High-intensity Ultrasound Processing to Improve *Semitendinosus* Steak Quality from *Bos indicus* Cattle – Supplementary Tables

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Table S1. Calorimetric study on VC 750 ultrasonic probe by using different powers to 1 L water for 3 min.

Power input (W)	**Diameter of probe surface (mm)**	**Power output (W)***	**Intensity (W/cm^2)****
150	19	25.58	9.02
225		46.51	16.40
412.5		72.09	25.43
600		120.93	42.65
675		141.86	50.03

* Power output calculated according to the Eq. (1).

** Intensity determined according to the Eq. (2).

Table S2. Additional treatments performed to validate the models of physicochemical changes on sonicated meat.

Additional treatment		**1**	**2**	**3**	**4**	**5**
Time (min)		14.5	9.0	12.3	18.4	21.1
Power input (W)		187.5	637.5	375	300	562.5
DL (%)	Observed	0.76 ± 0.41	0.34 ± 0.19	1.81 ± 0.44	0.86 ± 0.38	2.08 ± 0.58
	Predicted	0.74	0.40	1.67	0.95	2.02
MRA (%)	Observed	31.6 ± 4.1	23.8 ± 5.2	29.1 ± 3.8	25.9 ± 3.7	19.9 ± 5.4
	Predicted	30.01	25.24	29.49	26.37	20.43
MDA (mg/kg)	Observed	0.0173 ± 0.001	0.017 ± 0.002	0.0166 ± 0.001	0.02 ± 0.001	0.0225 ± 0.002
	Predicted	0.0174	0.0176	0.017	0.0195	0.0222
Hardness (N)	Observed	8.61 ± 3.67	11.08 ± 4.28	9.945 ± 2.54	9.52 ± 2.77	12.55 ± 3.94
	Predicted	8.92	10.62	10.05	10.67	13.03
Toughness	Observed	17.72 ± 4.00	25.57 ± 6.89	22.89 ± 3.92	24.36 ± 3.61	23.5 ± 5.16
(N/mm·s)	Predicted	17.32	26.35	21.38	23.1	24.29

DL: drip loss, MDA: malondialdehyde, MRA: metmyoglobin reducing activity, N: Newton.

Table S3. Variables contributions to first three principal components.

Variable	PC 1	PC 2	PC 3
Time	0.182072	0.024113	0.464536
Power	0.095512	0.215516	0.152429
DL	0.005467	0.278721	0.026706
MRA	0.088209	0.220920	0.052785
MDA	0.253868	0.081124	0.001553
Hardness	0.145228	0.179478	0.066830
Toughness	0.229645	0.000127	0.235161
Variance (%)	42.87	33.12	12.05
Cumulative variance (%)	42.87	75.99	88.04

DL: drip loss, MDA: malondialdehyde, MRA: metmyoglobin reducing activity, PC: principal component.