Synthesis and Electrospinning of ε-Polycaprolactone-Bioactive Glass Hybrid Biomaterials via a Sol-gel Process

Bedilu A. Allo [1], *Amin S. Rizkalla* [1,2 *] *and Kibret Mequanint* [1*]

[1] Department of Chemical and Biochemical Engineering, The University of Western Ontario, London, ON, Canada N6A 5B9.

[2] Biomaterials Science, Schulich School of Medicine and Dentistry, The University of Western Ontario, London, ON, Canada N6A 5C1.

* To whom correspondences should be addressed:

E-mail: kmequani@eng.uwo.ca or arizkalla@eng.uwo.ca

Tel: +1 (519) 661-2111 ext.88573 or 86086

Fax: + 1(519) 661-3498

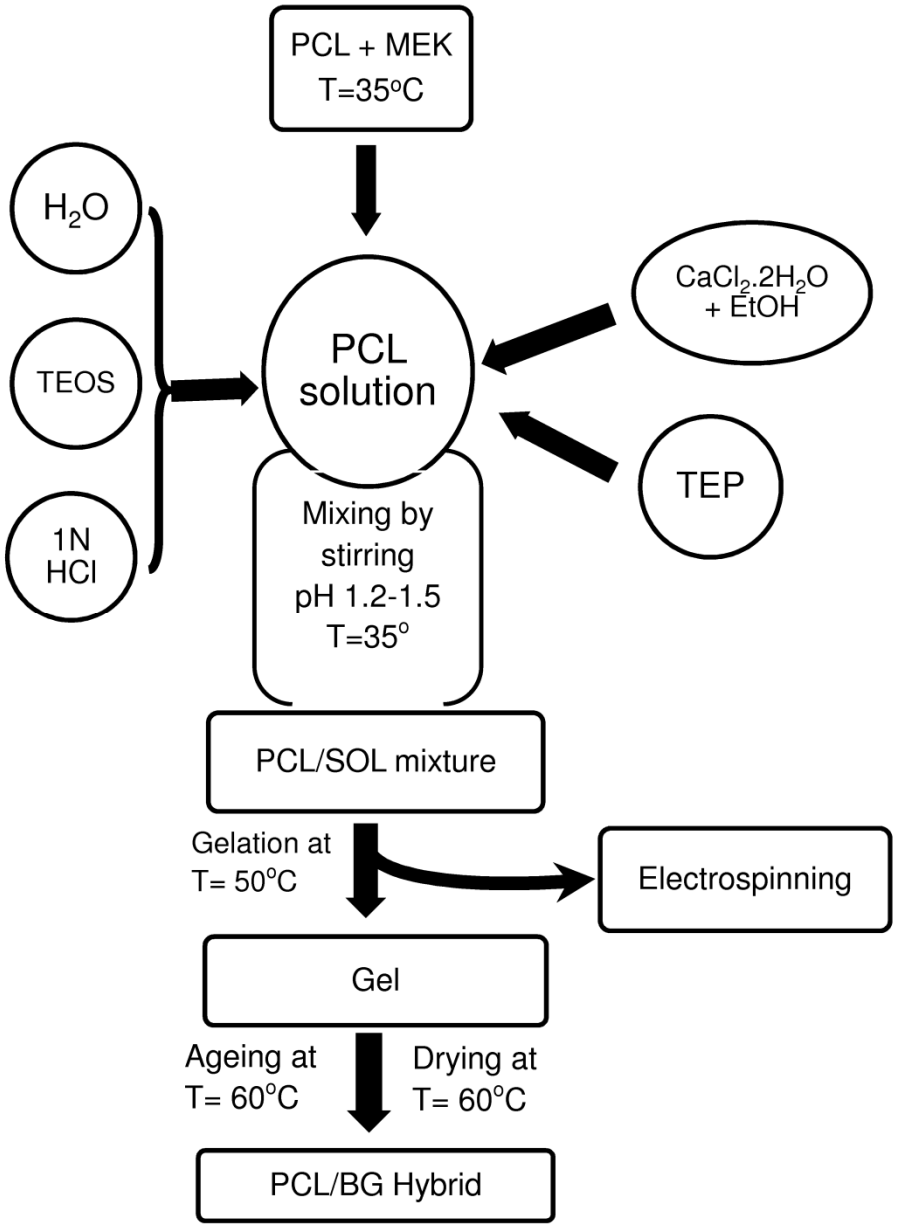

Figure S1. Schematic flowchart for the synthesis of PCL/BG hybrid material via a sol-gel process.

Table S1. Major FTIR peaks associated with PCL, bioactive glass and the PCL/BG hybrid systems.

Material	Wavenumber, cm-1	Peak assignments
BG	1076 -1232	Si-O-Si stretching [30,31]
	945	Si-OH stretching
	1640	O-H bending (molecular water)
BG, PCL/BG hybrid	3000-3600	O-H stretching
PCL/BG hybrid	1700	-C=O (H-bonded carbonyl)
PCL	1730	-C=O (free carbonyl)
	2892, 2930, 2974	asymmetric C-H stretching
	1482	C-H bending

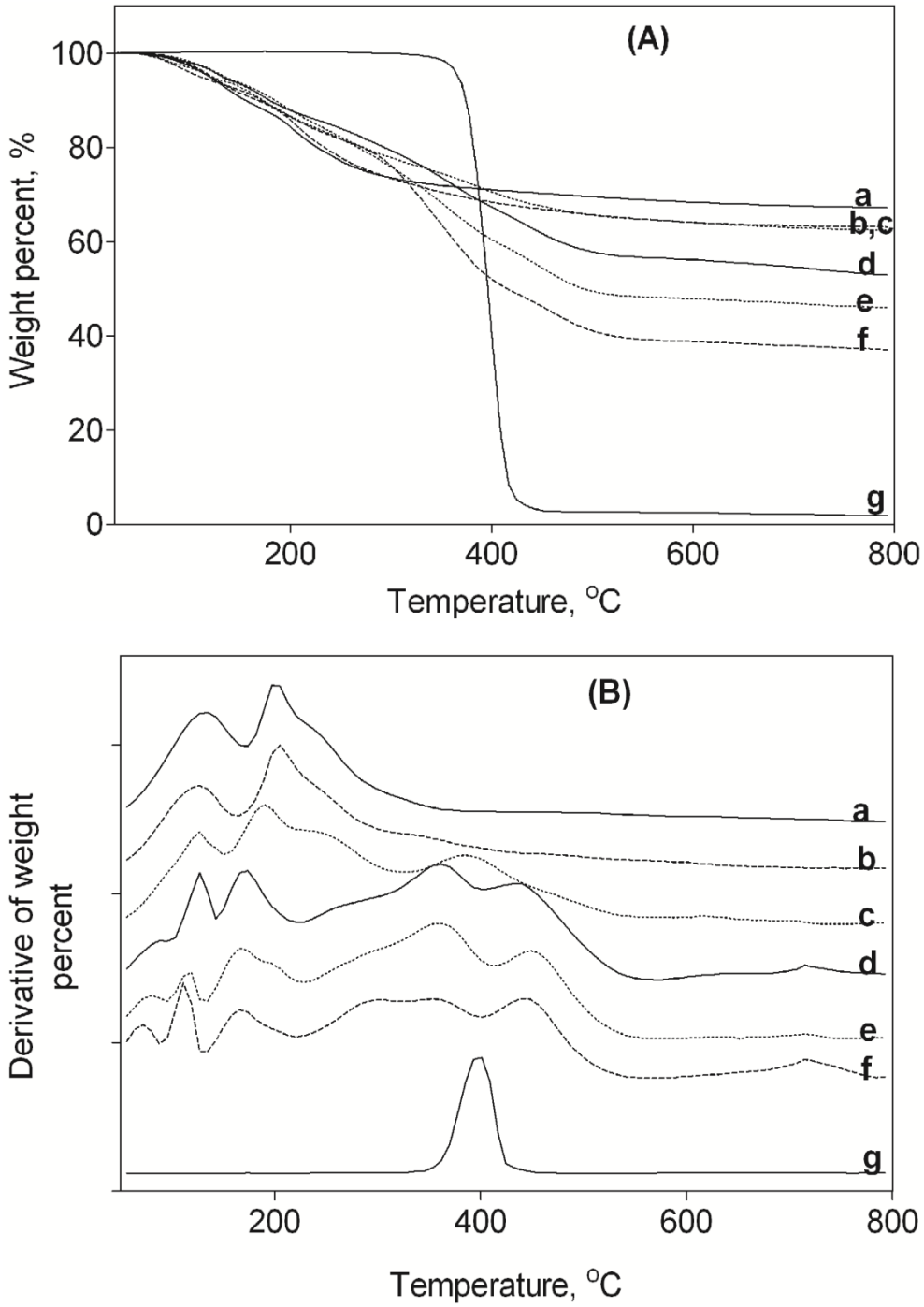

Figure S2. (A) TGA curves of the pure PCL, BG and PCL/BG hybrid biomaterials synthesized by sol-gel process. (B) Derivative of weight percent versus temperature curves for pure PCL, BG gel and PCL/BG hybrids material; where (a) BG gel, (b) H1090 hybrid; (c) H2080 hybrid; (d) H4060 hybrid; (e) H5050 hybrid; (f) H6040 hybrid; and (g) pure PCL