Supporting Information for:

Synthesis of star-shaped monodisperse oligo(9,9-di-n-octylfluorene-2,7-vinylene)s functionalized truxenes with two-photon absorption properties

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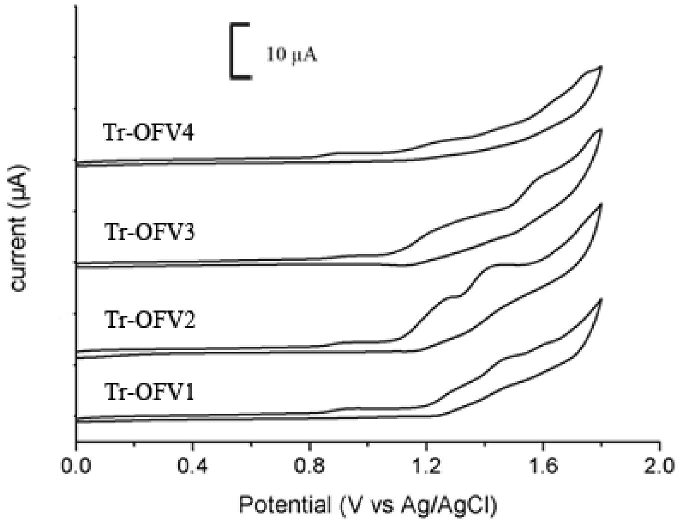


Fig. S1 Cyclic voltammetry diagrams of **Tr-OFVn** in anhydrous CH_2Cl_2 with 0.1 M Bu_4NBF_4 as electrolyte at a scan rate of 100 $mV \cdot s^{-1}$.

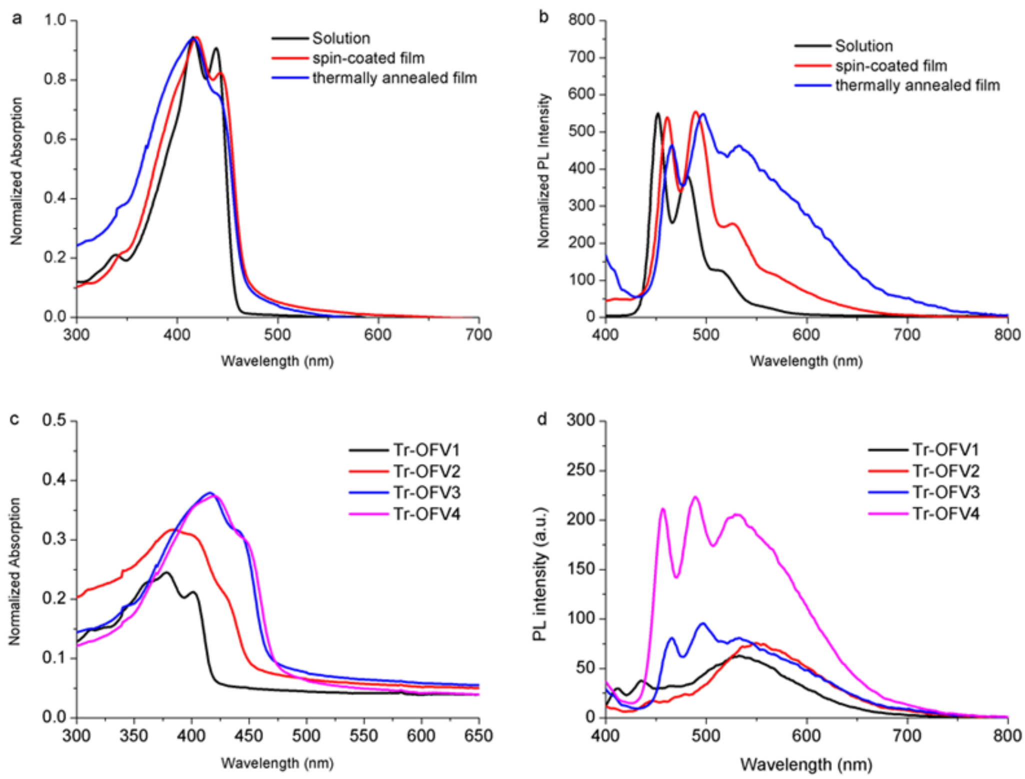


Fig. S2 Normalized UV-vis absorption (a) and fluorescence (b, λ_{ex} = 390 nm) spectra of **Tr-OFV3** in THF (2.0×10^{-6} M), in spin-coated film and in the thermally annealed film; UV-vis absorption (c) and fluorescence spectra (d, λ_{ex} = 365 nm) of **Tr-OFVn** in the themally annealed films.

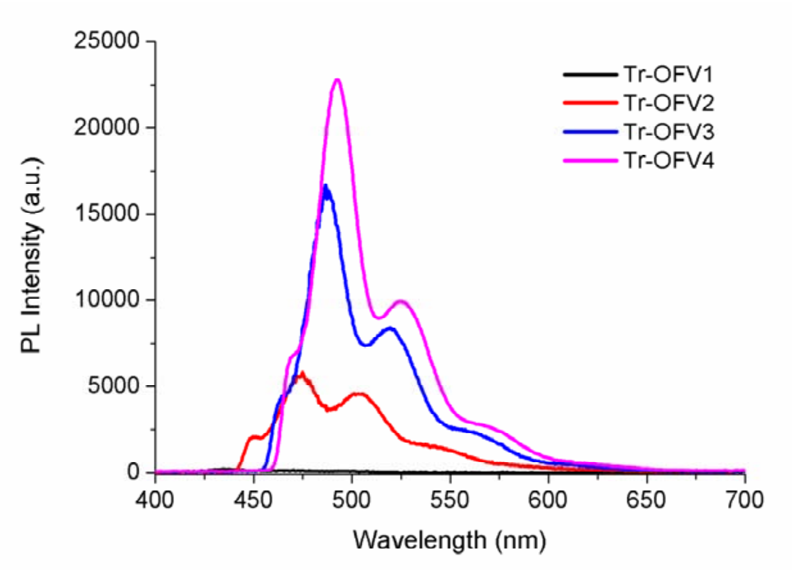


Fig. S3 Two-photon-induced fluorescence spectra (λ_{ex} = 710 nm) of **Tr-OFVn** in toluene (5.0×10^{-5} M).

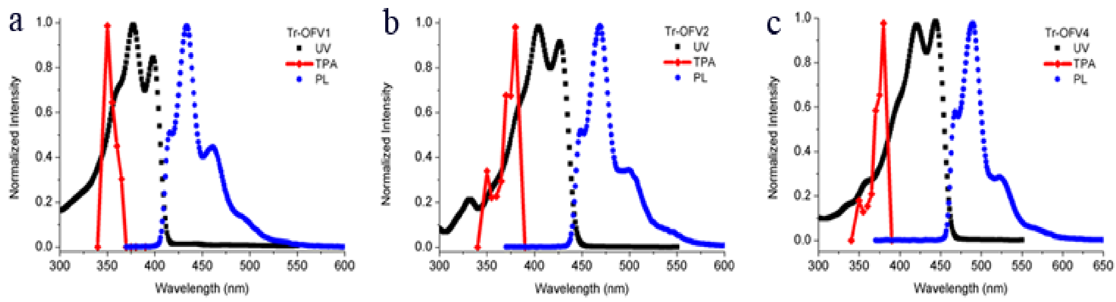


Fig. S4 Normalized one-photon absorption (black), single-photon excitation fluorescence spectra (blue, λ_{ex}= 365 nm) and two-photon excitation spectra (red) for **Tr-OFV1** (a), **Tr-OFV2** (b) and **Tr-OFV4** (c) in toluene (5.0×10^{-5} M). The two-photon spectra are plotted against λ/2 (twice the photon energy).

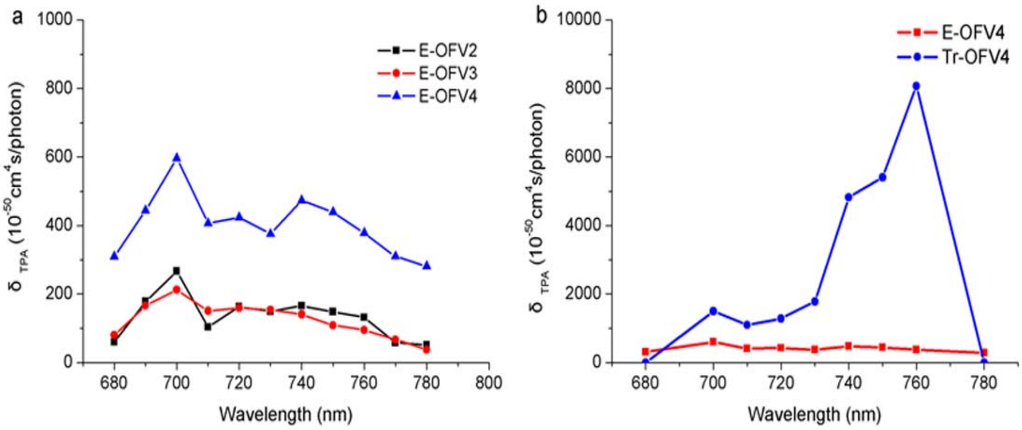


Fig. S5 (a) The two-photon excitation spectra of **E-OFVn** (n = 2, 3, 4) in toluene (1.5×10^{-4} M); (b) The two-photon excitation spectra of **E-OFV4** (1.5×10^{-4} M) and **Tr-OFV4** (5.0×10^{-5} M) in toluene. The max two-photon cross sections were 260 GM, 215 GM and 597 GM for **E-OFV2**, **E-OFV3** and **E-OFV4**, respectively.

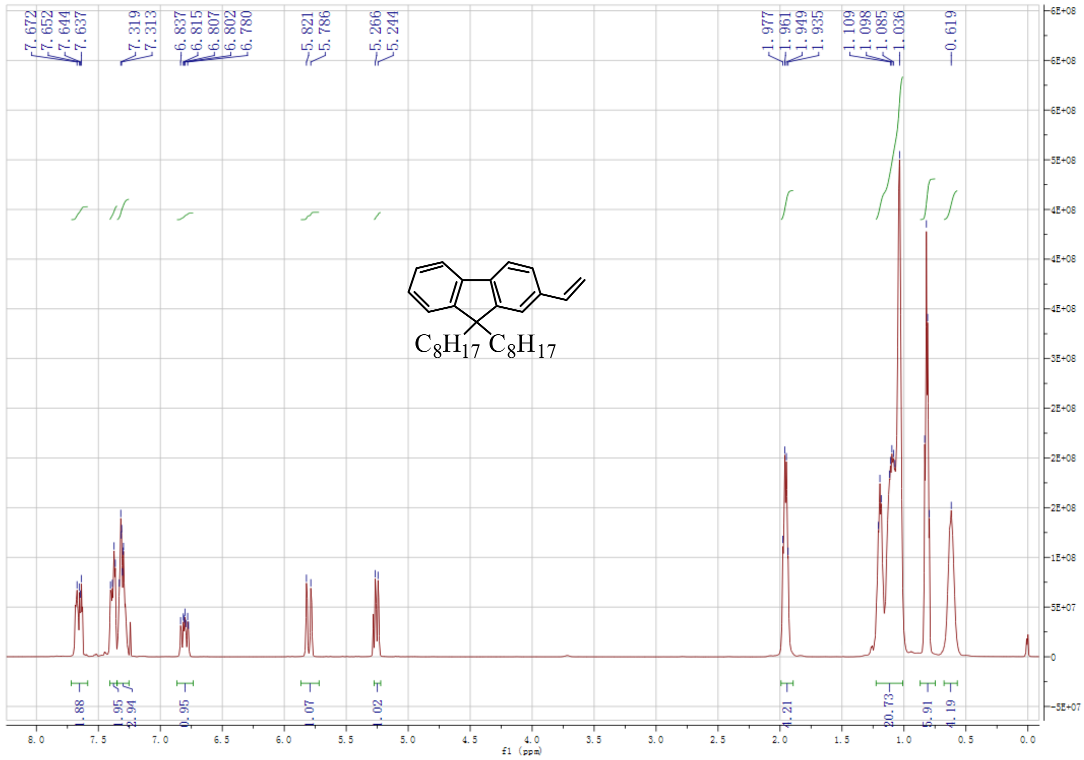


Fig. S6 [1]H-NMR (500 MHz) spectrum of compound **E-OFV1**.

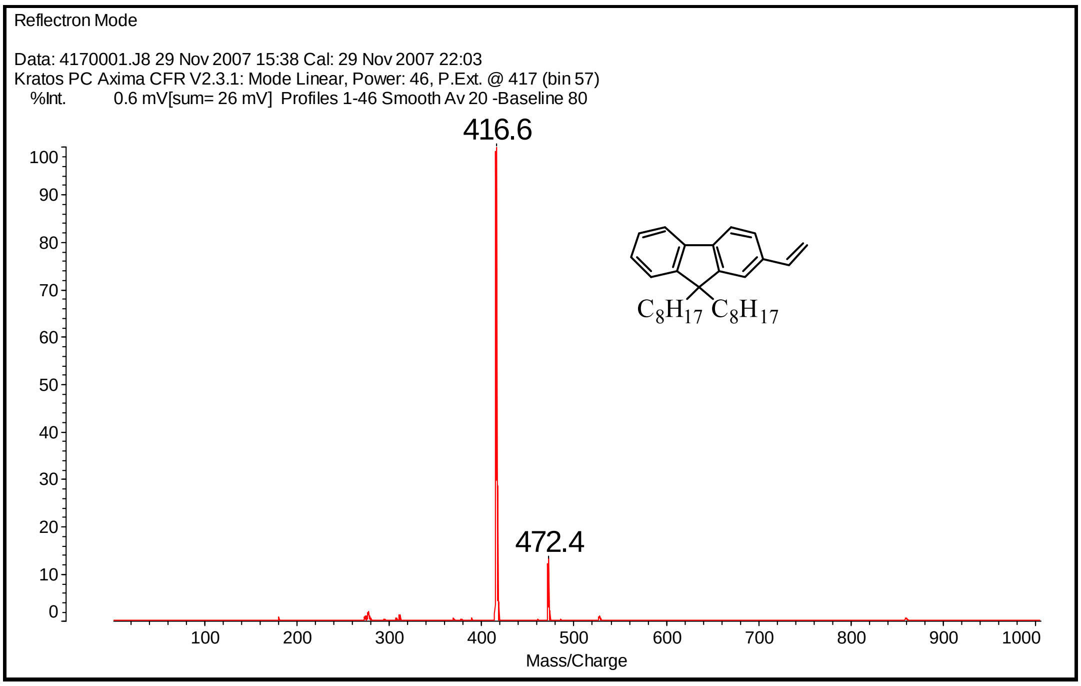


Fig. S7 MALDI/TOF MS spectrum of **E-OPV1**.

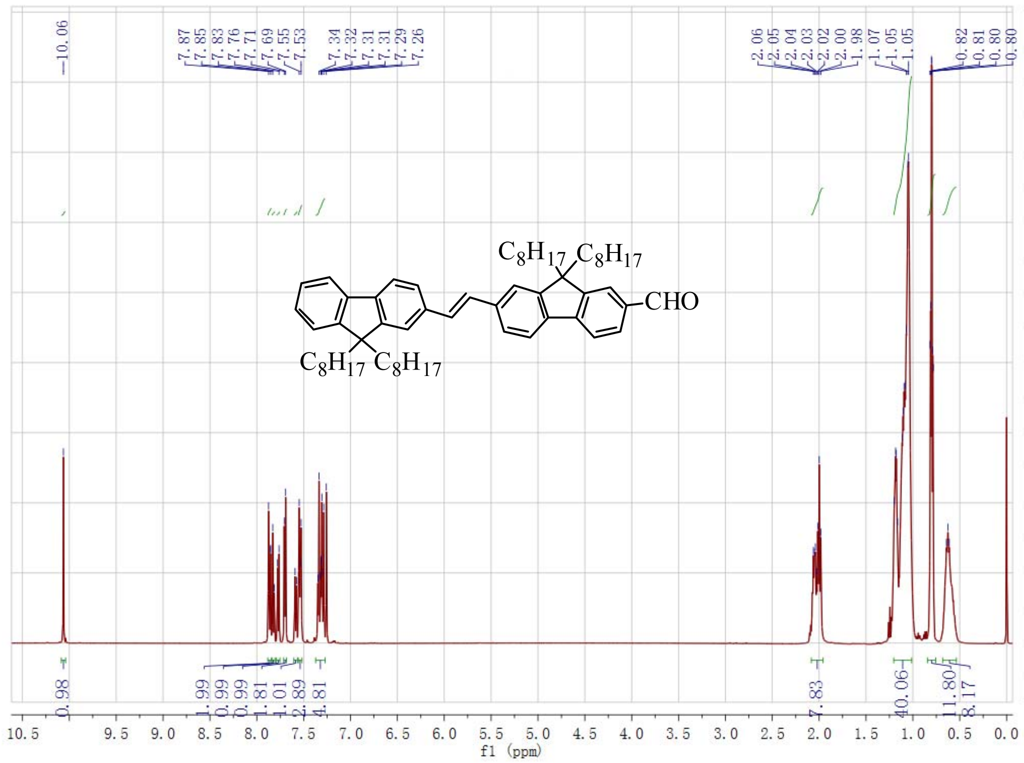


Fig. S8 ^{1}H-NMR (500 MHz) spectrum of compound **4**.

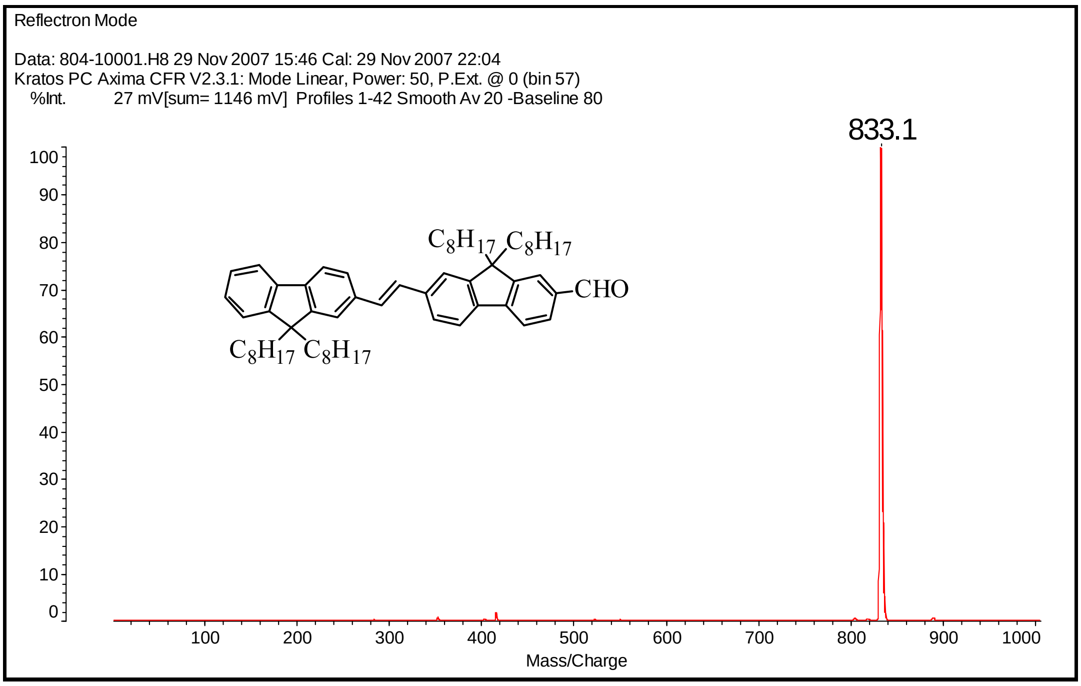


Fig. S9 MALDI/TOF MS spectrum of compound **4**.

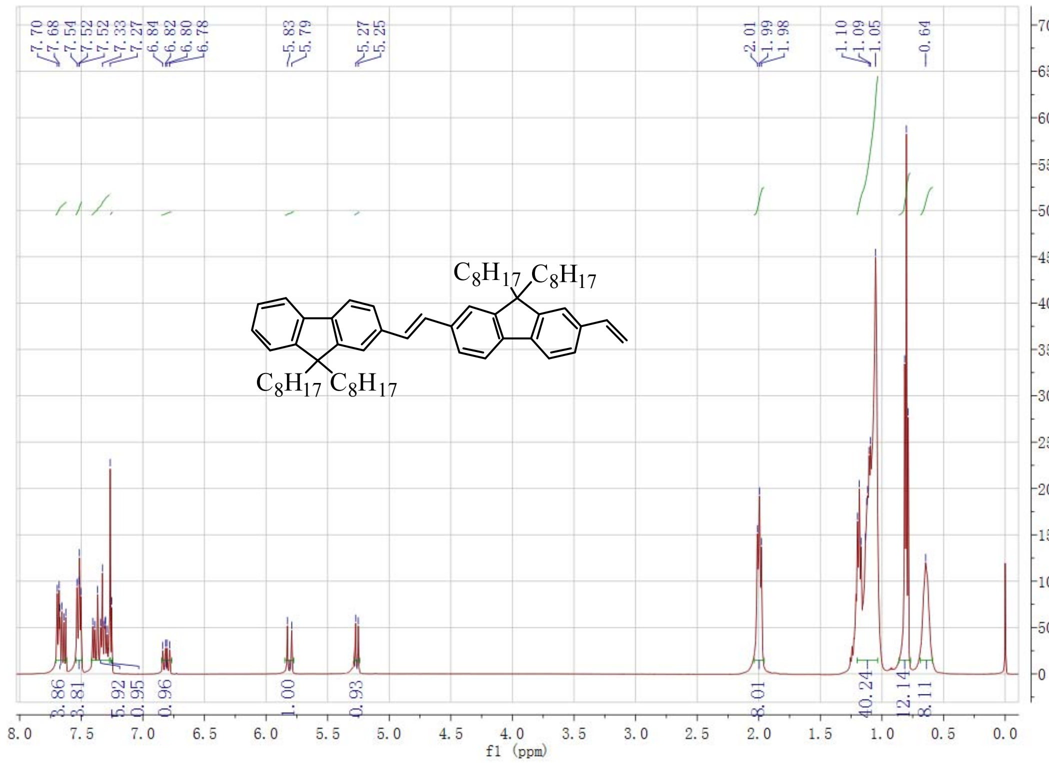


Fig. S10 ^{1}H-NMR (500 MHz) spectrum of compound **E-OFV2**.

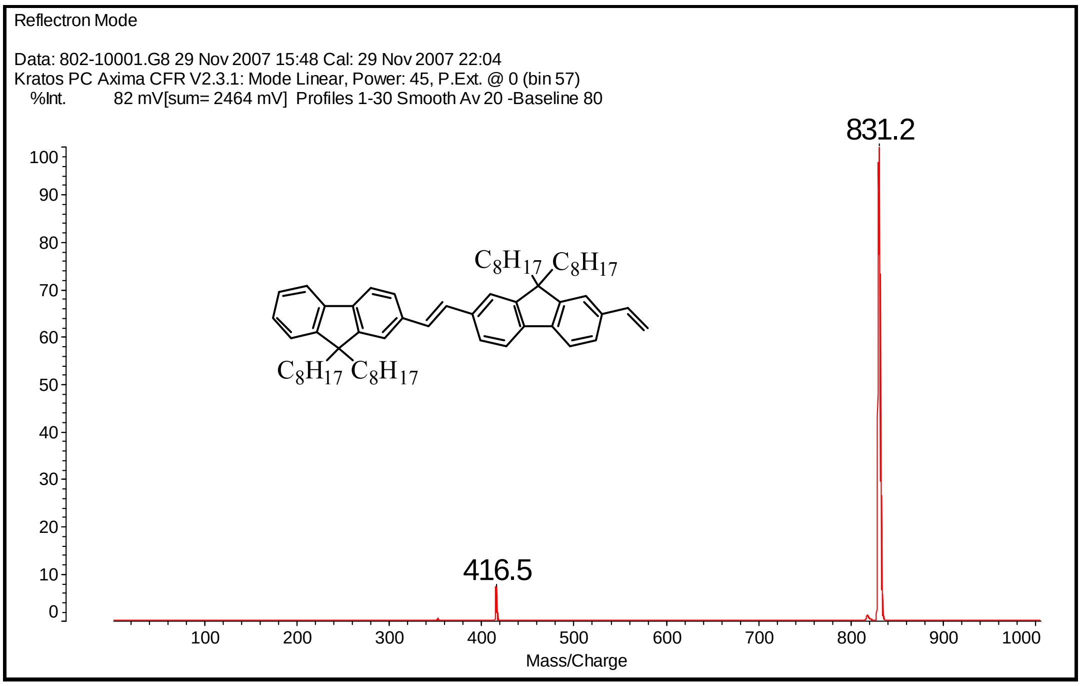


Fig. S11 MALDI/TOF MS spectrum of **E-OFV2**.

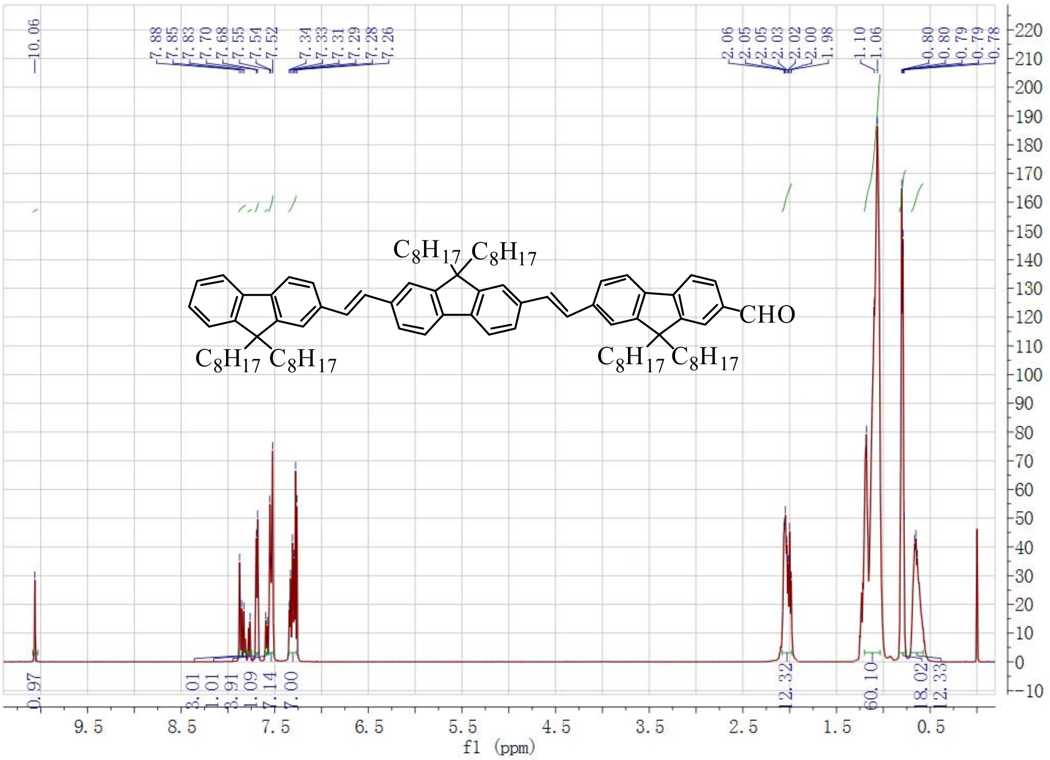


Fig. S12 ^{1}H-NMR (500 MHz) spectrum of compound **5**.

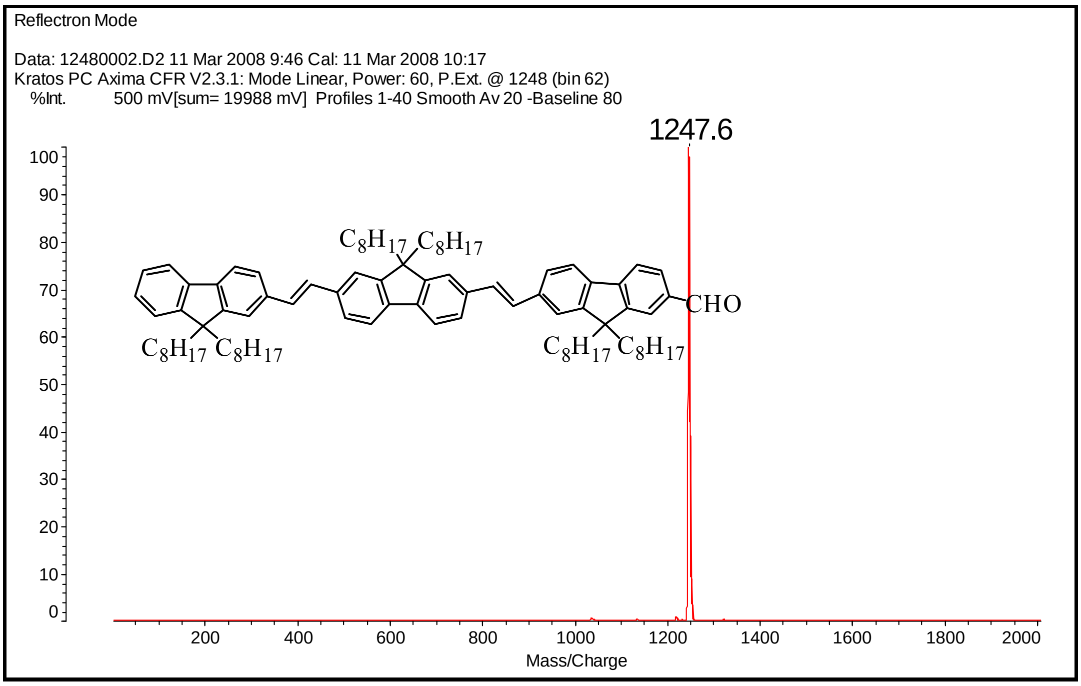


Fig. S13 MALDI/TOF MS spectrum of **5**.

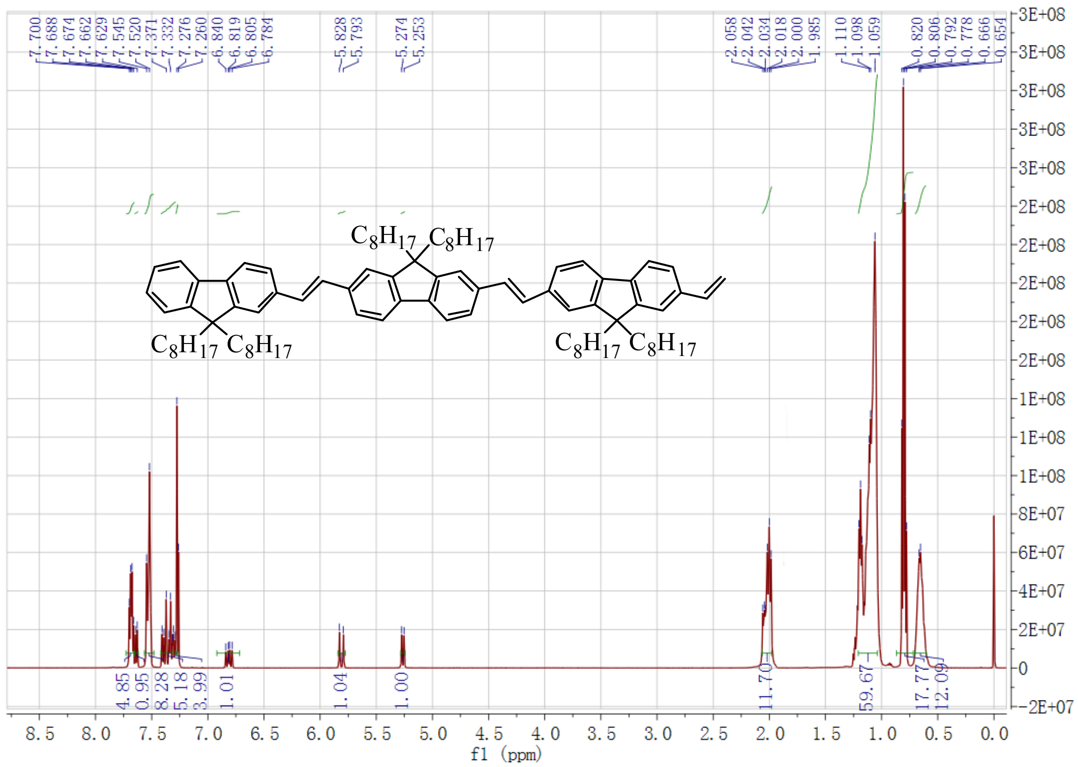


Fig. S14 ^{1}H-NMR (500 MHz) spectrum of compound **E-OFV3**.

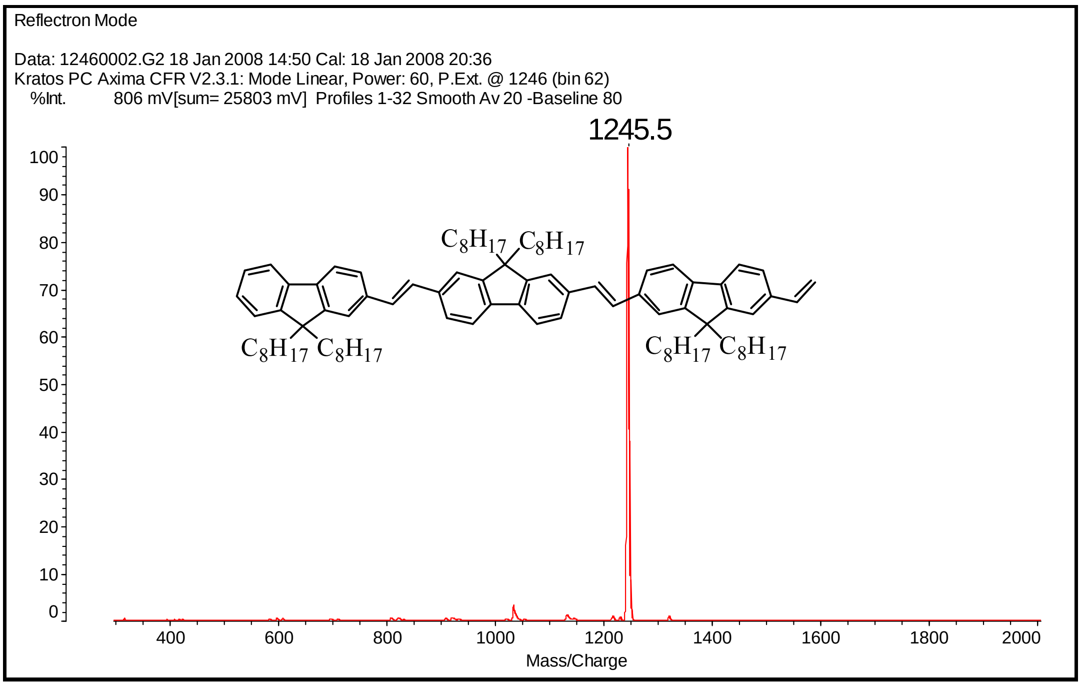


Fig. S15 MALDI/TOF MS spectrum of **E-OFV3**.

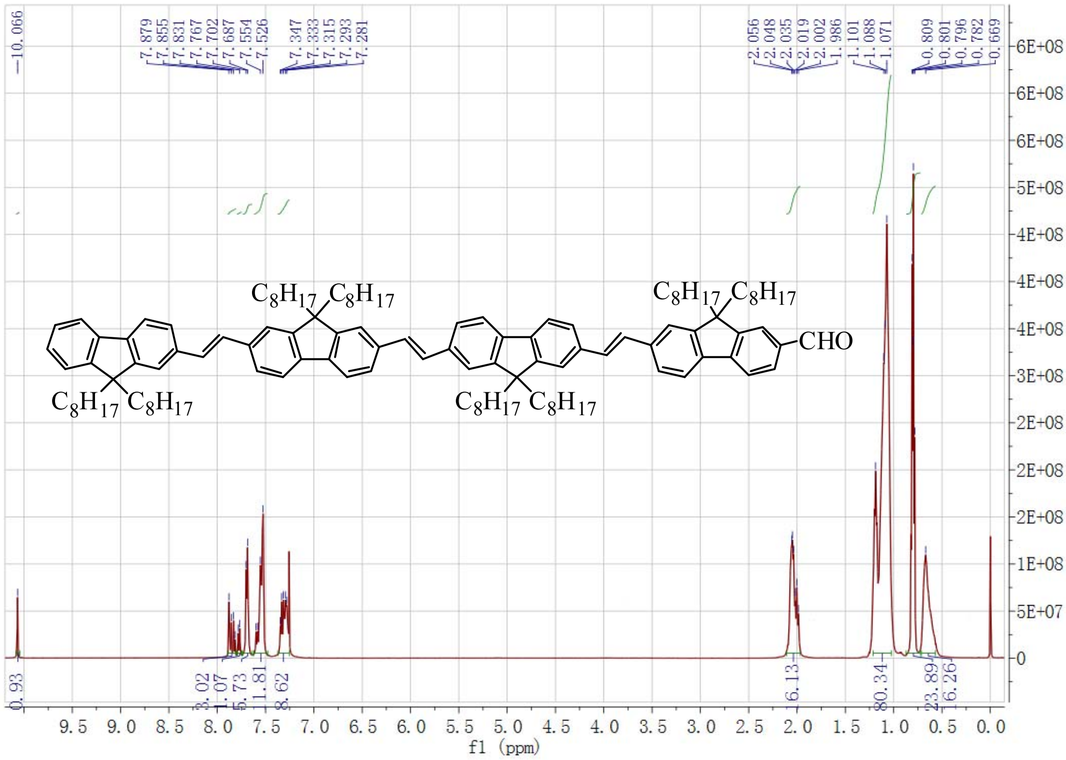


Fig. S16 ^{1}H-NMR (500 MHz) spectrum of compound **6**.

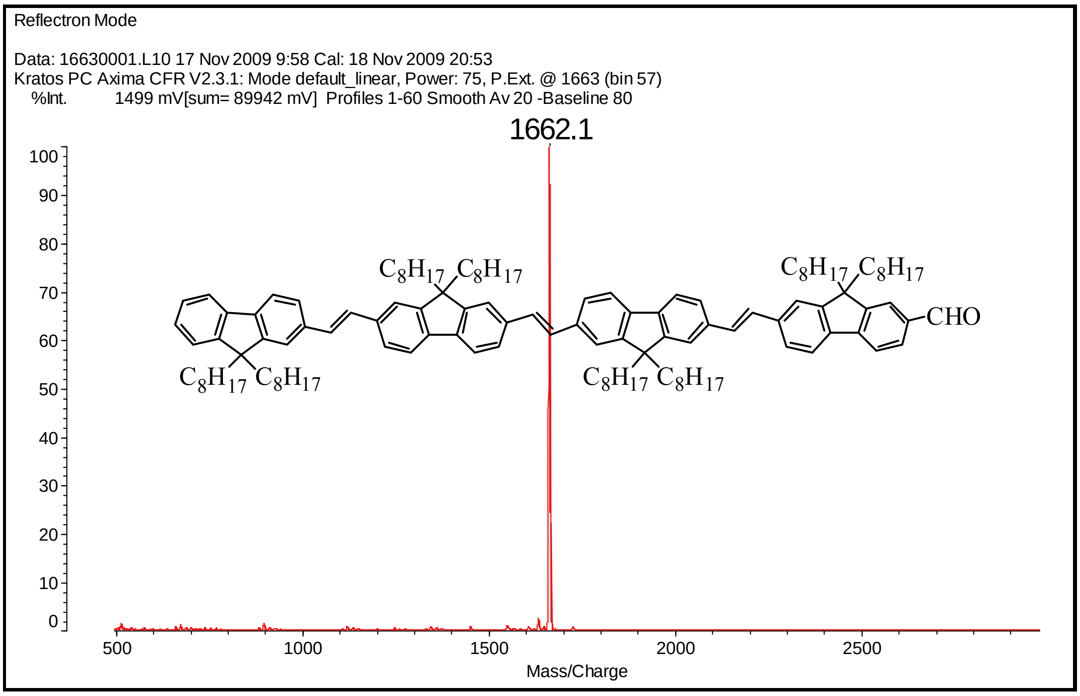


Fig. S17 MALDI/TOF MS spectrum of **6**.

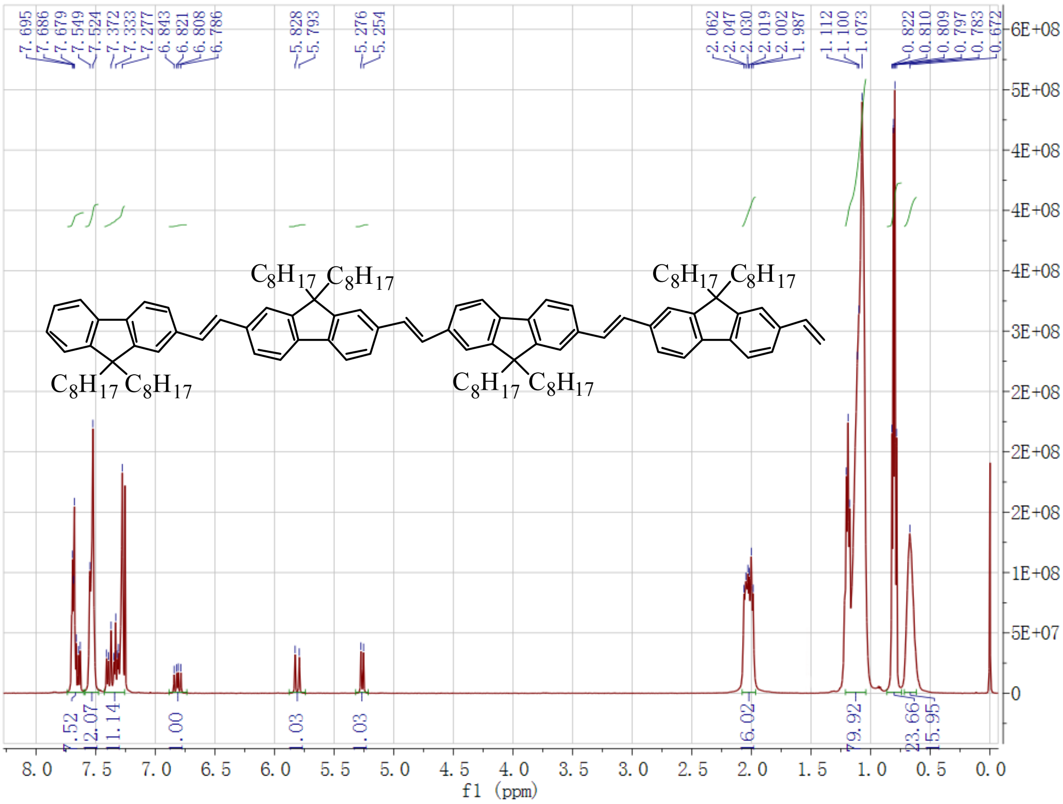


Fig. S18 ^{1}H-NMR (500 MHz) spectrum of compound **E-OFV4**.

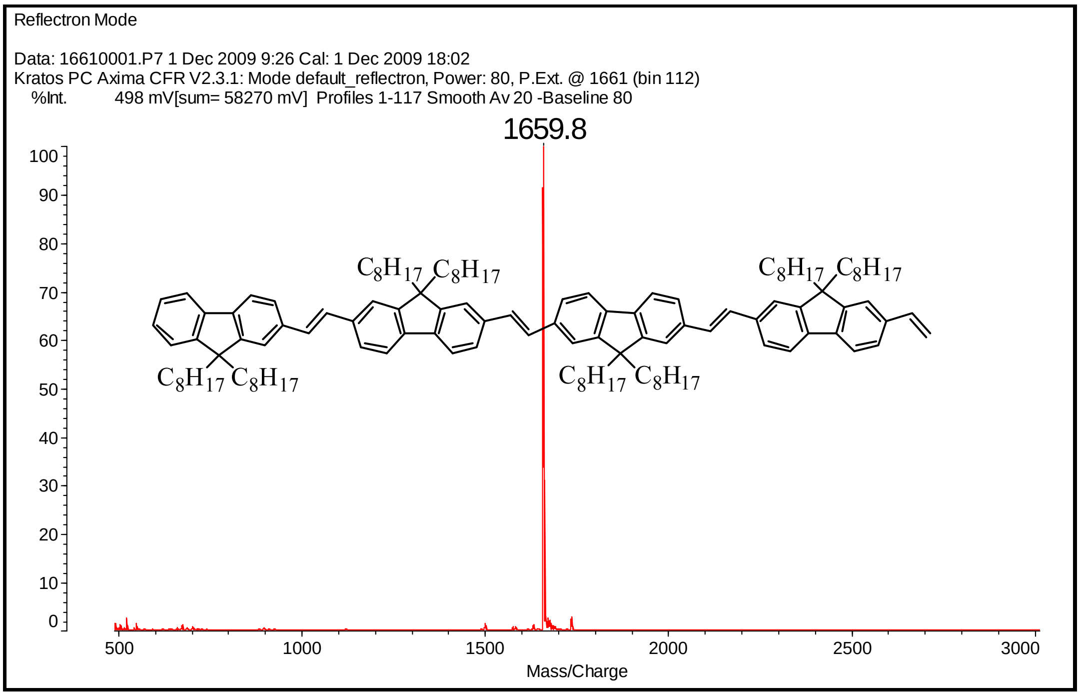
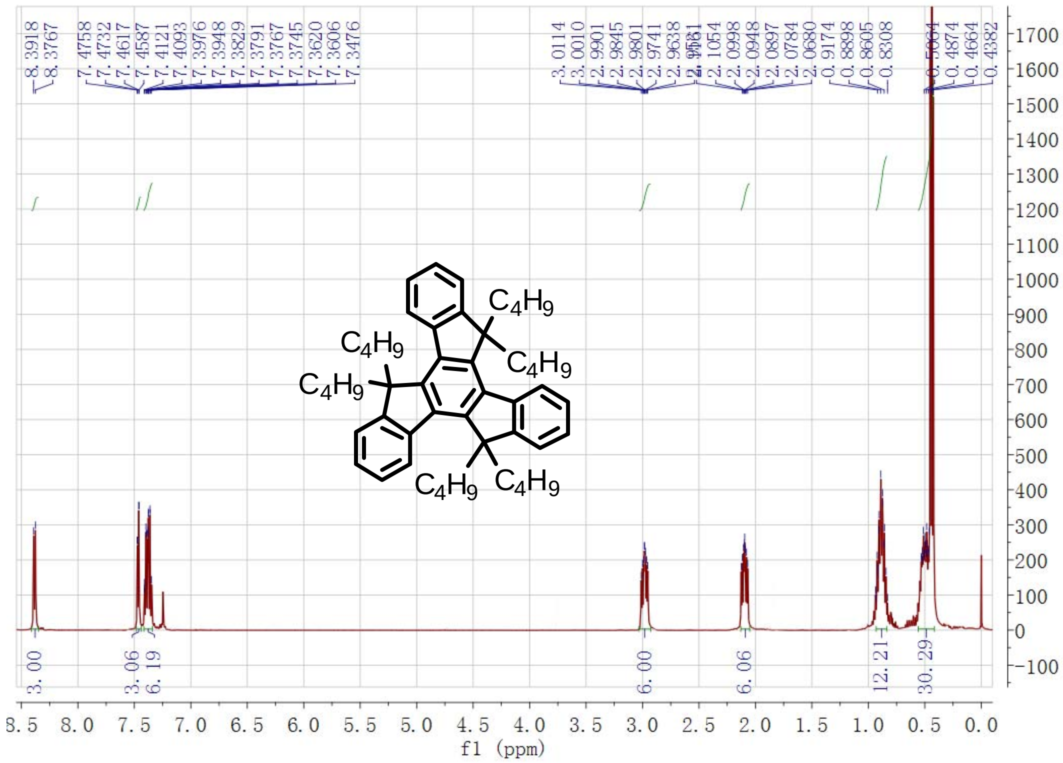


Fig. S19 MALDI/TOF MS spectrum of **E-OFV4**.



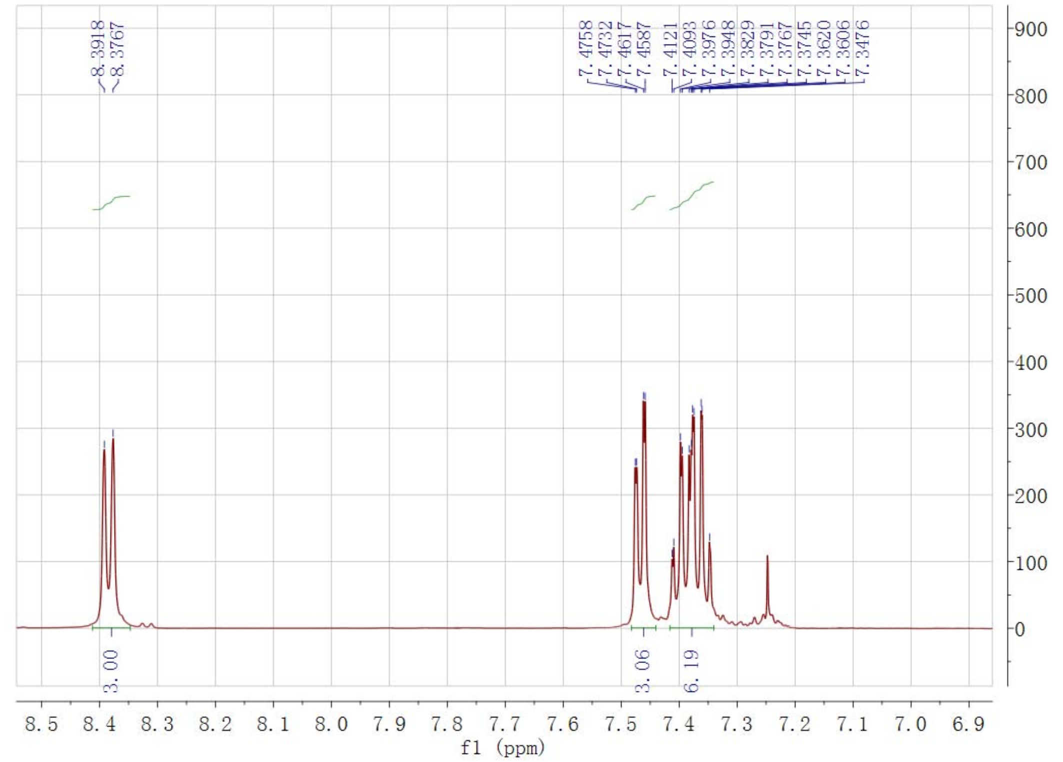


Fig. S20 ^{1}H-NMR (500 MHz) spectra of compound **8**.

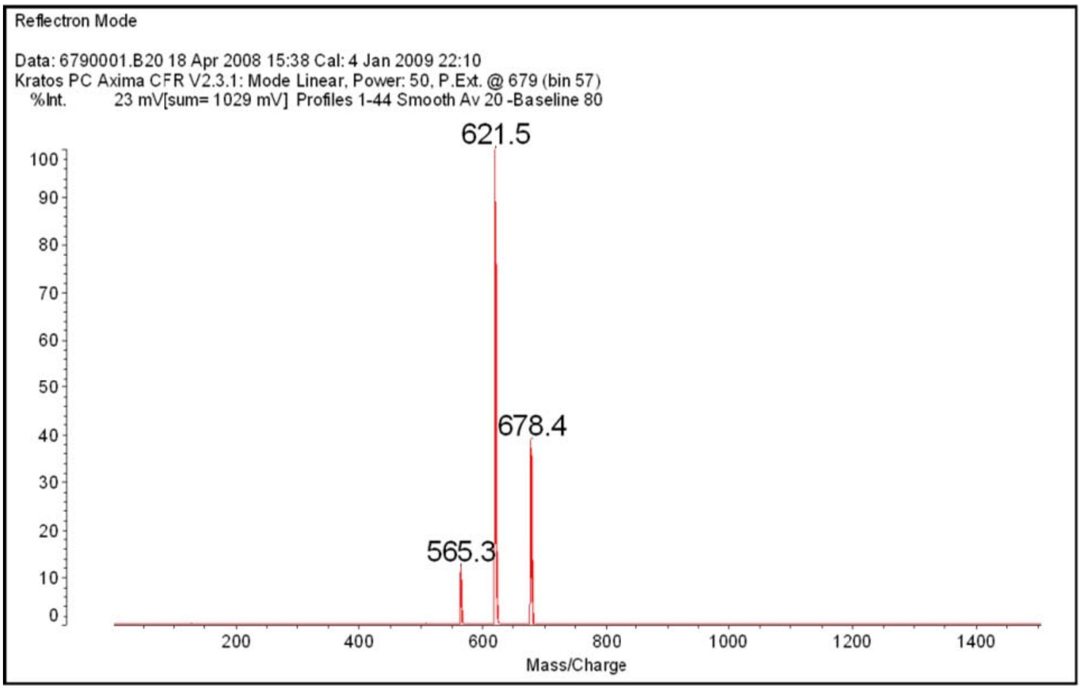
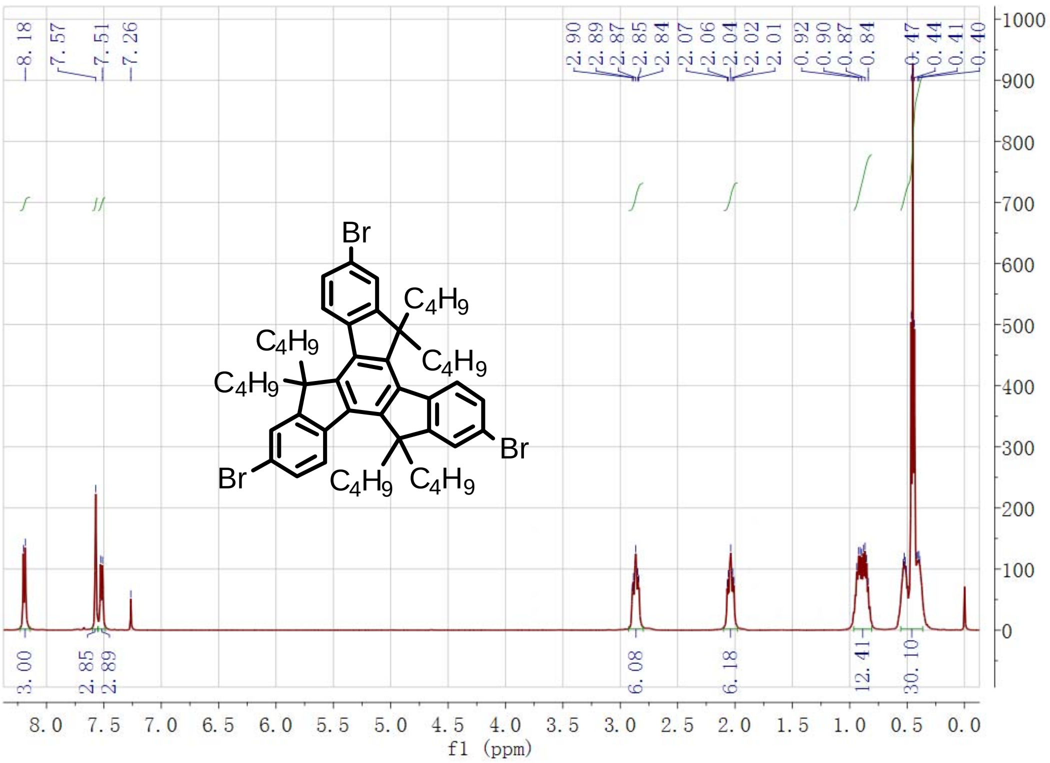


Fig. S21 MALDI/TOF MS spectrum of compound **8.**



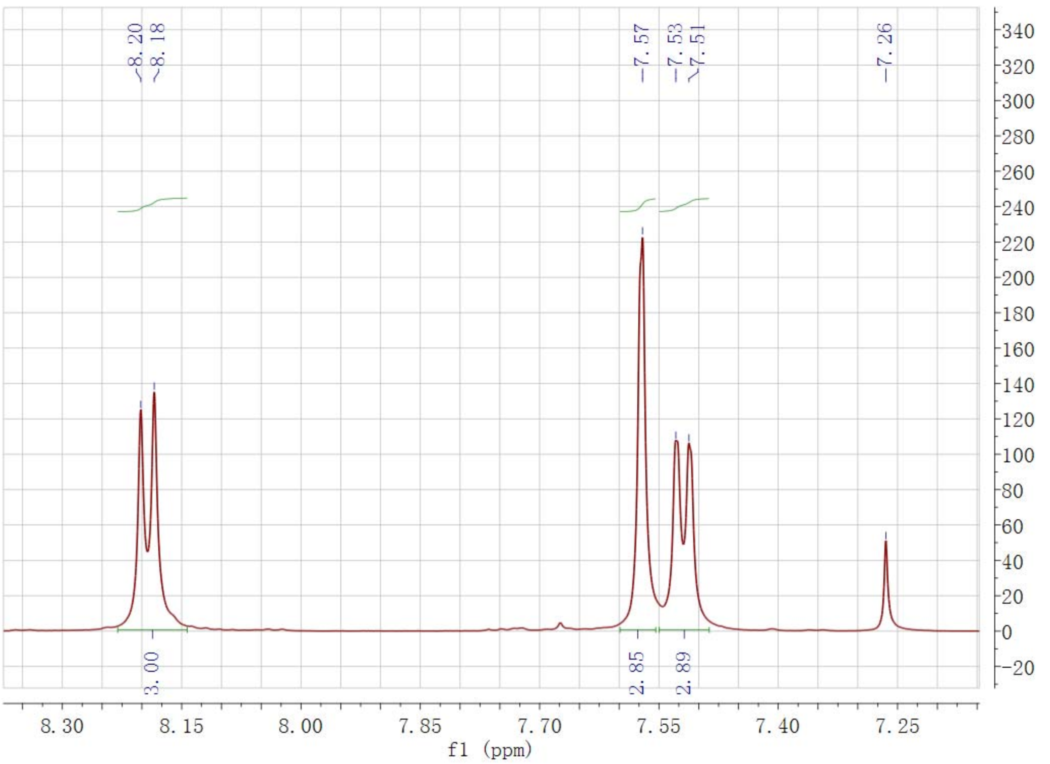
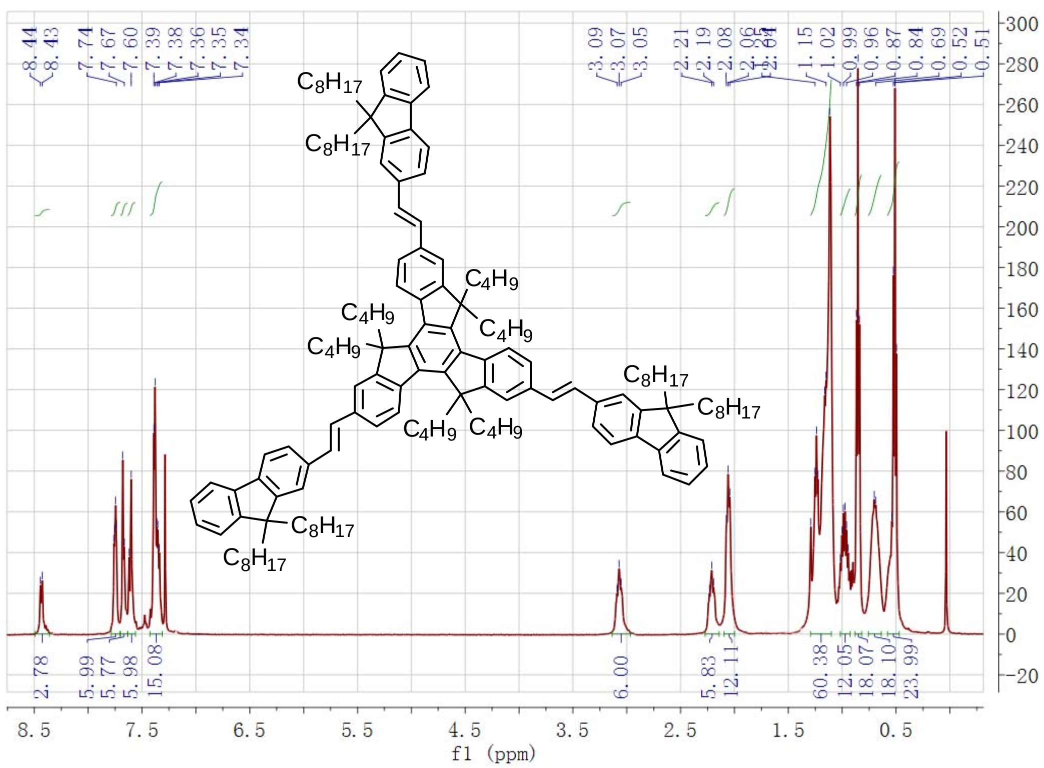


Fig. S22 ^{1}H-NMR (500 MHz) spectrum of compound **9**.



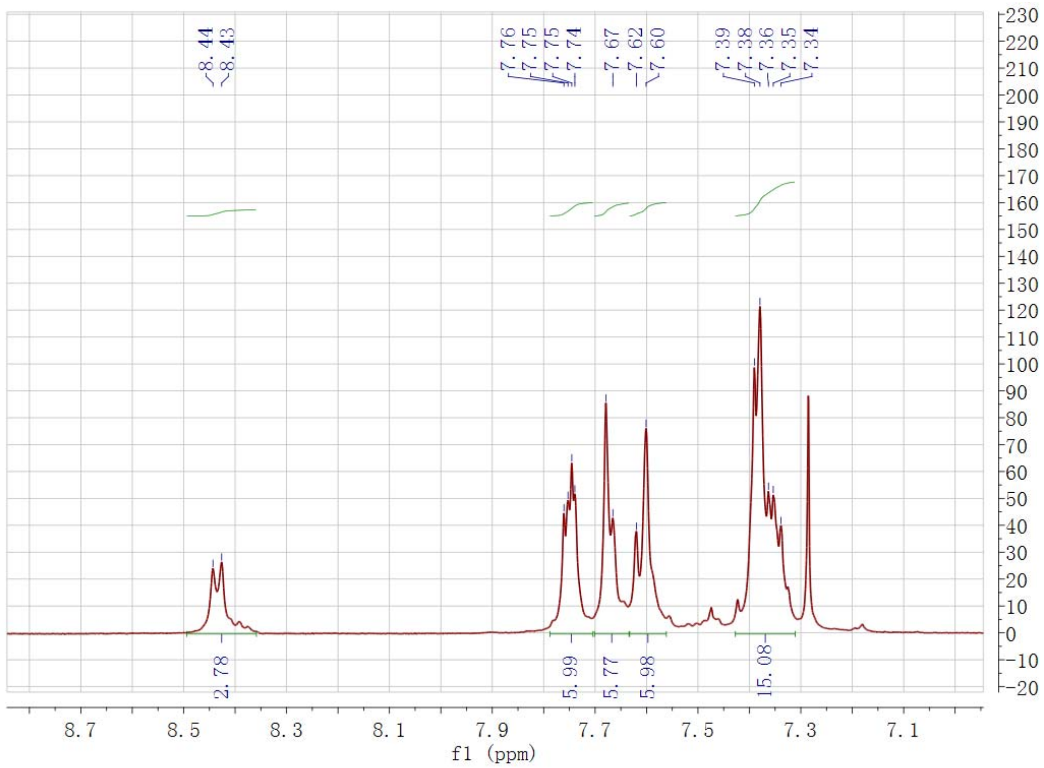


Fig. S23 ^{1}H-NMR (500 MHz) spectra of **Tr-OFV1**.

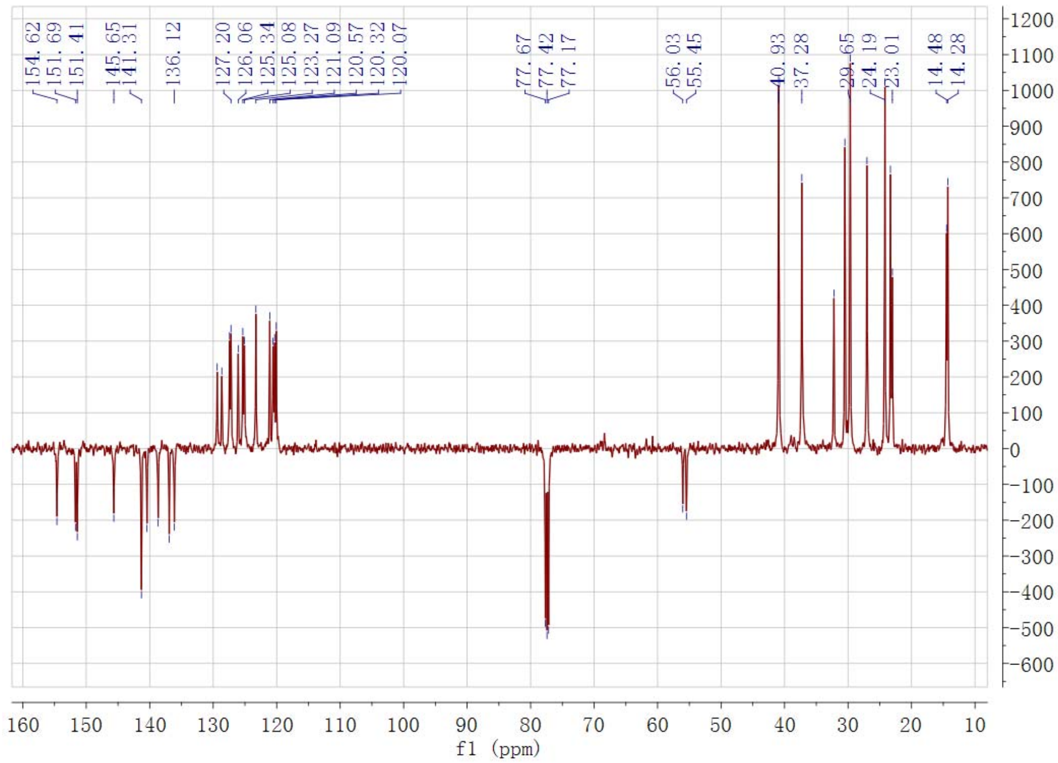


Fig. S24 ^{13}C NMR (125 MHz) spectrum of **Tr-OFV1**.

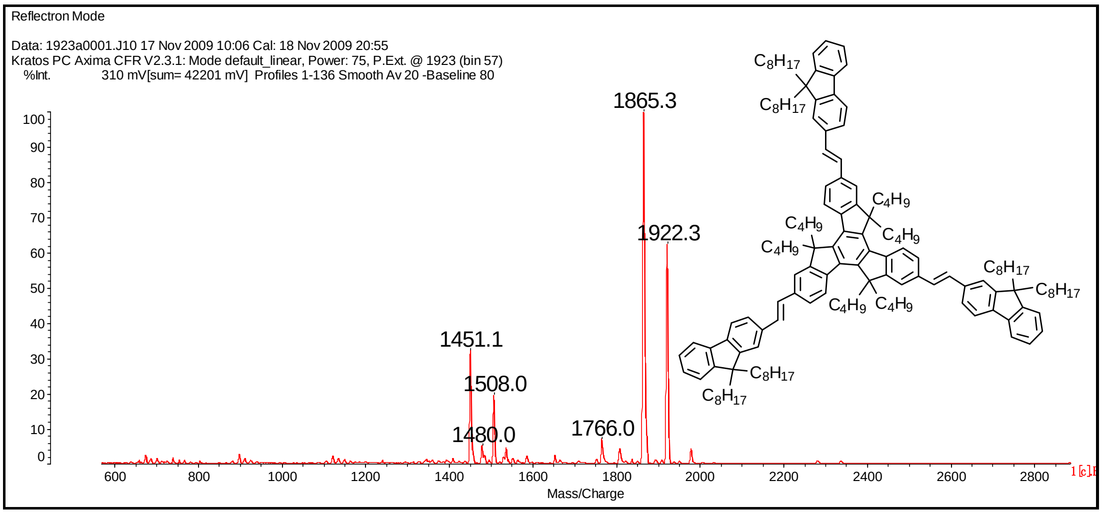
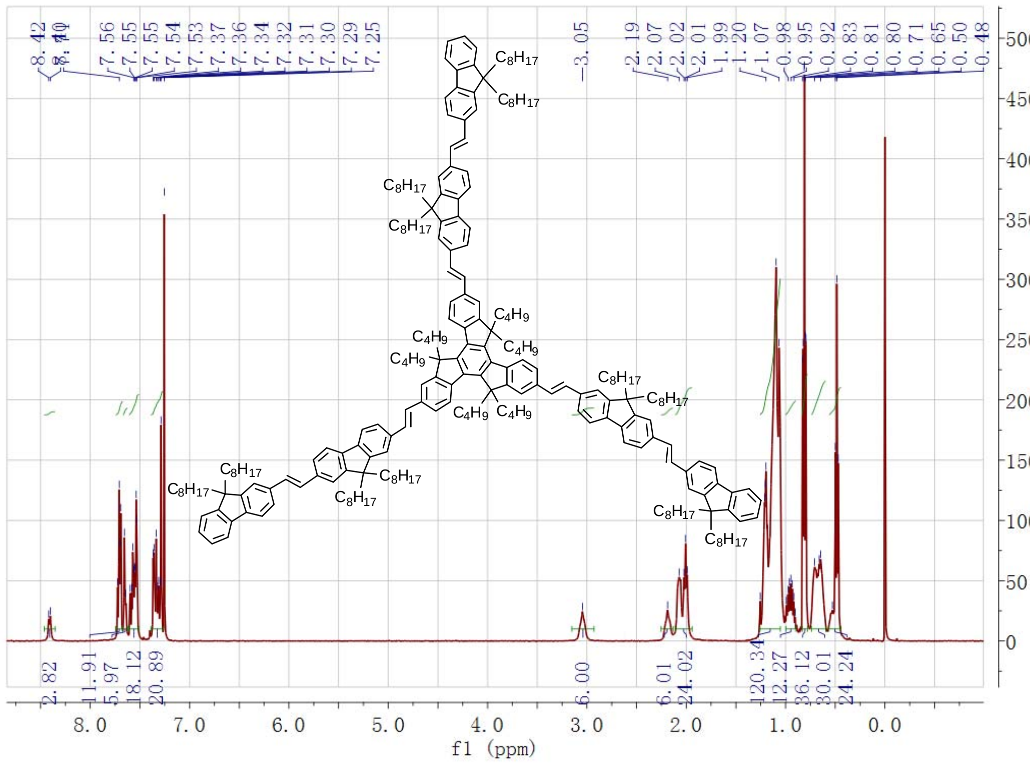


Fig. S25 MALDI/TOF MS spectrum of **Tr-OFV1**.



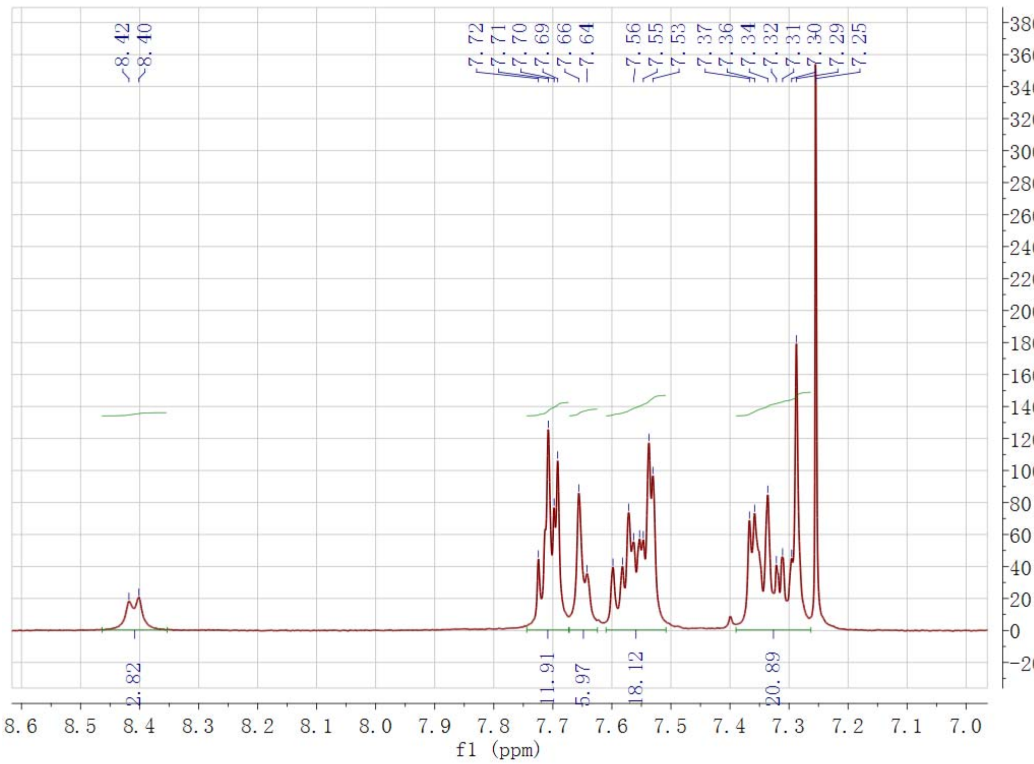


Fig. S26 ^{1}H-NMR (500 MHz) spectrum of **Tr-OFV2**.

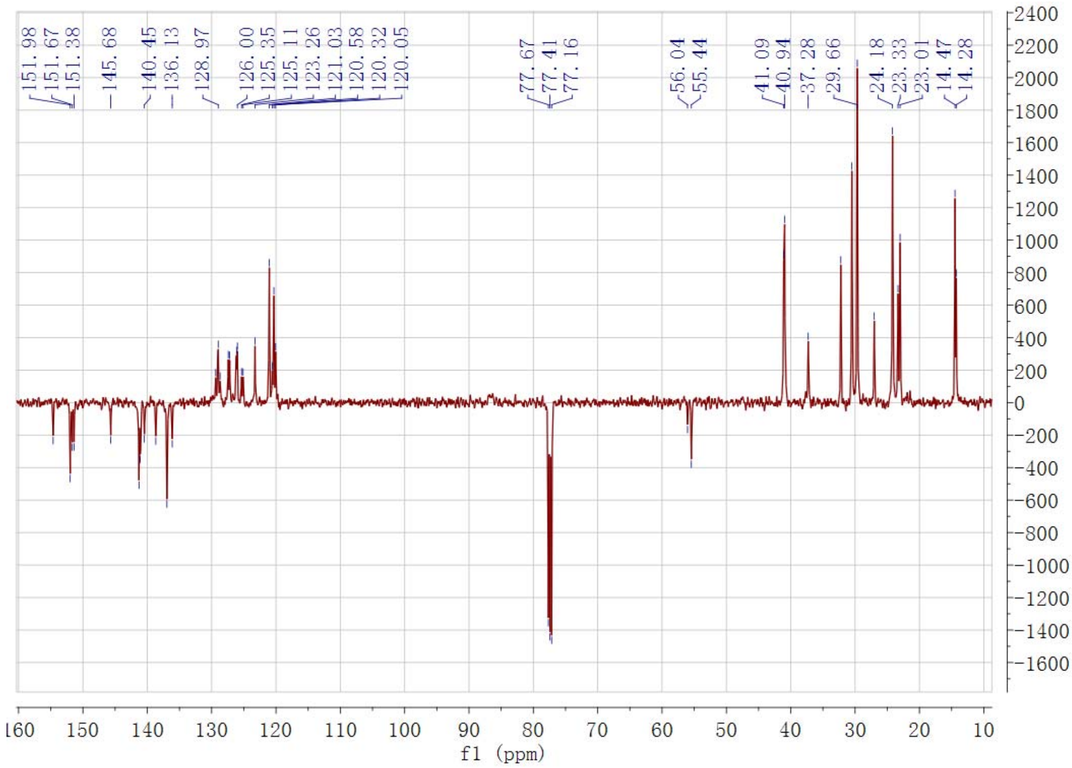


Fig. S27 ^{13}C-NMR (125 MHz) spectrum of **Tr-OFV2.**

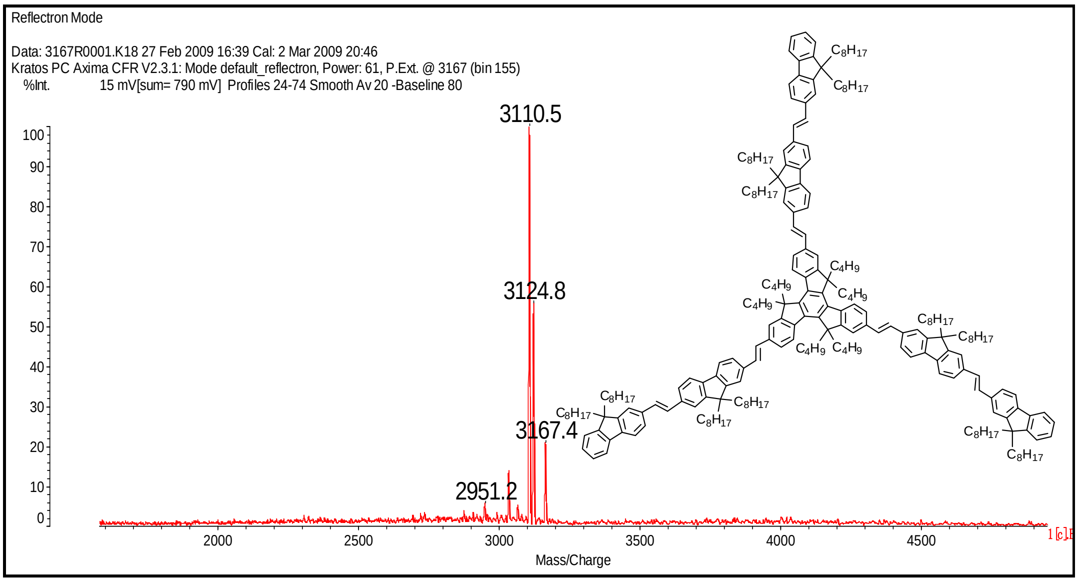
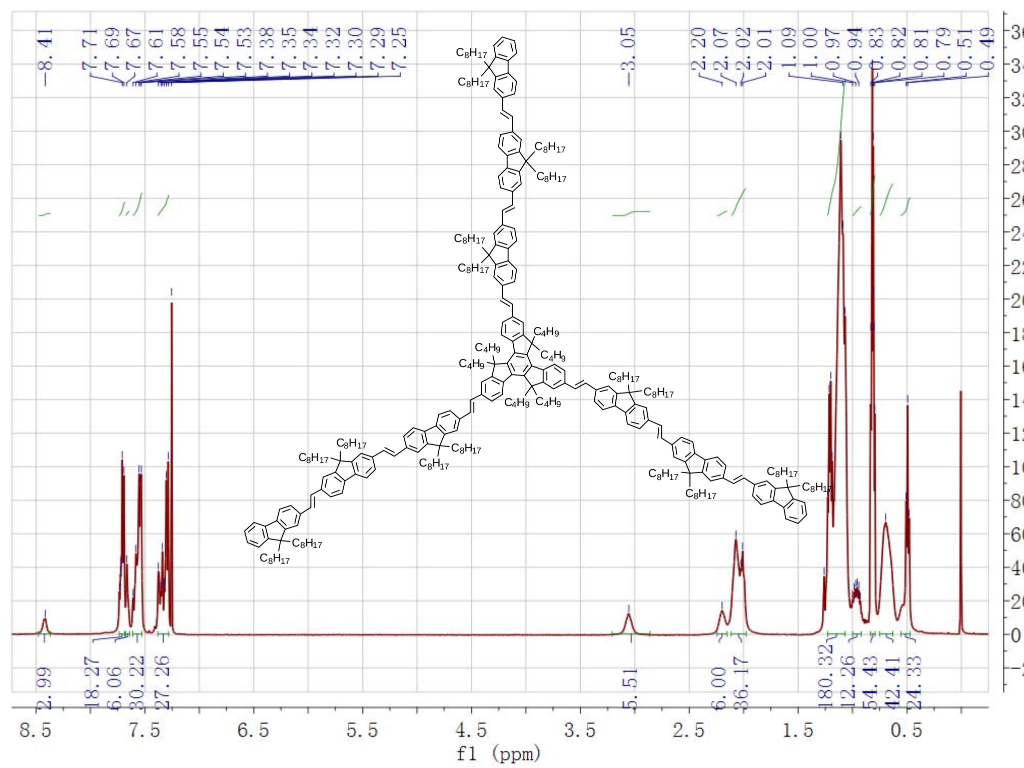


Fig. S28 MALDI/TOF MS spectrum of **Tr-OFV2**.



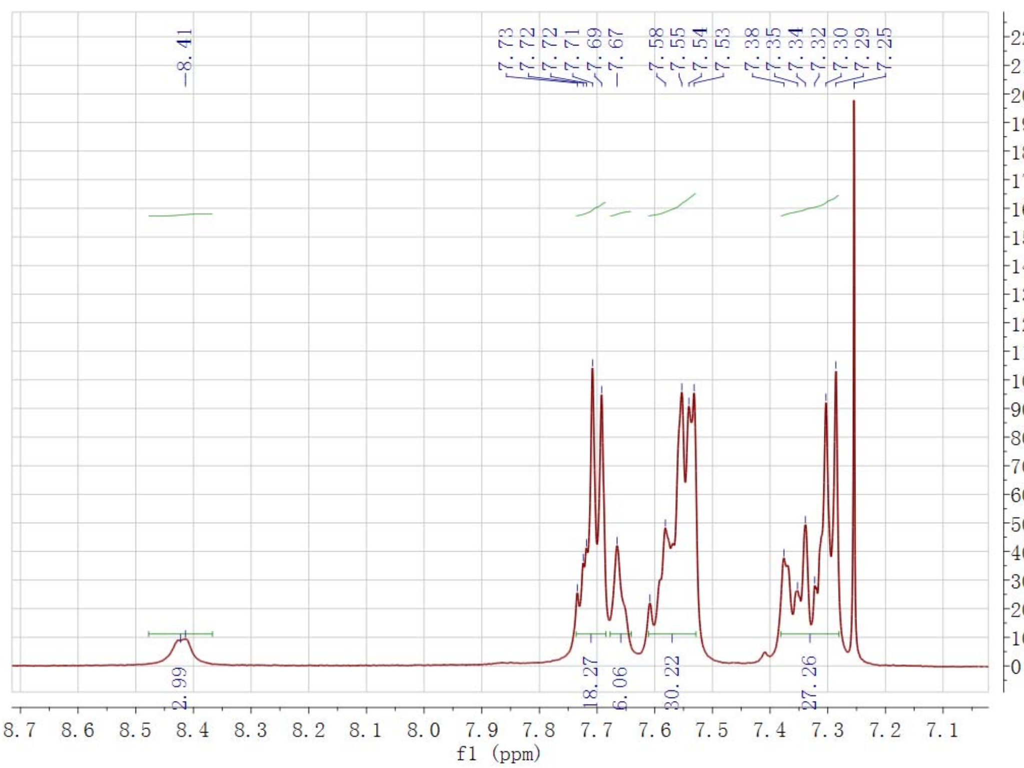


Fig. S29 ^{1}H-NMR (500 MHz) spectra of **Tr-OFV3**.

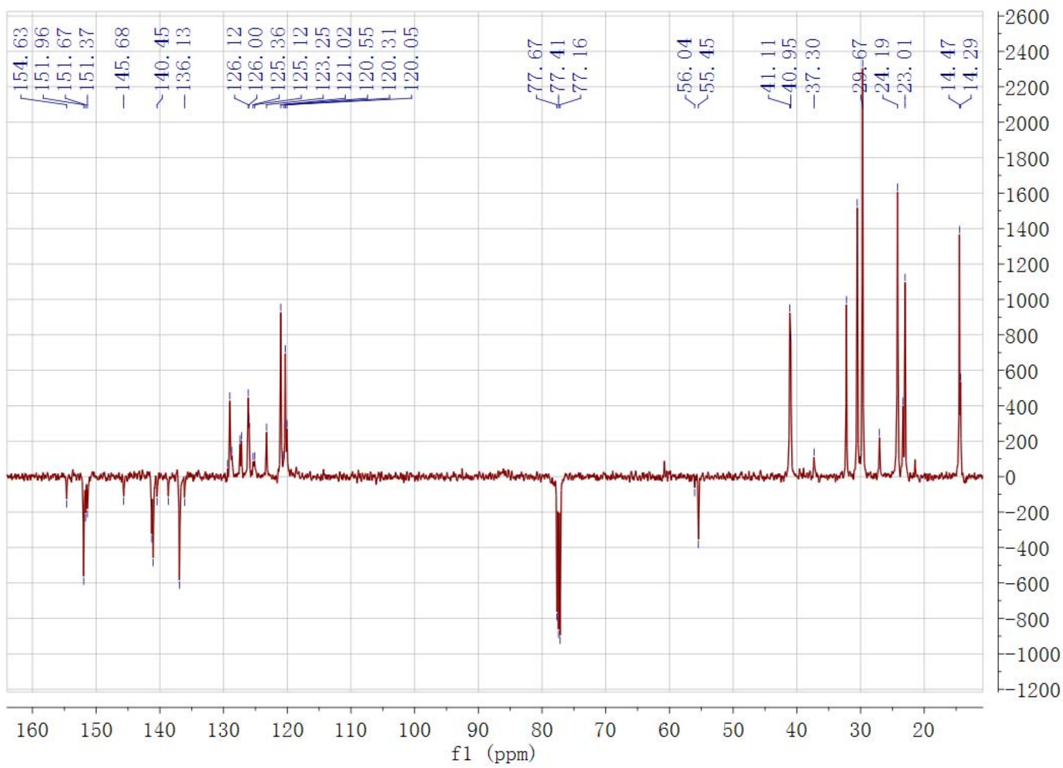


Fig. S30 ^{13}C-NMR (125 MHz) spectrum of **Tr-OFV3.**

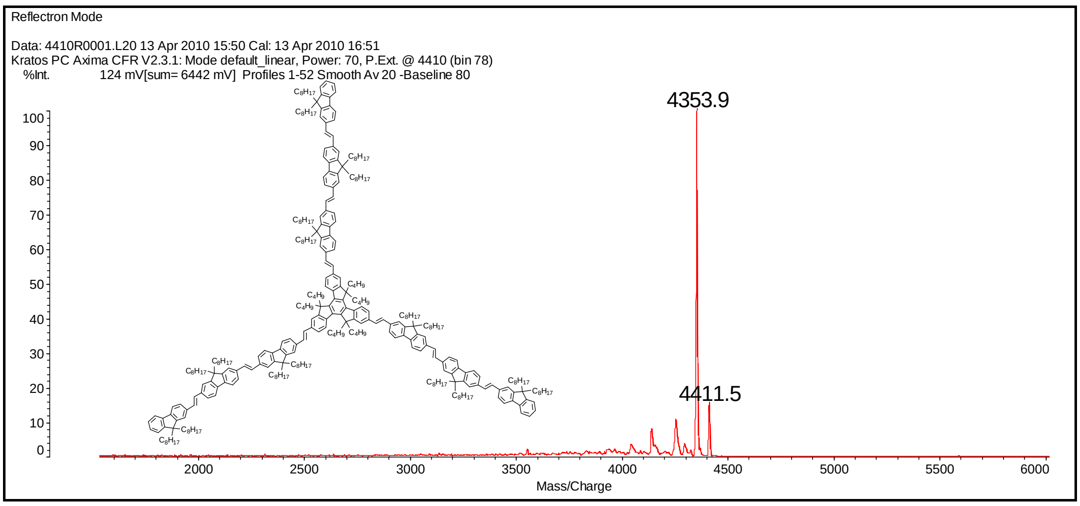
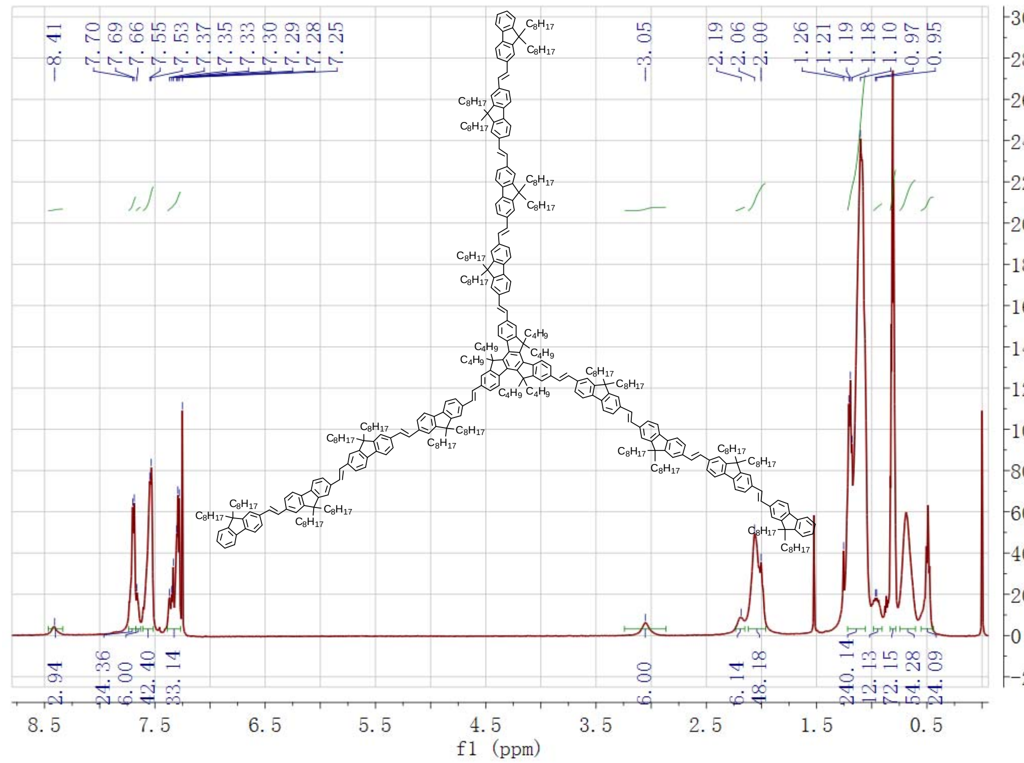


Fig. S31 MALDI/TOF MS spectrum of **Tr-OFV3**.



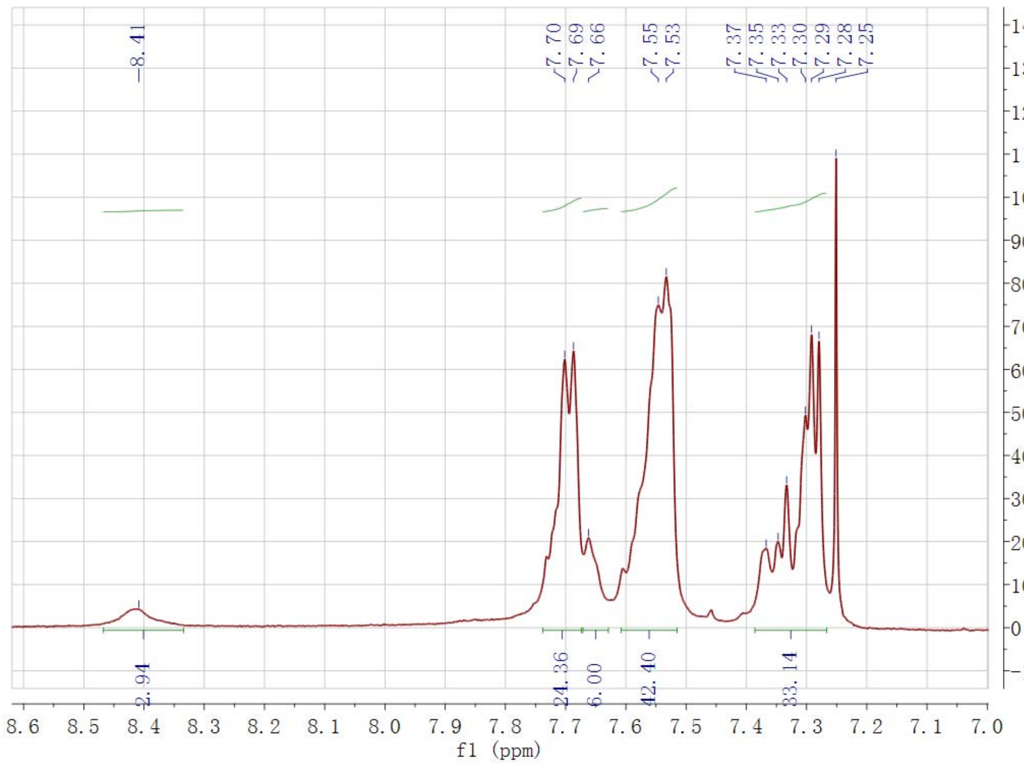


Fig. S32 ^{1}H-NMR (500 MHz) spectra of **Tr-OFV4**.

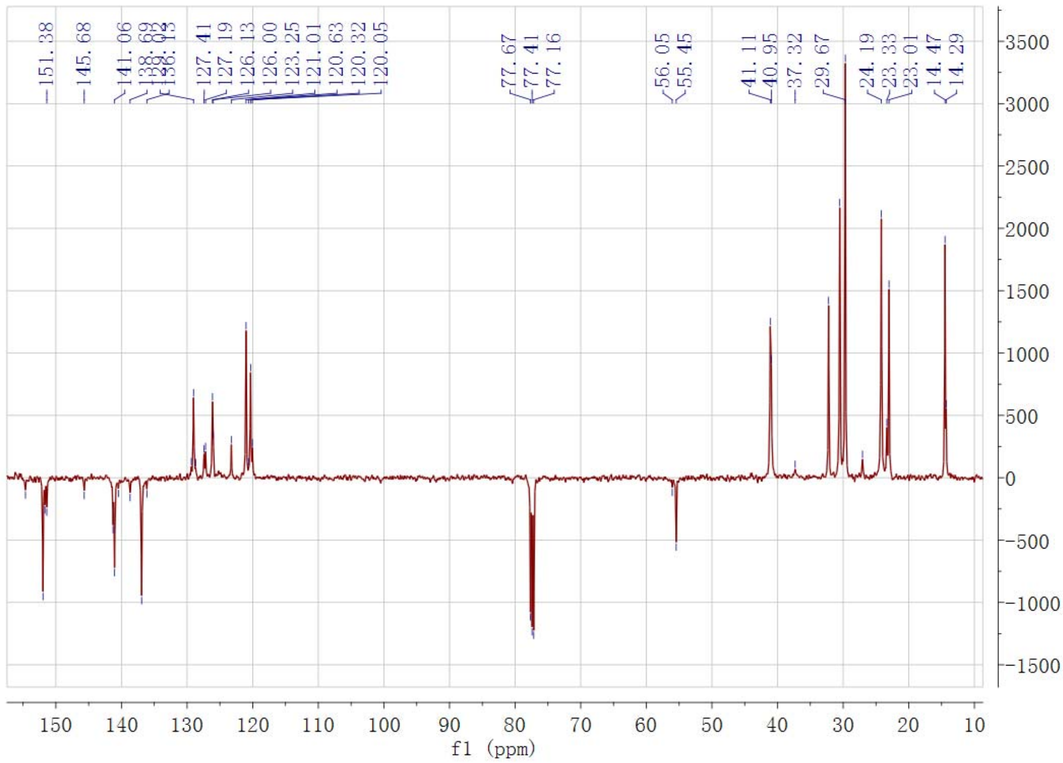


Fig. S33 ^{13}C-NMR (125 MHz) spectrum of compound **Tr-OFV4**.

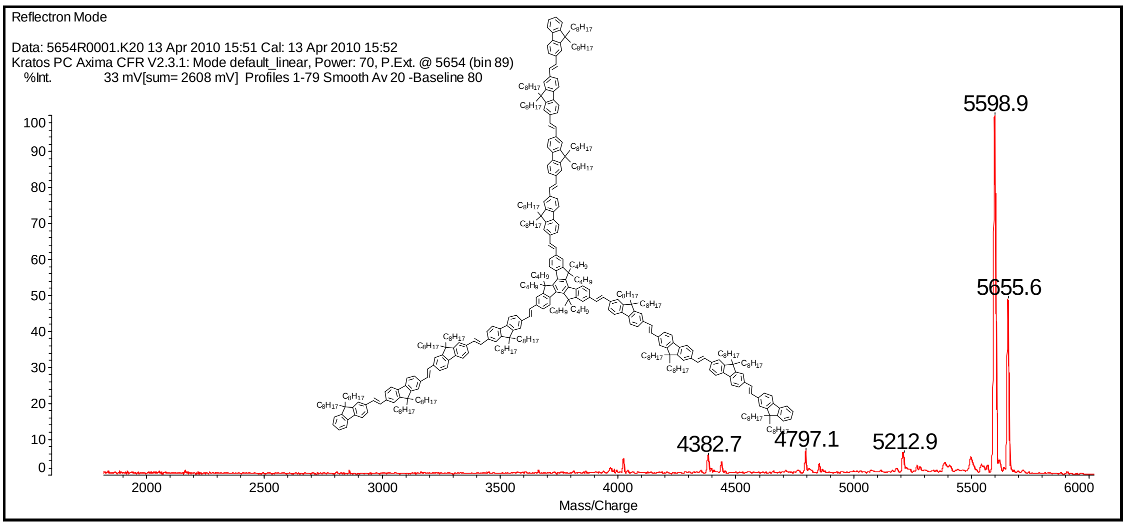


Fig. S34 MALDI/TOF MS spectrum of **Tr-OFV4**.