Electronic Supplementary Information

Panchromatic Small Molecules for UV-Vis-NIR Photodetectors with High Detectivity

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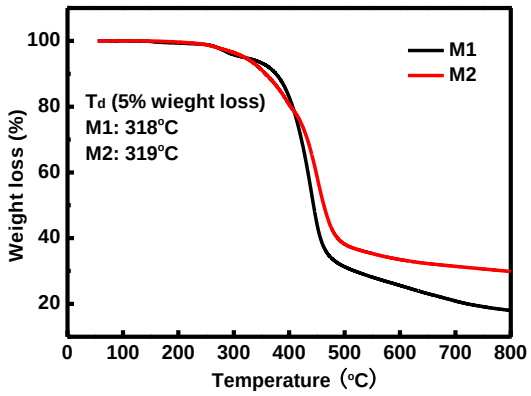

Fig. S1 TGA traces of **M1** and **M2** under nitrogen atmosphere.

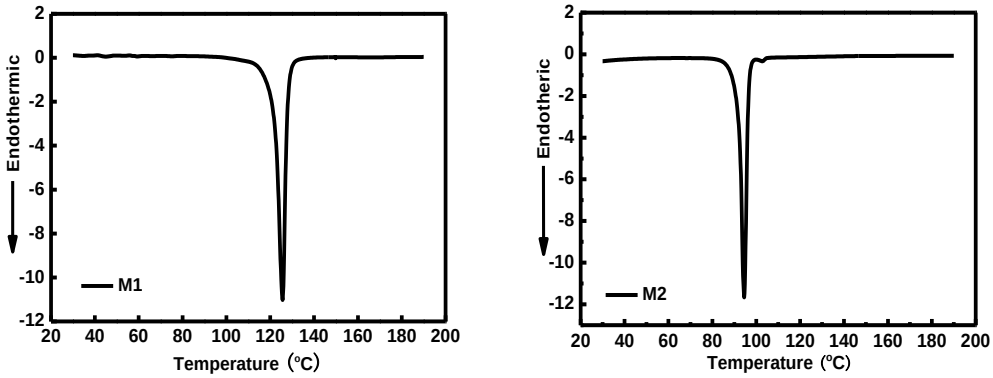

Fig. S2 DSC of **M1** and **M2** under nitrogen atmosphere.

Table S1. Optical and Electrochemical Data of M1 and M2

Compound	Abs.[a]/nm	Abs.[b]/nm	ε[c]/cm^{-1}	HOMO[d]	LUMO[d]	Eg/eV
M1	713	782	49514	-4.80/0.32	-3.65/-0.83	1.15
M2	718	770	35196	-4.77/0.29	-3.65/-0.83	1.12

[a] Solution: measured in DCM with a concentration of 1×10^{-5} M. [b] Film: spin-coated on quartz plate. [c] Absorption coefficient of the low-energy absorption peak of the film. [d] Calculated from the formula, E (HOMO)=−(E_{ox}+4.48) (eV), E (LUMO)=−(E_{red}+4.48) (eV).

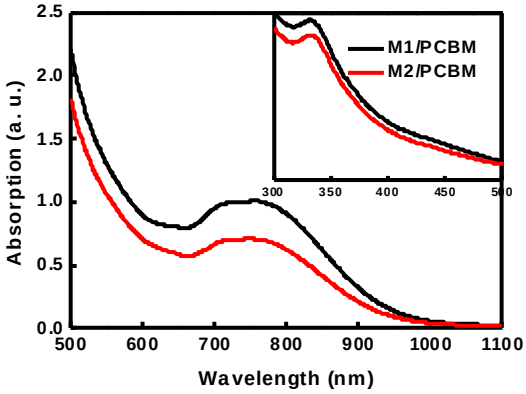

Fig. S3 Absorption spectra of the films of **M1**/**M2** and PCBM (1:3 by weight) spin-coated on quartz plate.

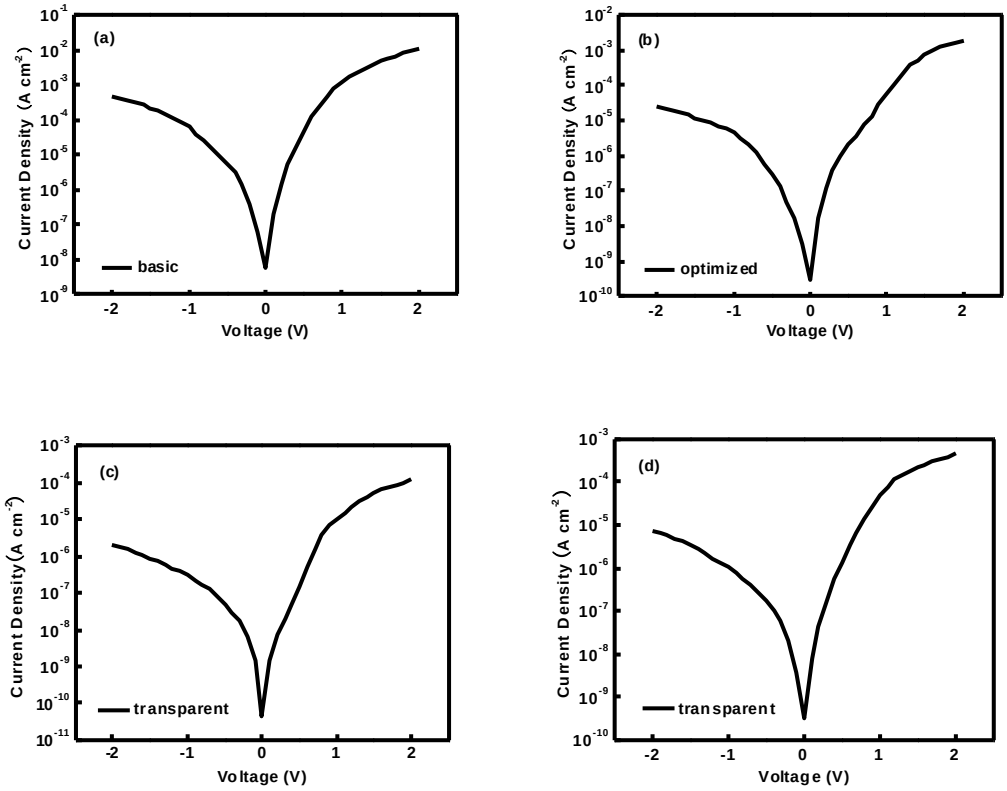

Fig. S4 Current density-voltage (*J*-*V*) characteristics of the devices in the dark. (a) device b; (b) device d; (c) device e; (d) device f.

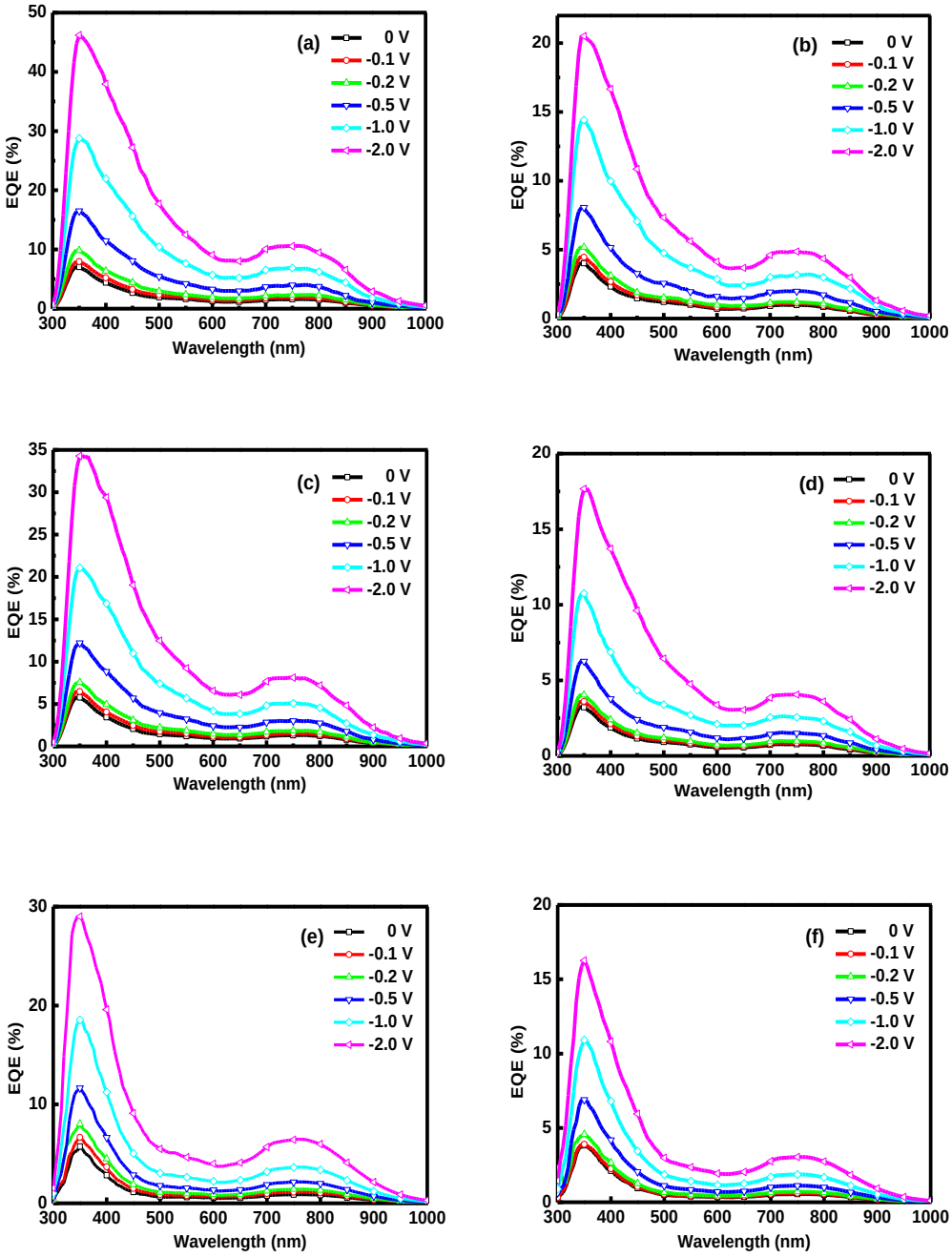

Fig. S5 EQE of device a to device f at different biases.

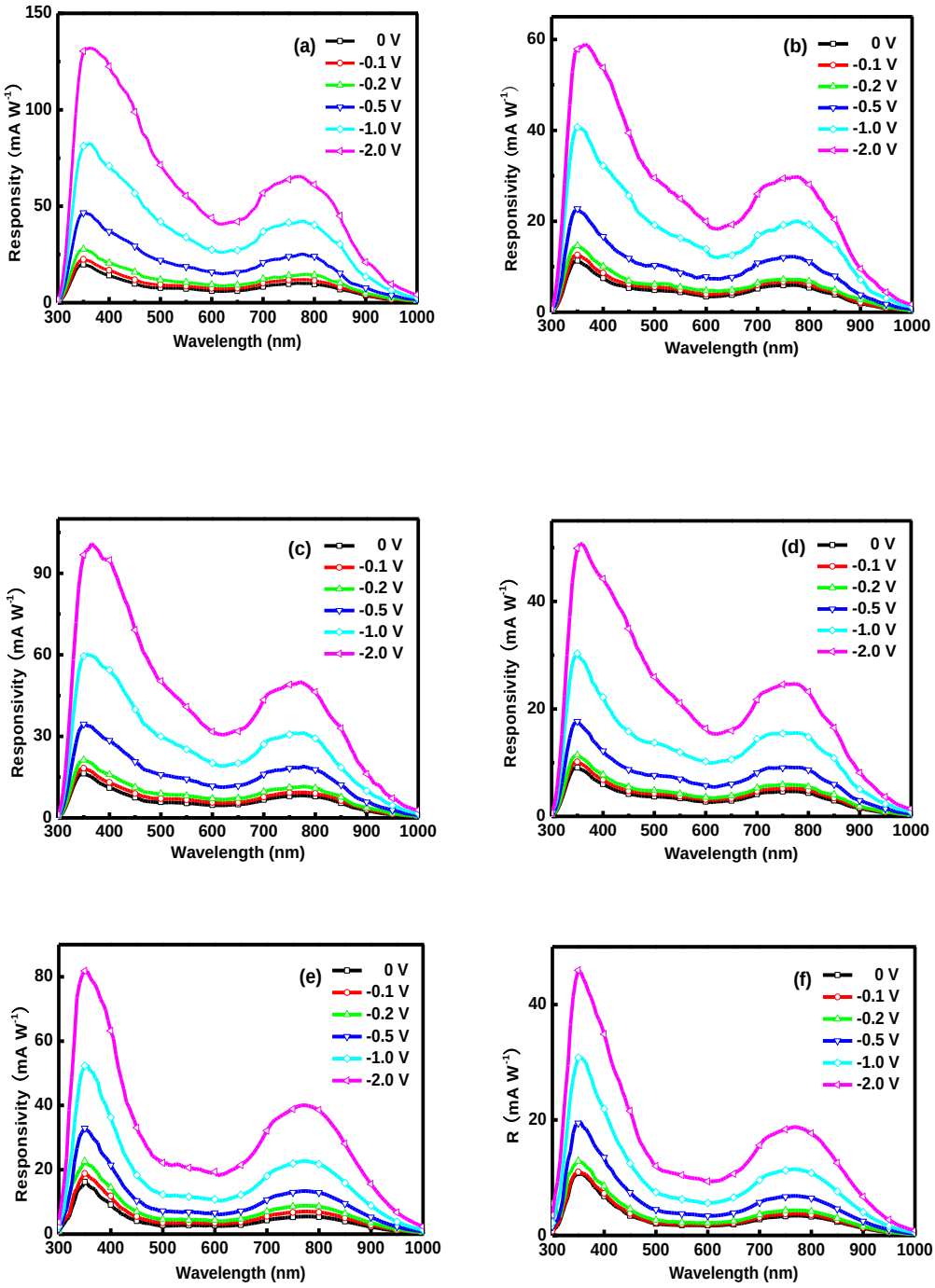

Fig. S6 Responsivity (*R*) of device a to device f at different biases.

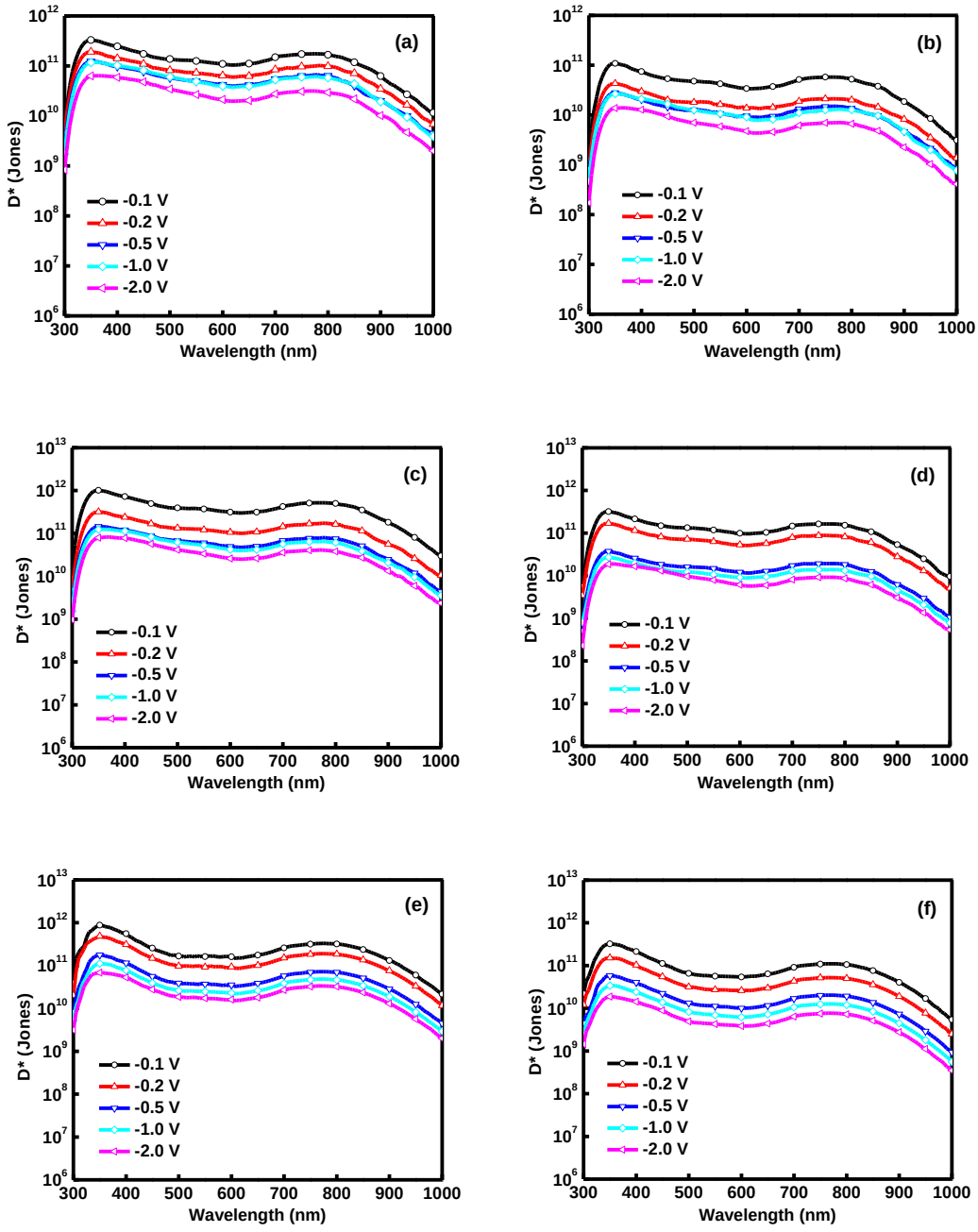

Fig. S7 Specific detectivity (*D**) of device a to device f at different biases.

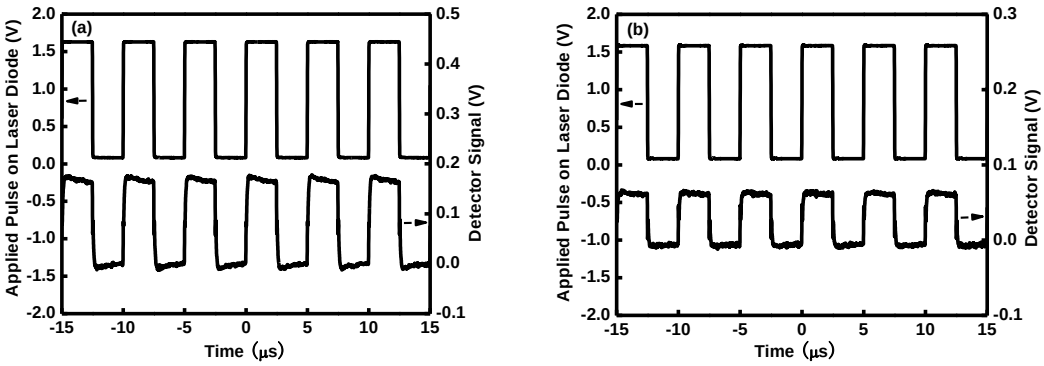

Fig. S8 Transient response of device c (a) and d (b) at a biased voltage of -0.1 V under 0.1 MHz modulation with 550 nm monochromatic illumination.

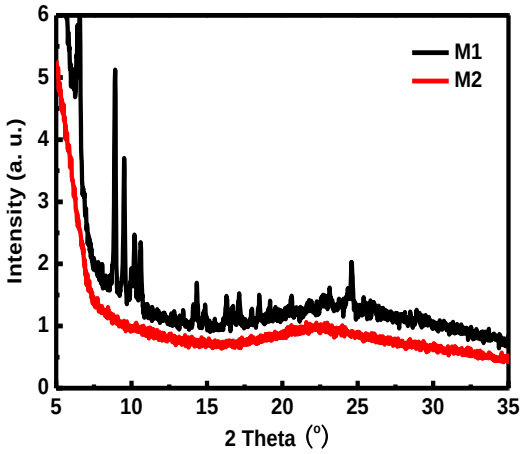

Fig. S9 Wide angle X-ray diffraction (WAXRD) diagrams of **M1** and **M2** drop-cast on glass substrate.

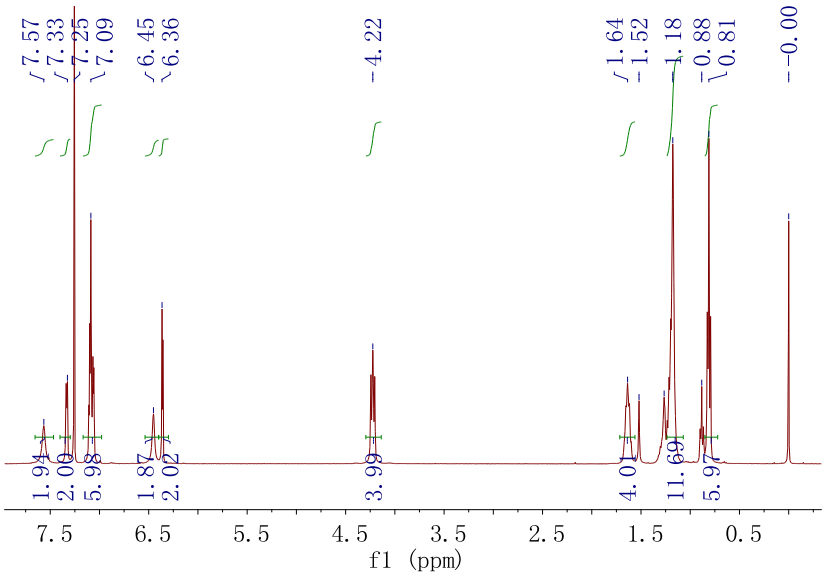

Fig. S10 ^{1}H NMR (400 MHz, $CDCl_3$, 298 K) of **M1**.

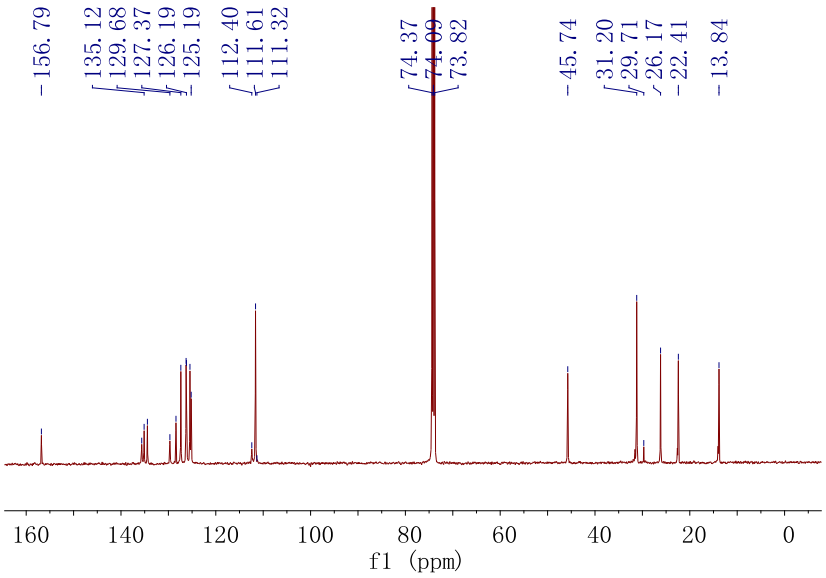

Fig. S11 ^{13}C NMR (100 MHz, $C_2D_2Cl_4$, 373 K) of **M1**.

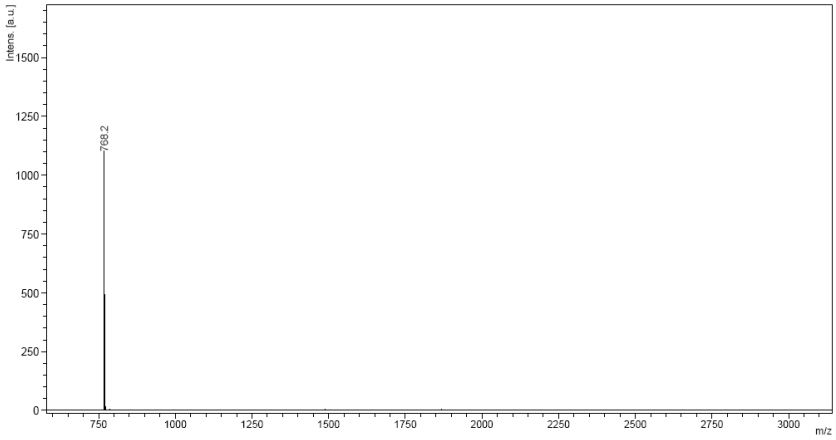

Fig. S12 MALDI-TOF MS of **M1**.

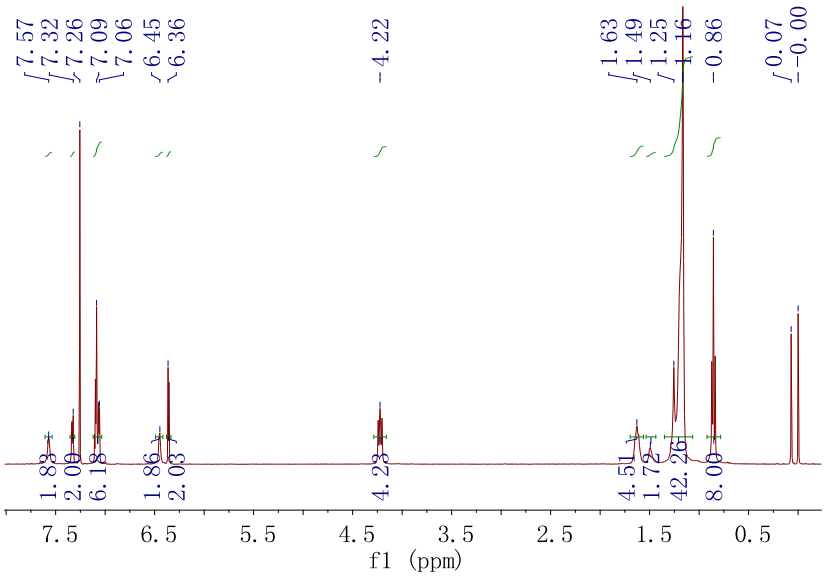

Fig. S13 ^{1}H NMR (400 MHz, $CDCl_3$, 298 K) of **M2**.

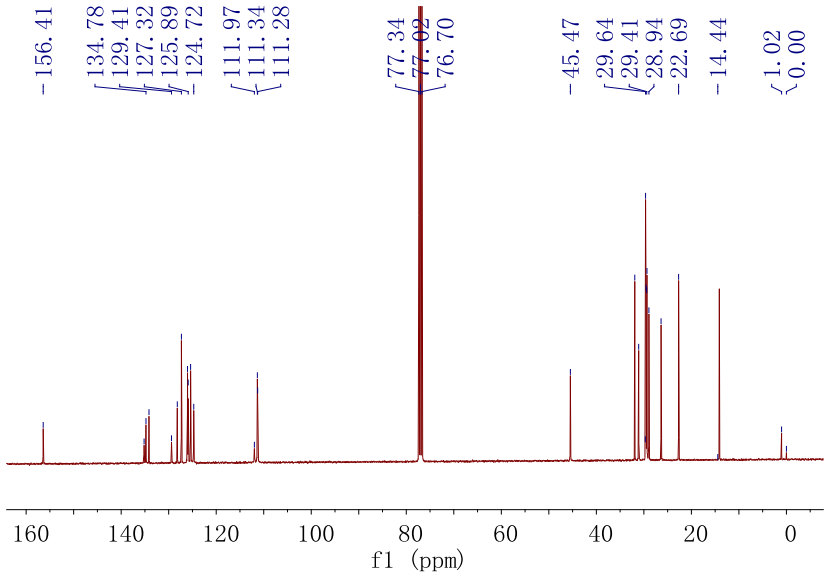

Fig. S14 ^{13}C NMR (100 MHz, $CDCl_3$, 298 K) of **M2**.

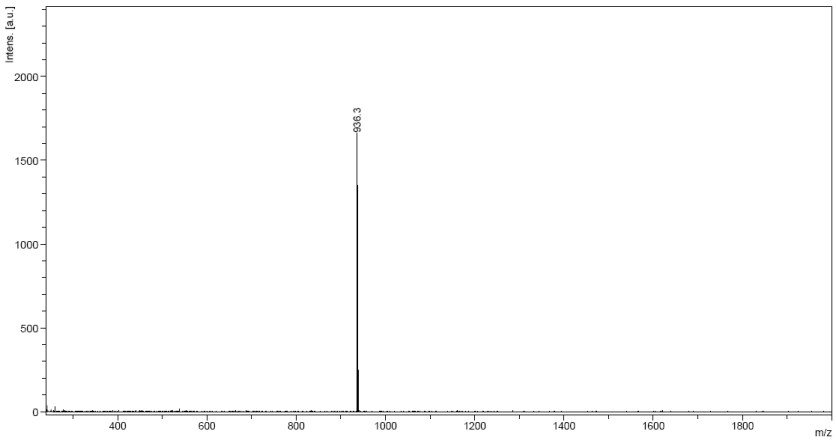

Fig. S15 MALDI-TOF MS of **M2**.