

Fatty acid eutectic mixtures and derivatives from non-edible animal fat as phase change materials

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SUMMARY:

DSC analysis of PA-SA mixtures	S2-S21
DSC analysis of DHSA and their salts	S22-30
FT-IR of PA-SA mixtures, DHSA and their salts	S31-34
¹ H NMR of DHSA	S35-36

DSC analysis of the PA-SA mixtures.

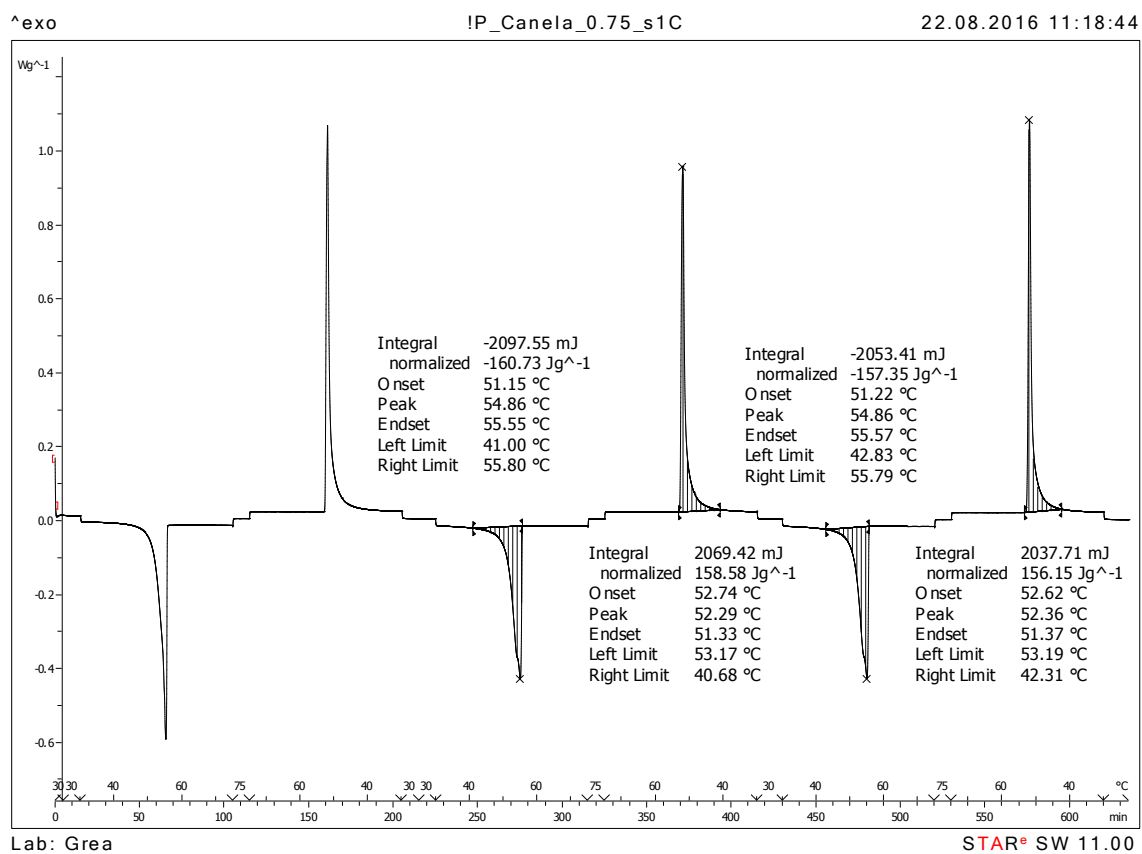
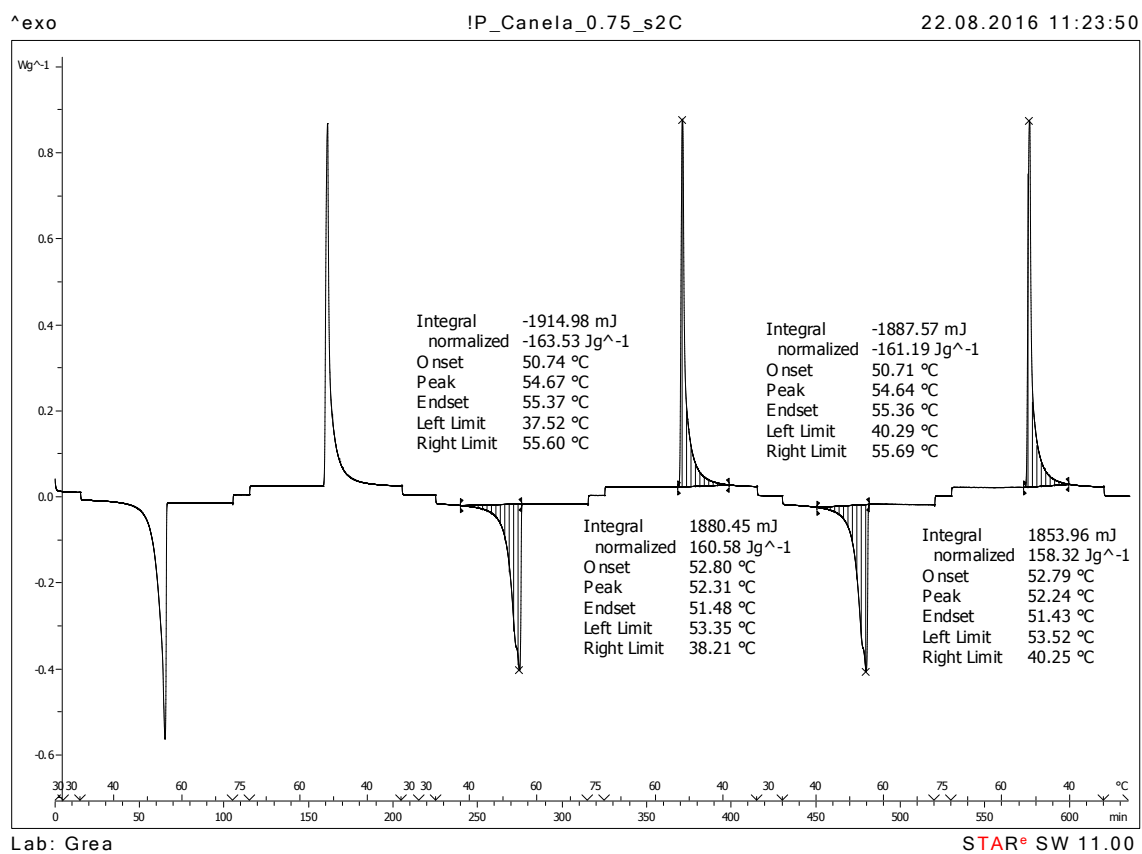
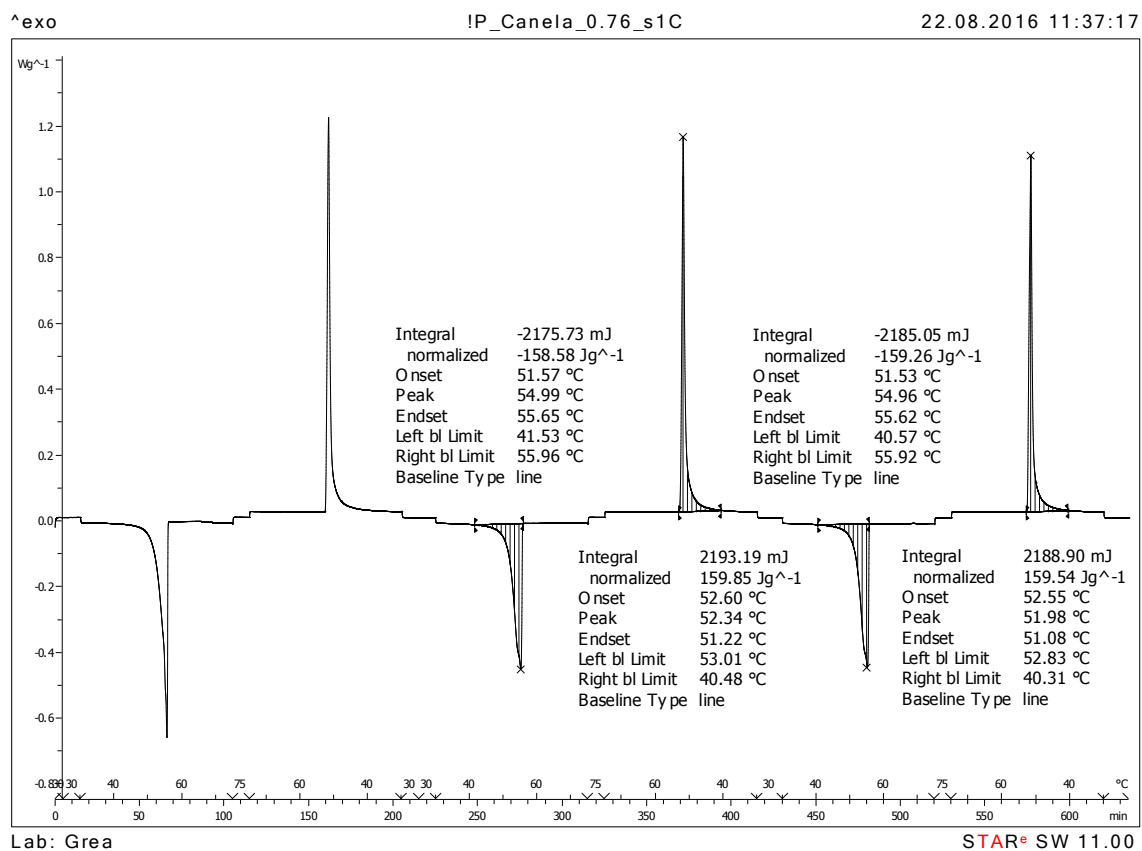


Figure 1. DSC response and evaluation of the material crystallized from acetone. Cycled sample 1, three cycles.



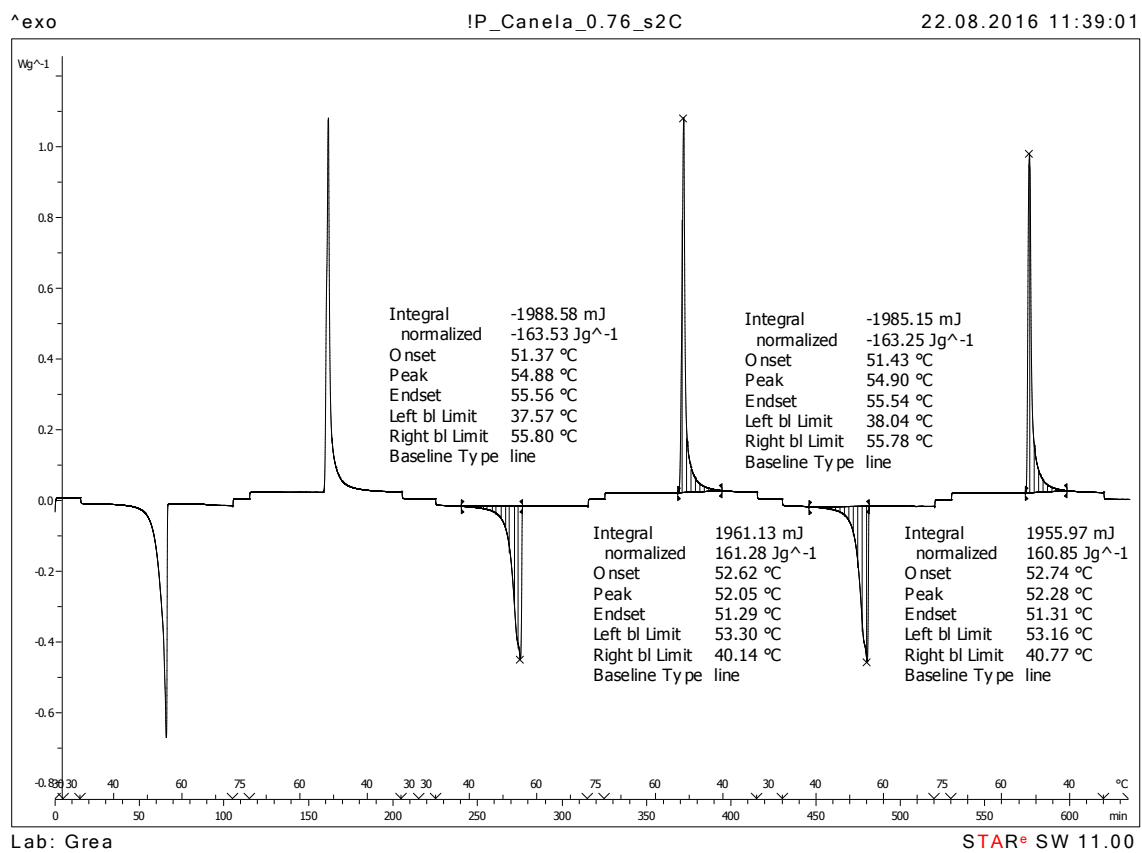
Fig

Figure 2. DSC response and evaluation of the material crystallized from acetone. Cycled sample 2, three cycles.



Fig

ure 3. DSC response and evaluation of the material crystallized from ethyl acetate. Cycled sample 1, three cycles.



Fig

ure 4. DSC response and evaluation of the material crystallized from ethyl acetate. Cycled sample 2, three cycles.

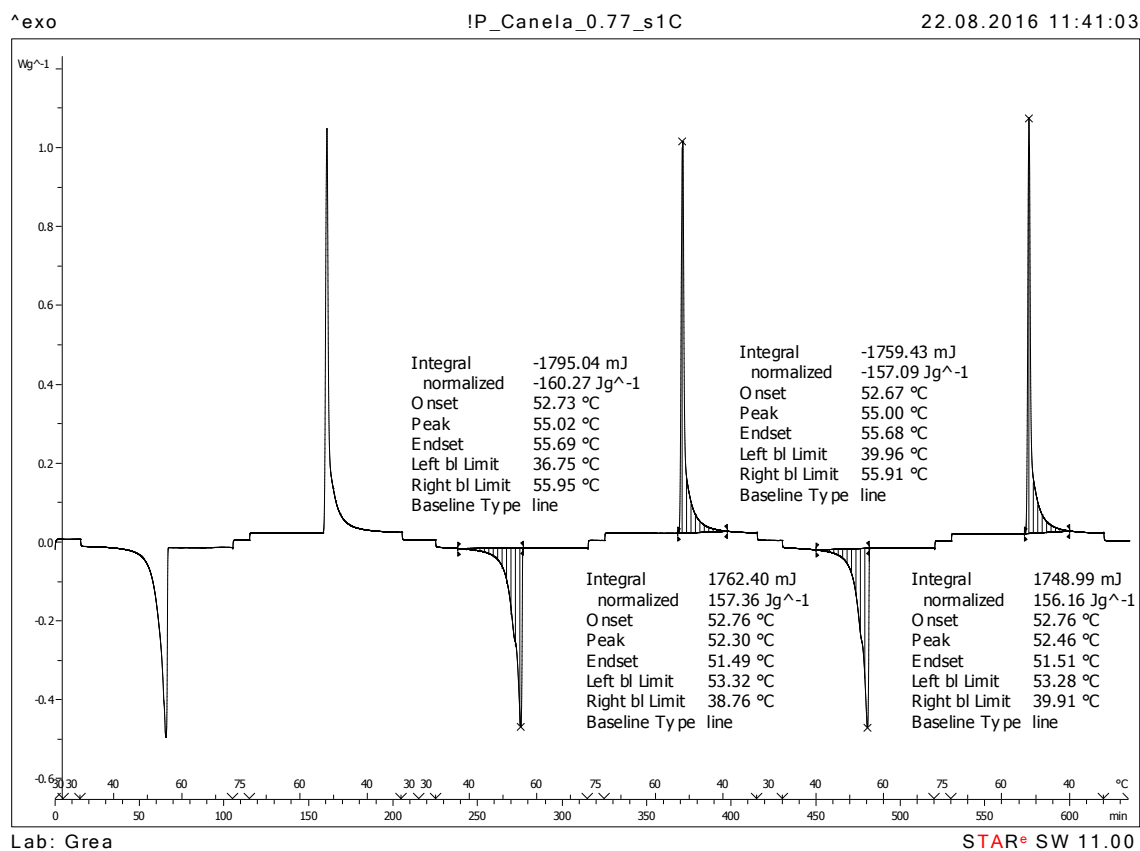


Figure 5. DSC response and evaluation of the material crystallized from ethanol. Cycled sample 1, three cycles.

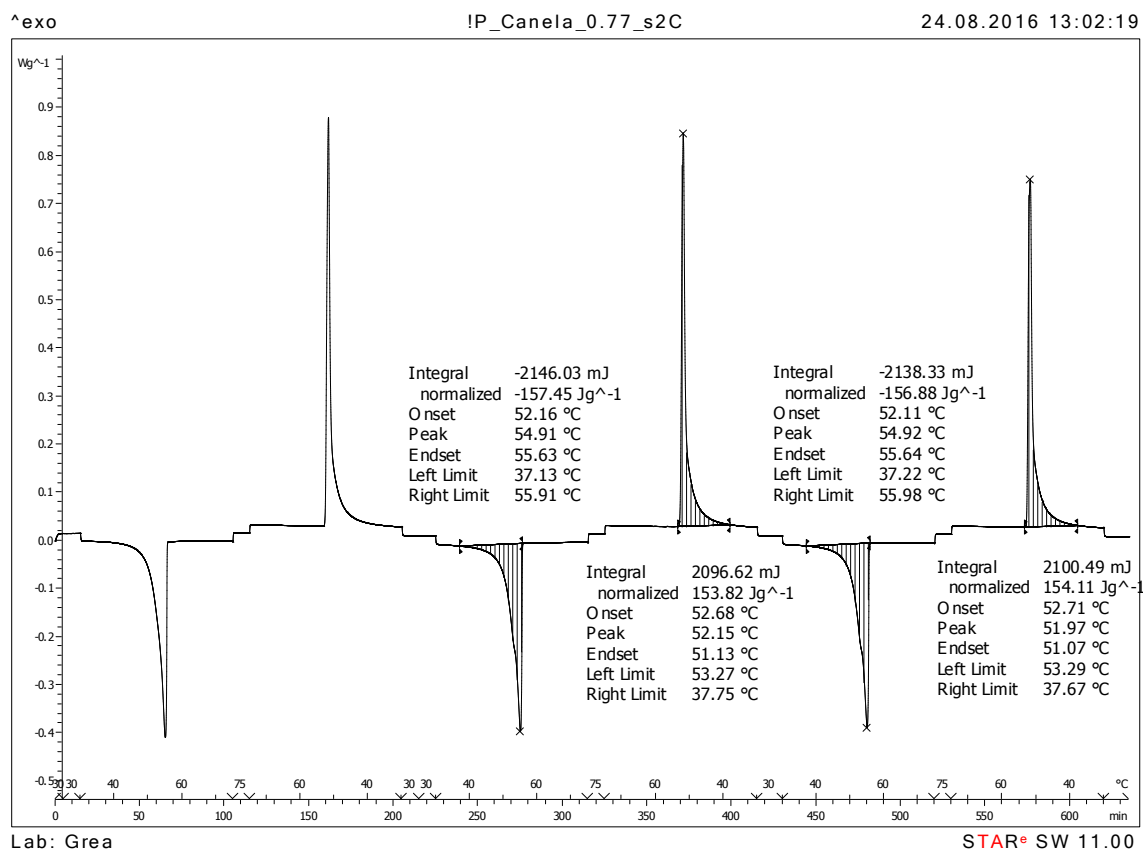


Figure 6. DSC response and evaluation of the material crystallized from ethanol. Cycled sample 2, three cycles.

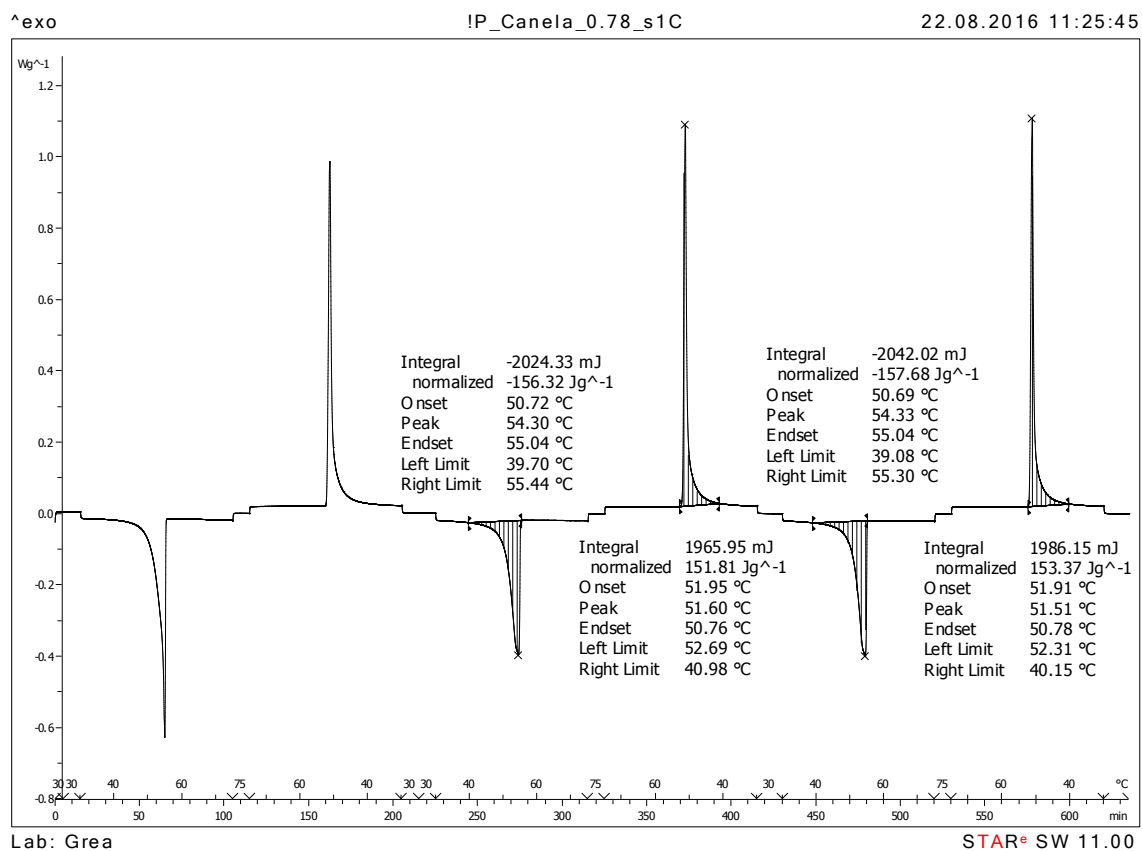


Figure 7. DSC response and evaluation of the material crystallized from hexane. Cycled sample 1, three cycles.

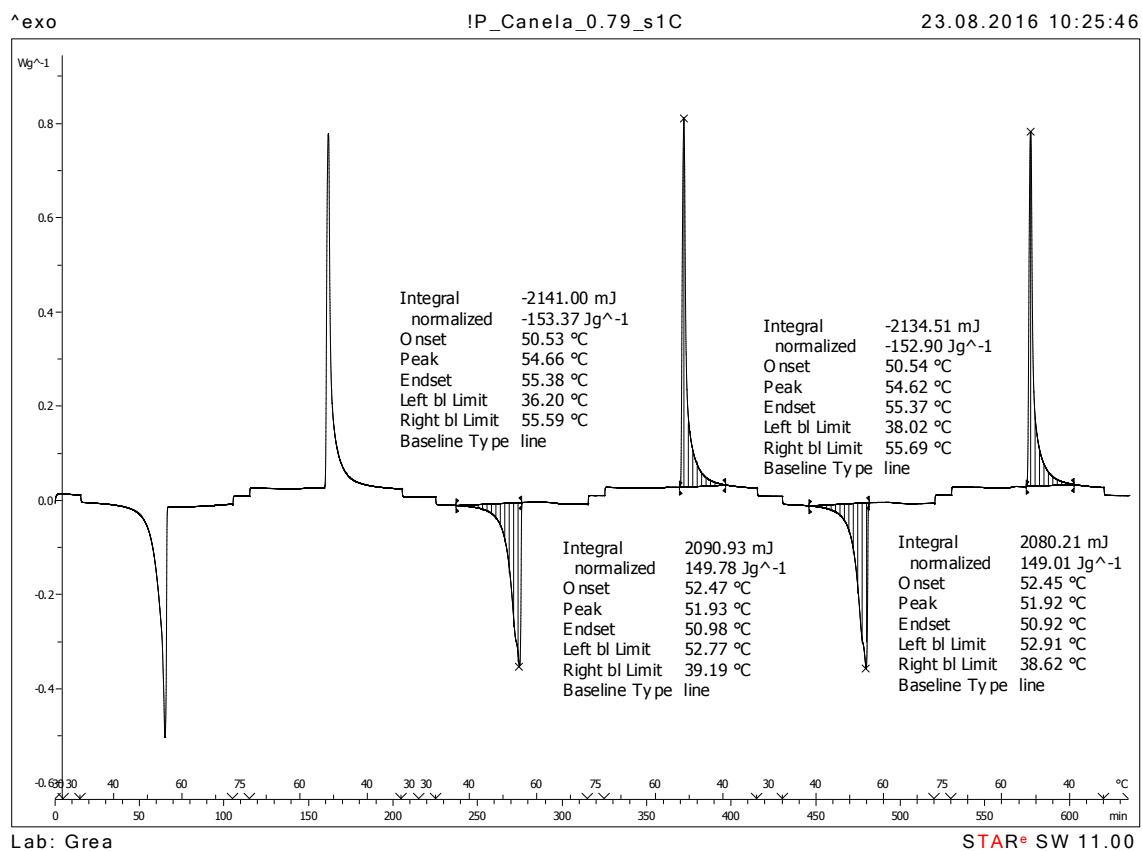


Figure 9. DSC response and evaluation of the material crystallized from methanol. Cycled sample 1, three cycles.

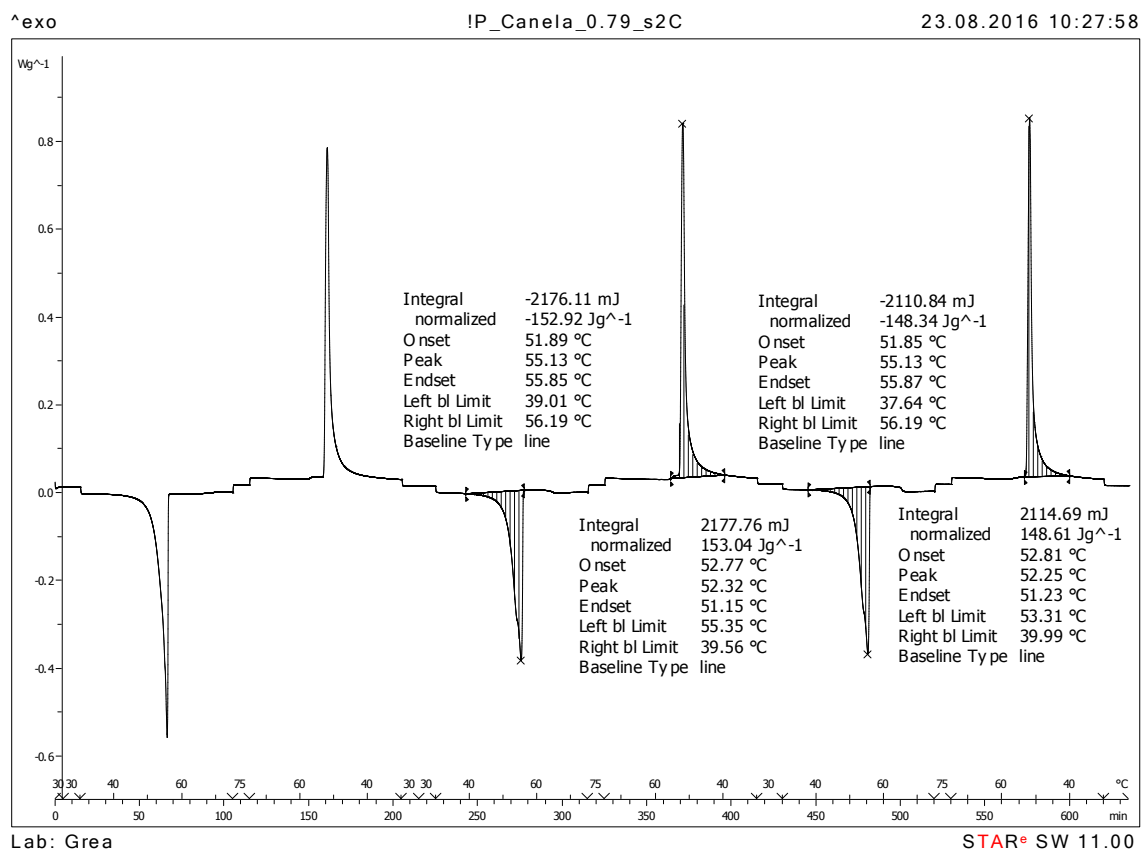


Figure 10. DSC response and evaluation of the material crystallized from methanol. Cycled sample 2, three cycles.

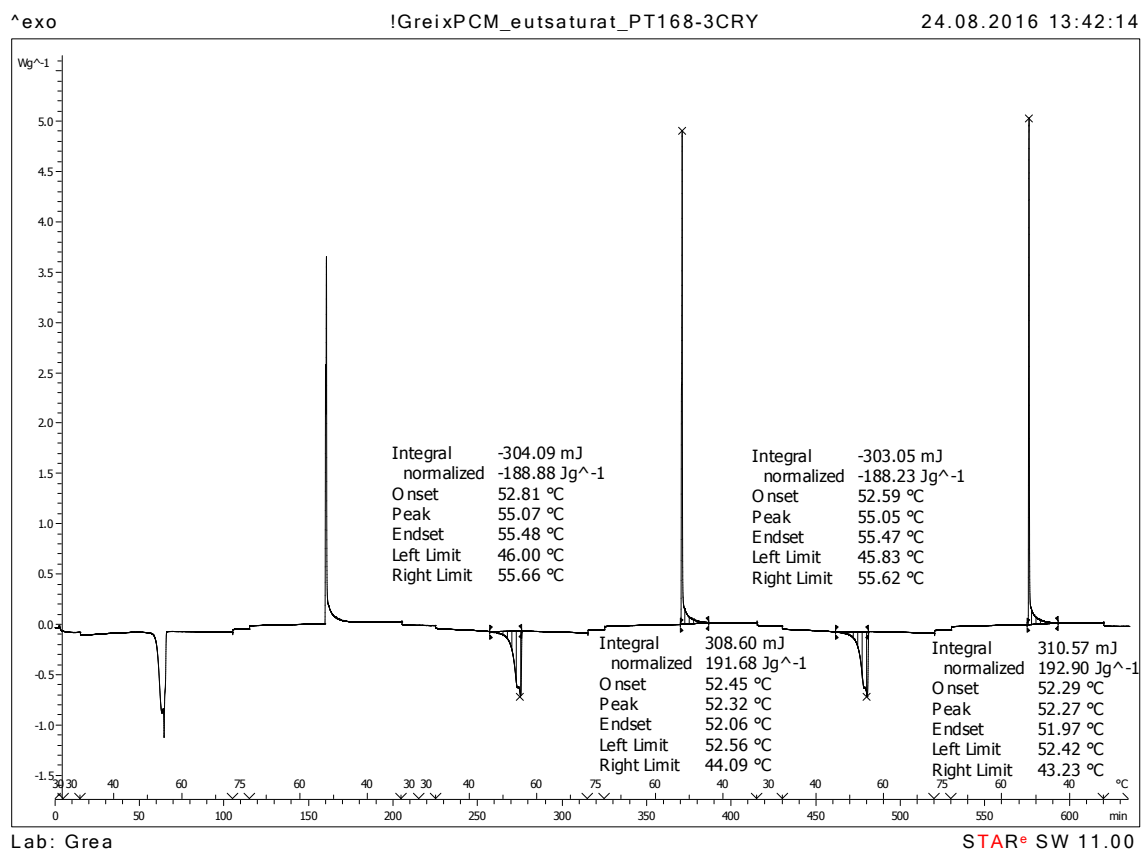


Figure 11. DSC response and evaluation of the material crystallized from ethyl acetate. Not-cycled sample 1, three cycles.

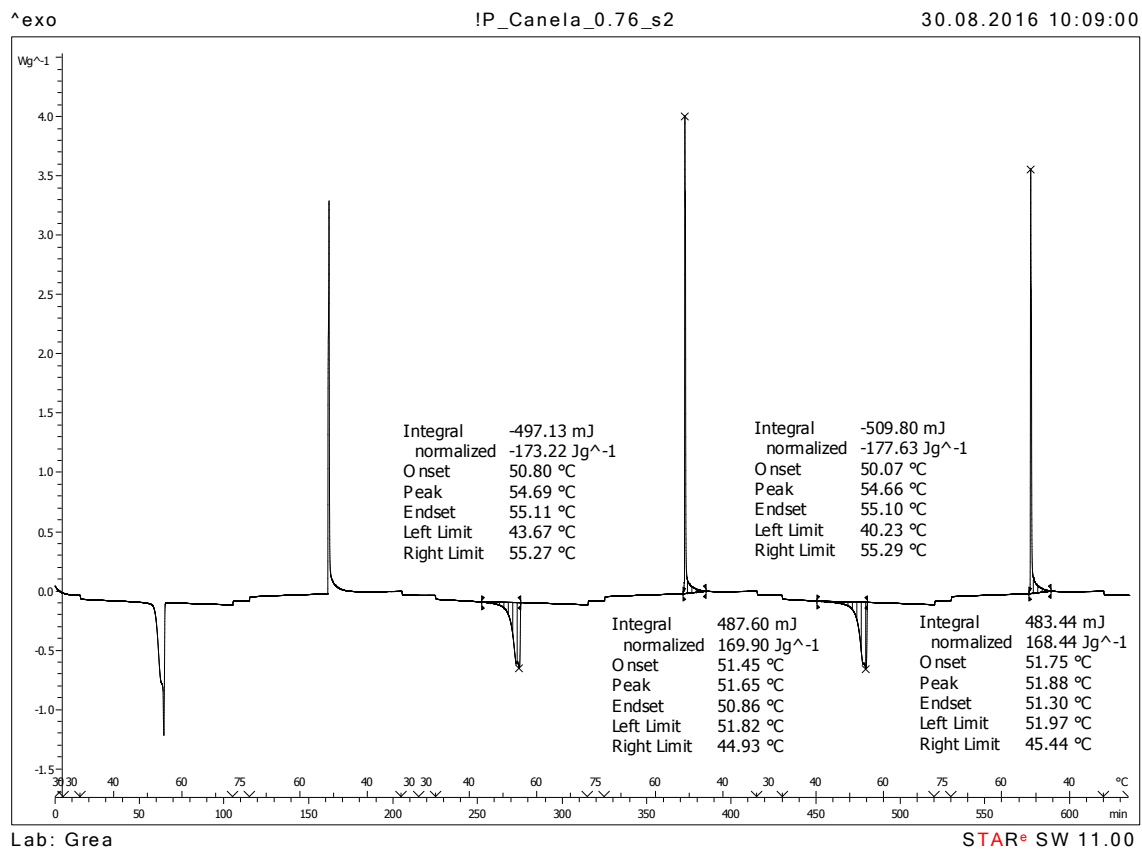


Figure 12. DSC response and evaluation of the material crystallized from ethyl acetate. Not-cycled sample 2, three cycles.

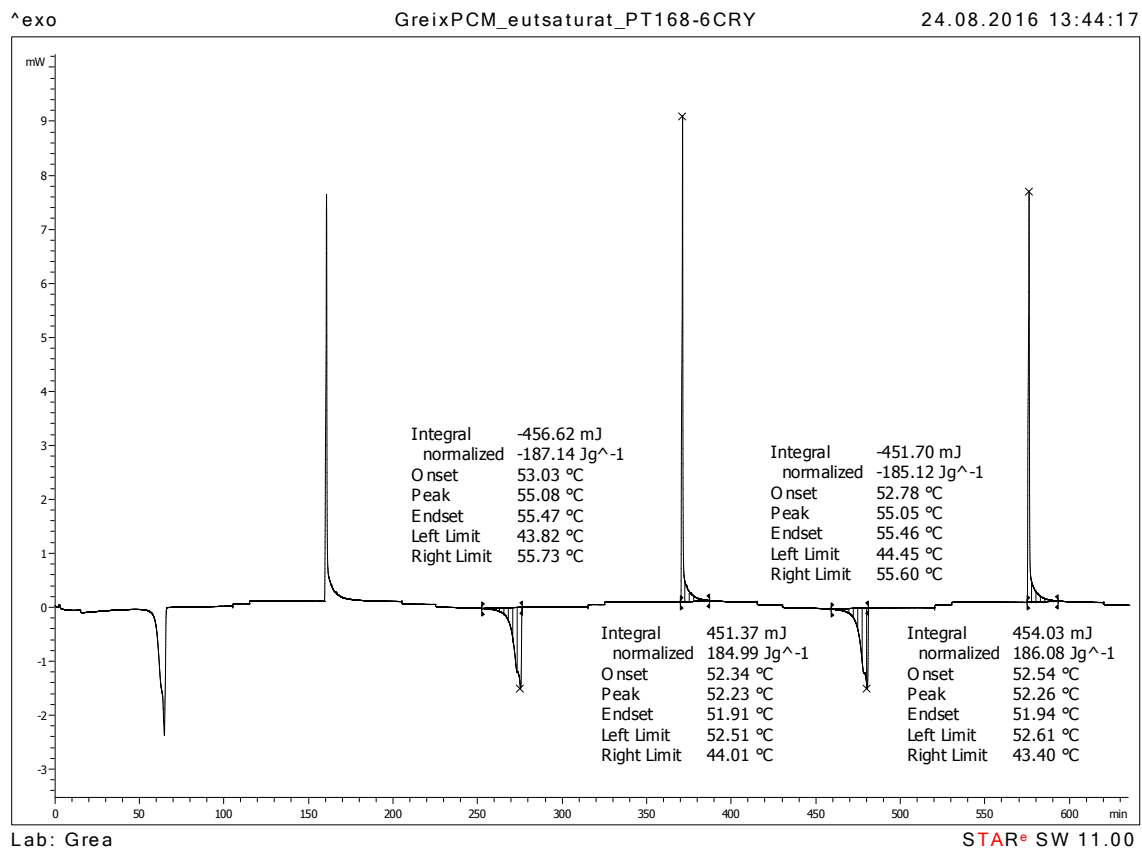


Figure 13. DSC response and evaluation of the material crystallized from acetone. Not-cycled sample 1, three cycles.

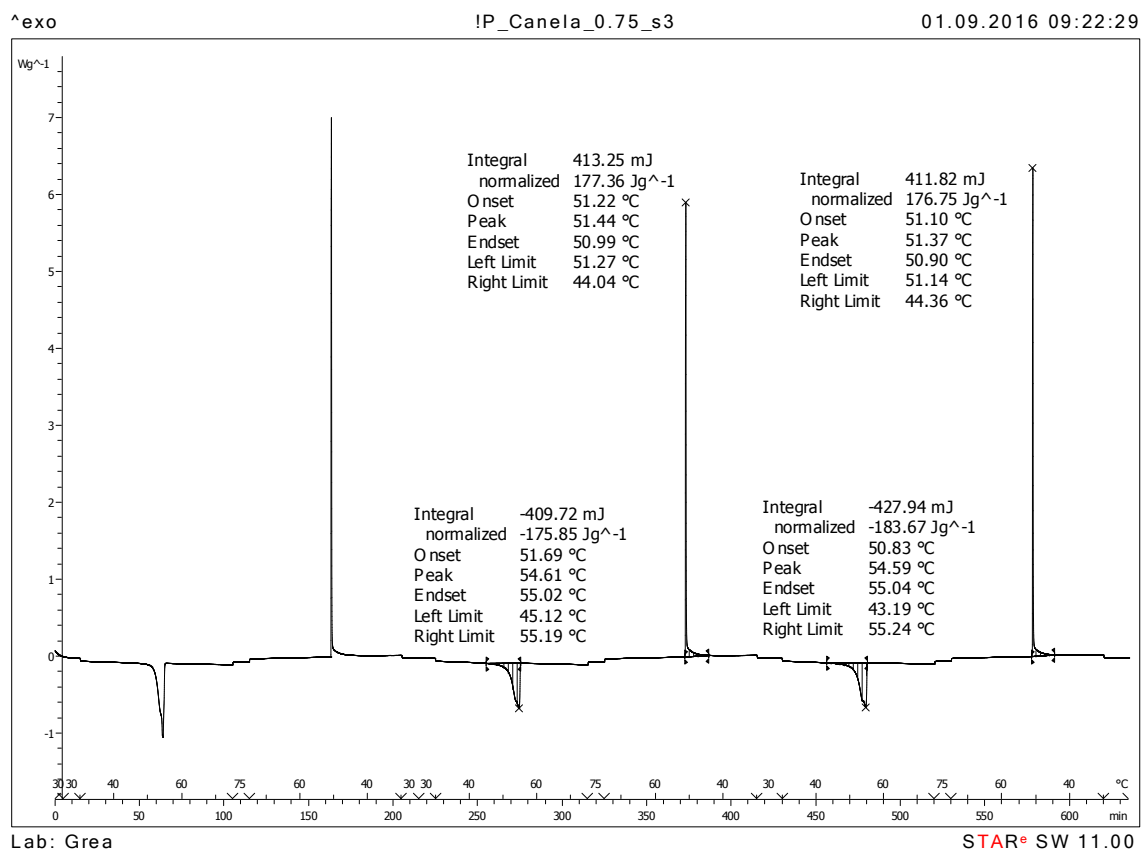


Figure 14. DSC response and evaluation of the material crystallized from acetone. Not-cycled sample 2, three cycles.

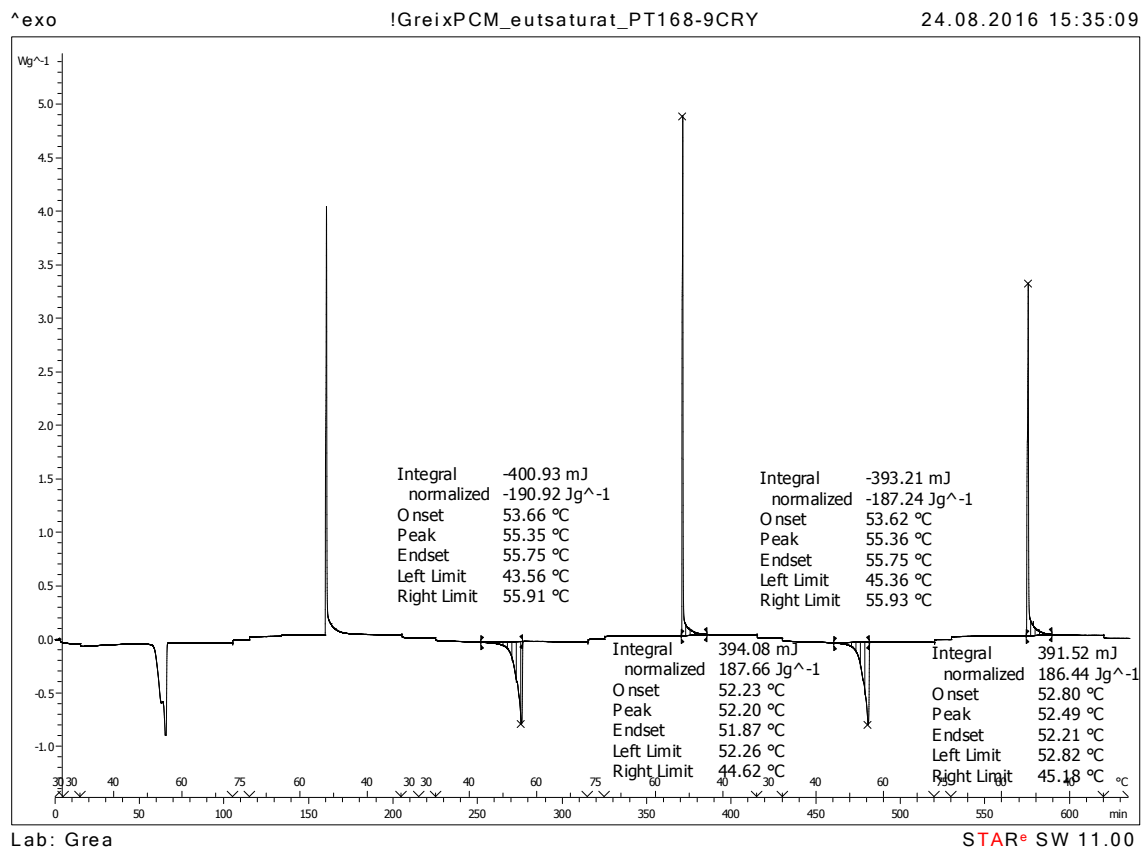


Figure 15. DSC response and evaluation of the material crystallized from ethanol. Not-cycled sample 1, three cycles.

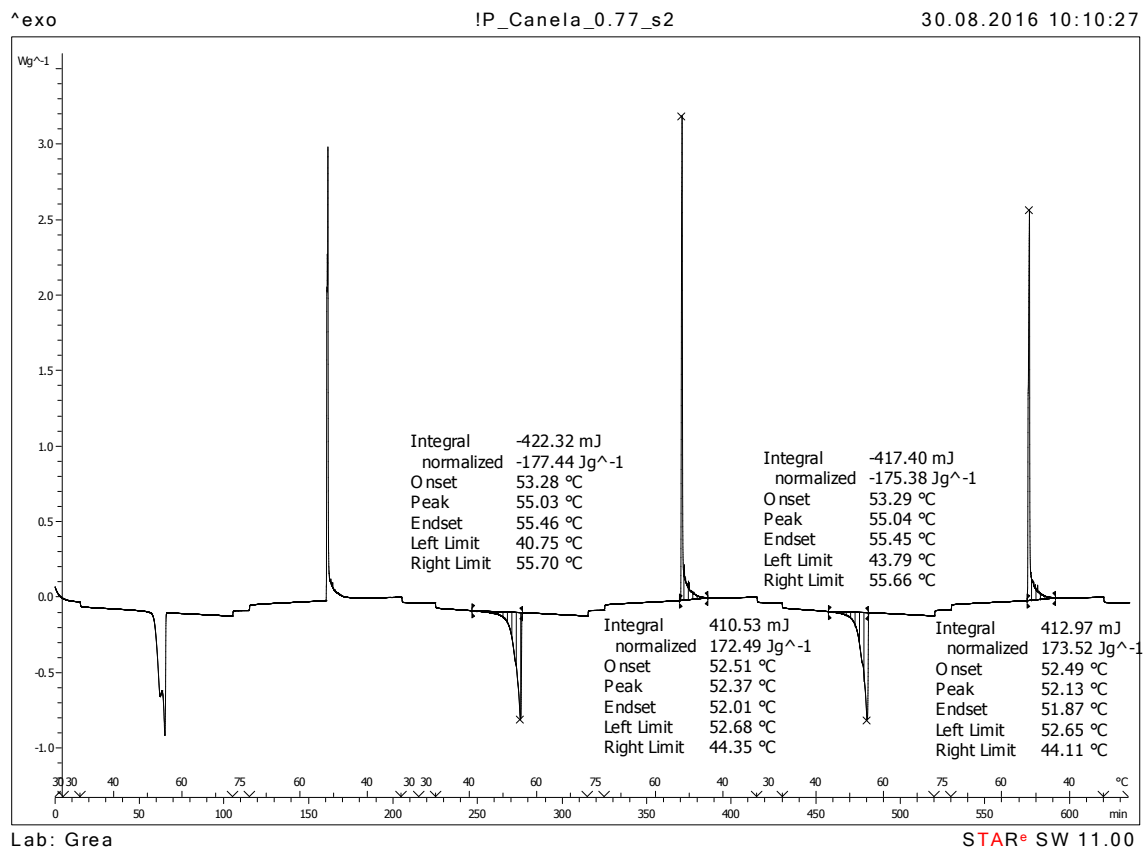


Figure 16. DSC response and evaluation of the material crystallized from ethanol. Not-cycled sample 2, three cycles.

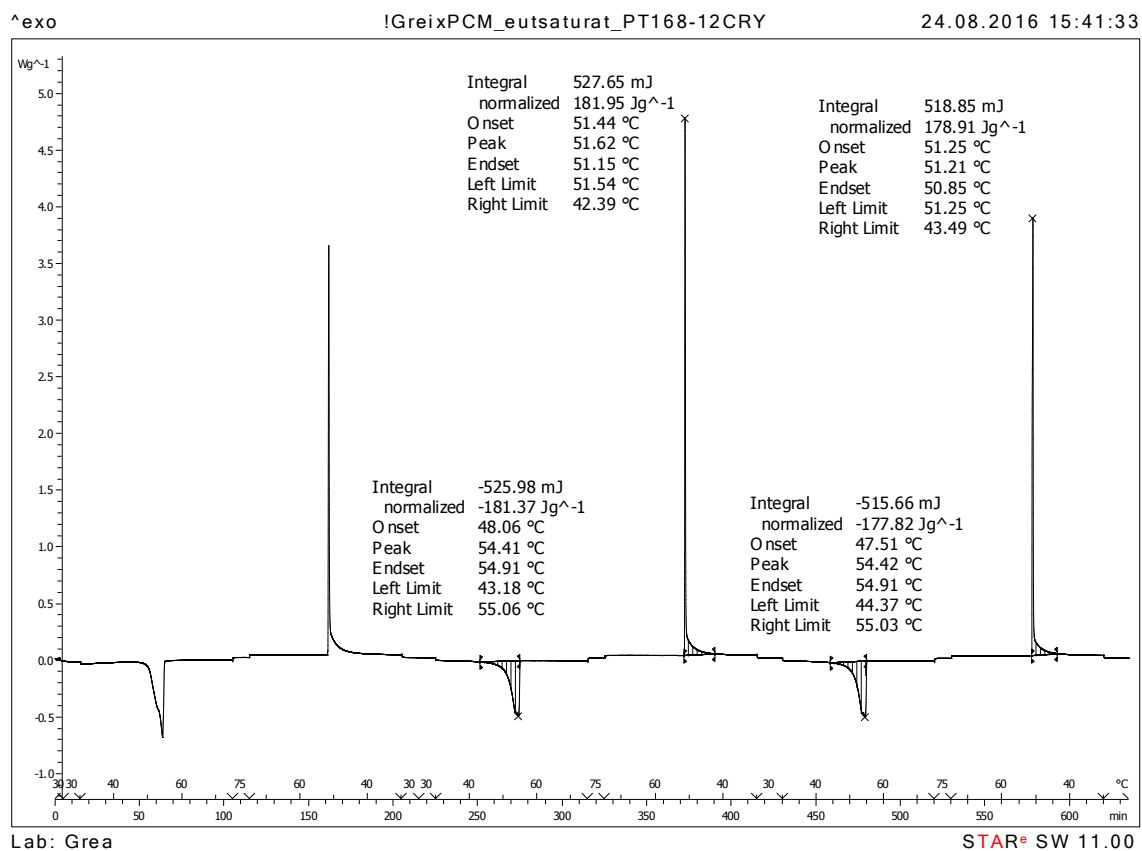


Figure 17. DSC response and evaluation of the material crystallized from hexane. Not-cycled sample 1, three cycles.

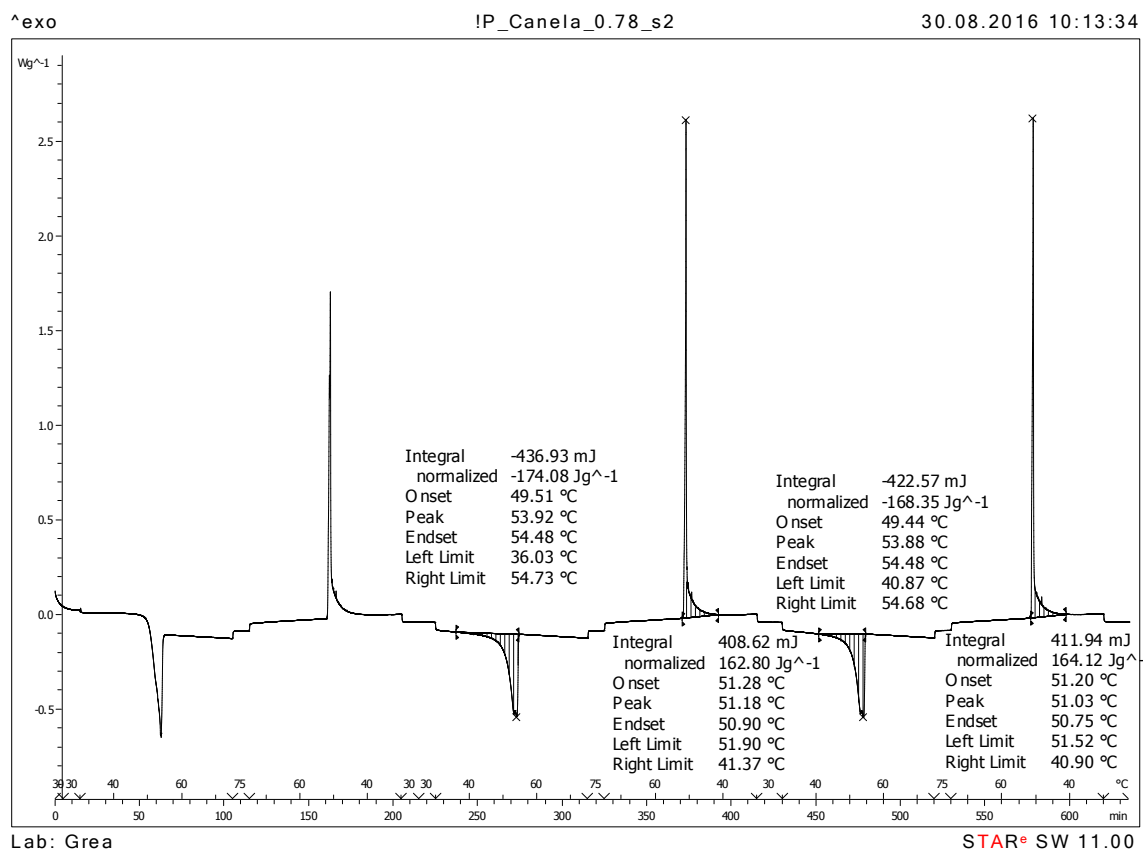


Figure 18. DSC response and evaluation of the material crystallized from hexane. Not-cycled sample 2, three cycles.

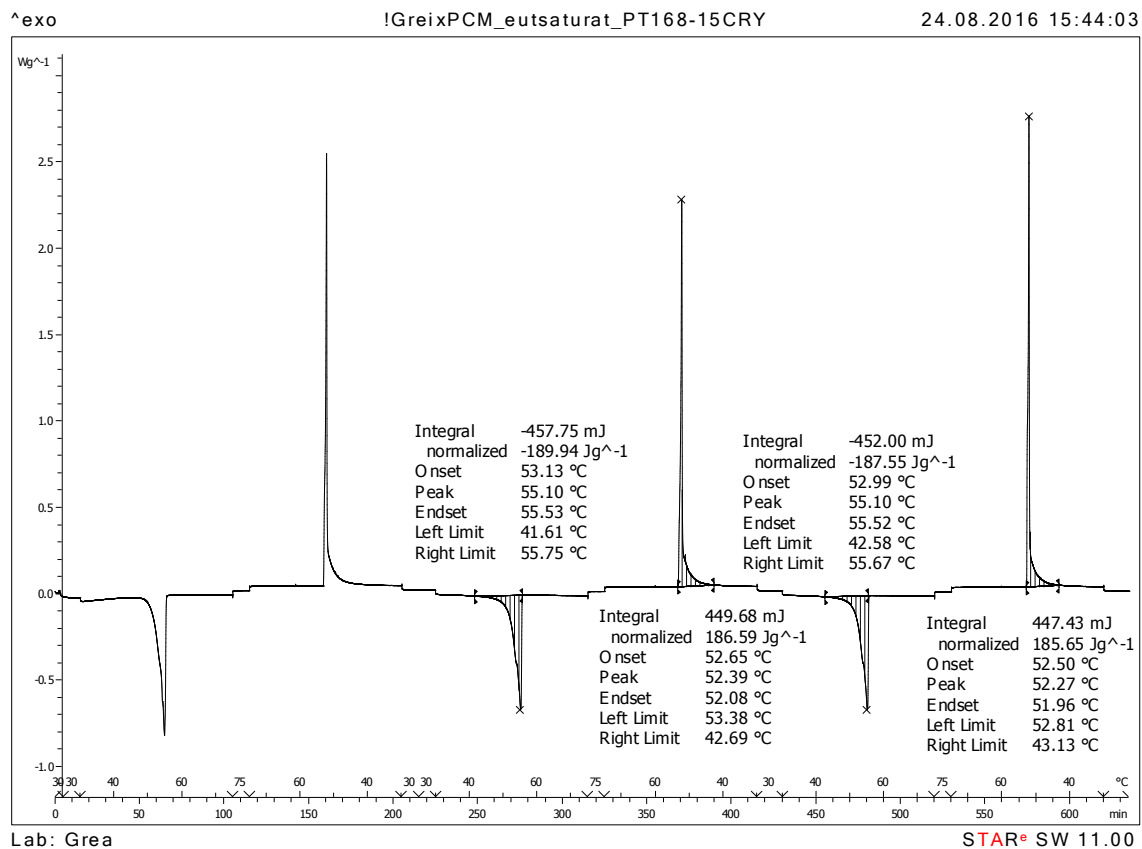


Figure 19. DSC response and evaluation of the material crystallized from methanol. Not-cycled sample 1, three cycles.

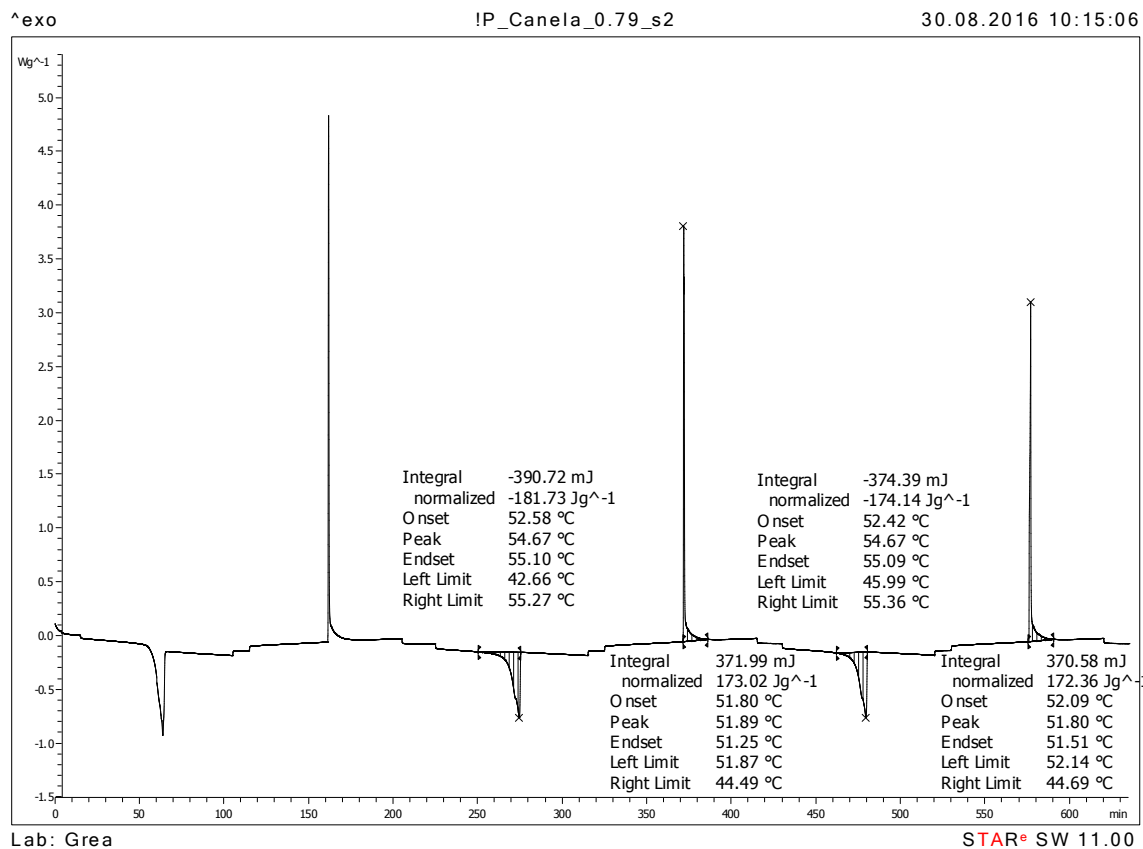


Figure 20. DSC response and evaluation of the material crystallized from methanol. Not-cycled sample 2, three cycles.

DSC analysis of DHSA and their salts.

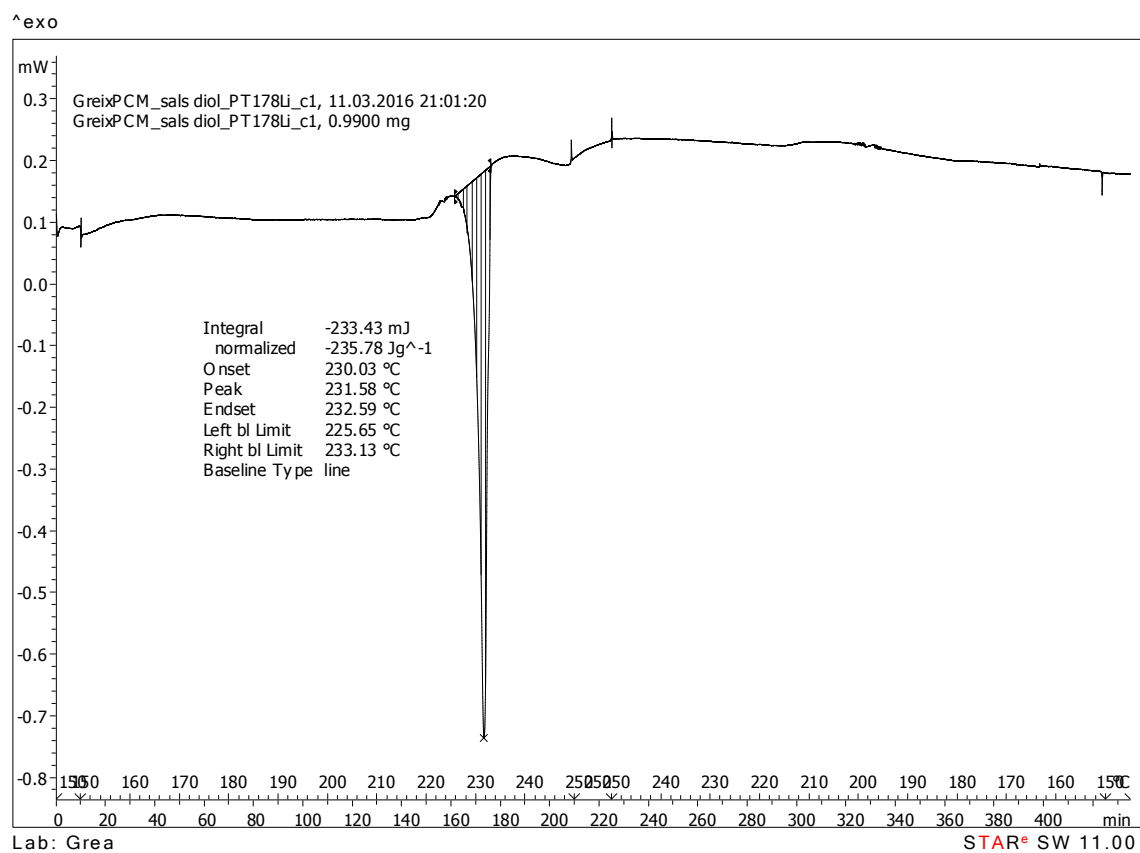


Figure 21. DSC response of lithium DHSA salt, 1st cycle.

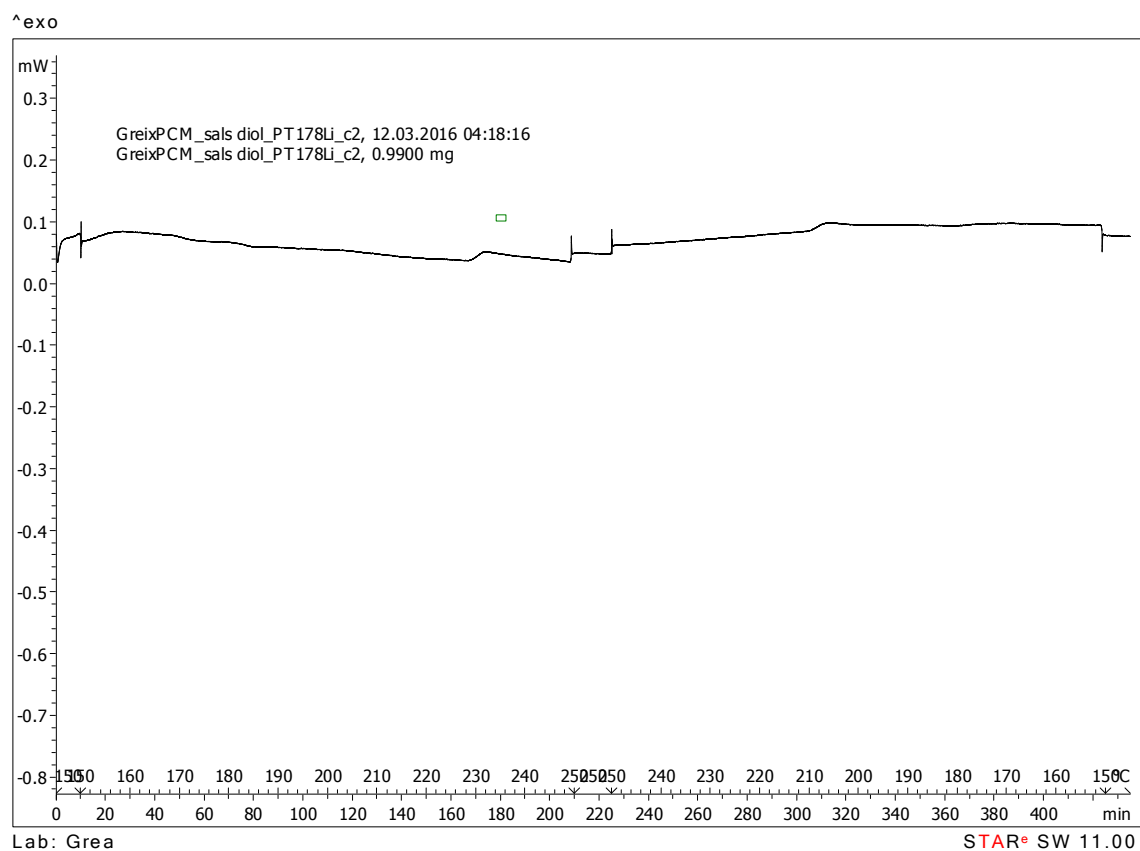


Figure 22. DSC response of lithium DHSA salt, 2nd cycle.

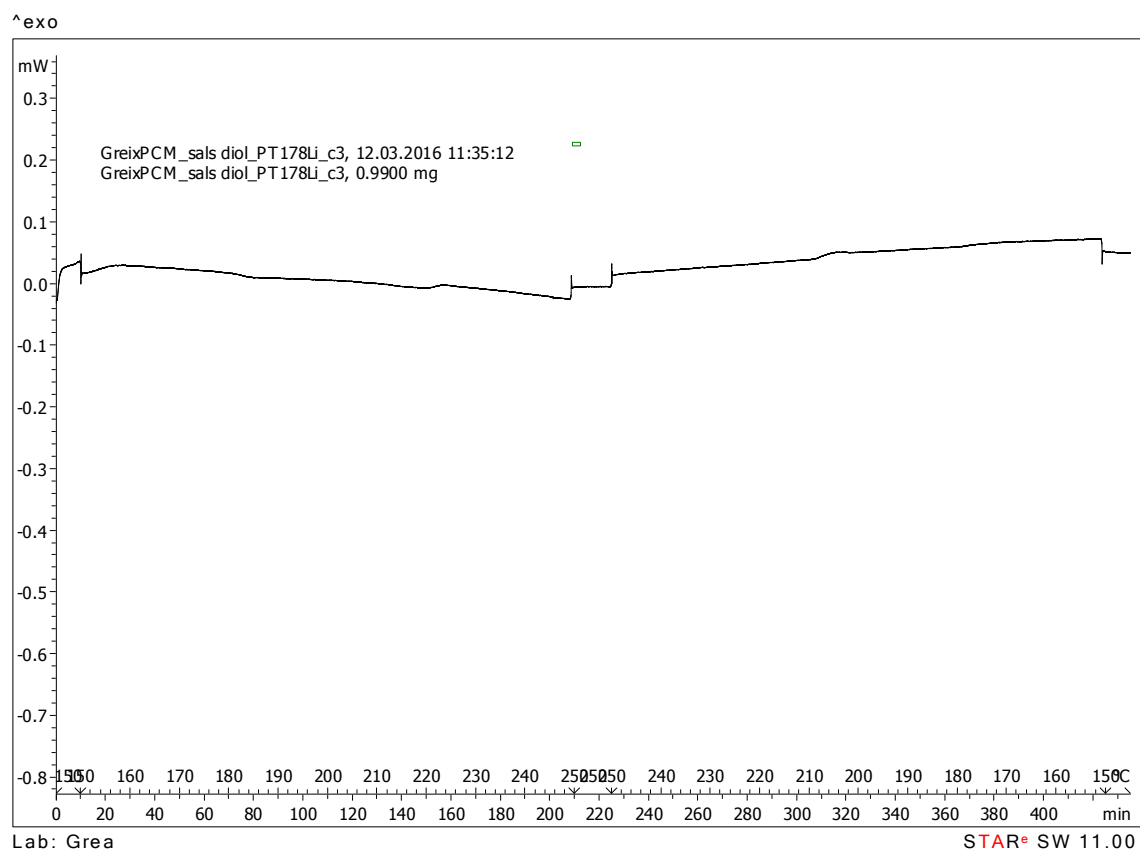


Figure 23. DSC response of lithium DHSA salt, 3rd cycle.

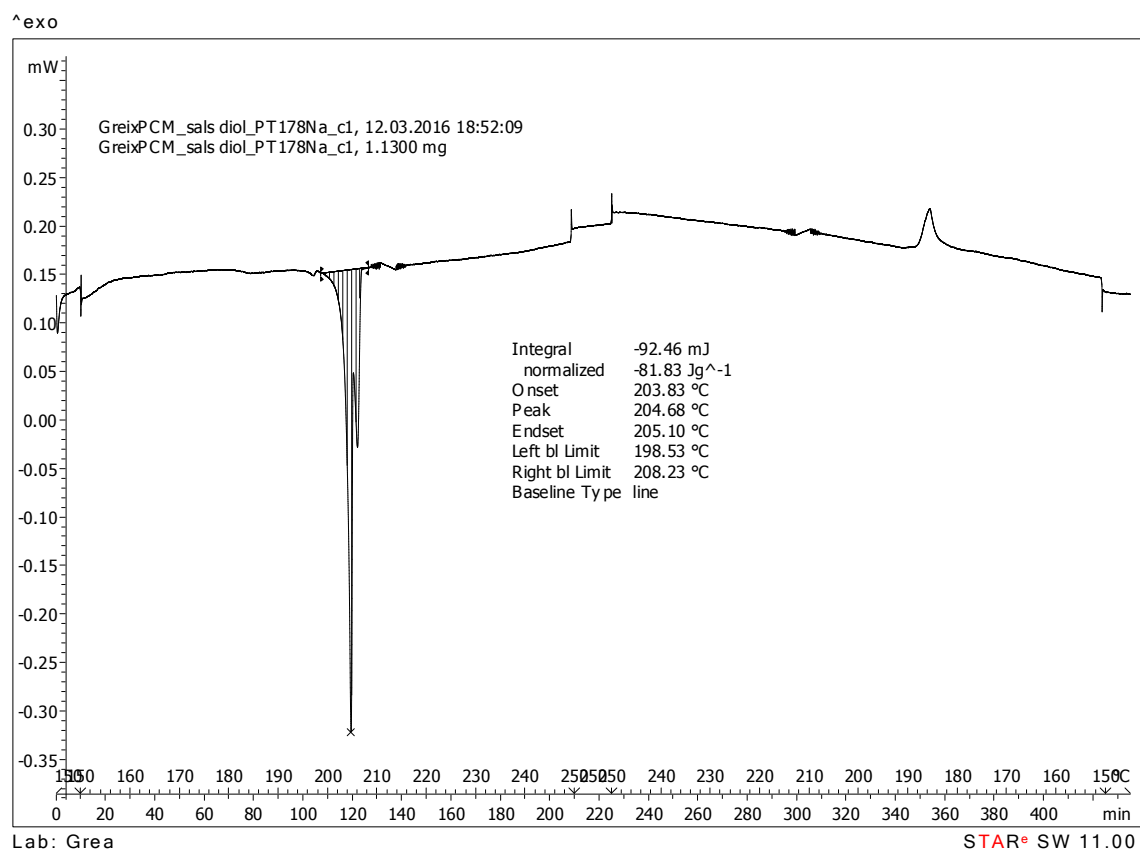


Figure 24. DSC response of sodium DHSA salt, 1st cycle.



Figure 25. DSC response of sodium DHSA salt, 2nd cycle.

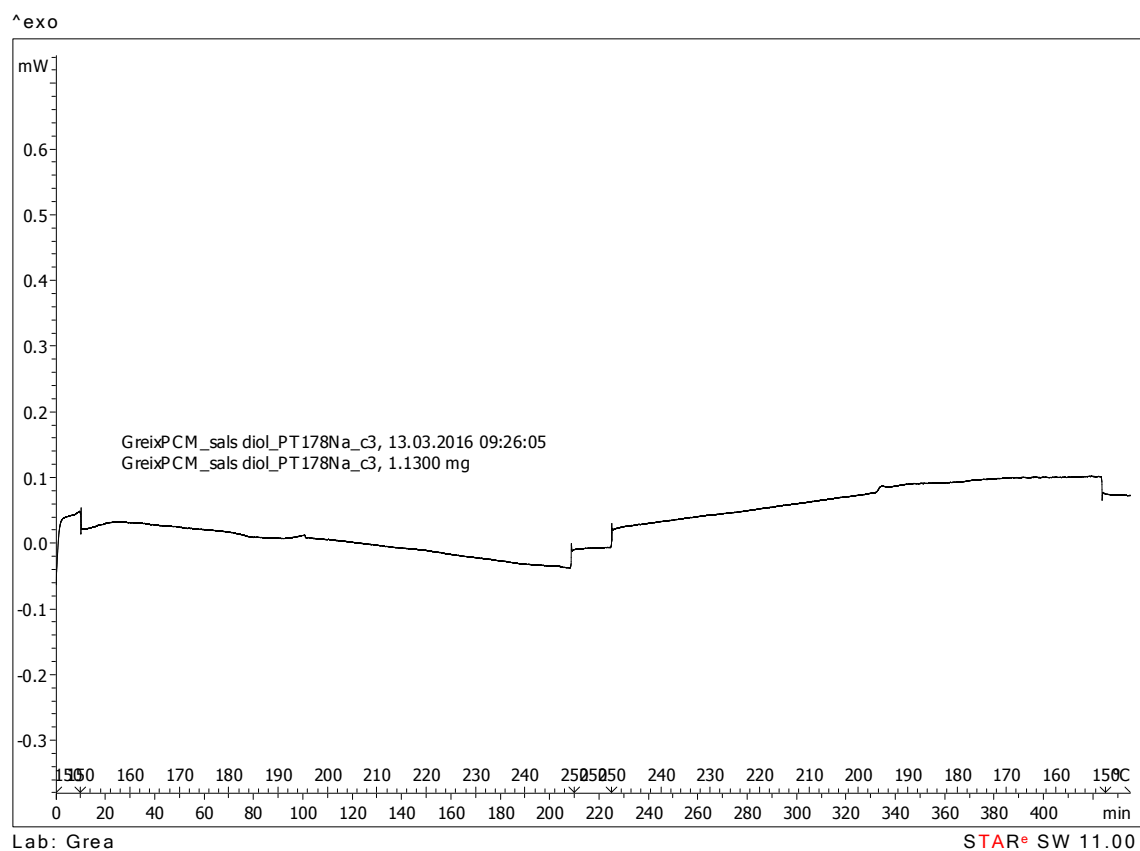


Figure 26. DSC response of sodium DHSA salt, 3rd cycle.

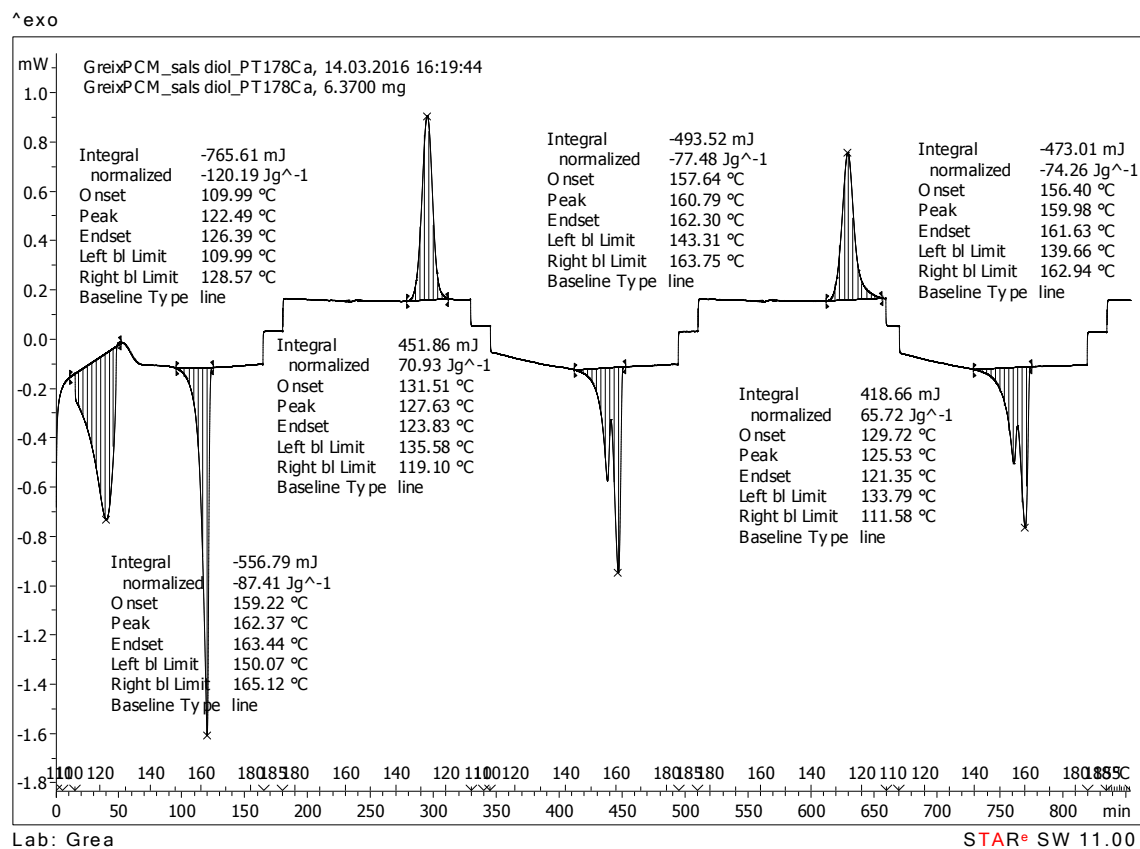


Figure 27. DSC response of calcium DHSA salt, three cycles.

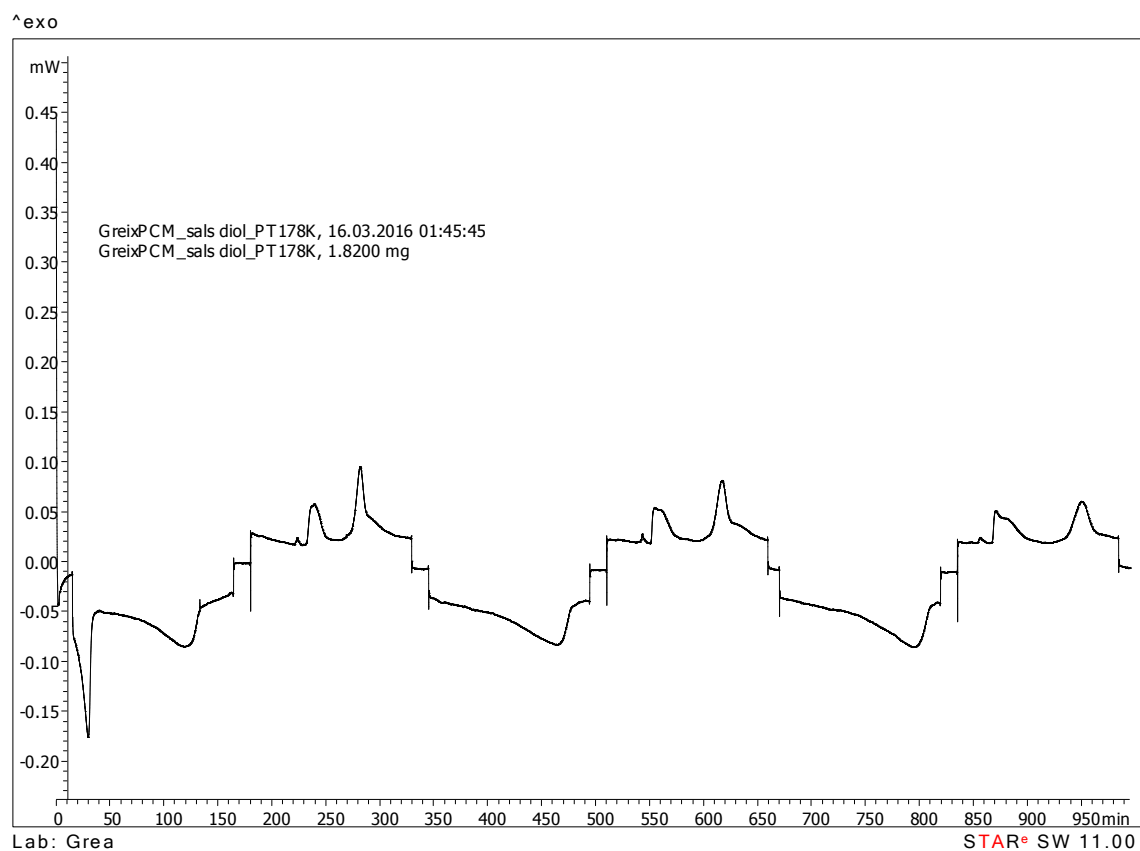


Figure 28. DSC response of magnesium DHSA salt, three cycles.

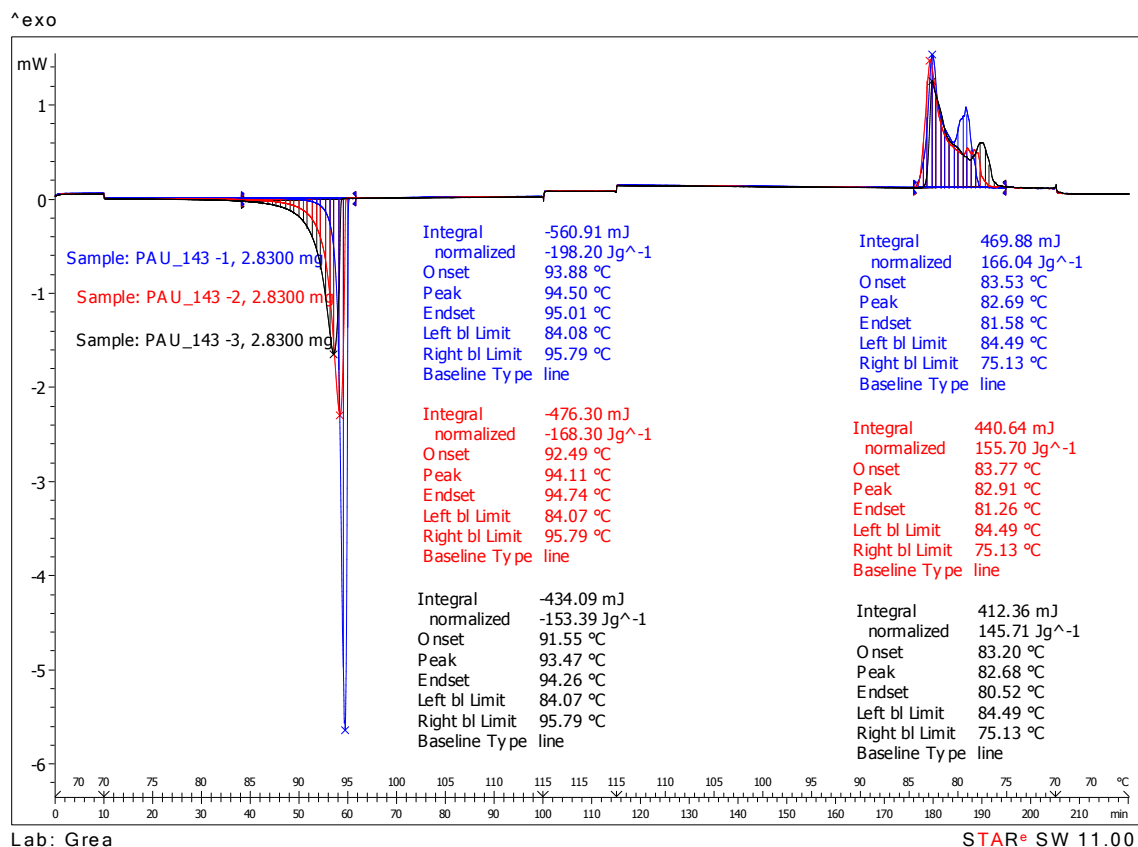


Figure 29. DSC response of DHSA, three cycles.

FT-IR spectra of the PA-SA mixture, DHSA and their salts.

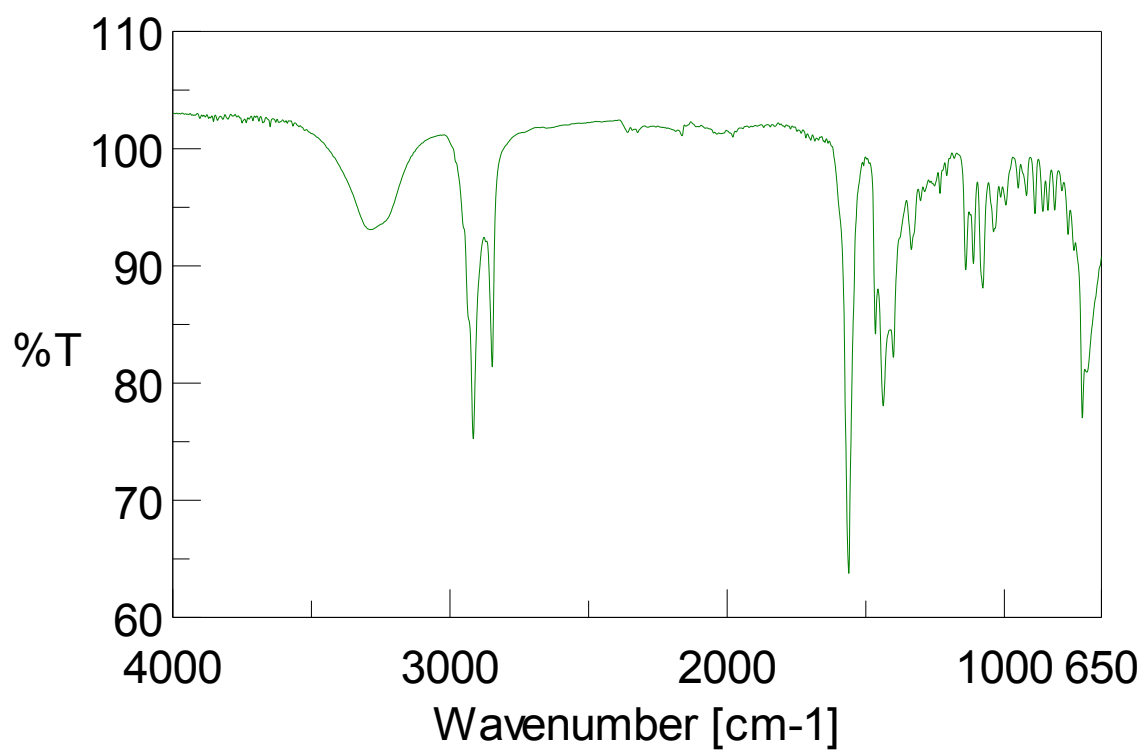


Figure 30. FT-IR: Lithium salt of DHSA.

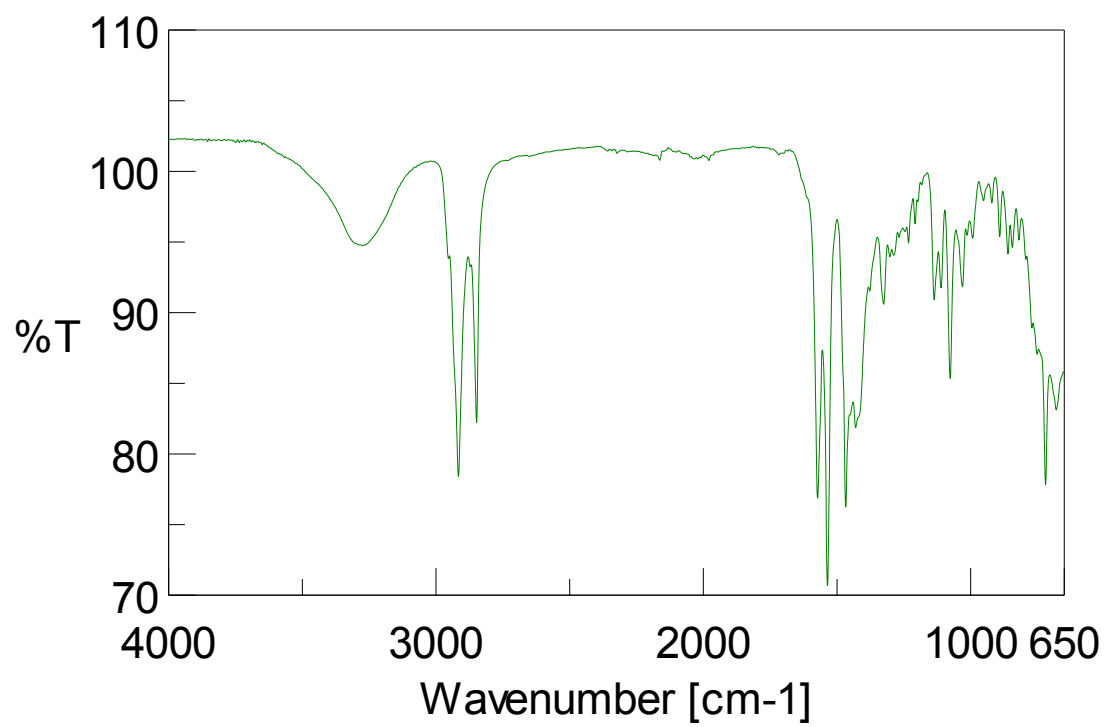


Figure 31. FT-IR: Calcium salt of DHSA.

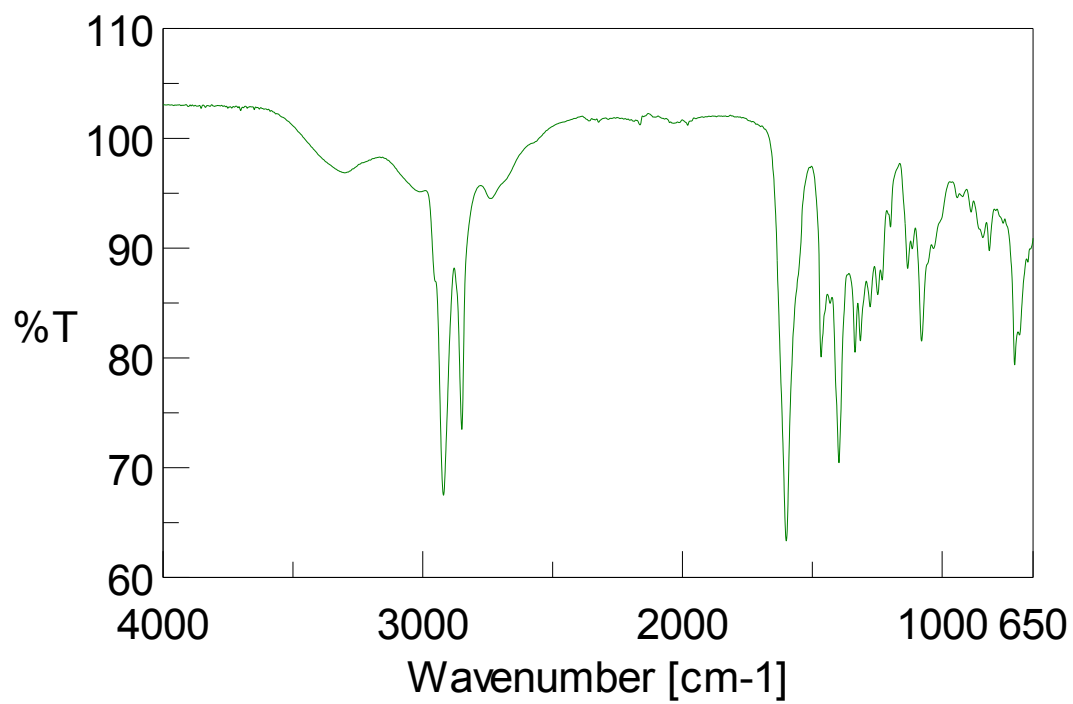


Figure 32. FT-IR: Magnesium salt of DHSA.

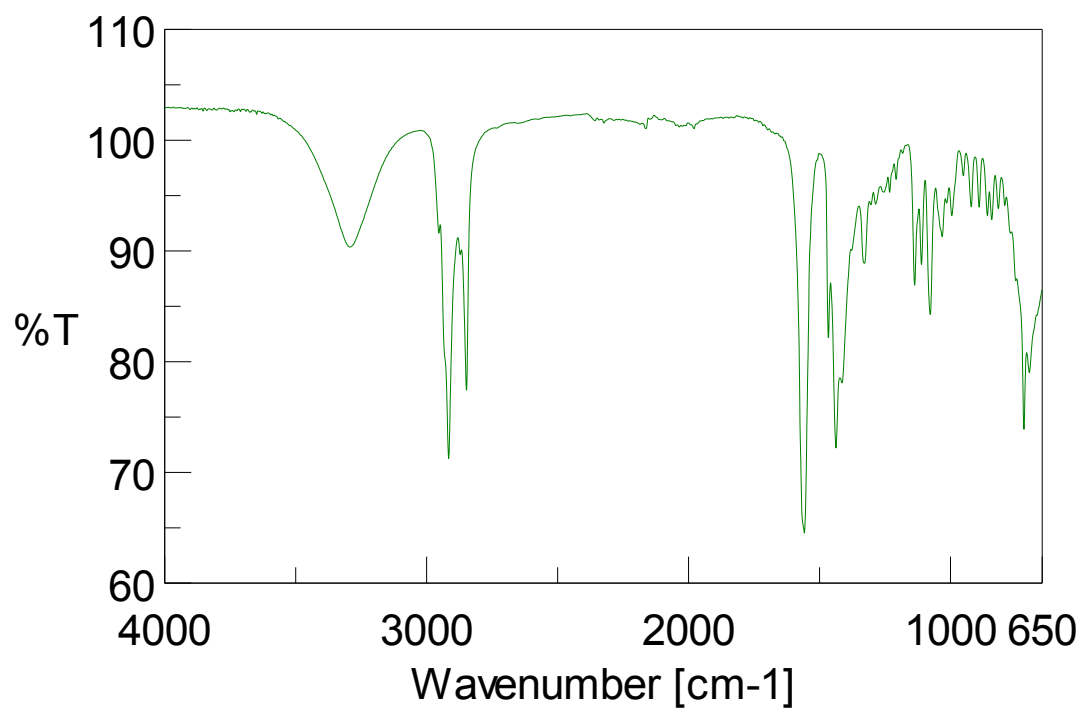


Figure 33. FT-IR: Sodium salt of DHSA.

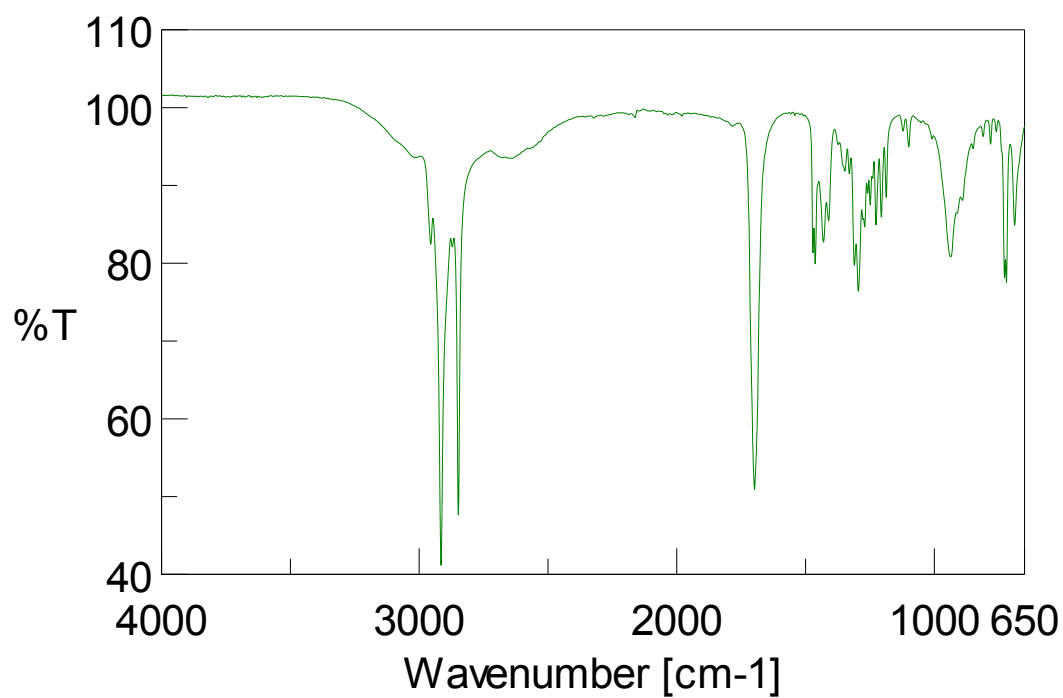


Figure 34. FT-IR: PA-SA mixture.

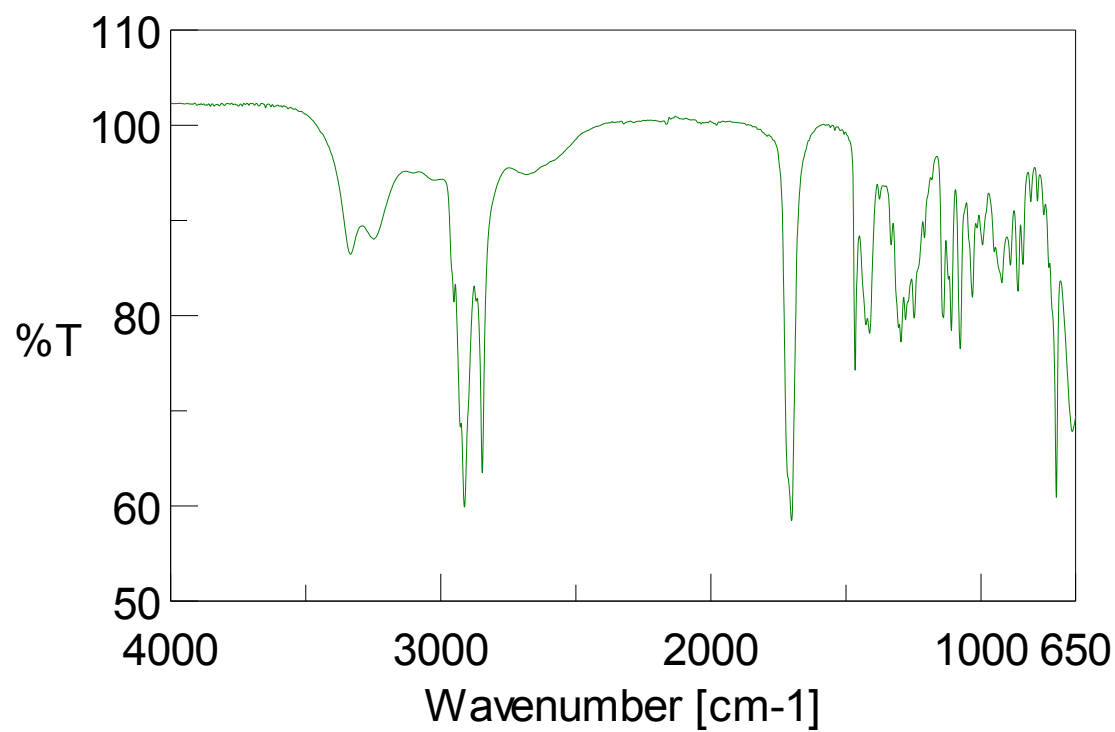


Figure 35. FT-IR: DHSA.

^1H NMR spectra of the DHSA

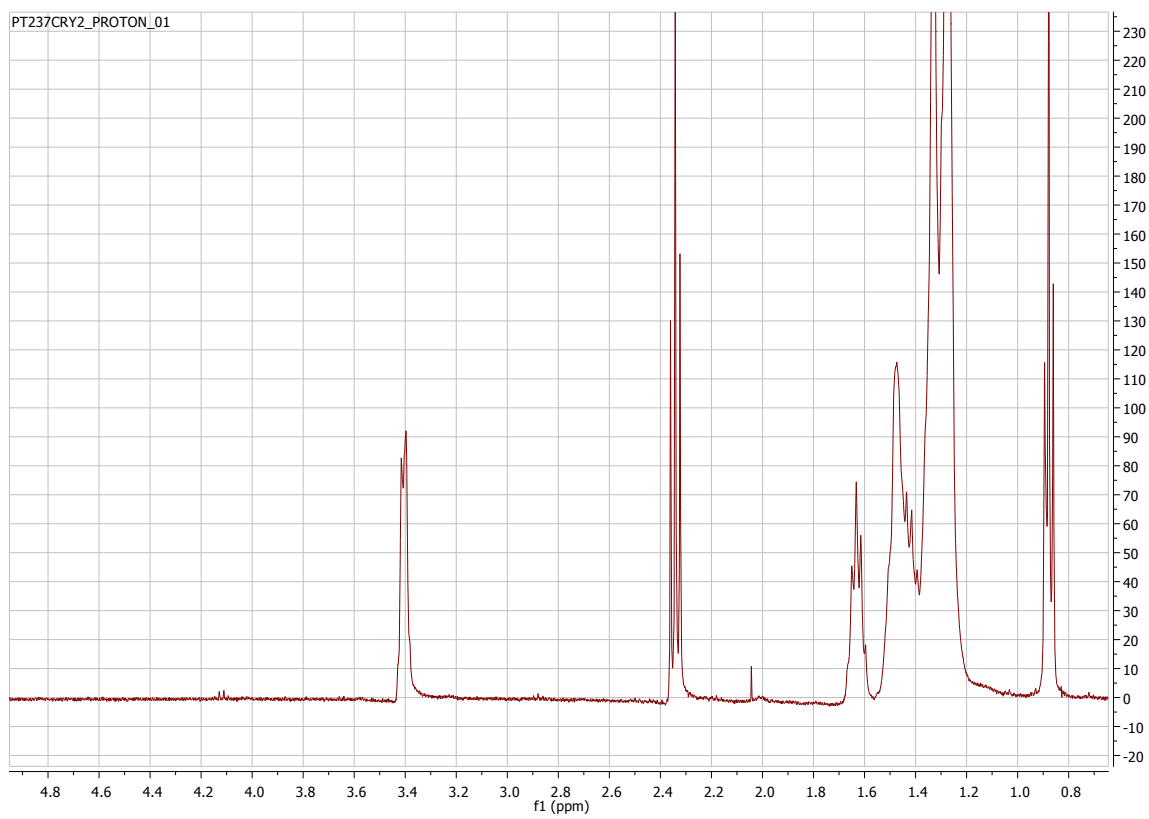


Figure 36. ^1H NMR Spectra of the DHSA before the DSC analysis.

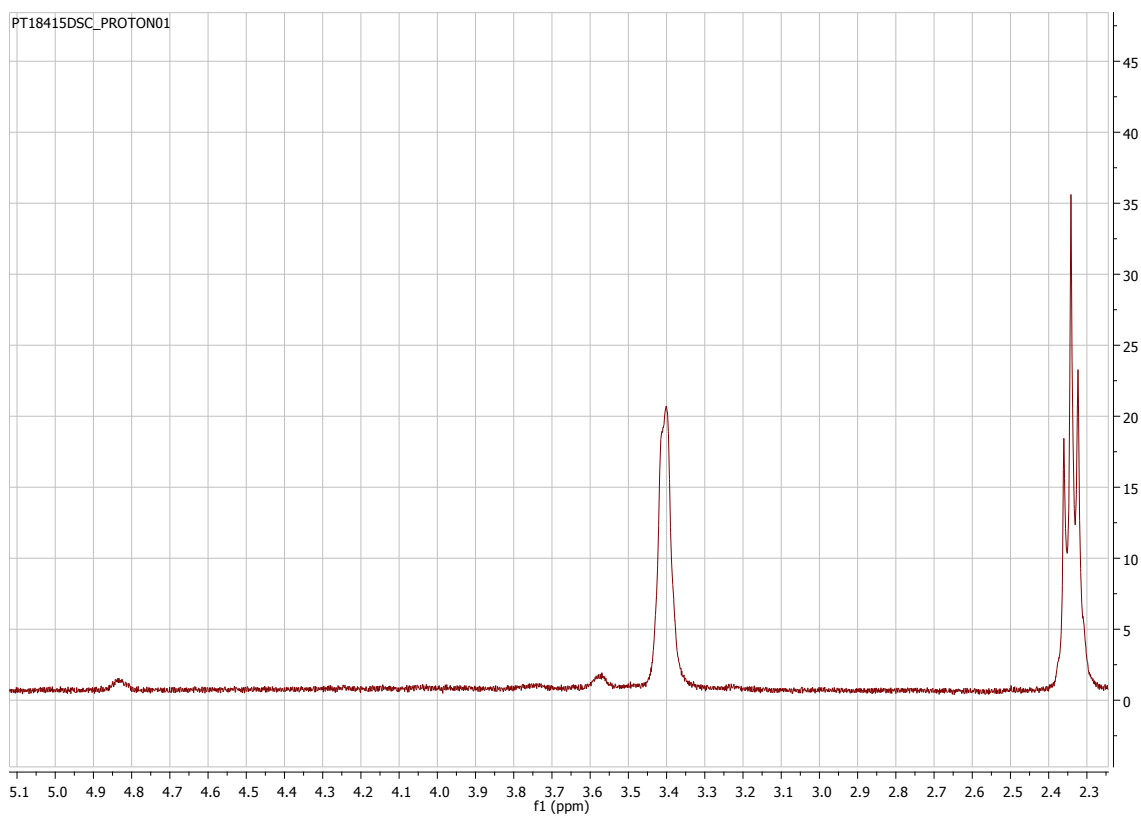


Figure 37. Expanded ^1H NMR Spectra of the DHSA after the DSC analysis (2.3-5.1 ppm).