

Supporting Information

Supramolecular Hybrids of Cellulose and Synthetic Polymers

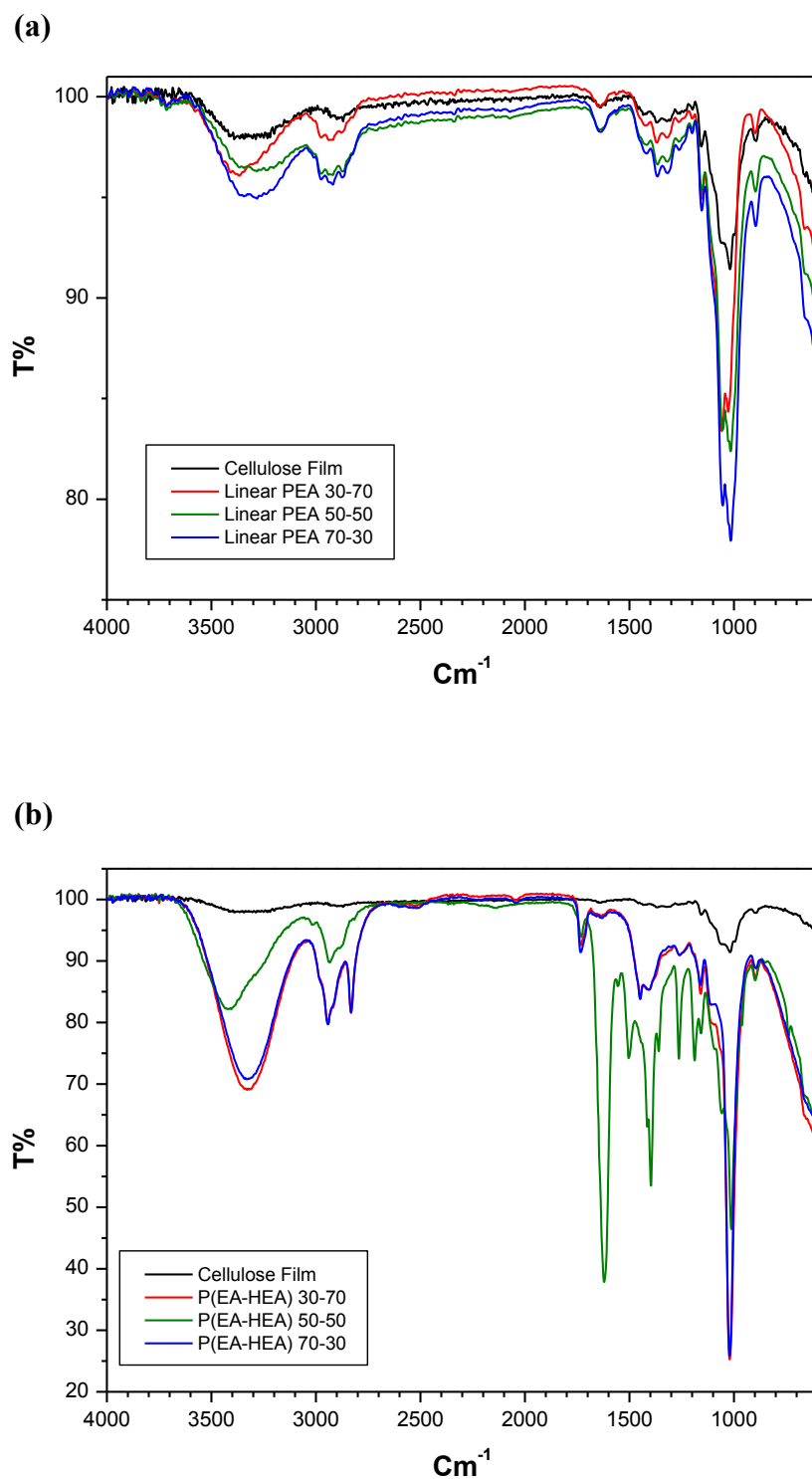
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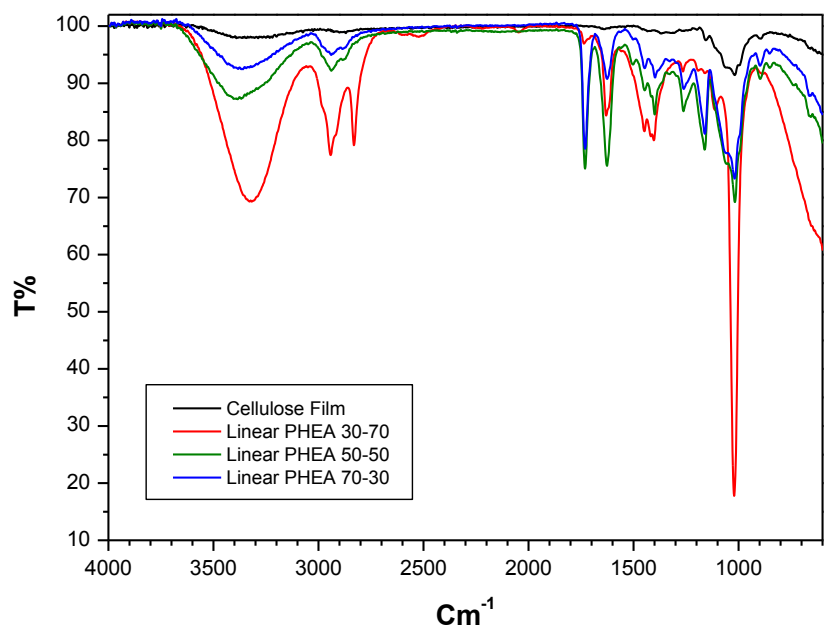
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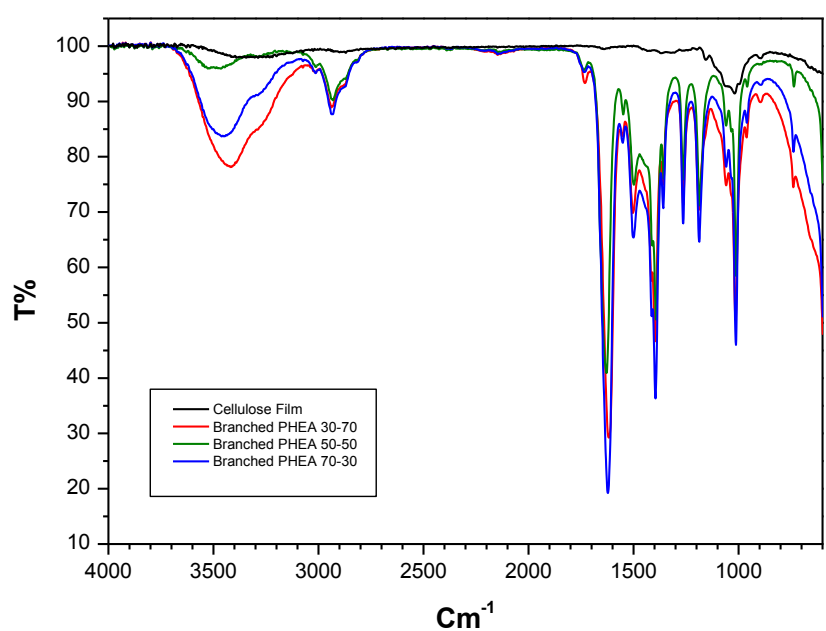
Fig. S1. FT-IR of cellulose hybrids with (a) PEA (b) P(EA-HEA) (c) Linear PHEA (d) Branched PHEA (e) hyperbranched glycopolymer (f) HPC-g-PNIPAAm, (g) PAA and (h) PAA-*b*-PS. In all captions, polymer X-Y means a blend between cellulose:polymer in ratio X:Y.



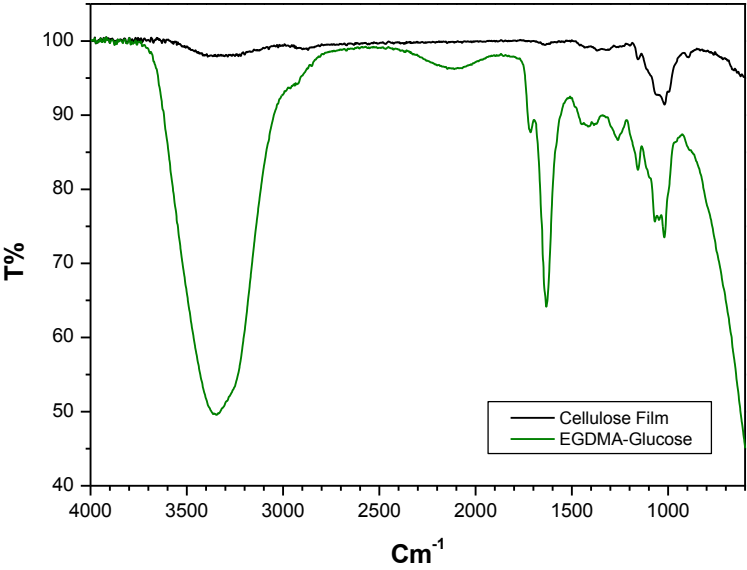
(c)



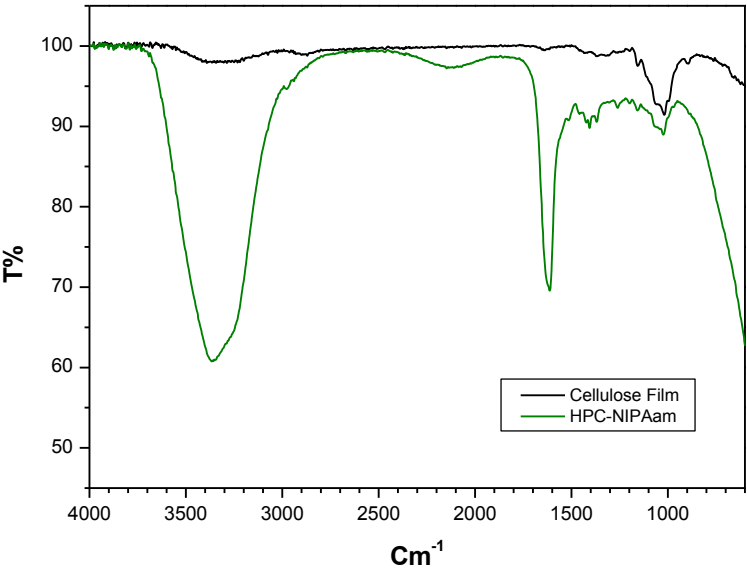
(d)



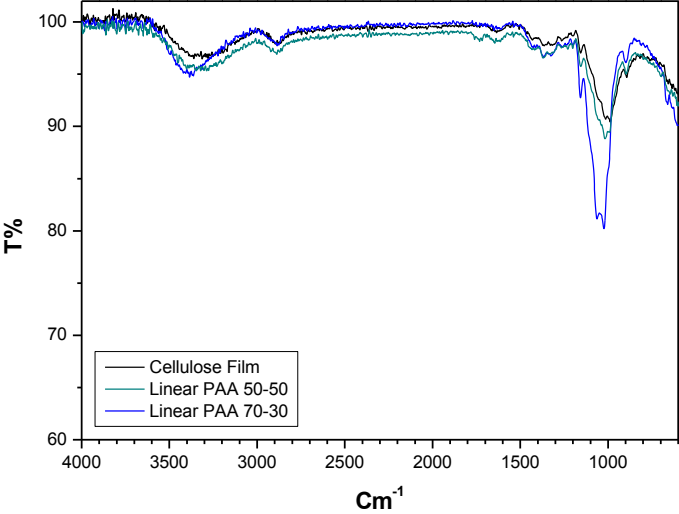
(e)



(f)



(g)



(h)

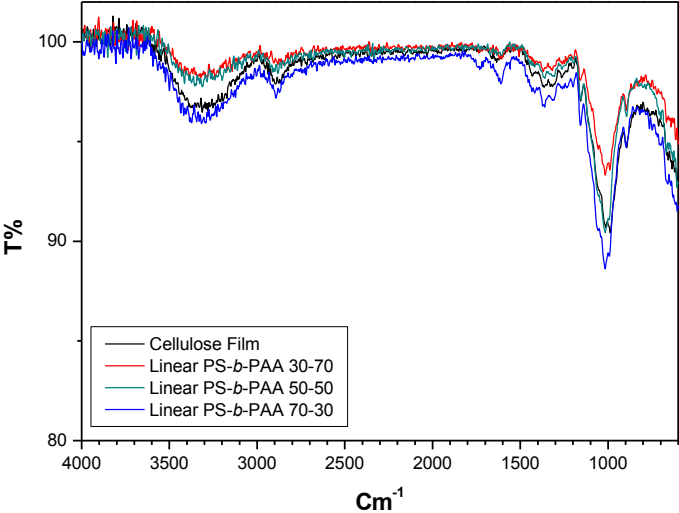


Fig. S2. Scanning DSC traces of cellulose and cellulose-polymer hybrids. The cellulose:synthetic polymer ratio before soxhlet extraction was 50:50.

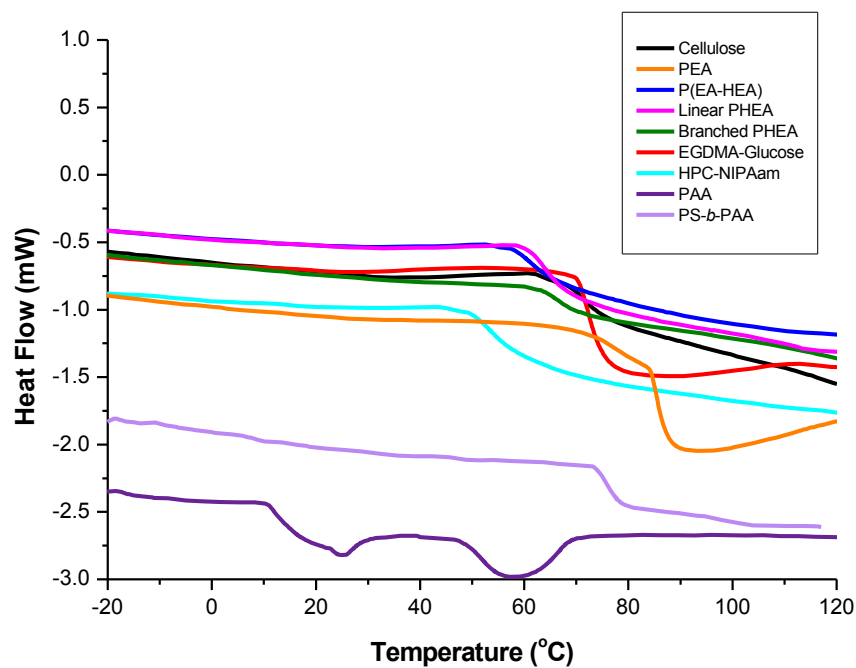
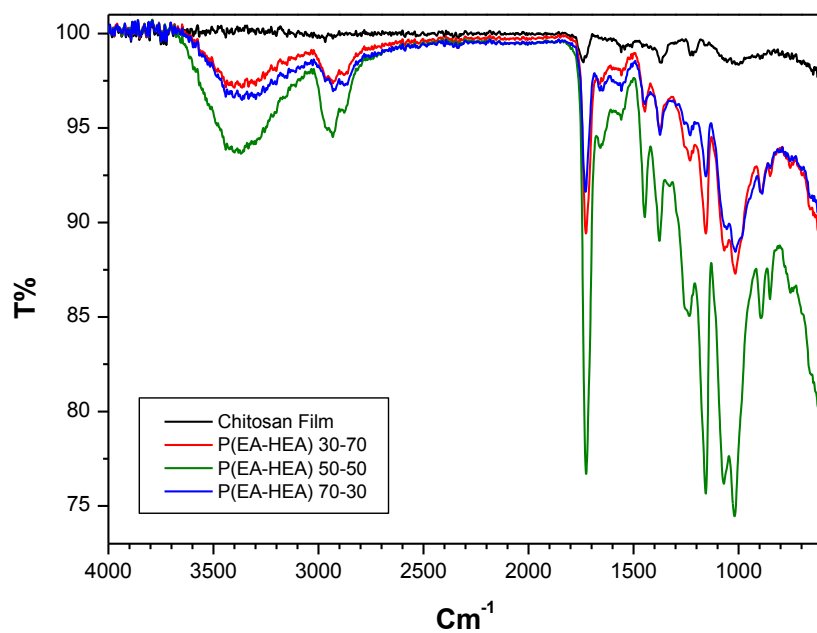


Fig. S3. FT-IR of chitosan hybrids with (a) P(EA-HEA) (b) Branched PHEA.

(a)



(b)

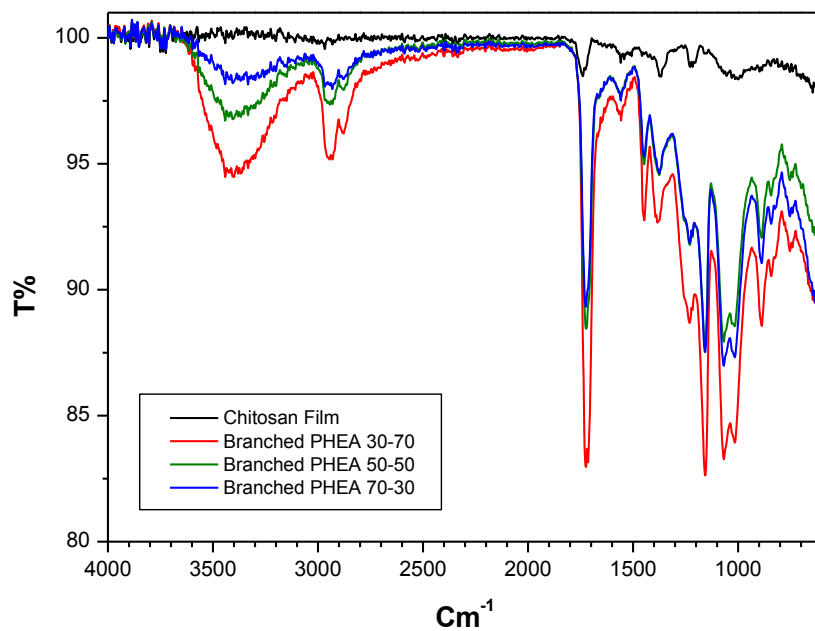


Fig. S4. Scanning DSC traces of chitosan hybrids of different polymers.

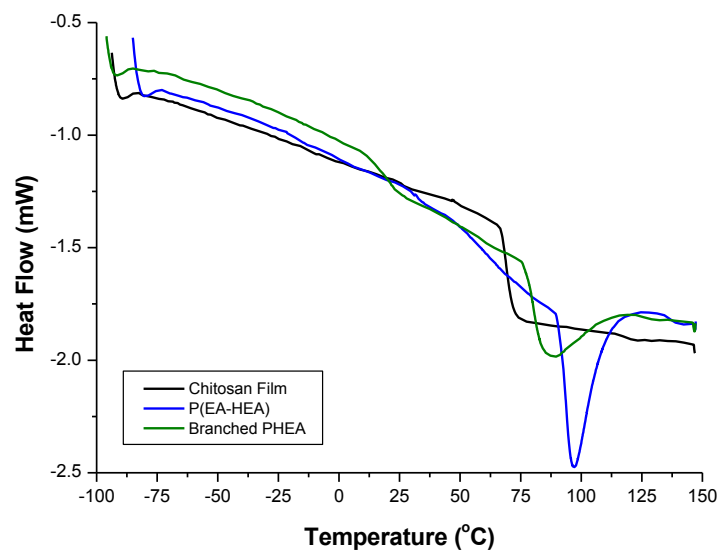


Table S1. List of T_{onset} and T_{50} for the polymer hybrids.

	T_{onset} (°C)	T_{50} (°C)
Cellulose Film	294.0	381.2
PEA	319.7	438.1
Hybrid 30-70	253.9	337.8
Hybrid 50-50	259.5	362.5
Hybrid 70-30	248.3	336.5
<i>Average</i>	253.9	345.6
P(EA-<i>b</i>-HEA)	262.7	428.0
Hybrid 30-70	267.2	378.9
Hybrid 50-50	267.4	377.6
Hybrid 70-30	274.1	376.2
<i>Average</i>	269.6	377.6
Linear PHEA	237.1	459.6
Hybrid 30-70	311.3	382.1
Hybrid 50-50	297.0	389.8
Hybrid 70-30	302.3	390.4
<i>Average</i>	303.5	387.4
Branched PHEA	238.9	467.6
Hybrid 30-70	292.1	380.2
Hybrid 50-50	300.8	372.2
Hybrid 70-30	303.5	370.3
<i>Average</i>	298.8	374.2
P(EGDMA-Glucose)	255.2	438.6
Hybrid 50-50	309.4	385.8
HPC-<i>g</i>-NIPAAm	252.3	427.5
HPC	321.8	410.8
PNIPAAm	313.6	442.6
Hybrid 50-50	290.1	387.1
Chitosan Film	244.8	418.2
P(EA-<i>b</i>-HEA)	262.7	428.0
Hybrid 30-70	279.3	440.7
Hybrid 50-50	276.9	436.7
Hybrid 70-30	275.0	431.8
<i>Average</i>	277.0	436.4
Branched PHEA	238.9	467.6
Hybrid 30-70	255.1	466.0
Hybrid 50-50	255.0	460.7
Hybrid 70-30	251.9	444.0
<i>Average</i>	254.0	456.9

	<i>T</i> _{onset} (°C)	<i>T</i> ₅₀ (°C)
PAA	218.7	392.3
Hybrid 50-50	267.3	349.3
Hybrid 70-30	262.2	352.4
<i>Average</i>	264.8	350.9
P(S-b-AA)	227.4	422.3
Rinsed with water:		
Hybrid 30-70	242.5	366.3
Hybrid 50-50	235.1	381.7
Hybrid 70-30	247.6	361.5
<i>Average</i>	241.7	369.8