

Supporting Information

Acoustic Cavitation Assisted formulation of Solid Lipid Nanoparticles using Different Stabilizers

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Table S1 Comparison of encapsulation efficiency (%EE) and drug loading (%DL) percentage of solid lipid nanoparticles containing Compritol® 888 ATO (CPT) and/or ketoprofen (KP) from reported literature.

Entry	Lipid	Drug	Stabilizer	Process/method	Particle size (d/nm)	%EE	%DL
1	Compritol	Ibuprofen	Poloxamer® 188 Tween® 80	Hot melt oil in water emulsion ¹	87 nm 70 nm	-- --	-- --
2	Compritol	Indomethacin	Sucrose fatty acid ester SP 30	Hot Homogenization ²	211 nm	--	--
3	Compritol	Stavudine,	L- α - phosphatidylcholine,	Microemulsion ³	258 nm	~45	--
		Delavirdine,	Cholesteryl hemisuccinate,		142 nm	~65	--
		Saquinavir,	Taurocholate		198 nm	~74	--
4	Compritol	Rosuvastatin calcium	Tween® 20 Poloxamer® 188	Hot homogenization followed by an ultrasonication ⁴	899 nm 987 nm	46 51	-- --
5	Compritol	Diclofenac diethylamine	Soya lecithin, Pluronic® F68	Solvent emulsion evaporation ⁵	178 nm	54	--
6	Compritol	Lornoxicam	Lecithin, Sodium cholate and Poloxamer® 188	Emulsification solvent evaporation ⁶	289 nm	67	--
7	Glyceryl monostearate	Ketoprofen	Tween® 80	Emulsion solvent evaporation ⁷	100 μ m	72	18
8	Capmul	Ketoprofen	Gelucire® 50/13	Hot melt homogenization followed by sonication ⁸	244 nm	72	02
9	Compritol	Superoxide dismutase	Tween® 80 and Span® 20	Cold homogenization ⁹	102 nm	78	--
10	Compritol	Meloxicam	Poloxamer® 188	Modified high shear homogenization and ultrasonication ¹⁰	325 nm	85	--

11	Compritol	Carvedilol	Poloxamer® 188	Emulsion/solvent evaporation method ¹¹	134 nm	87	--
12	Compritol	Diclofenac sodium	Hydroxypropyl- β -cyclodextrin	Oil/water hot homogenization ¹²	300 nm	88	--
13	Compritol	Montelukast sodium	Polyvinyl alcohol	Hot homogenization followed by an ultrasonication ¹³	2.95 μ m	92	--
14	Compritol	Lornoxicam	Pluronic® F68	High pressure homogenization ¹⁴	185 nm	93	11
15	Beeswax and Carnauba wax	Ketoprofen	Tween® 20 and egg lecithin	Microemulsion ¹⁵	75 nm	97	10
16	Beeswax and Carnauba wax	Ketoprofen	Egg lecithin	Microemulsion ¹⁶	150 nm	97	26
17	Compritol	Ibuprofen	Pluronic® F68	Hot-High pressure homogenization ¹⁷	< 5 μ m	98	--
18	Beeswax	Ketoprofen	Tween® 80	Emulsion congealing ¹⁸	790 μ m	99	--
19	Compritol	Ketoprofen	Gelucire® 50/13 Poloxamer® 407, Pluronic® 127	Acoustic cavitation assisted hot melt mixing (This work)	742 nm 676 nm 699 nm	91 87 89	12 12 12

--" indicates not reported.

Table S2 Linear correlation coefficient (R^2) of fitting curves of *in vitro* drug release data of the formulated drug loaded solid lipid nanoparticles prepared using different stabilizers (GEL, POL, PLU) at different pH (4.0, 7.4, 10.0) in different release kinetic models.

Formulation	pH	Drug release kinetic models				
		Zero	First	Higuchi	Korsmeyer-Peppas	Hixson-Crowell
KP@CPT-GEL	4.0	0.98073	0.98843	0.95314	0.99457	0.98628
KP@CPT-GEL	7.4	0.98334	0.98778	0.93678	0.98168	0.98828
KP@CPT-GEL	10.0	0.98155	0.93248	0.87669	0.9533	0.95501
KP@CPT-POL	4.0	0.9628	0.96722	0.93494	0.93306	0.96608
KP@CPT-POL	7.4	0.89119	0.92174	0.97058	0.92409	0.91311
KP@CPT-POL	10.0	0.94844	0.94966	0.92595	0.9007	0.9528
KP@CPT-PLU	4.0	0.98914	0.98613	0.89097	0.9776	0.98757
KP@CPT-PLU	7.4	0.93024	0.95392	0.96365	0.94887	0.94857
KP@CPT-PLU	10.0	0.97193	0.95253	0.90003	0.92223	0.96308

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