

Supplementary Data

Table 1: Study and Selection of optimal Solvent to Anti-solvent ratios.

Code	Solvent(ml)	Anti-solvent(ml)	GLB(mg/ml)	Particle size(nm)*	PDI*
05:05	05	05	50	4931.1±122.2	0.498±0.012
4.5:5.5	4.5	5.5	50	4483.3±98.5	0.635±0.023
04:06	04	06	50	3621.8±130.8	0.674±0.014
3.5:6.5	3.5	6.5	50	2815.5±142.1	0.587±0.025
03:07	03	07	50	3407.2±110.6	0.541±0.052
2.5:7.5	2.5	7.5	50	4197.6±95.4	0.576±0.031
02:08	02	08	50	4771.3±116.2	0.488±0.046
1.5:8.5	1.5	8.5	50	4853.7137.6	0.621±0.031
01:09	01	09	50	5192.3±122.4	0.557±0.048

*n=3

Table 2: Study and Selection of optimal drug concentration.

Drug concentration (mg/ml)	Solvent:anti-solvent (ml/ml)	Particle size(nm)*	PDI*
10	3.5:6.5	2815.2±24.6	0.437±0.012
20	3.5:6.5	2784.6±22.1	0.396±0.014
30	3.5:6.5	2621.3±30.7	0.413±0.022
40	3.5:6.5	2276.4±26.5	0.38±0.013
50	3.5:6.5	2891.9±24.2	0.402±0.011
60	3.5:6.5	3089.3±32.9	0.363±0.022

*n=3

Table 3: Stabilization GLB nanosuspension by HPMC K15M/Lactose.

Formulation code	Solvent:anti-solvent(ml/ml)	GLB (mg/ml)	HPMC K15M % w/v	Lactose % w/v	Particle size(nm)*	PDI*
GD-H0.1	3.5:6.5	40	0.1	0	1263.3±30.4	0.517±0.013
GD-H0.2	3.5:6.5	40	0.2	0	459.4±27.3	0.208±0.011
GD-H0.3	3.5:6.5	40	0.3	0	136.1±17.9	0.187±0.019
GD-H0.4	3.5:6.5	40	0.4	0	604.9±26.6	0.321±0.018
GD-H0.5	3.5:6.5	40	0.5	0	1085.7±29.3	0.334±0.019
GD-H0.6	3.5:6.5	40	0.6	0	1710.3±34.6	0.446±0.009
GD-L0.1	3.5:6.5	40	0	0.1	1933.5±33.4	0.407±0.01
GD-L0.2	3.5:6.5	40	0	0.2	1439.4±29.3	0.438±0.016
GD-L0.3	3.5:6.5	40	0	0.3	705.6±25.1	0.297±0.015
GD-L0.4	3.5:6.5	40	0	0.4	352.9±20.8	0.31±0.018
GD-L0.5	3.5:6.5	40	0	0.5	866.2±32.3	0.493±0.017
GD-L0.6	3.5:6.5	40	0	0.6	1353.4±35.4	0.582±0.023

*n=3

Table 3: Lyophilization of GLB NS.

Formulation code	Solvent:anti-solvent(ml/ml)	GLB (mg/ml)	HPMC K15M % w/v	Lactose % w/v	Mannitol %w/v	Particle size(nm)*	PDI*	Dispersability grade*
GD-H0.3a	3.5:6.5	40	0.3	0	0	838.3±18.3	0.218±0.015	Grade C
GD-H0.3b	3.5:6.5	40	0.3	0	1	644.7±22.8	0.234±0.013	Grade C
GD-H0.3c	3.5:6.5	40	0.3	0	2	356.1±23.1	0.272±0.017	Grade C
GD-H0.3d	3.5:6.5	40	0.3	0	3	168.6±19.4	0.158±0.008	Grade A
GD-H0.3e	3.5:6.5	40	0.3	0	4	196.9±20.1	0.189±0.015	Grade A
GD-H0.3f	3.5:6.5	40	0.3	0	5	228.7±46.3	0.188±0.009	Grade A
GD-L0.4a	3.5:6.5	40	0	0.4	0	959.8±26.1	0.321±0.016	Grade C
GD-L0.4b	3.5:6.5	40	0	0.4	1	877.3±17.7	0.348±0.015	Grade C
GD-L0.4c	3.5:6.5	40	0	0.4	2	891.5±15.4	0.389±0.012	Grade C
GD-L0.4d	3.5:6.5	40	0	0.4	3	613.7±25.5	0.297±0.011	Grade B
GD-L0.4e	3.5:6.5	40	0	0.4	4	525.3±23.7	0.284±0.014	Grade A
GD-L0.4f	3.5:6.5	40	0	0.4	5	342.2±26.9	0.168±0.009	Grade A

***n=3**