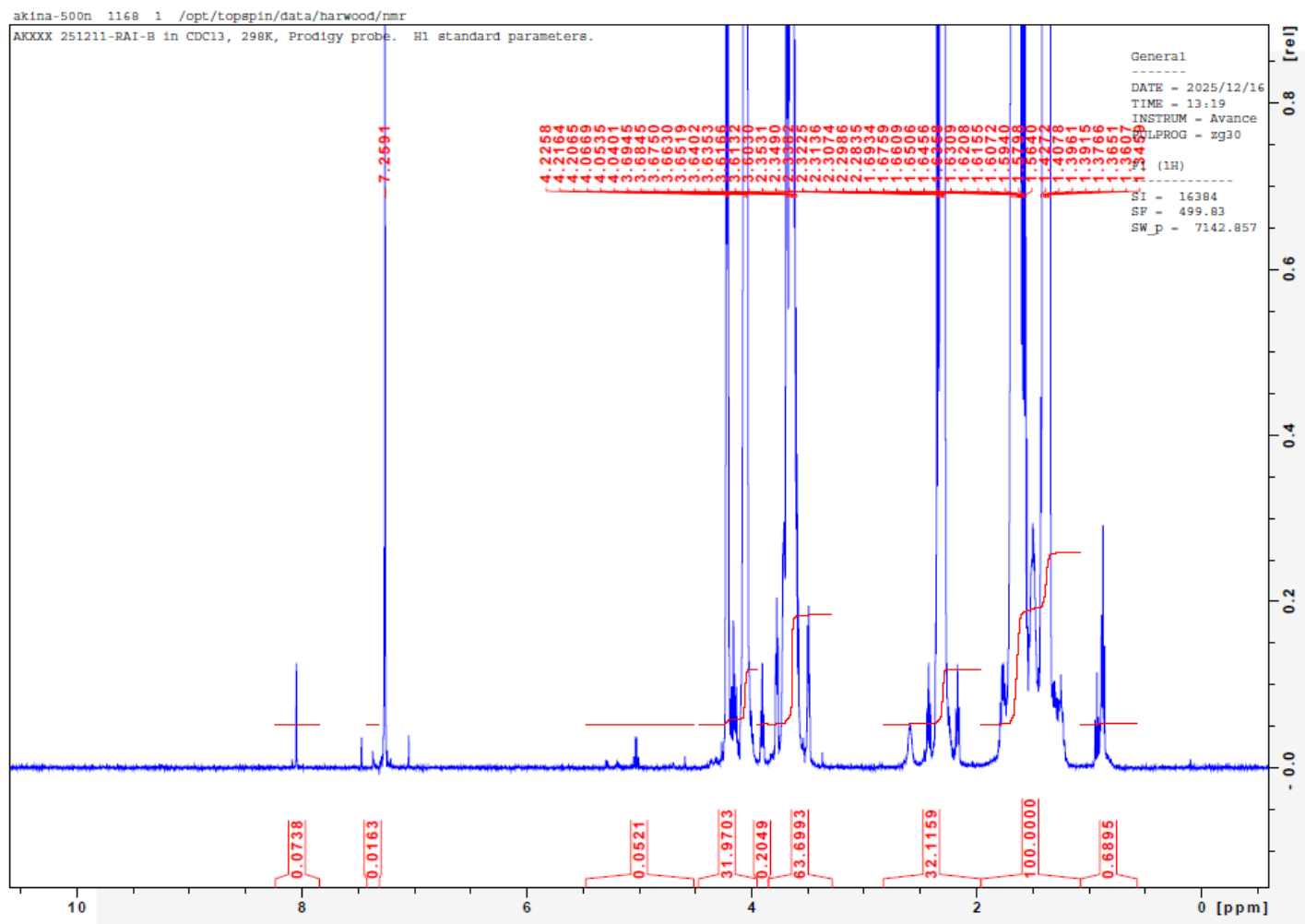


No. AK193 Certificate of Analysis

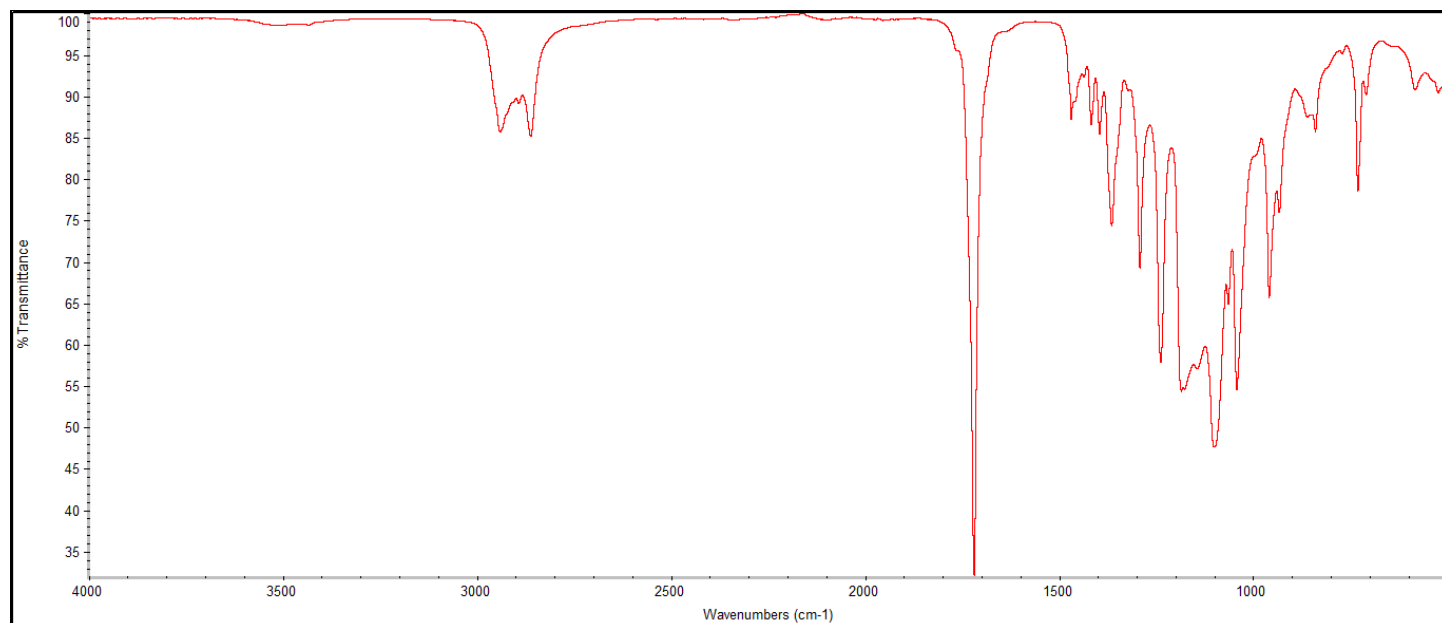
Product Name: Polycaprolactone-b-Poly(ethylene glycol)-b-Polycaprolactone
($M_w \sim 1,500; 1,000; 1,500$ Da) (Lot#: 251211RAI-B)

H-NMR



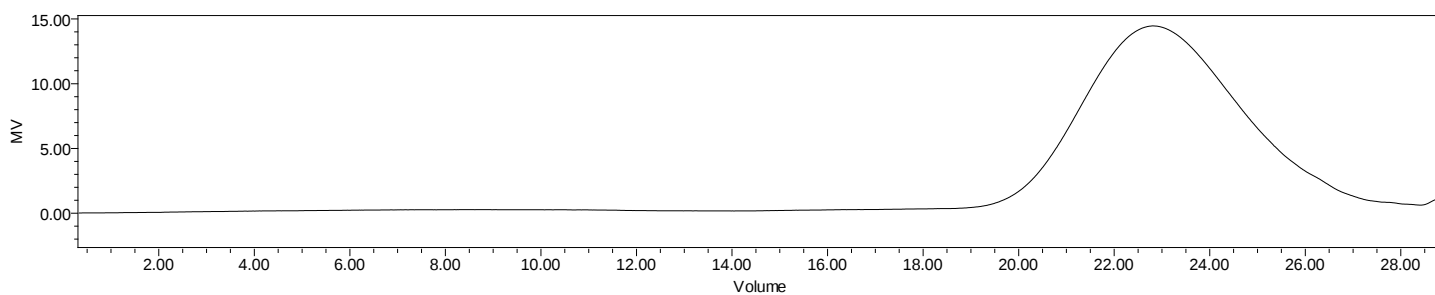
H-NMR Spectrum of copolymers in CDCl₃ (Bruker ≥300 MHz, PINMRF) NMR of PCL-PEG-PCL copolymer: EG/CL = 23*/23 (Mn EG/CL 1013*/2635 Da) *- from MFG data

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-PEG-PCL	5040	7535	1.50
PEG-Precursor*	1013*		

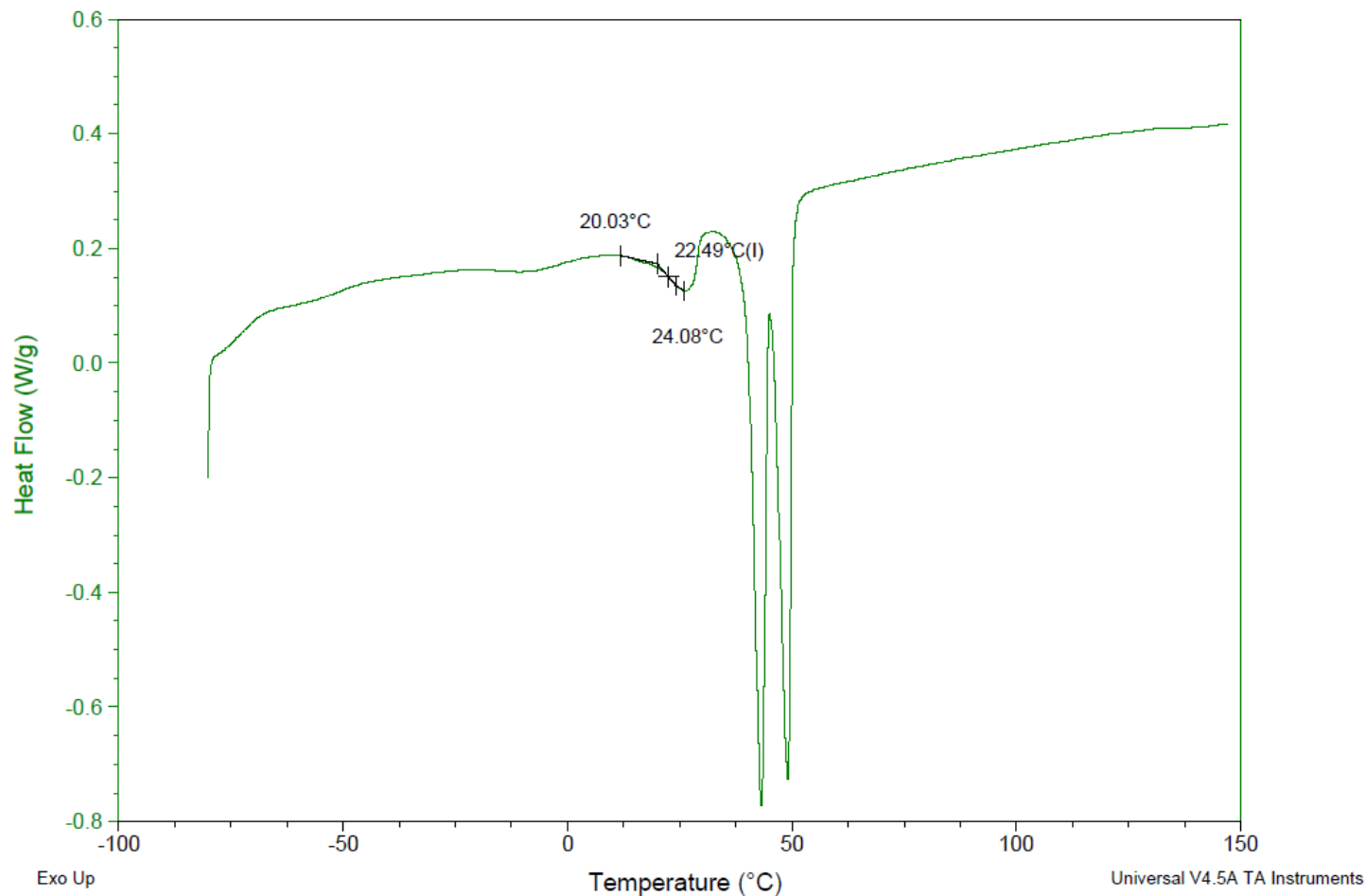
GPC-ES Analysis Method: Waters Breeze 2 system with 1 ml/min THF flow across three GPC columns. Detection via refractive index, calibrated against polystyrene standards. *- from MFG data

DSC

Sample: AKXXX 251211RAI-B
Size: 5.1000 mg
Method: Ramp

DSC

File: C:\COA\AKXXX 251211RAI-B.002
Run Date: 16-Dec-2025 11:05
Instrument: DSC Q2000 V24.11 Build 124

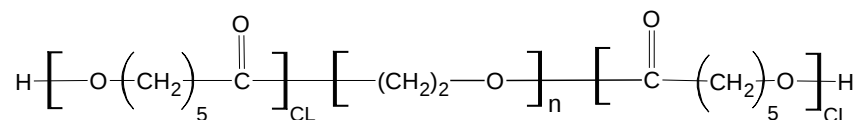


DSC Testing: 1-5 mg sample tested in crimped aluminum pan on a TA Instruments Model Q2000 with procedure equilibraion 100 °C, isothermal 5 minutes, equilibrate -80 °C, data on, ramp 10 °C/min to 150 °C. Tg = 22.49 °C

IV

Inherent Viscosity: 0.115 ± 0.004 dL/g (calculated from kinematic viscosity at 2% w/v Acetone on Rheosense microVISC, n=3) at 25°C.

Structure of copolymers



Approved By:
Amie Tyler
Quality Manager