

**Table S1.** The prescreening study for the formulation of EGCG-loaded SNVs using different rotation speeds and sonication times.

Formula	Rotation speed (rpm)	Sonication time (min)	* EE%
P1	500	3	88.04±2.82
P2	500	5	64.11 ± 1.41
P3	1000	3	77.32±1.28
P4	1000	5	53.44 ± 1.36

Notes: \* the values are described as mean ± SD (n = 3). Abbreviations: EE, entrapment efficiency.

**Table S2.** Prescreening study for selecting the most suitable levels of different independent variables required for preparing EGCG-loaded SNVs.

Formula	Non-ionic surfactant to EA ratio	Type of non-ionic surfactant	Type of EA	*EE%
S1	1:1	Cremophor RH	Brij 35	35.28±1.24
S2	1:1	Cremophor RH	Tween 80	50.32±1.78
S3	1:1	Cremophor RH	Tween 60	61.48±2.11
S4	1:1	Span 60	Brij 35	68.34±1.44
S5	1:1	Span 60	Tween 80	80.12±1.73
S6	1:1	Span 60	Tween 60	88.95±1.92
S7	1:1	Span 80	Brij 35	50.21±1.22
S8	1:1	Span 80	Tween 80	64.21±1.44
S9	1:1	Span 80	Tween 60	71.43±1.28
S10	3:2	Cremophor RH	Brij 35	44.60±1.34
S11	3:2	Cremophor RH	Tween 80	59.48±1.21
S12	3:2	Cremophor RH	Tween 60	67.34±1.95
S13	3:2	Span 60	Brij 35	74.59±1.33
S14	3:2	Span 60	Tween 80	88.04±2.82
S15	3:2	Span 60	Tween 60	92.35±1.34
S16	3:2	Span 80	Brij 35	57.11±1.48
S17	3:2	Span 80	Tween 80	70.53±1.81
S18	3:2	Span 80	Tween 60	80.56±1.57
S19	4:1	Cremophor RH	Brij 35	58.29±1.63
S20	4:1	Cremophor RH	Tween 80	70.33±1.28
S21	4:1	Cremophor RH	Tween 60	80.02±2.14
S22	4:1	Span 60	Brij 35	80.35±1.28
S23	4:1	Span 60	Tween 80	90.49±1.22
S24	4:1	Span 60	Tween 60	97.93±1.28
S25	4:1	Span 80	Brij 35	64.23±1.22
S26	4:1	Span 80	Tween 80	80.32±1.38
S27	4:1	Span 80	Tween 60	89.99±2.16

Notes: \* the values are expressed as mean ± SD (n = 3). Abbreviations: EE, entrapment efficiency; EA, edge activator.