**

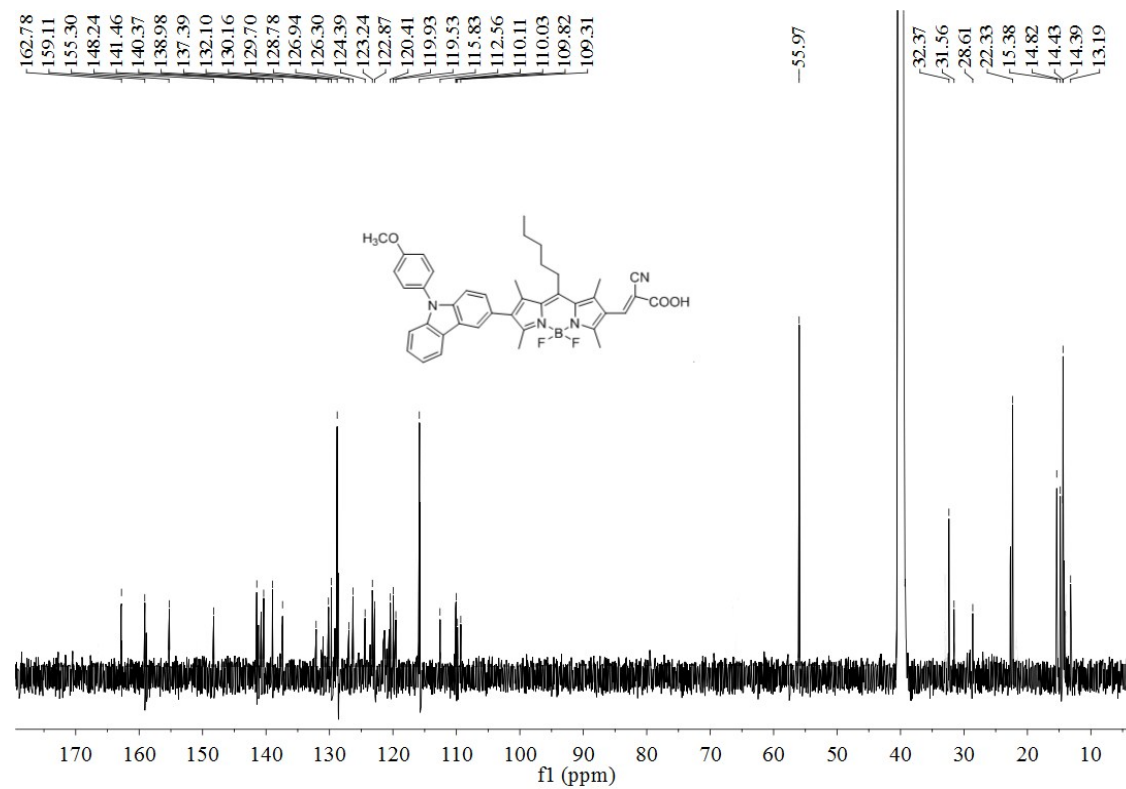


Fig. 15 ¹³C NMR spectra of compound **CB2**

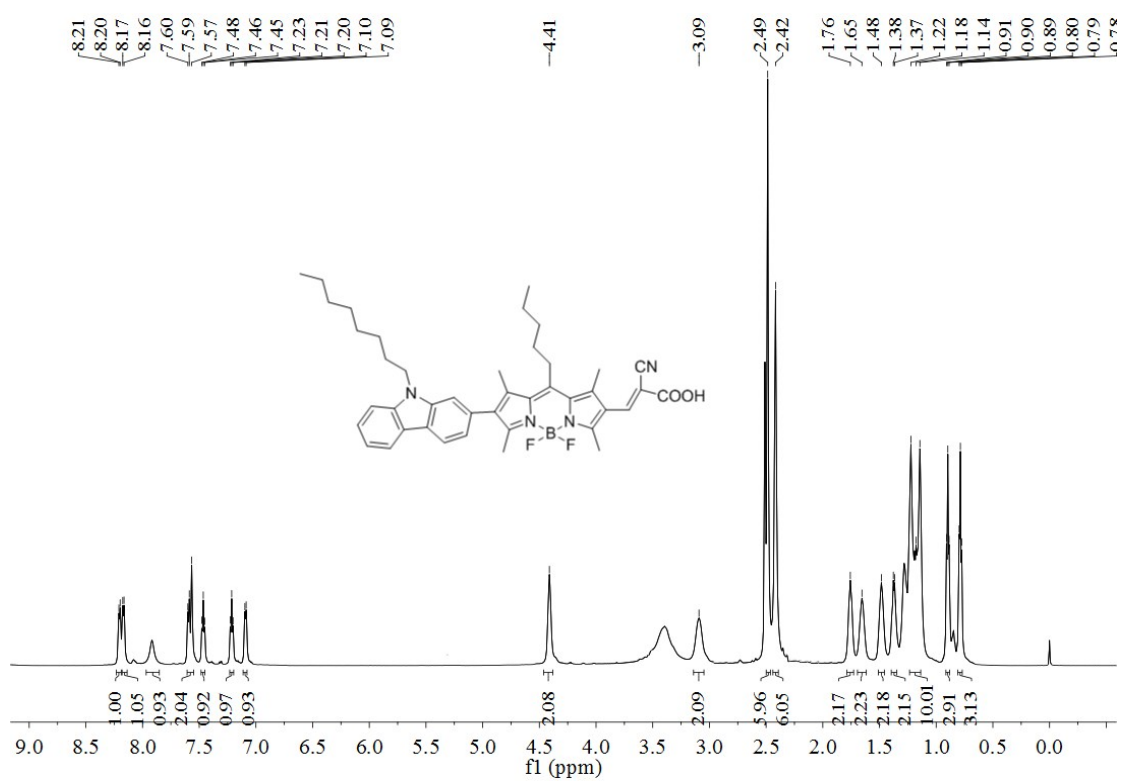


Fig. 16 ¹H NMR spectra of compound **CB3**

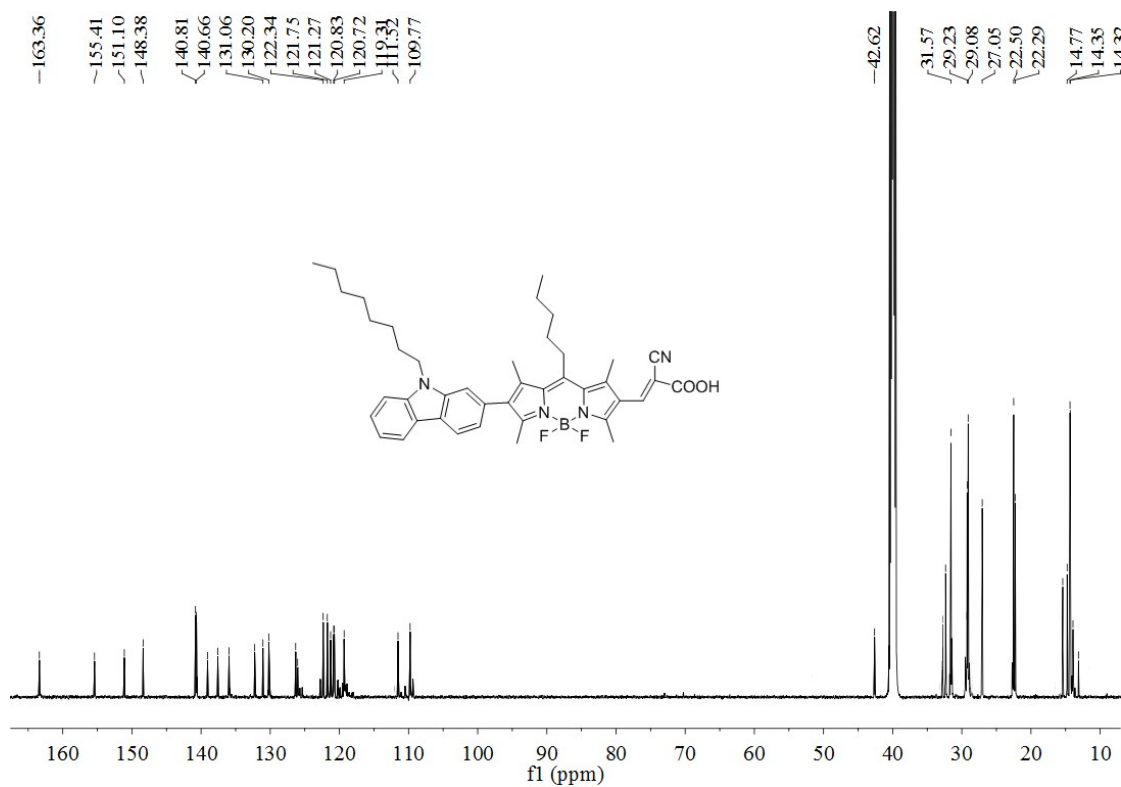


Fig. 17 ¹³C NMR spectra of compound **CB3**

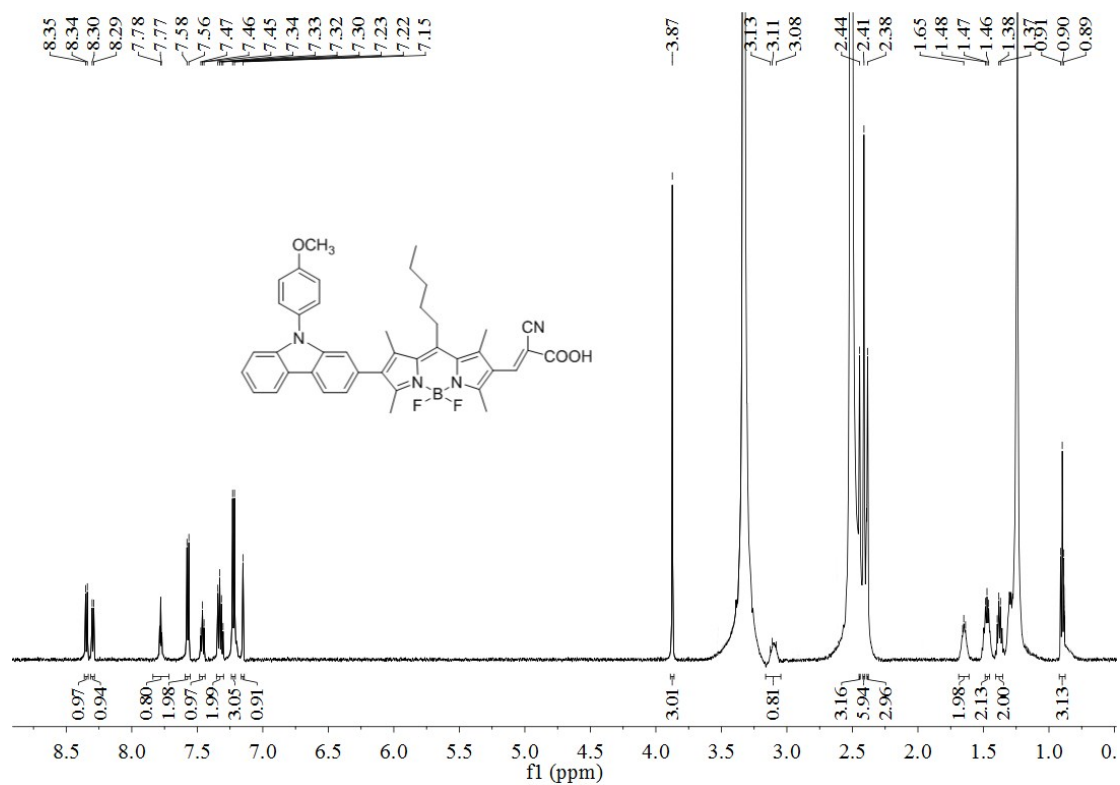


Fig. 18 ¹H NMR spectra of compound **CB4**

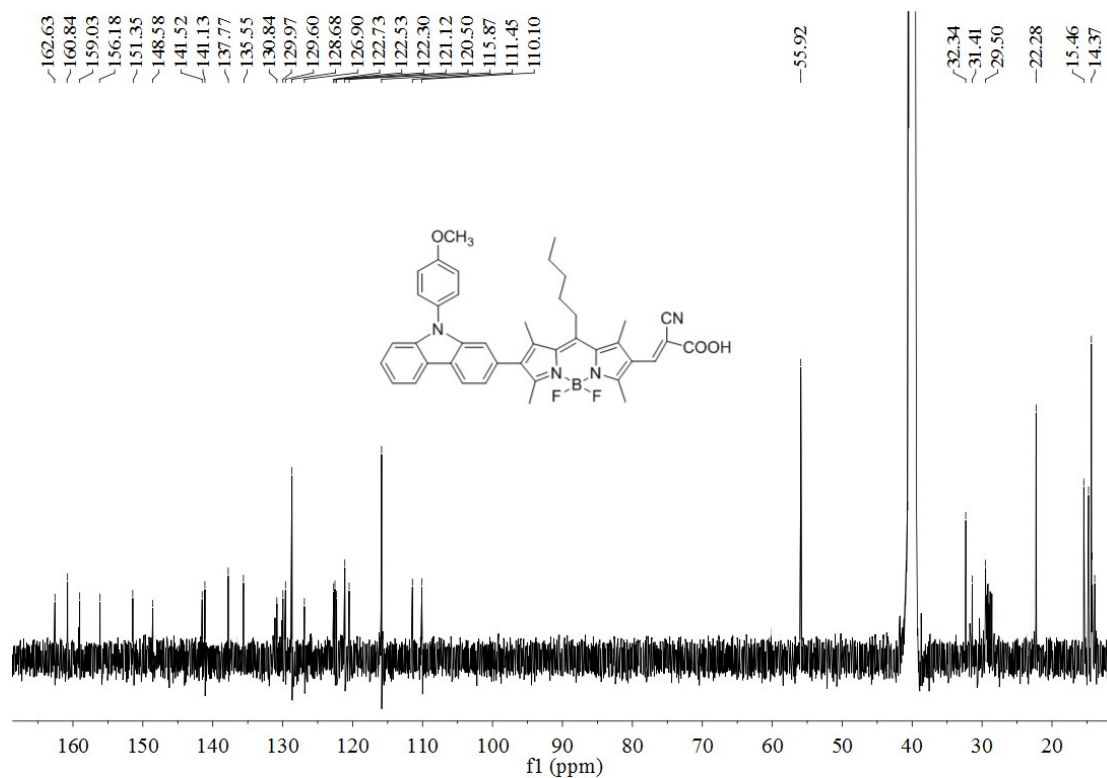


Fig. 19 ¹³C NMR spectra of compound **CB4**

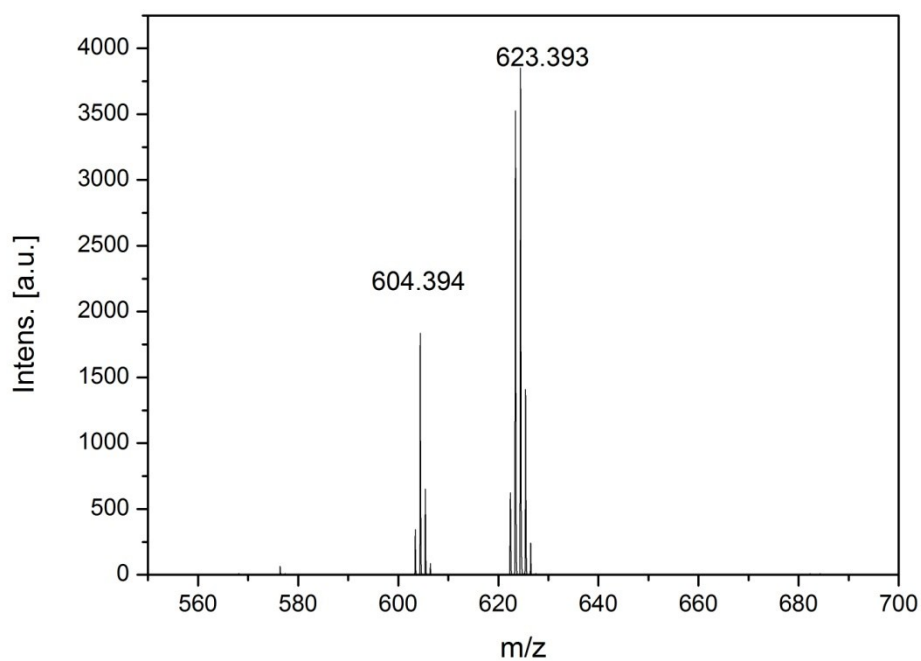


Fig. 20 MALDI-TOF-MS spectrum of compound **7a**

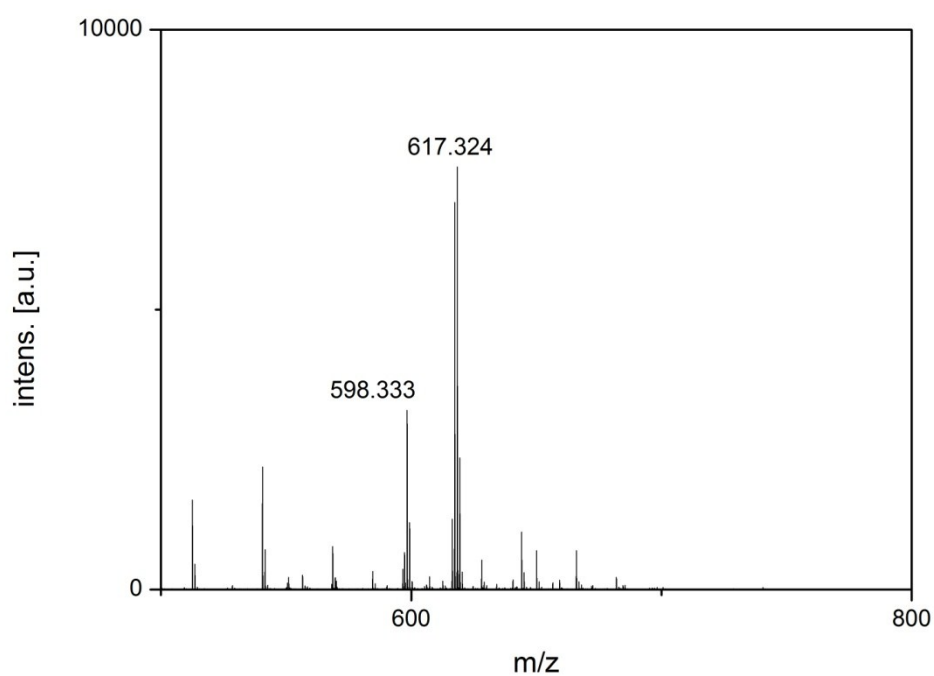


Fig. 21 MALDI-TOF-MS spectrum of compound **7b**

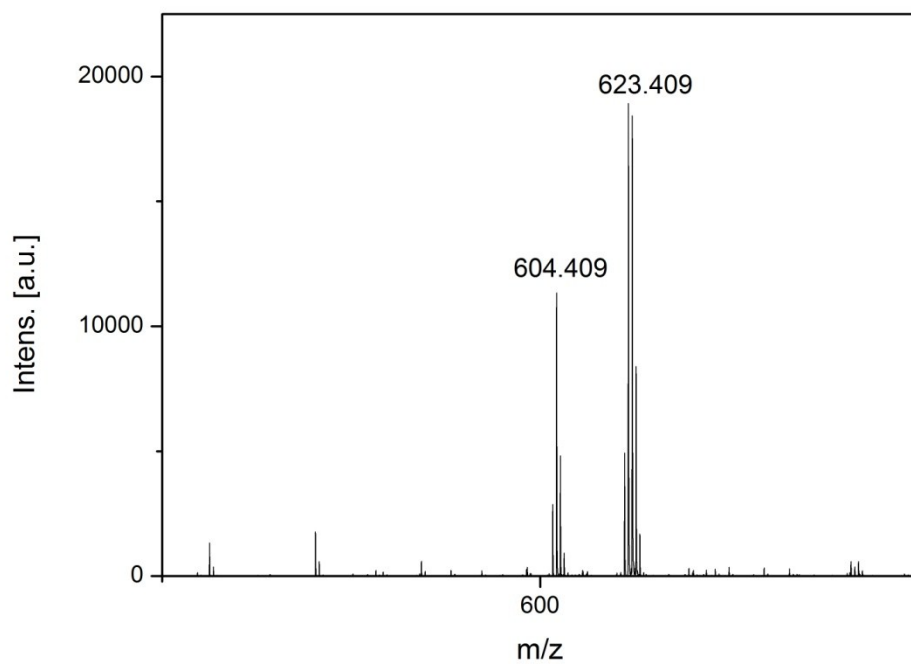


Fig. 22 MALDI-TOF-MS spectrum of compound **7c**

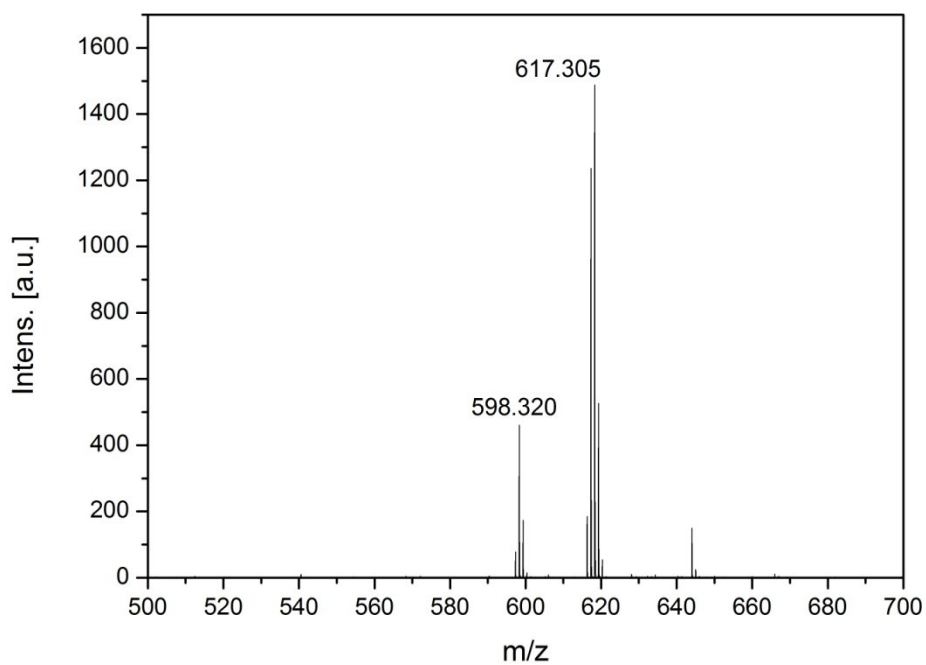


Fig. 23 MALDI-TOF-MS spectrum of compound **7d**

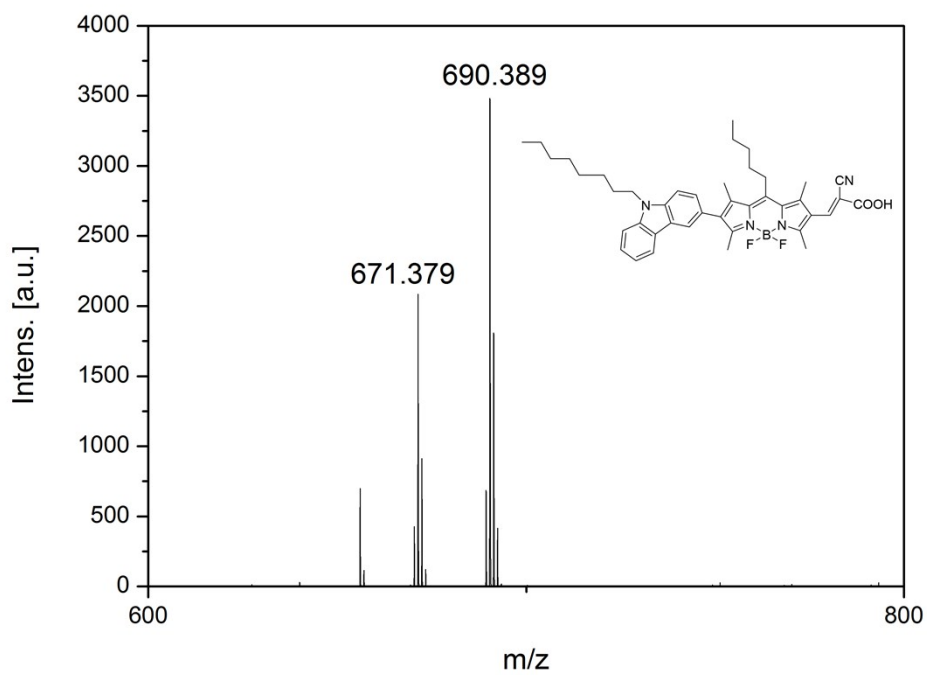


Fig. 24 MALDI-TOF-MS spectrum of compound **CB1**

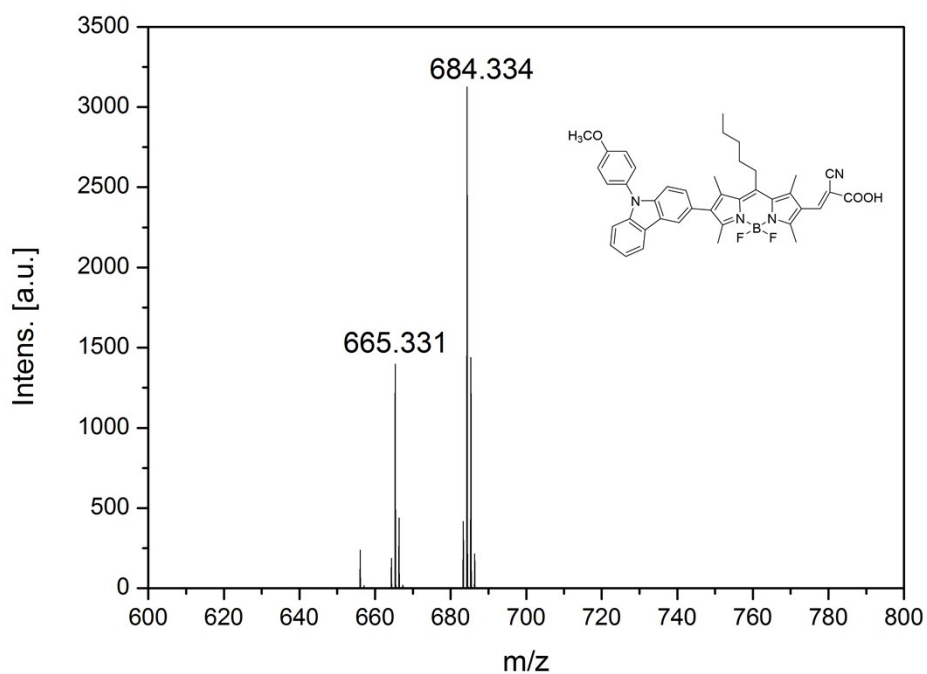


Fig. 25 MALDI-TOF-MS spectrum of compound **CB2**

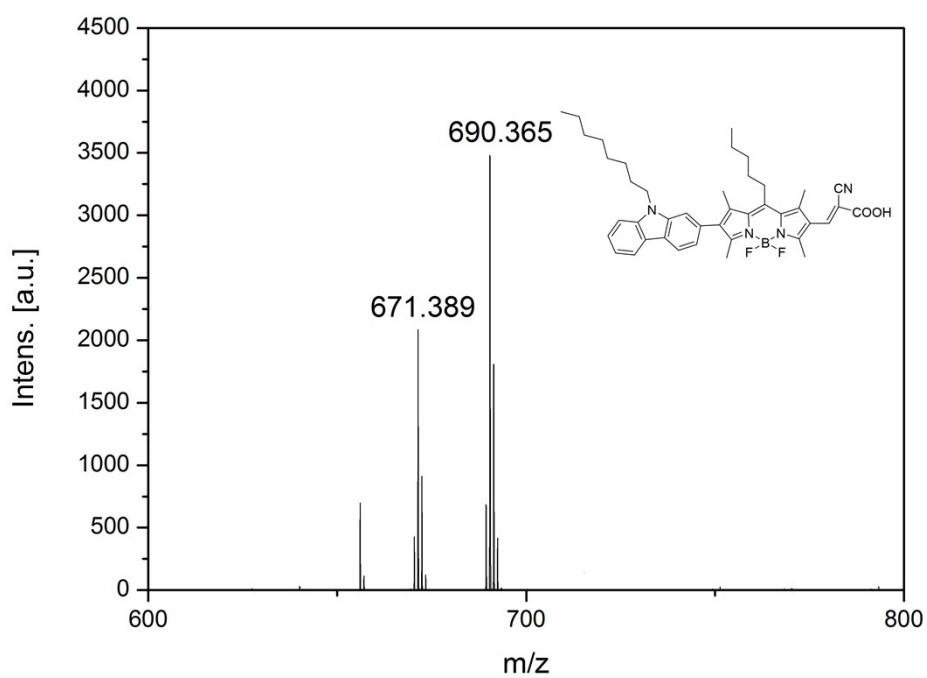


Fig. 26 MALDI-TOF-MS spectrum of compound **CB3**

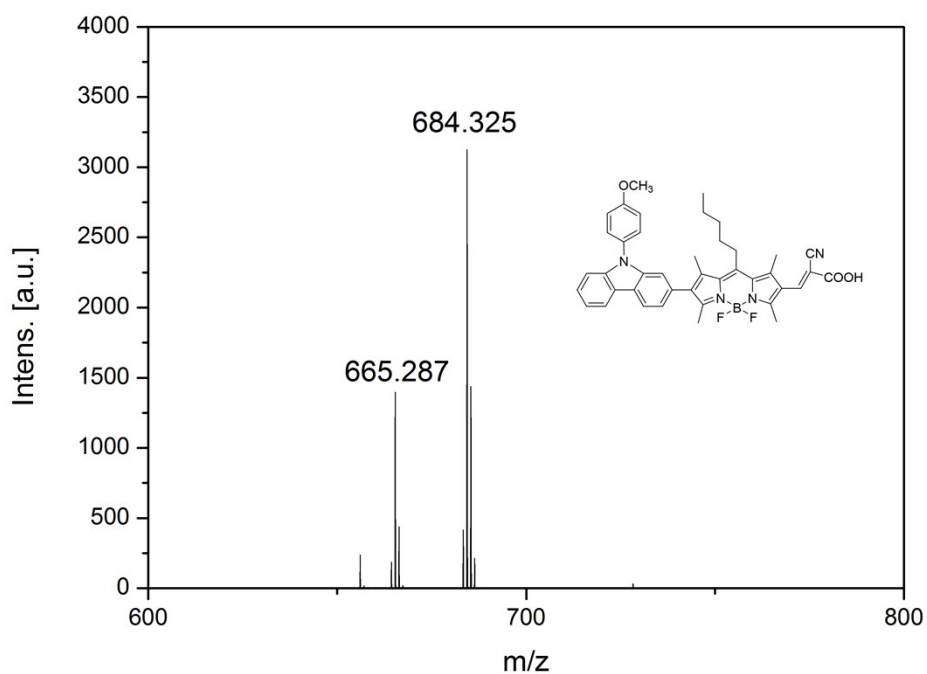


Fig. 27 MALDI-TOF-MS spectrum of compound **CB4**