Table 1. Applied mathematical models to the drug release data

Model	Equation
Zero order kinetics	$Q_t=Q_0+k_0t$
First order kinetics	$ln(Q_{max}-Q_t)=lnQ_{max}-k_1t$
Higuchi	$Q_t=k_ht^{1/2}$
Korsmeyer-Peppas	$Q_t=kt^n$
Hixon-Crowell	$Q_{max}^{1/3}-(Q_{max}-Q_t)^{1/3}=k_st$

where Q_t is the percentage of drug dissolved at time t, Q_0 is the percentage of drug dissolved at the beginning (Q_0=0), Q_{max} is the percentage of undissolved drug at the beginning (Q_{max}=100%), k_o and k_1 are zero and first order release constants respectively, k_h is a Higuchi dissolution constant, k is a constant incorporating structural and geometric characteristics of the drug dosage form, k_s is a constant incorporating the surface–volume relation, n is a release exponent of Korsmeyer-Peppas model indicative of the drug release mechanism and t is time.