

Supplementary Data

Design of an Antibiotic-Releasing Polymer: Physicochemical Characterization and Drug Release Patterns

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Results

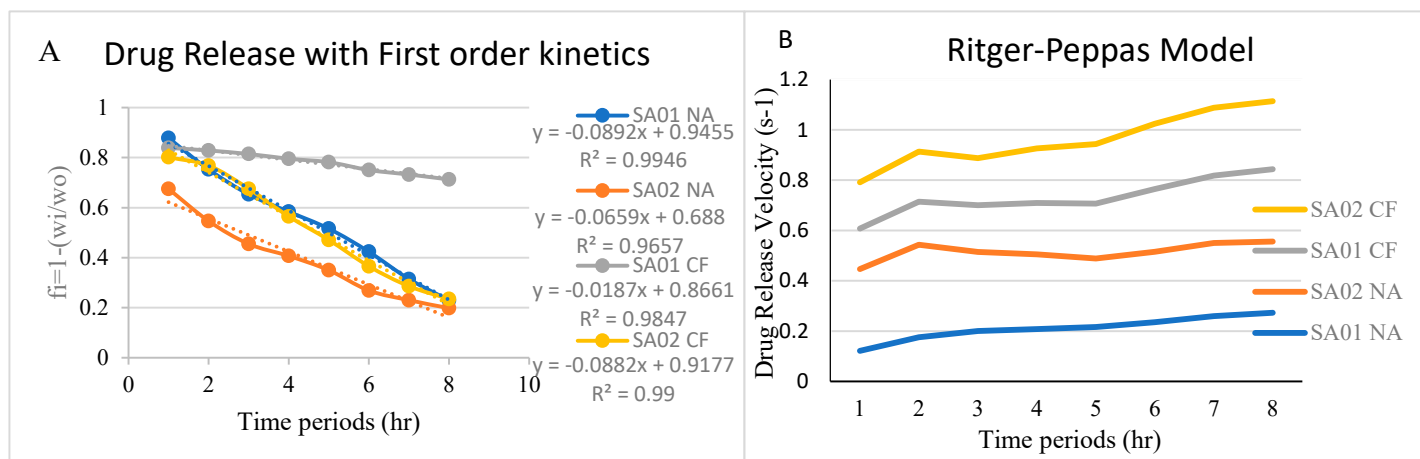


Figure S1. A) Graph illustration of linear equation of drug release from SPEEK membranes SA01 and SA02 with two different drug Nalidixic acid (NA) and ciproflaxcin (CF) to show first order kinetics. B) Graph illustration the Drug release velocity (n) from SPEEK membrane SA01 and SA02 with (Nalidixic Acid and Ciproflaxcin) in 1 to 8 hr period.

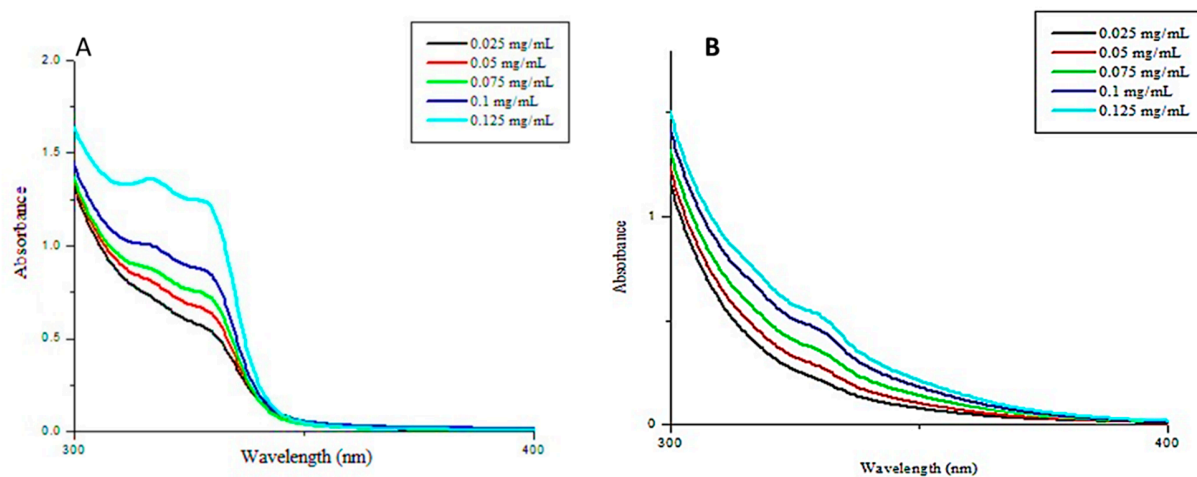


Figure S2. Drug in various concentraions A) Nalidixic acid (NA) and B) ciproflaxcin (CF).

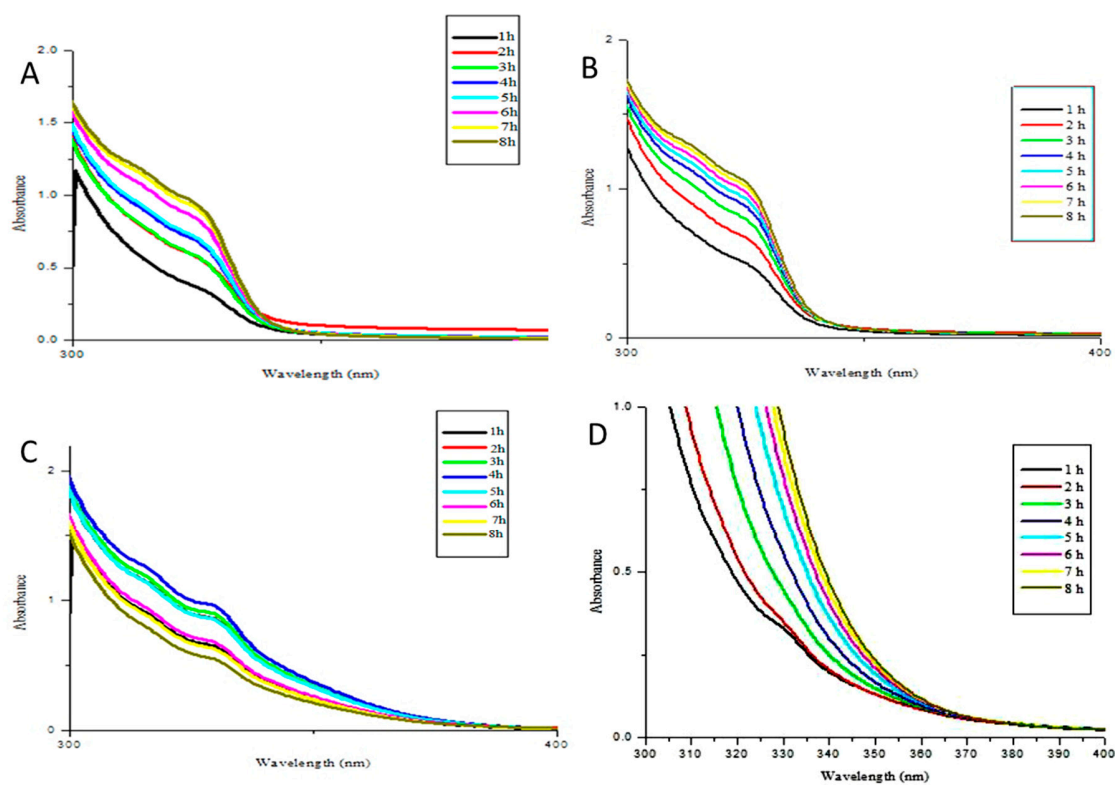


Figure S3: Linear equation of drug release from SPEEK membranes. A) SA01 and B) SA02 with Nalidixic acid (NA). C) SA01 and D) SA02 with Ciprofloxacin for 1 to 8 hr period.

Table S1. Data showing the First order, Zero order kinetic, Hopfenberg Model (Erosion Coefficient (m/h) and Ritger -Peppas model of SPEEK membrane SA01 with nalidixic acid sodium salt in 1 to 8 hr period.

	Hopfenberg Model	Ritger - Peppas Model	Zero Order Kinetics	First Order Kinetics
Time (hr)	Erosion Coefficient (m/h)	Drug Release Velocity (s^{-1})	Rate Constant	Rate Constant (s^{-1})
1	5.22×10^{-4}	0.1215	0.1215	5.8562×10^{-4}
2	5.33×10^{-4}	0.1755	0.1755	1.936×10^{-4}
3	4.96×10^{-4}	0.2001	0.2001	9.811×10^{-5}
4	4.47×10^{-4}	0.2081	0.2081	6.089×10^{-5}
5	4.16×10^{-4}	0.2165	0.2165	4.0311×10^{-5}
6	4.12×10^{-4}	0.2352	0.2352	2.553×10^{-5}
7	4.2×10^{-4}	0.2591	0.2591	1.499×10^{-5}
8	4.14×10^{-4}	0.2725	0.2725	9.04×10^{-6}

Table S2. Data showing the First order, Zero order kinetic, Hopfenberg Model (Erosion Coefficient (m/h) and Ritger -Peppas model of SPEEK membrane SA02 with nalidixic acid sodium salt in 1 to 8 hr period.

	Hopfenberg Model	Ritger - Peppas Model	Zero Order Kinetics	First Order Kinetics
Time (hr)	Erosion Coefficient (m/h)	Drug Release Velocity (s^{-1})	Rate Constant	Rate Constant (s^{-1})
1	12.76×10^{-4}	0.325	0.325	3.1226×10^{-4}
2	10.21×10^{-4}	0.3677	0.3677	9.084×10^{-5}
3	7.13×10^{-4}	0.3147	0.3147	5.6211×10^{-5}
4	5.82×10^{-4}	0.2965	0.2965	3.63×10^{-5}
5	4.78×10^{-4}	0.2721	0.2721	2.7603×10^{-5}
6	4.82×10^{-4}	0.3013	0.3013	1.407×10^{-5}
7	4.32×10^{-4}	0.291	0.291	1.037×10^{-5}
8	3.94×10^{-4}	0.2835	0.2835	7.663×10^{-6}

Table S3. Data showing the First order, Zero order kinetic, Hopfenberg Model (Erosion Coefficient (m/h) and Ritger -Peppas model of SPEEK membrane SA01 with ciprofloxacin in 1 to 8 hr period.

	Hopfenberg Model	Ritger - Peppas Model	Zero Order Kinetics	First Order Kinetics
Time (hr)	Erosion Coefficient (m/h)	Drug Release Velocity (s^{-1})	Rate Constant	Rate Constant (s^{-1})
1	5.22×10^{-4}	0.1215	0.1215	5.8562×10^{-4}
2	5.33×10^{-4}	0.1755	0.1755	1.936×10^{-4}
3	4.96×10^{-4}	0.2001	0.2001	9.811×10^{-5}
4	4.47×10^{-4}	0.2081	0.2081	6.089×10^{-5}
5	4.16×10^{-4}	0.2165	0.2165	4.0311×10^{-5}
6	4.12×10^{-4}	0.2352	0.2352	2.553×10^{-5}
7	4.2×10^{-4}	0.2591	0.2591	1.499×10^{-5}
8	4.14×10^{-4}	0.2725	0.2725	9.04×10^{-6}

Table S4. Data showing the First order, Zero order kinetic, Hopfenberg Model (Erosion Coefficient (m/h) and Ritger -Peppas model of SPEEK membrane SA02 with ciprofloxacin in 1 to 8 hr period.

	Hopfenberg Model	Ritger - Peppas Model	Zero Order Kinetics	First Order Kinetics
Time (hr)	Erosion Coefficient (m/h)	Drug Release Velocity (s^{-1})	Rate Constant	Rate Constant (s^{-1})
1	7.63×10^{-4}	0.1983	2.227×10^{-4}	4.495×10^{-4}
2	4.45×10^{-4}	0.1638	1.067×10^{-4}	2.032×10^{-4}
3	4.16×10^{-4}	0.1873	6.256×10^{-5}	1.043×10^{-4}
4	4.18×10^{-4}	0.2175	3.924×10^{-5}	5.782×10^{-5}
5	4.07×10^{-4}	0.2365	2.616×10^{-5}	3.54×10^{-5}
6	4.065×10^{-4}	0.259	1.693×10^{-5}	2.1077×10^{-5}
7	3.92×10^{-4}	0.27	1.1337×10^{-5}	1.337×10^{-5}
8	3.68×10^{-4}	0.2706	8.148×10^{-6}	9.288×10^{-6}