

Supplementary Material: Measured values of determination of surface energy and peel strength

storage time	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation
days	mN/m		mN/m		mN/m		mN/m		mN/m		mN/m	
<i>d</i>	σ		σ		σ		σ		σ		σ	
	C16	C16	C18	C18	C16	C16	C18	C18	C16	C16	C18	C18
	28-99	28-99	28-99	28-99	4-98	4-98	4-98	4-98	noPVOH	noPVOH	noPVOH	noPVOH
	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine
1.00	17.66	0.17	17.62	0.18	17.94	0.18	17.86	0.22	22.40	0.38	18.75	0.33
6.00	18.00	0.14	18.13	0.10	17.38	0.12	17.92	0.07	21.44	0.18	19.95	0.19
14.00	20.81	0.24	18.93	0.20	20.43	0.18	19.25	0.16	20.65	0.12	17.13	0.17

Supplementary Table 1: Figure 4 glassine

storage time	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation	surface energy	standard deviation
days	mN/m		mN/m		mN/m		mN/m		mN/m		mN/m	
<i>d</i>	20.4		σ		σ		σ		σ		σ	
	C16	C16	C18	C18	C16	C16	C18	C18	C16	C16	C18	C18
	28-99	28-99	28-99	28-99	4-98	4-98	4-98	4-98	noPVOH	noPVOH	noPVOH	noPVOH
	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET
3.00	19.70	0.26	18.10	0.15	20.40	0.13	17.40	0.04	24.20	0.60	25.60	0.40
9.00	18.80	0.17	18.40	0.09	19.20	0.14	18.20	0.09	25.70	0.14	27.20	0.15
17.00	21.00	0.31	18.10	0.16	19.50	0.31	18.70	0.23	25.30	0.24	25.70	0.03

Supplementary Table 2: Figure 4 PET

storage time days <i>d</i>	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation	peelstrength	standard deviation
	N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm		N/15mm	
	<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>		<i>F</i>	
	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16	C16
	4-98	4-98	28-99	28-99	noPVOH	noPVOH	4-98	4-98	28-99	28-99	noPVOH	noPVOH	4-98	4-98	28-99	28-99	noPVOH	noPVOH	4-98	4-98	28-99	28-99	noPVOH	noPVOH	4-98	4-98	28-99	28-99	noPVOH	noPVOH	4-98	4-98
	pt	pt	pt	pt	pt	pt	pp	pp	pp	pp	pp	pp	pt	pt	pp	pp	pt	pt	pp	pp	pp	pp	pt	pt	pp	pp	pp	pp	pt	pt	pp	pp
glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	glassine	Original Glassin	Original Glassin	Original Glassin	Original Glassin	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET	PET	Original PET	Original PET	Original PET	Original PET
T3 detachs		//			T1,T2,T3,T8 tear						T1,2,3,8, 21 detach																					
1.00	0.23	0.10	0.25	0.11	0.80	0.07	0.00	0.01	0.01	0.01	0.13	0.02	0.03	0.00	0.06	0.00	0.62	0.41	0.76	0.09	1.01	0.09	0.05	0.07	0.03	0.01	0.40	0.07	1.39	0.04	0.29	0.07
2.00	0.17	0.05	0.22	0.09	0.74	0.21	0.01	0.01	0.01	0.00	0.15	0.01	0.03	0.00	0.06	0.00	0.38	0.06	0.60	0.32	1.17	0.30	0.04	0.03	0.02	0.01	0.49	0.07	1.39	0.04	0.29	0.07
3.00	0.09	0.06	0.20	0.11	0.75	0.19	0.00	0.00	0.01	0.01	0.10	0.02	0.03	0.00	0.06	0.00	0.37	0.05	0.77	0.43	1.18	0.21	0.03	0.00	0.04	0.01	0.46	0.07	1.39	0.04	0.29	0.07
8.00	0.27	0.06	0.33	0.06	0.74	0.33	0.00	0.00	0.01	0.00	0.15	0.03	0.03	0.00	0.06	0.00	0.42	0.04	0.73	0.16	1.36	0.13	0.05	0.00	0.04	0.01	0.37	0.04	1.39	0.04	0.29	0.07
21.00	0.23	0.14	0.26	0.09	0.97	0.13	0.00	0.00	0.01	0.01	0.06	0.04	0.03	0.00	0.06	0.00	0.43	0.07	0.72	0.09	1.05	0.16	0.04	0.01	0.03	0.00	0.59	0.06	1.39	0.04	0.29	0.07

storage time days <i>d</i>	peel strength N/15mm <i>F</i> C18 4-98 pt glassine	standard deviation C18 4-98 pt glassine	peel strength N/15mm <i>F</i> C18 28-99 pt glassine //	standard deviation C18 28-99 pt glassine	peel strength N/15mm <i>F</i> C18 noPVOH pt glassine	standard deviation C18 noPVOH pt glassine	peel strength N/15mm <i>F</i> C18 4-98 pp glassine T1,T2, T3, T7,T20 deta	standard deviation C18 4-98 pp glassine	peel strength N/15mm <i>F</i> C18 28-99 pp glassine T1,T2,T3, T7,T20 detac	standard deviation C18 28-99 pp glassine	peel strength N/15mm <i>F</i> C18 noPVOH pp glassine //	standard deviation C18 noPVOH pp glassine	peel strength N/15mm <i>F</i> C18 4-98 pt PET D1,D2, D3 is crumpled	standard deviation C18 4-98 pt PET	peel strength N/15mm <i>F</i> C18 28-99 pt PET	standard deviation C18 28-99 pt PET	peel strength N/15mm <i>F</i> C18 noPVOH pt PET D1,D2, D3 is crumpled	standard deviation C18 noPVOH pt PET	peel strength N/15mm <i>F</i> C18 4-98 pp PET	standard deviation C18 4-98 pp PET	peel strength N/15mm <i>F</i> C18 28-99 pp PET	standard deviation C18 28-99 pp PET	peel strength N/15mm <i>F</i> C18 noPVOH pp PET D1 is crumpled	standard deviation C18 noPVOH pp PET
1.00	0.24	0.06	0.25	0.04	0.79	0.04	0.00	0.00	0.01	0.00	0.12	0.01	0.58	0.28	1.10	0.19	1.04	0.16	0.03	0.01	0.04	0.00	0.37	0.10
2.00	0.24	0.05	0.24	0.12	0.83	0.04	0.00	0.00	0.00	0.00	0.12	0.01	0.34	0.07	0.54	0.35	1.02	0.17	0.04	0.01	0.02	0.00	0.47	0.08
3.00	0.20	0.05	0.24	0.12	0.74	0.06	0.00	0.00	0.00	0.00	0.09	0.02	0.27	0.12	0.65	0.24	1.19	0.12	0.04	0.02	0.03	0.01	0.49	0.07
7.00	0.20	0.10	0.15	0.05	0.77	0.08	0.00	0.00	0.00	0.00	0.12	0.02	0.42	0.14	0.65	0.18	0.95	0.12	0.04	0.01	0.03	0.01	0.48	0.05
20.00	0.15	0.07	0.12	0.06	0.86	0.08	0.00	0.00	0.00	0.00	0.20	0.02	0.70	0.35	0.79	0.34	1.15	0.12	0.03	0.02	0.03	0.01	0.47	0.12