Supplementary Material

Table S1. Compositions of simulated gastrointestinal phases.

Reactive	Salival fluid (SF)	Gastric phase (GF)	Intestinal Phase (IF)	Duodenal Phase (DF)
Deionized water (mL)	500	500	500	500
NaCl (g)	0.0585	2.752	7.012	5.259
KCl (g)	0.0745	0.824	0.564	0.376
NaHCO$_3$ (g)	1.05		3.388	5.785
Urea (g)	0.2	0.085	0.1	0.25
NaH$_2$PO$_4$ (g)		0.266		
CaCl$_2$H$_2$O (g)		0.399		
NH$_4$Cl (g)		0.306		
HCl (mL)		6.5	0.18	0.15
KH$_2$PO$_4$ (g)			0.08	
MgCl$_2$ (g)			0.05	
Enzymes				
α-Amylase (g)	1			
Pepsin (g)		2.5		
Pancreatin (g)			9	
Lipase (g)			1.5	
Bile Salt (g)				8.2

Table S2. ANOVA for the influence of process condition on the kinetic parameters of Peleg's model constant.

Variation Source	DG	K1	K2
X1	1	*	*
X2	1	*	*
X3	1	*	*
X1*X2	1	ns	*
X1*X3	1	***	**
X2*X3	1	*	*
$X1^2$	1	ns	*
$X2^2$	1	*	***
$X3^2$	1	ns	ns
X1*X2*X3	1	ns	ns
$X1^2$*X2	1	ns	***
$X1^2$*X3	1	ns	ns
X1*$X2^2$	1	ns	ns
X1*$X3^2$	1	ns	**
$X2^2$*X3	1	ns	ns
X2*$X3^2$	1	ns	ns
R^2	-	0.87	0.99
Lack of Fit	14	ns	ns

X1: Solid-Liquid ratio (w/v). X2: Ethanol concentration (%v/v). X3: Ultrasound probe percent power (%). DG: degree of freedom. *: $p \leq 0.05$; **: $p \leq 0.01$; ***: $p \leq 0.001$. ns: $p > 0.05$.