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APPENDIX

APPENDIX A

STATISTICAL ANALYSIS

Table A.1 The ANOVA table showing the effect of incorporation of whey protein isolate (WPI) on thickness of konjac glucomannan (KGM) based films

Source of Variance	df	Mean Square
Treatments	9	0.0000824
Error	20	0.0000373

Table A.2 The ANOVA table showing the effect of incorporation of whey protein isolate (WPI) on color and transparency of konjac glucomannan (KGM) based films

Source of Variance	df	Mean Square				
		L	a	b	ΔE	Transparency
Treatments	9	6.89*	0.083*	4.35*	9.80*	2.24*
Error	20	0.278	0.004	0.154	0.243	0.033

* Significant differences between all samples ($p \leq 0.05$)

Table A.3 The ANOVA table showing the effect of incorporation of whey protein isolate (WPI) on mechanical properties of konjac glucomannan (KGM) based films

Source of Variance	df	Mean Square		
		Tensile strength	Elongation	Elastic modulus
Treatments	9	616.88	3452.53	285.25
Error	20	12.84	53.80	37.28

Table A.4 The ANOVA table showing the effect of incorporation of whey protein isolate (WPI) on solubility and water vapor permeability of konjac glucomannan (KGM) based films

Source of Variance	df	Mean Square	
		Solubility	Water vapor permeability
Treatments	9	1226.49*	0.53
Error	20	10.36	0.53

* Significant differences between all samples ($p \leq 0.05$)

Table A.5 The ANOVA table showing the effect of incorporation of whey protein isolate (WPI) on onset temperature and enthalpy of endothermic transitions of konjac glucomannan (KGM) based films

Source of Variance	df	Mean Square		
		T_o	T_p	ΔH
Treatments	3	5.51	30.53*	119.26*
Error	8	3.81	5.84	1.65

* Significant differences between all samples ($p \leq 0.05$)

Table A.6 The ANOVA table showing the effect of drying rate on thickness of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square
Treatments	1	0.001*
Error	4	0.000002

* Significant differences between all samples ($p \leq 0.05$)

Table A.7 The ANOVA table showing the effect of drying rate on color and transparency of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square				
		L	a	b	ΔE^1	Transparency
Treatments	1	0.29	0.03*	1.19	1.01	1.35
Error	4	0.37	0.003	0.26	0.18	0.71

* Significant differences between all samples ($p \leq 0.05$)

Table A.8 The ANOVA table showing the effect of drying rate on mechanical properties of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		Tensile strength	Elongation	Elastic modulus
Treatments	1	58.64*	1989.63*	12861.40
Error	4	0.74	115.95	2200.94

* Significant differences between all samples ($p \leq 0.05$)

Table A.9 The ANOVA table showing the effect of drying rate on solubility and water vapor permeability of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square	
		Solubility	Water vapor permeability
Treatments	1	40.3	1.35
Error	4	10.97	0.71

Table A.10 The ANOVA table showing the effect of drying rate on onset temperature and enthalpy of endothermic transitions of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		T_o	T_p	ΔH
Treatments	1	16.27*	16.63	17.37*
Error	4	0.28	3.53	0.55

* Significant differences between all samples ($p \leq 0.05$)

Table A.11 The ANOVA table showing the effect of storage temperatures on color of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	0.54*	0.76	1.79*
Error	8	0.02	0.38	0.12

* Significant differences between all samples ($p \leq 0.05$)

Table A.12 The ANOVA table showing the effect of storage temperatures on transparency of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	1.34*	4.65*	1.95*
Error	8	0.02	0.01	0.01

* Significant differences between all samples ($p \leq 0.05$)

Table A.13 The ANOVA table showing the effect of storage temperatures on tensile strength of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	2.75	1.8	11.32
Error	8	0.78	1.16	4.74

Table A.14 The ANOVA table showing the effect of storage temperatures on elongation of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	680.11*	515.49*	91.14
Error	8	25.59	55.09	33.03

* Significant differences between all samples ($p \leq 0.05$)

Table A.15 The ANOVA table showing the effect of storage temperatures on elastic modulus of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	2029.11*	52553.7*	117019.58*
Error	8	133.35	7468.68	14217.38

* Significant differences between all samples ($p \leq 0.05$)

Table A.16 The ANOVA table showing the effect of storage temperatures on solubility of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	4.75	102.74	107.76
Error	8	12.9	26.85	75.34

Table A.17 The ANOVA table showing the effect of storage temperatures on water vapor permeability of konjac glucomannan-whey protein isolate blend films

Source of Variance	df	Mean Square		
		4 °C	25 °C	35 °C
Treatments	3	0.091	0.086	0.574
Error	8	0.059	0.172	0.307

VITA

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