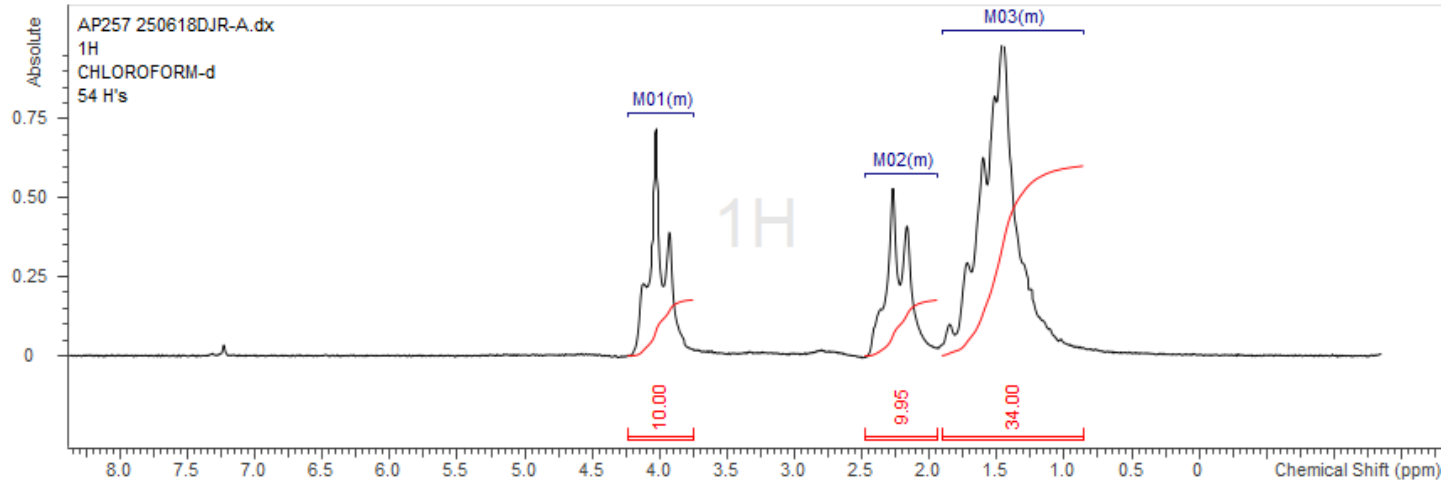
# No. AP323 Certificate of Analysis

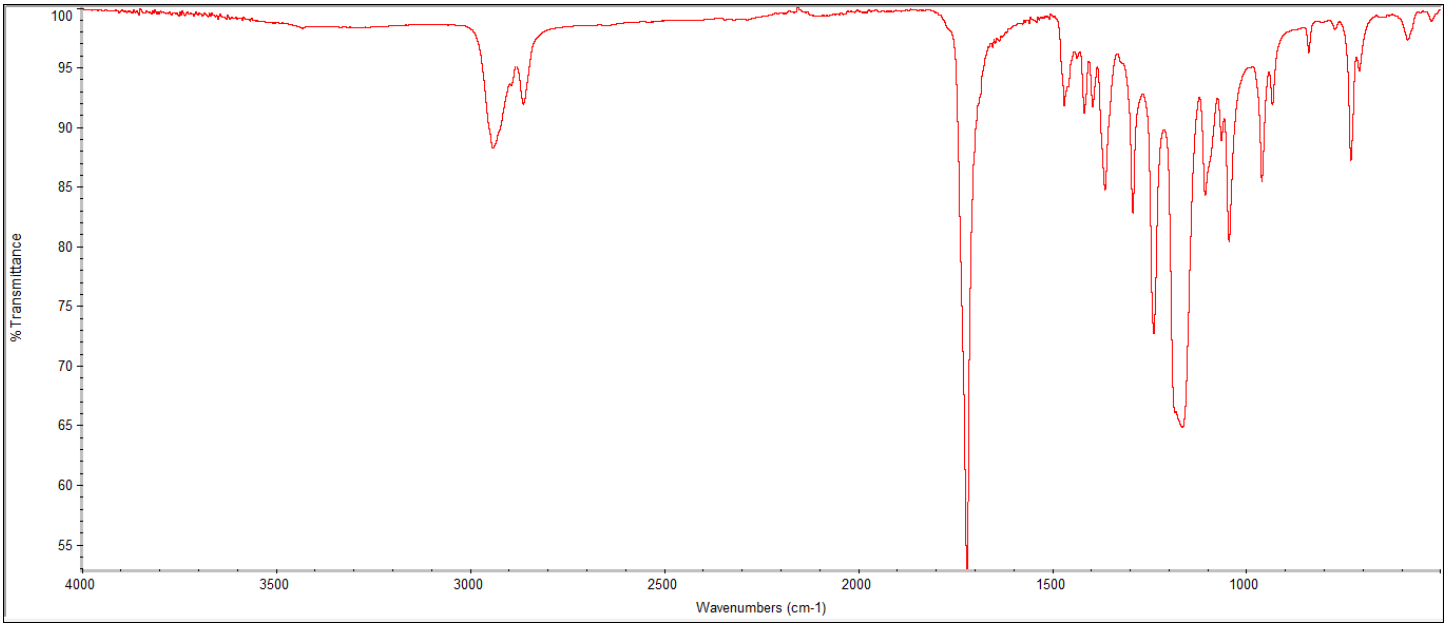
Product Name: Poly(caprolactone) acid endcap (Mn: 100,000-200,000 Da) (Lot#: 250618DJR-A)

## H-NMR



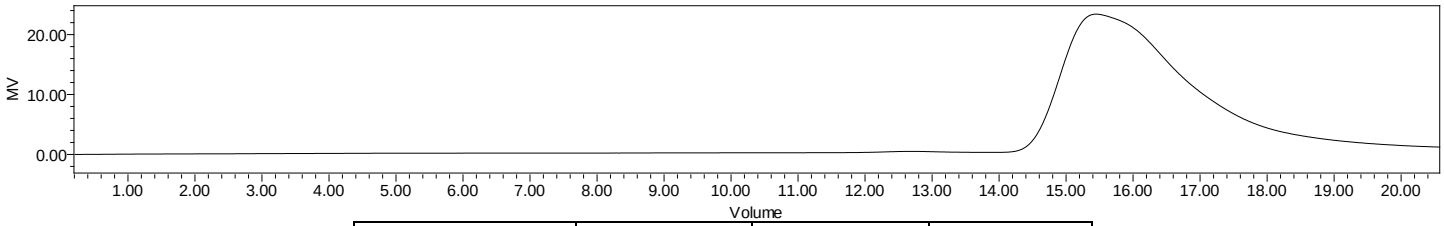

**H-NMR** Spectrum of copolymers in CDCl3 (NMReady-60e, Nanalysis 60 MHz) NMR of PCL copolymer

## FTIR




**FTIR** Analysis: Collected from IS5 ID7-ATR spectrometer (Thermo Scientific) and analyzed in transmission mode.

## GPC-ES



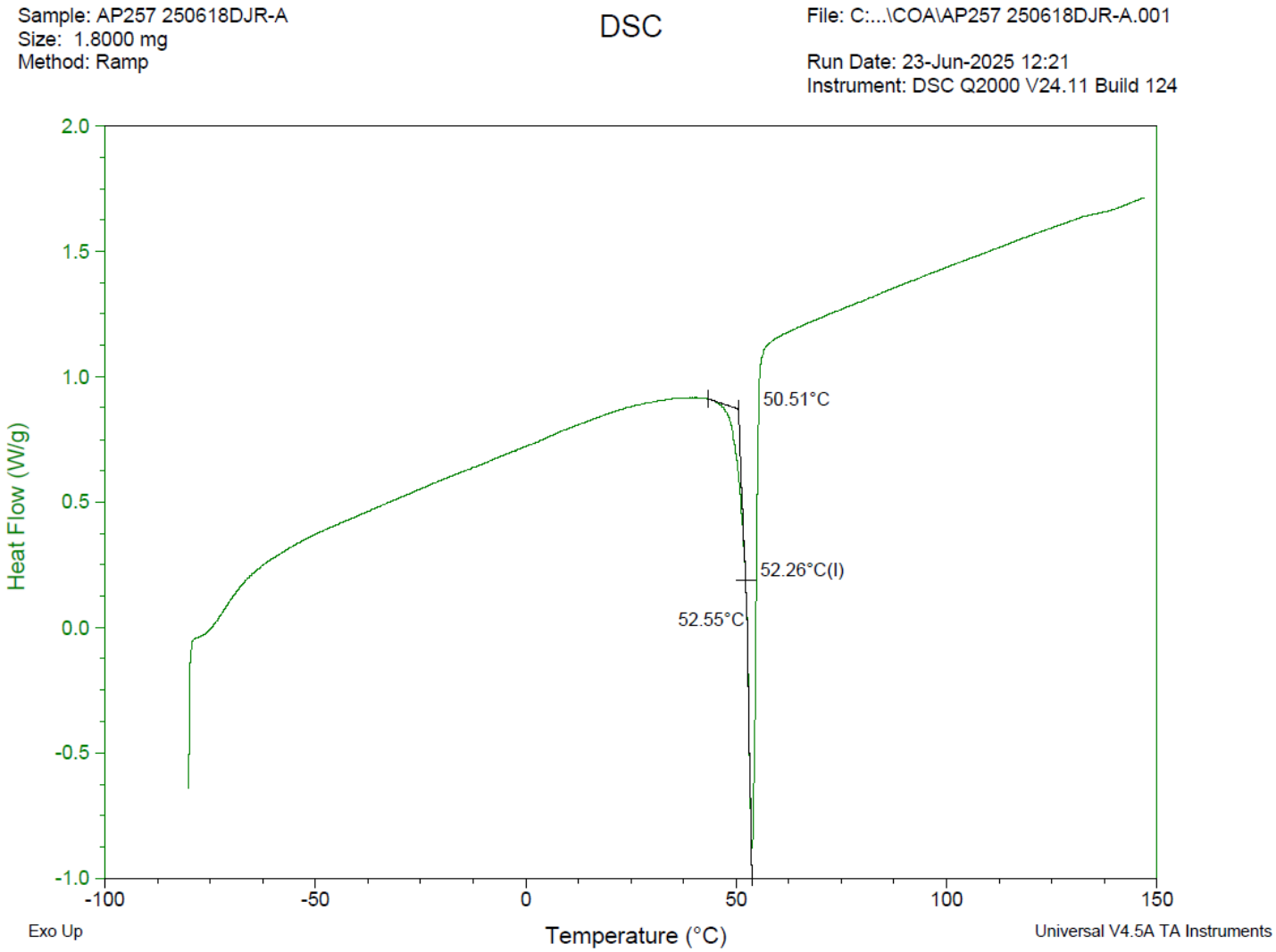

| Polymer | $M_n$ (from GPC) | $M_w$ (from GPC) | PDI |
|---|---|---|---|
| PCL | 129,533 | 200,655 | 1.55 |

**GPC-ES** Analysis Method: Waters Breeze 2 system with 1 ml/min THF flow across three GPC columns. Detection via refractive index, calibrated against polystyrene standards.

## IV

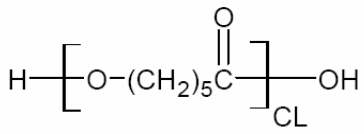
**Inherent Viscosity:** 0.671 ± 0.058 dL/g (calculated from kinematic viscosity at 2% w/v Acetone on Rheosense microVISC, n=3) at 25ºC.

## DSC




**DSC** Testing: 1-5 mg sample tested in crimped aluminum pan on a TA Instruments Model Q2000 with procedure equilibraion 100 °C, isothermal 5 minutes, equilibrate -80 °C, data on, ramp 10 °C/min to 150 °C. Tg = 52.26 °C

## Structure of copolymers




Approved By:
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