Supplementary Information (SI) for Sustainable Food Technology.

Supplementary file

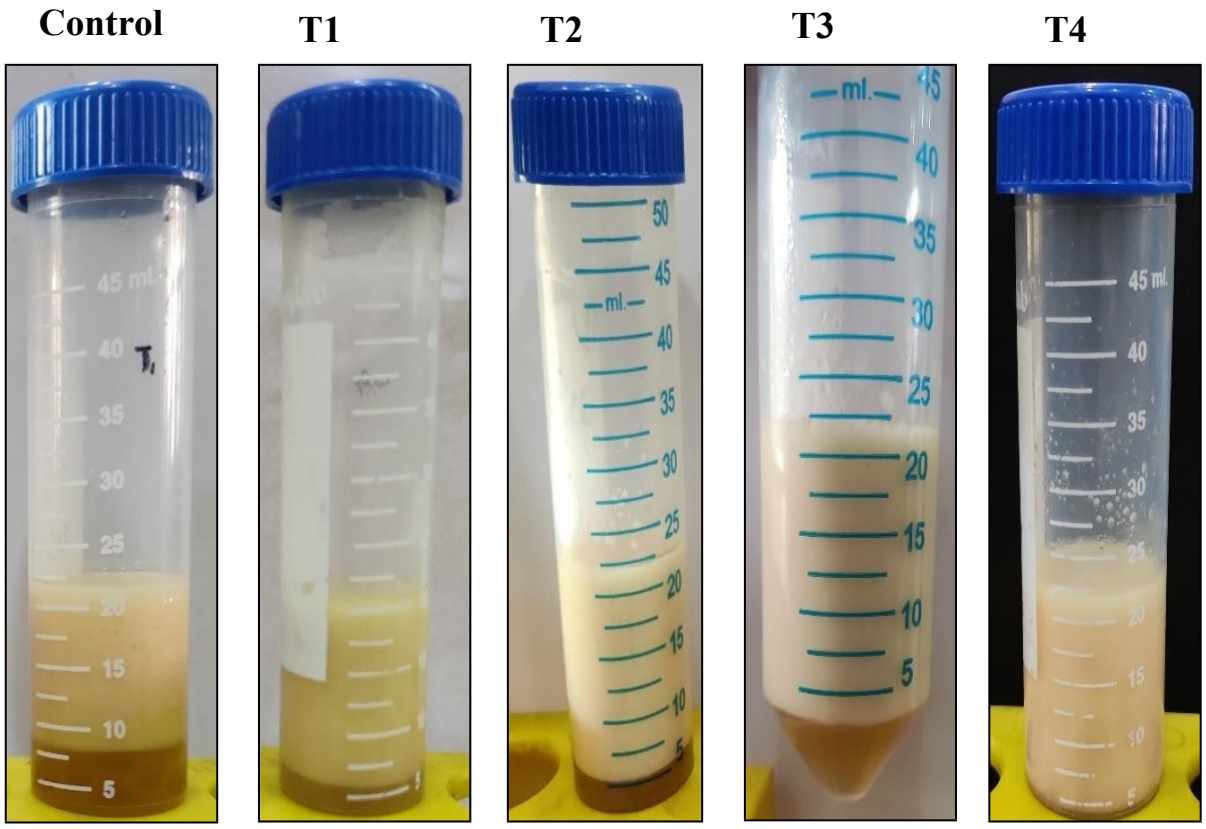

Fig. S1. Effect of 600 W power ultrasound at variable times ranging from 0 to 30 min on the Emulsifying Activity in 10% w/v MPC. Control, T1, T2, T3, and T4 represent 0, 5, 10, 20, and 30 minutes of Ultrasonic Processing time respectively.

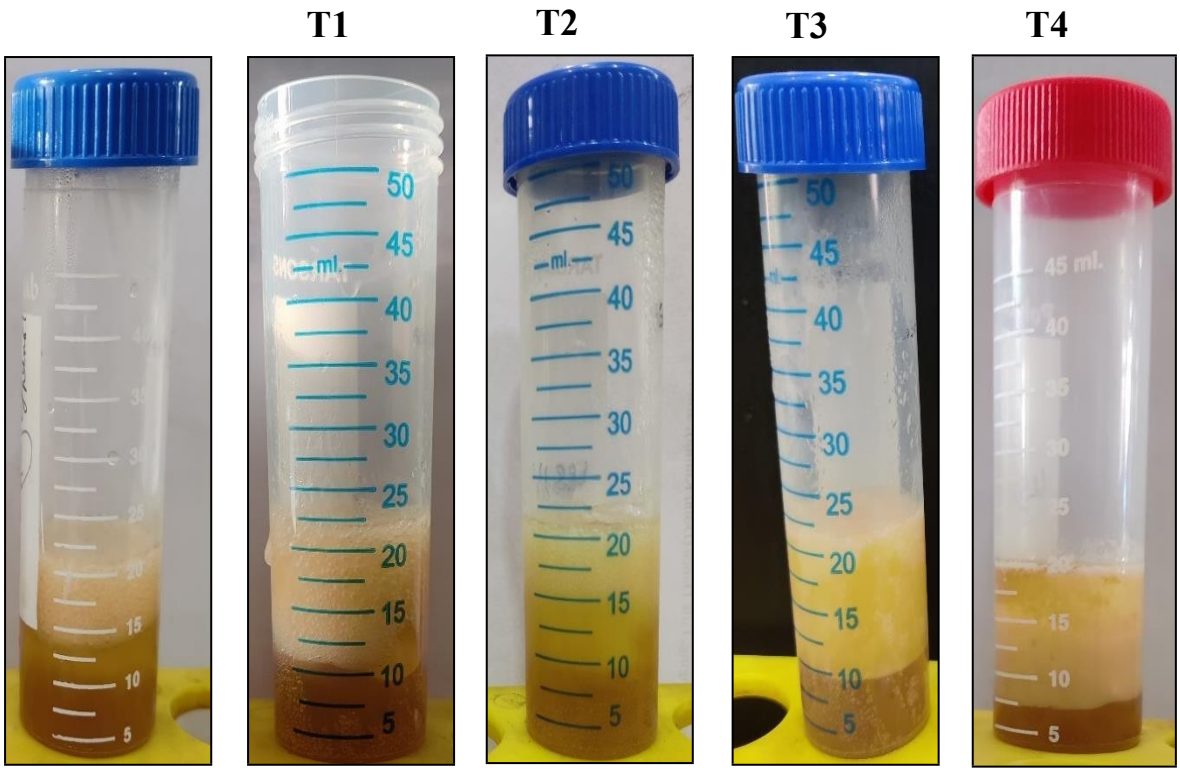

Fig. S2. Effect of 600Wt Power Ultrasound at variable times ranging from 0 to 30 min on the Emulsifying Stability in 10% w/v MPC where Control, T1, T2, T3, T4 represents 0, 5, 10, 20, and 30 mins of Ultrasonic Processing time respectively

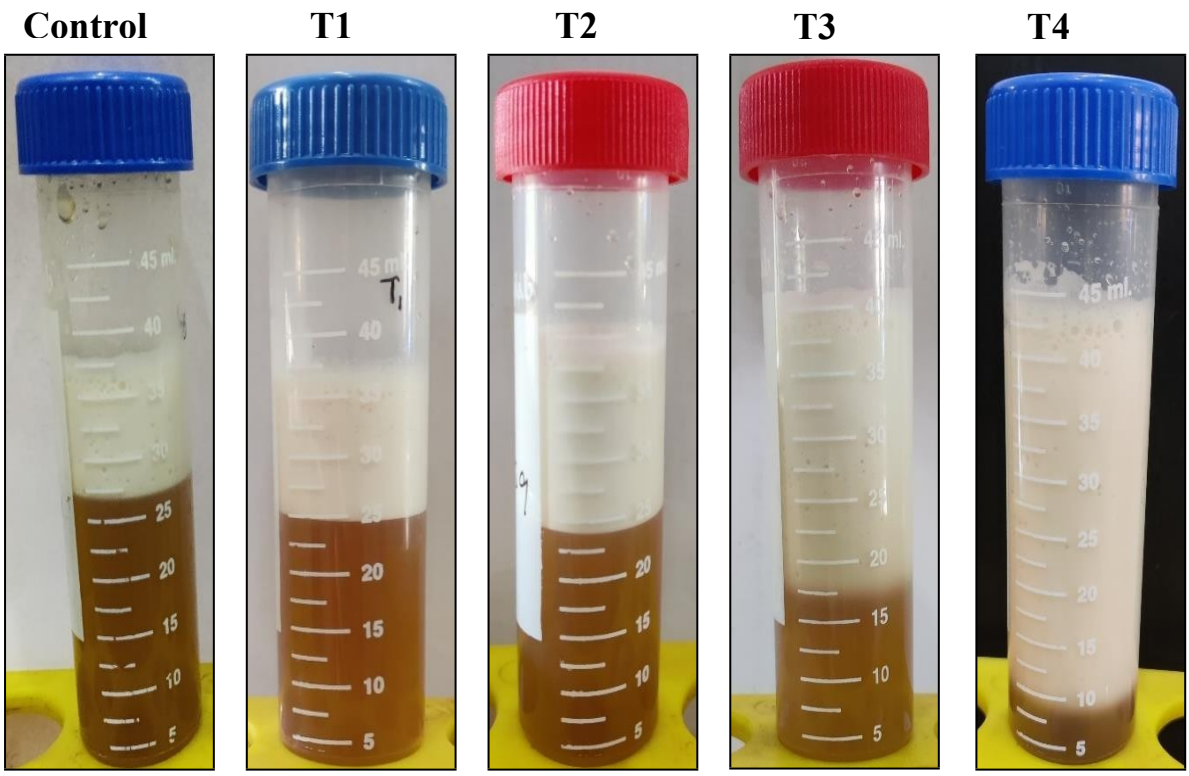

Fig. S3. Effect of 600 Wt. Power Ultrasound at variable times ranging from 1 to 30 min on the Foaming Capacity 10% w/v MPC. where Control, T1, T2, T3, T4 represents 0, 5, 10, 20 and 30 mins of Ultrasonic Processing time respectively

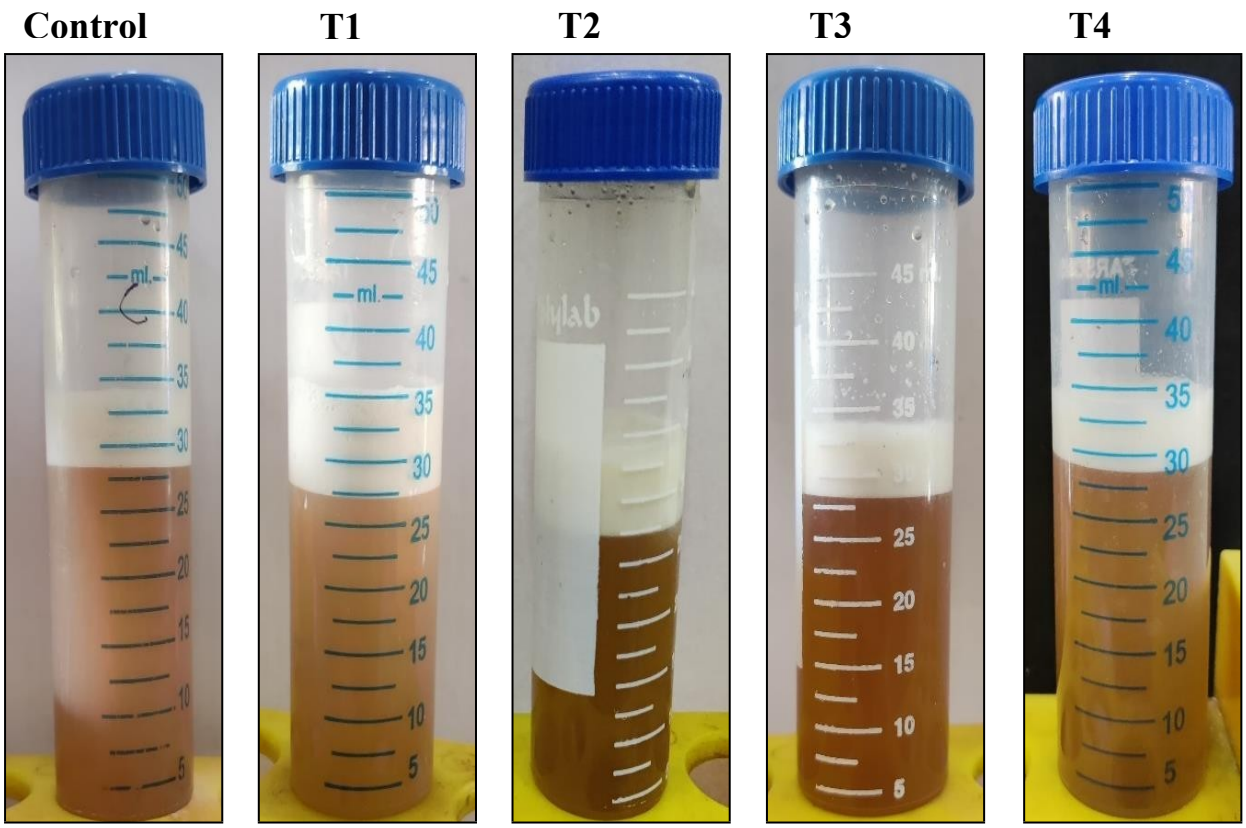

Fig. S4. Effect of 600Wt Power Ultrasound a variable time ranging from 0 to 30 min on the Foaming stability in 10% w/v MPC where Control, T1, T2, T3, T4 represents 0, 5, 10, 20, and 30 mins of Ultrasonic Processing time respectively

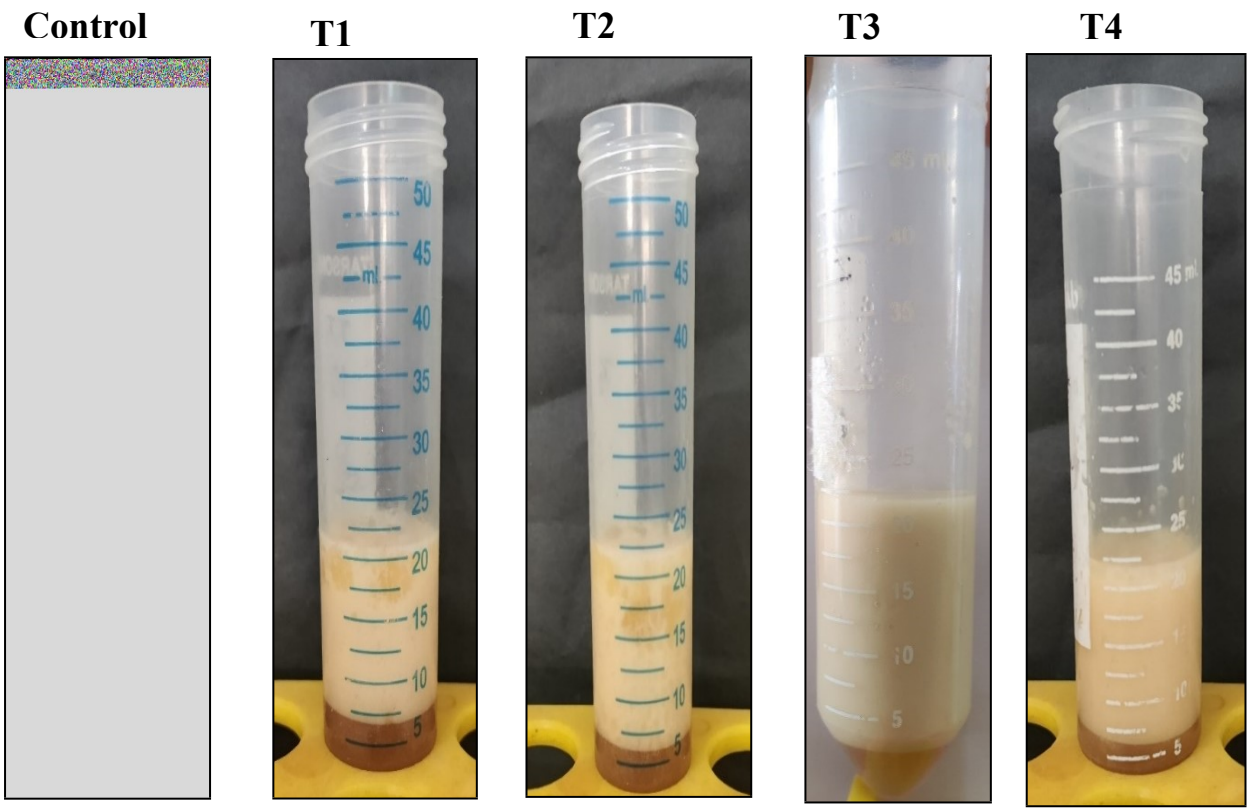

Fig. S5. Effect of 6MPa Pressure Power Hydrodynamic cavitation at variable times ranging from 0 to 30 min on the Emulsifying Activity in 10% w/v MPC where Control, T1, T2, T3, T4 represents 0, 5, 10, 20 and 30 mins of Cavitation Processing time respectively

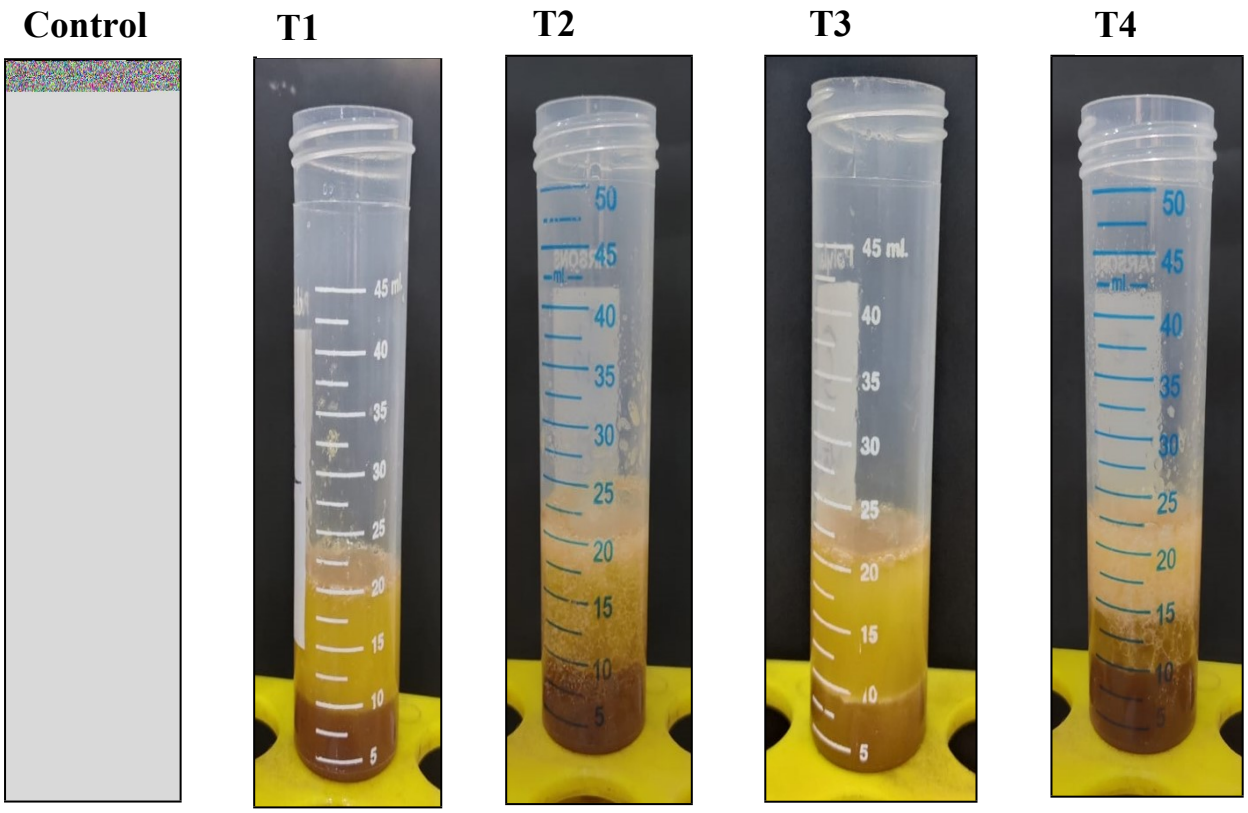

Fig. S6. Effect of 6MPa Pressure Power Hydrodynamic cavitation at variable times ranging from 0 to 30 min on the Emulsifying Stability in 10% w/v MPC where Control, T1, T2, T3, T4 represents 0, 5, 10, 20 and 30 mins of cavitation Processing time respectively

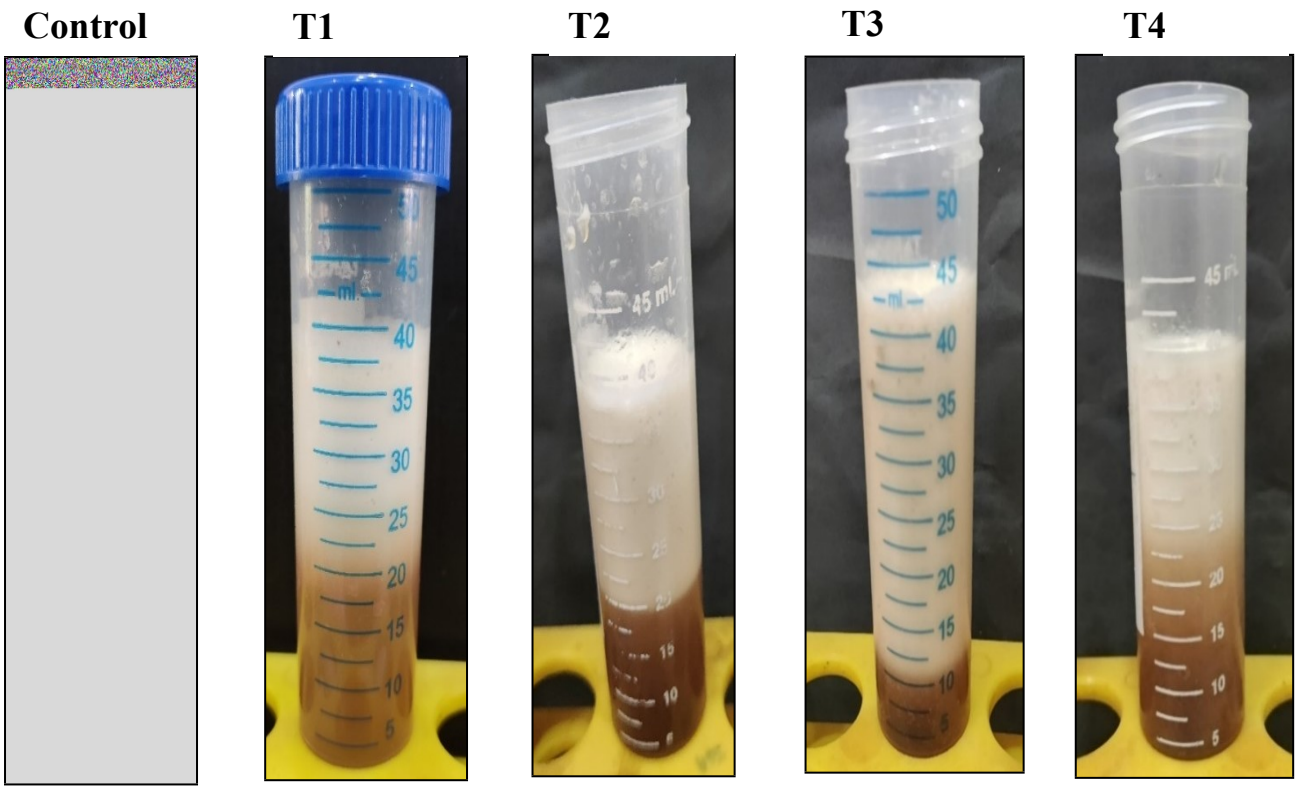

Fig. S7. Effect of 6MPa Pressure Power Hydrodynamic cavitation at variable times ranging from 0 to 30 min on the foaming activity 10% w/v MPC where Control, T1, T2, T3, T4 represents 0, 5, 10, 20 and 30 mins of cavitation Processing time respectively

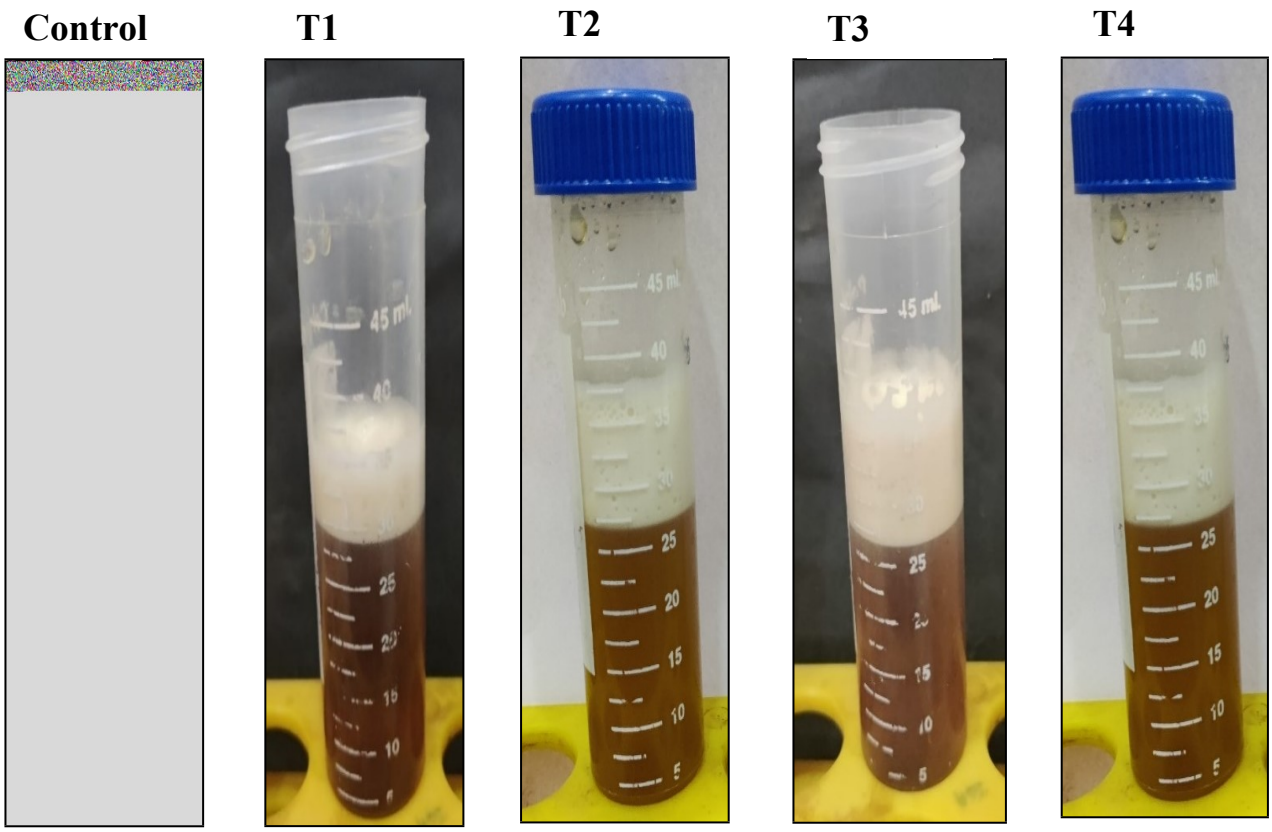

Fig. S8. Effect of 6MPa Pressure Power Hydrodynamic Cavitation at variable times ranging from 0 to 30 min on foaming stability in 10% w/v MPC where Control, T1, T2, T3, T4 represents 0, 5, 10, 20 and 30 mins of cavitation Processing time respectively

Table S1- Effect of Ultrasonic Cavitation at 20 kHz on the Physical properties of 10% w/v MPC at 600 Wt. power and variable time ranging from 0 to 30 Min

Trail	Power (Wt)	Time (Min)	Emulsifying Activity (%)	% of the change in EA	Emulsifying Stability (%)	Foaming Capacity (%)	% of the change in FA	Foaming Stability (%)
Control	0	0	42.13±0.15^{e}	--	46.76±0.25^{d}	20.83±0.28^{d}	--	40.76±0.25^{a}
1	600	5	54.93±0.11^{d}	31	52.93±0.11^{b}	21.00±0.28^{d}	2	30.73±0.23^{bc}
2	600	10	75.06±0.05^{c}	81	51.40±0.34^{c}	35.53±0.51^{c}	80	31.66±0.28^{bc}
3	600	20	91.46±0.50^{a}	110	53.21±0.34^{b}	86.53±0.54^{b}	200	24.66±1.15^{d}
4	600	30	86.11±0.17^{b}	102	56.22±0.26^{a}	112.53±0.52^{a}	250	19.93±0.11^{e}

Results are expressed as Mean ± Standard deviation. Different lowercase letters indicate significant differences in each column and for each treatment ($p < 0.05$).

Table S2- Effect of Hydrodynamic Cavitation on the Physical properties of 10% w/v MPC at 6MPa pressure and different time

Trail	Pressure (MPa)	Time (Min)	Emulsifying Activity (%)	% of Change in EA	Emulsifying Stability (%)	Foaming Activity (%)	% of Change in FA	Foaming Stability (%)
Control	0	0	42 ± 0.52^{d}	--	47.06 ± 0.20^{d}	19.7 ± 0.26^{e}	--	41.2 ± 0.17^{a}
1	6	5	55.66 ± 0.57^{c}	22	53.83 ± 1^{c}	24.83 ± 0.76^{d}	20	35.66 ± 0.57^{b}
2	6	10	75.54 ± 0.54^{b}	85	56.5 ± 0.51^{b}	45.5 ± 0.54^{c}	102	34.83 ± 0.76^{b}
3	6	20	93.16 ± 0.28^{a}	112	54.5 ± 0.52^{c}	93.83 ± 0.76^{a}	250	30.83 ± 0.28^{a}
4	6	30	76.51 ± 0.50^{b}	86	58.83 ± 0.76^{a}	79.54 ± 0.53^{b}	190	33.66 ± 0.57^{c}

Results are expressed as Mean ± Standard deviation. Different lowercase letters indicate significant differences in each column and for each treatment ($p < 0.05$).