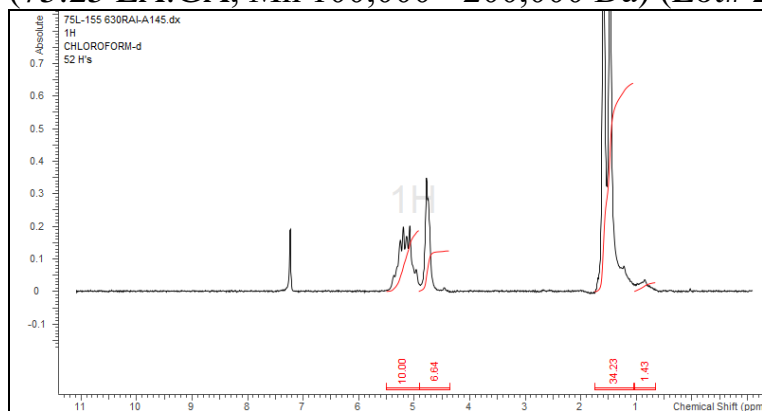


No. AP136

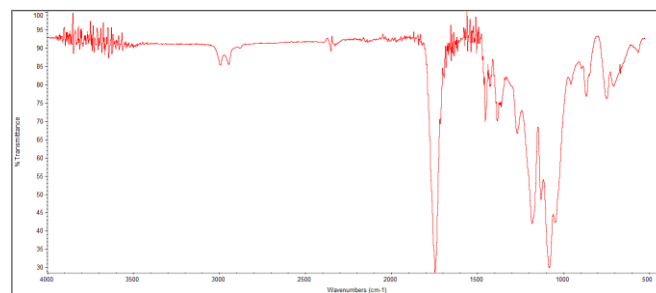
Certificate of Analysis



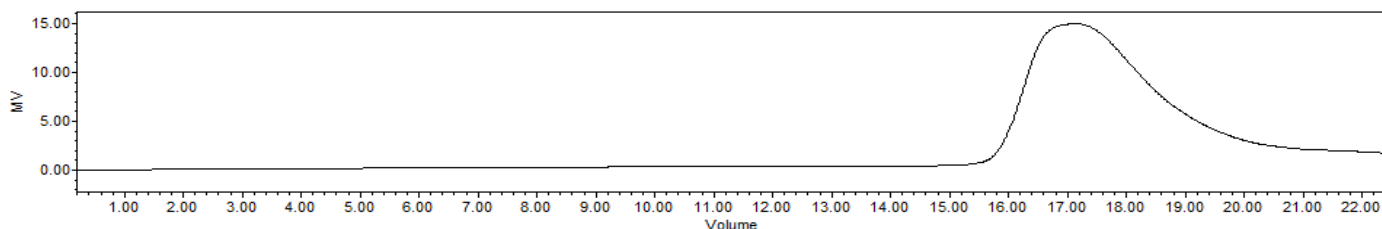
Product Name: Poly(lactide-co-glycolide) copolymers acid end-capped
(75:25 LA:GA, Mn 100,000 - 200,000 Da) (Lot# 200630RAI-A)



H-NMR Spectrum of copolymers in CDCl₃ (NMReady-60e, Nanalysis 60 MHz) NMR of PLGA copolymer: LA-GA = 75%-25% molar ratio (LA-GA 79%-21% w-w)

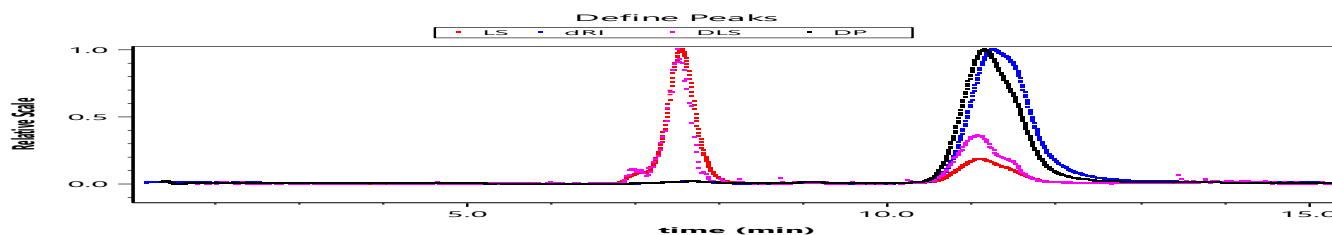


FTIR Analysis: Collected from cast-film on KBr salt-plate placed in a Nicolet Avatar 380 spectrometer with ATR Smart Orbit and analyzed in transmission mode.



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.

Polymer	M _n (from GPC)	M _w (from GPC)	PDI
PLGA	108,950	186,936	1.75



GPC-4D Analysis Method: Agilent 1260 Infinity II system 0.6 ml/min Acetone flow across TSKgel GMHHR-L, 7.8 mm x 30 cm. Detection Dawn Heleos II (MALLS), Optilab T-rex (RI), Dynapro nanostar (DLS), and Viscostar III (viscosity), universal calibration (Wyatt).

Polymer	M _n (from GPC-4D)	M _p (from GPC-4D)	M _w (from GPC-4D)	Radius (r(avg), nm)	Intrinsic viscosity ([η](avg), mL/g)
PLGA	116,587	130,519	148,958	11.0	79.976

* - Due to differences in methodology, Results from GPC-4D universal calibration will be different from those obtained from GPC-ES. The data from GPC-4D analysis is provided for customer information only.

Structure of PLGA copolymers

