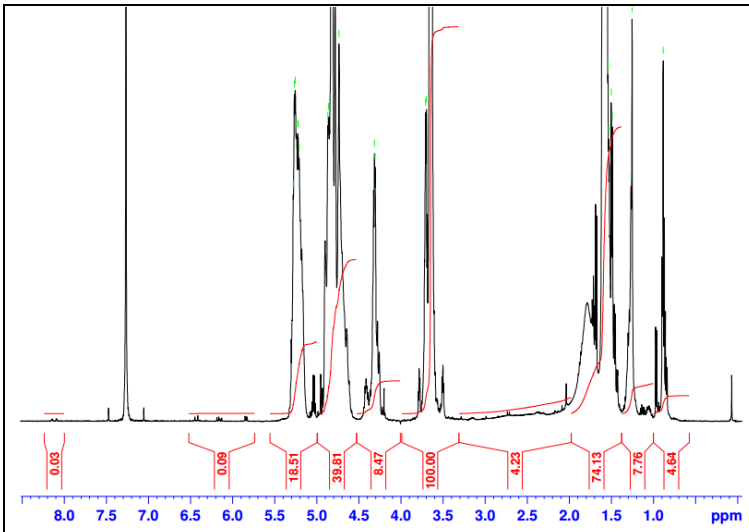
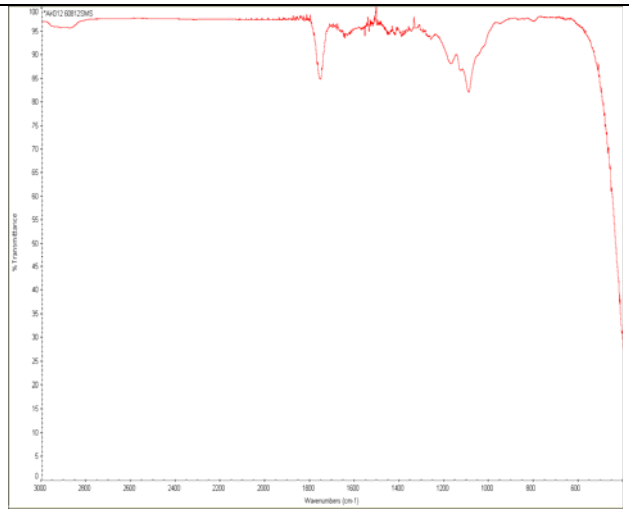
No. AK012 Certificate of Analysis

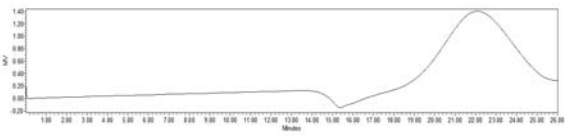
Product Name: Poly(lactic-co-glycolic acid)-*b*-Poly(ethylene glycol)-*b*-Poly(lactic-co-glycolic acid) copolymers (M_n ~1,000:1,000:1,000 Da) (Lot#: 60812SMS)



H-NMR Spectrum of copolymers in CDCl3 (Varian Inova 500 MHz instrument) M_n NMR of PLGA copolymers: EG-LA/GA: 1013-1226/1063(44-72/58), LA/GA ratio: 54%/46% (purity by HNMR 97%)

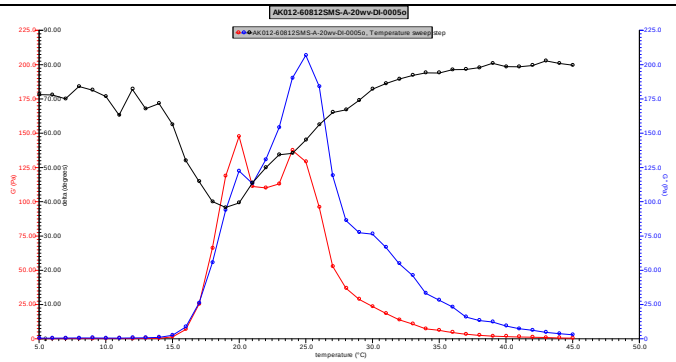


FTIR Analysis: Collected from cast-film on KBr salt-plate placed in Protégé 460 spectrometer and analyzed in transmission E.S.P. mode.



GPC Analysis Method: Waters Breeze 2 system with 1 ml/min DCM flow across three Phenogel 5um columns (Phenomenex). Detection via refractive index, calibrated against polystyrene standards.

Polymer	M_n (from GPC)	M_w (from GPC)	PDI
PLGA-PEG-PLGA	4,548	6,821	1.50



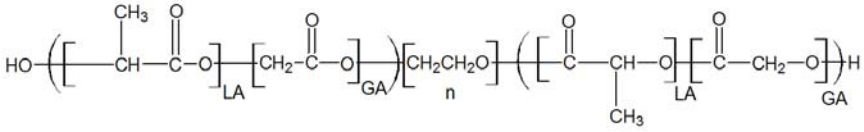
Viscosity 20% w/v solution at 5C	0.4602 Pa.s

Analysis performed on AR550 (TA instruments) with 60mm 2degree cone on 20% w/v polymer in water dissolved with stirring at 4C. Viscosity of solution at 0.1 (sec-1) and 5C was measured (1minute peak hold 5 second test intervals). Rheology performed by oscillating at constant 6.283 rad/s, 0.1% strain, in increments of 2.5C ranging from 5-45C with 3 minutes of temperature

Intrinsic Viscosity: Intrinsic Viscosity determined from a serial dilution of the product in DCM at 2, 1, and 0.5% concentrations with a Rheosense µVISC Viscometer with Temperature Controller (TC) at 25ºC.

Intrinsic Viscosity (25 °C, DCM)	0.237

- **Structure of PLGA-PEG-PLGA copolymer**



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