

Supplementary information for

## **Fused Deposition Modeling (FDM) 3D Printed Tablets for Intragastric Floating Delivery of Domperidone**

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**Table S1.** Formulation and extrusion parameters of filaments

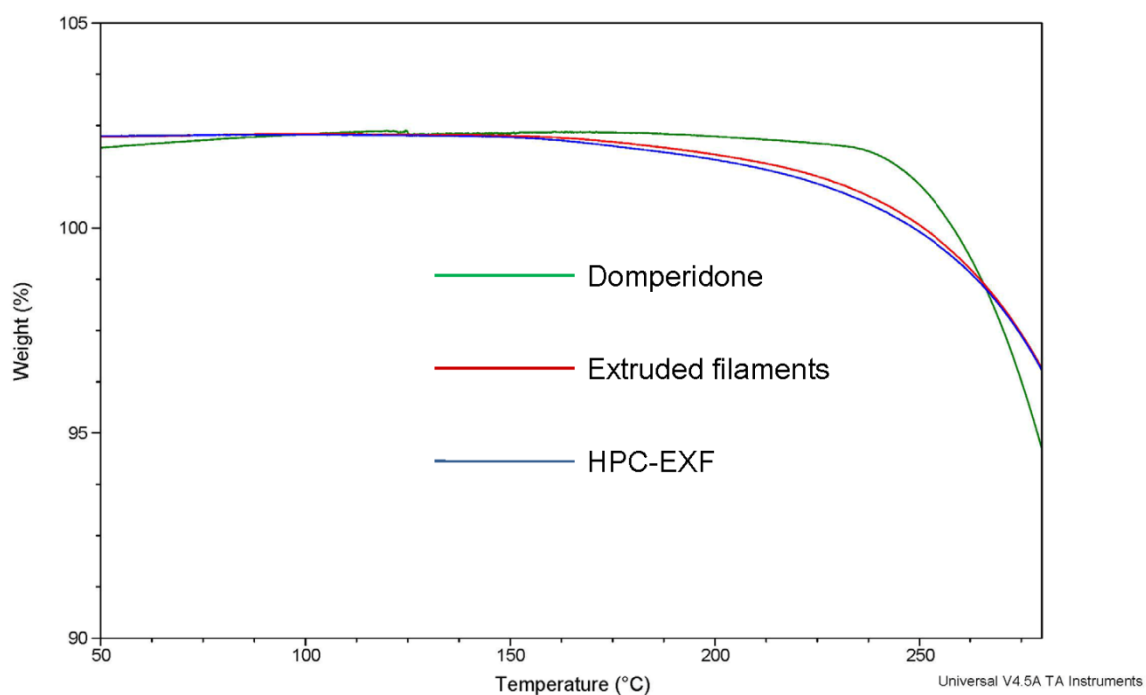
Formulation(weight ratio)	Extrusion temperature (°C )	Screw speed(rpm)	Torque(N/cm)
HPC-EXF	145	20-25	10-18
HPC-EXF:DOM=90:10	145	20-25	10-20
HPC-EXF:DOM:BaSO4= 80:10:10	150	20-25	12-20

**Table S2.** Formulation and designed physical parameters of DOM-FSR tablets

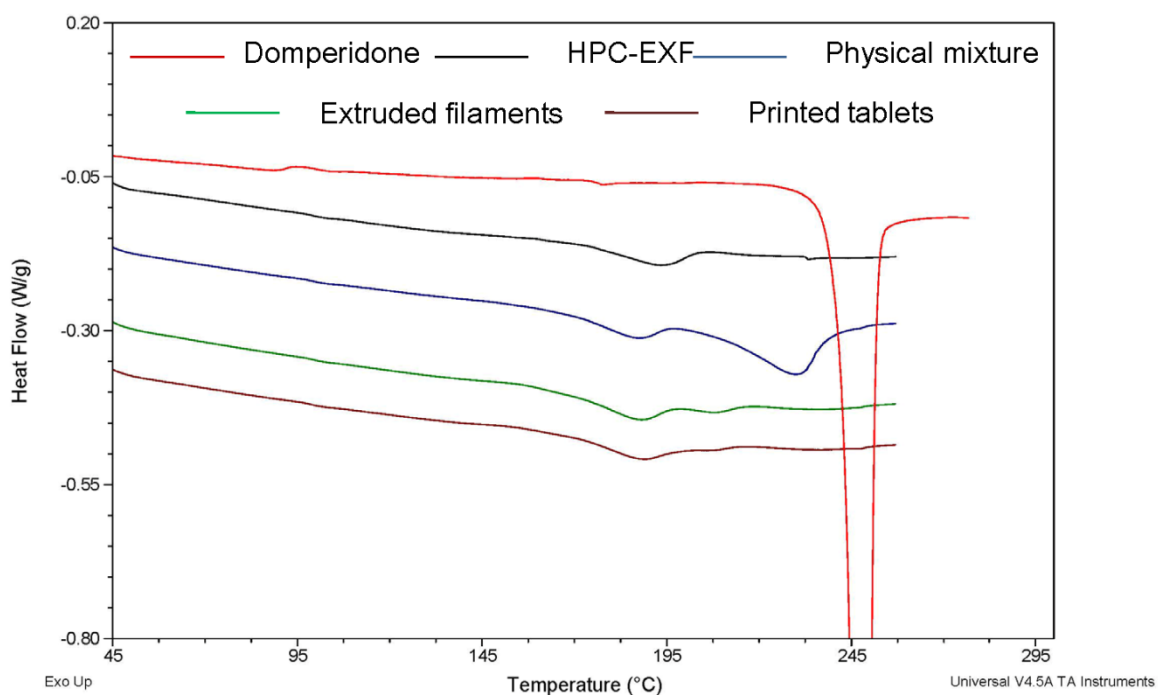
Formulation code	Formulation composition (weight ratio) (%)	Designed dimensions (D×H) (mm)	Shell number	Infill percentage (%)
F1	HPC-EXF:DOM(90:10)	10×3.2	1	0
F2	HPC-EXF:DOM(90:10)	10×3.2	2	0
F3	HPC-EXF:DOM(90:10)	10×3.2	3	0
F4	HPC-EXF:DOM(90:10)	10×3.2	4	0
F5	HPC-EXF:DOM(90:10)	10×3.2	2	10
F6	HPC-EXF:DOM(90:10)	10×3.2	2	20
F7	HPC-EXF:DOM(90:10)	10×3.2	2	30
F8	HPC-EXF:DOM(90:10)	7.4×6	2	0
F9	HPC-EXF:DOM:BaSO4( 80:10:10)	7.4×6	2	0

**Table S3.** Measured physical parameters and floating time duration of DOM-FSR tablets (n=6)

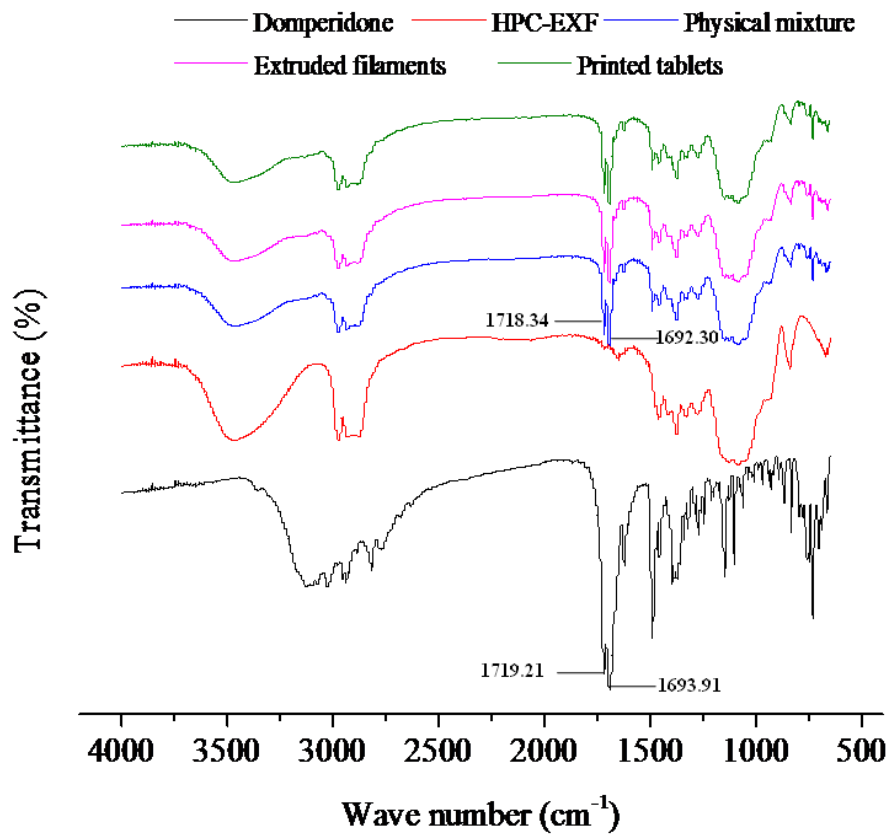
Formulation code	Measured volume (mm <sup>3</sup> )	Measured mass (mg)	Tablet density (mg/mm <sup>3</sup> )	Floating time (h)
F1	258.97±3.30	181.02±0.95	0.70±0.01	>8
F2	261.95±4.71	200.67±0.41	0.77±0.01	>10
F3	260.18±3.95	219.57±5.43	0.84±0.02	>10
F4	257.92±2.70	239.05±3.34	0.93±0.03	<1
F5	260.70±2.50	217.42±1.84	0.83±0.01	>10
F6	261.48±4.47	231.34±0.91	0.88±0.01	>10
F7	260.12±6.15	244.63±1.73	0.94±0.02	<1
F8	261.22±2.18	199.85±2.09	0.77±0.01	>10
F9	260.98±2.47	225.45±0.40	0.86±0.01	>10



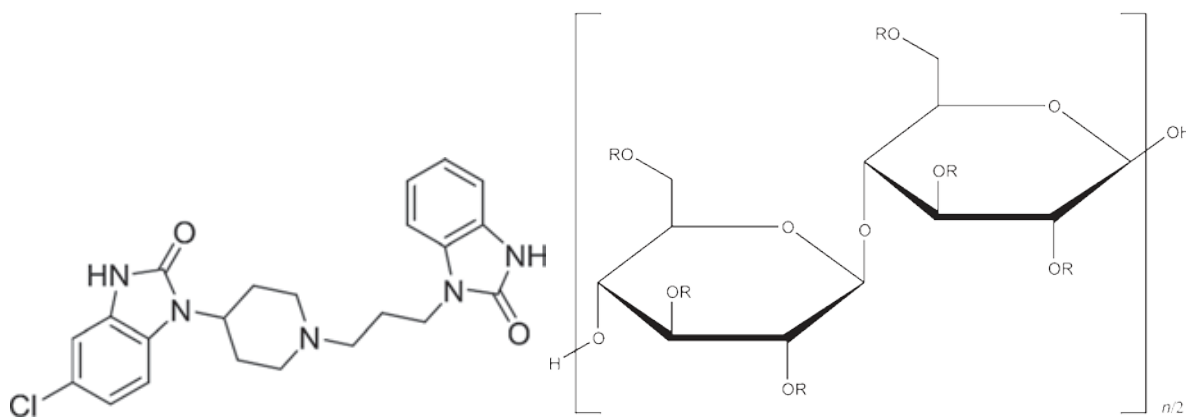
**Fig.S1.** TGA thermo traces for DOM, HPC-EXF and extruded filaments (DOM10%).



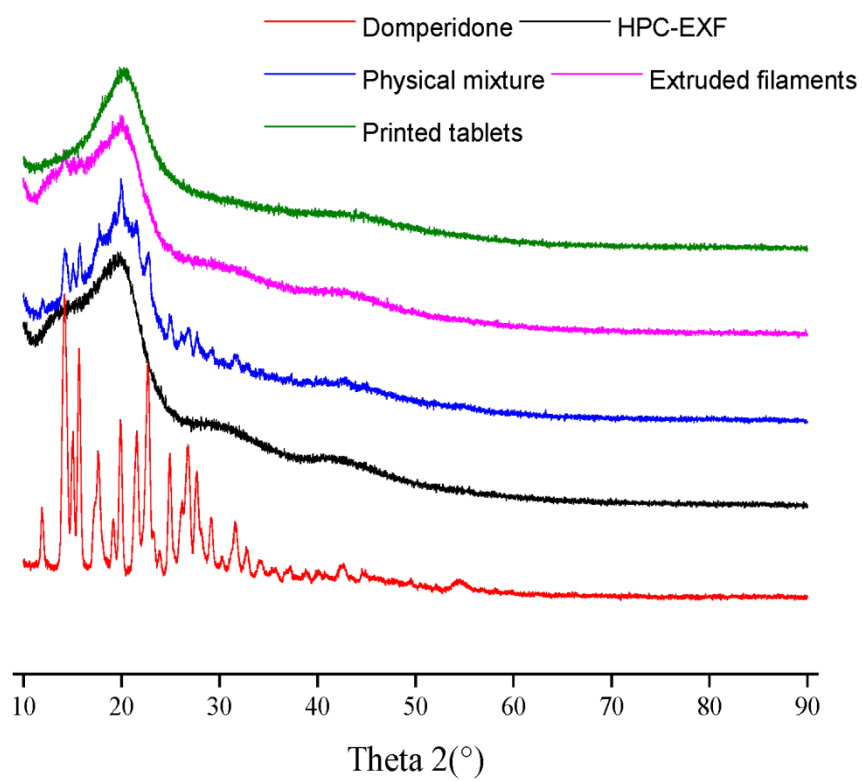
**Fig.S2.** DSC thermographs of DOM, HPC-EXF, physical mixture (DOM10%), extruded filaments (DOM10%) and printed tablets (DOM10%).



**Fig.S3.** FT-IR spectra of DOM, HPC-EXF, physical mixture (DOM10%), extruded filaments (DOM10%) and printed tablets (DOM10%).



**Fig.S4.** Chemical structure of DOM and HPC (R is H or  $[\text{CH}_2\text{CH}(\text{CH}_3)\text{O}]_m\text{H}$  where m is a common integral number of cellulose derivatives).



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**Fig.S5.** XRPD spectra of DOM, HPC-EXF, physical mixture (DOM10%), extruded filaments (DOM10%) and printed tablets (DOM10%).