

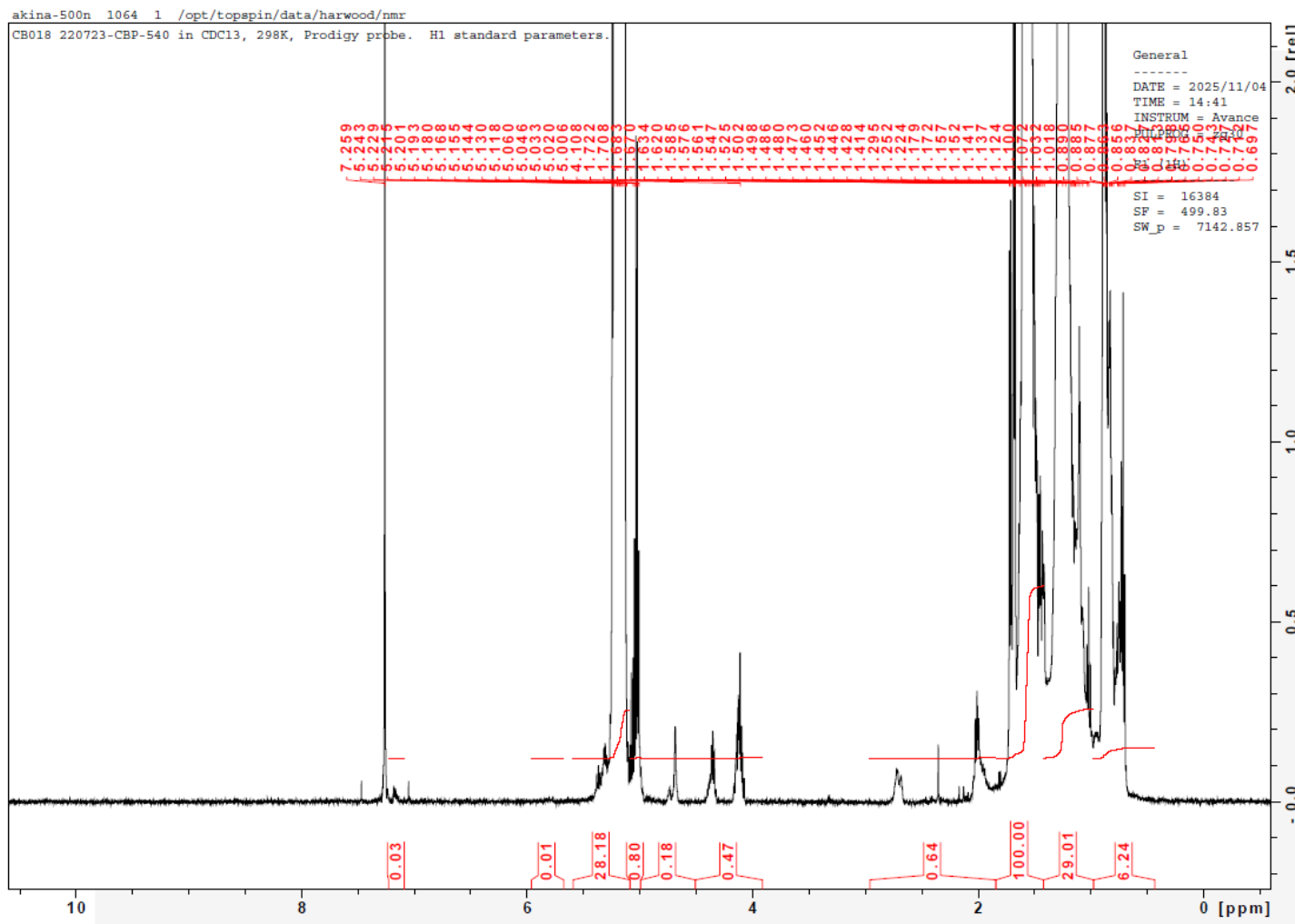
No. CB018

Certificate of Analysis



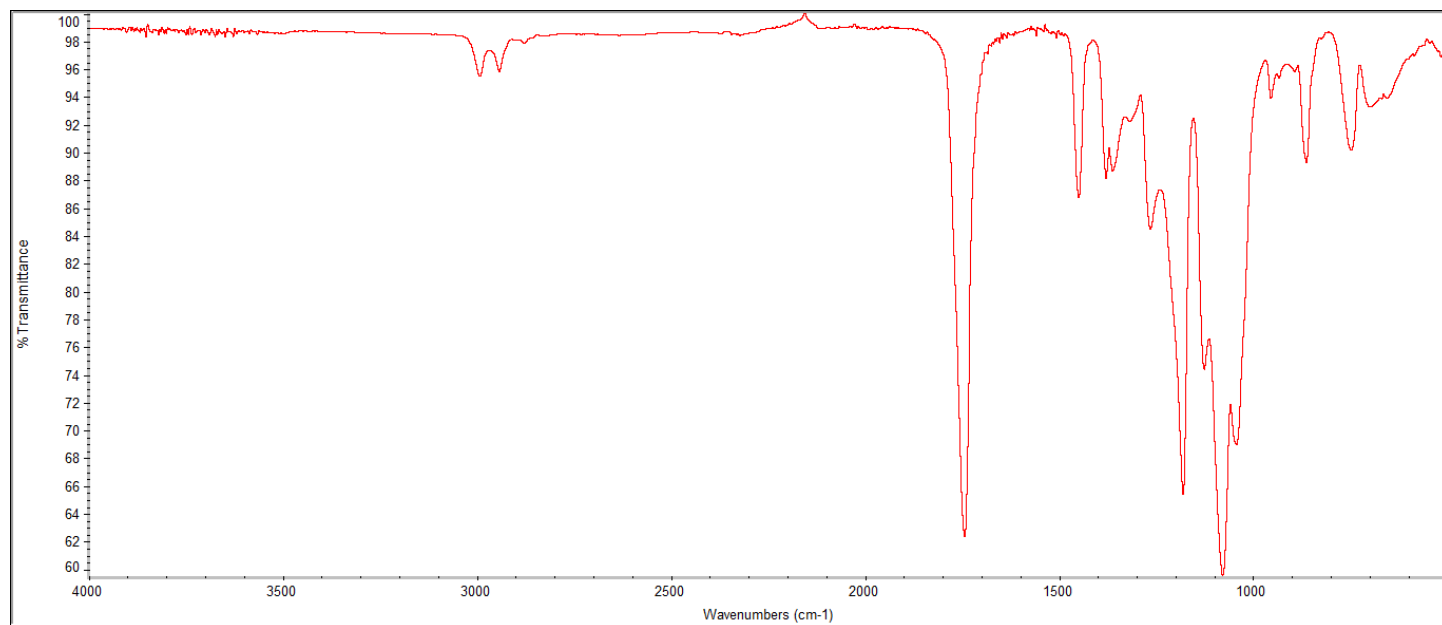
Product Name: Poly(D,L-Lactide) I.V. 0.32 – 0.48 dl/g, ester endcap (PDL 04)
(Lot # 220723CPB-540)

H-NMR



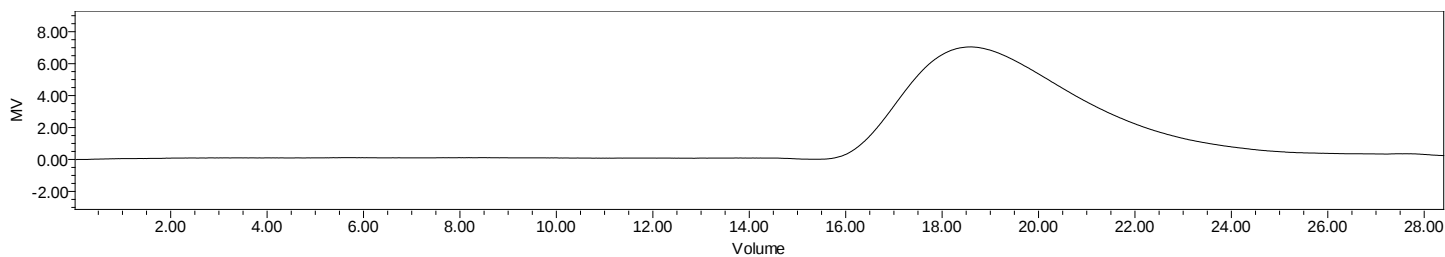
H-NMR Spectrum of copolymers in CDCl3 (NMReady-60e, Nanalysis 60 MHz) NMR of P(DL)LA copolymer.

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
P(DL)LA	31,404	42,212	1.34

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

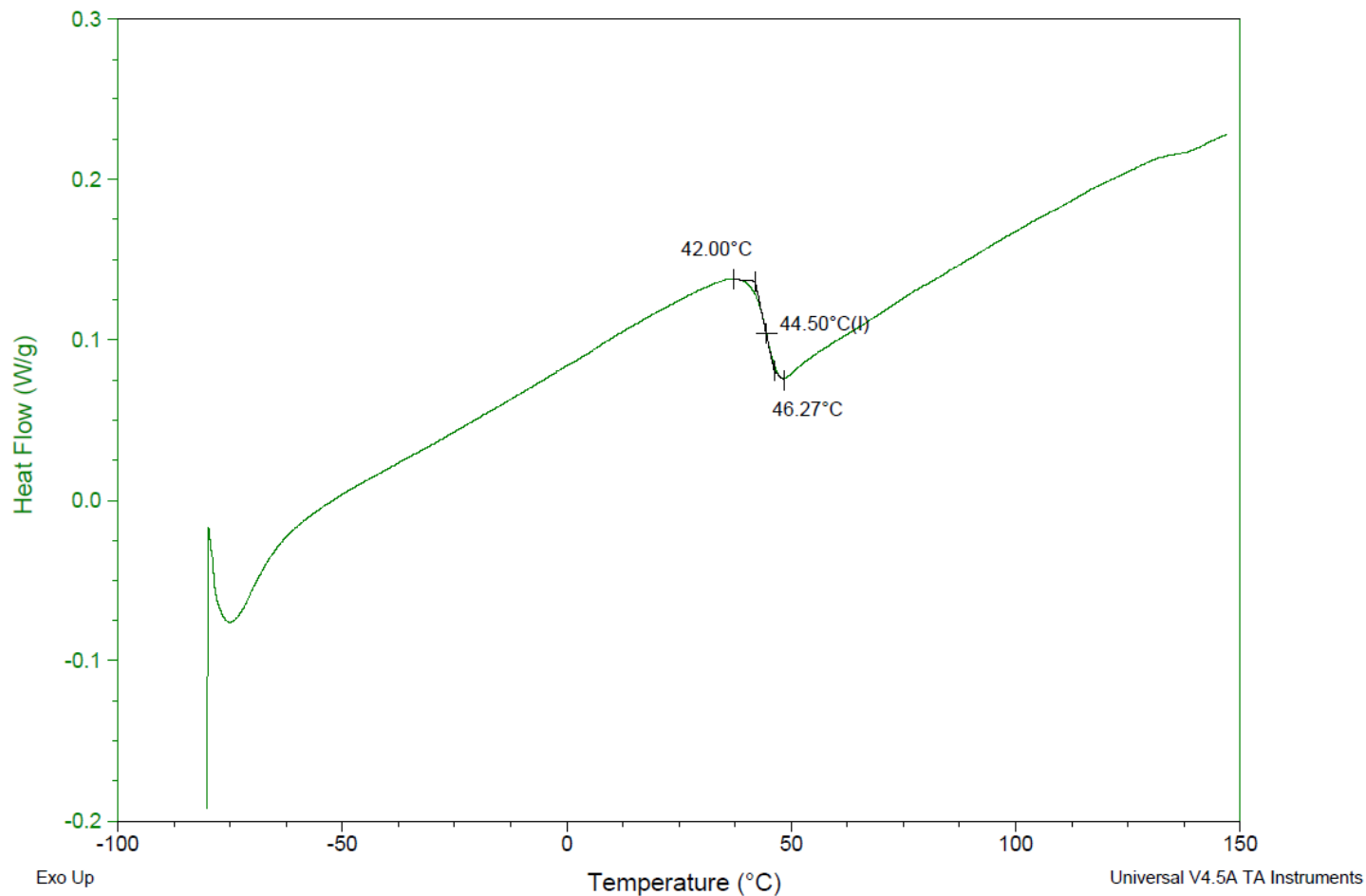
Sample: CB018 220723CBP-540
Size: 5.0000 mg
Method: Ramp

DSC

File: C:\...\COA\CB018 220723CBP-540.001

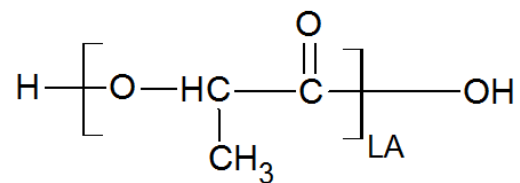
Run Date: 06-Nov-2025 11:51

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 = 44.50 °C

Structure of copolymers



Manufacturer Provided Data

Assay	Specification	Result
Tg, DSC, 10 °C/min	40-50 °C	45.4 °C
Tin content	<50ppm	7 ppm
Water content ¹	<0.50%	0.04%
Residual monomer, DL Lactide	<2.4%	1.9%
Inherent Viscosity ²	0.32-0.48 dL/g	0.38 dL/g
Endotoxin	<6 EU/g	<0.25 EU/g
Residual solvent, total	<0.10%	0.03 %
Residual solvent, Toluene	<890 ppm	272 ppm
Residual solvent, Ethyl Acetate	<5000 ppm	6 ppm

1 – Measured by titration

2 – Measured at 25 °C in Chloroform c=0.5 g/dL

Approved By:
Amie Tyler
 Quality Manager