

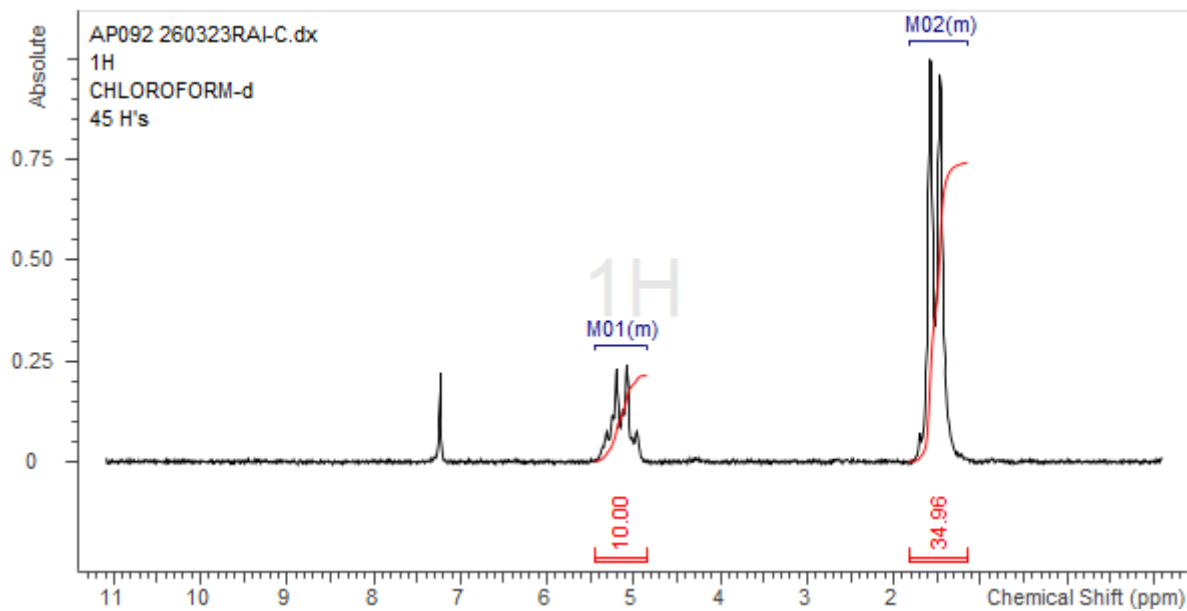
No. AP092

# Certificate of Analysis



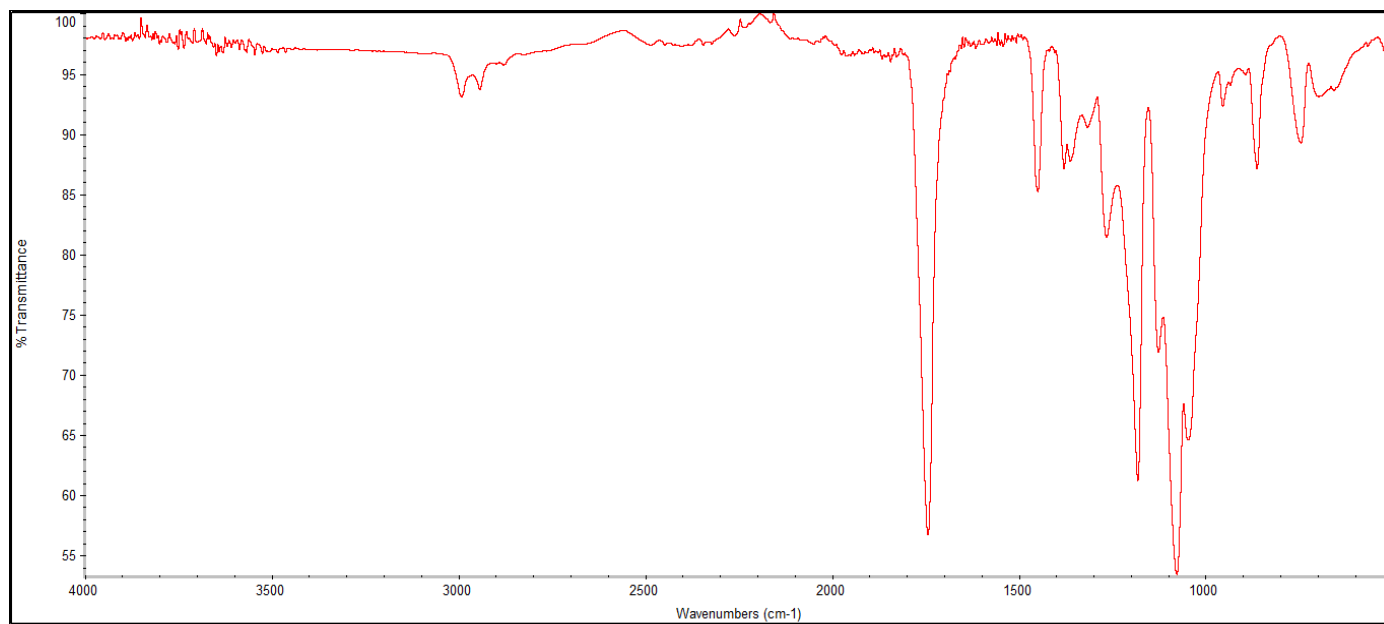
Product Name: Poly((D,L)lactic acid)-Glycerol star polymer (Mn ~ 10,000 – 20,000 Da)  
(Lot#: 260323RAI-C)

## H-NMR



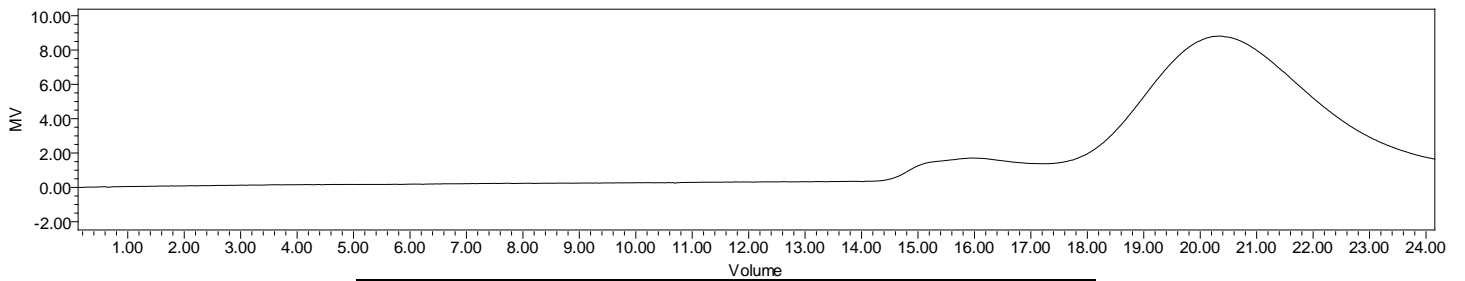
H-NMR Spectrum of copolymers in CDCl<sub>3</sub> (NMReady-60e, Nanalysis 60 MHz) NMR of PDLA copolymer

## FTIR



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

# GPC-ES



Polymer	M <sub>n</sub> (from GPC)	M <sub>w</sub> (from GPC)	PDI
PDLLA	16,246	20,390	1.26

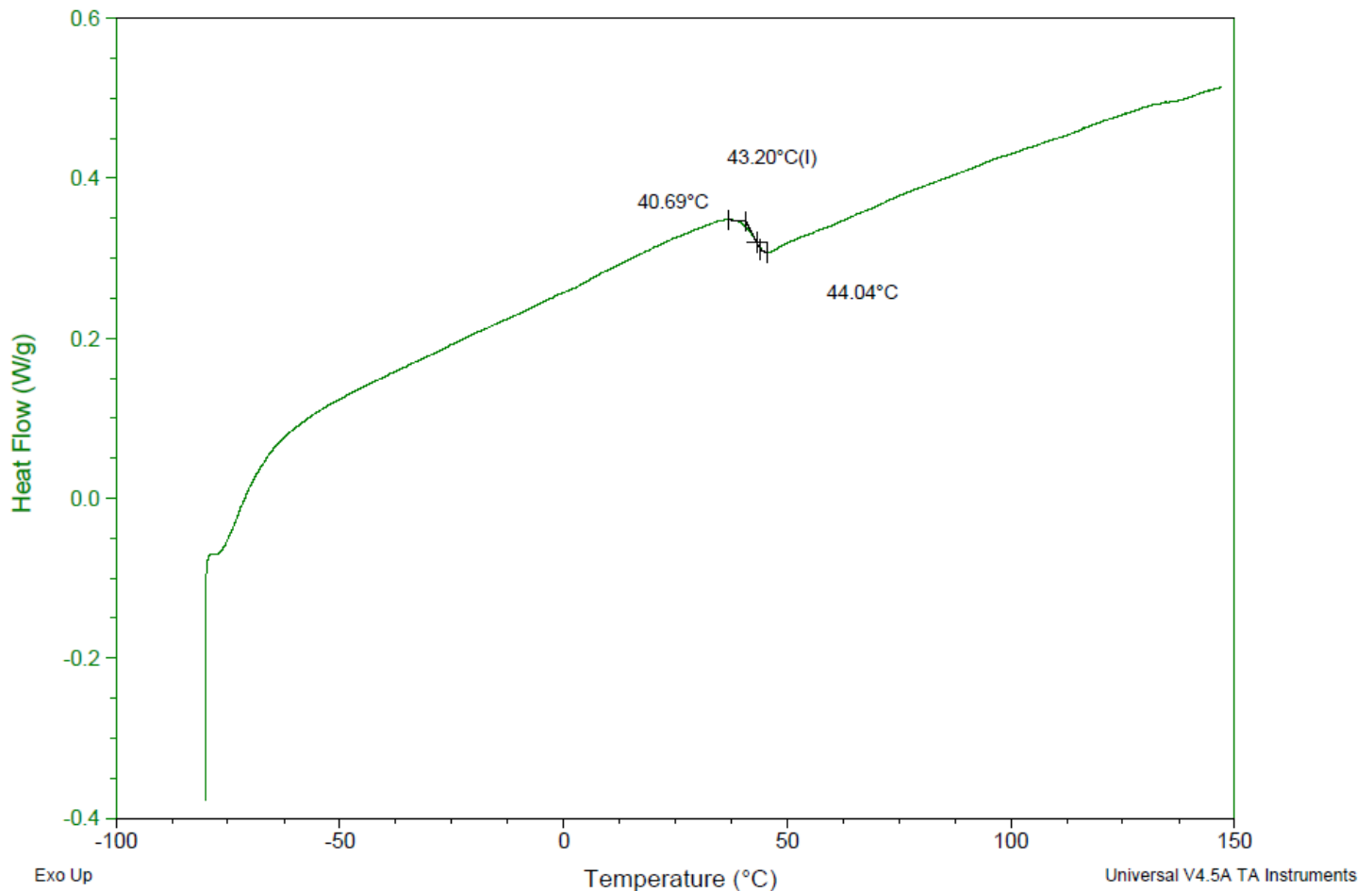
**GPC-ES Analysis Method:** Waters Breeze 2 system with 1 ml/min THF flow across three GPC columns. Detection via refractive index, calibrated against polystyrene standards.

# DSC

Sample: AP092 260323RAI-C  
 Size: 3.9000 mg  
 Method: Ramp

## DSC

File: C:\...\COA\AP092 260323RAI-C.001  
 Run Date: 26-Mar-2026 10:18  
 Instrument: DSC Q2000 V24.11 Build 124

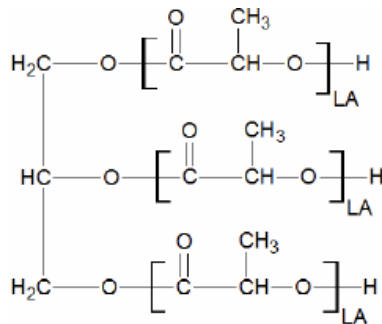


**DSC Testing:** 1-5 mg sample tested in crimped aluminum pan on a TA Instruments Model Q2000 with procedure equilibraion 100 °C, isothermal 5 minutes, equilibrate -80 °C, data on, ramp 10 °C/min to 150 °C. T<sub>g</sub> = 43.20 °C

## IV

**Inherent Viscosity:**  $0.204 \pm 0.012$  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