

Supplementary information

Valorization of Chicken Byproducts for Bioactive Coatings to Extend the Shelf Life of Okra (*Abelmoschus esculentus*)

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Supplementary Tables

Table S1. Bioactive peptides identified from chicken protein hydrolysates using LC-MS

S. No.	Name	Molecular mass	Retention time	Activity	Sequence	Ranking (Peptide ranker)	Reference
1	ACE inhibitor from chicken muscle	330	3.464	ACE inhibitor	LKA	0.127241	¹
2	Cystatin S (108-121)	1637	4.084	Antibacterial	EDRMSLVDSRCQEA	0.126007	^{1, 2}
3	Antioxidative peptide, ACE inhibitor	589	25.2	Antioxidant, ACE inhibitor	PDLVF	0.52139	^{1, 3}
4	Antioxidative peptide, ACE inhibitor	721	25.2	Antioxidant, ACE inhibitor	APGAPGPVG	0.747983	^{1, 3}
5	ACE inhibitor	245	21.048	ACE inhibitor	AR	0.394584	^{1, 4}
6	ACE inhibitor	301	24.856	ACE inhibitor	GIL	0.611706	^{1, 4}
7	ACE inhibitor	278	25.2	ACE inhibitor	LF	0.986934	^{1, 3}
8	Dipeptidyl peptidase IV inhibitor	301	24.856	Dipeptidyl peptidase IV inhibitor	IGL	0.566214	^{1, 5}
9	Antioxidant peptide	1085	4.084	Antioxidative	YQKFPQYL	0.597918	^{1, 6}

11	Antioxidant peptide	1100	4.084	Antioxidative	VYPFPGPLPN	0.785075	1, 7
12	Antioxidant peptide, and ACE inhibitor	1219	4.084	Antioxidative and ACE inhibitor	LAPSLPGKPKPD	0.464409	1, 8
13	Precurcor of tenecin-1 (33-42)	1233	4.084	Antibacterial	DAACAAHCLFRG	0.915286	1
14	Antioxidant peptide	1233	4.084	Antioxidative	LAGNPHQQQQN	0.128882	1, 9
15	Peptide derieved from lecithin-free egg yolk	1235	4.084	Antioxidative	LMSYMWSTSM	0.498891	1, 10

Table S2. Pearson correlation for the possible correlations between variables of film

	Antioxidant activity (%)	Density (g/cm ³)	Moisture Content (%)	Opacity (%)	Swelling Index (%)	Transparency (%)	Thickness (mm)	Water Solubility (%)	Water vapor permeability (10 ⁻⁸ g/(m s Pa))	<i>Staphylococcus aureus</i> (mm)	<i>Klebsiella pneumoniae</i> (mm)
Antioxidant activity (%)	1										
Density (g/cm ³)	0.977757	1									
Moisture Content (%)	-0.99701	-0.99019	1								
Opacity (%)	0.955036	0.989434	-0.97487	1							
Swelling Index (%)	-0.97358	-0.99778	0.988303	-0.99653	1						
Transparency (%)	-0.96914	-0.99904	0.9848	-0.99382	0.998754	1					
Thickness (mm)	0.966507	0.998274	-0.98131	0.985521	-0.99405	-0.9981	1				
Water Solubility (%)	-0.99537	-0.96889	0.988566	-0.93269	0.958358	0.957323	-0.96025	1			
Water vapor permeability (10 ⁻⁸ g/(m s Pa))	0.969631	0.997662	-0.98559	0.997029	-0.99983	-0.99922	0.994901	-0.95439	1		
<i>Staphylococcus aureus</i> (mm)	0.949797	0.994274	-0.96969	0.989109	-0.99261	-0.99705	0.997687	-0.93961	0.994467	1	
<i>Klebsiella pneumoniae</i> (mm)	0.943274	0.989721	-0.96196	0.975161	-0.98317	-0.99105	0.996394	-0.94005	0.985473	0.997073	1

Supplementary Figures

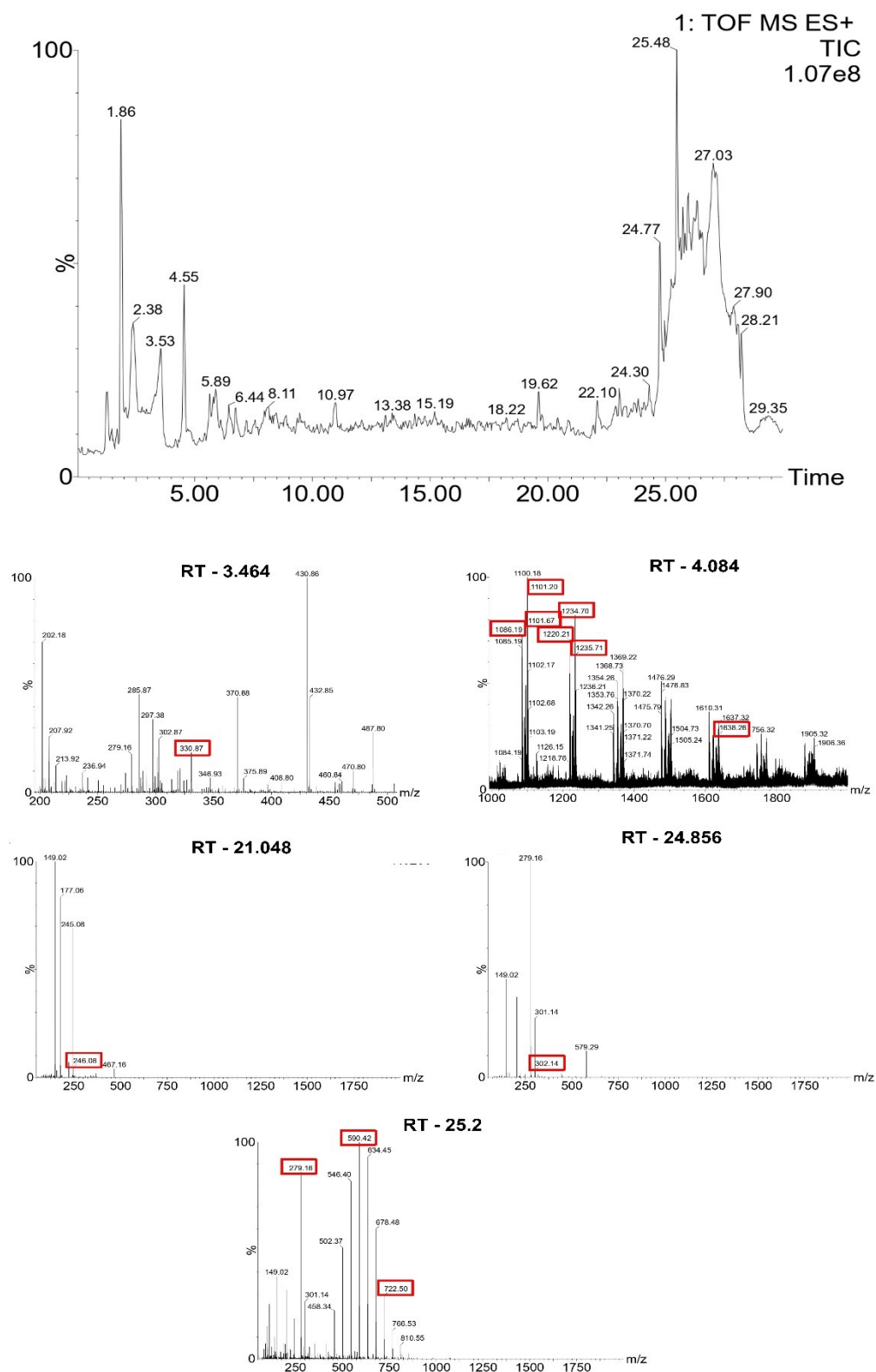


Figure S1. LC-MS guided detection and identification of bioactive peptides

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