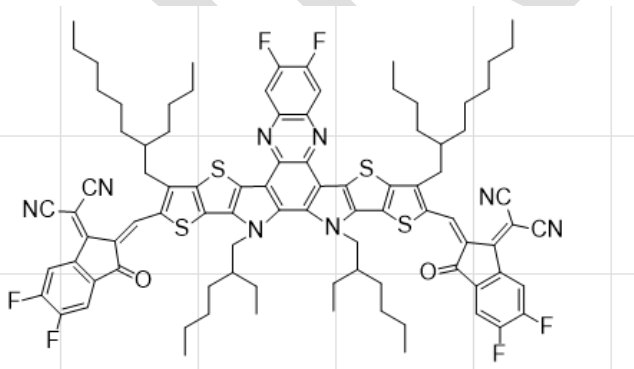


Organic Nano Electronic (ONE=I) Materials for those who understand quality

## CERTIFICATE OF ANALYSIS

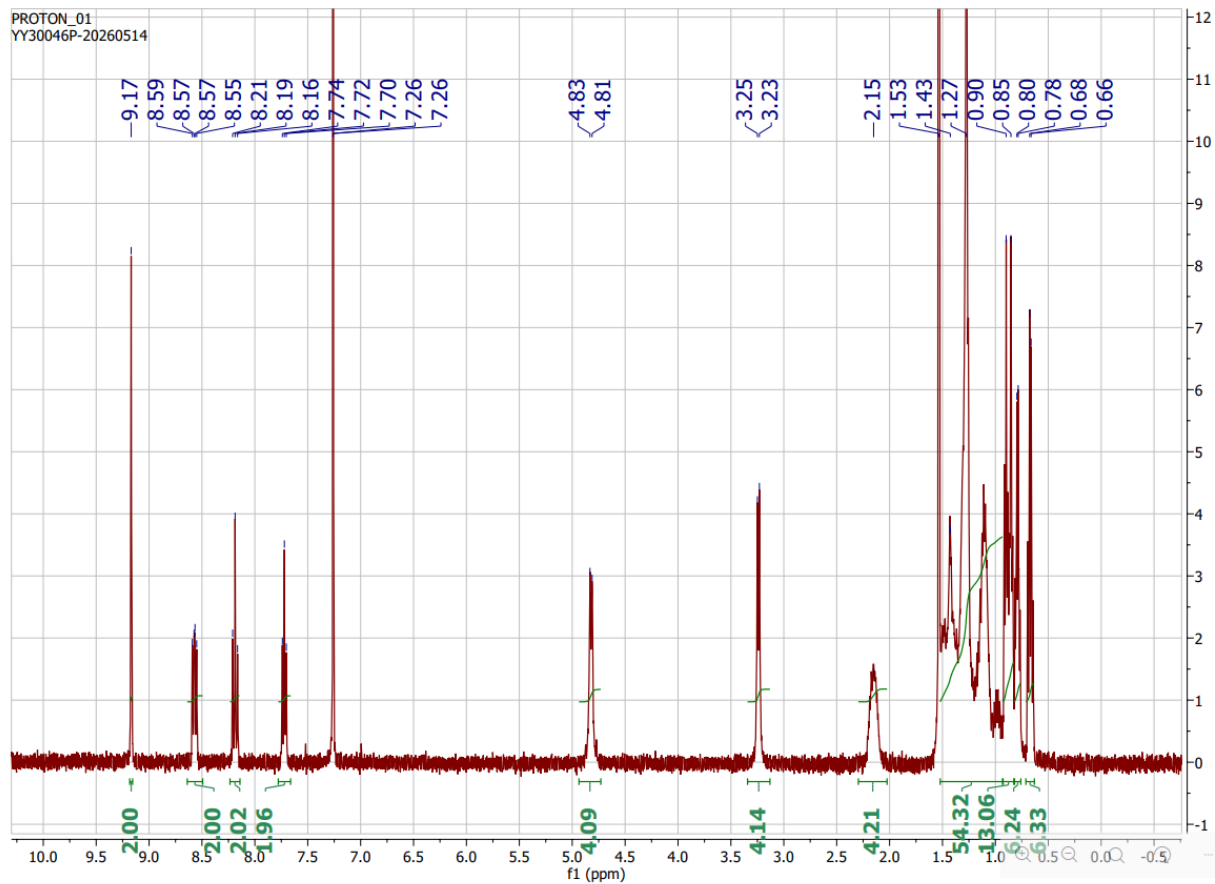
1M Material: Non Fullerene Acceptor (NFA), NFA1558  
Common Name: AQx-2F  
Chemical Formular:  $C_{90}H_{92}F_6N_8O_2S_4$   
Molecular Weight: 1558  
Chemical Structure:



Lot No.: YY30046P  
Appearance: Deep brown solid  
Solubility: Soluble in chloroform and other selected solvents  
Assay: 99% (by NMR, see the appendix)  
Reference: <https://doi.org/10.1016/j.joule.2024.01.005>

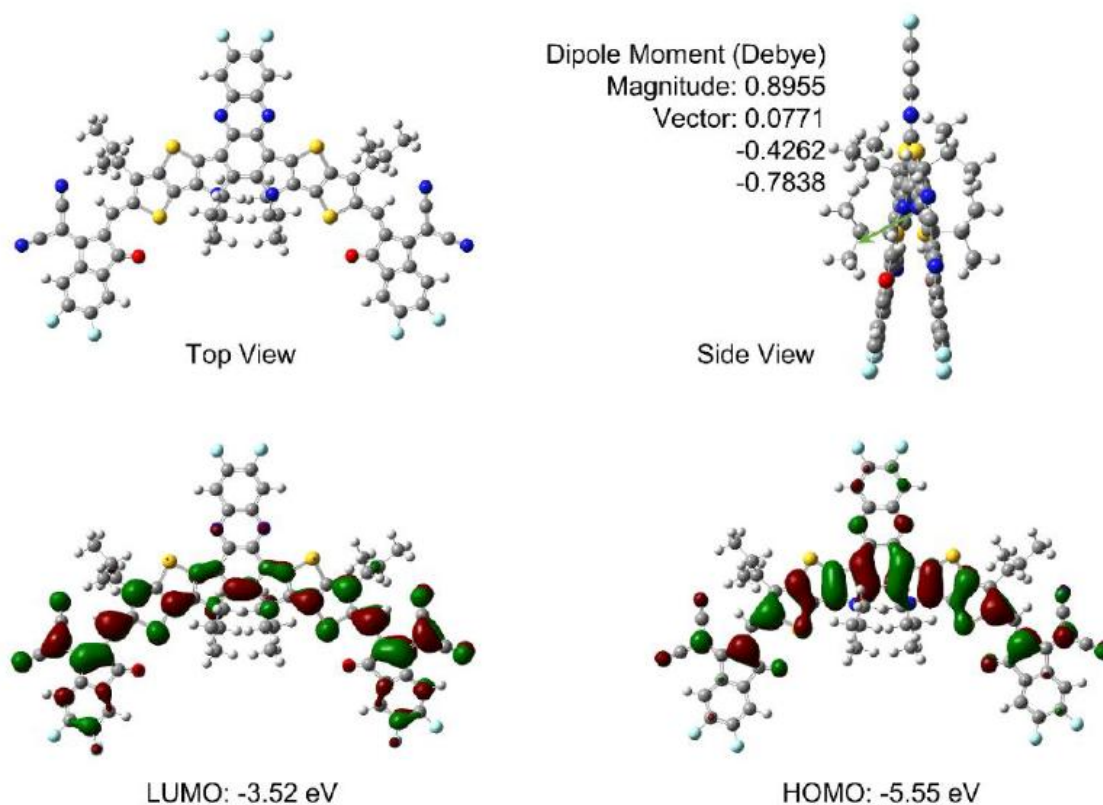
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Reference data:



**Table 1. Photovoltaic parameters of D18:AQx-nF-based OSCs under the illumination of AM1.5G (100 mW cm<sup>-2</sup>)**

Blends	$V_{OC}$ (V)	$J_{SC}$ (mA cm <sup>-2</sup> )	$J_{cal}^a$ (mA cm <sup>-2</sup> )	FF (%)	PCE <sup>b</sup> (%)	$E_g$ (eV)	$E_{loss}$ (eV)	$\Delta E_3$ (eV)	$EQE_{EL}$ (%)
D18:AQx-0F	0.961 (0.960 ± 0.002)	23.2 (23.0 ± 0.2)	22.3	73.5 (72.4 ± 0.8)	16.4 (16.0 ± 0.2)	1.443	0.482	0.167	$1.345 \times 10^{-1}$
D18:AQx-1F	0.947 (0.946 ± 0.002)	24.3 (24.1 ± 0.3)	23.2	76.9 (76.8 ± 0.7)	17.7 (17.5 ± 0.1)	1.453	0.506	0.182	$7.502 \times 10^{-2}$
D18:AQx-2F	0.937 (0.938 ± 0.002)	26.1 (25.9 ± 0.3)	25.4	80.4 (79.6 ± 0.8)	19.7 (19.3 ± 0.3)	1.455	0.518	0.194	$4.703 \times 10^{-2}$
D18:AQx-3F	0.946 (0.944 ± 0.003)	23.3 (22.9 ± 0.3)	22.6	75.0 (75.3 ± 0.2)	16.5 (16.2 ± 0.2)	1.485	0.539	0.208	$2.674 \times 10^{-2}$
D18:AQx-4F	0.991 (0.989 ± 0.001)	17.6 (16.9 ± 0.6)	17.3	63.1 (61.9 ± 1.2)	11.0 (10.3 ± 0.6)	1.523	0.532	0.210	$2.461 \times 10^{-2}$
D18:AQx-2F <sup>c</sup>	0.922	25.8	–	80.3	19.1	–	–	–	–

<sup>a</sup>Integrated current density from EQE.

<sup>b</sup>Average PCEs in parentheses for 10 devices.

<sup>c</sup>Certified PCE from National Institute of Metrology, China (NIM).

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