

Structural Modification of Thieno[3,4-*c*]-pyrrole-4,6-dione: Structure-Property Relationships and Application in Solution-Processed Small-Molecule Organic Solar Cells

Hong-Yu Wang,^{[a]*} Jun Gao,^[a] Ling-Jie Gu,^[a] Jun-Hua Wan,^[b] Wei Wei,^[c] Feng Liu^{[d]*}

^[a] Department of Chemistry, Shanghai University, Shanghai 200444, China

^[b] Key Laboratory of Organosilicon Chemistry and Material Technology of Ministry of Education, Hangzhou Normal University, Hangzhou 310012, China

^[c] Institute of Advanced Materials, Nanjing University of Posts and Telecommunications, Nanjing 210046, China

^[d] Department of Polymer Science and Engineering, University of Massachusetts Amherst, Massachusetts 01003, USA

Supporting information.

Figure S1. ^1H NMR spectrum of **3TTIN3T**

Figure S2. ^{13}C NMR spectrum of **3TTIN3T**

Figure S3. MS (MALDI-TOF) spectrum of **3TTIN3T**

Figure S4. ^1H NMR spectrum of **3TTPD3T**

Figure S5. ^{13}C NMR spectrum of **3TTPD3T**

Figure S6. MS (MALDI-TOF) spectrum of **3TTPD3T**

Figure S7. ^1H NMR spectrum of **3TTPN3T**

Figure S8. ^{13}C NMR spectrum of **3TTPN3T**

Figure S9. MS (MALDI-TOF) spectrum of **3TTPN3T**

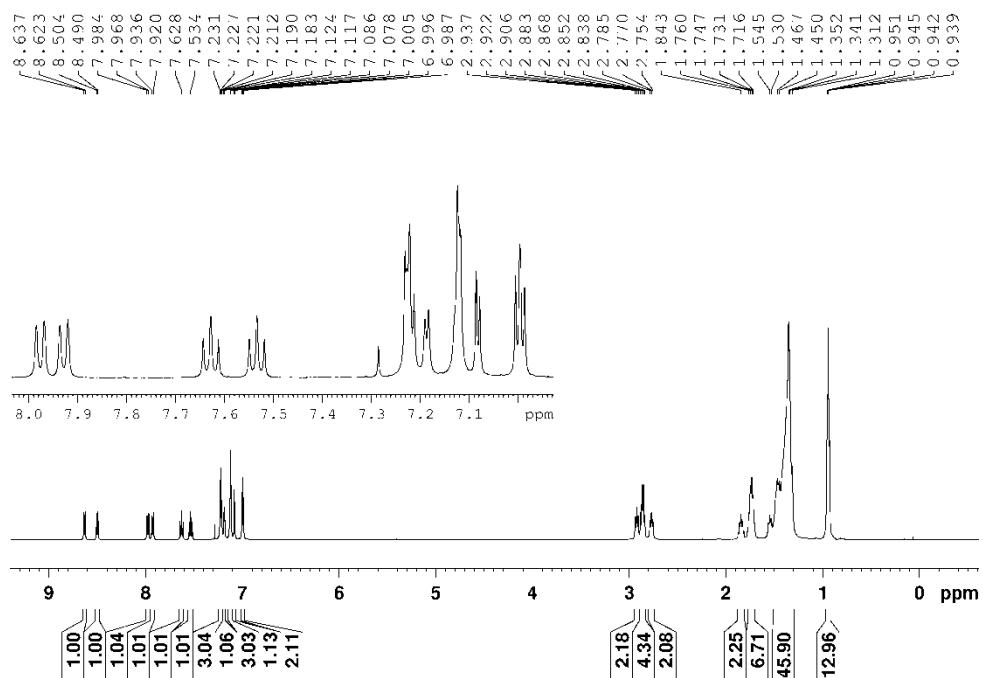


Figure S1. ¹H NMR spectrum of **3TTIN3T**

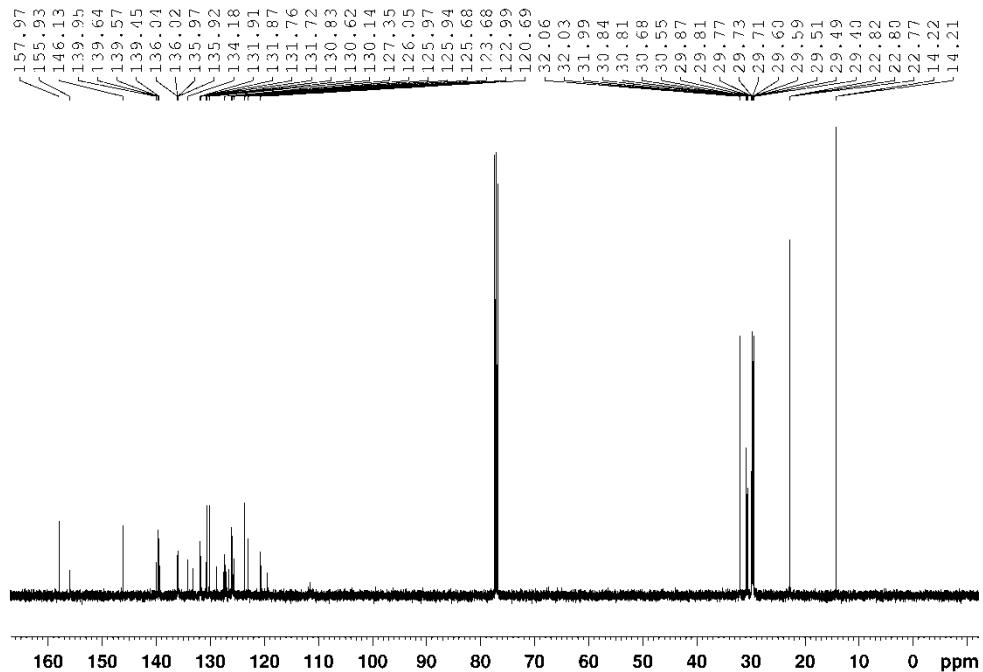


Figure S2. ¹³C NMR spectrum of **3TTIN3T**

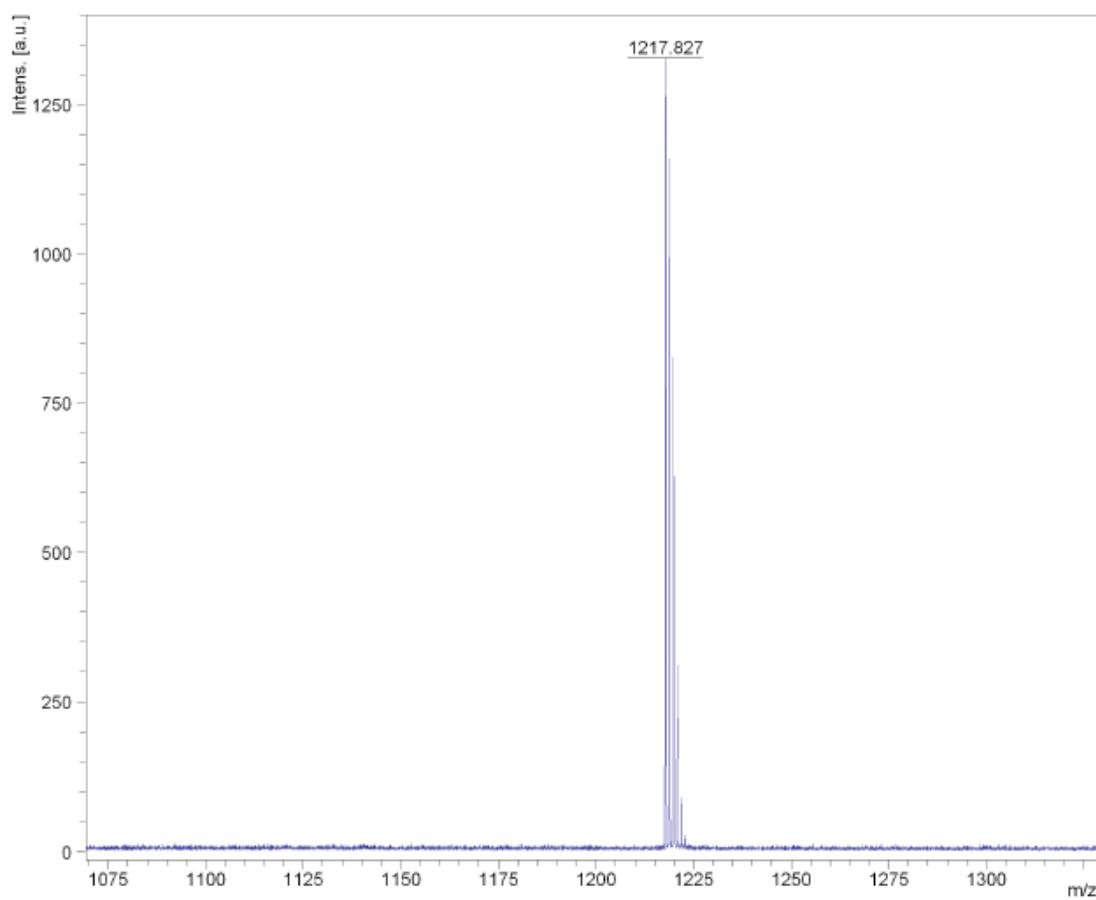


Figure S3. MS (MALDI-TOF) spectrum of 3TTIN3T

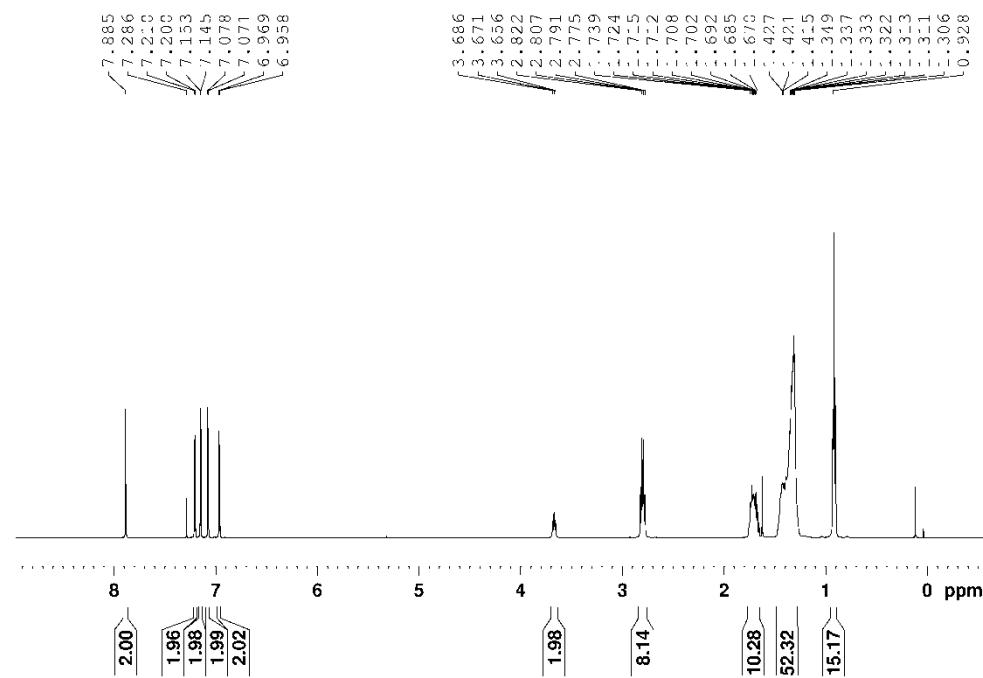


Figure S4. ^1H NMR spectrum of **3TTPD3T**

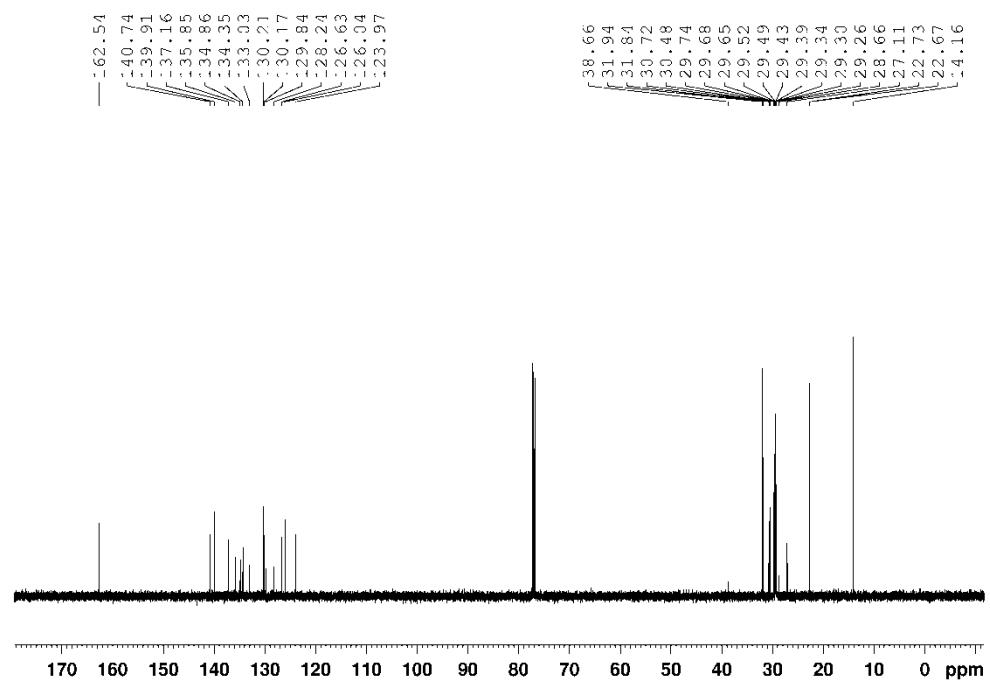


Figure S5. ¹³C NMR spectrum of **3TTPD3T**

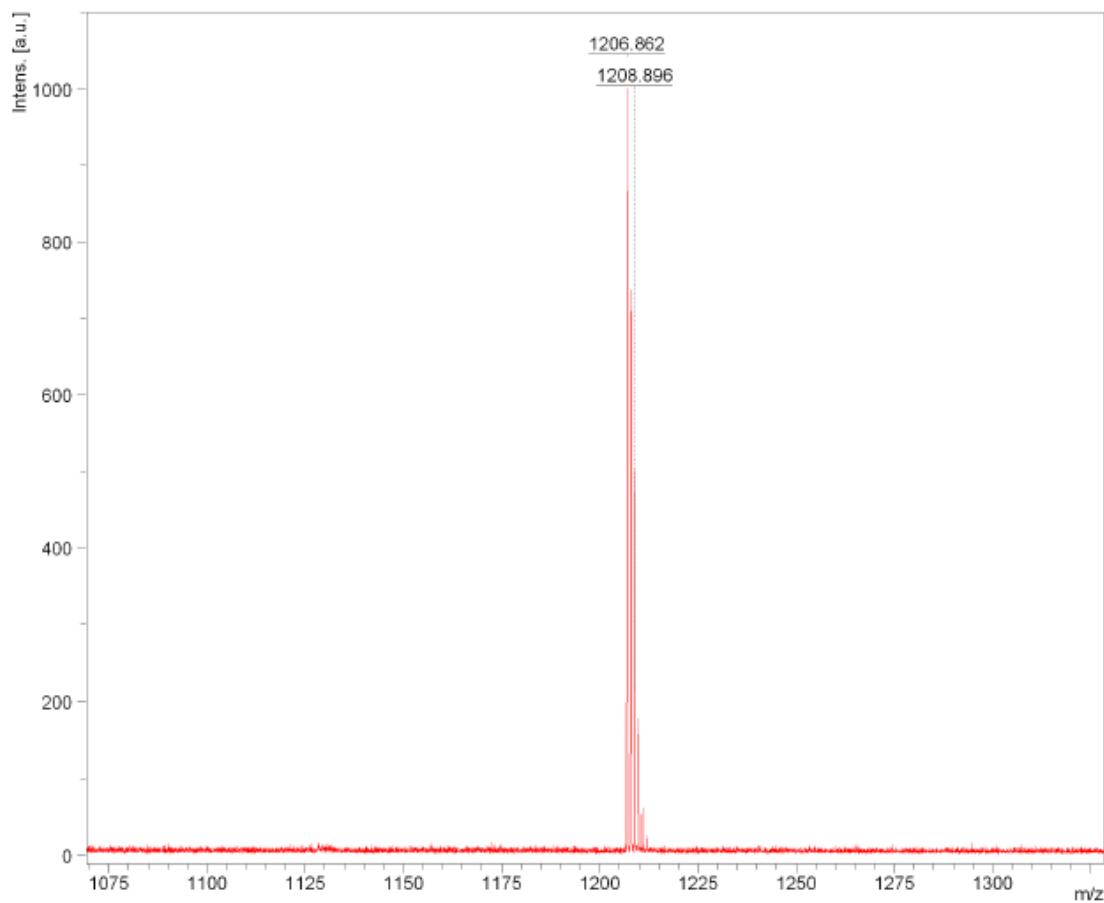


Figure S6. MS (MALDI-TOF) spectrum of **3TTPD3T**

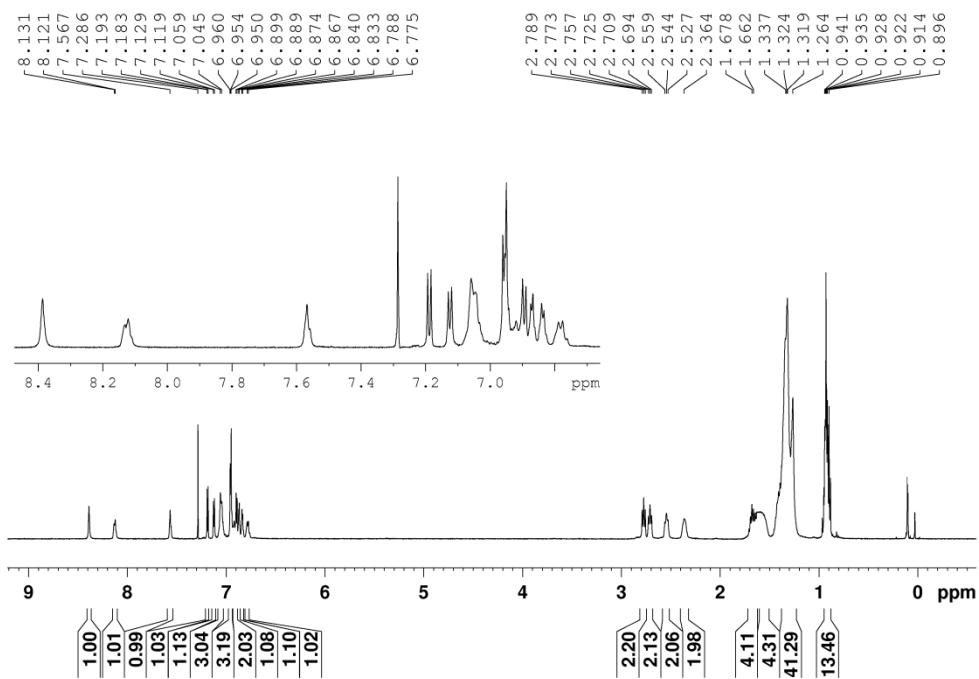


Figure S7. ^1H NMR spectrum of **3TTPN3T**

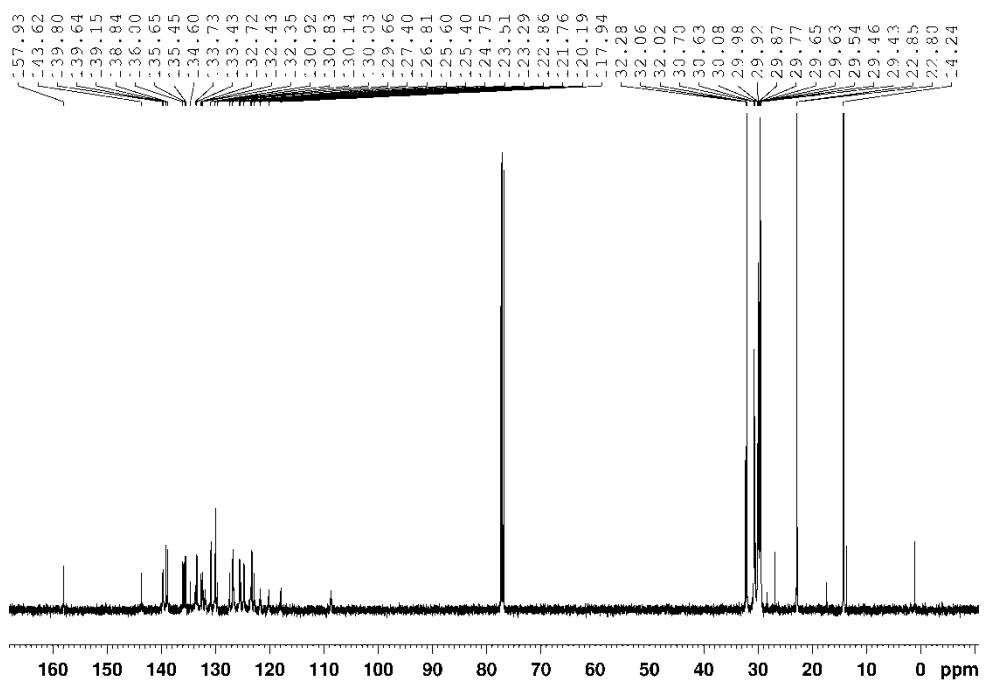


Figure S8. ^{13}C NMR spectrum of **3TTPN3T**

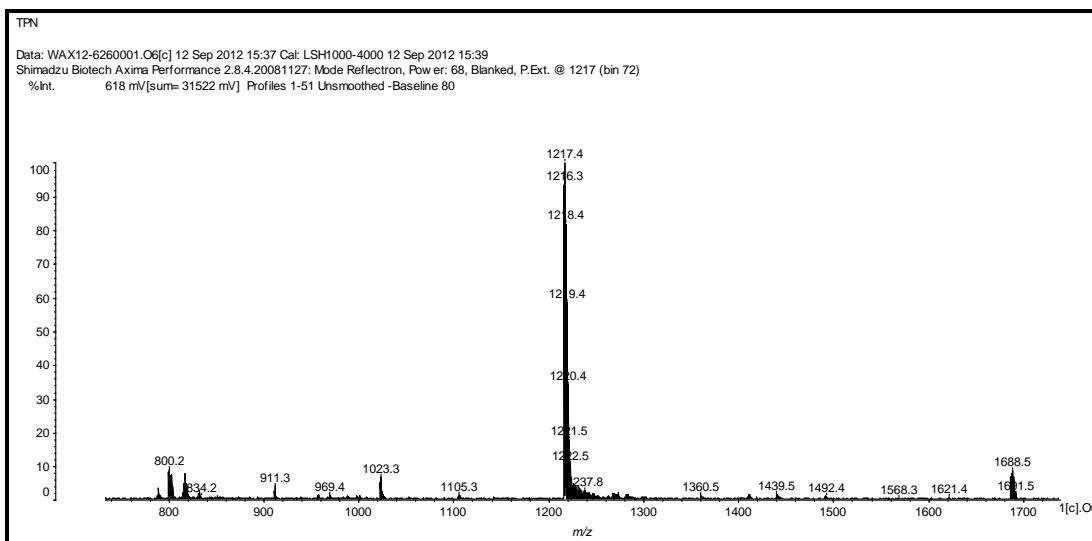


Figure S9. MS (MALDI-TOF) spectrum of 3TTPN3T