

Supporting Information

Functional Wound Dressing Materials with Highly Tunable Drug Release Properties

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Figure S1 – full release profiles

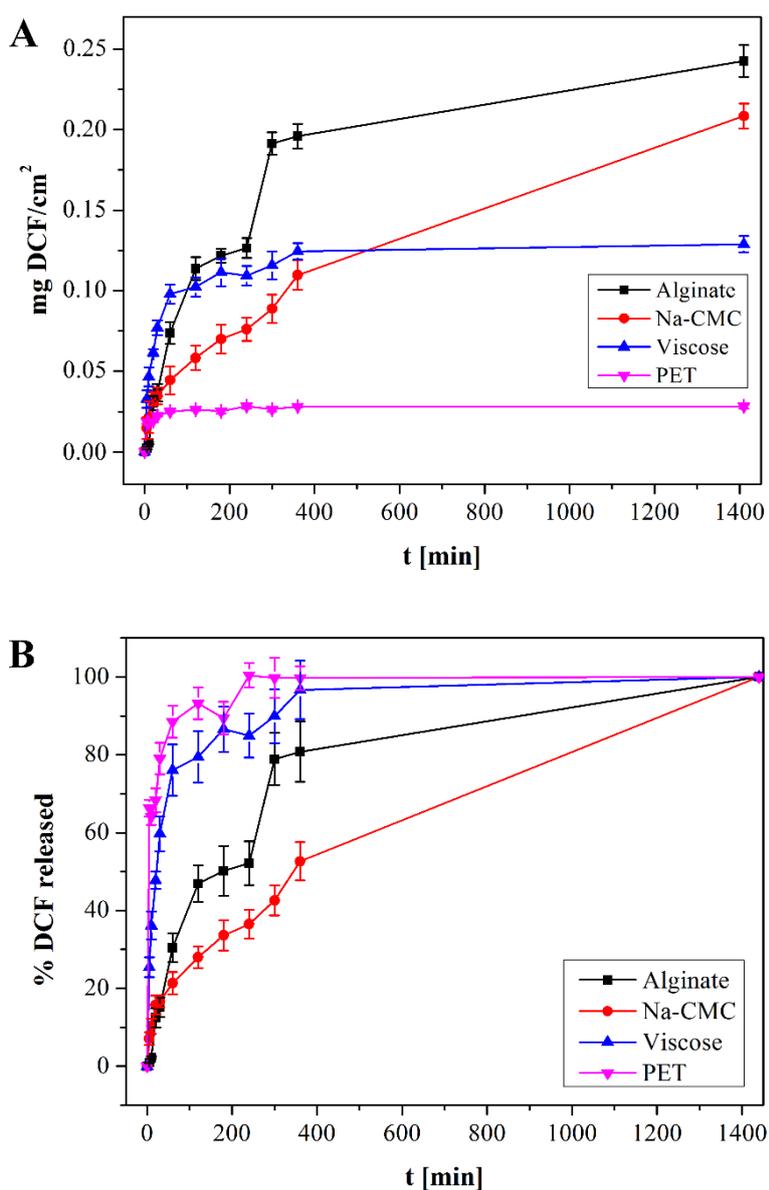


Figure S1. Release of DCF from alginate, Na-CMC, viscose and PET. a) amount of DCF released from a 1 x 1 cm squares model wound dressing; b) percentage of released DCF, whereas the incorporated DCF amounts differ between the samples.

Figure S2 – ATR-IR spectra after *in vitro* release testing.

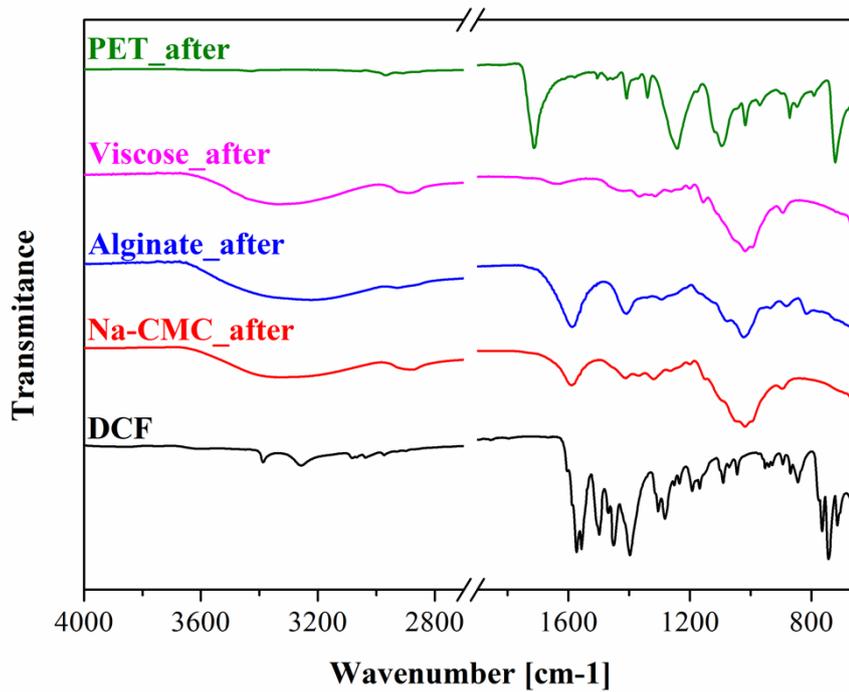


Figure S2. ATR-IR spectra after *in vitro* release testing. No peaks assigned to DCF can be observed.

Figure S3 – WAXS diffractograms after *in vitro* release testing.

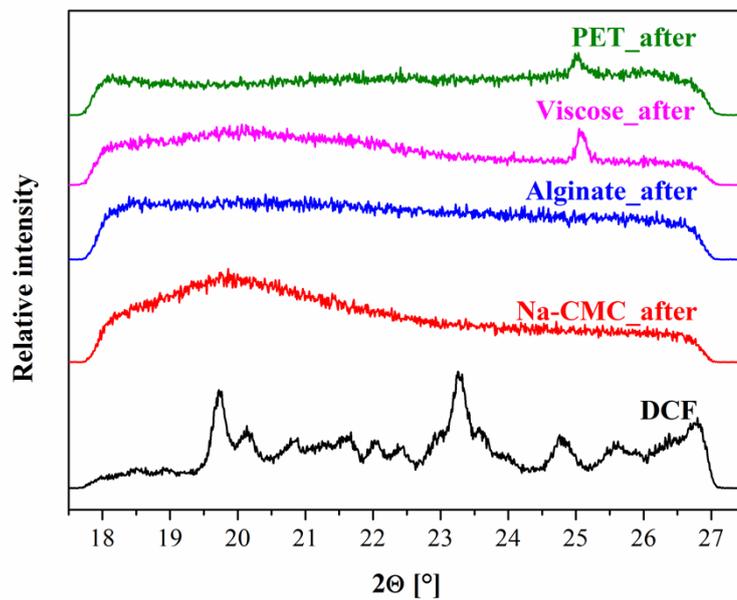
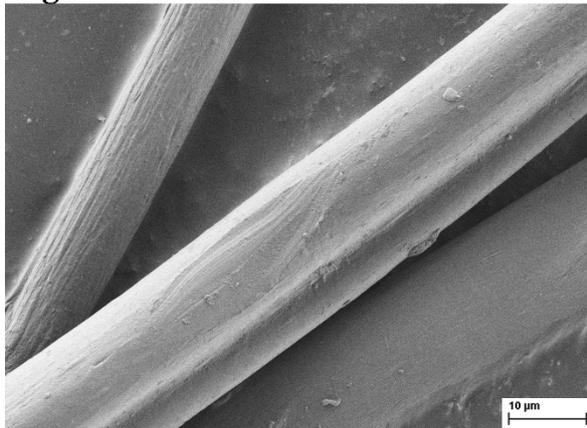


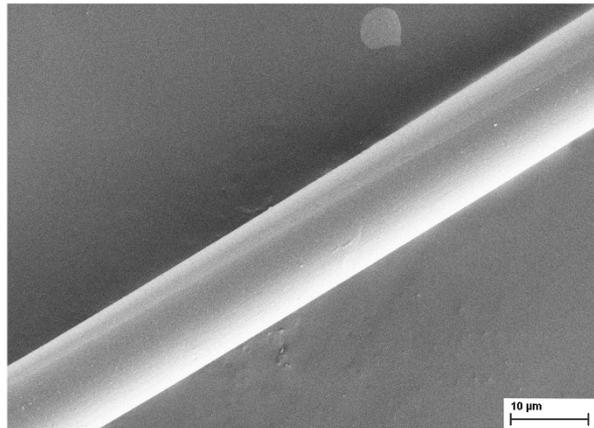
Figure S3. WAXS diffractograms after *in vitro* release testing. No peaks that can be assigned to DCF are observable.

Figure S4 – SEM micrographs at lower magnifications.

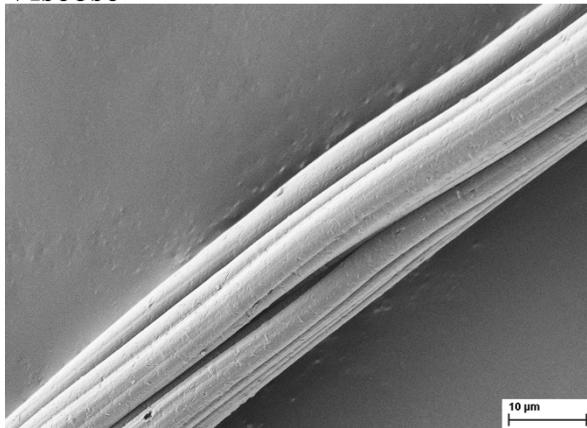
Alginate



Na-CMC



Viscose



PET

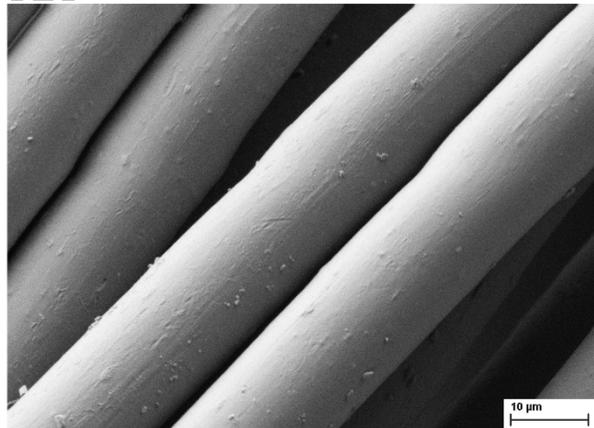
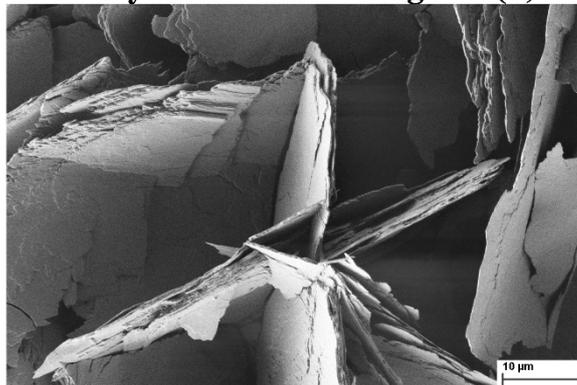


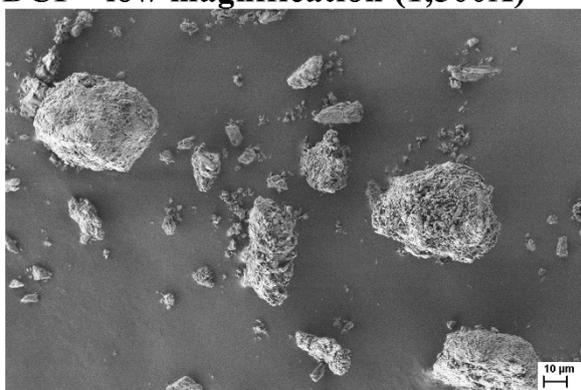
Figure S4. SEM micrographs of used unloaded materials with a lower magnification.

Figure S5 – SEM micrographs of pure DCF.

DCF - recrystallized from 1mg/ml (5,000X)



DCF - low magnification (1,500X)



DCF - high magnification (10,000X)

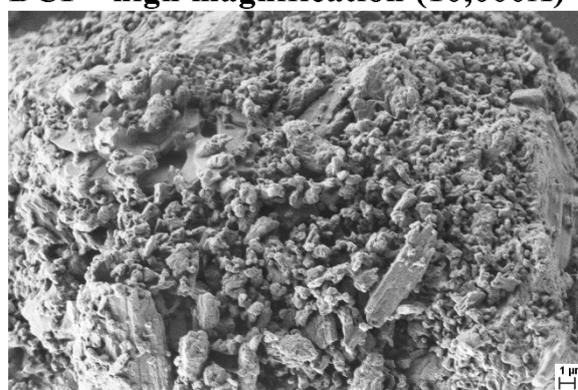


Figure S5. SEM micrographs of pure DCF. Magnifications are written above the respective micrograph.

Figure S6 – 1. derivative profiles based on DCF release results

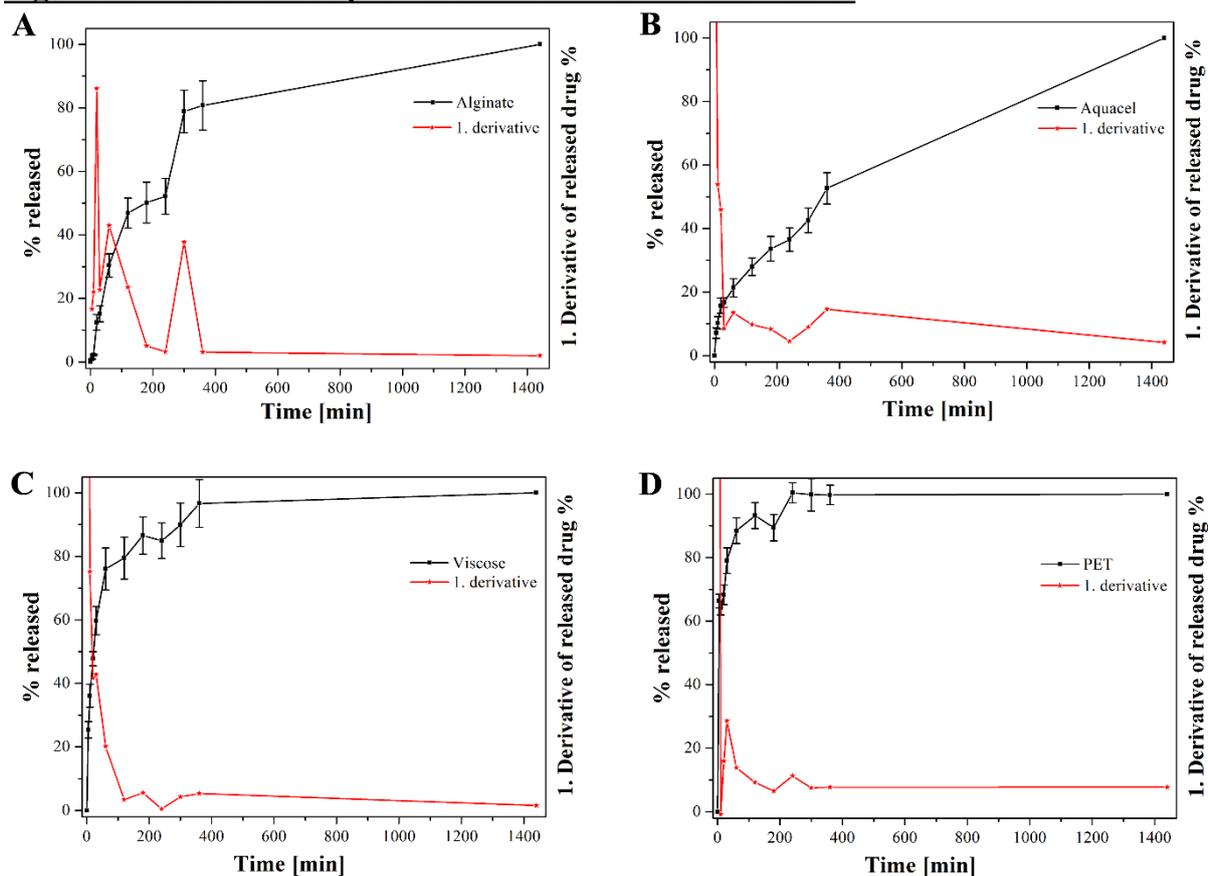


Figure S6. Additional representation of the release profiles as 1. derivatives of DCF release from respective materials. The obtained curves indicate a complex, possible multi-mechanism drug release.

Table S1 – additional significance evaluation

Table S1. Total amounts of incorporated DCF in different wound dressing materials as calculated based on release measurements and their corresponding p-values (significant difference) calculated using GraphPad Prism Software Version 5.01

Samples	DCF mg/cm ²	p - value	Significant difference
<i>Alginate</i>	0.24262	0.0000011	p < 0.001
<i>Na-CMC</i>	0.20844	0.0000017	p < 0.001
<i>Viscose</i>	0.12885	0.00243	p < 0.05
<i>PET</i>	0.02821	0.03318	p < 0.05