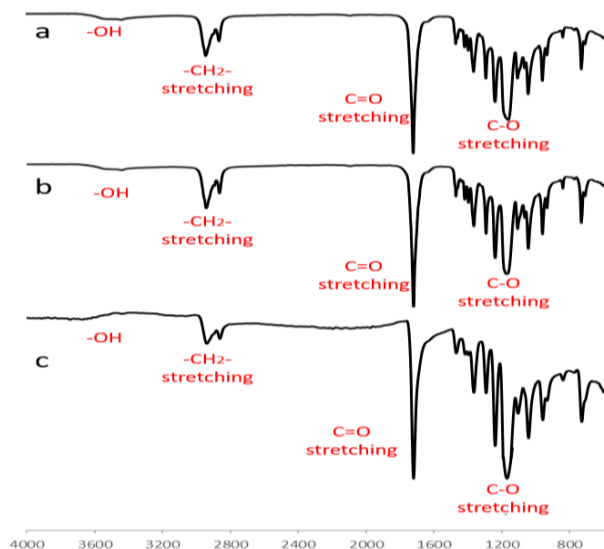
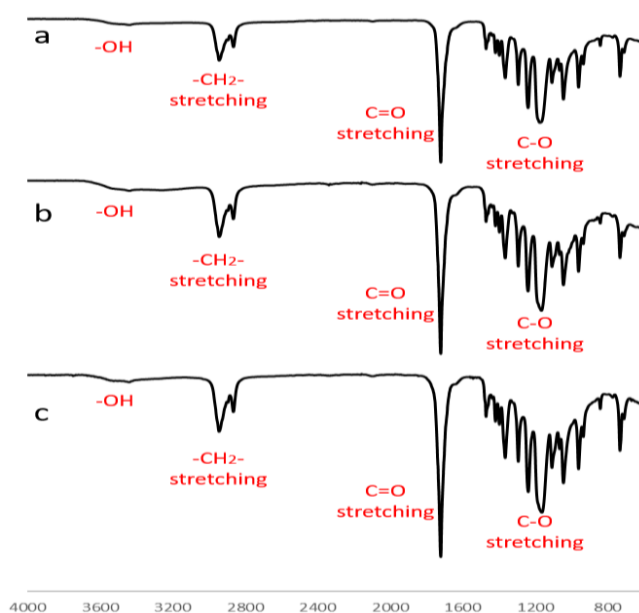


**Title:** HYDROPHOBIC DRUG CARRIER FROM POLYCAPROLACTONE-B-POLY(ETHYLENE GLYCOL) STAR-SHAPED POLYMERS HYDROGEL BLEND AS POTENTIAL FOR WOUND HEALING APPLICATION

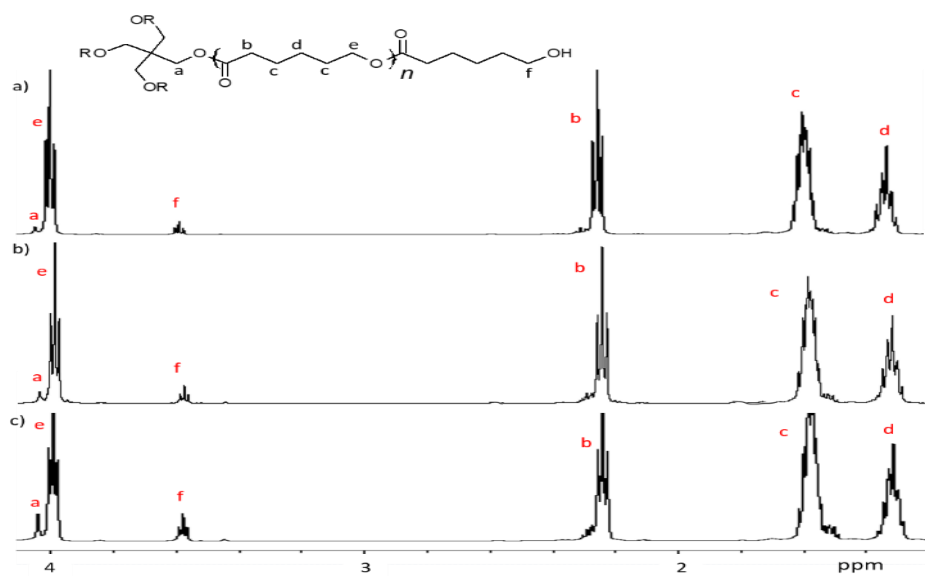
**SUPPLEMENTARY MATERIAL**



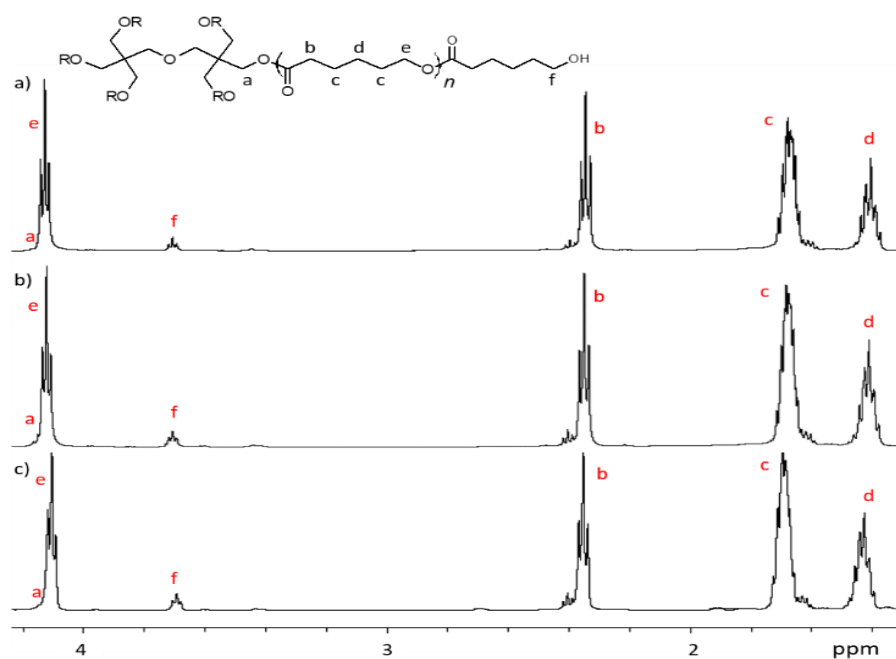
**Figure S1.** FTIR spectra of 4-arm (a) PCL<sub>5k</sub> (b) PCL<sub>10k</sub> and (c) PCL<sub>15k</sub>.



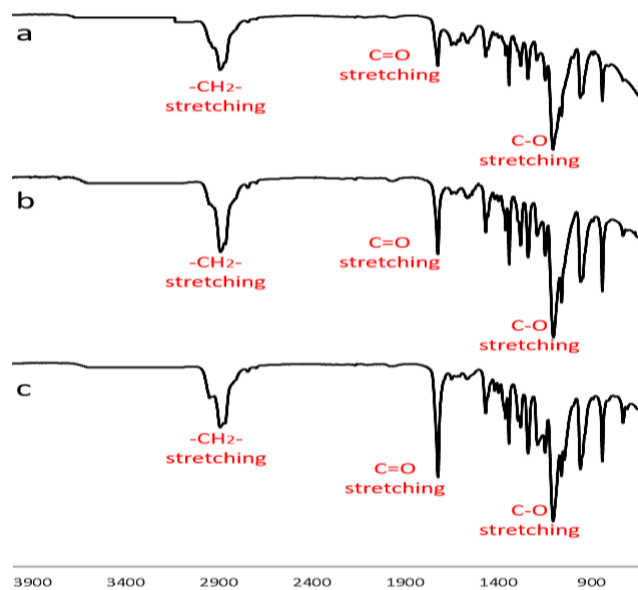
**Figure S2.** FTIR spectra of 6-arm (a) PCL<sub>5k</sub> (b) PCL<sub>10k</sub> and (c) PCL<sub>15k</sub>.



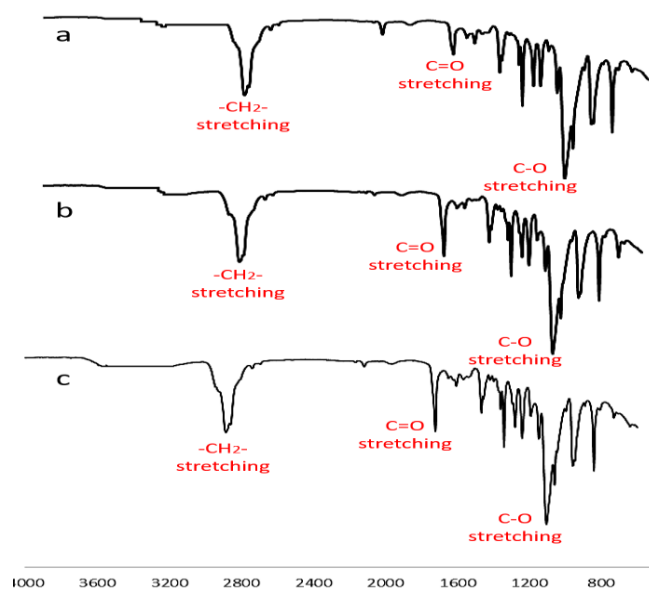
**Figure S3.**  $^1\text{H}$ -NMR spectra of 4-arm (a) PCL<sub>5k</sub> (b) PCL<sub>10k</sub> and (c) PCL<sub>15k</sub>.



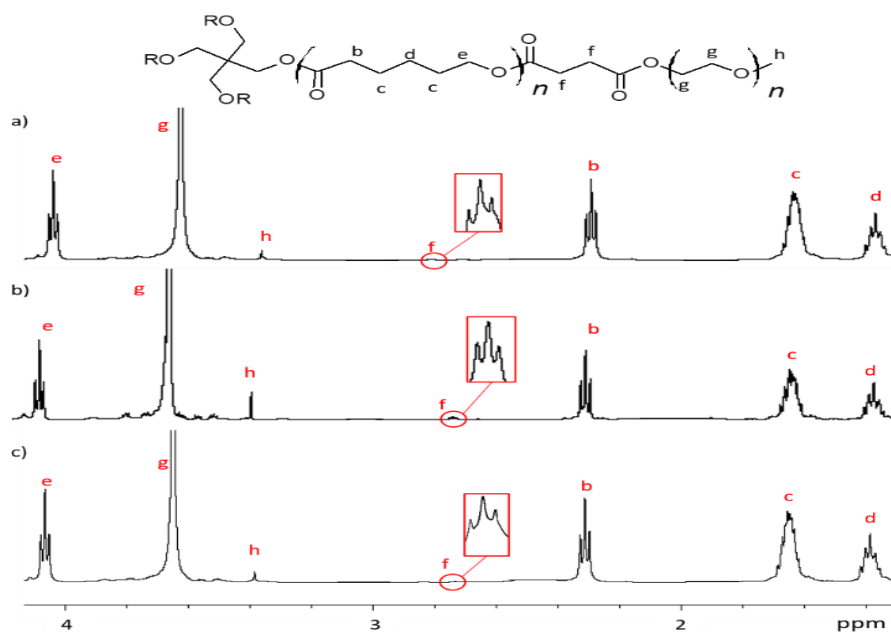
**Figure S4.**  $^1\text{H}$ -NMR spectra of 6-arm (a) PCL<sub>5k</sub> (b) PCL<sub>10k</sub> and (c) PCL<sub>15k</sub>.



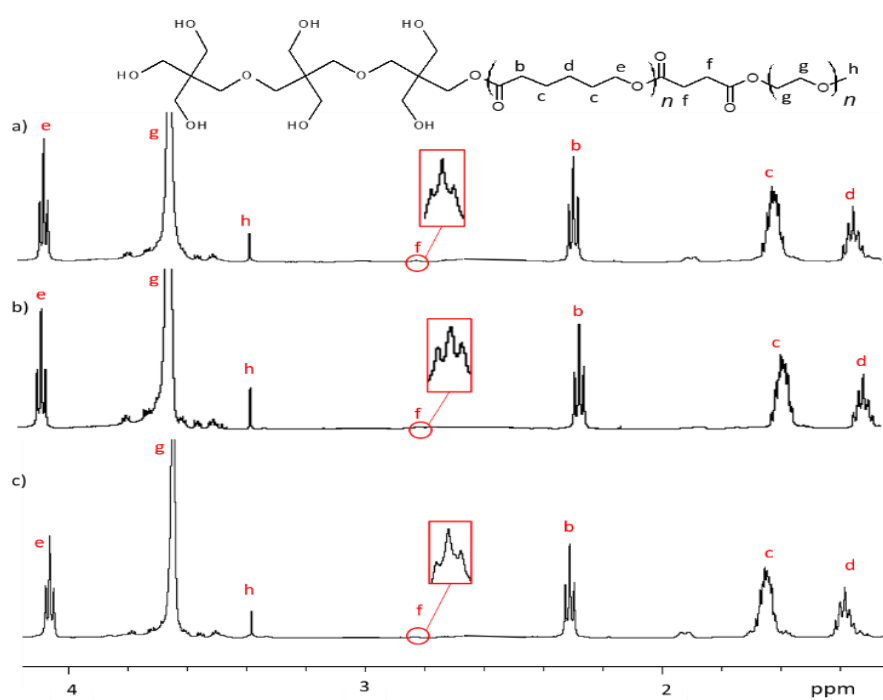
**Figure S5.** FTIR spectra of 4-arm (a) PCL<sub>5k</sub>-PEG, (b) PCL<sub>10k</sub>-PEG, and (c) PCL<sub>15k</sub>-PEG.



**Figure S6.** FTIR spectra of 6-arm (a) PCL<sub>5k</sub>-PEG, (b) PCL<sub>10k</sub>-PEG, and (c) PCL<sub>15k</sub>-PEG



**Figure S7.**  $^1\text{H}$ -NMR spectra of 4-arm (a) PCL<sub>5k</sub>-PEG, (b) PCL<sub>10k</sub>-PEG, and (c) PCL<sub>15k</sub>-PEG.



**Figure S8.**  $^1\text{H}$ -NMR spectra of 6-arm (a) PCL<sub>5k</sub>-PEG, (b) PCL<sub>10k</sub>-PEG, and (c) PCL<sub>15k</sub>-PEG.

**Table S1.** Cumulative release frequency (%) of the polymeric hydrogel formulations

Formulation		Cumulative release %						
		1 hr	2 hr	3 hr	4 hr	5hr	6 hr	7 hr
F1	A	0.0110± 0.0044	0.0212± 0.0079	0.0310± 0.0112	0.0406± 0.0144	0.0498± 0.0178	0.0587± 0.0208	0.0674± 0.0238
	B	0.0128± 0.0013	0.0252± 0.0027	0.0374± 0.0039	0.0492± 0.0052	0.0608± 0.0066	0.0722± 0.0080	0.0830±0 .0092
F2	A	0.0149±0 .0013	0.0284±0 .0023	0.0415±0 .0033	0.0539±0 .0042	0.0661±0 .0050	0.0780±0 .0059	0.0896±0 .0066
	B	0.0158±0 .0008	0.0307±0 .0016	0.0452±0 .0023	0.0590±0 .0029	0.0727±0 .0035	0.0861±0 .0043	0.0990±0 .0048
F3	A	0.0162±0 .0017	0.0311±0 .0026	0.0459±0 .0039	0.0602±0 .0055	0.0748±0 .0071	0.0889±0 .0084	0.1019±0 .0100
	B	0.0202±0 .0027	0.0394±0 .0051	0.0578±0 .0077	0.0759±0 .0100	0.0939±0 .0125	0.1116±0 .0147	0.1272±0 .0163
F4	A	0.0127±0 .0007	0.0252±0 .0016	0.0372±0 .0024	0.0489±0 .0033	0.0603±0 .0042	0.0709±0 .0050	0.0811±0 .0057
	B	0.0102±0 .0015	0.0198±0 .0030	0.0290±0 .0044	0.0378±0 .0059	0.0462±0 .0072	0.0542±0 .0085	0.0618±0 .0099
F5	A	0.0143±0 .0034	0.0275±0 .0065	0.0401±0 .0096	0.0527±0 .0138	0.0628±0 .0141	0.0735±0 .0169	0.0837±0 .0199
	B	0.0106±0 .0015	0.0210±0 .0030	0.0311±0 .0043	0.0408±0 .0057	0.0500±0 .0070	0.0590±0 .0083	0.0673±0 .0094
F6	A	0.0150±0 .0009	0.0295±0 .0016	0.0434±0 .0023	0.0568±0 .0030	0.0697±0 .0037	0.0821±0 .0044	0.0938±0 .0051
	B	0.0126±0 .0005	0.0243±0 .0011	0.0353±0 .0016	0.0460±0 .0021	0.0562±0 .0027	0.0657±0 .0031	0.0749±0 .0035

**Table S2.** Inhibition zone of all the formulations

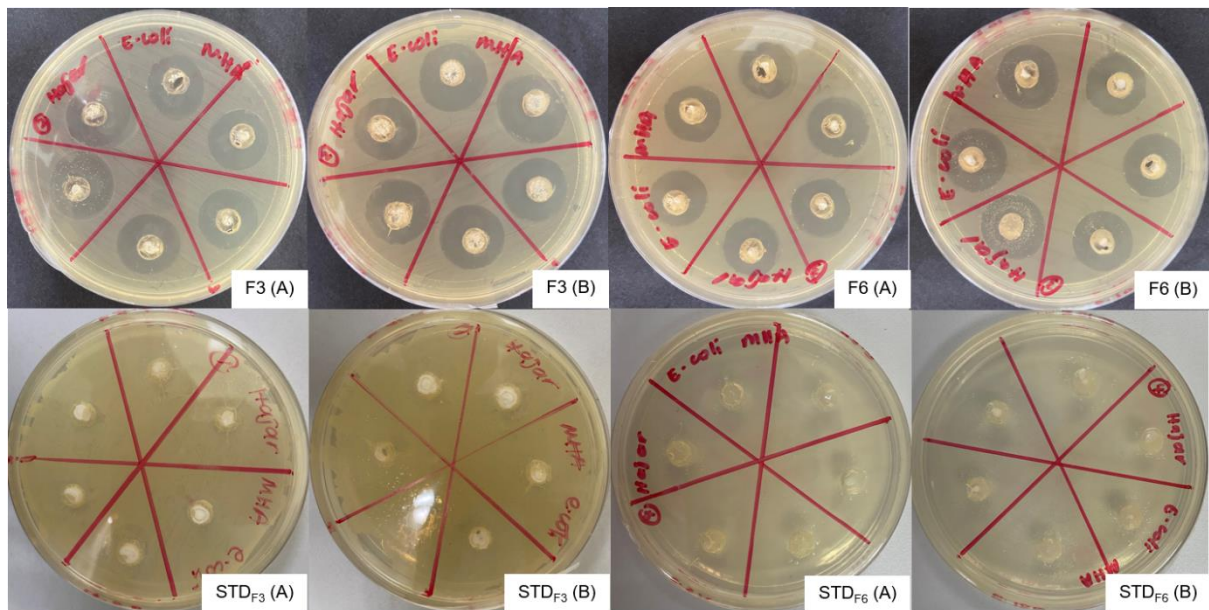
Formulations		Microorganisms					
		<i>Staphylococcus aureus</i>			<i>Escherichia coli</i>		
		Inhibition zone (mm)			Inhibition zone (mm)		
		1 h	12 h	24 h	1 h	12 h	24 h
F3	A	x	9.3	19.0	x	10.0	20.0
	B	x	10.0	20.3	x	10.7	21.0
F6	A	x	9.0	19.0	x	9.3	20.0
	B	x	8.7	18.3	x	7.3	19.0
STD <sub>F3</sub>	A	x	x	x	x	x	x
	B	x	x	x	x	x	x
STD <sub>F6</sub>	A	x	x	x	x	x	x
	B	x	x	x	x	x	x

F3 = Formulations with 4-arm PCL<sub>15k</sub>-PEG and Ciprofloxacin

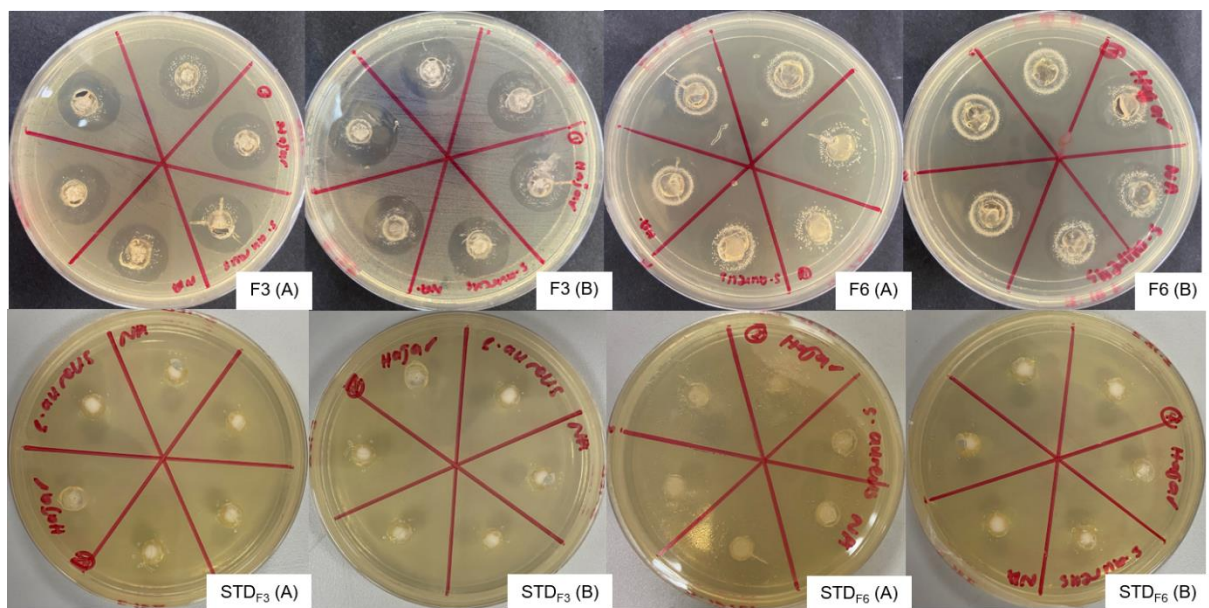
F6 = Formulations with 6-arm PCL<sub>15k</sub>-PEG and Ciprofloxacin

STD<sub>F3</sub> = Formulations with 4-arm PCL<sub>15k</sub>-PEG

STD<sub>F6</sub> = Formulations with 6-arm PCL<sub>15k</sub>-PEG



**Figure S9.** Inhibition zone for *Escherichia coli*



**Figure S10.** Inhibition zone for *Staphylococcus aureus*