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SUPPORTING INFORMATION

Formulation of Fast-Disintegrating Drug Delivery System from Cyclodextrin/Naproxen Inclusion Complex Nanofibrous Films

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Application of release data on mathematical models:

Zero order model: The release of drug can be represented by the equation:
$C_0-C_t = K_0t$
$C_t=C_0+K_0t$
C_t is the amount of drug released at time t, C_0 is the initial concentration of drug at time t=0, K_0 is the zero-order rate constant. Here, the slope of the cumulative drug release *vs.* time plot gives the correlation coefficient (R^2) value.

First order model: The release of drug can be represented by the equation:
$DC/dt=-K_1C$
K_1 is the first order rate constant, expressed in $time^{-1}$ or per hour
After rearranging and integrating the equation,
$Log\ C=log\ C_0-K_1t/2.303$
C_0 is the initial concentration of the drug, C is the percent of drug remaining at time t. Here, the slope of the log % of drug remaining *vs.* time gives the R^2 value.

Higuchi model: Higuchi release model is represented as:
$M_t/M_\infty = K_ht^{1/2}$
where M_t/M_∞ is the fraction of drug released at each time point (t), Mt is the amount of drug released in time t, M∞ is the amount of drug released after time ∞, and K_h represents the Higuchi release kinetic constant. Here, the plot is obtained by cumulative percentage drug release *vs.* square root of time and the slope gives R^2 value.

Korsmeyer-peppas model: Korsmeyer-peppas model is represented as:
$M_t/M_\infty=K_{kp}t^n$
$Log\ (M_t/M_\infty) = log\ K_{kp} + n log\ t$
M_t/M_∞ is a fraction of drug released at time t, M_t is the amount of drug released in time t, M_∞ is the amount of drug released after time ∞, n is the diffusional exponent or drug release exponent, K_{kp} is the Korsmeyer release rate constant. Here, the graph is plotted between log cumulative % drug release *vs.* log time and the slope gives R^2 value.

Table S1. The correlation coefficient (R^2) values of samples calculated by using different kinetic models.

Kinetic model	Naproxen	Naproxen/HPβCD (1/1) IC NF	Naproxen/HPβCD (1/2) IC NF
Zero-order	0.8322	0.2590	0.2230
First-order	0.9880	0.6884	0.6233
Higuchi	0.9732	0.4863	0.4392
Korsmeyer-Peppas	0.9791	0.7751	0.7676
Diffusion exponent (*n* value) *	0.6125	0.7398	0.6215

*calculated by the linear regression of Korsmeyer-Peppas equation of $\log(M_t/M_\infty)$ versus log *t*.

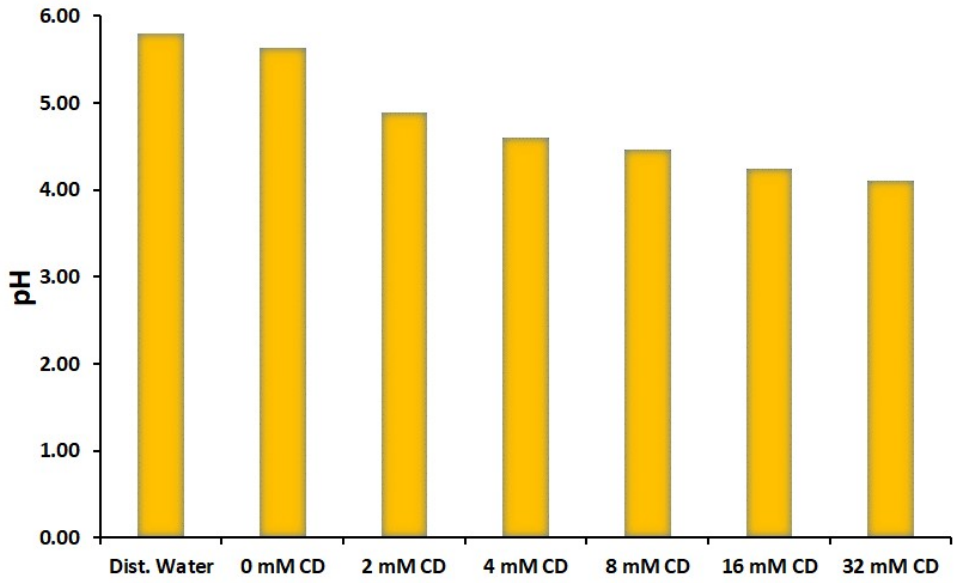

Figure S1. pH value diagram of solutions prepared for phase solubility test against increasing CD concentrations.