

Supporting information

[2+2+2] Cycloaddition of Sulfanylbenzene-Tethered Diynes with Alkynes for the Synthesis of Multi-Substituted Dibenzothiophene Derivatives

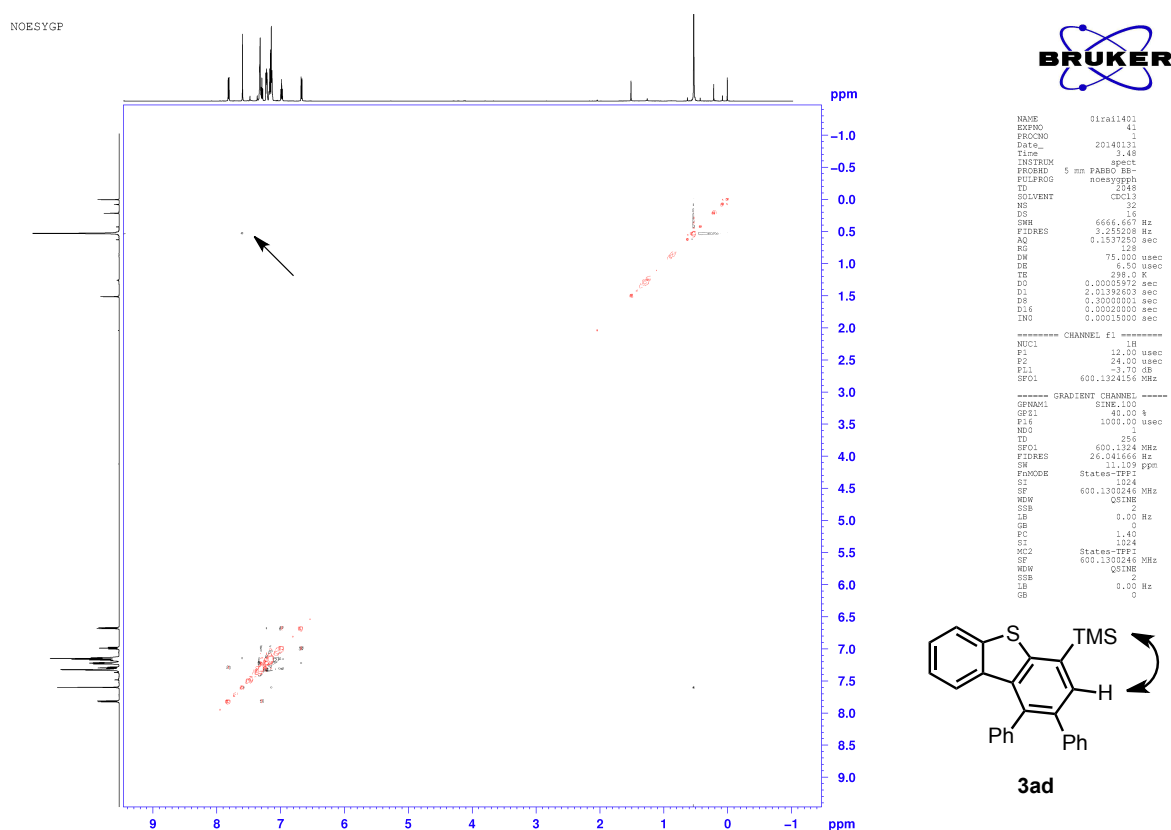
Yu-ki Tahara,¹ Riku Matsubara,¹ and Takanori Shibata^{1,2*}

^a Department of Chemistry and Biochemistry, School of Advanced Science and Engineering, Waseda University, Tokyo, 169-8050, Japan;

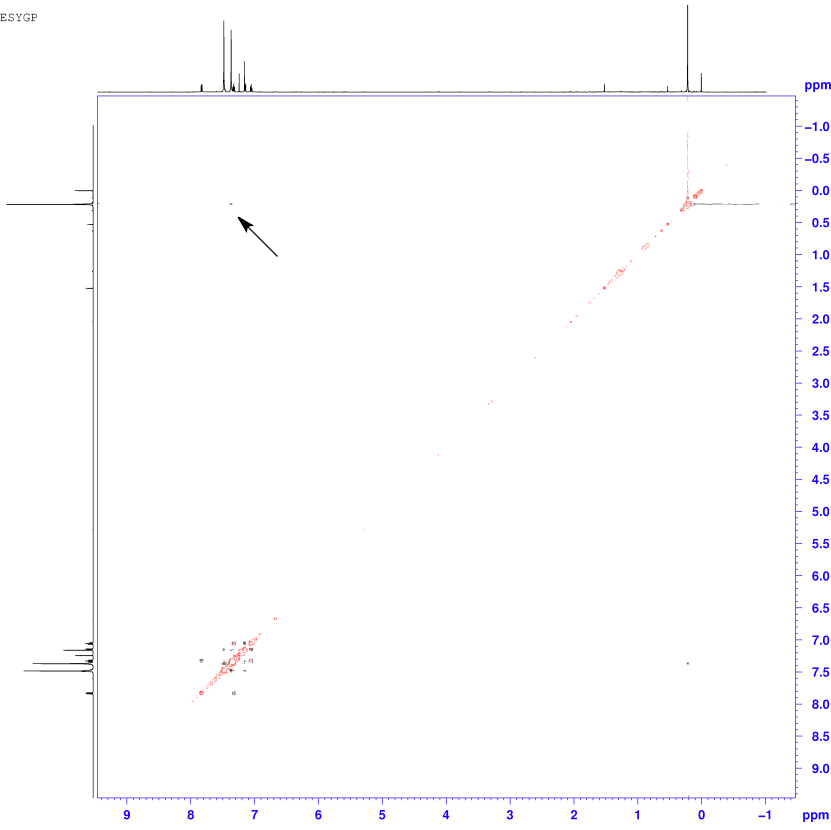
^b JST, ACT-C, 4-1-8 Honcho, Kawaguchi, Saitama 332-0012, Japan.

Email: tshibata@waseda.jp

Copies of NOESY spectra of **3ad**, **4ad**, and **3ae**



NOESYGP

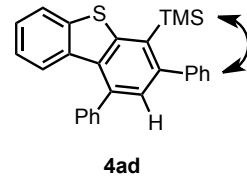


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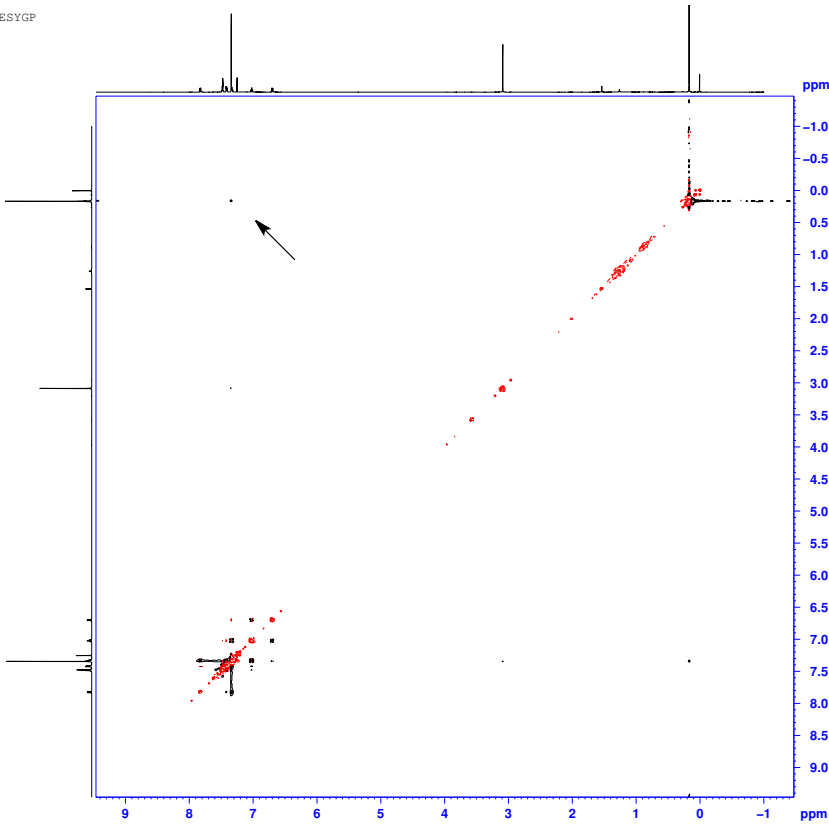
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EXPNO    25
PROCNO   2
Date_    20140130
Time     3.28
INSTRUM  spect
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PULPROG  noesyppgh
TD        65536
SOLVENT  CDCl3
NS        20
DS        16
SWH       6561.680 Hz
FIDRES   3.203945 Hz
AQ        0.1591298 sec
RG        714.7
DW        76.200 usec
DE        6.50 usec
TE        298.2 K
DO        0.0002000 sec
D1        2.01187801 sec
D8        0.10000000 sec
D16       0.00020000 sec
IN0       0.10002500 sec

===== CHANNEL f1 =====
NUC1      1H
P1        12.00 usec
P2        24.00 usec
PL1       -3.70 dB
PL2       -3.70 dB
SFO1      600.1324170 MHz

===== GRADIENT CHANNEL =====
GENAM1    SINE.100
GZ1        40.00 g
P16        1000.00 usec
NUD1       1
TD         256
SF01       600.1324 MHz
FIDRES    26.041665 Hz
SW         11.109 ppm
FQM0DE    States-TPP1
SI         1024
SF         600.1300137 MHz
WDW        QSI
SSB        2
LB         0.00 Hz
GB         0
PC         1.40
ST         1024
MC2        States-TPP1
SF         600.1300137 MHz
WDW        QSI
SSB        2
LB         0.00 Hz
GB         0
  
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NOESYGP



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NAME      01ra11401
EXPNO    29
PROCNO   1
Date_    20140129
Time     11.24
INSTRUM  spect
PROBHD   5 mm PABBO BB-
PULPROG  noesyppgh
TD        65536
SOLVENT  CDCl3
NS        20
DS        16
SWH       6566.467 Hz
FIDRES   3.252208 Hz
AQ        0.1537250 sec
RG        1024
DW        75.000 usec
DE        6.50 usec
TE        298.2 K
DO        0.0000500 sec
D1        2.01392603 sec
D8        0.10000000 sec
D16       0.00020000 sec
IN0       0.00015000 sec

===== CHANNEL f1 =====
NUC1      1H
P1        12.00 usec
P2        24.00 usec
PL1       -3.70 dB
PL2       -3.70 dB
SFO1      600.1324183 MHz

===== GRADIENT CHANNEL =====
GENAM1    SINE.100
GZ1        40.00 g
P16        1000.00 usec
NUD1       1
TD         256
SF01       600.1324 MHz
FIDRES    26.041665 Hz
SW         11.109 ppm
FQM0DE    States-TPP1
SI         1024
SF         600.1300137 MHz
WDW        QSI
SSB        2
LB         0.00 Hz
GB         0
PC         1.40
ST         1024
MC2        States-TPP1
SF         600.1300137 MHz
WDW        QSI
SSB        2
LB         0.00 Hz
GB         0
  
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