Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Tailored release of Triiodothyronine and Retinoic acid from spatio-temporally fabricated nanofibers instigating neuronal differentiation

Aishwarya Satish [a], Purna Sai Korrapati [a,*]

[a] Biological Materials Laboratory, CSIR - Central Leather Research Institute, Chennai, India-600 020. e-mail: *purnasaik.clri@gmail.com*; Tel: +91-44-24437263; +91-44-24453491

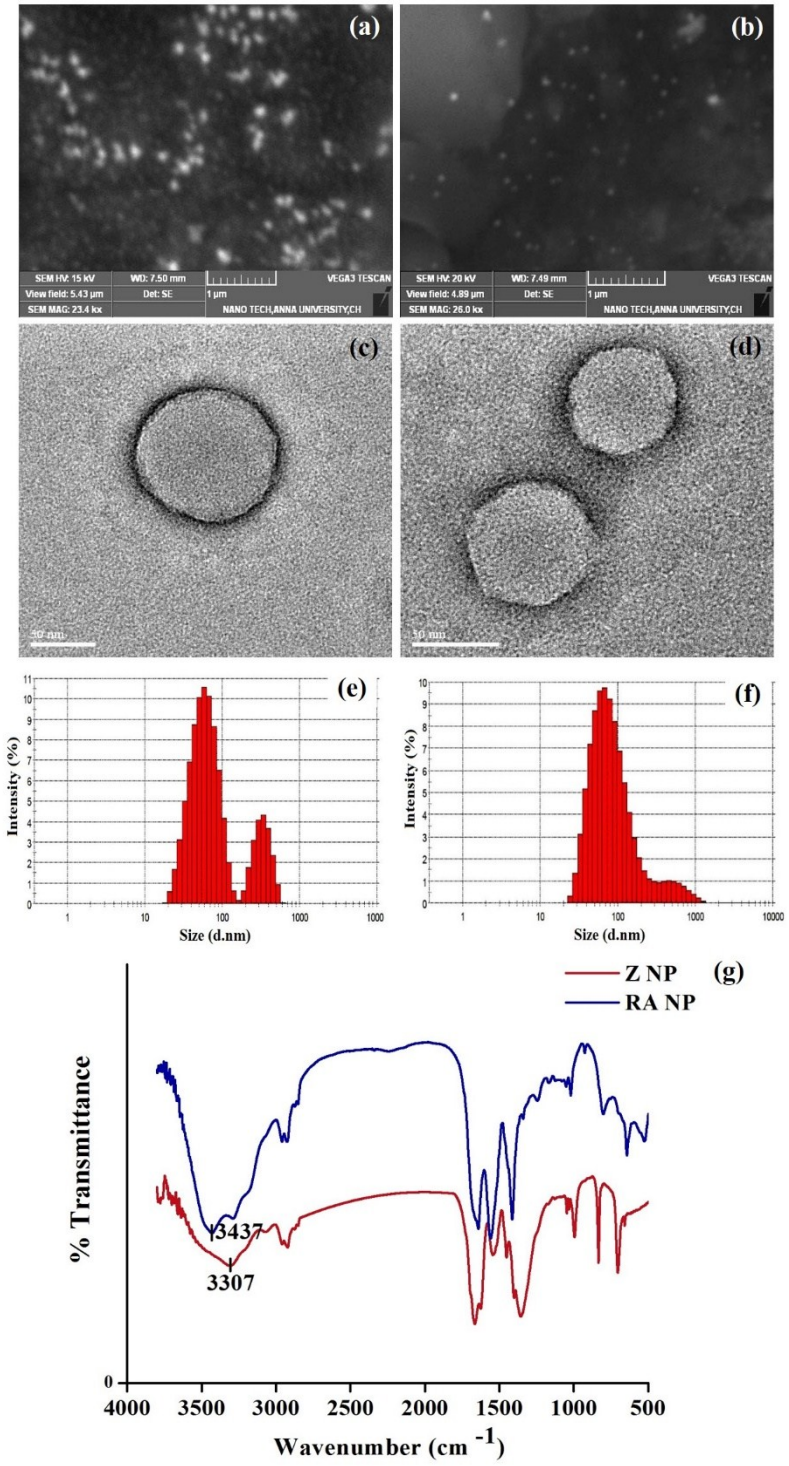

Figure S1: Scanning Electron Micrographs of (a) Hollow zein nanoparticles and (b) RA loaded hollow zein nanoparticles, Scale bar: 1 µm. Transmission Electron Microscopic images of (c) Hollow zein nanoparticles and (d) RA loaded nanoparticles. Scale bar: 50 nm. Graphical representation of size distribution for (e) hollow zein nanoparticles and (f) RA loaded nanoparticles (g) FTIR spectra of hollow zein nanoparticles and RA loaded nanoparticles.

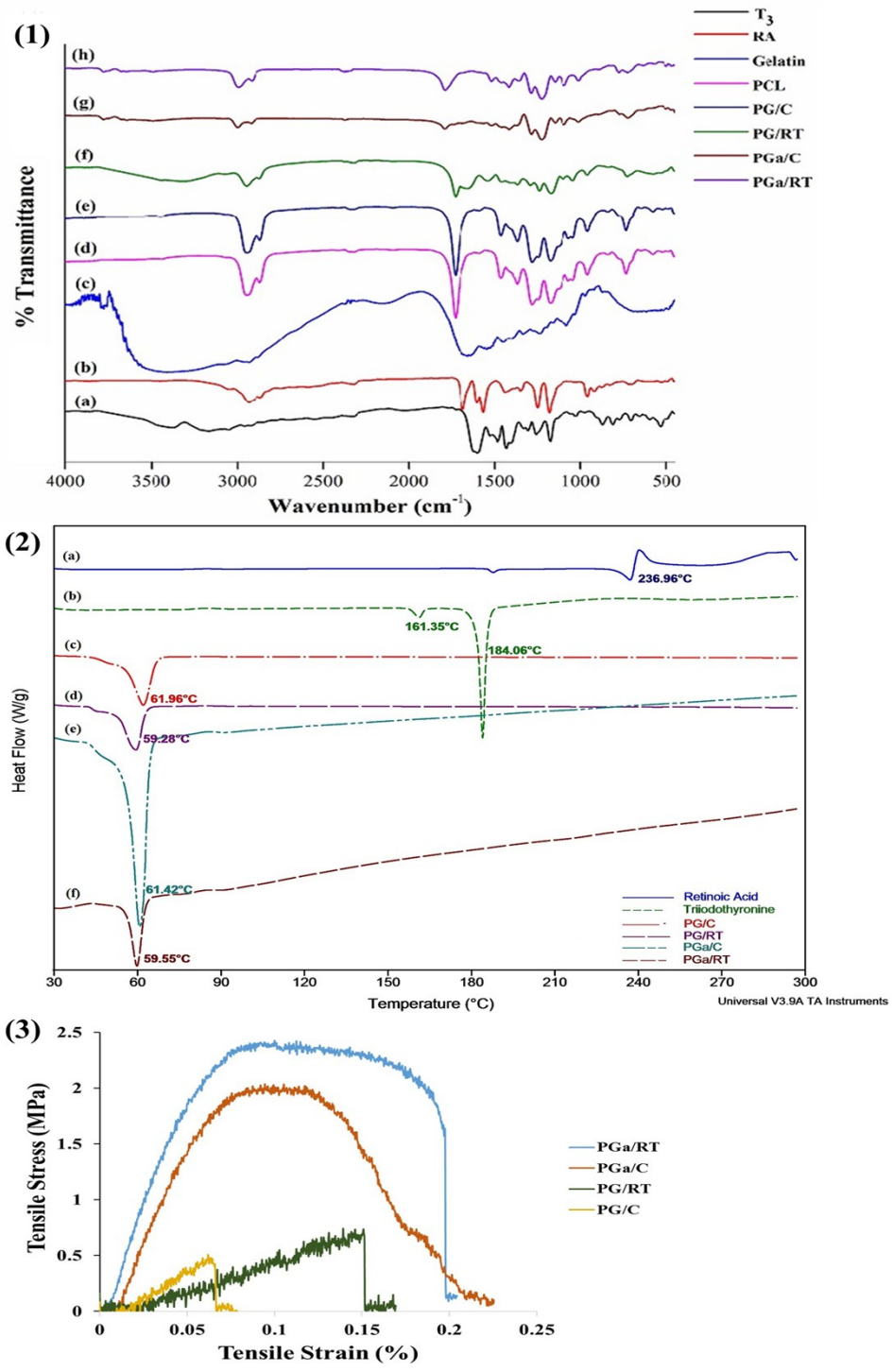

Figure S2: (1) FTIR spectra of (a) T_3, (b) RA, (c) Gelatin, (d) PCL, (e) PG/C nanofiber, (f) PG/RT nanofiber, (g) PGa/C nanofiber and (h) PGa/RT nanofiber. **(2)** Differential Scanning Thermograms of (a) retinoic acid, (b) T_3, (c) PG/C, (d) PG/RT, (e) PGa/C and (f) PGa/RT. **(3)** Stress - Strain curve of aligned (PGa/C, PGa/RT) and random (PG/C, PG/RT) nanofibers.

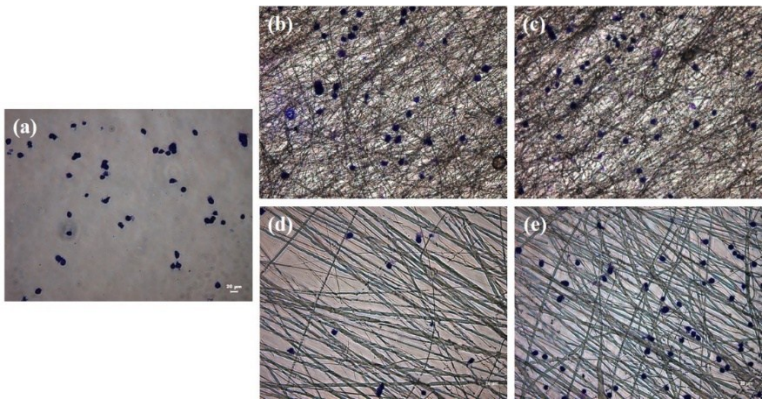

Figure S3: Phase contrast images of crystal violet stained N2A cells, adhered over (a) blank (tissue culture plate), (b) PG/C, (c) PG/RT, (d) PGa/C and (e) PGa/RT nanofibers, on 3 h incubation. Scale bar: 20 μm.

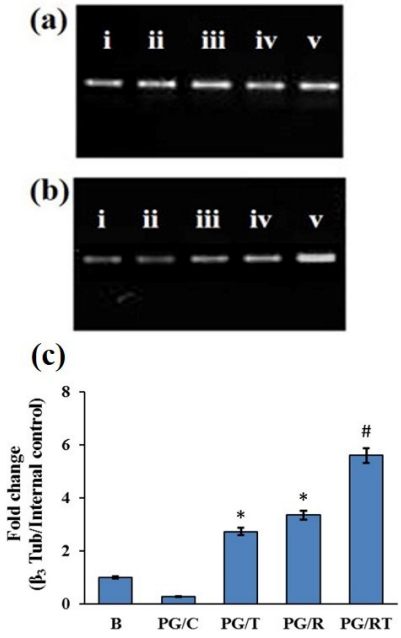

Figure S4: Gel electrophoresis image of gene expression of (a) GAPDH and (b) β III Tubulin of a 10 day N2A culture in (i) blank (ii) PG/C, (iii) PG/T, (iv) PG/R and (v) PG/RT nanofiber coated coverslips. (c) Graphical representation of β III Tubulin gene expression quantitated in real time PCR of a 10 day N2A culture in (i) blank (ii) PG/C, (iii) PG/T, (iv) PG/R and (v) PG/RT nanofiber coated coverslips. Each experiment was repeated thrice, each in triplicates, with GAPDH as the internal control. The P-value is indicated as * $P \leq 0.1$, # $P \leq 0.05$.