Supplementary Information

Fine-Tuning the Physicochemical Properties of Poly(lactic Acid) Nanoparticles for the Controlled Release of the BET Inhibitor JQ1: Influence of PVA Concentration

Nedjla Kedjar [1,†], Eleonora Iannuzzi [2,†], Martin Kreuzer [3], Carlos Alonso-Moreno [2,*] and Carmen Moya-Lopez [2,*]

[1] Laboratory of Applied Chemistry (LAC), Faculty of Sciences Technology, University of Ain Temouchent Belhadj Bouchaib, Ain Temouchent 46000, Algeria; njkedj@gmail.com
[2] Facultad de Farmacia-Centro de Innovación en Química Avanzada (ORFEO-CINQA), Unidad nanoDrug, Departamento de Química Inorgánica, Orgánica y Bioquímica, Universidad de Castilla-La Mancha, 02071 Albacete, Albacete, Spain; eleonora.iannuzzi@uclm.es
[3] ALBA Synchrotron, Carrer de la Llum 2-26, 08290 Cerdanyola del Vallès, Barcelona, Spain; mkreuzer@cells.es
* Correspondence: carlos.amoreno@uclm.es (C.A.-M.); camen.moya@uclm.es (C.M.-L.); Tel.: +34-92-629-5300 (ext. 3499) (C.A.-M.); +34-92-629-5300 (ext. 3499) (C.M.-L.)
† These authors contributed equally to this work.

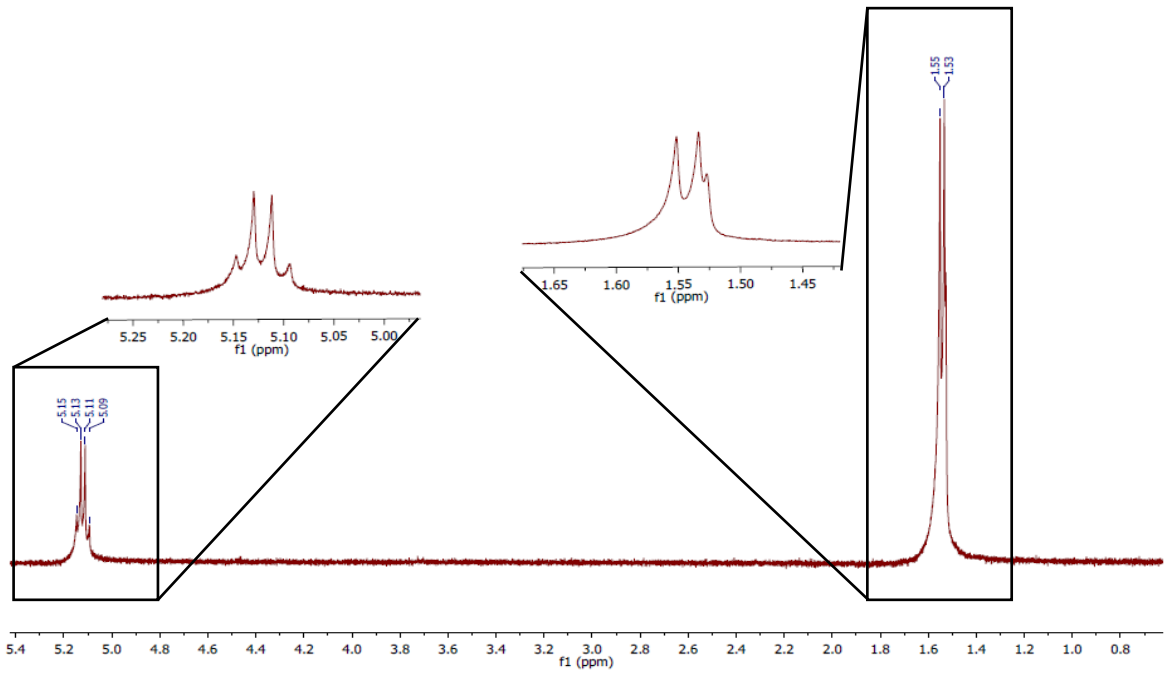


Figure S1. ^{1}H NMR spectrum (500 MHz, 298 K, $CDCl_3$) of PLA32 after precipitation.

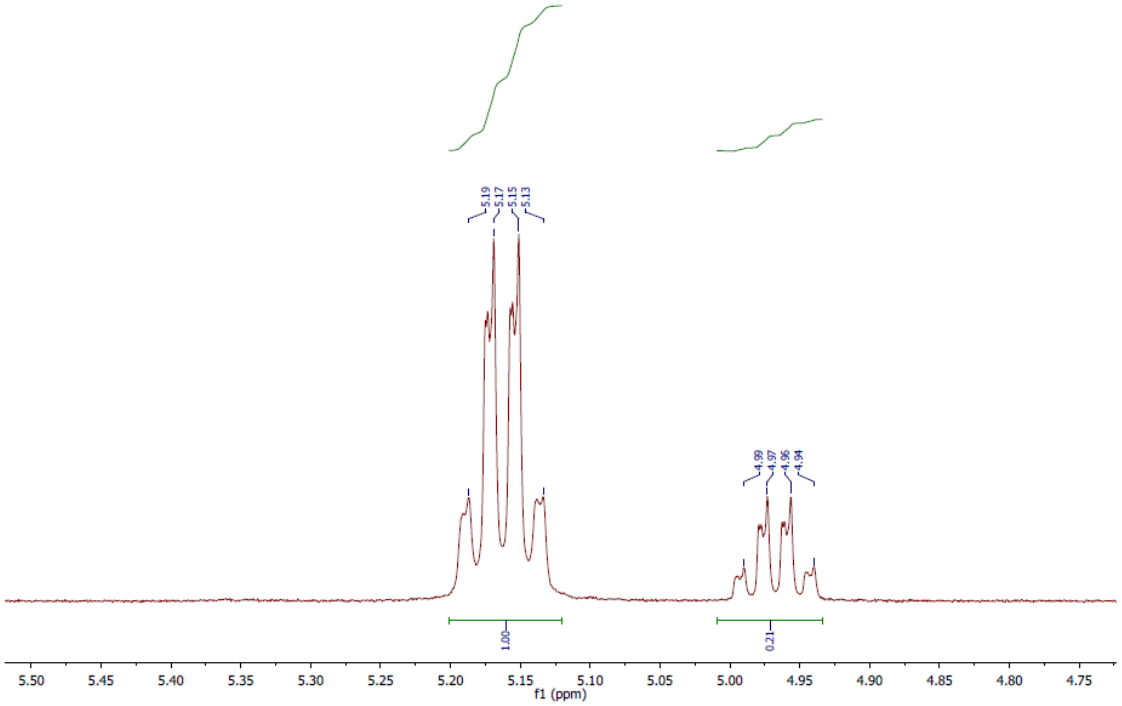
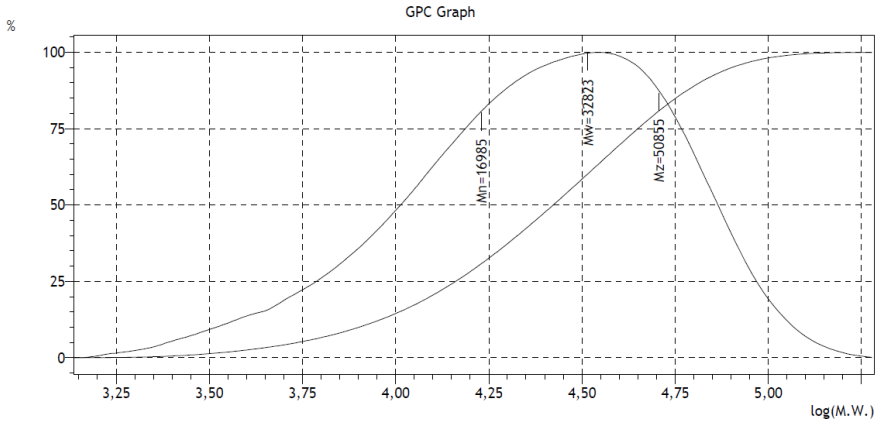


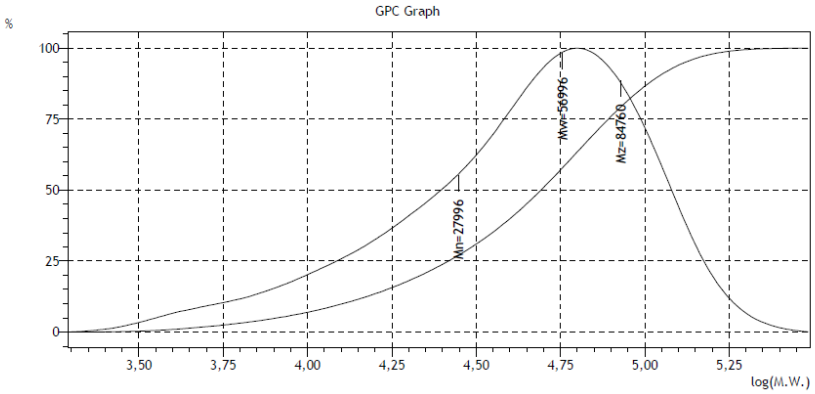
Figure S2. ^{1}H NMR spectrum (500 MHz, 298 K, $CDCl_3$) of PLA32



GPC Results 24
Peak#:1 (Detector B Channel 1)
[Average Molecular Weight]

Weight Average Molecular Weight(Mw)	32823
Number Average Molecular Weight(Mn)	16985
Z Average Molecular Weight(Mz)	50855
Mw/Mn	1,93247

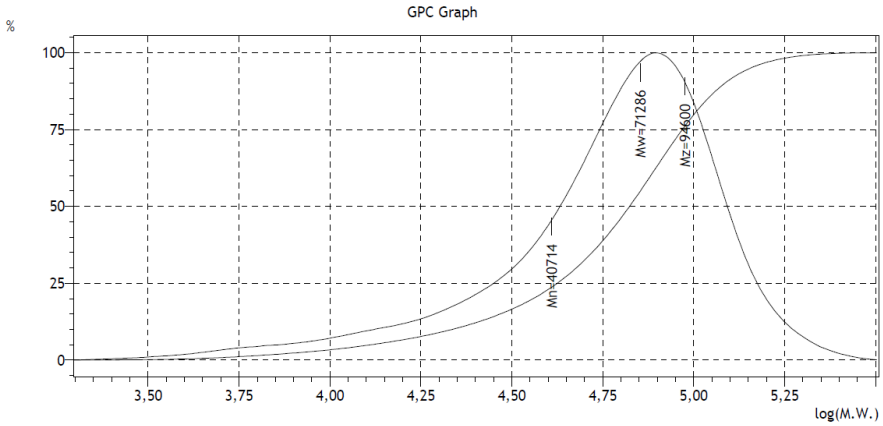
Figure S3. GPC analysis of PLA32



GPC Results 37
Peak#:1 (Detector B Channel 1)
[Average Molecular Weight]

Weight Average Molecular Weight(Mw)	56996
Number Average Molecular Weight(Mn)	27996
Z Average Molecular Weight(Mz)	84760
Mw/Mn	2,03587

Figure S4. GPC analysis of PLA56



GPC Results 30
Peak#:1 (Detector B Channel 1)
[Average Molecular Weight]

Weight Average Molecular Weight(Mw)	71286
Number Average Molecular Weight(Mn)	40714
Z Average Molecular Weight(Mz)	94600
Mw/Mn	1,75092

Figure S5.GPC analysis of PLA71

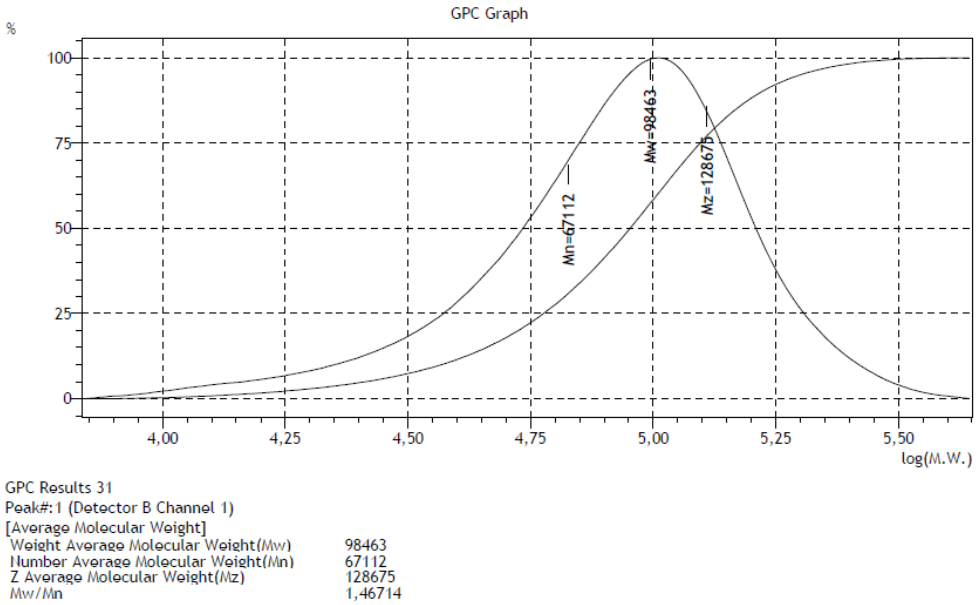


Figure S6. GPC analysis of PLA98

Table S1. Main FTIR vibration bands associated with both PLA and PVA.

PLA		PVA	
Assignements	Wavenumber	Assignements	Wavenumber
ν_{as} CH_3	2993	OH	3300
ν C=O	1750	C-O	1030
δ_{as} CH_3	1454		

δ_s CH_3	1384		
δ_1 CH_3 + d_sCH_3	1358		
δ CH +ν COC	1270		
ν_{as} COC	1210		
γ_{as} CH_3	1129		
ν_s COC	1083		
ν C-CH_3	1043		
10_3 helix	920		

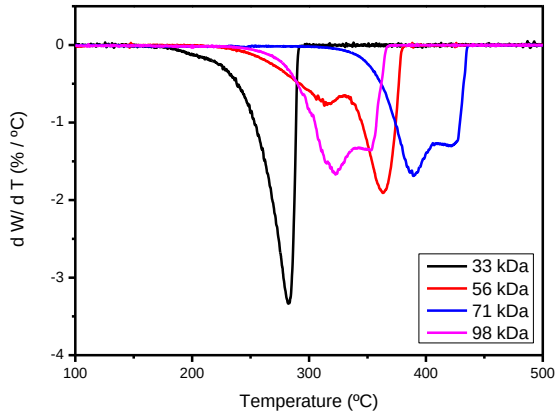


Figure S7. dTGA thermogram of the synthesized PLA-derivatives at a heating rate of 10°C/min

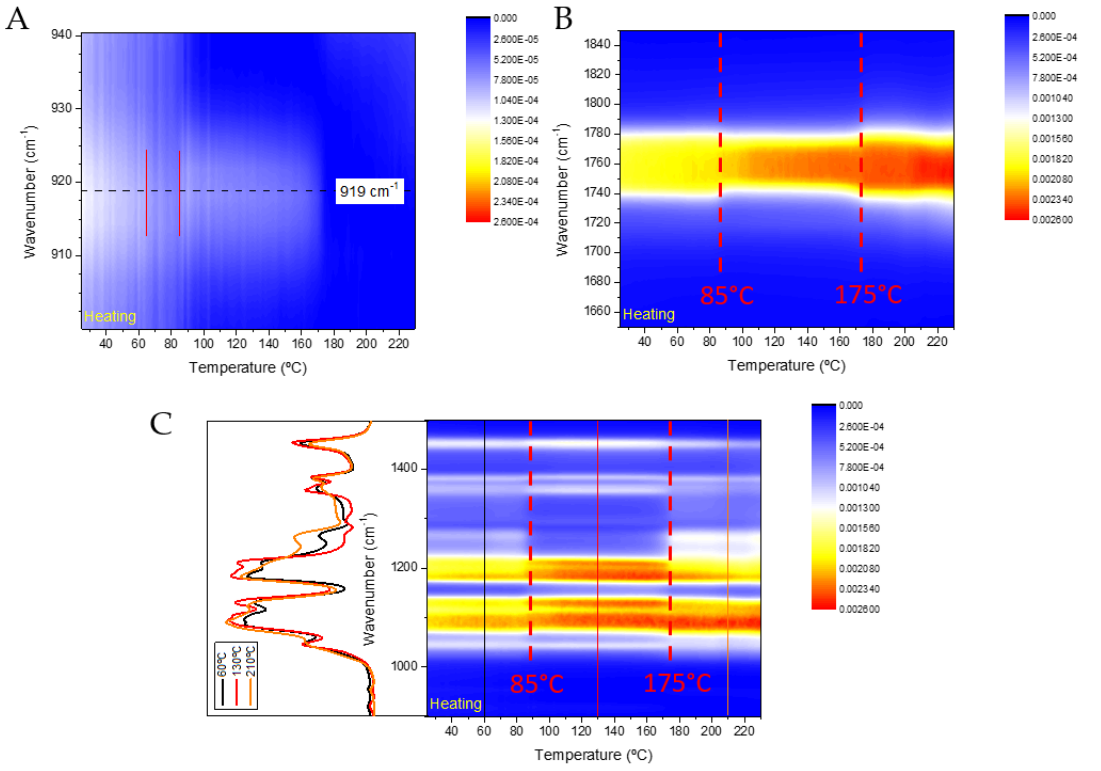


Figure S8. Time-resolved FTIR spectra of the NP-PLA containing 1% PVA

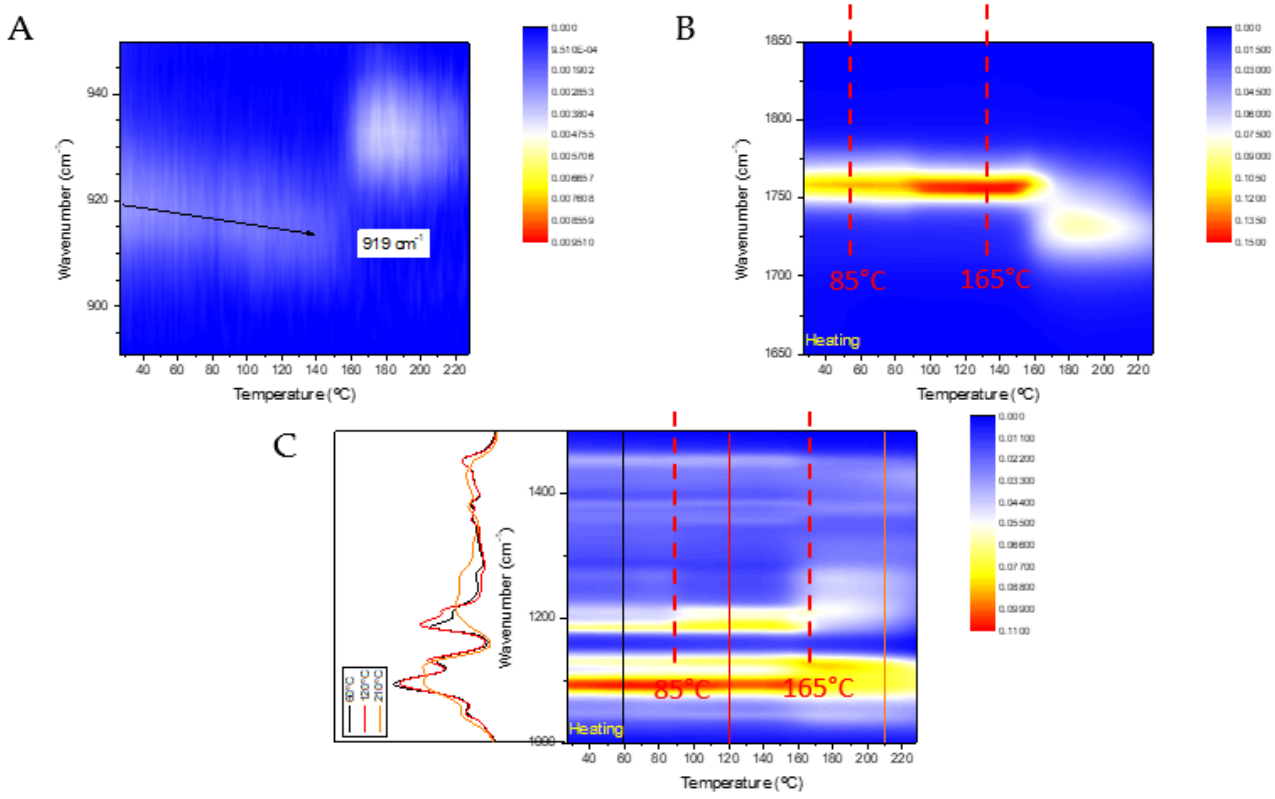


Figure S9. Time-resolved FTIR spectra of the NP-PLA containing 3% PVA