

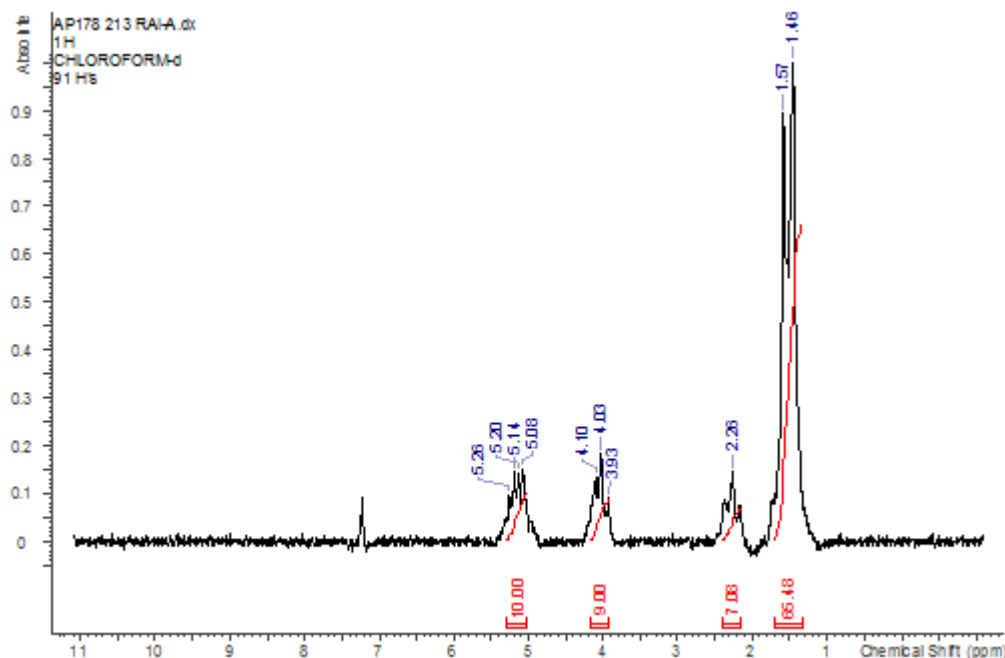
No. AP178

Certificate of Analysis



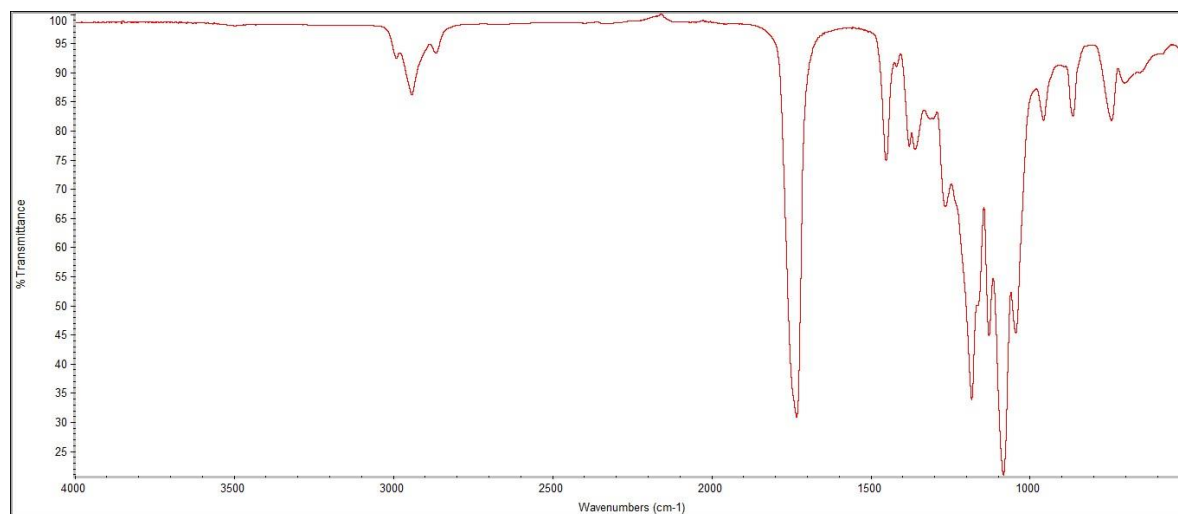
Product Name: Poly(DL-lactide-co-caprolactone) copolymer LA:CL 70:30 acid endcap (M_n 15,000-25,000 Da) (Lot#: 260213RAI-A)

H-NMR



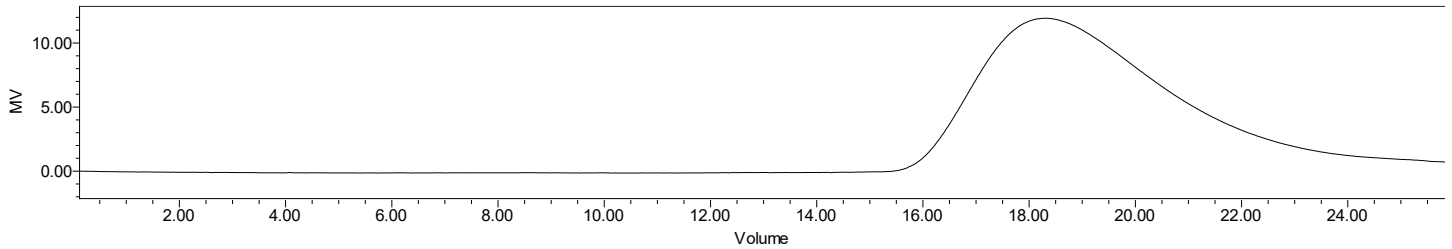
H-NMR Spectrum of copolymers in $CDCl_3$ (NMReady-60e, Nanalysis 60 MHz) NMR of PDLCL copolymer: LA-CL =69%-31% molar ratio (LA:CL 58%:42% w:w)

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
P(DL)LCL	24,243	41,724	1.72

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.

DSC

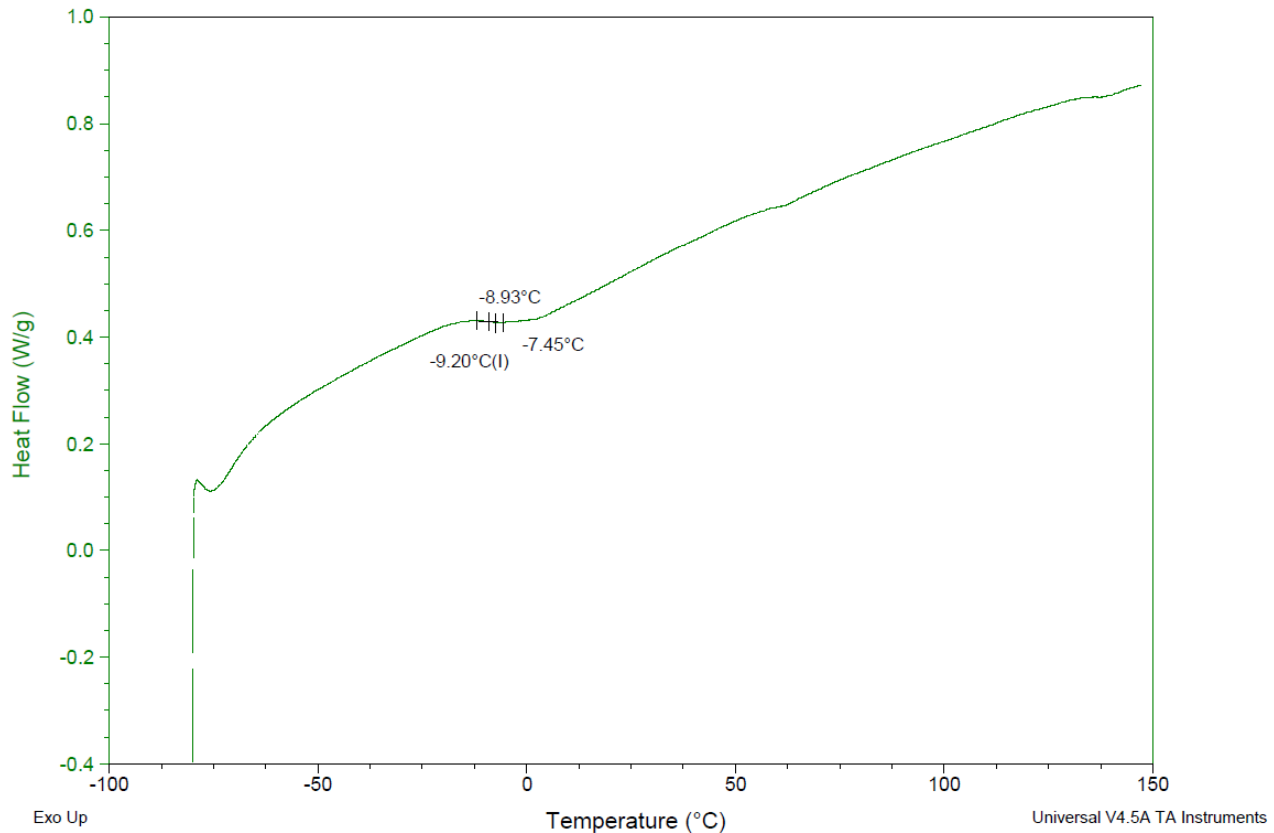
Sample: AP178 260213RAI-A
Size: 2.2000 mg
Method: Ramp

DSC

File: C:\...\COA\AP178 260213RAI-A.001

Run Date: 19-Feb-2026 09:17

Instrument: DSC Q2000 V24.11 Build 124

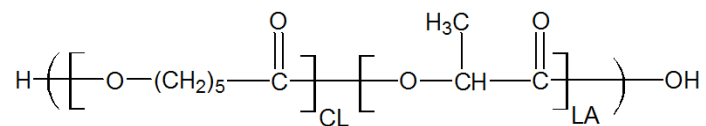


DSC Testing: 1-5 mg sample tested in crimped aluminum pan on a TA Instruments Model Q2000 with procedure equilibration 100 °C, isothermal 5 minutes, equilibrate -80 °C, data on, ramp 10 °C/min to 150 °C. T_g = -9.20 °C

IV

Inherent Viscosity: 0.270 ± 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:
John Garner
General Manager