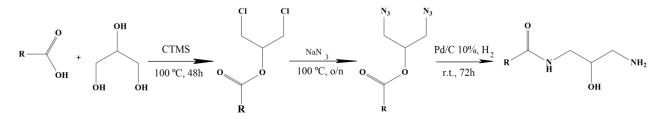
# SUPPLEMENTARY MATERIAL

# SYNTHESIS AND THERMOPHYSICAL CHARACTERIZATION OF FATTY AMIDES FOR THERMAL ENERGY STORAGE

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## GENERAL SCHEME (SYNTHETIC PROCESS)



R=(C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>CH; CH<sub>3</sub>CH<sub>2</sub>(CH<sub>3</sub>)<sub>2</sub>C; CH<sub>3</sub>(CH<sub>2</sub>)n (n=6, 11-16)

## THERMOPHYSICAL CHARAXTERIZATION (DSC response)

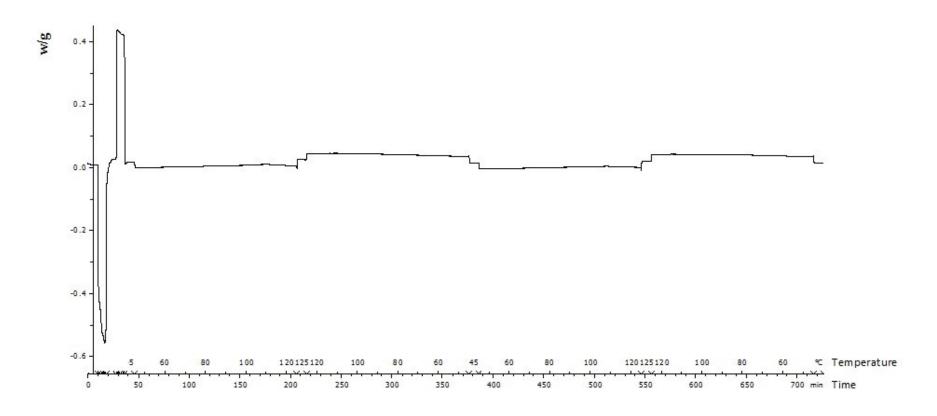


Figure 1. DSC response and evaluation of monoamide 2b.

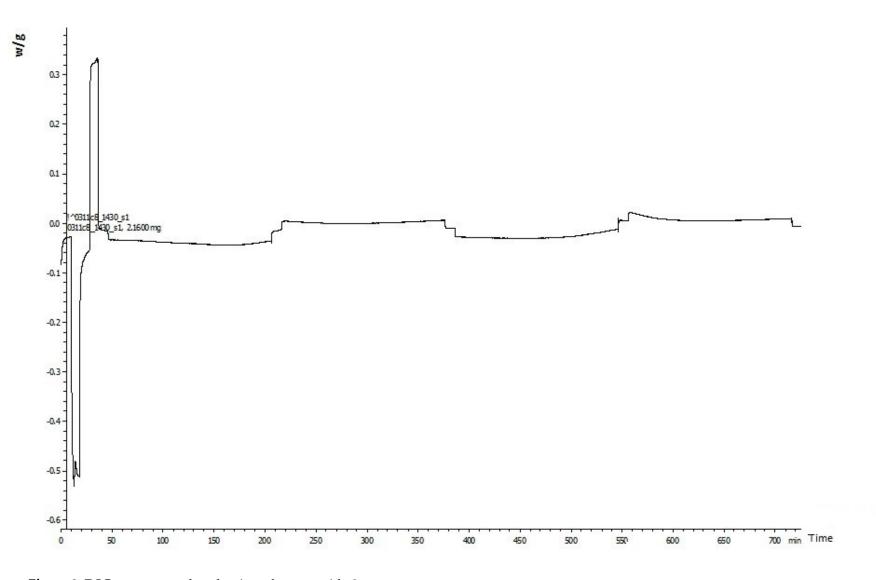


Figure 2. DSC response and evaluation of monoamide 2c.

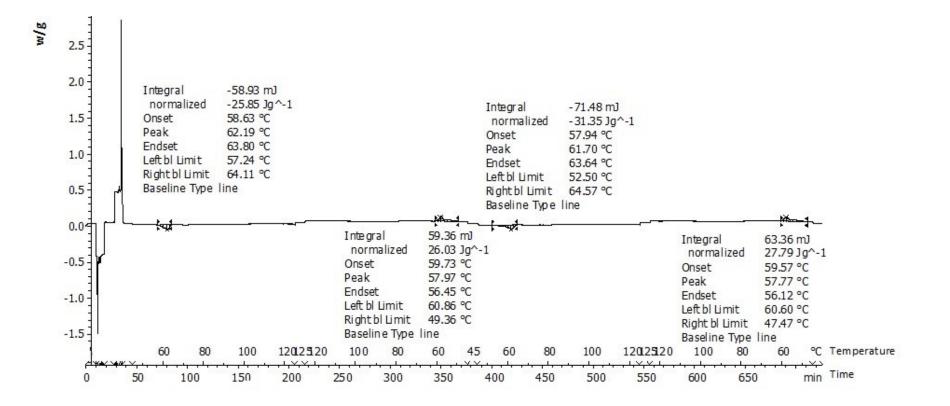
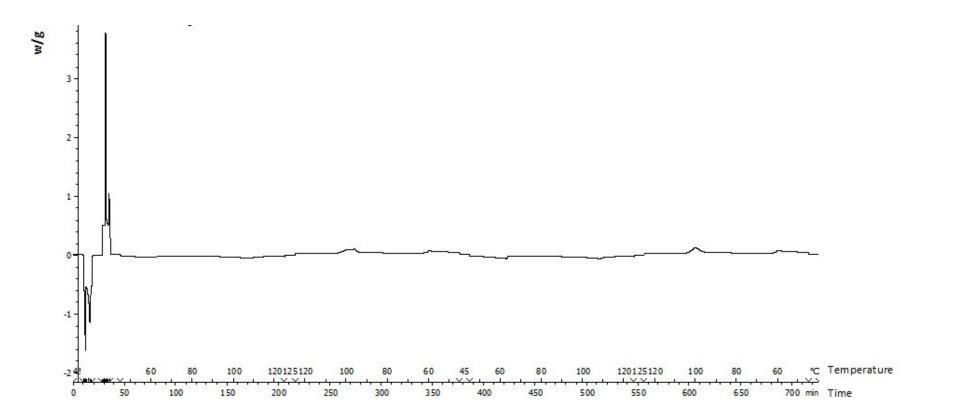


Figure 3. DSC response and evaluation of monoamide 2d.

w/g 5 4 3-2--706.74 mJ Integral -648.04 mJ Integral normalized -107.24 Jg^-1 normalized -98.34 Jg^-1 113.06 °C O nset 107.91 °C Onset Peak 116.36 °C 112.06 °C Peak 1-Endset 117.16 °C 113.29 °C Endset Left Limit 100.00 °C Left Limit 90.43 °C Right Limit 117.73 °C Right Limit 114.25 °C 0-TP-4 Integral 670.75 mJ Integral 565.37 mJ normalized 101.78 Jg^-1 normalized 85.79 Jg^-1 101.49 °C Onset Onset 95.96 °C Peak 100.95 °C Peak 95.93 °C -1 -Endset 100.53 °C 95.40 °C Endset Left Limit 102.29 °C Left Limit 97.09 °C Right Limit 90.17 °C RightLimit 86.21 °C -2-Temperature -3-120 125 120 120 125 120 °C 100 100 80 60 45 60 80 100 100 80 60 60 80 X 250 700 min Time 50 100 150 200 300 350 400 450 500 550 600 650 0

Figure 4. DSC response and evaluation of monoamide 2e.



**Figure 5**. DSC response and evaluation of monoamide **2f**.

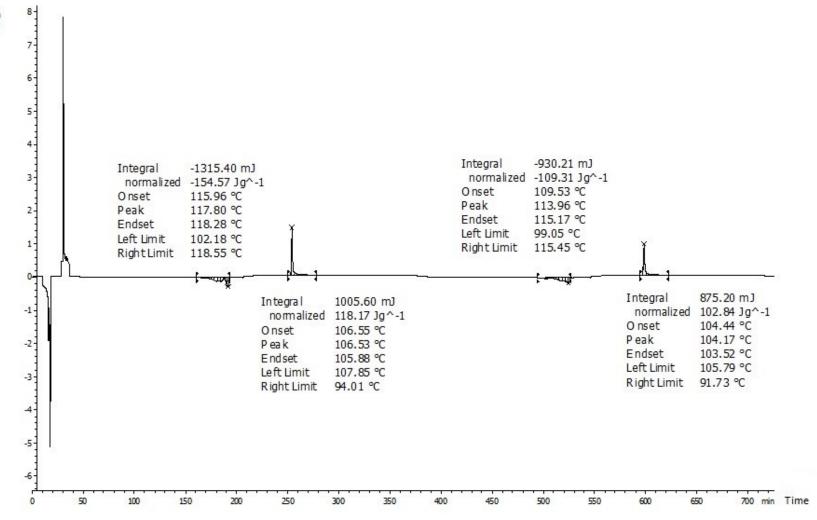


Figure 6. DSC response and evaluation of monoamide 2g

w/g

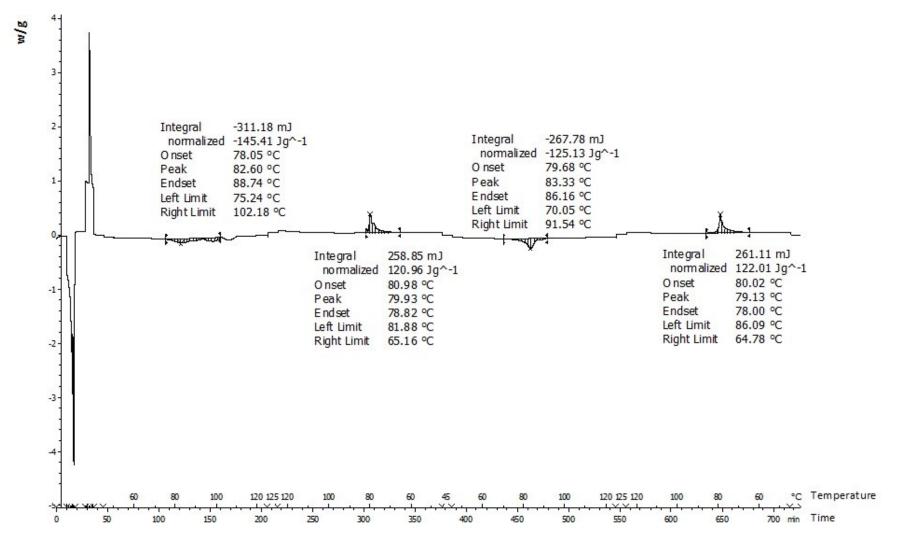


Figure 7. DSC response and evaluation of monoamide 2h.

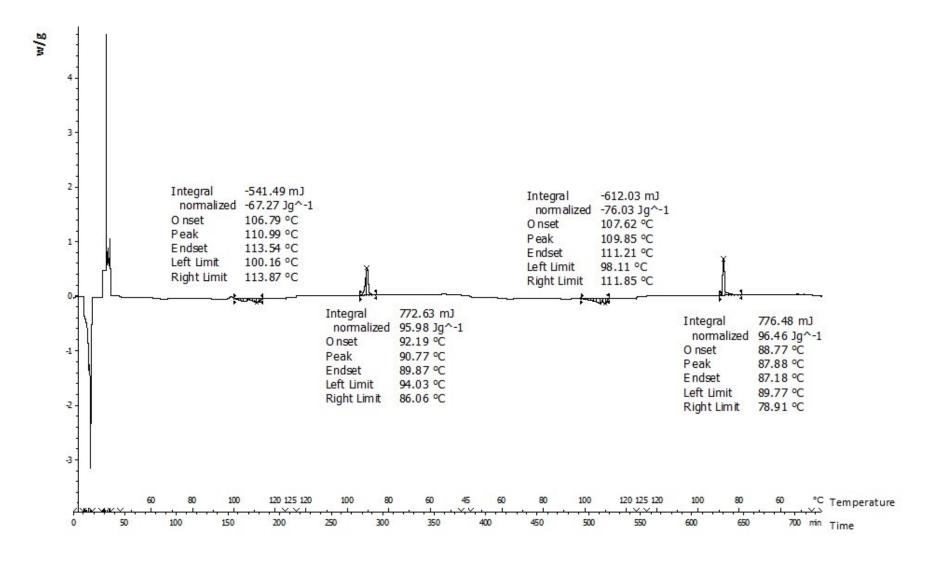
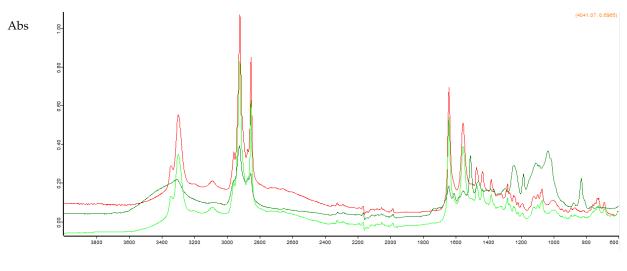


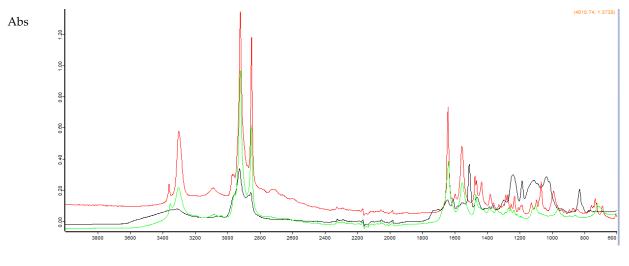
Figure 8. DSC response and evaluation of monoamide 2i.

**FT-IR SPECTRA** 



Wavenumber (cm<sup>-1</sup>)

**Figure 9**. FT-IR spectrum of at 40°C, 125°C and 40°C of monoamide **2d** (see color code at the bottom of the last page).



Wavenumber (cm<sup>-1</sup>)

**Figure 9**. FT-IR spectrum of at 40°C, 125°C and 40°C of monoamide **2g** (see color code at the bottom of the last page).

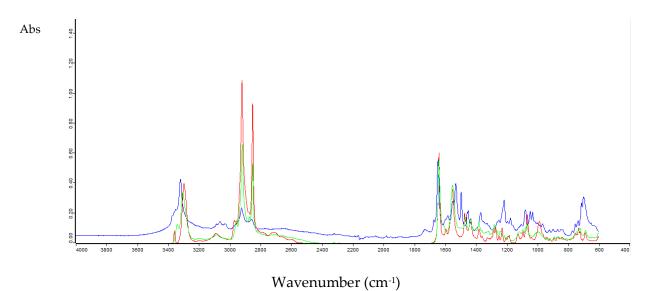
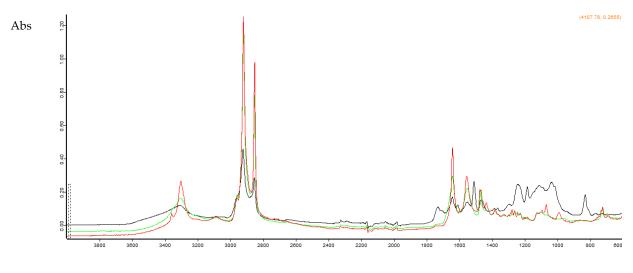


Figure 9. FT-IR spectrum of at 40°C, 135°C and 40°C of monoamide 2h (see color code at the bottom of the last page).

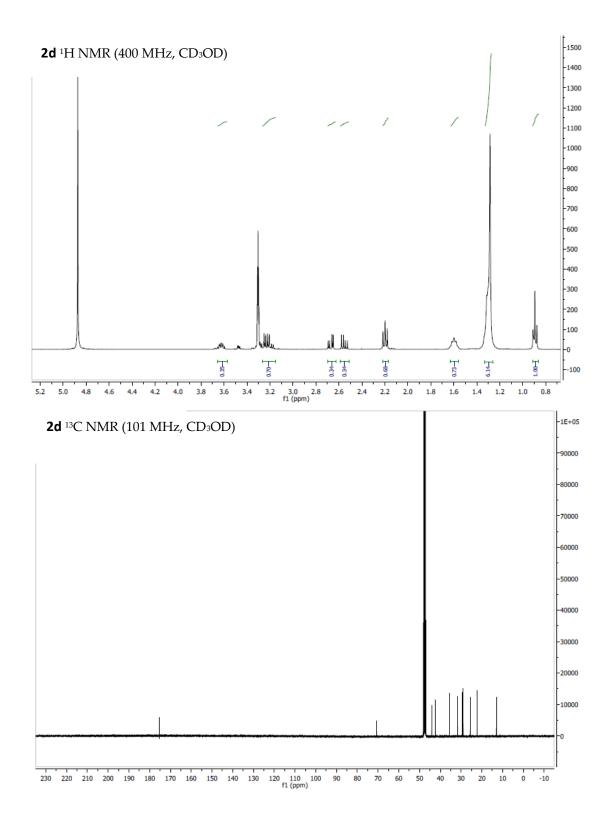


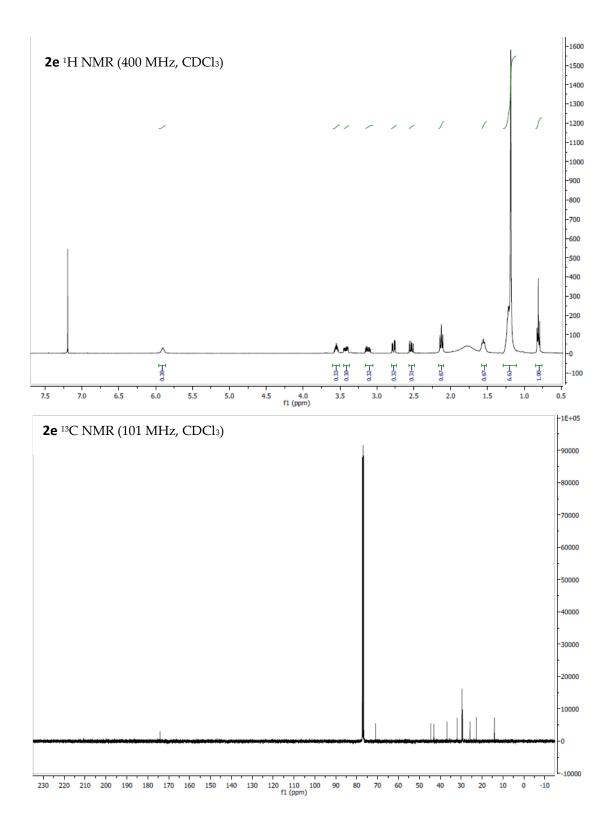
Wavenumber (cm<sup>-1</sup>)

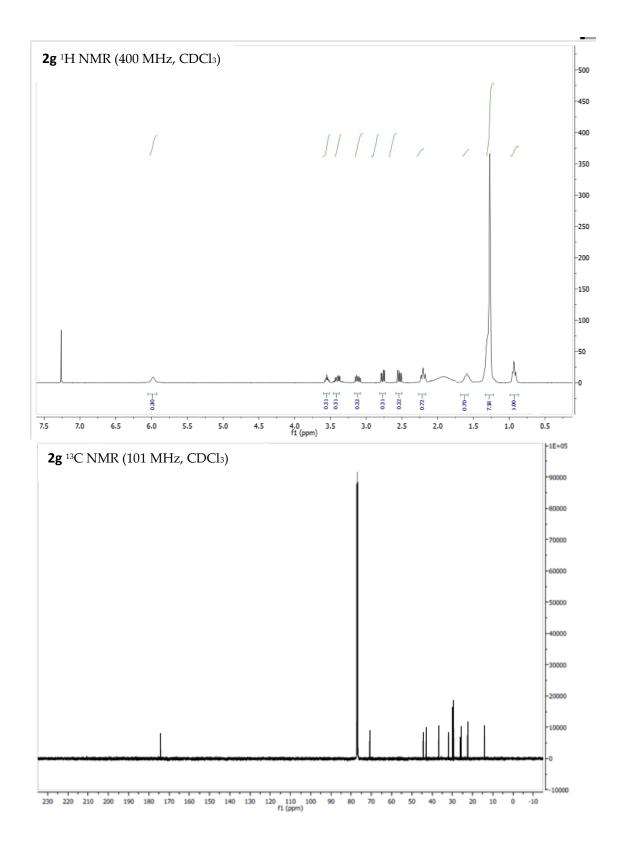
Figure 9. FT-IR spectrum of at 40°C, 125°C and 40°C of monoamide 2i (see color code at the bottom of the last page).

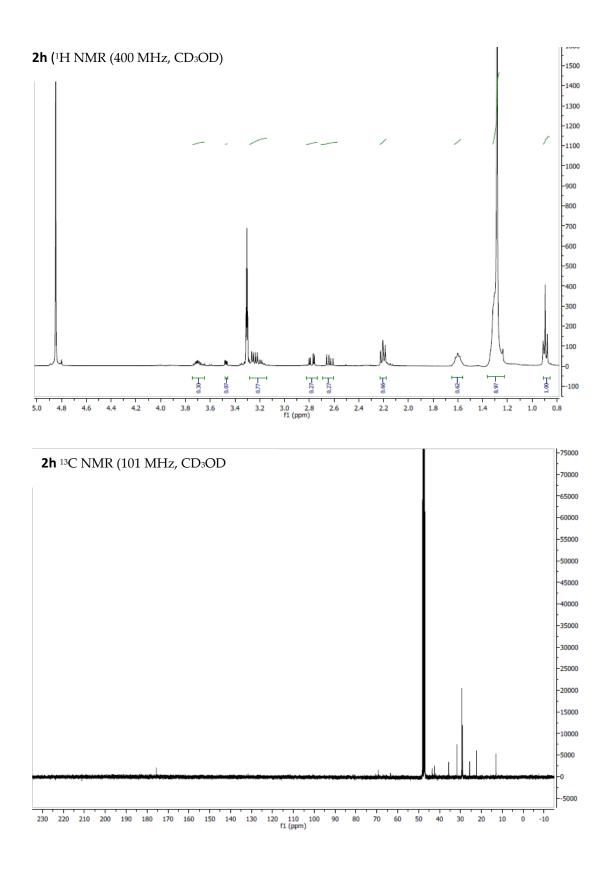
<b>A</b> .	40°C 125°C
<u>٦</u>	125°C 135°C
<b>~</b>	125/135°C→40°C

#### NMR SPECTRA









S16

