



## Supplementary Material

# Effect of Natural Preservatives on Protein Degradation, Microbiological and Chemical Alterations in Rainbow Trout Fillets

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**Supplementary Table I.- The influence of plant extract coating on protein concentration of rainbow trout fillets during storage time.**

Band No.	Mol. Wt. (KDa)	Day 3					Day 6					Day 9					Day 12								
		0	A	B	C	D	E	0	A	B	C	D	E	0	A	B	C	D	E	0	A	B	C	D	E
1	194.2	1.8	1.8	2.0	1.9	1.8	1.4	1.9	1.7	1.9	1.7	1.6	0.8	1.8	1.3	1.4	1.1	1.2	0.6	1.8	1.2	0.8	0.3	0.3	0.4
2	165.0	1.0	1.3	1.2	1.2	1.4	1.1	1.0	1.1	1.1	1.0	1.0	1.0	1.2	1.2	1.0	0.9	1.0	0.9	0.9	1.1	1.0	1.0	0.9	0.6
3	93.3	7.6	6.7	5.8	5.8	6.6	6.0	7.4	4.9	6.8	5.6	6.4	2.8	7.6	6.8	7.2	6.4	5.3	5.3	7.6	5.4	4.9	5.6	5.9	4.3
4	84.2	1.4	1.5	1.5	1.4	1.9	1.7	1.3	2.2	1.8	1.5	2.0	2.2	1.3	2.0	1.4	1.5	1.4	1.4	1.4	1.9	1.1	1.1	1.4	1.4
5	62.1	4.5	4.1	3.6	3.1	4.4	3.4	5.0	3.2	4.8	3.7	4.6	3.8	4.8	4.4	5.6	3.2	3.4	3.3	4.5	2.9	3.1	2.4	2.5	2.3
6	47.9	5.5	4.7	3.7	4.4	4.6	4.1	5.9	4.7	4.7	4.5	6.7	3.9	5.4	5.4	6.4	4.4	4.6	4.5	5.4	3.4	3.1	3.3	3.2	3.0
7	43.7	5.9	8.4	10.2	5.7	7.6	11.5	6.1	7.5	12.0	6.3	7.8	4.6	6.0	8.3	6.2	7.8	9.9	9.8	6.1	5.0	4.7	3.7	4.6	3.3
8	41.0	14.0	13.6	12.4	11.0	15.4	9.1	13.4	13.8	9.1	12.0	12.9	8.7	13.8	12.8	12.6	4.7	1.7	2.2	14.1	13.5	9.9	7.9	10.7	7.0
9	39.7	7.5	8.6	8.4	7.7	7.5	8.2	7.3	5.9	8.6	8.0	7.9	4.4	8.1	10.2	10.0	6.9	7.1	7.6	7.3	6.2	5.9	5.1	5.9	3.9
10	38.9	5.5	5.4	4.7	5.3	7.6	4.9	5.6	6.1	5.6	5.2	8.5	4.4	5.2	6.5	4.6	6.6	5.5	4.9	5.8	4.8	3.6	4.4	4.0	3.0
11	32.3	3.0	2.5	2.8	2.1	2.3	2.9	3.1	1.6	2.6	2.0	3.2	3.1	2.8	2.5	2.6	1.5	1.4	1.4	3.2	1.7	1.2	1.5	1.7	1.0
12	28.9	9.9	8.1	9.4	8.5	12.1	7.7	9.7	9.4	8.2	7.2	11.2	11.2	9.9	8.7	10.3	10.5	10.7	9.9	9.9	6.0	5.5	5.3	5.8	5.8
13	22.7	4.6	6.5	5.9	5.6	3.5	7.1	4.8	4.3	4.9	4.2	4.7	3.7	5.0	4.8	2.7	4.4	4.8	4.1	4.5	5.8	5.0	2.9	4.7	2.4
Total (x100,000)		72.2	73.2	71.8	63.8	76.8	69.0	72.5	66.4	72.0	63.0	78.4	54.7	72.9	75.1	72.0	59.8	58.1	55.8	72.4	58.9	49.7	44.5	51.7	38.3

A, Turmeric; B, Quinoa; C, Cardamom; D, Chitosan; E, Control.

**Supplementary Table II.- The influence of plant extract coating on protein percentages of rainbow trout fillets during storage time.**

Band No.	Mol. Wt. (KDa)	Day 3					Day 6					Day 9					Day 12								
		0	A	B	C	D	E	0	A	B	C	D	E	0	A	B	C	D	E	0	A	B	C	D	E
1	194.2	2.5	2.5	2.8	3.1	2.3	2.1	2.7	2.6	2.7	2.7	2.0	1.5	2.5	1.8	2.0	1.8	2.0	1.0	2.4	2.0	1.6	0.8	0.5	1.0
2	165.0	1.4	1.7	1.6	1.9	1.8	1.6	1.4	1.5	1.6	1.7	1.3	1.9	1.6	1.6	1.4	1.6	1.8	1.7	1.3	1.8	2.0	2.2	1.7	1.5
3	93.3	10.5	9.2	8.1	9.1	8.6	8.7	10.2	7.4	9.4	8.9	8.1	5.1	10.4	9.0	10.0	10.7	9.2	9.6	10.5	9.2	9.8	12.6	11.4	11.2
4	84.2	1.9	2.1	2.1	2.3	2.4	2.4	1.8	3.3	2.5	2.4	2.6	4.1	1.8	2.7	1.9	2.5	2.4	2.4	2.0	3.2	2.2	2.5	2.7	3.6
5	62.1	6.2	5.6	5.1	4.9	5.7	4.9	6.9	4.9	6.7	5.9	5.9	7.0	6.6	5.8	7.7	5.4	5.8	5.9	6.2	4.8	6.1	5.4	4.9	6.0
6	47.9	7.6	6.5	5.2	6.8	6.0	5.9	8.1	7.0	6.5	7.1	8.5	7.1	7.5	7.2	8.9	7.4	8.0	8.0	7.5	5.7	6.2	7.4	6.2	7.7
7	43.7	8.1	11.5	14.2	8.9	9.9	16.7	8.4	11.3	16.6	10.0	9.9	8.4	8.3	11.1	8.6	13.0	17.1	17.5	8.4	8.6	9.6	8.4	8.9	8.6
8	41.0	19.4	18.6	17.3	17.2	20.1	13.1	18.5	20.8	12.7	19.1	16.5	16.0	18.9	17.1	17.6	7.8	3.0	3.9	19.5	22.9	20.0	17.7	20.7	18.2
9	39.7	10.3	11.7	11.7	12.1	9.8	11.8	10.1	8.9	12.0	12.8	10.1	8.0	11.0	13.6	13.9	11.5	12.2	13.6	10.1	10.6	11.9	11.5	11.4	10.1
10	38.9	7.6	7.3	6.5	8.3	9.9	7.1	7.7	9.2	7.7	8.2	10.9	8.0	7.2	8.6	6.3	11.0	9.4	8.8	7.9	8.1	7.2	9.8	7.8	8.0
11	32.3	4.1	3.4	4.0	3.3	3.0	4.2	4.3	2.4	3.5	3.1	4.0	5.6	3.8	3.4	3.6	2.5	2.4	2.5	4.4	3.0	2.3	3.4	3.3	2.7
12	28.9	13.8	11.0	13.1	13.3	15.8	11.1	13.4	14.2	11.4	11.4	14.2	20.5	13.5	11.6	14.3	17.6	18.5	17.8	13.6	10.2	11.2	11.9	11.3	15.2
13	22.7	6.4	8.9	8.3	8.8	4.6	10.3	6.6	6.4	6.8	6.7	6.0	6.8	6.8	6.4	3.8	7.3	8.3	7.4	6.2	9.9	10.0	6.5	9.2	6.3
Total		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

A, Turmeric; B, Quinoa; C, Cardamom; D, Chitosan; E, Control.