

Valorization of grapevine agricultural waste into transparent and high-strength biodegradable films for sustainable packaging

**Supplementary file
Sustainable Food Technology**

Table S1. Model fitting of the water absorption and soil biodegradation.

Model	Sample	a	b	c	R ²	RMSE
Water absorption						
Peleg (a as K ₁ and b as K ₂)	GV300	0.0084	0.0039	-	0.9994	0.0039
	GV400	0.0097	0.0052	-	0.9992	0.0061
Peppa (a as K ₁ and b as K ₂)	GV300	-0.0267	0.3535	-	0.8913	2.2775
	GV400	-0.0296	0.3781	-	0.8495	2.4422
Singh	GV300	138.68	21.99	0.19	0.9501	4.3163
	GV400	160.76	0.86	0.02	0.9683	1.602
Pilosofo	GV300	138.57	115.96	5.26	0.9501	4.3163
	GV400	160.76	38.71	44.9	0.9683	1.602
Gornicki	GV300	138.59	115.94	0.002	0.9501	4.3163
	GV400	160.76	38.72	0.001	0.9683	1.602
Gracia-Pascual	GV300	0.1	2.46	-	-141.17	230.42
	GV400	0.1	2.62	-	-381.27	176.02
Czel and Czigany (b as m)	GV300	180.71	0.07	-	0.8944	6.2804
	GV400	151.42	0.05	-	0.9750	1.4223
Vega-Galvez	GV300	253.12	1.36	-	0.9443	4.5591
	GV400	186.52	0.77	-	0.8430	3.5672
Weibull	GV300	5.3x10 ⁷	17.69	-	-	-
	GV400	5.3x10 ⁷	19.73	-	-	-
Biodegradation						
First order (a as m)	GV300	0.1264	-	2.7827	0.9032	0.1897
	GV400	0.1289	-	2.6962	0.9171	0.1777
Second order	GV300	2.1797	0.3074	-0.0101	0.9733	4.6085
	GV400	2.1396	0.2959	-0.0093	0.9741	4.3893