

Design of turmeric rhizome extract nano- formula for delivery to cancer cells

Table S1. Physicochemical properties of turmeric rhizome extract nanoparticles formulation obtained from mixture-process variables experimental design.

Formulation	Y _{m1}	Y _{m2}	Y _{m3}	Y _{m4}	Y _{m5}	Y _{m6}	Y _{m7}	Y _{m8}
M01	77.28	66.24	54.38	35.08	160.4	171.0	285.3	0.150
M02	1.81	1.03	<u>0.00</u>	<u>0.00</u>	182.1	200.0	363.3	0.161
M03	150.41	71.61	65.88	54.40	171.2	223.0	452.3	0.302
M04	181.49	63.77	57.93	49.05	187.2	238.0	526.3	0.329
M05	7.95	68.96	60.77	45.39	205.5	298.0	645.3	0.490
M06	86.93	65.91	66.53	68.06	165.2	178.3	280.3	0.124
M07	38.89	58.69	60.92	66.12	200.8	293.0	561.3	0.416
M08	9.08	40.10	59.44	70.01	255.8	476.7	926.3	0.571
M09	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	191.3	212.7	368.3	0.161
M10	89.65	93.46	80.13	75.51	163.6	178.0	304.3	0.154
M11	83.87	60.11	38.35	18.18	197.4	249.7	924.7	0.442
M12	5.22	30.51	45.28	68.15	253.9	395.0	766.0	0.535
M13	52.39	68.55	42.50	19.29	196.7	280.0	612.0	0.442
M14	1.77	1.04	<u>0.00</u>	<u>0.00</u>	<u>281.3</u>	<u>477.3</u>	985.0	0.572
M15	76.78	21.43	36.60	53.73	232.3	395.7	871.7	<u>0.601</u>
M16	221.63	55.13	48.47	28.40	167.9	177.7	292.3	0.152
M17	134.01	70.09	75.02	73.84	162.5	173.0	262.7	0.113
M18	306.06	81.87	85.17	85.48	198.5	298.3	654.0	0.477
M19	0.41	10.86	<u>0.00</u>	<u>0.00</u>	272.3	444.3	924.7	0.556
M20	214.68	55.13	42.63	21.77	201.5	305.0	637.0	0.469
M21	173.88	88.10	89.58	86.21	160.6	172.3	268.0	0.113
M22	3.91	4.48	<u>0.00</u>	<u>0.00</u>	275.1	469.3	957.3	0.570
M23	<u>348.67</u>	90.35	87.43	84.52	154.9	164.3	251.3	0.105
M24	180.27	64.35	62.88	67.28	218.4	319.3	708.3	0.463
M25	121.35	44.44	50.21	66.45	175.9	190.0	312.3	0.140
M26	141.81	61.79	39.76	18.35	158.2	171.7	277.3	0.136
M27	174.35	81.69	73.15	59.58	147.1	156.7	244.3	0.106
M28	169.80	82.13	78.22	70.65	191.9	293.0	558.0	0.477
M29	174.91	47.29	60.62	70.71	162.5	175.0	270.3	0.118
M30	36.68	13.86	27.38	53.74	260.8	431.7	<u>989.7</u>	0.554
M31	62.81	62.43	78.65	<u>107.70</u>	174.3	188.7	304.7	0.153
M32	253.11	87.53	77.95	76.87	169.6	183.3	308.0	0.150
M33	182.67	58.79	39.17	19.21	180.7	223.7	530.3	0.282
M34	280.81	95.22	88.46	90.77	170.2	215.3	402.3	0.283
M35	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	231.7	322.3	619.3	0.360
M36	42.98	23.37	40.70	62.65	212.2	322.0	671.7	0.452
M37	253.35	<u>112.02</u>	<u>98.40</u>	89.50	187.4	242.3	462.3	0.303
M38	81.49	22.39	34.10	52.70	207.4	268.0	535.0	0.345
M39	1.94	2.17	<u>0.00</u>	<u>0.00</u>	203.1	252.0	509.3	0.271
M40	58.97	51.69	70.63	82.64	219.3	337.7	769.7	0.522
M41	38.79	19.56	39.56	66.21	226.7	340.0	748.3	0.494

M42	205.83	69.20	72.95	81.77	172.1	198.0	400.3	0.234
M43	183.30	59.93	38.80	18.39	204.2	299.3	615.0	0.455
M44	170.12	81.00	69.33	53.16	163.7	207.3	410.3	0.285
M45	32.72	18.07	35.80	64.46	263.1	404.3	891.0	0.537
M46	162.42	76.10	66.83	50.36	<u>144.5</u>	<u>152.3</u>	<u>238.7</u>	<u>0.104</u>
M47	142.33	62.02	39.28	18.24	174.1	184.7	326.7	0.149
Min	0.00	0.00	0.00	0.00	144.5	152.3	238.7	0.104
Max	348.67	112.02	98.40	107.70	281.3	477.3	989.7	0.601

Y_{m1} = curcumin content (μM), Y_{m2} = % label amount of curcumin (%LA), Y_{m3} = % label amount of desmethoxycurcumin (%LA), Y_{m4} = % label amount of bisdesmethoxycurcumin (%LA), Y_{m5} = z-average (nm), Y_{m6} = d₅₀ (nm), Y_{m7} = d₉₀ (nm), and Y_{m8} = Polydispersible index (PDI). Underlined values represent the designed formulation with minimum or maximum dependent variable values.