## **Supporting Information**

## Poly(furfuryl alcohol)-Polycaprolactone Hybrids

# Gabriele Nanni <sup>1,\*</sup>, José A. Heredia-Guerrero <sup>1</sup>, Uttam C. Paul <sup>1</sup>, Silvia Dante <sup>2</sup>, Gianvito Caputo <sup>3</sup>, Claudio Canale <sup>4</sup>, Athanassia Athanassiou <sup>1</sup>, Despina Fragouli <sup>1</sup> and Ilker S. Bayer <sup>1,\*</sup>

- <sup>1</sup> Smart Materials, Istituto Italiano di Tecnologia, via Morego 30, 16163 Genova, Italy; jose.heredia-guerrero@iit.it (J.A.H.G.); uttam.paul@iit.it (U.C.P.); athanassia.athanassiou@iit.it (A.A.)
- <sup>2</sup> Nanoscopy & NIC@IIT, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova, Italy; silvia.dante@iit.it (S.D.)
- <sup>3</sup> Nanochemistry, Istituto Italiano di Tecnologia, Via Morego 30, 16163, Genova, Italy; gianvito.caputo@iit.it (G.C.)
- <sup>4</sup> Department of Physics, University of Genoa, 16146 Genoa, Italy; canale@fisica.unige.it (C.C.)
- \* Correspondence: gabriele.nanni@iit.it; Tel.: +39-010-71781-352 (G.N.); ilker.bayer@iit.it; Tel.: +39-010-71781-566 (I.S.B.)

#### Extrusion of the blend

Filaments having different diameters (Fig. S1a) were obtained by extrusion and subsequent mechanical stretching. The extrusion was performed by feeding chopped films into a single screw extruder (Micro extruder, Rheoscam Scamex, France, Fig. S1b). The temperature along the extruder was 50-70°C and the speed of the screw was 30-40 rpm. The fibers were stretched manually immediately after extrusion.



Figure S1. (a) Extruded filaments of a 50/50 blend having different diameters. (b) Extruder used to produce the filaments.

### XRD patterns



Figure S2. XRD pattern of PCL and different PCL/PFA blends.

### **Biocompatibility study**



**Figure S3.** Optical view of CHO cells at the end of the indirect toxicity cells for control (left) and 50/50 sample (right). In both cases, cells were confluent; in the control CHO cells built multilayers and create aggregates (scale bar 100  $\mu$ m).