

S1 Analytical method validation of ibuprofen using UV-vis spectrophotometer

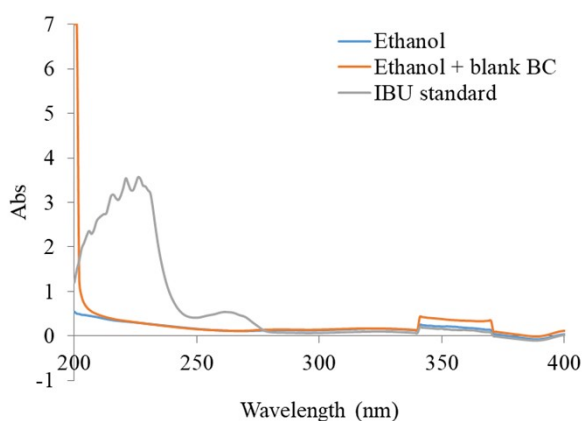


Fig. S1.1 UV spectra of ethanol, ethanol used to extract blank BC and ibuprofen standard.

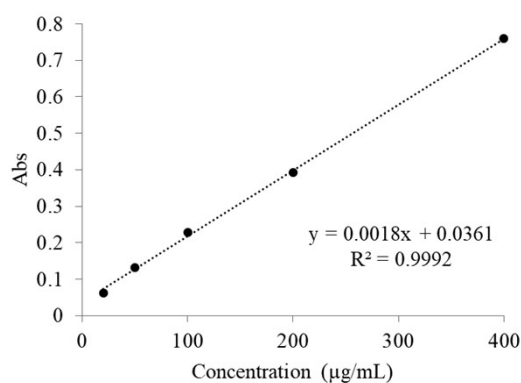


Fig. S1.2 Calibration curve of ibuprofen at 265 nm, n = 3.

Table S1.1 Accuracy and precision studies

Amount of drug added (µg/mL)	Amount of drug found (µg/mL)	% Recovery	% RSD (intraday)	% RSD (interday)
50	50.13	100.26	1.24	1.21
	49.93	99.86		
	49.06	98.13		
100	99.73	99.73		
	102.09	102.09		
	99.13	99.13		
200	203.46	101.73		
	199.4	99.70		
	201.86	100.93		
50	49.13	98.26	1.25	
	50.01	100.02		
	50.46	100.93		
100	101.80	101.80		
	98.82	98.82		
	101.20	101.20		
200	198.86	99.43		
	201.46	100.73		
	197.26	98.63		

S2 Analytical method validation of propranolol hydrochloride using UV-vis spectrophotometer

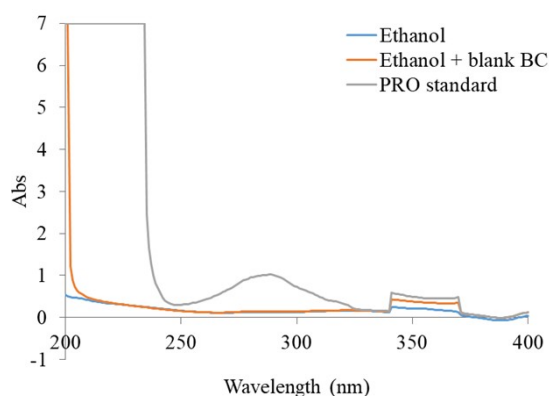


Fig. S2.1 UV spectra of ethanol, ethanol used to extract blank BC and propranolol hydrochloride standard.

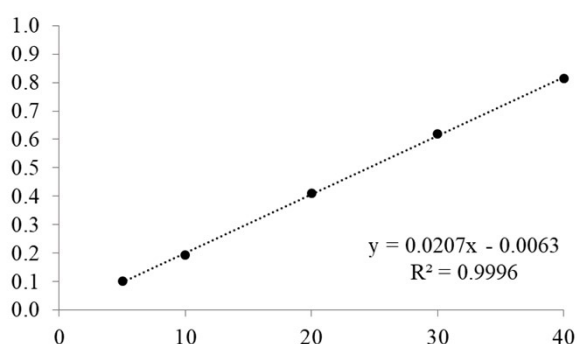


Fig. S2.2 Calibration curve of propranolol hydrochloride at 290 nm, n = 3.

Table S2.1 Accuracy and precision studies

Amount of drug added ($\mu\text{g/mL}$)	Amount of drug found ($\mu\text{g/mL}$)	% Recovery	% RSD (intraday)	% RSD (interday)
10	9.98	99.81	1.32	1.34
	10.21	102.19		
	10.13	101.35		
20	19.62	98.10	1.27	1.34
	20.19	100.95		
	19.85	99.29		
30	29.93	99.78	1.27	1.34
	29.86	99.56		
	30.52	101.73		
10	10.04	100.49	1.27	1.34
	9.91	99.11		
	10.26	102.61		
20	20.05	100.27	1.27	1.34
	20.34	101.72		
	20.01	100.07		
30	30.73	102.44	1.27	1.34
	30.46	101.54		
	30.82	102.75		

S3 Analytical method validation of ibuprofen using HPLC

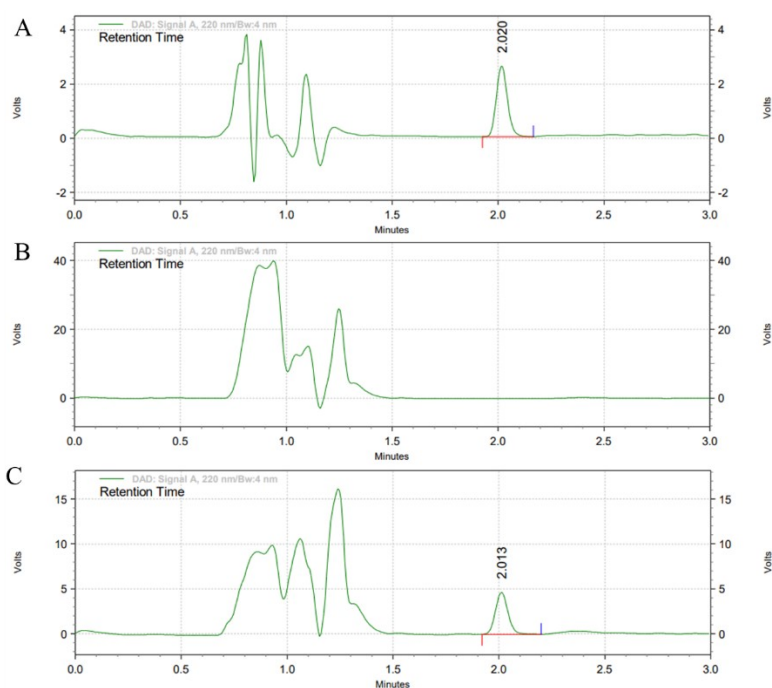


Fig. S3.1 HPLC chromatogram of (A) ibuprofen standard, (B) dissolution medium (blank), and (C) sample

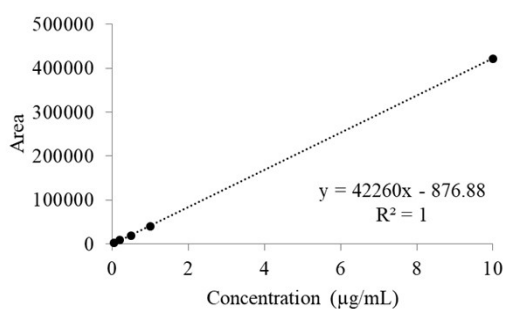


Fig. S3.2 Calibration curve of ibuprofen, n = 3.

Table S3.1 Accuracy and precision studies

Amount of drug added (µg/mL)	Amount of drug found (µg/mL)	% Recovery	% RSD (intraday)	% RSD (interday)
0.2	0.20	101.04	1.28	1.30
	0.20	102.26		
	0.19	99.09		
0.5	0.50	100.40	1.39	
	0.50	101.29		
	0.50	101.57		
1	1.00	100.93	1.39	
	1.01	101.69		
	0.98	98.22		
0.2	0.19	99.99	1.39	1.30
	0.20	101.60		
	0.19	99.12		
5	0.50	101.38	1.39	
	0.50	100.09		
	0.48	97.80		
1	1.02	102.20	1.39	
	1.01	101.54		
	1.00	100.88		

S4 Analytical method validation of propranolol hydrochloride using HPLC

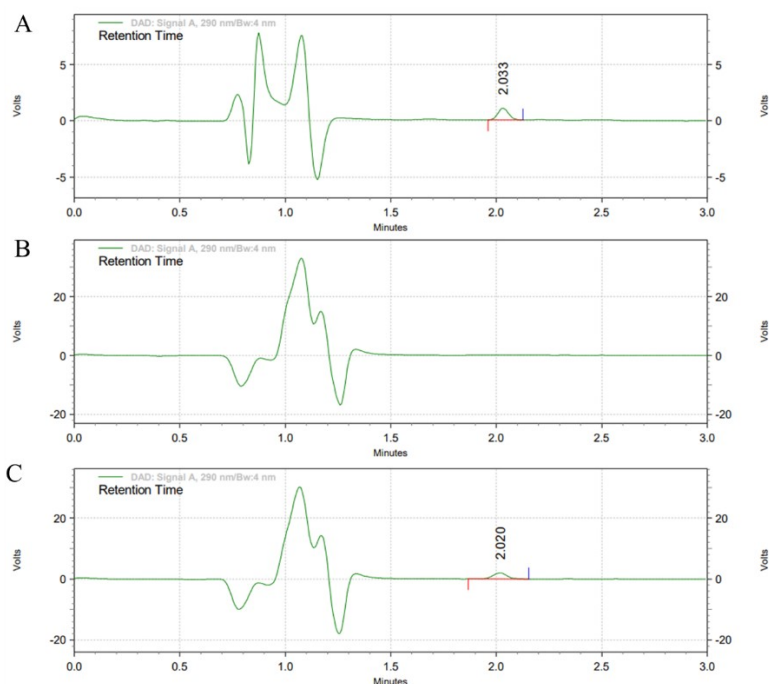


Fig. S4.1 HPLC chromatogram of (A) propranolol hydrochloride standard, (B) dissolution medium (blank), and (C) sample

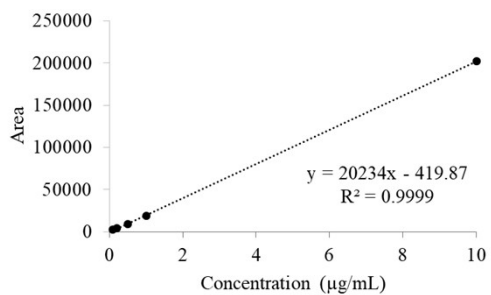


Fig. S4.2 Calibration curve of propranolol hydrochloride, n = 3.

Table S4.1 Accuracy and precision studies

Amount of drug added (µg/mL)	Amount of drug found (µg/mL)	% Recovery	% RSD (intraday)	% RSD (interday)
0.2	0.20	102.30	1.26	1.59
	0.20	101.96		
	0.20	100.31		
0.5	0.51	103.07	1.26	1.59
	0.50	100.24		
	0.50	101.15		
1	0.99	99.38	1.26	1.59
	1.01	101.24		
	0.99	99.44		
0.2	0.20	100.06	1.91	1.59
	0.20	101.34		
	0.19	98.03		
5	0.51	103.32	1.91	1.59
	0.51	102.38		
	0.50	100.97		
1	0.99	99.87	1.91	1.59
	0.97	97.29		
	1.00	100.83		

S5 FTIR analysis

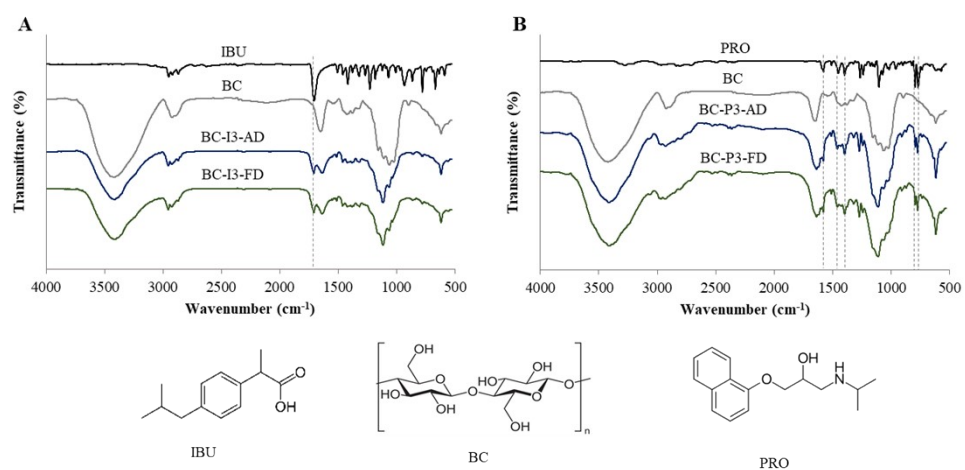


Fig. S5.1 FTIR spectra of the pure drug, blank BC (BC), and BC loaded with related drug using two different drying methods; A is for ibuprofen (IBU) and B is for propranolol hydrochloride (PRO).