

Three-Dimensional Printing of Drug-Eluting Implantable PLGA Scaffolds for Bone Regeneration

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Table S1. Solubility of ketoprofen in different pharmaceutical solvents at 25 °C (n = 3, mean ± SD).

Solvent	Solubility of Ketoprofen (mg/mL)
PBS pH 7.4	0.404 ± 0.21
Water	0.135 ± 0.38
PBS pH 7.4: Ethanol (9:1% v/v)	0.405 ± 0.16
PBS pH 7.4: Ethanol (8:2% v/v)	0.415 ± 0.04
PBS pH 7.4: Methanol (9:1% v/v)	0.399 ± 1.32

Table S2. Physical properties of PLGA 50:50 polymer.

Polymer	Glass transition temperature (°C)	Tensile strength (MPa)	Elongation (%)	Modulus (Pa)	Biodegradation time (Months)
PLGA 50:50	30–45	40–55	3–10	140–280	1–2

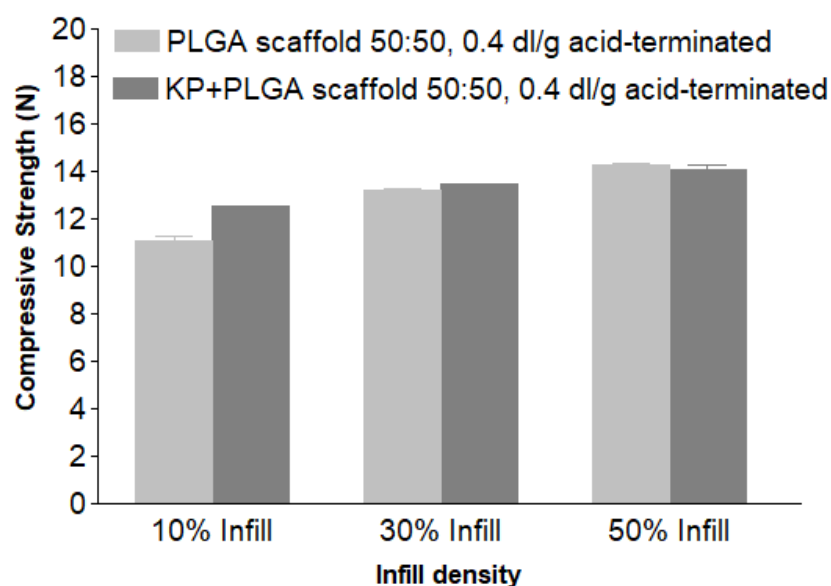


Figure S1. Compression strength of 3D printed PLGA and Ketoprofen + PLGA scaffolds printed with different infill densities (n = 3, mean \pm standard error of mean).

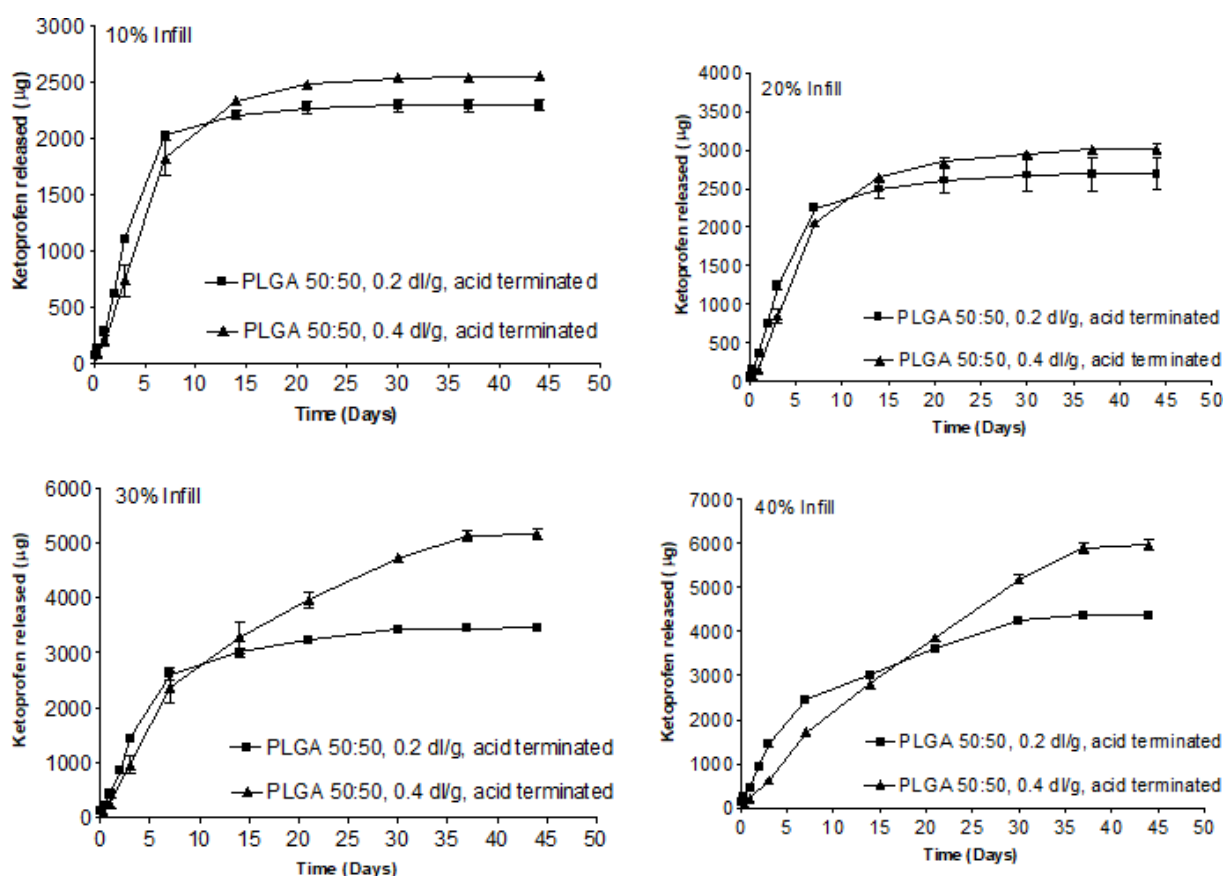


Figure S2. Comparison of in vitro release of ketoprofen (cumulative amount released) from discs printed with PLGA 0.2 dl/g and 0.4 dl/g and with different infill densities (n = 3, mean \pm standard error of mean (SEM)).

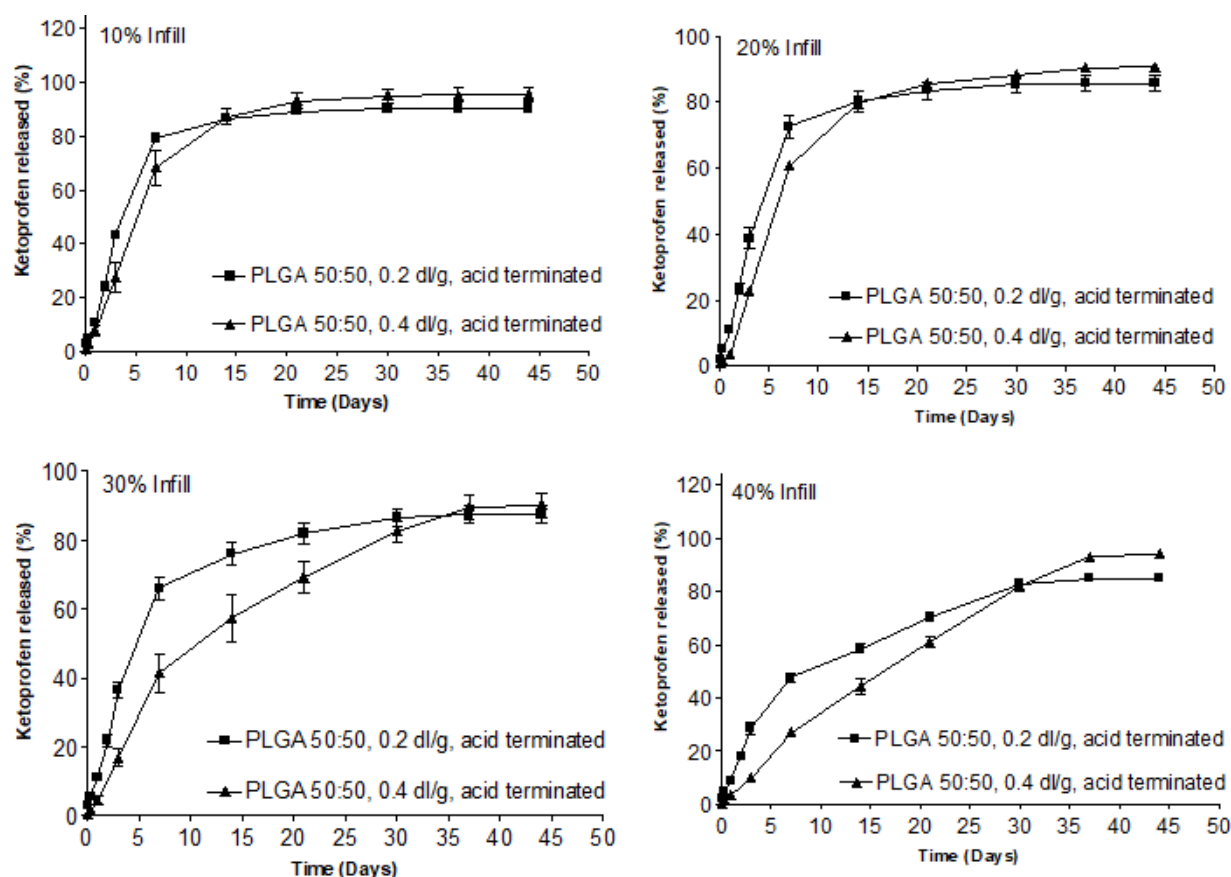


Figure S3. Comparison of in vitro release of ketoprofen (cumulative percent released) from discs printed with PLGA 0.2 dl/g and 0.4 dl/g and with different infill densities ($n = 3$, mean \pm standard error of mean (SEM)).

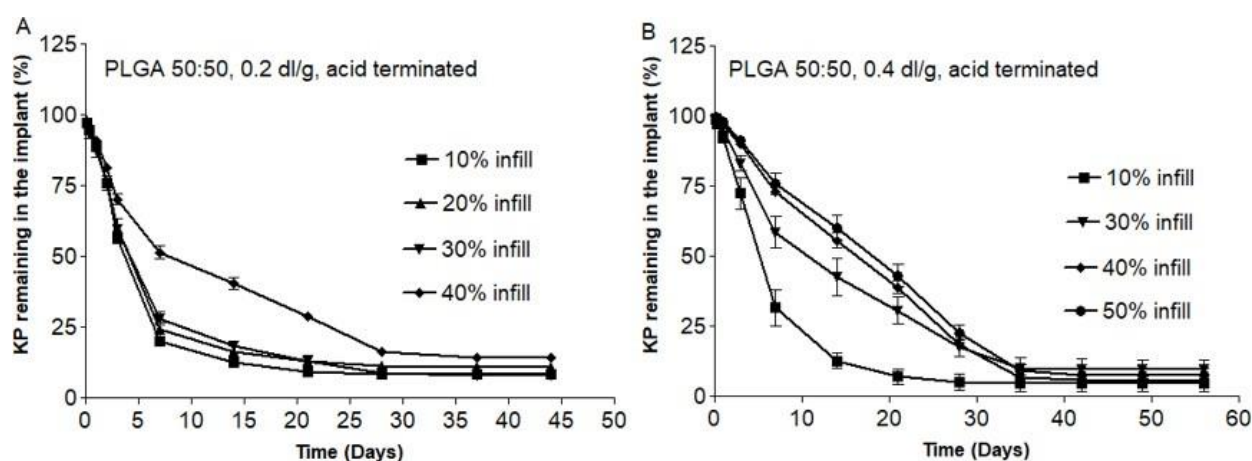


Figure S4. Cumulative percentage of ketoprofen remaining in the discs printed with different infill densities (A) PLGA 50:50, 0.2 dl/g, acid-terminated; (B) PLGA 50:50, 0.4 dl/g, acid-terminated ($n = 3$, mean \pm standard error of mean (SEM)).

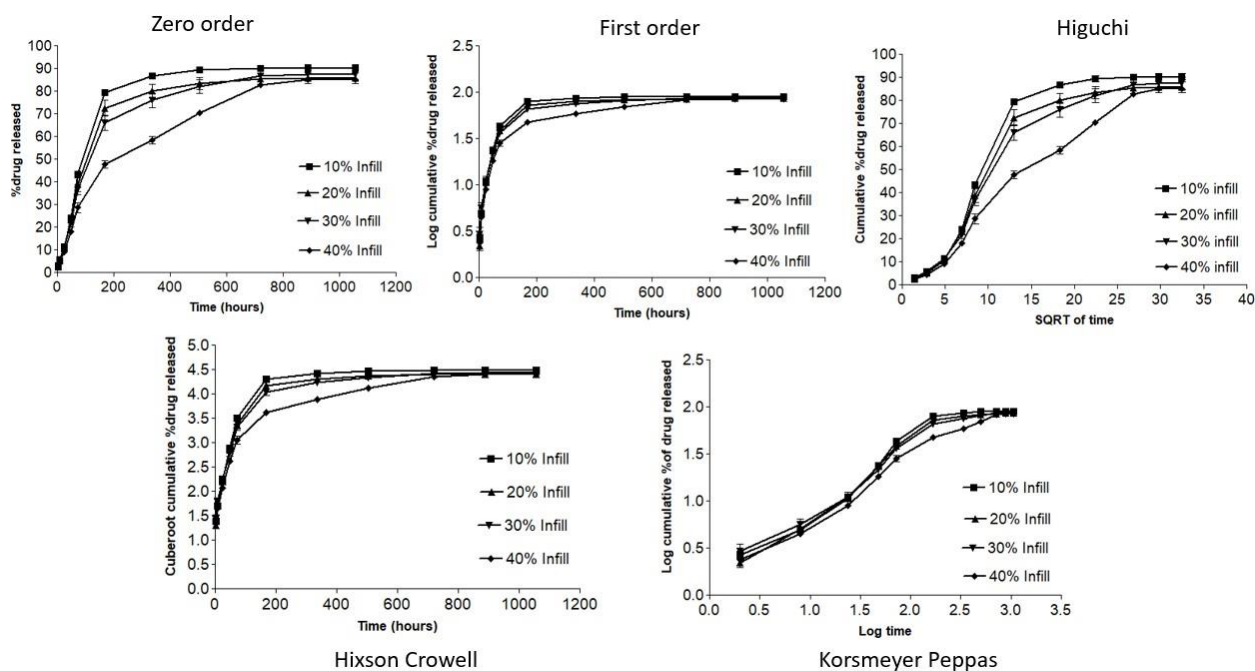


Figure S5. Various mathematical models for the in vitro release of ketoprofen from discs printed with PLGA 50:50, 0.2 dl/g, acid terminated polymer at different infill densities.

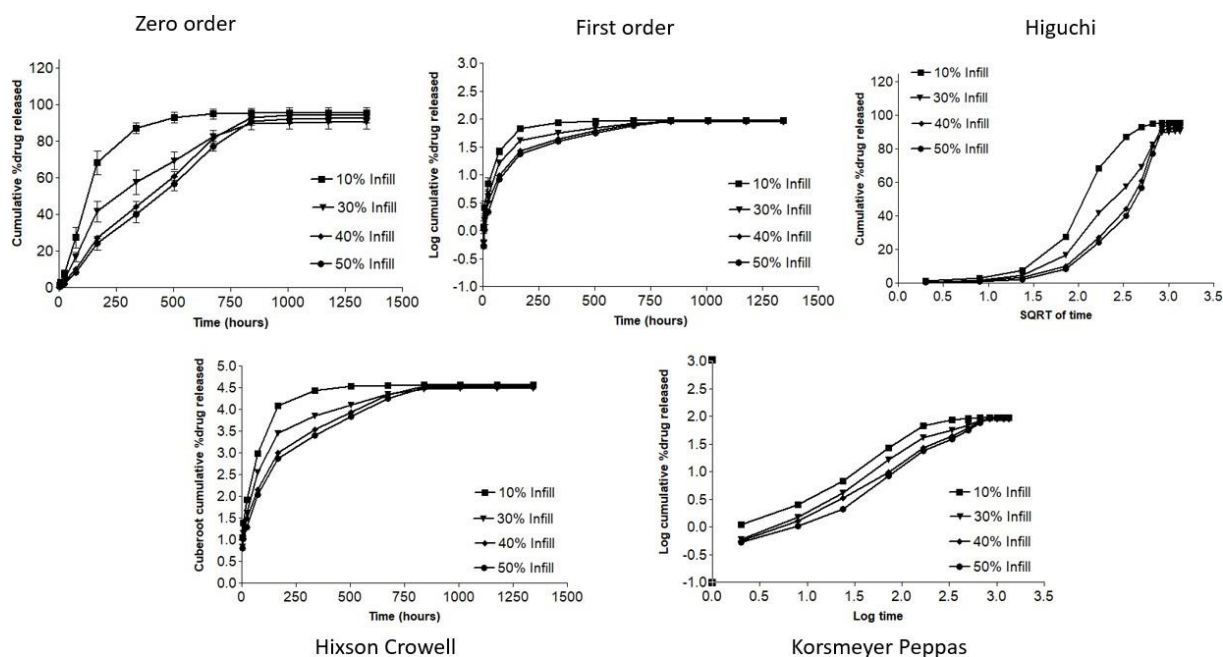


Figure S6. Various mathematical models for the in vitro release of ketoprofen from discs printed with PLGA 50:50, 0.4 dl/g, acid terminated polymer at different infill densities.