Electronic Supplementary Material (ESI) for Biomaterials Science.

Supplementary information

Three-dimensional Printed 5-Fluorouracil Eluting Polyurethane Stents for the Treatment of Oesophageal Cancers

Paris Fouladian[1], Jarrod Kohlhagen[2], Mohammad Arafat[1], Franklin Afinjuomo[1], Nathan Workman[2], Ahmad Y Abuhelwa[3], Yunmei Song[1], Sanjay Garg 1,*, Anton Blencowe[2],*

[1] Pharmaceutical Innovation and Development (PIDG) Group, Clinical and Health Sciences, University of South Australia, Adelaide, SA 5000, Australia.

[2] Applied Chemistry and Translational Biomaterials (ACTB) group, Clinical and Health Sciences, University of South Australia, Adelaide, SA 5000, Australia

[3] Discipline of Clinical Pharmacology, College of Medicine and Public Health, Flinders University, Bedford Park 5042, SA, Australia.

* Corresponding Authors. Email: sanjay.garg@unisa.edu.au; anton.blencowe@unisa.edu.au

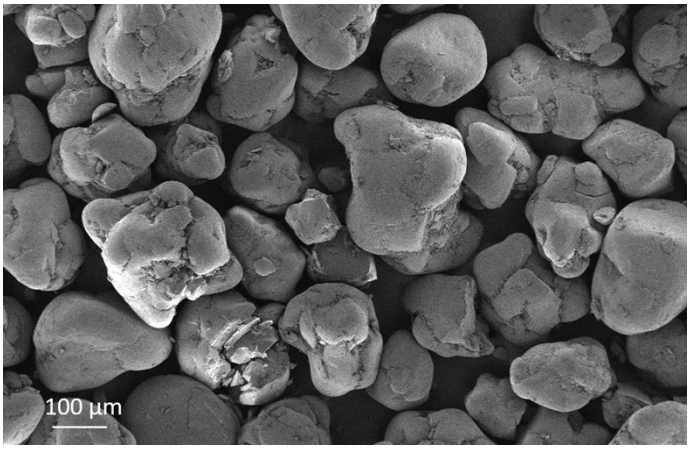

Figure S1. Scanning electron microscopy (SEM) image of 5-FU powder used in the manufacture of the 3D printed, drug-eluting stents.

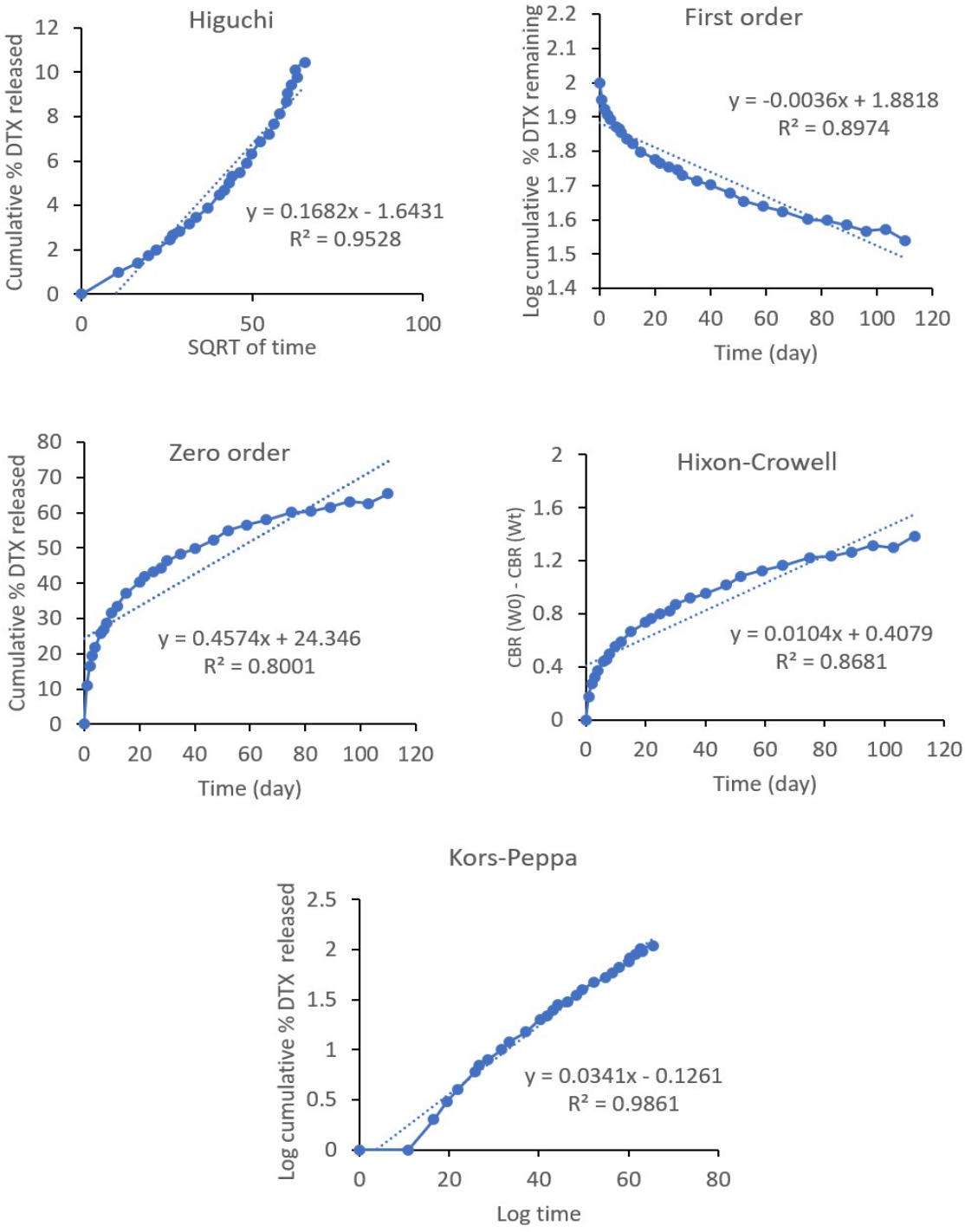

Figure S2. *In vitro* release data fitted to Higuchi, first order, zero-order, Hixon and Kors-Peppas release kinetics models.

Table S1. Physical stability parameters of 5-FU loaded stents.

Storage condition	Initial		After 3 months	
	Weight (mg)	Thickness (mm)	Weight (mg)	Thickness (mm)
25°C	20.80 ± 0.05	0.80 ± 0.02	20.84 ± 0.05	0.81 ± 0.02
25°C/65% RH	20.83 ± 0.10	0.80 ± 0.02	20.90 ± 0.08	0.81 ± 0.02
40°C/75%RH	20.85 ± 0.07	0.80 ± 0.08	20.92 ± 0.03	0.81 ± 0.07