Electronic Supplementary Material (ESI) for CrystEngComm.

Supporting Information

Crystallization induced reversible fluorescence switching and alkyl chain length dependent thermally stable supercooled organic fluorescent liquid

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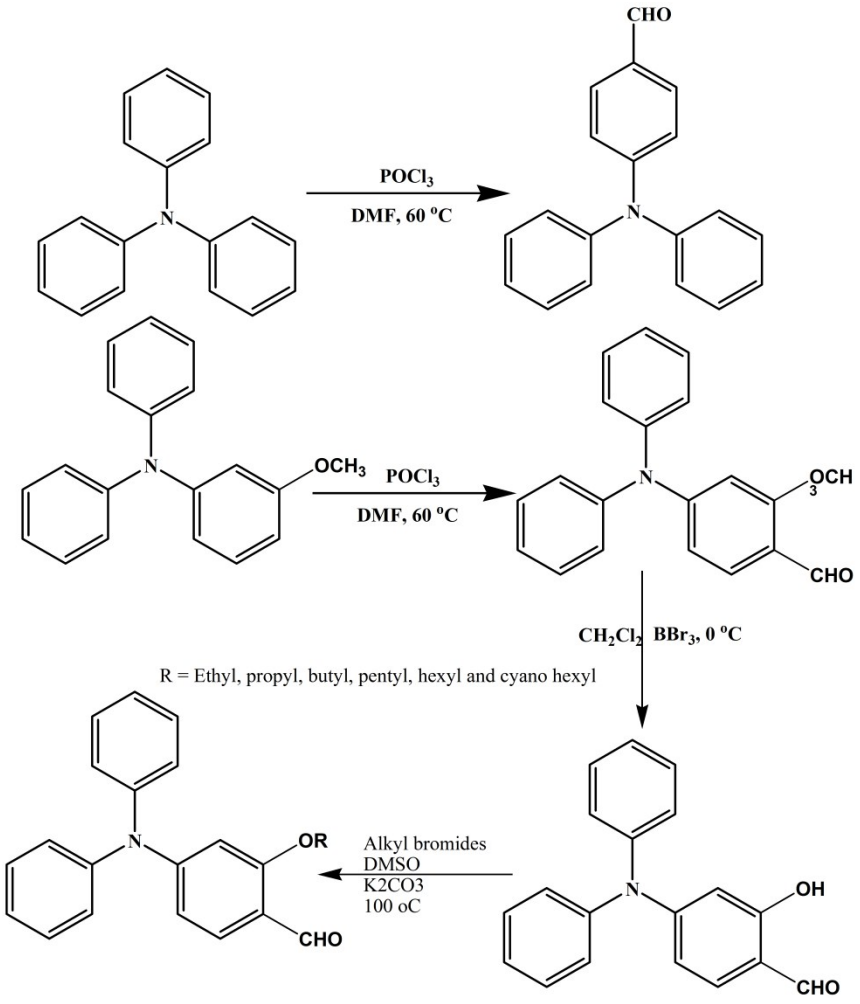
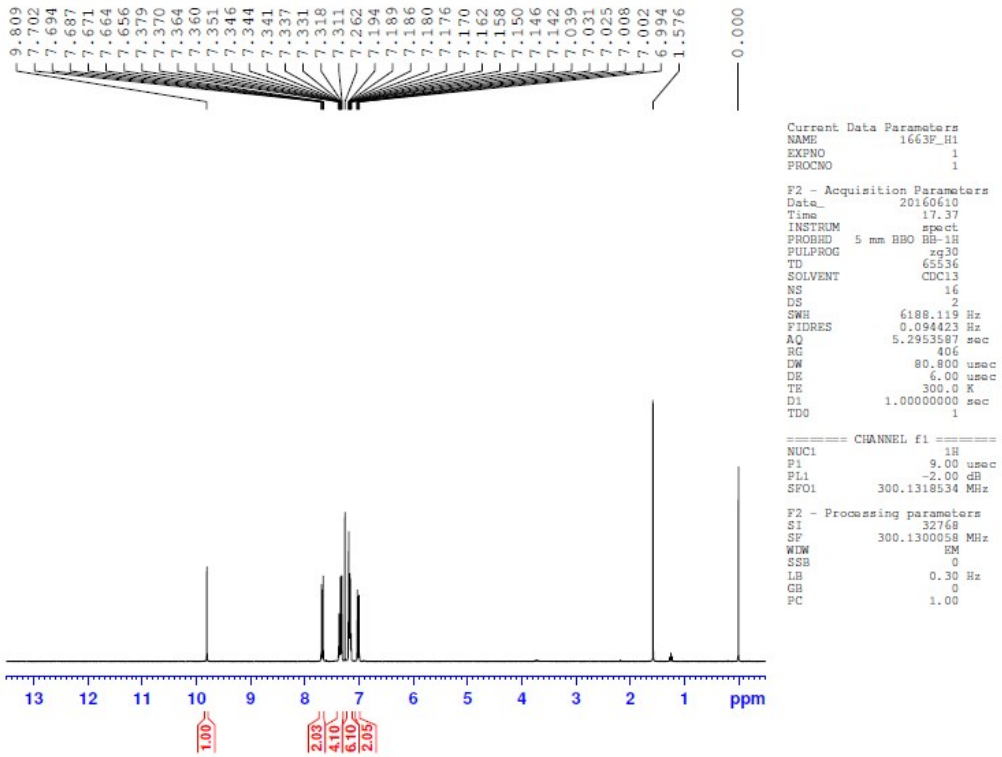


Scheme S1. Synthetic scheme of DPAB, DPAMB and alkyl chain substituted compounds.

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TE                    300.0 K
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PL1                     -2.00 dB
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F2 - Processing parameters
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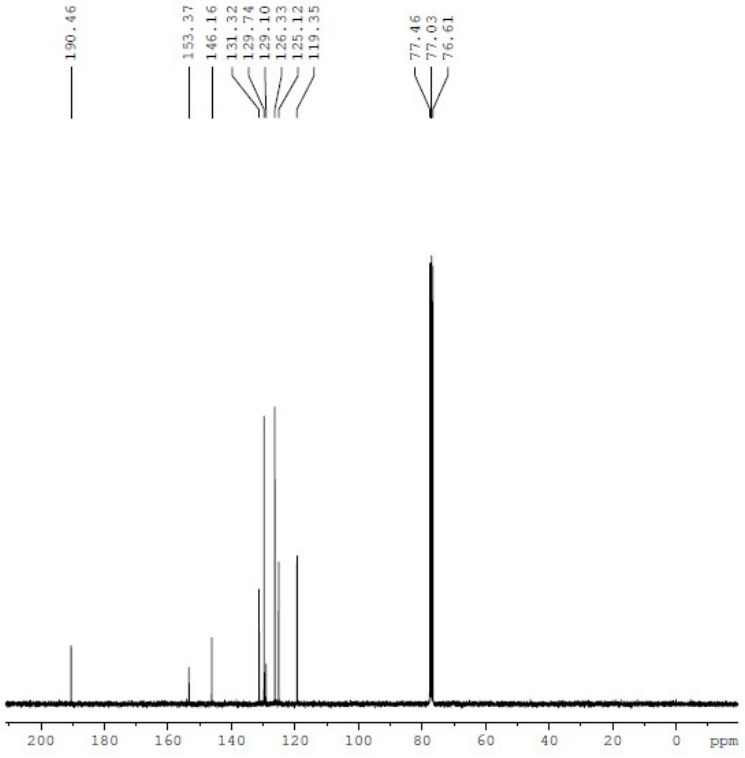


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F2 - Processing parameters
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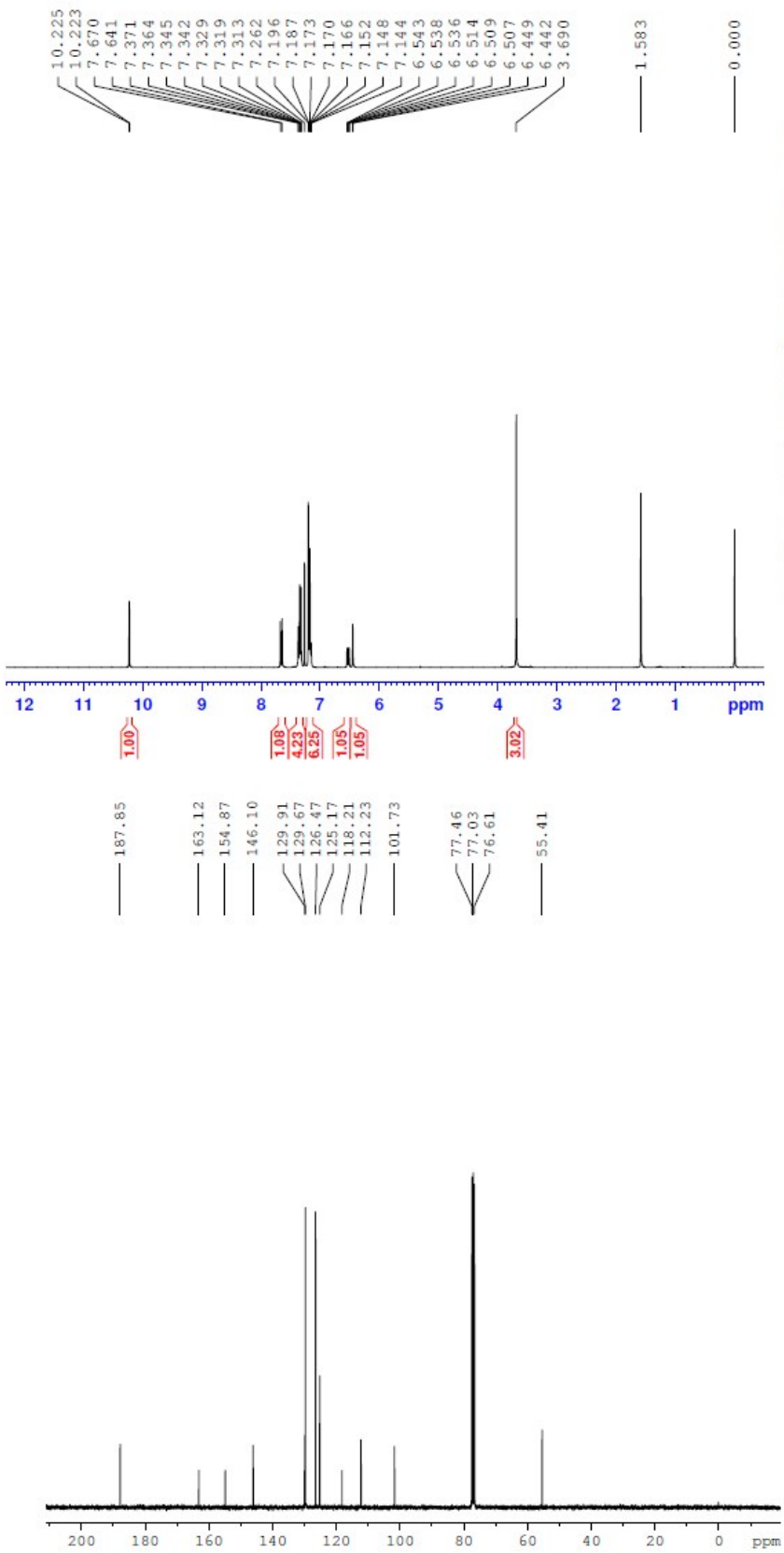
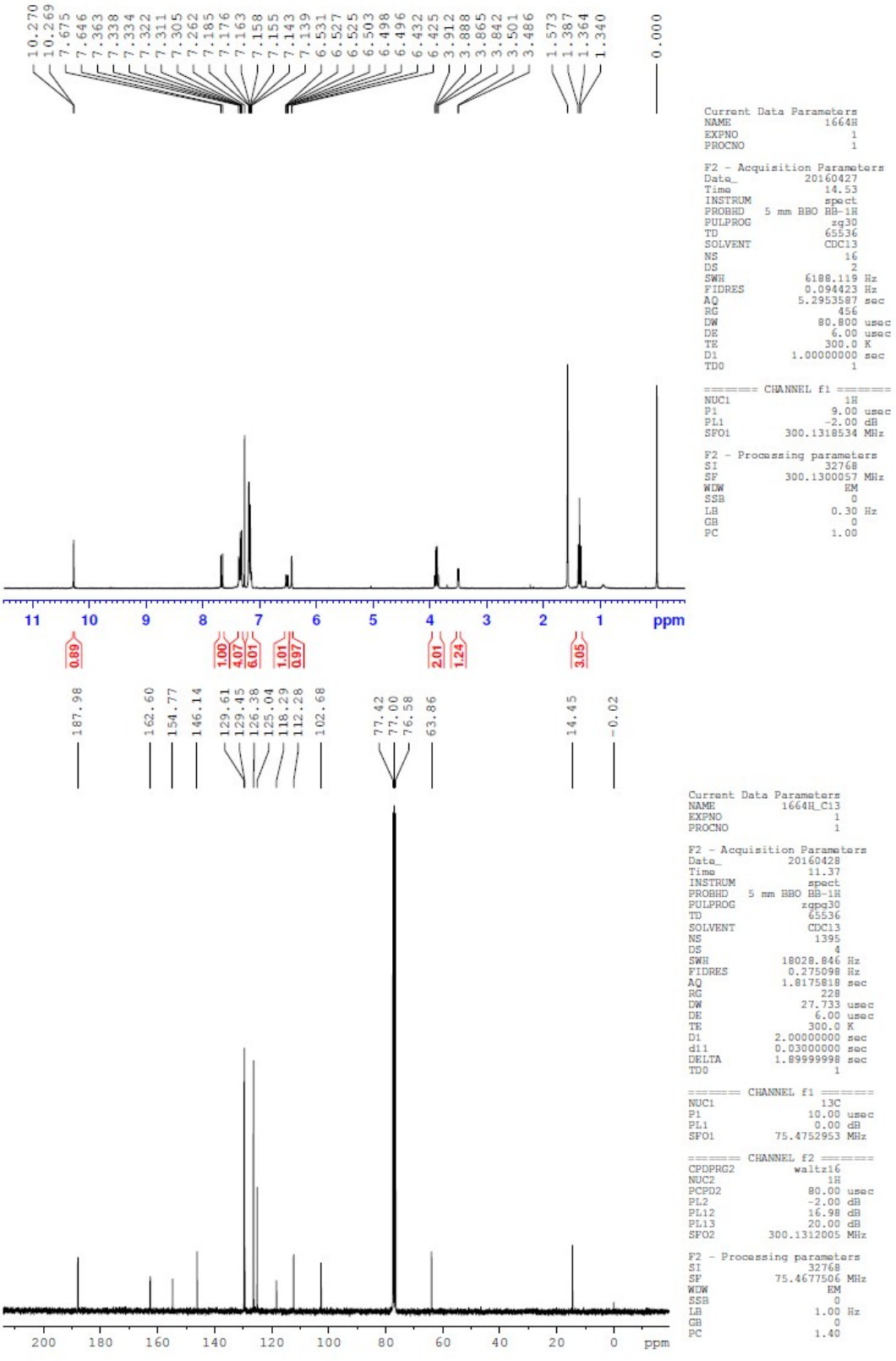
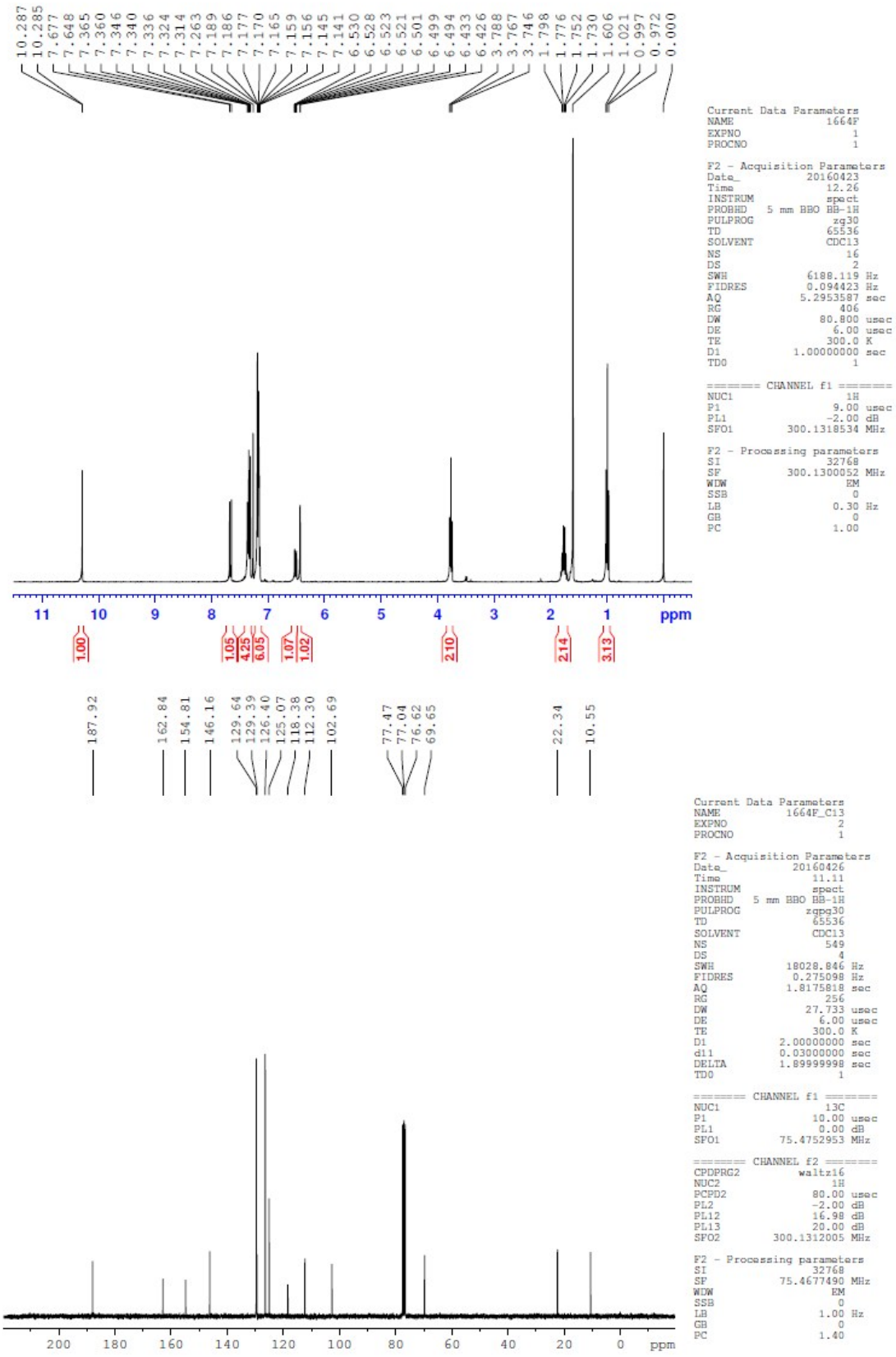
[1]H and *[13]C*-NMR spectra of DPAB.



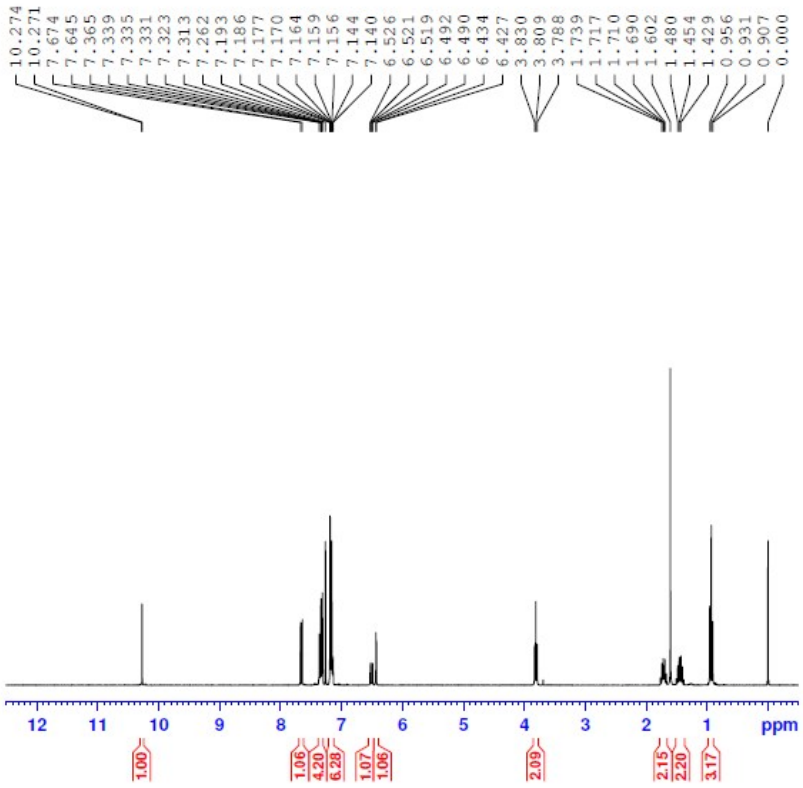
[1]H and *[13]C*-NMR spectra of DPAMB.



^{1}H and ^{13}C-NMR spectra of DPAEB.



[1]H and *[13]C*-NMR spectra of DPAPrB.

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D1                1.00000000 sec
TD0                       1

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PL1                  -2.00 dB
SFO1           300.1318534 MHz

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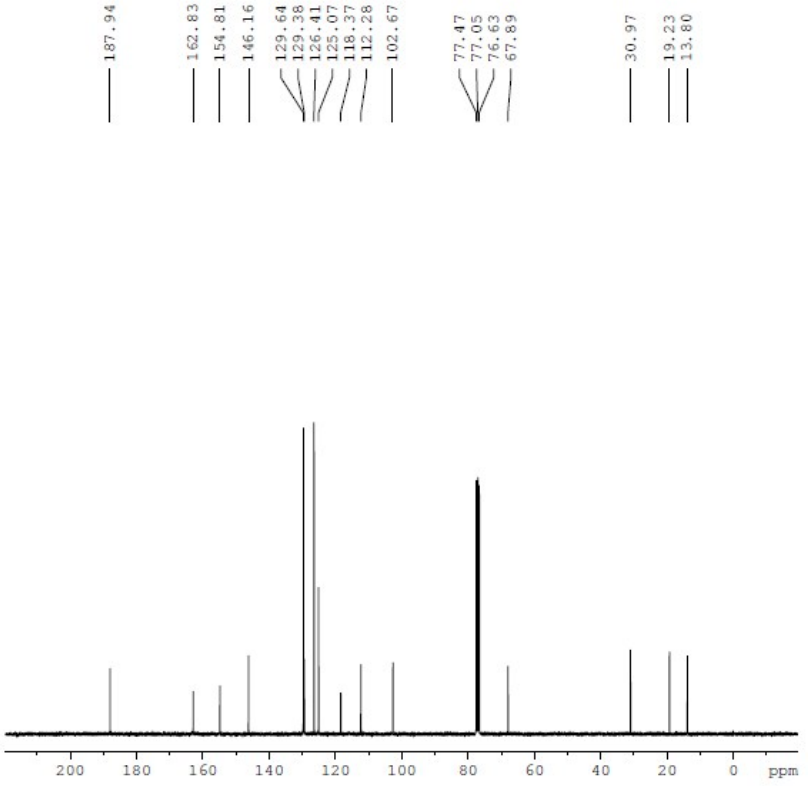


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TD                   65536
SOLVENT              CDC13
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DS                       4
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FIDRES            0.275098 Hz
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TD0                       1

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PL1                   0.00 dB
SFO1           75.4752953 MHz

======= CHANNEL f2 =======
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NUC2                    1H
PCPD2                80.00 usec
PL2                  -2.00 dB
PL12                 16.98 dB
PL13                 20.00 dB
SFO2           300.1312005 MHz

F2 - Processing parameters
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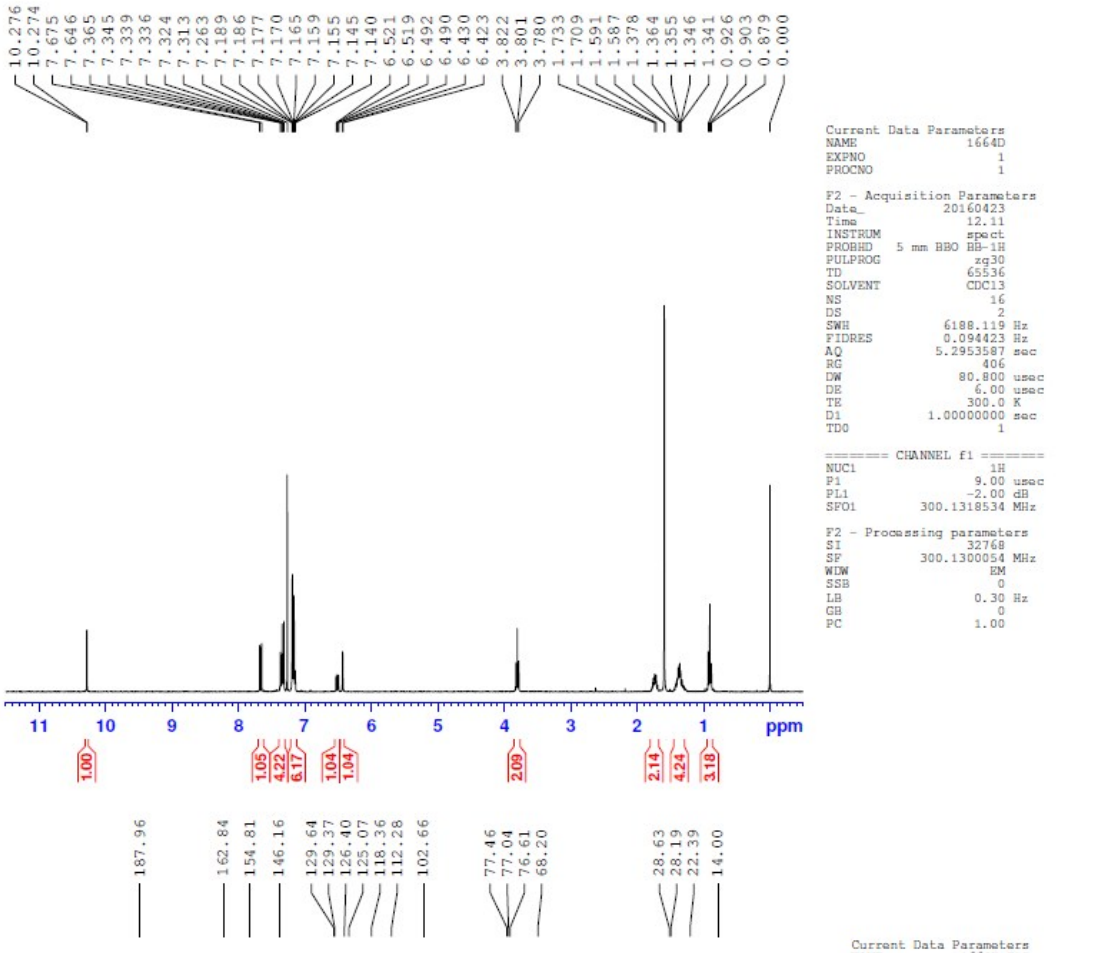
[1]H and *[13]C*-NMR spectra of DPABB.

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DS                       2
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RG                     406
DW                80.800 usec
DE                 6.00 usec
TE                 300.0 K
D1              1.00000000 sec
TD0                       1

======= CHANNEL f1 =======
NUC1                    1H
P1                   9.00 usec
PL1                 -2.00 dB
SFO1           300.1318534 MHz

F2 - Processing parameters
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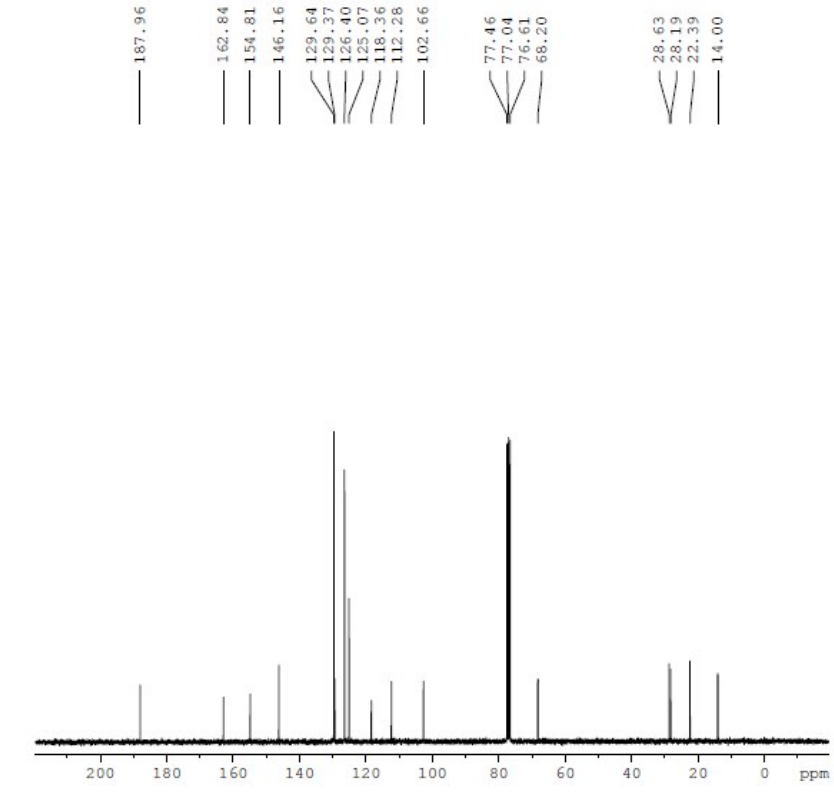


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SOLVENT              CDC13
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DS                       4
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FIDRES            0.275098 Hz
AQ                1.8175818 sec
RG                     256
DW                27.733 usec
DE                 6.00 usec
TE                 300.0 K
D1              2.00000000 sec
d11             0.03000000 sec
DELTA           1.89999998 sec
TD0                       1

======= CHANNEL f1 =======
NUC1                   13C
P1                  10.00 usec
PL1                  0.00 dB
SFO1           75.4752953 MHz

======= CHANNEL f2 =======
CPDPRG2            waltz16
NUC2                    1H
PCPD2               80.00 usec
PL2                 -2.00 dB
PL12                16.98 dB
PL13                20.00 dB
SFO2           300.1312005 MHz

F2 - Processing parameters
SI                    32768
SF             75.4677490 MHz
WDW                     EM
SSB                      0
LB                  1.00 Hz
GB                       0
PC                    1.40
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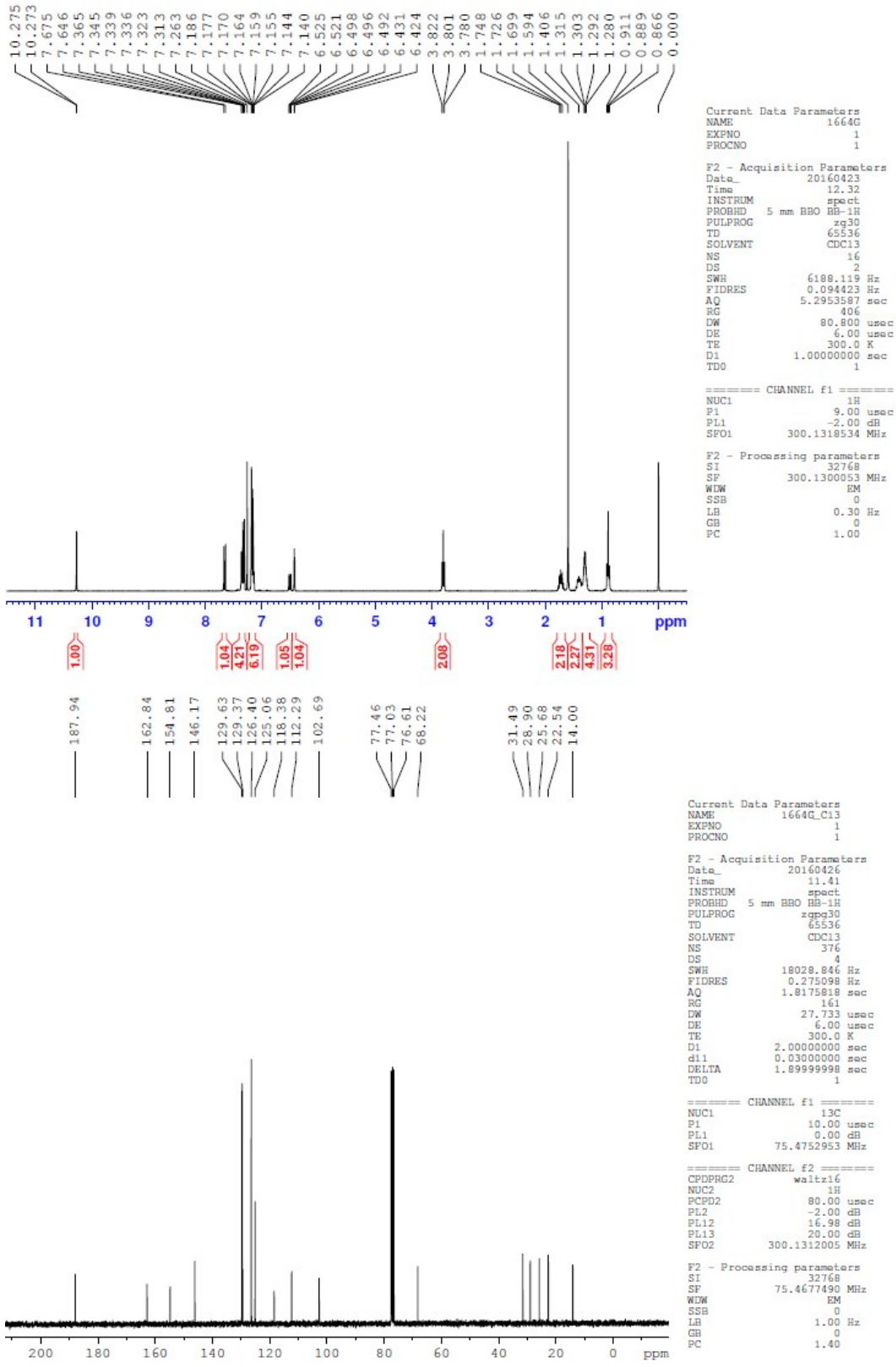
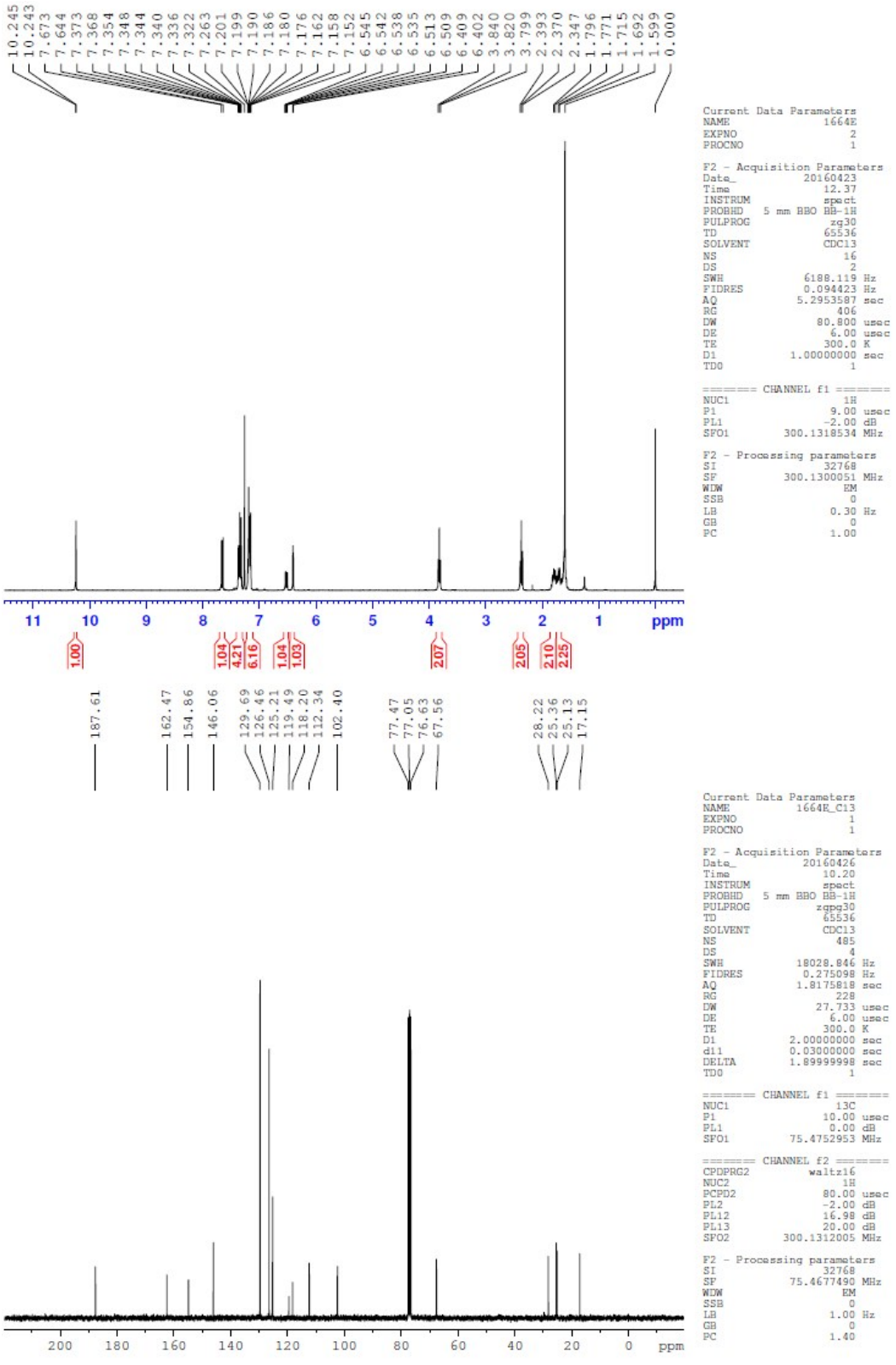
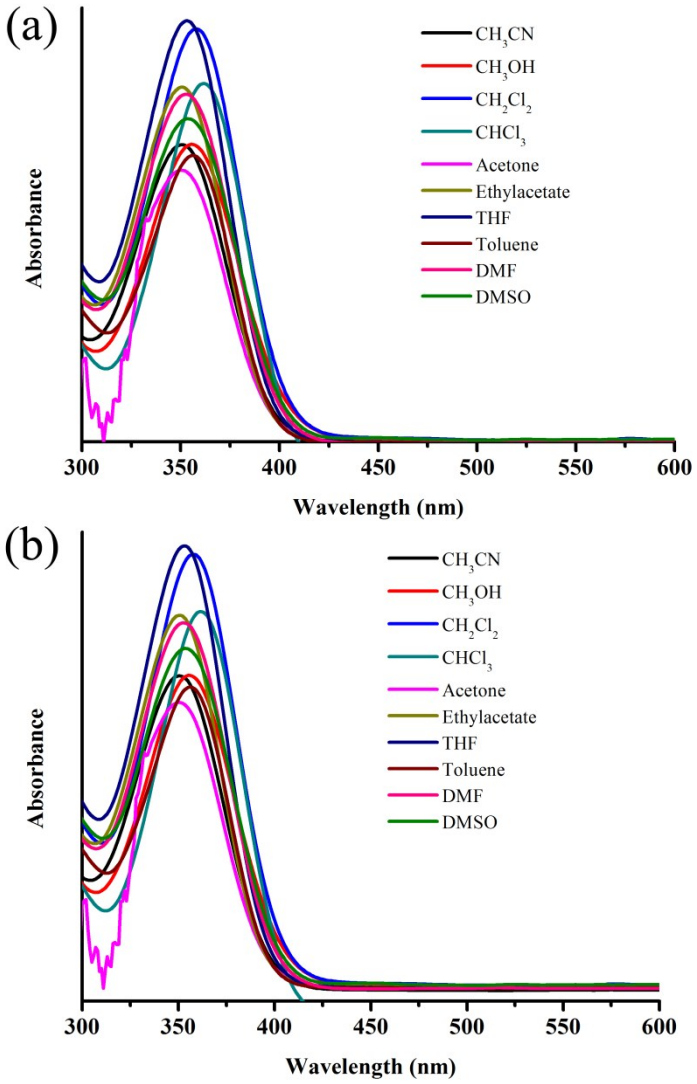
[1]H and *[13]C*-NMR spectra of DPAPeB.



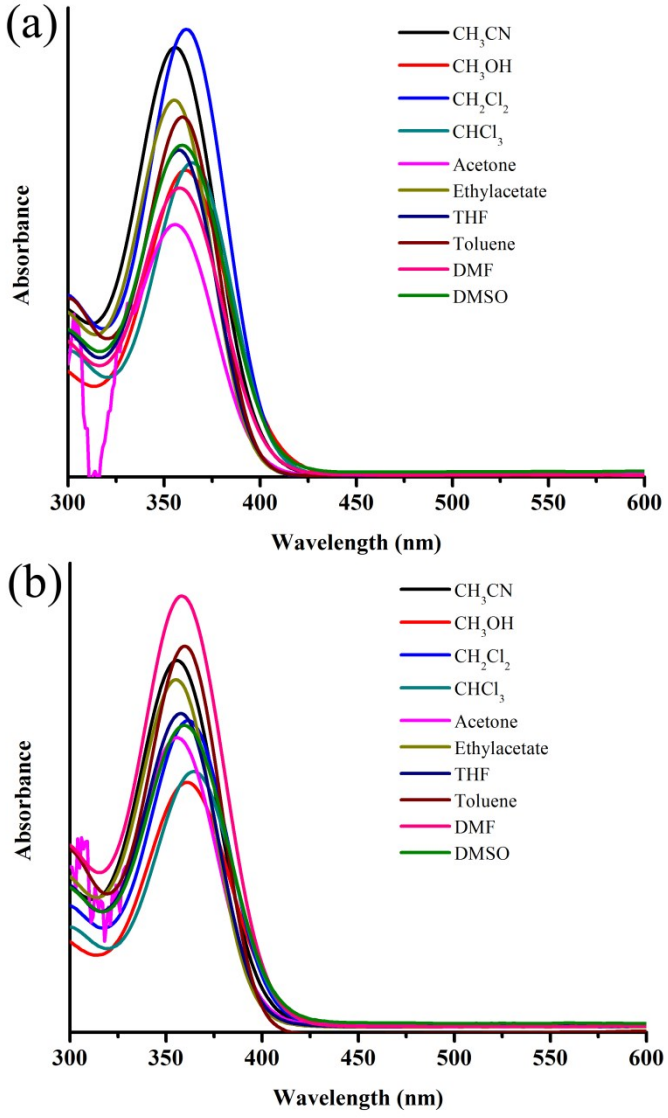
[1]H and *[13]C*-NMR spectra of DPAHB.



[1]H and *[13]C*-NMR spectra of DPAH-CNB.



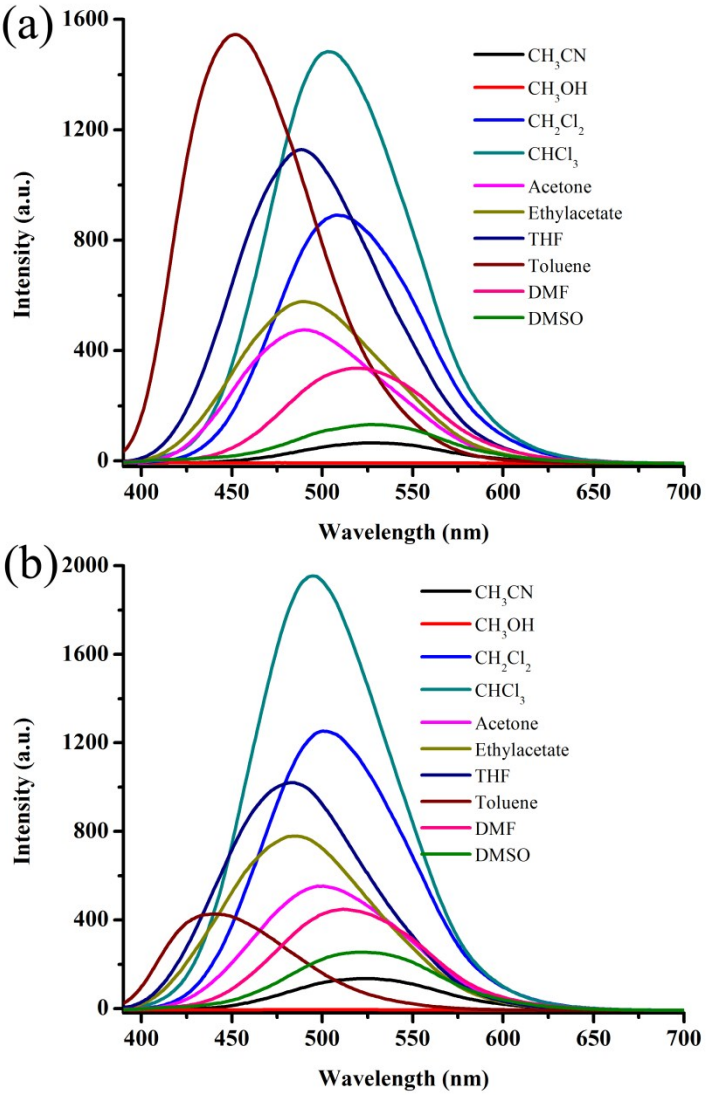
S1. Absorption spectra of (a) DPAB and (b) DPAMB in different solvent.



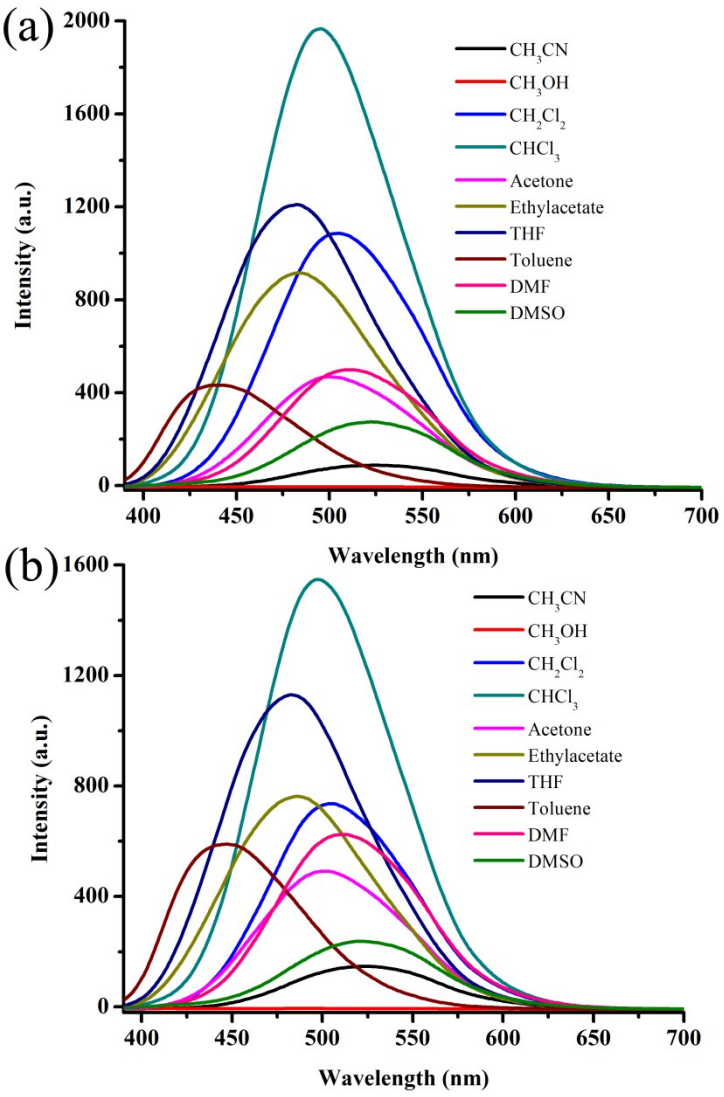
S2. Absorption spectra of (a) DPAHB and (b) DPAH-CNB in different solvents.

Table S1. Absorption and fluorescence data of DPAB and alkyl chain substituted compounds in different solvents.

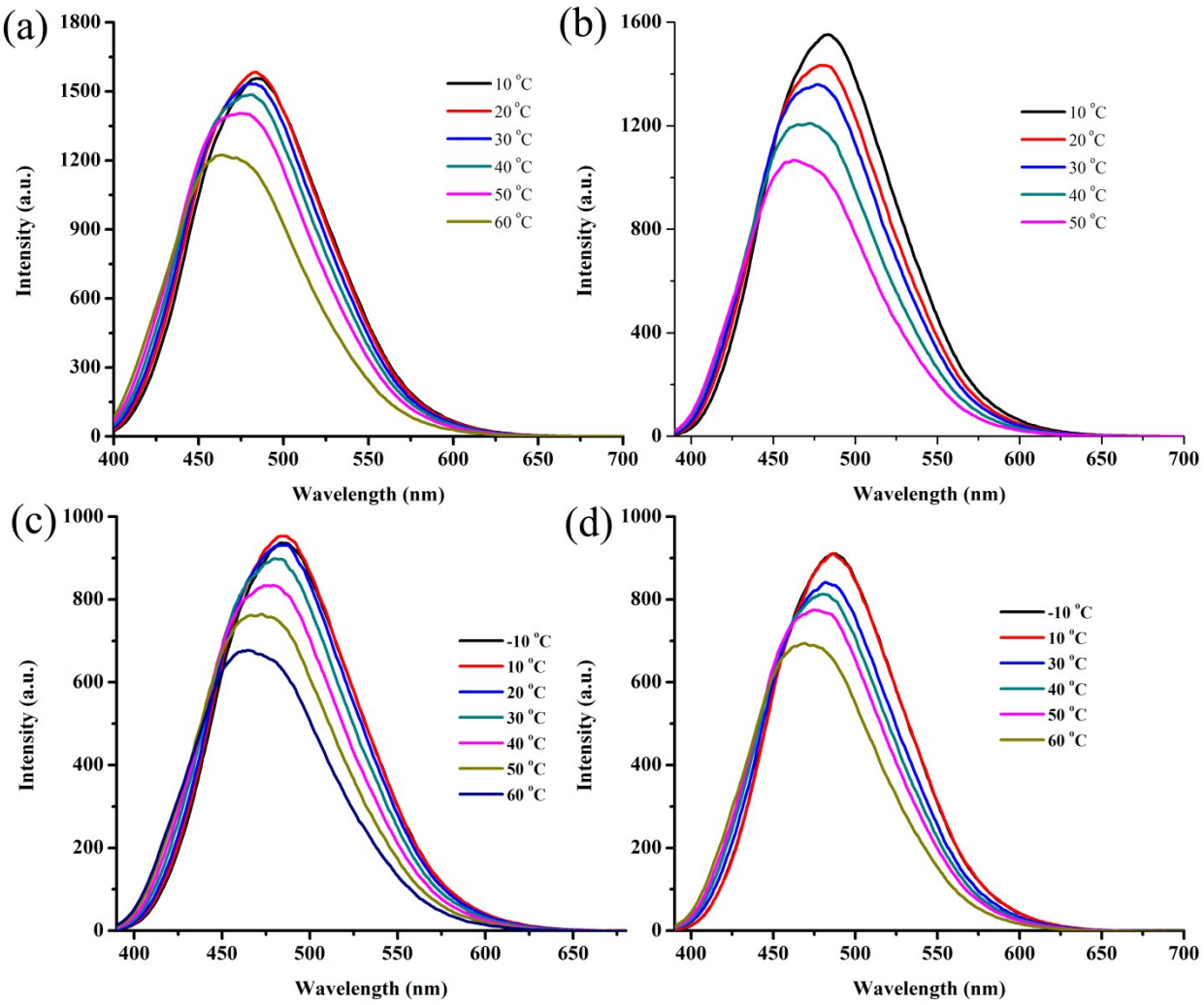
	CH_3CN (λ_{abs}, λ_{emm}) nm	CH_3OH (λ_{abs}, λ_{emm}) nm	CH_2Cl_2 (λ_{abs}, λ_{emm}) nm	$CHCl_3$ (λ_{abs}, λ_{emm}) nm	Acetone (λ_{abs}, λ_{emm}) nm	Ethyl acetate (λ_{abs}, λ_{emm}) nm	THF (λ_{abs}, λ_{emm}) nm	Toluene (λ_{abs}, λ_{emm}) nm	DMF (λ_{abs}, λ_{emm}) nm	DMSO (λ_{abs}, λ_{emm}) nm
DPAB	351, 529	356, nil	357, 508	362, 504	351, 489	351, 489	353, 489	356, 452	352, 522	353, 529
DPAMB	352, 528	355, nil	356, 505	361, 496	350, 500	351, 487	354, 482	357, 440	351, 511	354, 526
DPAEB	354, 526	359, nil	360, 503	363, 494	353, 501	353, 485	355, 483	358, 443	356, 513	356, 524
DPAPrB	355, 527	360, nil	362, 505	364, 494	355, 502	354, 485	357, 481	358, 443	357, 512	357, 525
DPABB	350, 526	355, nil	357, 502	362, 495	351, 500	351, 486	353, 482	356, 441	352, 513	353, 525
DPAPeB	356, 526	362, nil	362, 501	365, 494	356, 500	354, 484	357, 481	359, 442	357, 512	359, 527
DPAHB	355, 525	361, nil	361, 504	365, 495	356, 502	355, 484	358, 482	359, 440	358, 513	359, 523
DPAH-CNB	355, 527	361, nil	361, 504	364, 498	355, 501	355, 486	358, 483	359, 445	358, 512	359, 525



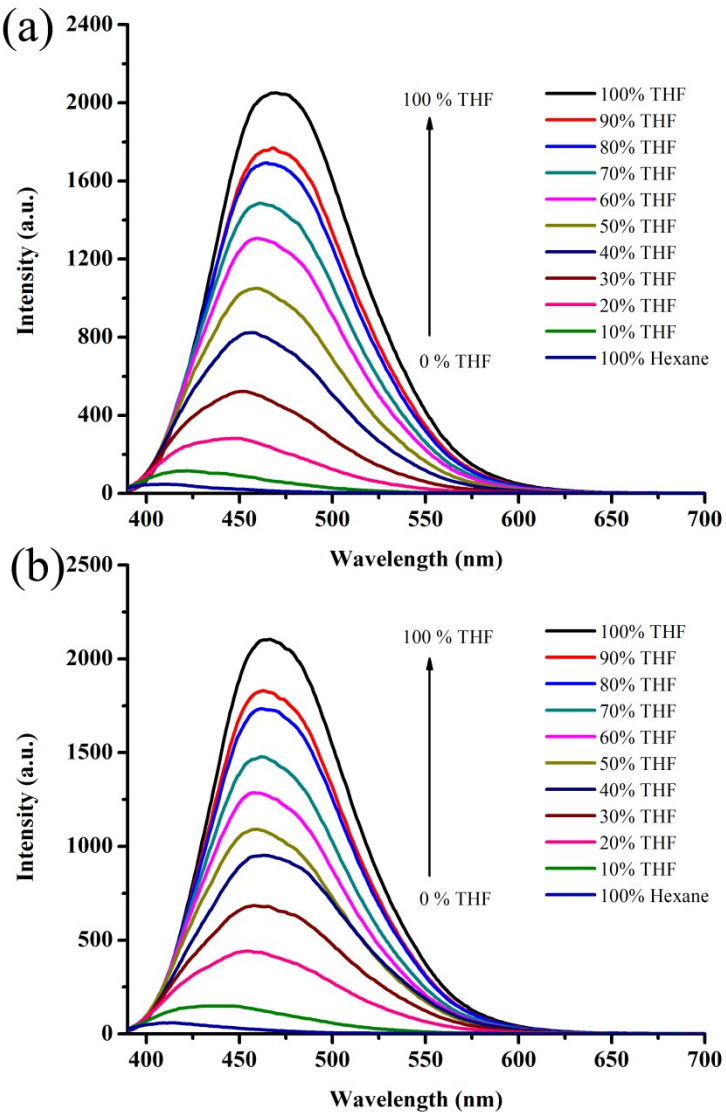
S3. Fluorescence spectra of (a) DPAB and (b) DPAMB in different solvents.



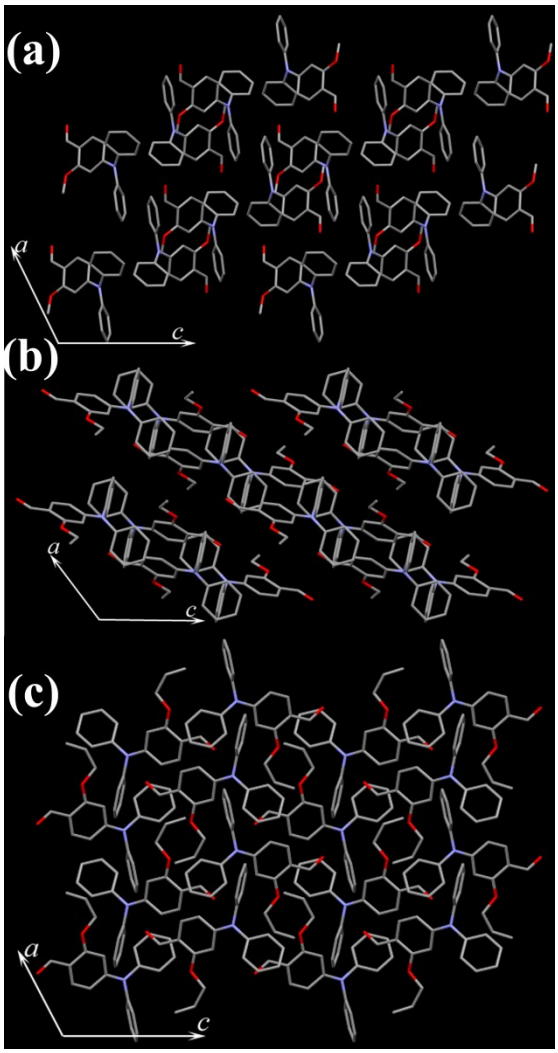
S4. Fluorescence spectra of (a) DPAHB and (b) DPAH-CNB in different solvents.



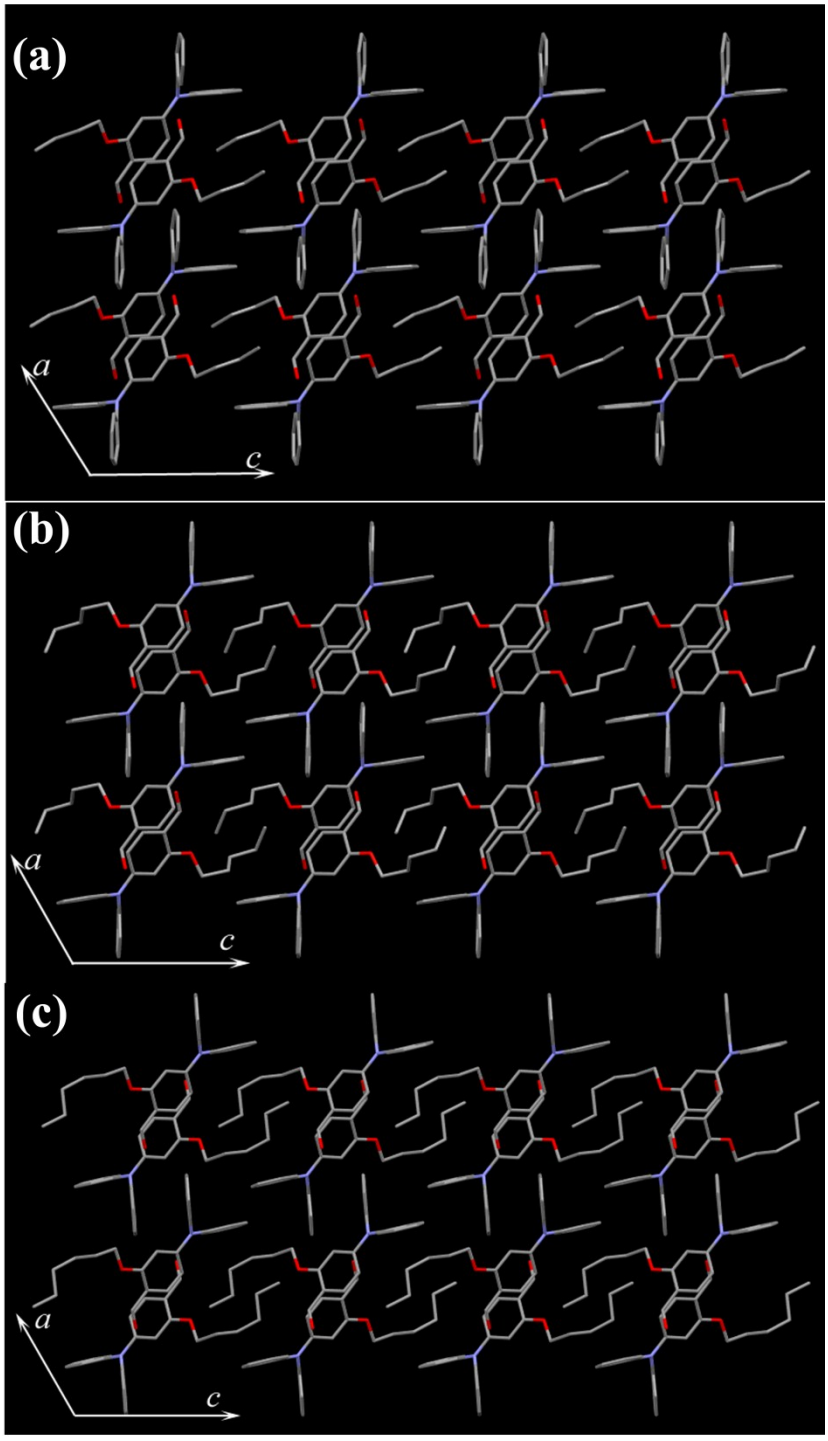
S5. Temperature dependent fluorescence change of (a) DPAMB, (b) DPAPeB, (c) DPAHB and (d) DPAH-CNB in THF.



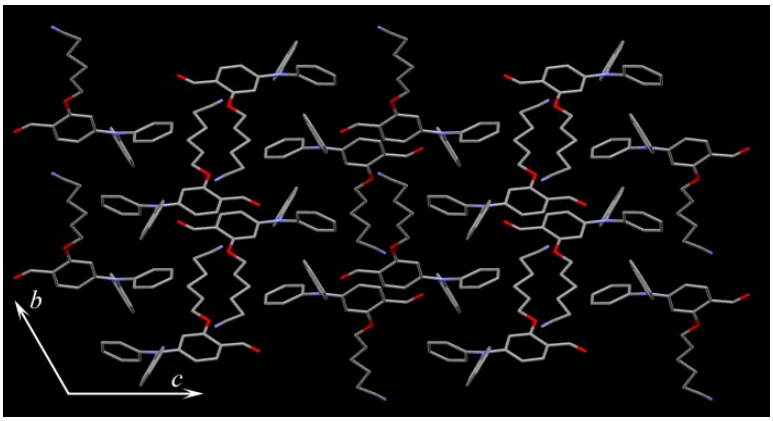
S6. Solvent polarity dependent fluorescence change of (a) DPAMB and (b) DPAH-CNB.



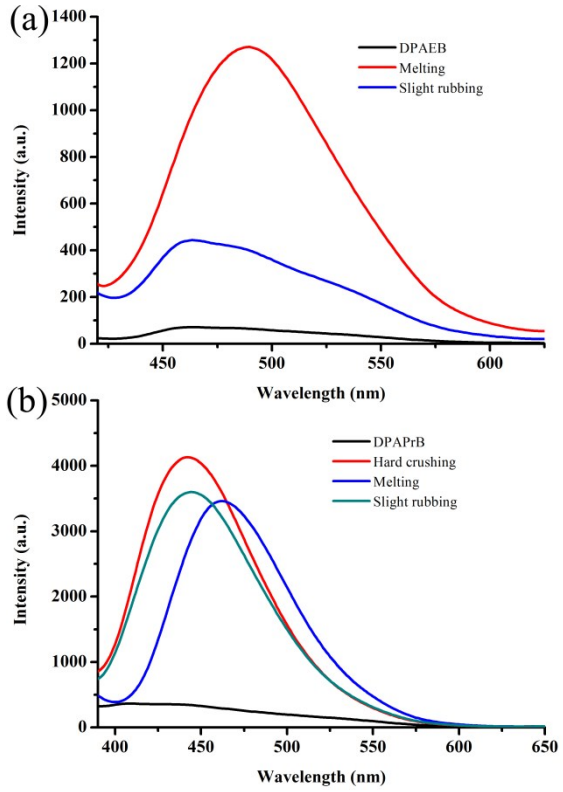
S7. Molecular packing of (a) DPAMB, (b) DPAEB and (c) DPAPrB in the crystal lattice. Hydrogen atoms are omitted for clarity. C (grey), N (blue), O (red).



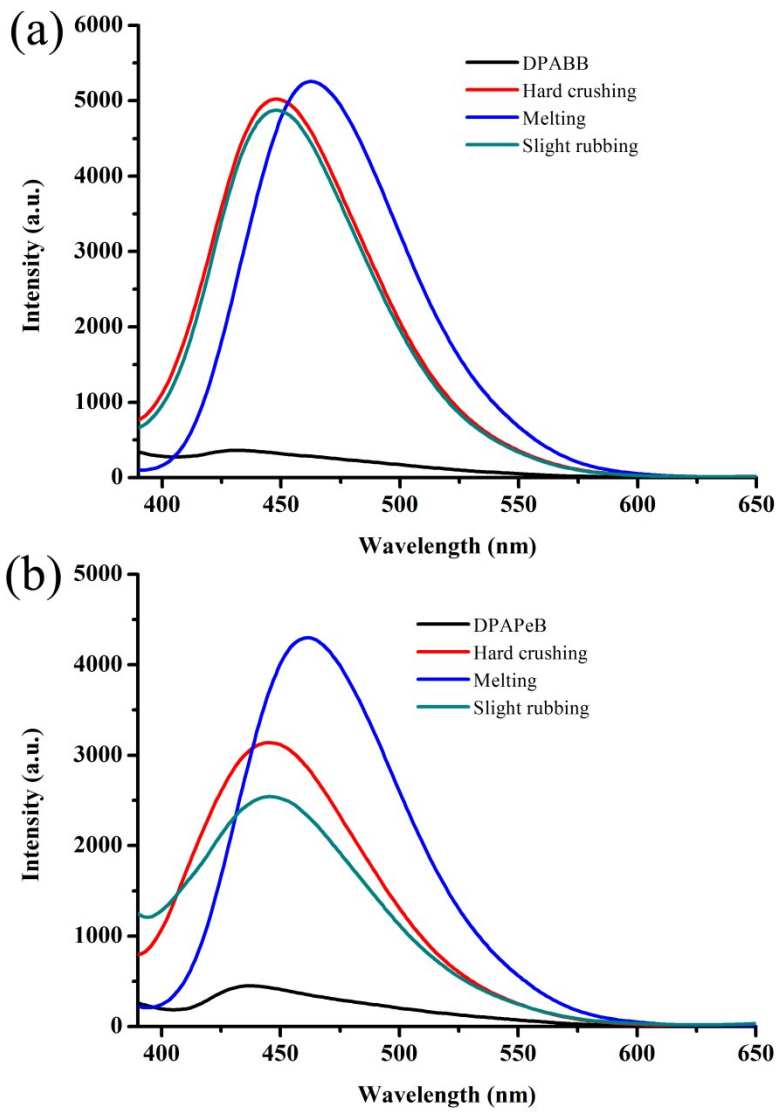
S8. Molecular packing of (a) DPABB, (b) DPAPeB and (c) DPAHB in the crystal lattice. Hydrogen atoms are omitted for clarity. C (grey), N (blue), O (red).



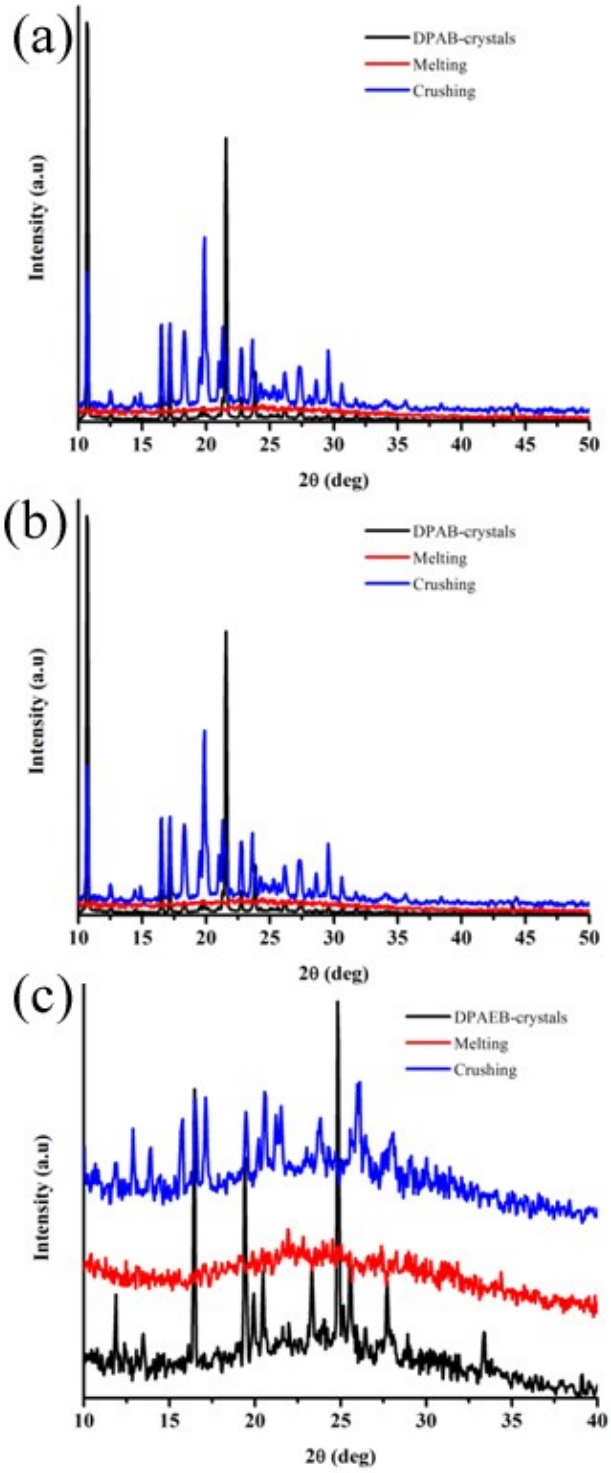
S9. Molecular packing of DPAH-CNB in the crystal lattice. Hydrogen atoms are omitted for clarity. C (grey), N (blue), O (red).



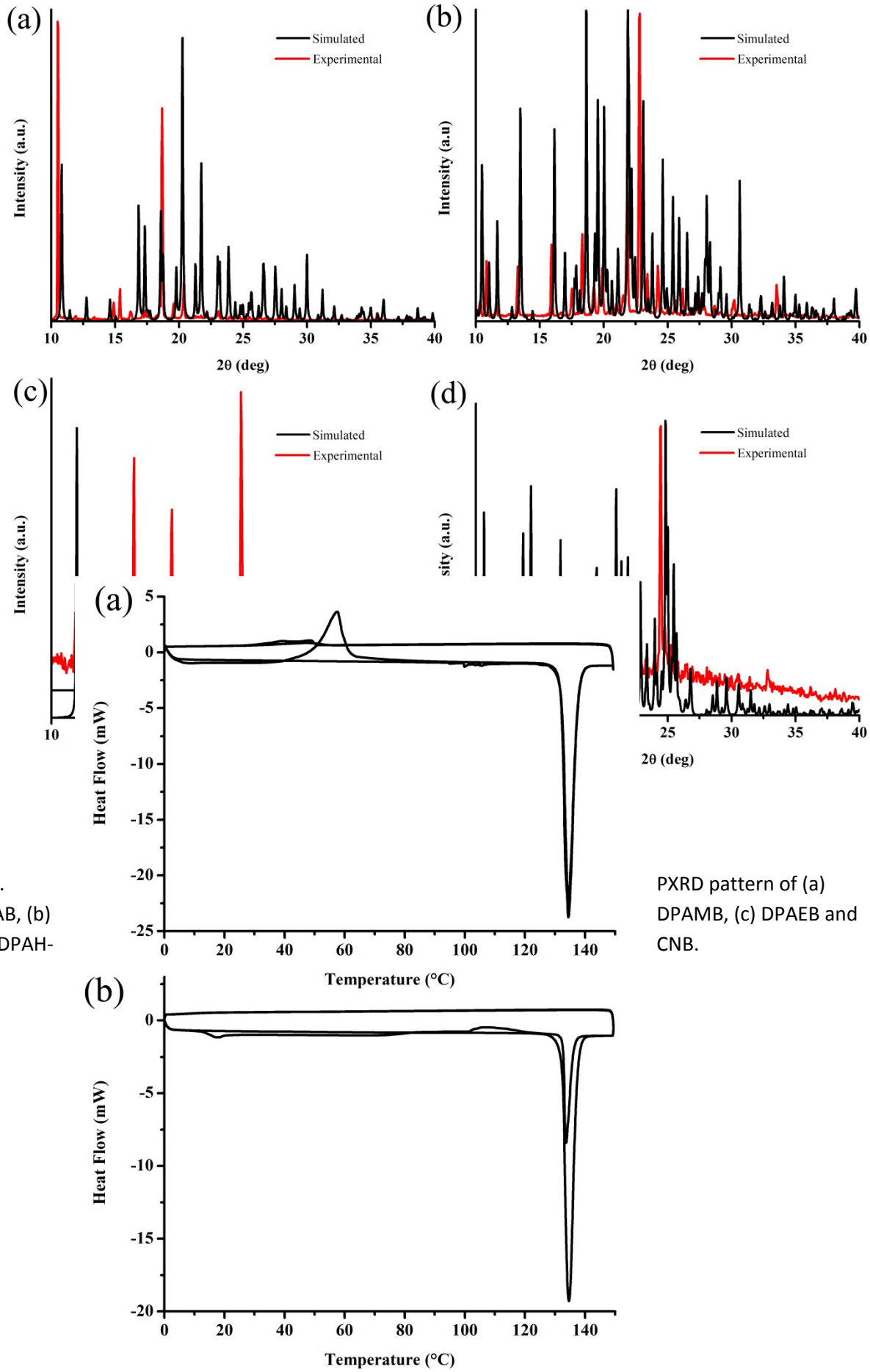
S10. Solid state fluorescence of (a) DPAEB and (b) DPAPrB.



S11. Solid state fluorescence of (a) DPABB and (b) DPAPeB.

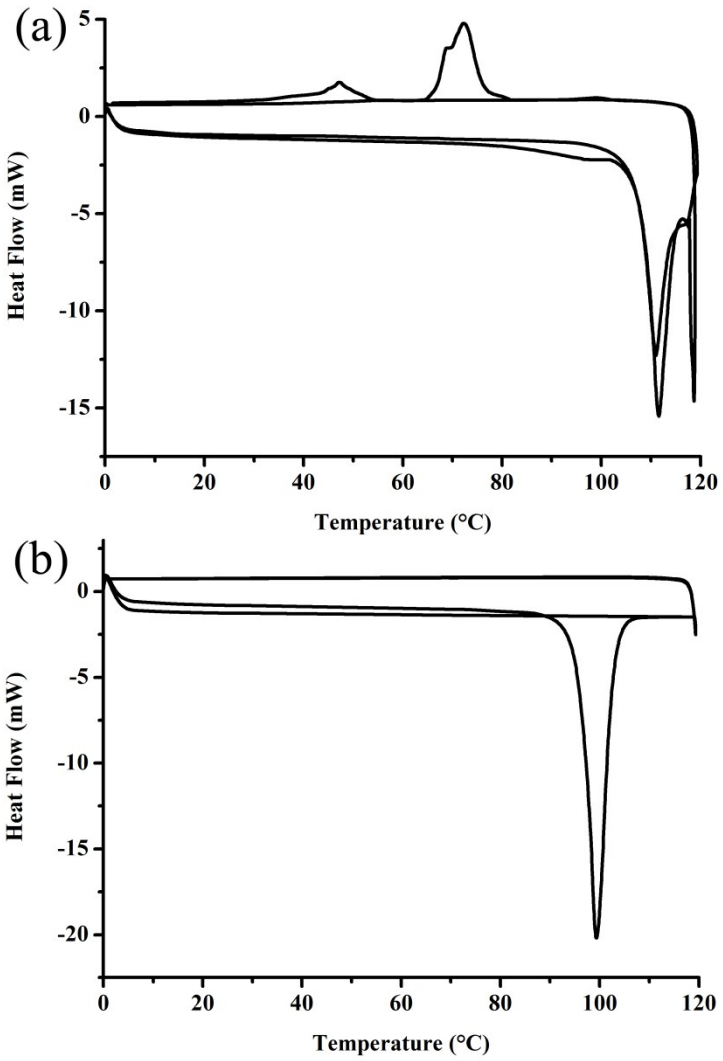


S12. PXRD pattern of (a) DPAB, (b) DPAEB and (c) DPAH-CNB.

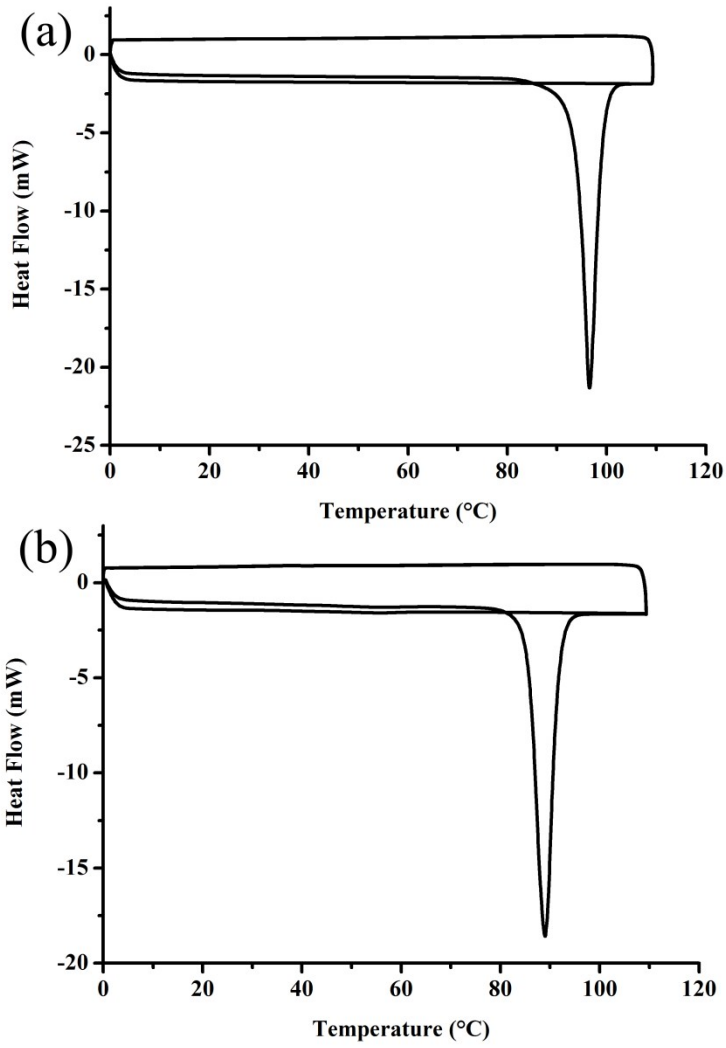


S13. PXRD pattern of (a) DPAB, (b) DPAMB, (c) DPAEB and (d) DPAH-CNB.

S14. DSC of (a) DPAB and (b) DPAMB.



S15. DSC of (a) DPAEB and (b) DPAPrB.



S16. DSC of (a) DPAPeB and (b) DPAHB.