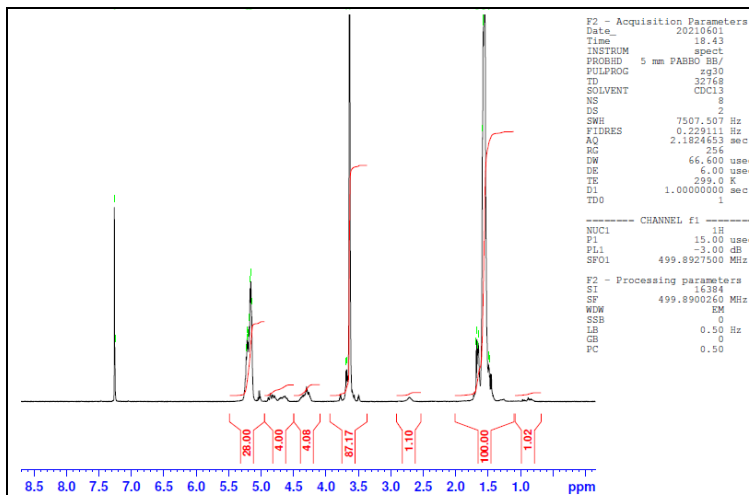


No. AK097

Certificate of Analysis



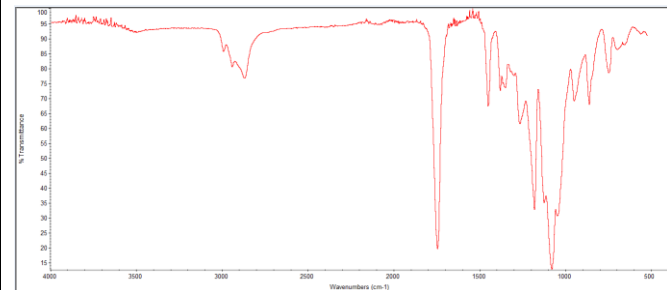
Product Name: Poly(lactide-co-glycolide)-b-Poly(ethylene glycol)-b-Poly(lactide-co-glycolide) 1700-1500-1700Da (LA:GA 15:1 (94%/6% LA/GA) (w:w))
Lot #210521RAI-A



F2 - Acquisition Parameters
Date: 20210601
Time: 18.43
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 8
DS 2
SWH 7507.507 Hz
FIDRES 0.229111 Hz
AQ 2.1824453 sec
RG 256
DW 66.600 usec
DE 6.00 usec
TE 299.0 K
EI 1.0000000 sec
TDO 1

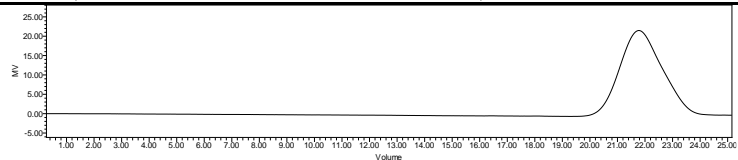
CHANNEL f1
NUC1 1H
P1 15.00 usec
PL1 -3.00 dB
SFO1 499.8927500 MHz

F2 - Processing parameters
SI 16384
SF 499.8900260 MHz
WDW EM
SSB 0
LB 0.50 Hz
GB 0
PC 0.50



FTIR Analysis: Collected from Nicolet Avatar 380 spectrometer with ATR Smart Orbit and analyzed in transmission mode.

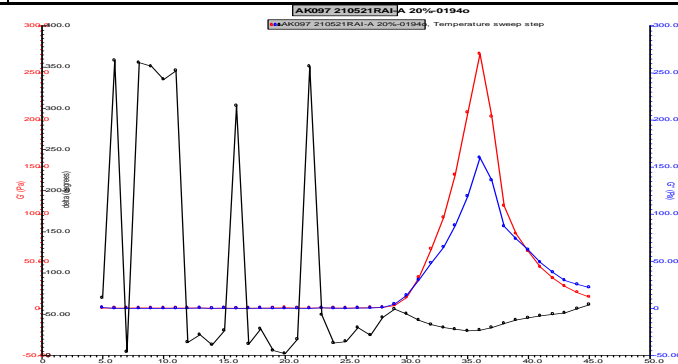
H-NMR Spectrum of copolymers in CDCl₃ (Bruker ≥300 MHz, PINMRF) NMR of PLGA-PEG copolymer: EG*/LA-GA =34/44-3 (Mn EG*/LA:GA 1498*/3145-181 Da) *- from MFG data



GPC 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-PEG-PLGA	6070	7850	1.26
PEG precursor*	1484*		

*- from MFG data



Rheology performed on AR2000 (TA instruments) with 60mm 2degree cone on 20% w/v polymer in water dissolved over 3 days with stirring at 4°C. Viscosity of solution at 0.1 (sec⁻¹) and 5°C 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 1°C ranging from 5-45°C with 1 minutes of temperature equilibration at each point.

Viscosity 20% w/v solution at 5°C **.06651 Pa/s**

Structure of PLGA-PEG-PLGA

