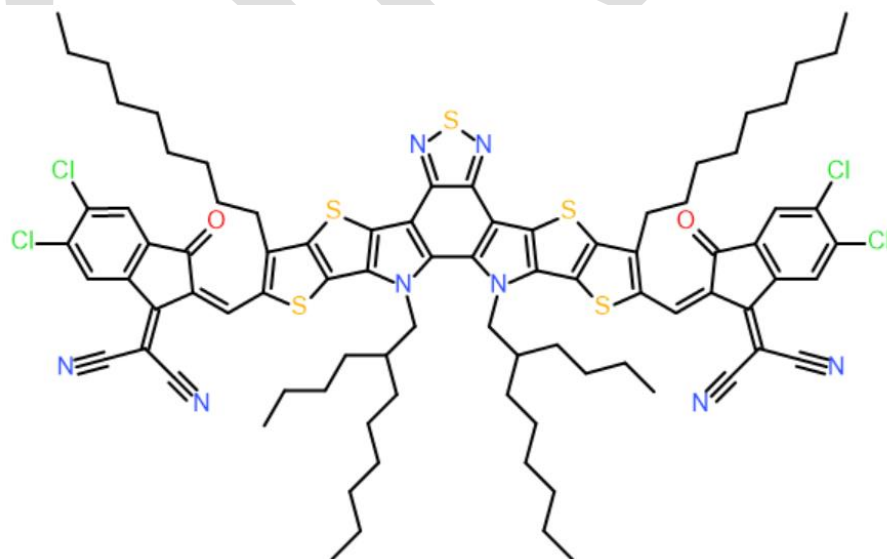


Organic Nano Electronic (ONE=1) Materials for those who understand quality

CERTIFICATE OF ANALYSIS

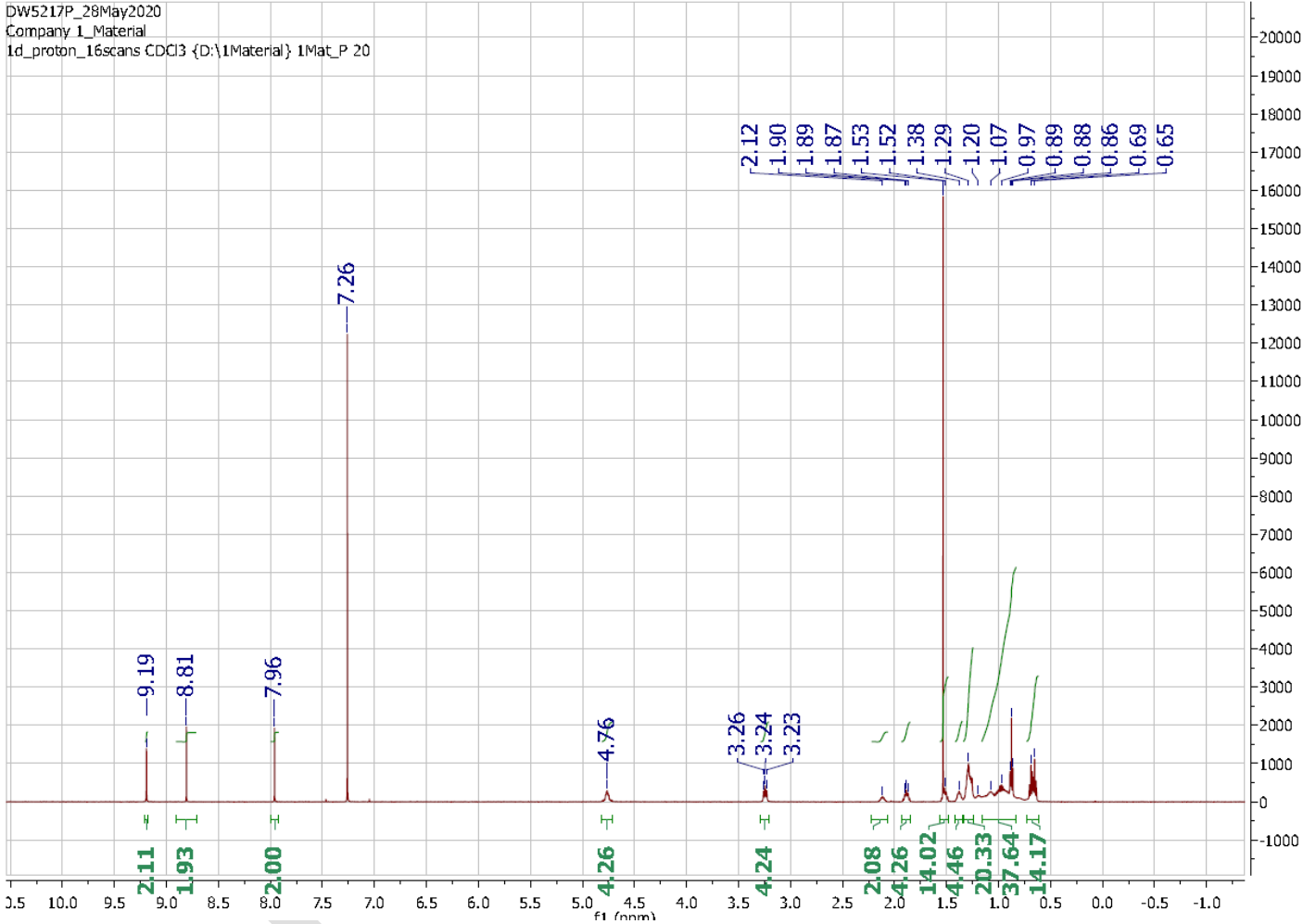
1M Material: Custom Made NFA, BTP-eC9
 Common Name: BTP-eC9
 Chemical Name: 2,2'-[[12,13-Bis(2-butyloctyl)-12,13-dihydro-3,9-dinonylbisthieno[2'',3'':4',5']thieno[2',3':4,5]pyrrolo[3,2-*e*:2',3'-g][2,1,3]benzothiadiazole-2,10-diyl]]bis[methyldiyl(5,6-chloro-3-oxo-1*H*-indene-2,1(3*H*)-diylidene)]]bis[propanedinitrile]
 Chemical Formula: $C_{86}H_{94}Cl_4N_8O_2S_5$
 Molecular Weight: 1573.86

Chemical Structure:



Lot#: DW5217P
 Appearance: Deep blue solid
 Solubility: Soluble in chloroform, CB and ODCB
 Assay: 99+% (by NMR)
 NMR: Structure confirmed (see more information below)

H^1 -NMR



Reference only:

Advanced Materials, Volume: 32, Issue: 19, First published: 29 March 2020, DOI:
(10.1002/adma.201908205)

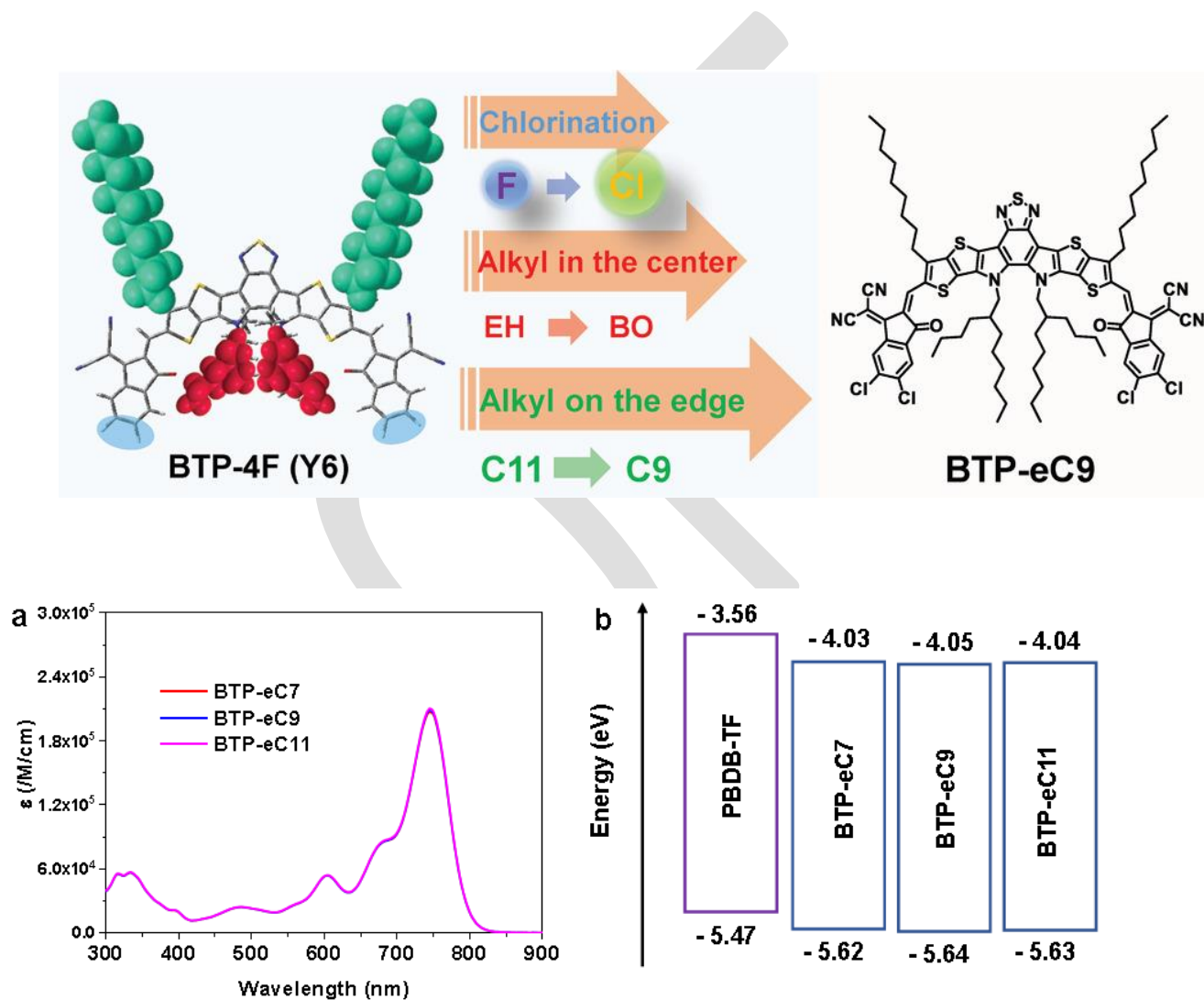


Figure (a) Absorption coefficients of the three acceptors in the CF solutions. (b) Schematic energy level alignment of PBDB-TF and three NFAs in this work.