

Supplementary Materials for:

Magnetically Activated Piezoelectric 3D Platform Based on Poly(Vinylidene) Fluoride Microspheres for Osteogenic Differentiation of Mesenchymal Stem Cells

Maria Guillot-Ferriols^{1,2,*}, María Inmaculada García-Briega^{1,2}, Laia Tolosa^{2,3}, Carlos M. Costa^{4,5,6}, Senentxu Lánceros-Méndez^{4,5,7,8}, José Luis Gómez Ribelles^{1,2}, Gloria Gallego Ferrer^{1,2}

¹ Centre for Biomaterials and Tissue Engineering (CBIT), Universitat Politècnica de València, 46022 Valencia, Spain

² Biomedical Research Networking Center on Bioengineering, Biomaterials and Nanomedicine, Carlos III Health Institute (CIBER-BBN, ISCIII), 46022 Valencia, Spain

³ Experimental Hepatology Unit, Health Research Institute La Fe (IIS La Fe), 46026 Valencia, Spain

⁴ Physics Centre of Minho and Porto Universities (CF-UM-UP), University of Minho, 4710-057 Braga, Portugal

⁵ Laboratory of Physics for Materials and Emergent Technologies, LapMET, University of Minho, 4710-057 Braga, Portugal

⁶ Institute of Science and Innovation for Bio-Sustainability (IB-S), University of Minho, 4710-057 Braga, Portugal

⁷ BCMaterials, Basque Center for Materials, Applications and Nanostructures, UPV/EHU Science Park, 48940 Leioa, Spain

⁸ IKERBASQUE, Basque Foundation for Science, 48009 Bilbao, Spain.

* Correspondence: maguifer@upv.es (M.G.-F.)

Table S1. Primer sequences used for Real-time qPCR. Alkaline phosphatase (ALP), Collagen type I (COL I), Runt-related transcription factor 2 (RUNX2), Osteocalcin (OCN), glyceraldehyde-3-phosphate dehydrogenase (GAPDH).

| Gene | Forward Primer (5'-3') | Reverse Primer (5'-3') | Annealing Temperature (°C) |
|-------|------------------------|------------------------|----------------------------|
| ALP | ATGAAGGAAAAGCCAAGCAG | CCACCAAATGTGAAGACGTG | 55.2 |
| COL I | GCCAAGACGAAGACATCCCA | GGCAGTTCTTGGTCTCGTCA | 59.5 |
| RUNX2 | TCACAAATCCTCCCCAAGTA | GGCGGTCAAGAGAACAAACTA | 55.7 |
| OCN | GTGCAGAGTCCAGCAAAGGT | TCAGCCAATCGTCACAGTC | 59.2 |
| GAPDH | GTCTCCTCTGACTTCAACAGCG | ACCACCCCTGTTGCTGTAGCAA | 62.4 |

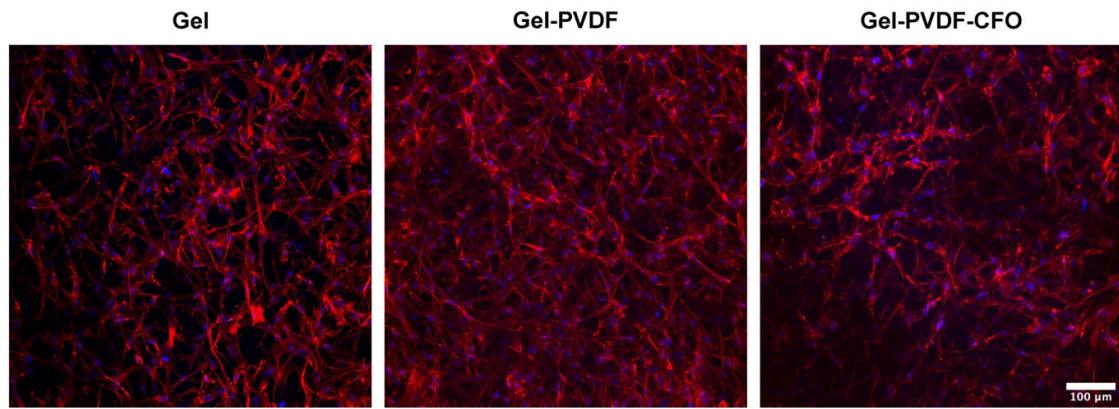


Figure S1. Representative Z projection of non-cryosectioned Gel, Gel-PVDF and Gel-PVDF-CFO hydrogels after 14 days in culture in static condition. Actin cytoskeleton appears in red and cell nuclei in blue. Scale bar 100 μ m.