

Supporting Information

3D printed OFETs of the 1,4-bis(3-phenylquinoxalin-2-yl)benzene based polymer semiconductors

Yuli Huang, Junwei Yang, Hua Chen, Wanli Tian, and Weizhi Wang*

State Key Laboratory of Molecular Engineering of Polymers, Collaborative Innovation Center of Polymers and Polymer Composite Materials, Department of Macromolecular Science, Fudan University, Shanghai 200433, P. R. China.

E-mail: weizhiwang@fudan.edu.cn

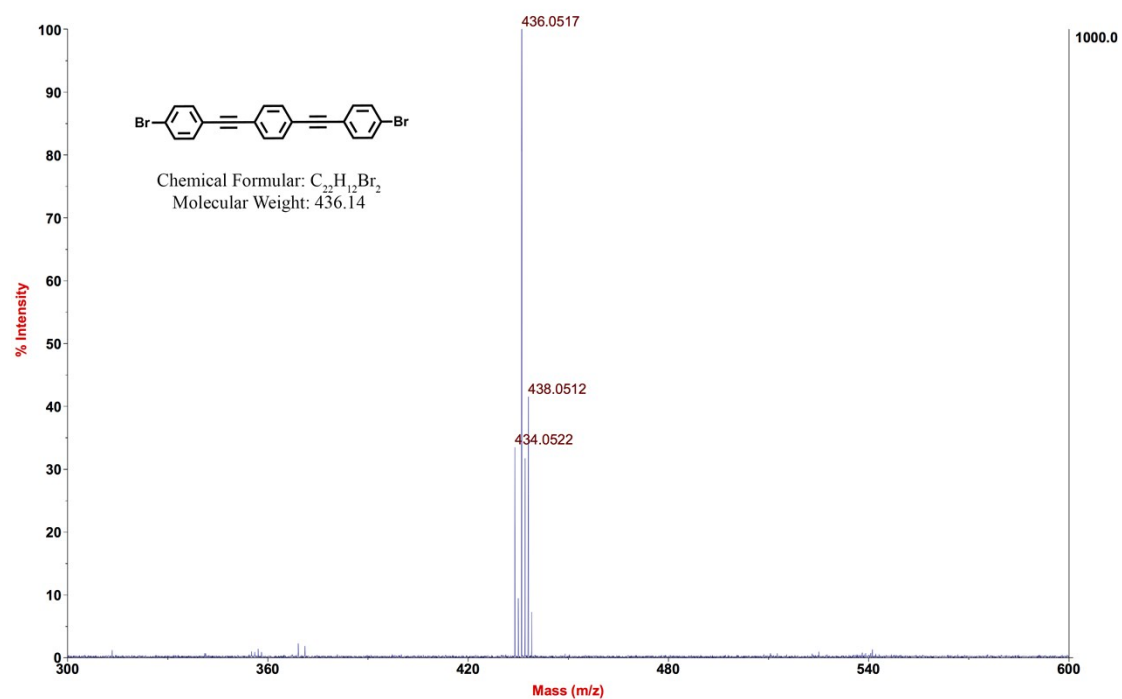


Fig. S1 The MALDI-TOF spectrum of 1,4-bis(2-(4-bromophenyl)ethynyl)benzene (**1**)

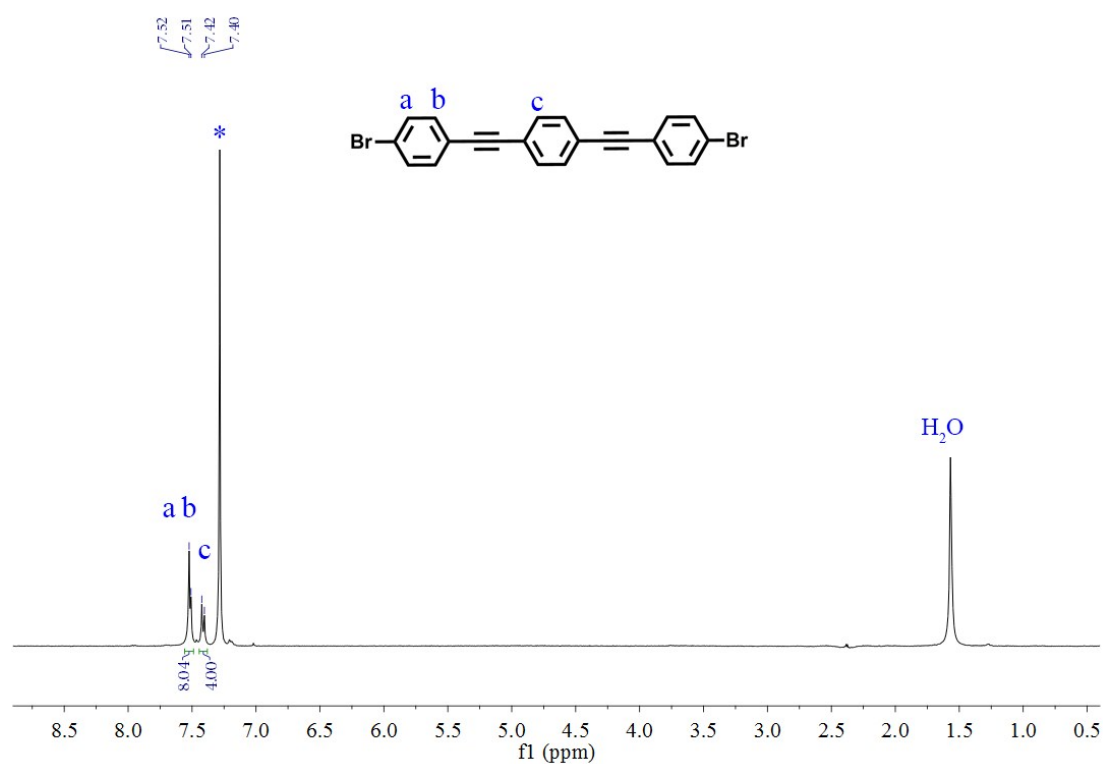


Fig. S2 The ^1H -NMR spectrum of 1,4-bis(2-(4-bromophenyl)ethynyl)benzene (**1**) in CDCl_3

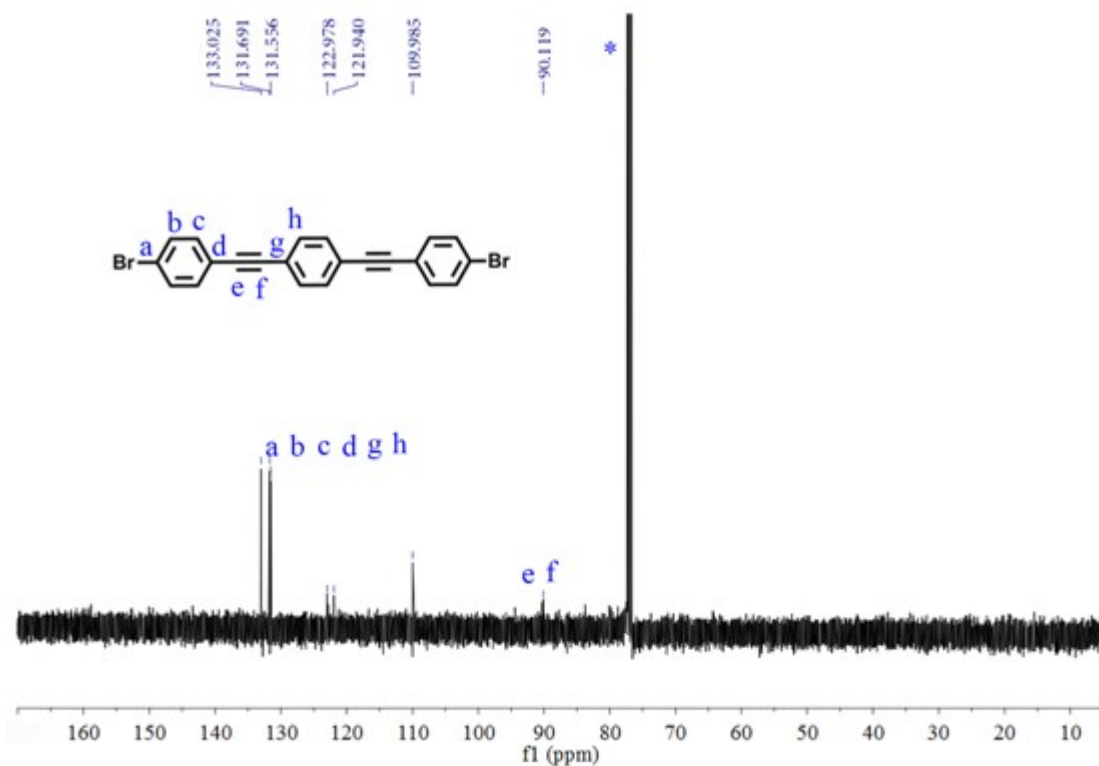


Fig. S3 The ^{13}C -NMR spectrum of 1,4-bis(2-(4-bromophenyl)ethynyl)benzene (**1**) in CDCl_3

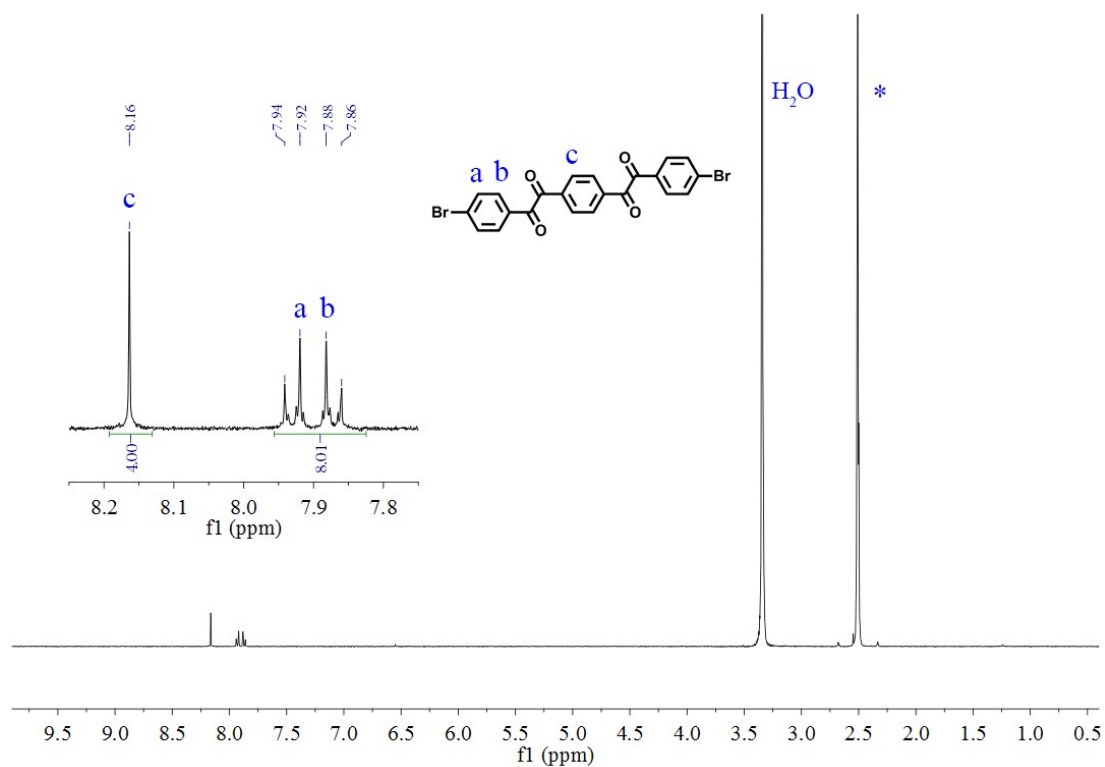


Fig. S4 The ^1H -NMR spectrum of 2,2'-(1,4-phenylene)bis(1-(4-bromophenyl))ethane-1,2-dione (**2**) in DMSO-d_6

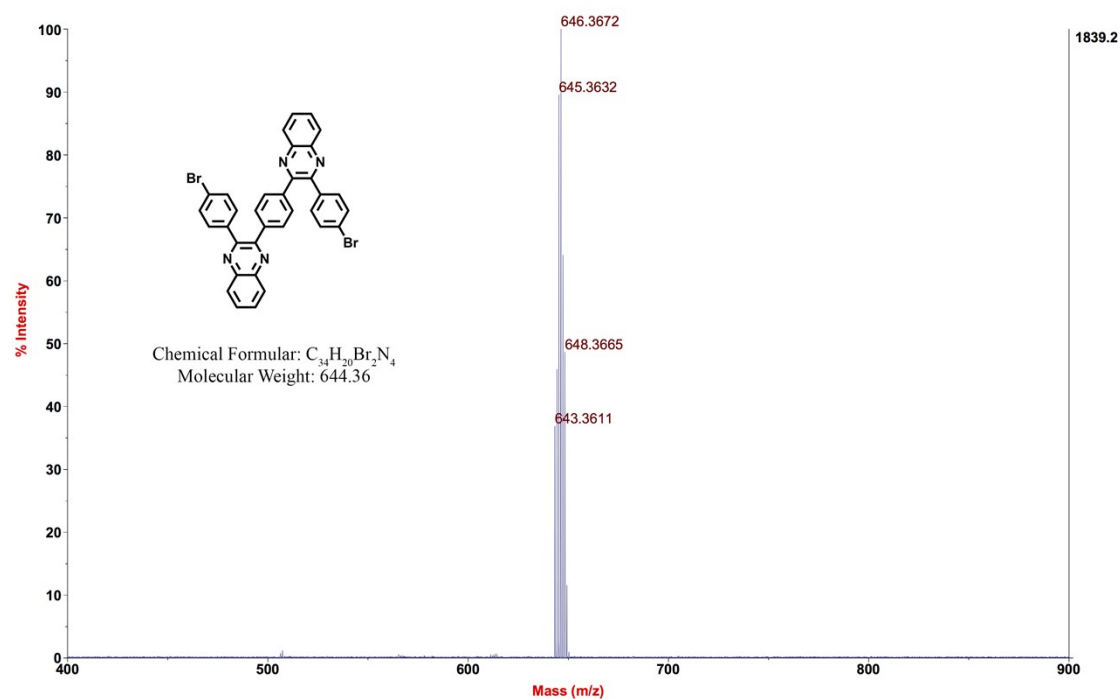


Fig. S5 The MALDI-TOF spectrum of 1,4-bis(3-(4-bromophenyl)quinoxalin-2-yl)benzene (**3**)

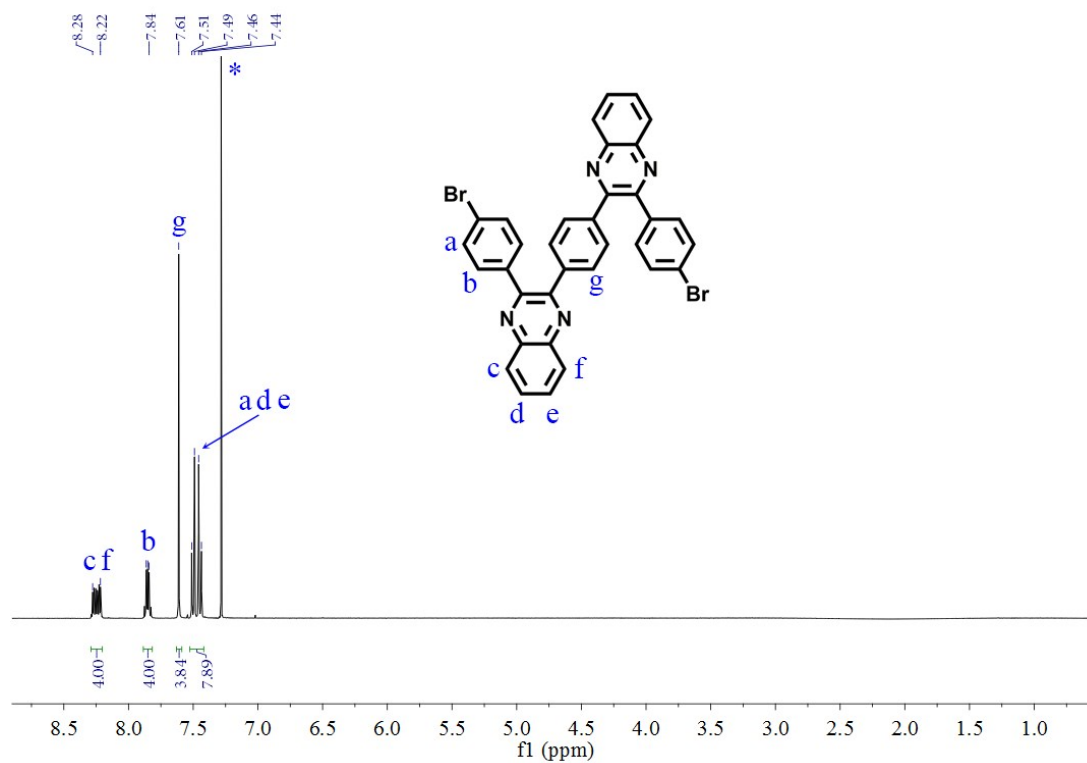


Fig. S6 The 1H -NMR spectrum of 1,4-bis(3-(4-bromophenyl)quinoxalin-2-yl)benzene (**3**) in $CDCl_3$

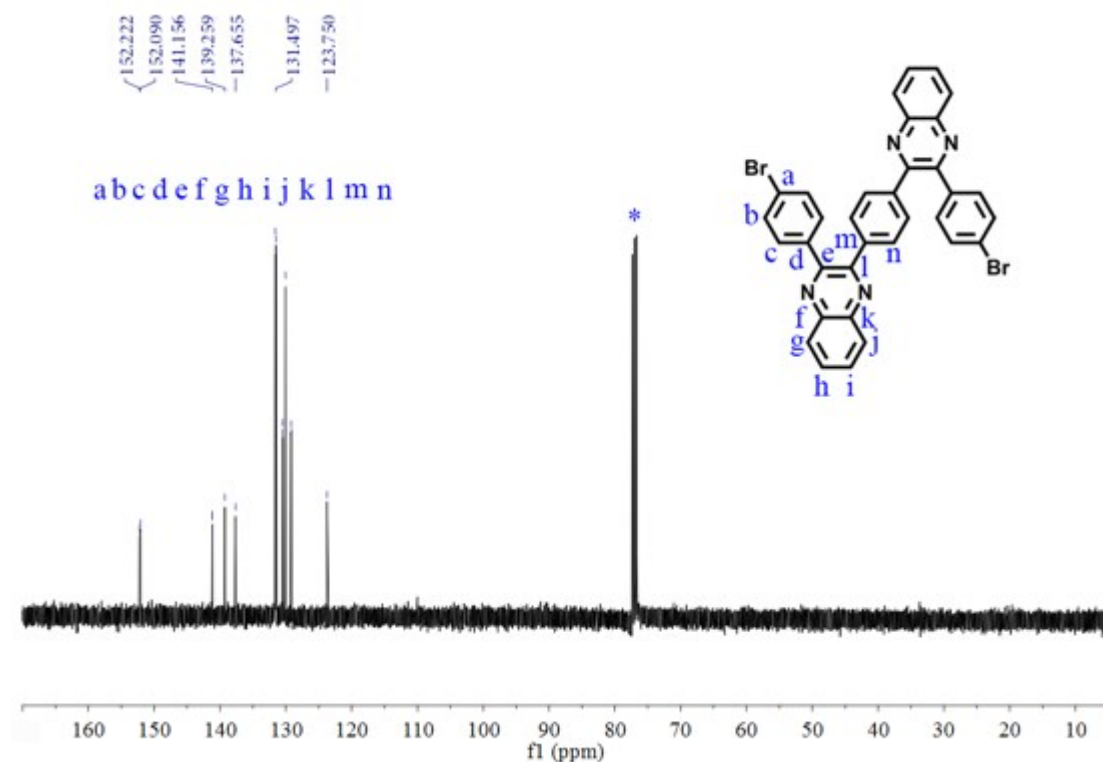


Fig. S7 The ^{13}C -NMR spectrum of 1,4-bis(3-(4-bromophenyl)quinoxalin-2-yl)benzene (**3**) in CDCl_3

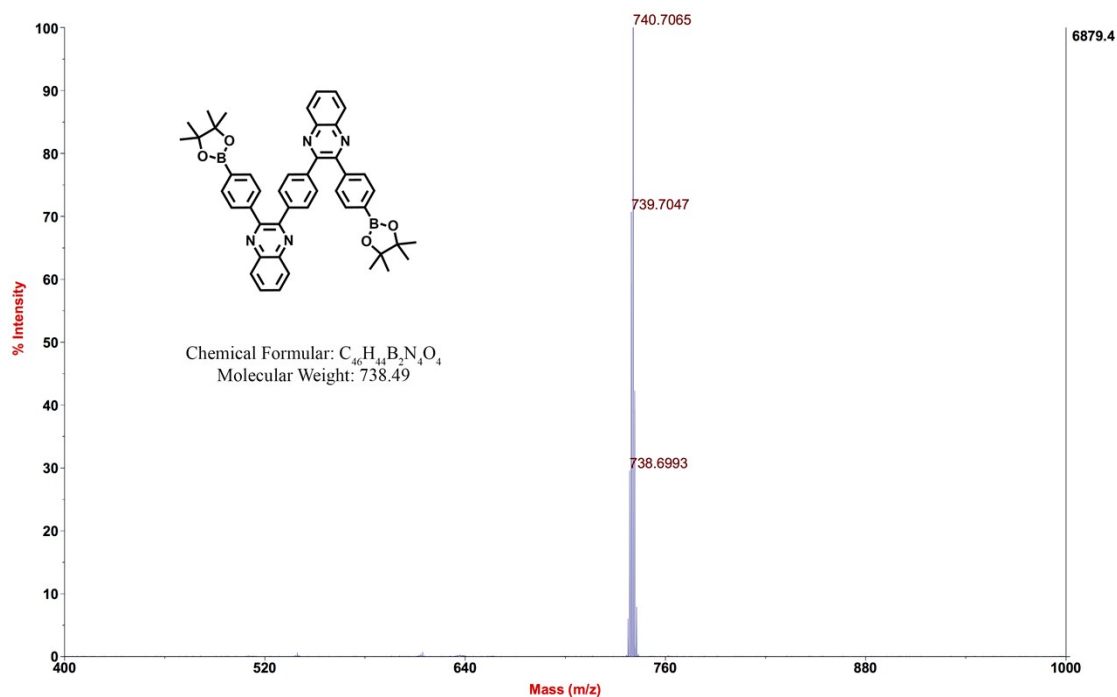


Fig. S8 The MALDI-TOF spectrum of 1,4-bis(3-(4-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)phenyl)quinoxalin-2-yl)benzene (**M₀**)

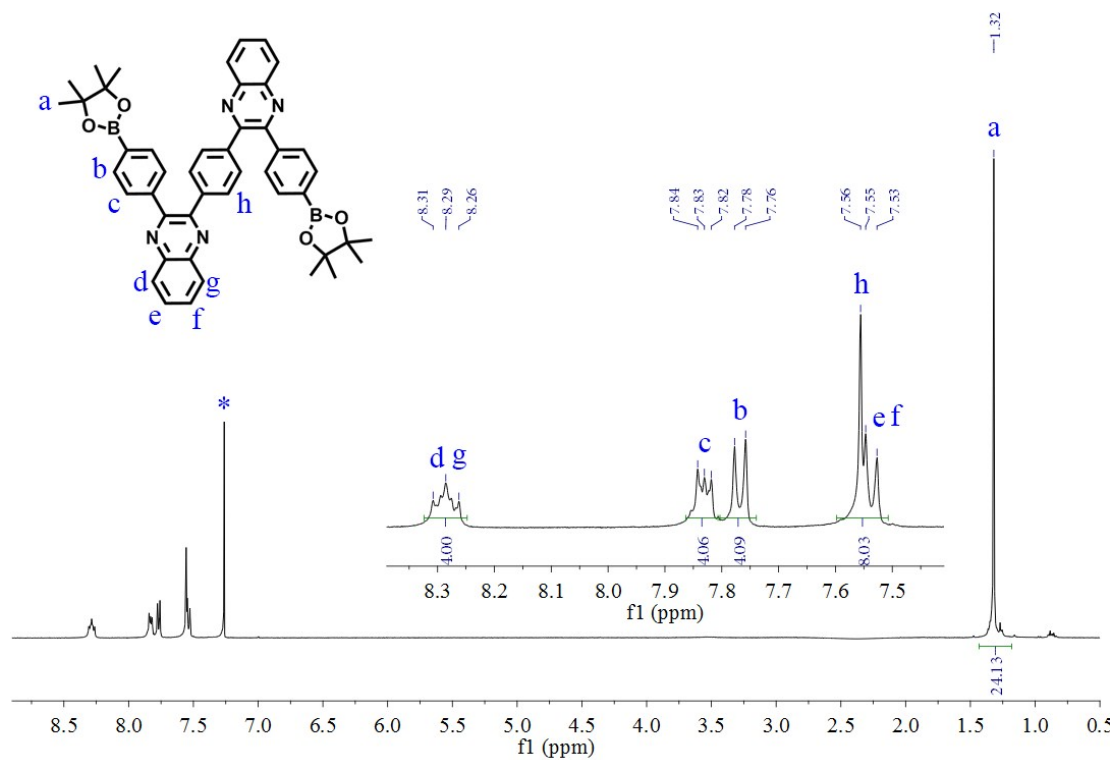


Fig. S9 The ¹H-NMR spectrum of 1,4-bis(3-(4-(4,4,5,5-teramenthyl-1,3,2-dioxaborolan-2-yl)phenyl)quinoxalin-2-yl)benzene (**M₀**) in CDCl₃

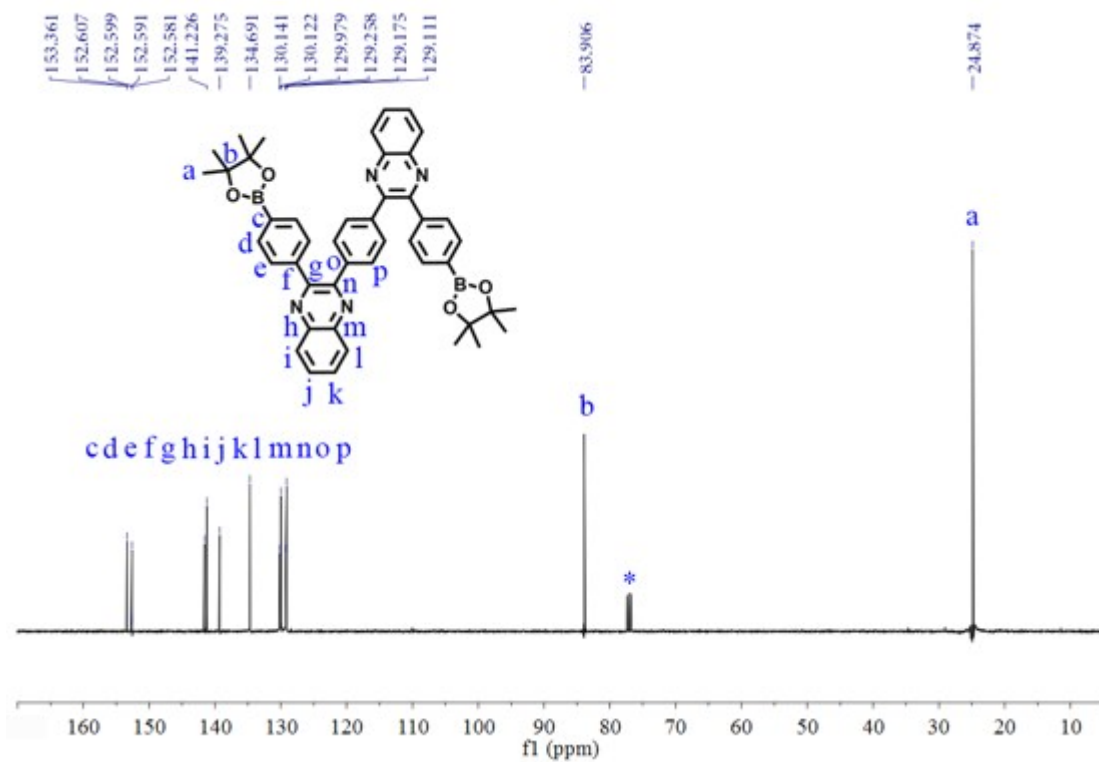


Fig. S10 The ¹³C-NMR spectrum of 1,4-bis(3-(4-(4,4,5,5-teramenthyl-1,3,2-dioxaborolan-2-yl)phenyl)quinoxalin-2-yl)benzene (**M₀**) in CDCl₃

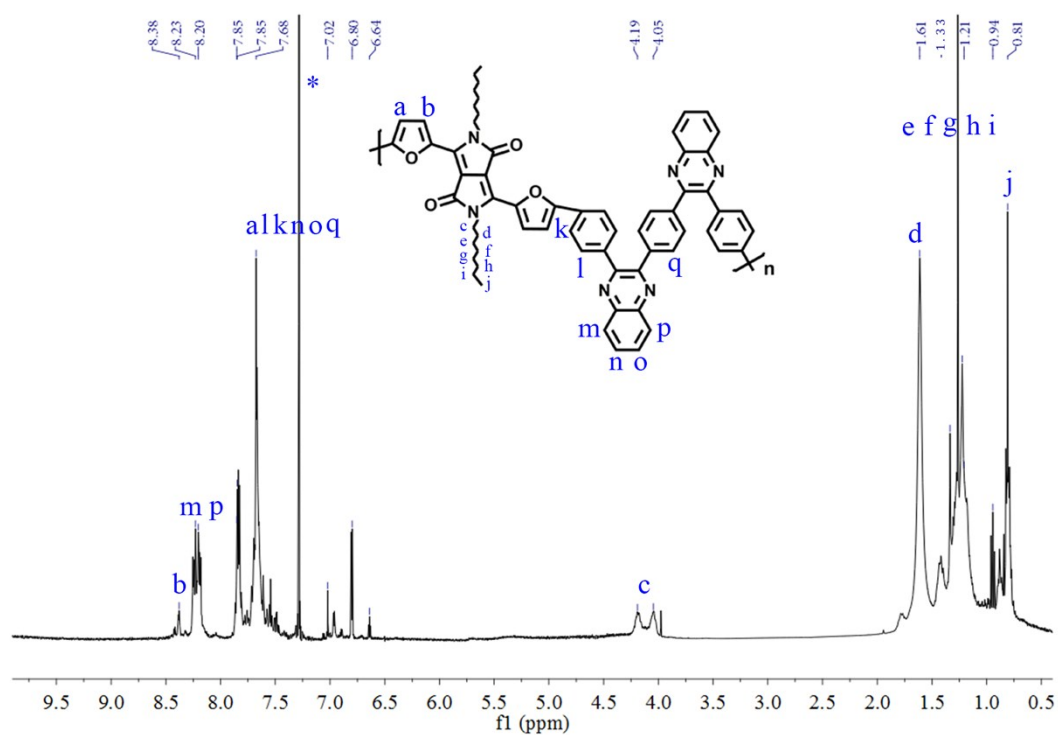


Fig. S11 The ¹H-NMR spectrum of **P1** in CDCl₃

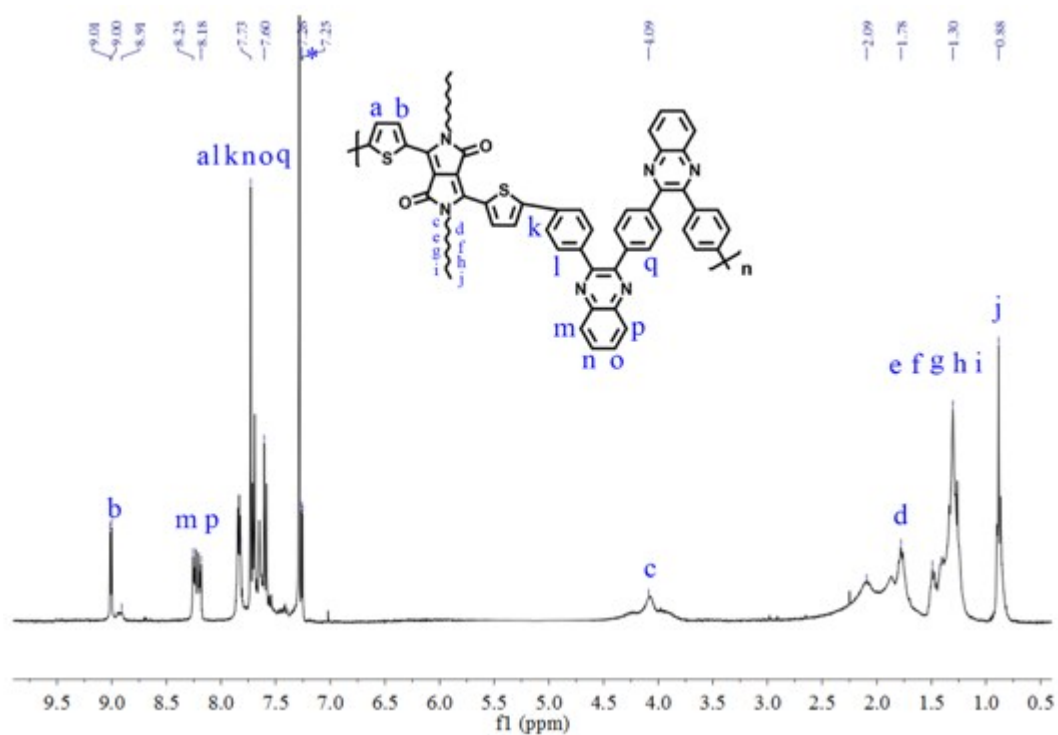


Fig. S12 The ¹H-NMR spectrum of **P2** in CDCl₃

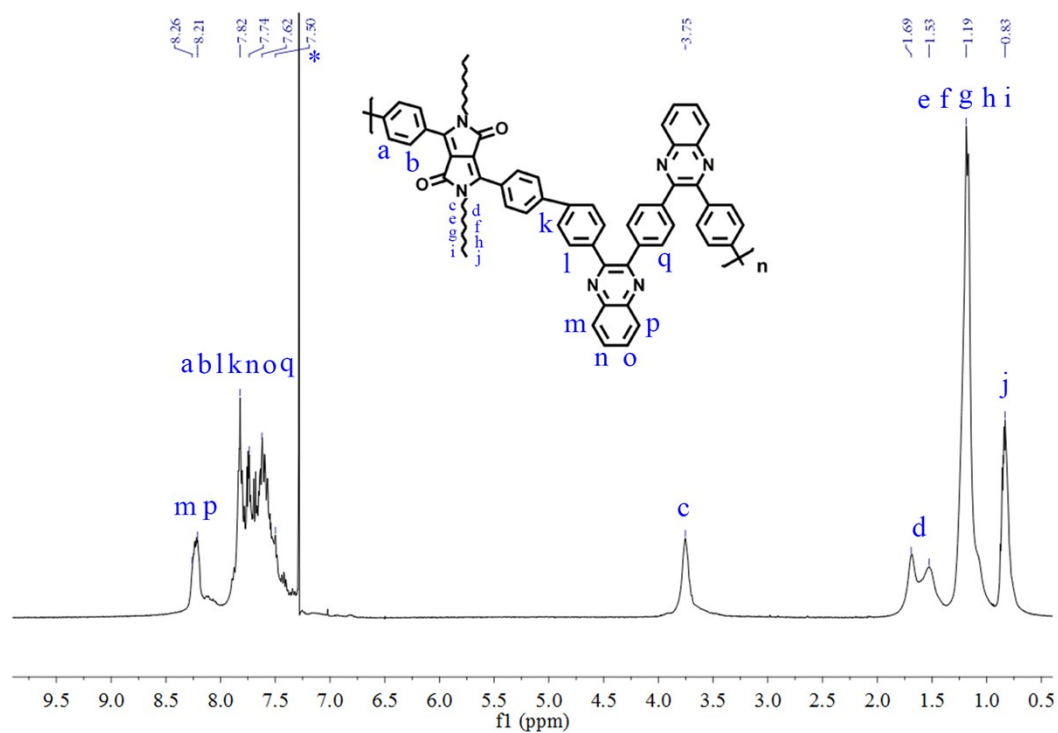


Fig. S13 The ^1H -NMR spectrum of **P3** in CDCl_3

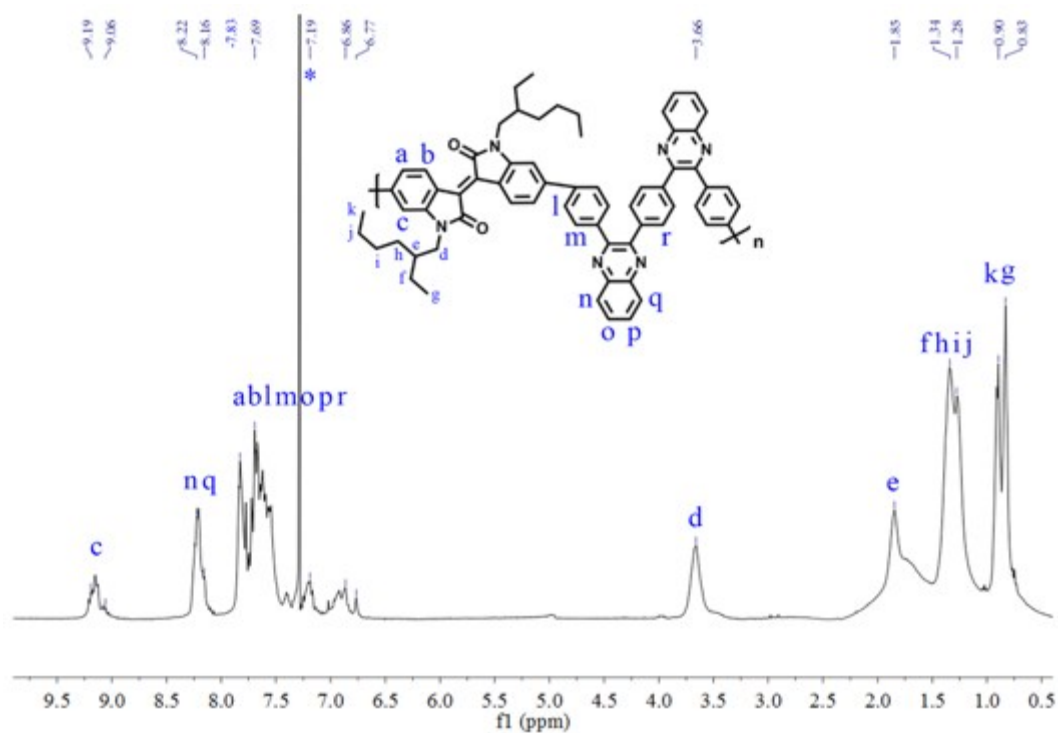


Fig. S14 The ^1H -NMR spectrum of **P4** in CDCl_3

Fig. 1 The TGA spectra of **P1**, **P2**, **P3** and **P4**.

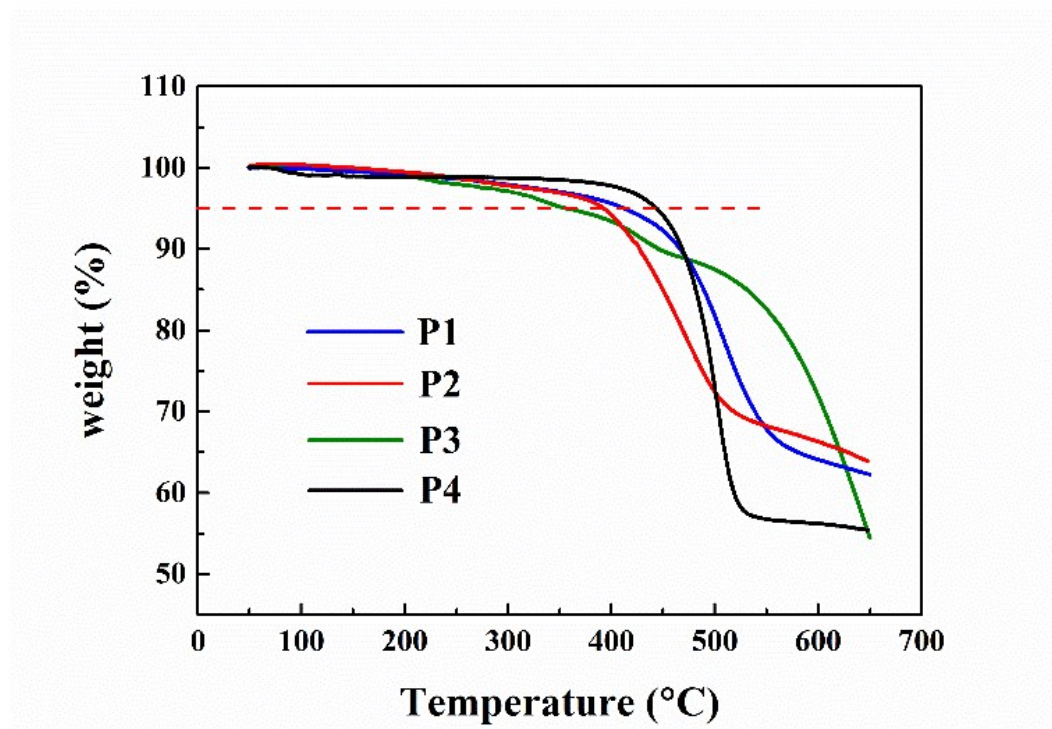


Fig. S15 The TGA spectra of **P1**, **P2**, **P3** and **P4**.

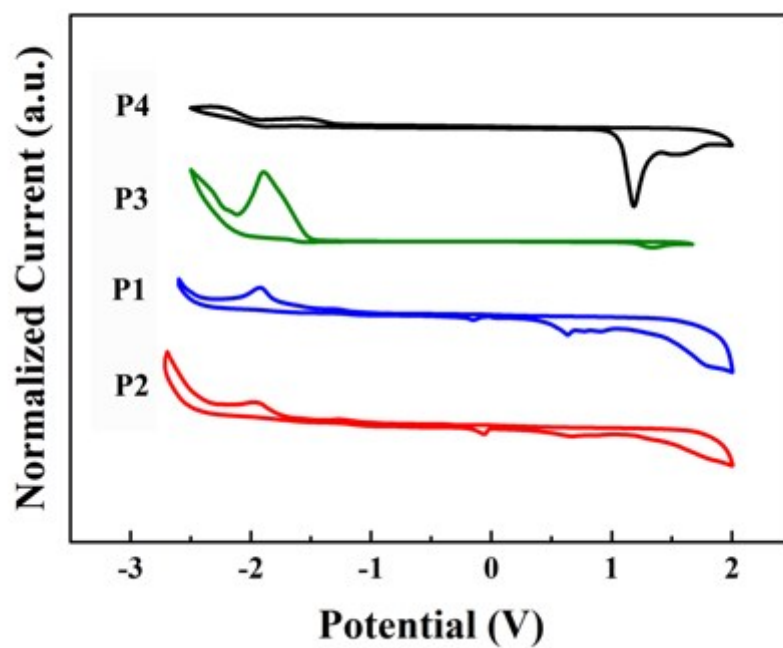


Fig. S16 The cyclic voltammograms of **P1**, **P2**, **P3** and **P4**.

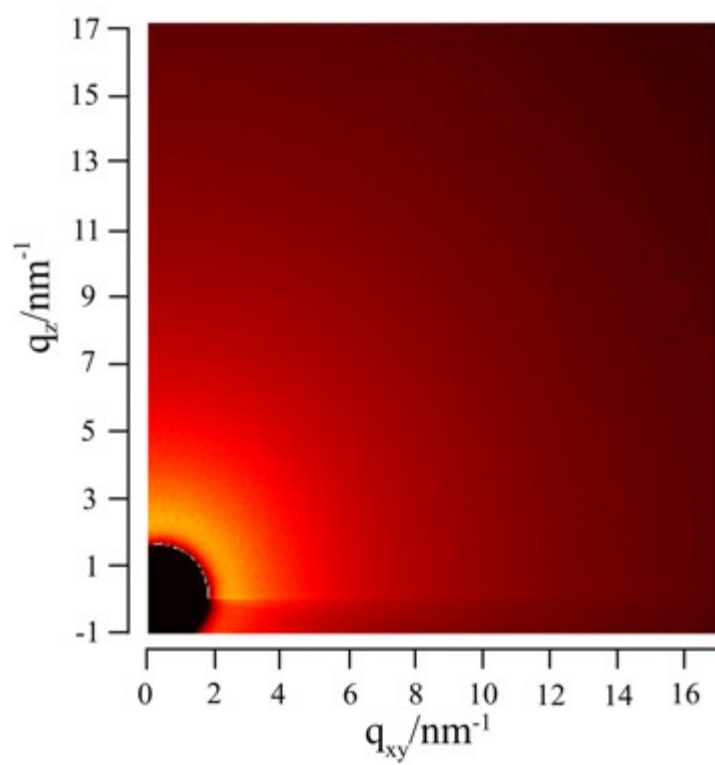


Fig. S17 the 2D GIXRD pattern of **P3**.

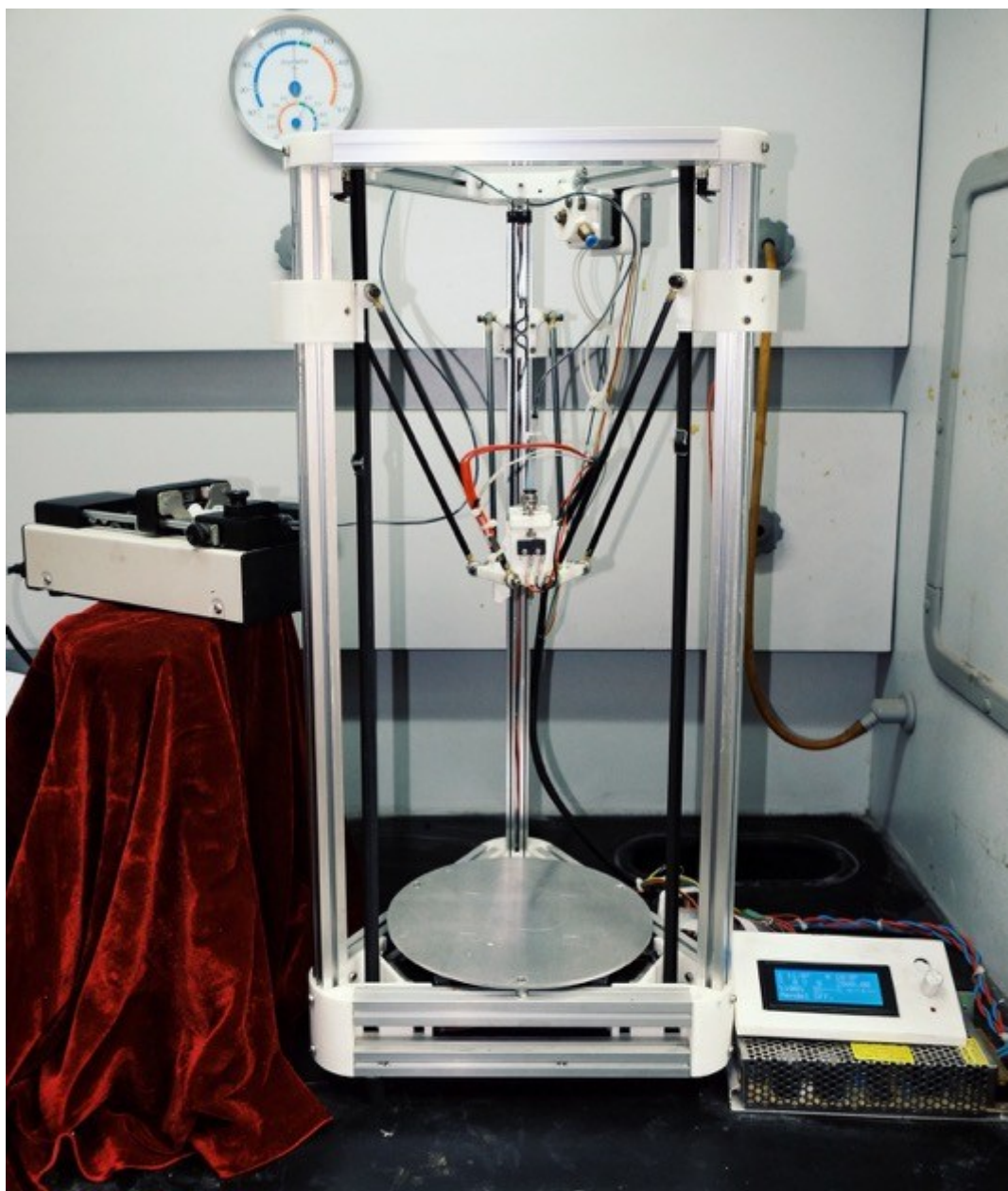


Fig. S18 The photo of homemade 3D printer system.

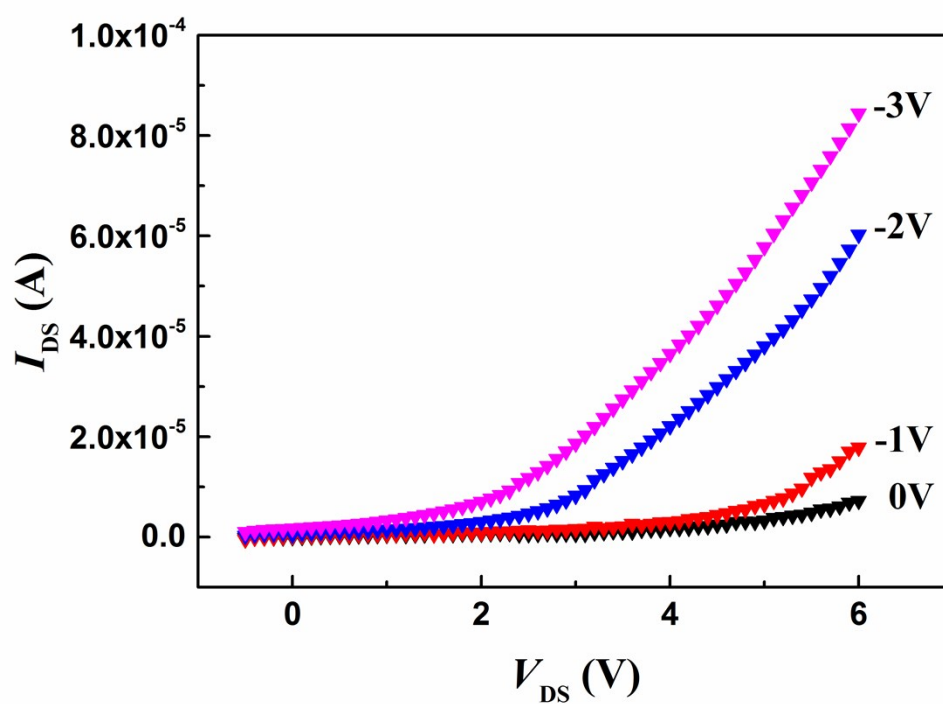


Fig. S19 The output curves of OFET devices based on P1.

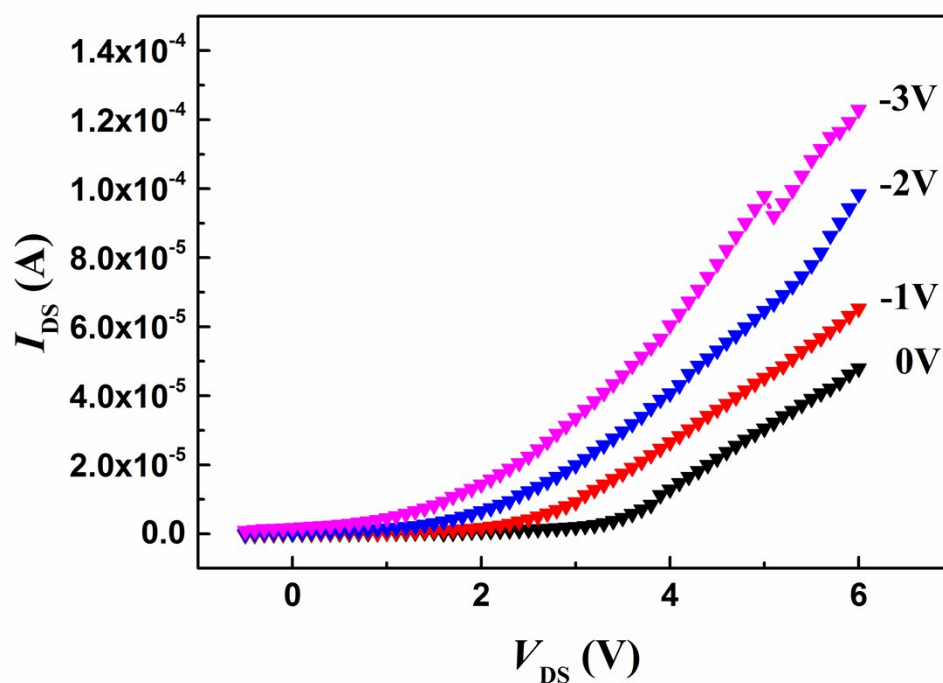


Fig. S20 The output curves of OFET devices based on P2.

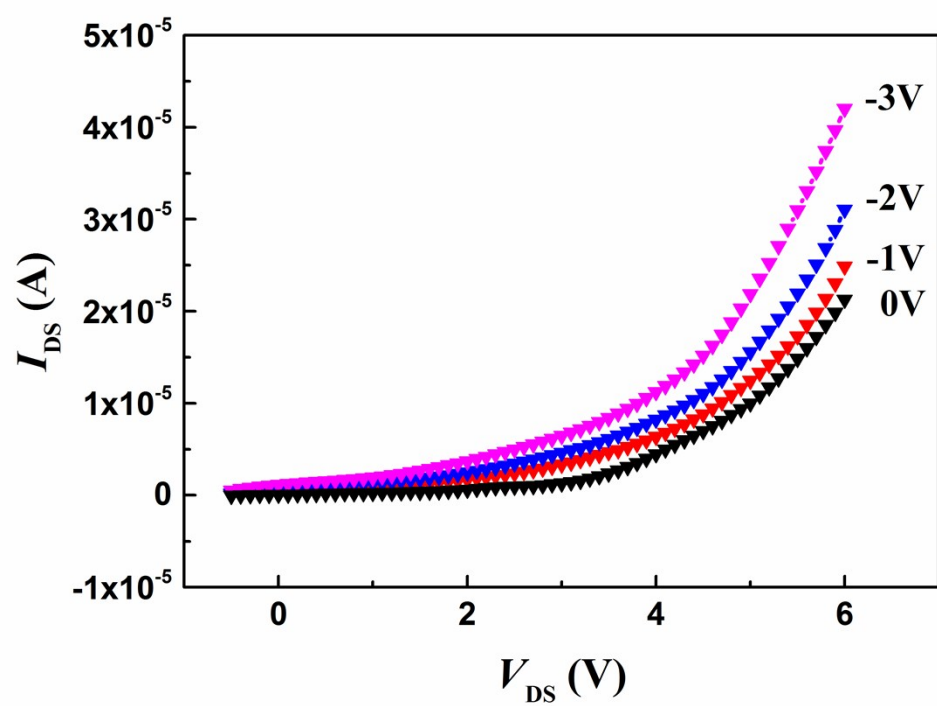


Fig. S21 The output curves of OFET devices based on **P4**.