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## Supporting Information SI

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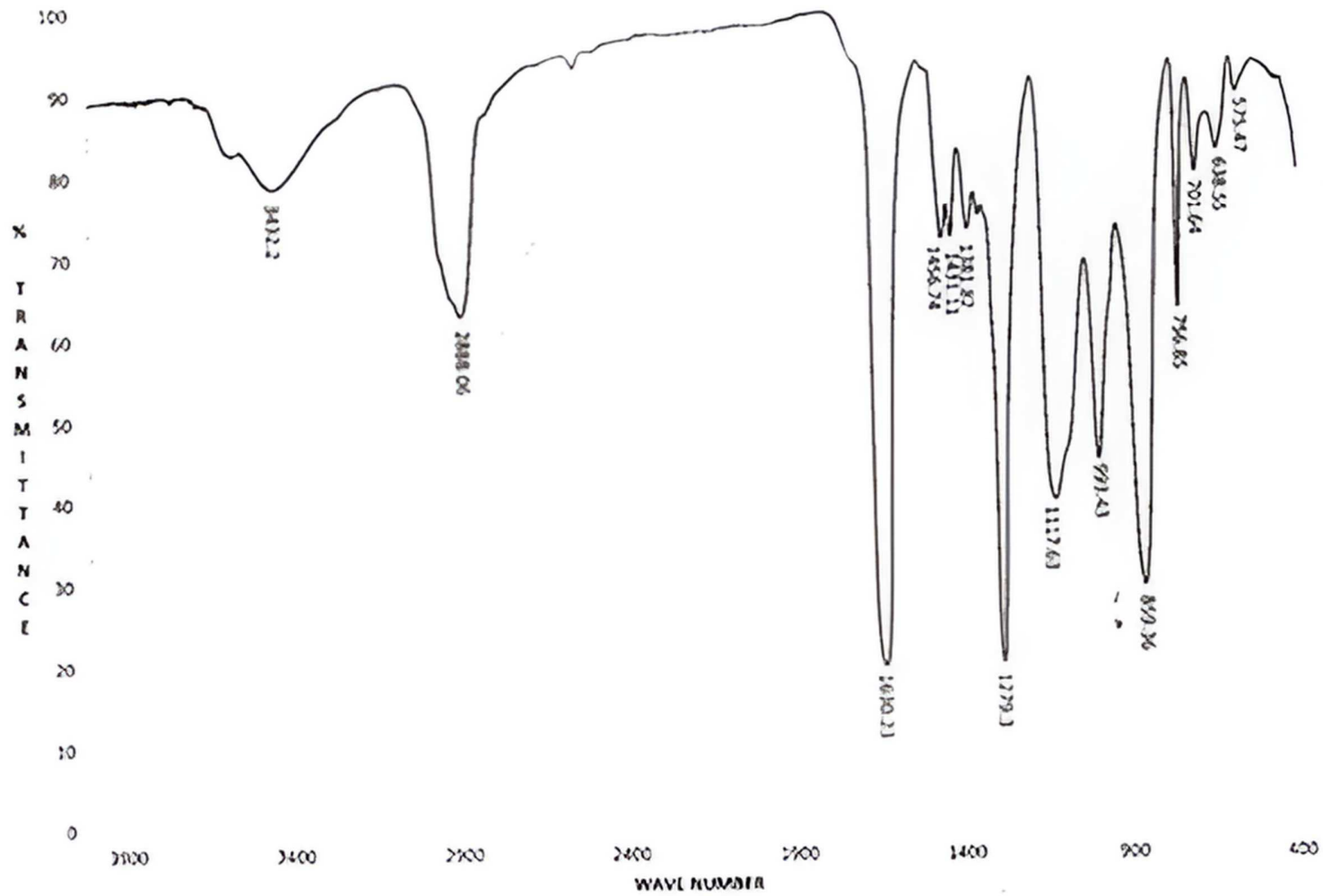
### *Research paper*

## Synthesis of a New Random Copolymer Based on Glycidyl Nitrate and Tetrahydrofuran: A Thermal, Kinetic, and Theoretical Study

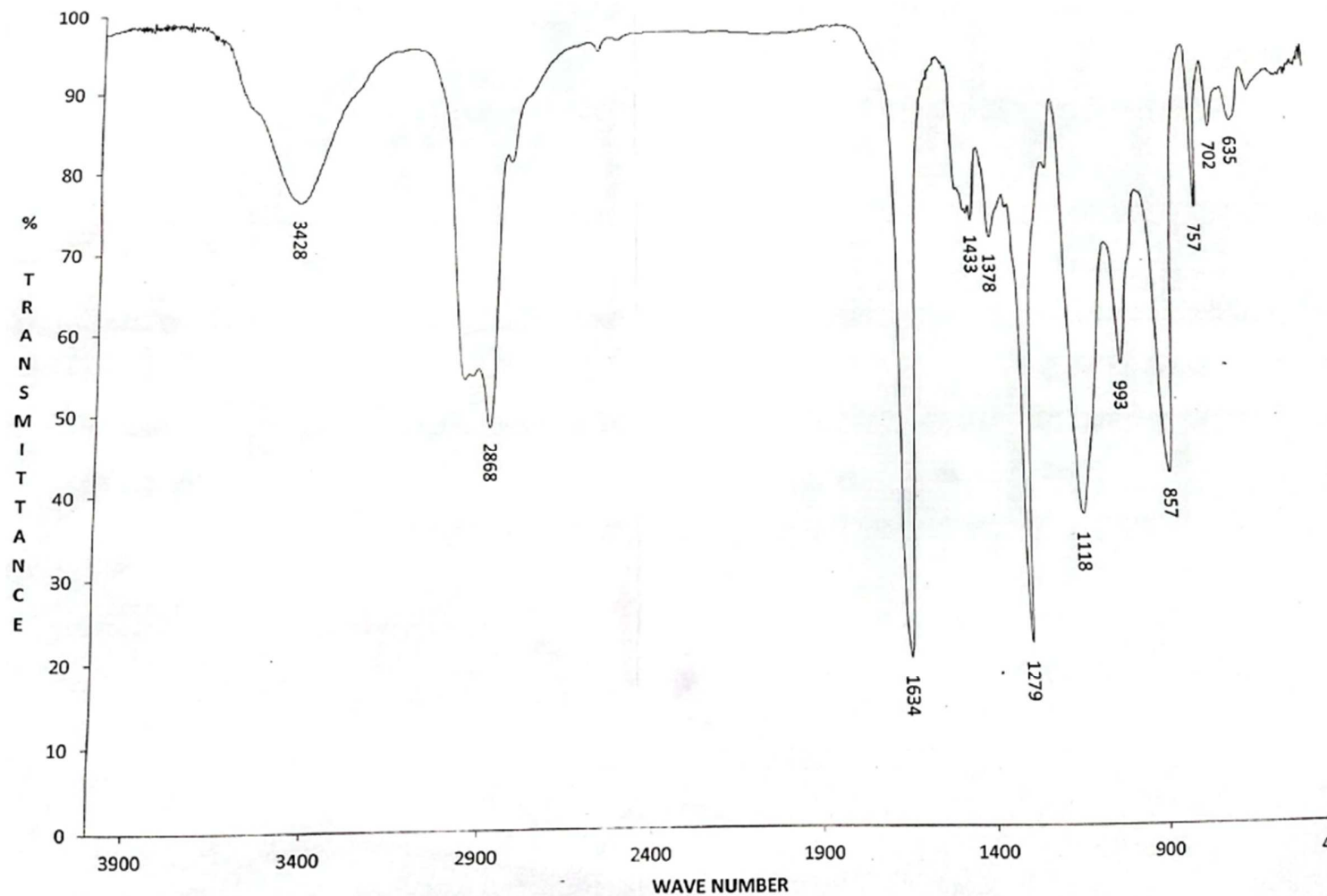
**Milad Alizadeh, Yadollah Bayat\***<sup>\*)</sup>

*Department of Chemistry and Chemical Engineering, Malek Ashtar University of Technology, Tehran, Iran*

\* E-mail: [y\\_bayat@mut.ac.ir](mailto:y_bayat@mut.ac.ir)

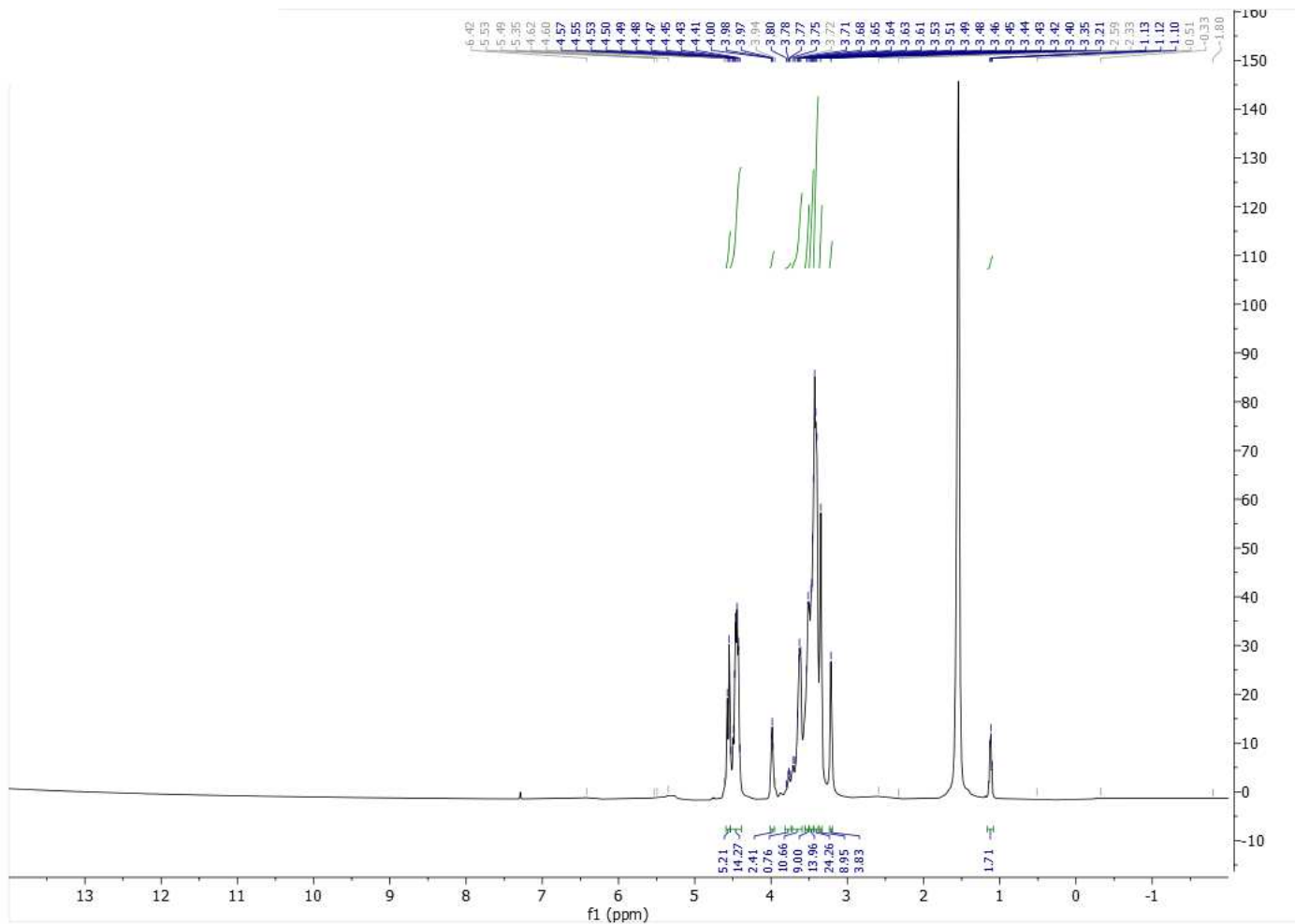


(a)

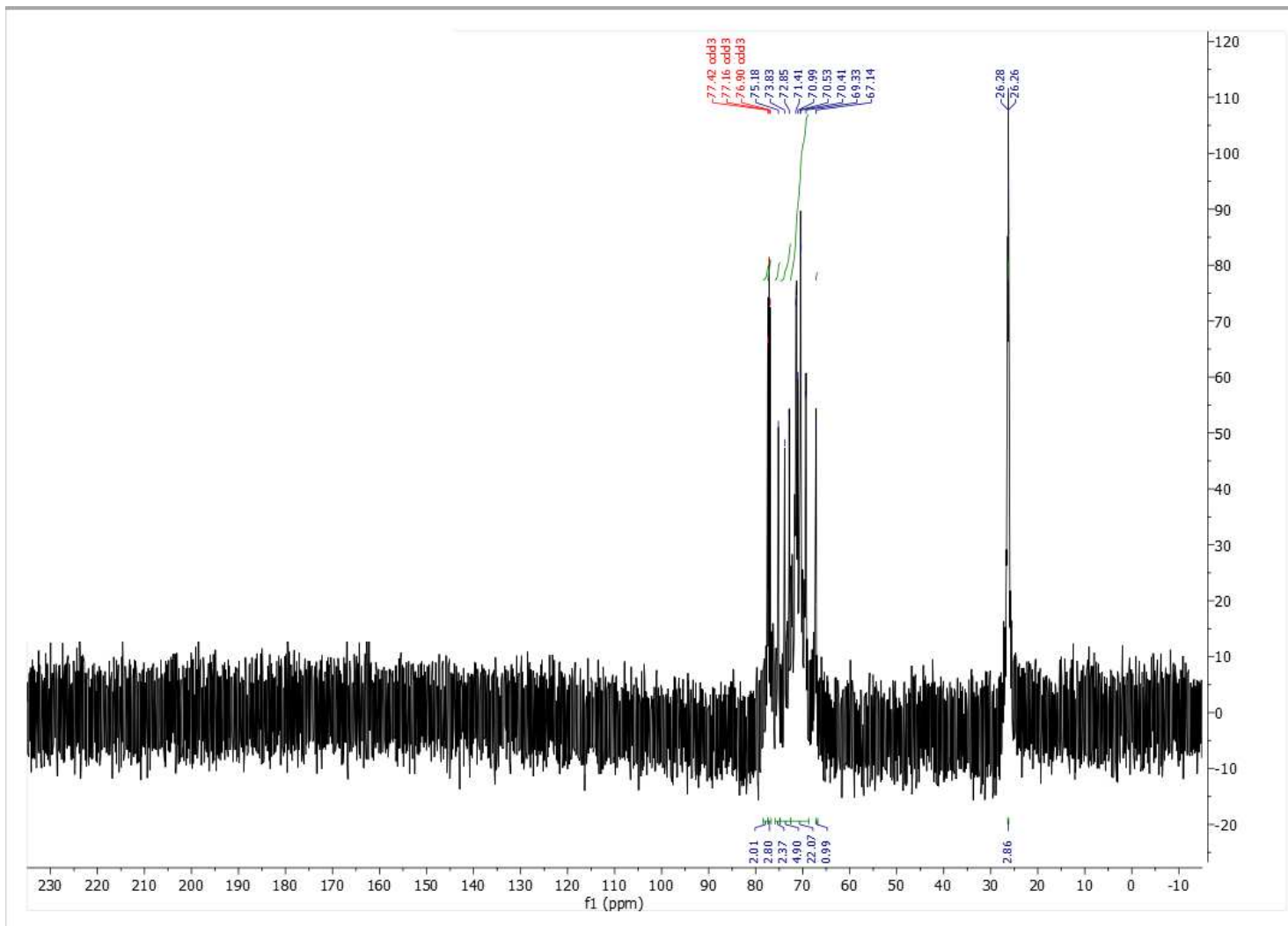


(b)

**Figure S1.** FT-IR Spectra of PGN (a) and poly (THF-ran-GN) (b)



**Figure S2.**  $^1\text{H}$  NMR spectrum of the synthesized copolymer



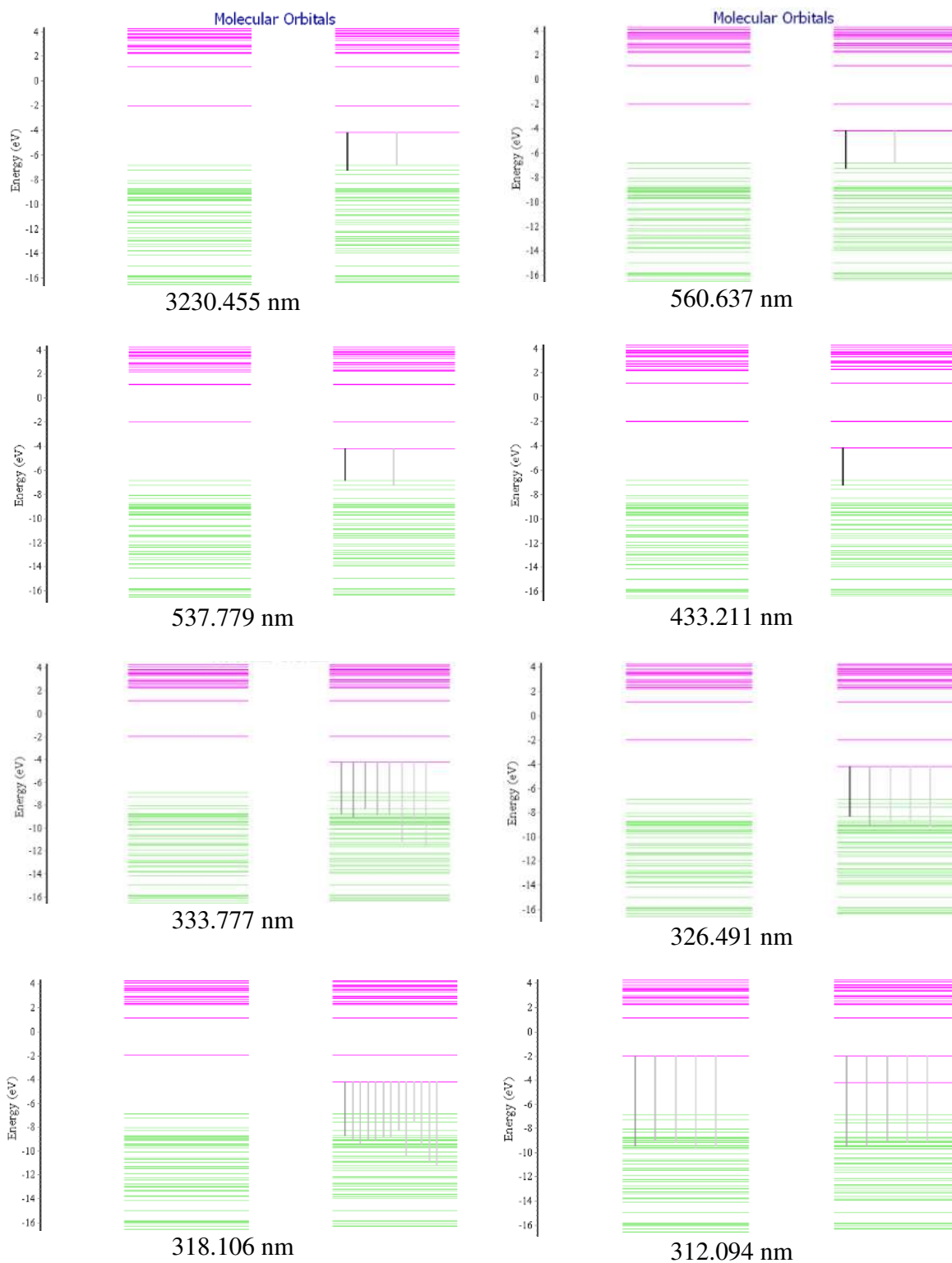
**Figure S3.**  $^{13}\text{C}$  NMR spectrum of the synthesized copolymer

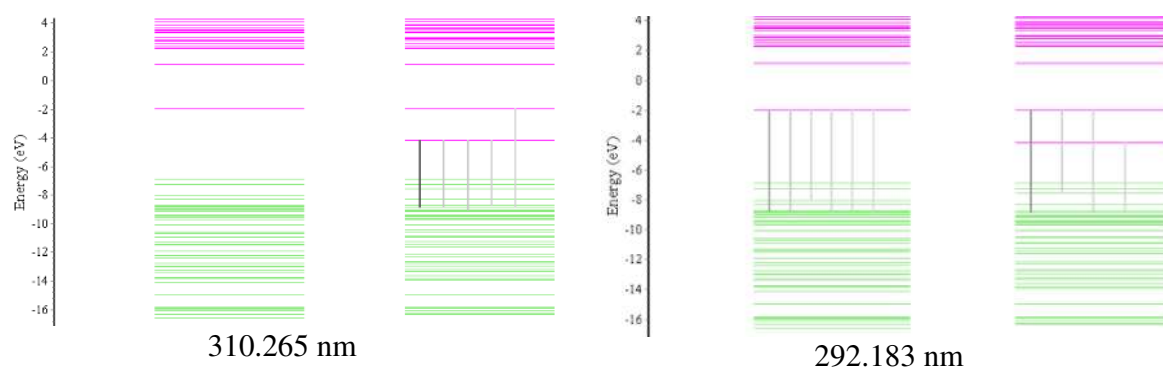
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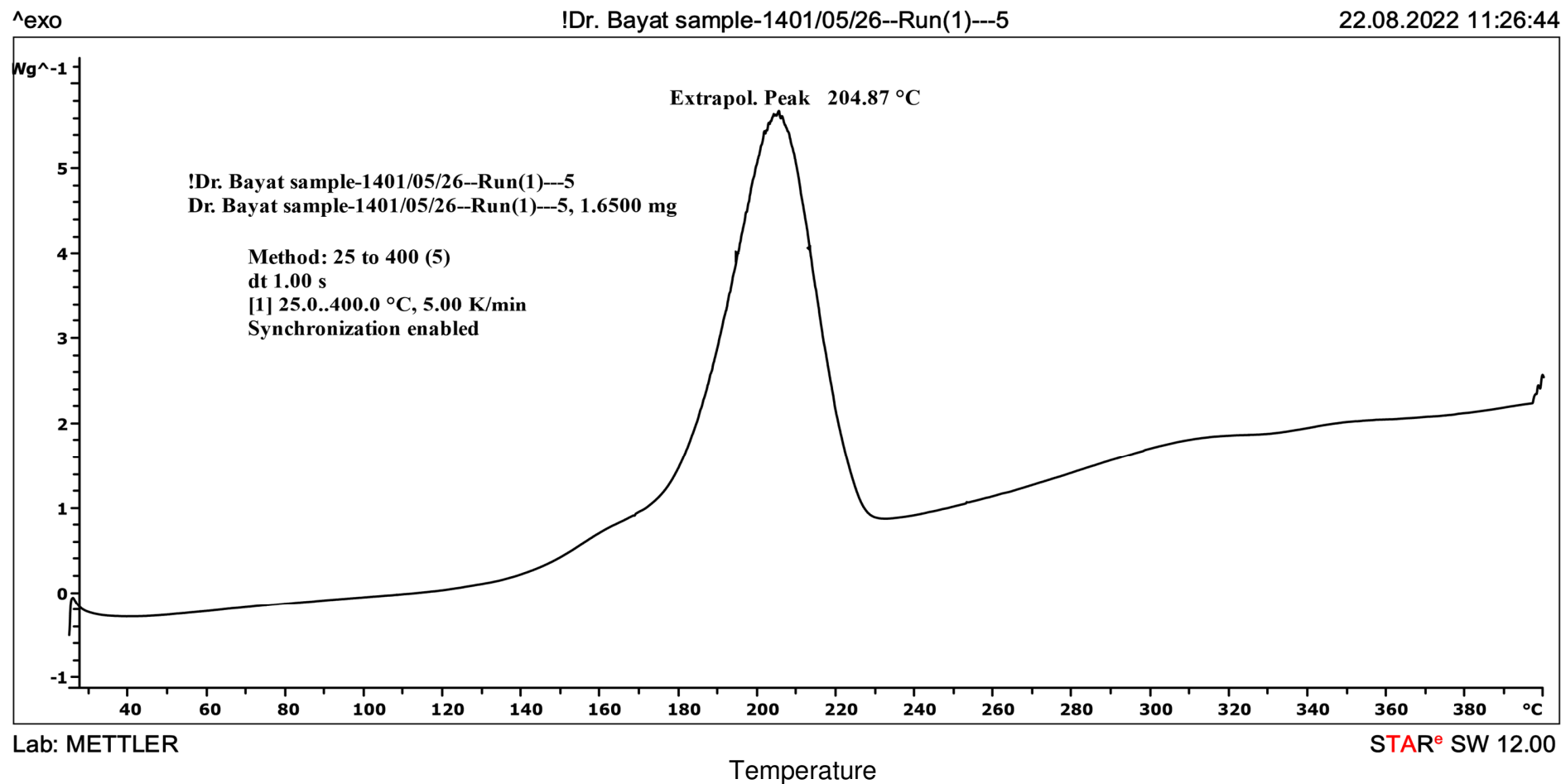
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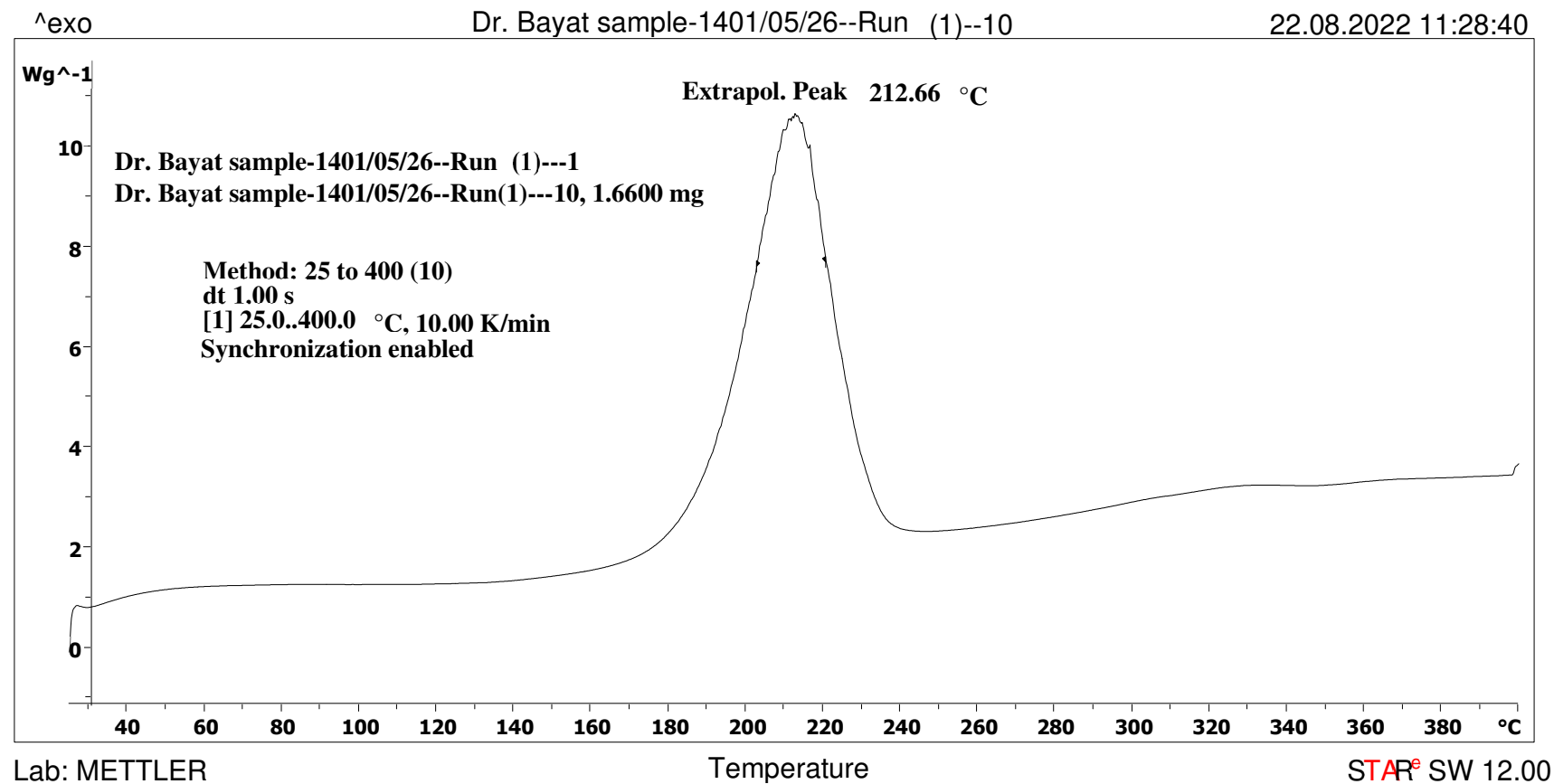


**Figure S4.** Electronic excitations in the frontier molecular orbitals of the copolymer

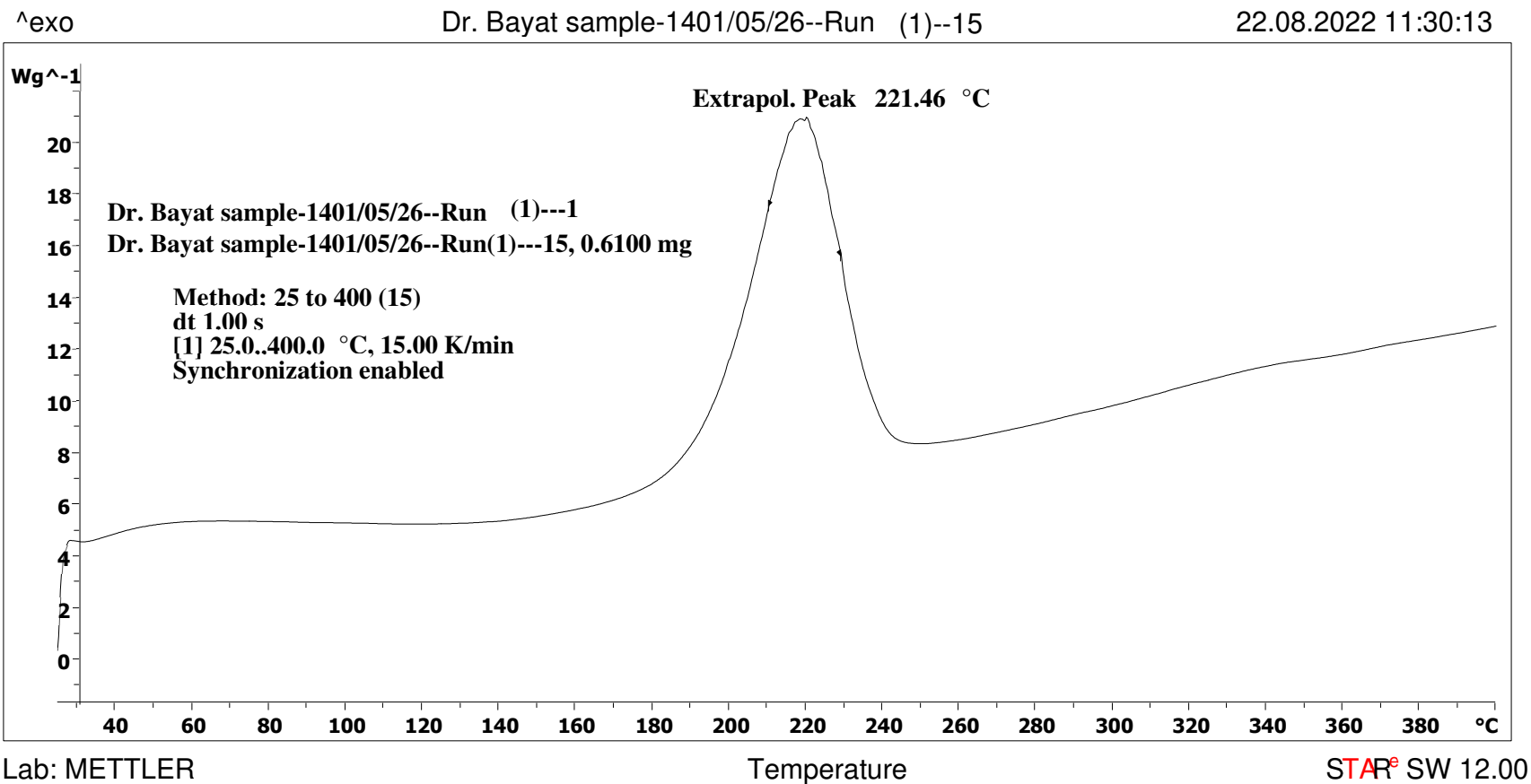


**Figure S5.** DSC thermogram at heating rate 5 K·min<sup>-1</sup>

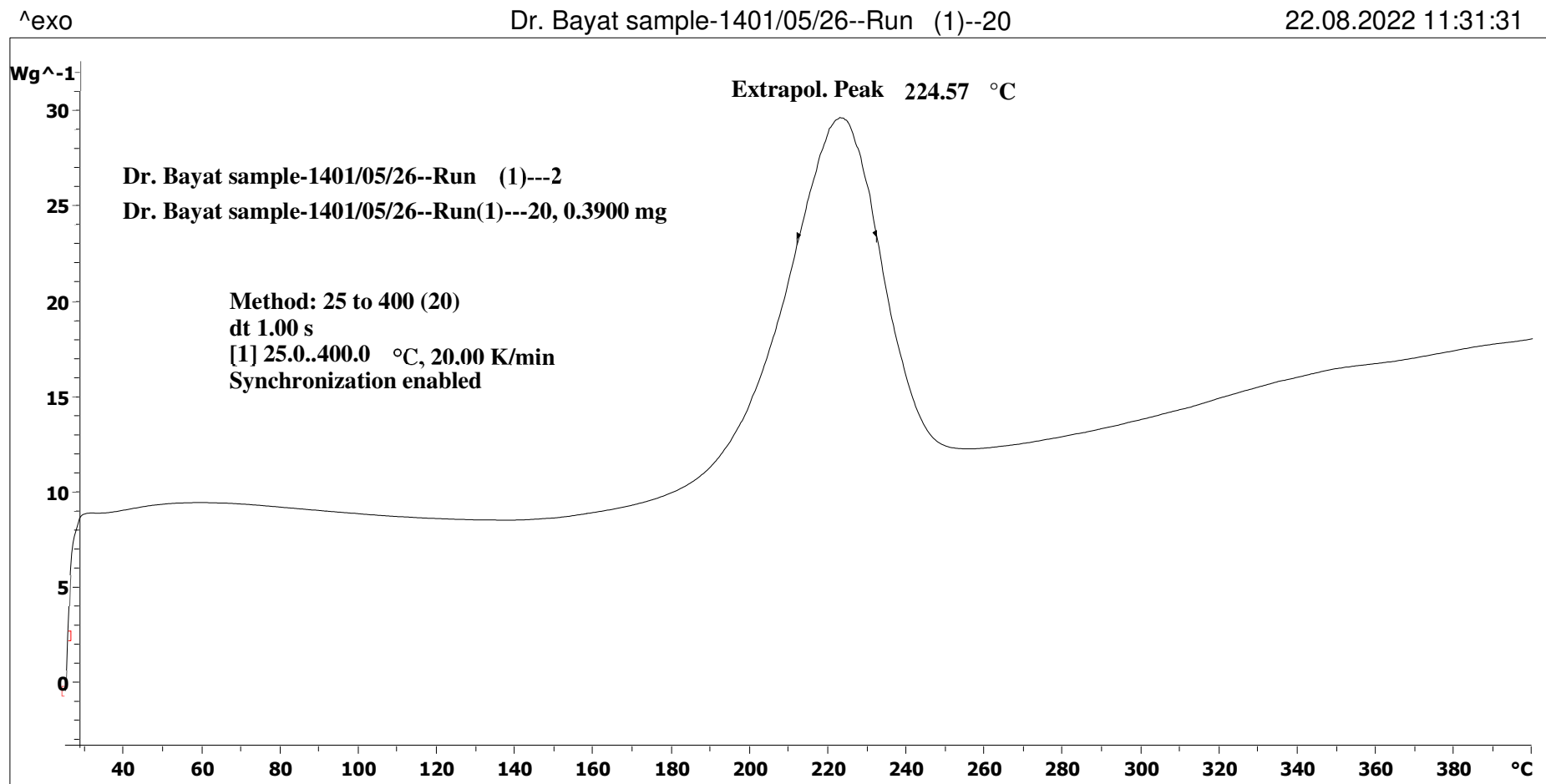




**Figure S6.** DSC thermogram at heating rate 10 K·min<sup>-1</sup>



**Figure S7.** DSC thermogram at heating rate of 15 K·min<sup>-1</sup>



Lab: METTLER

Temperature

STAR<sup>e</sup> SW 12.00

**Figure S8.** DSC thermogram at heating rate of 20 K·min<sup>-1</sup>

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