SUPPORTING INFORMATION

HYBRID MATERIALS FROM POLY[VINYL CHLORIDE] AND ORGANOGELS

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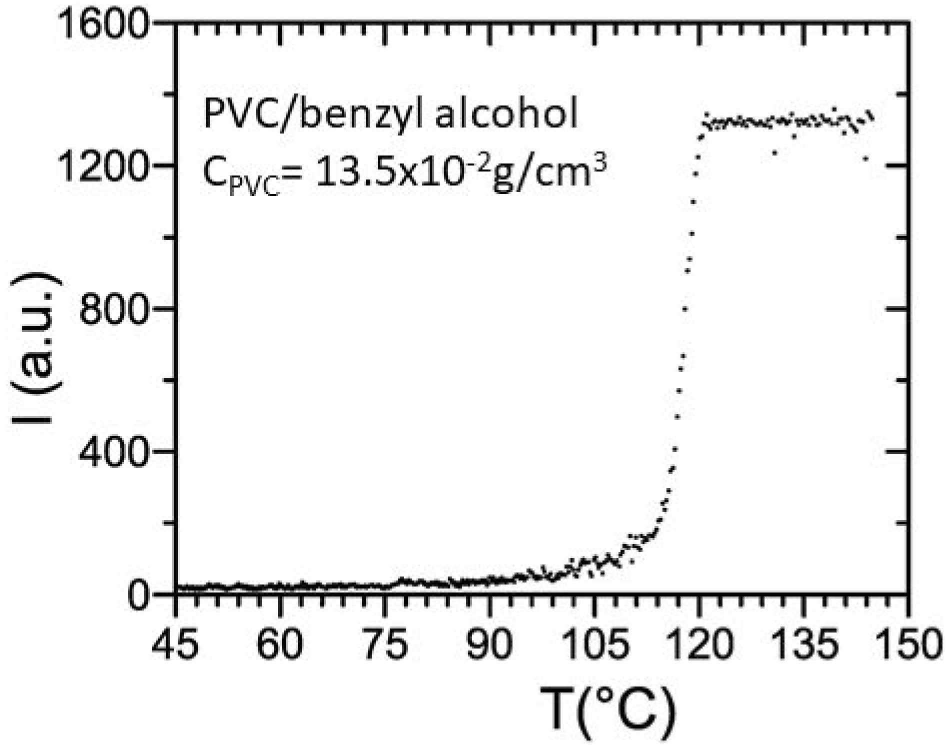


Figure S1: Turbidimetry experiments for determining the phase transition in PVC/benzyl alcohol systems at a cooling rate of about 1.4-1.5°C/min..

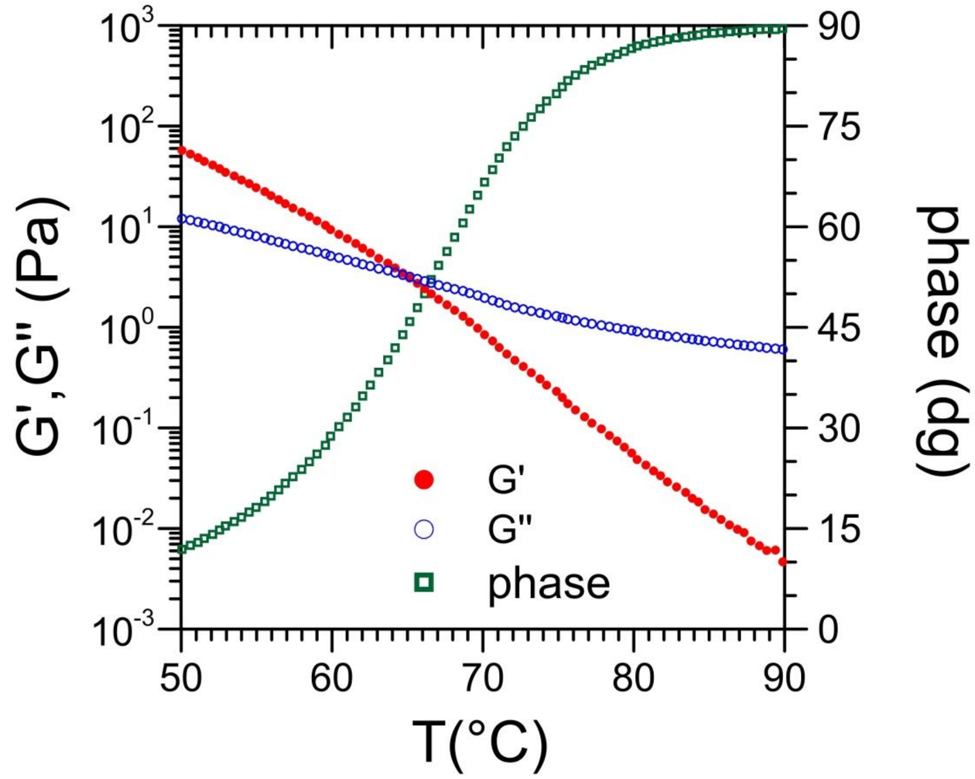


Figure S2: Rheological experiments (plate-plate) for determining the gelation point in PVC/bromobenzene systems at a frequency of 1Hz.

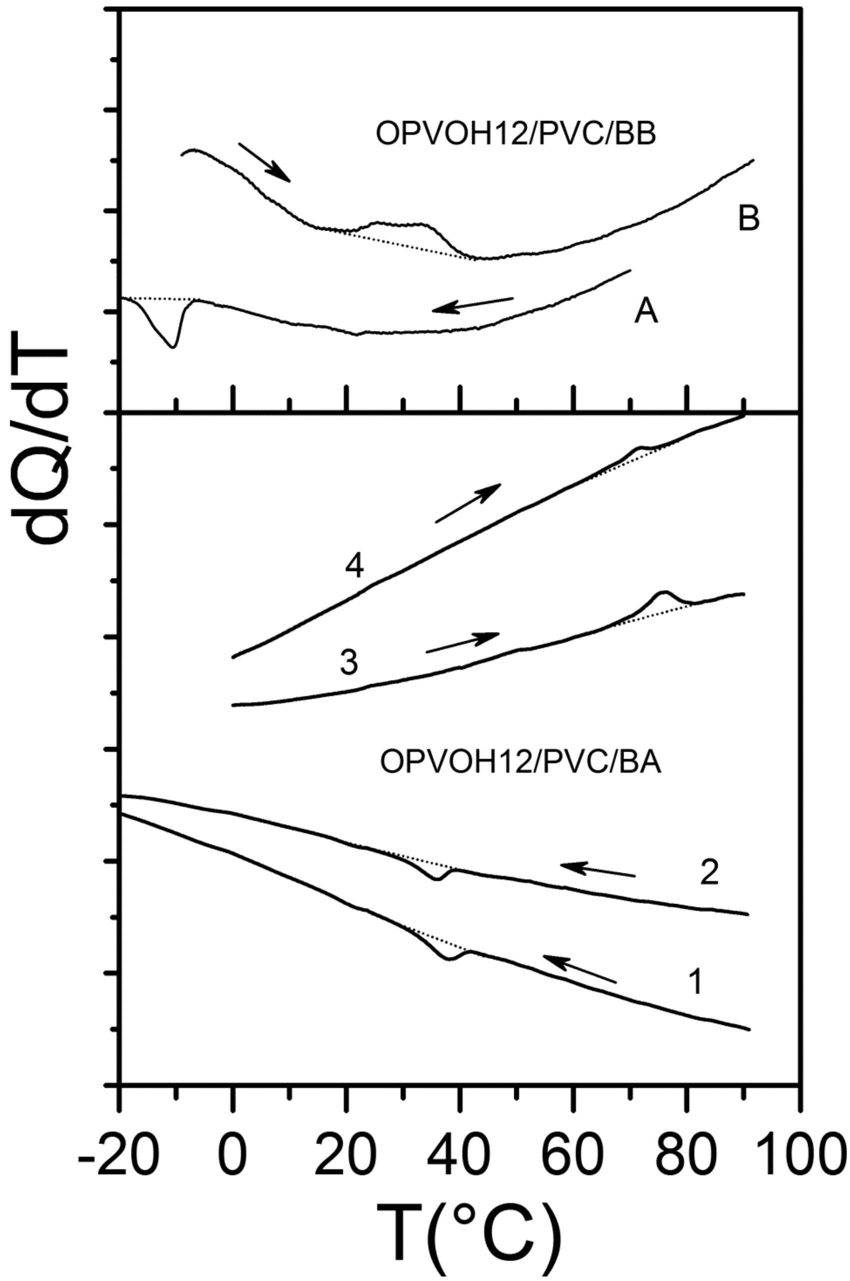


Figure S3: **(top)** DSC traces for OPVOH12/PVC/bromobenzene gels with C_{OPV}= 0.4x10^{-2} g/cm^3 and C_{PVC}= 4.8x10^{-2} g/cm^3, A= cooling and B= heating; **(bottom)** DSC traces for OPVOH12/benzyl alcohol gels 1= cooling, 3= heating, and OPVOH12/PVC/benzyl alcohol systems, 2= cooling and 4= heating. In all cases C_{OPV}= 0.4x10^{-2} g/cm^3 while C_{PVC}= 4.8x10^{-2} g/cm^3.

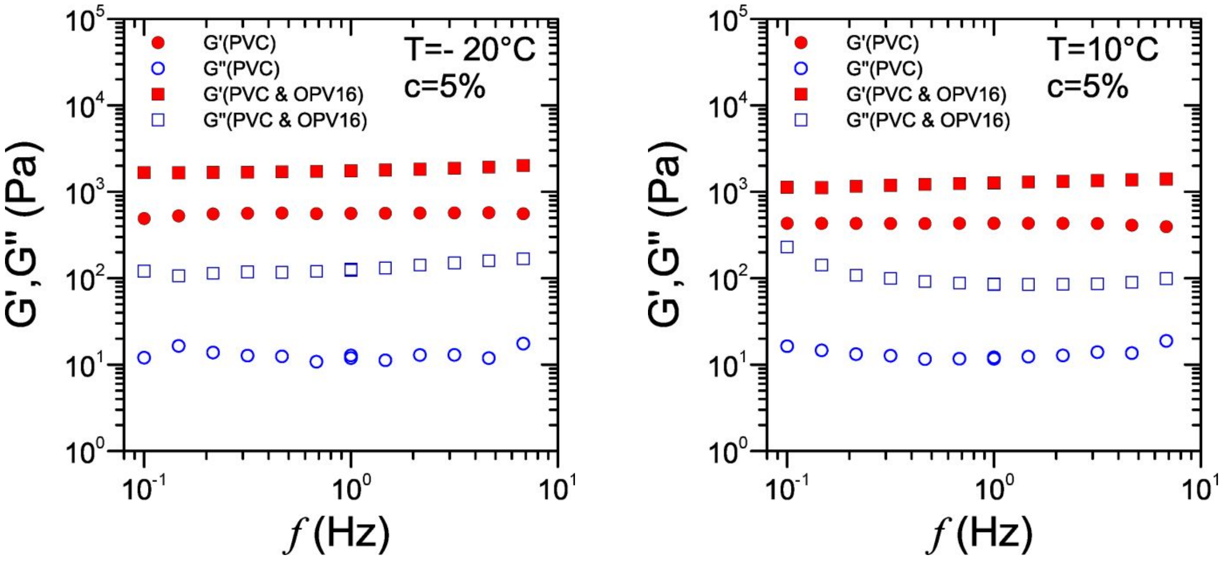


Figure S4: G’ and G’’ as a function of frequency for the pure 5% PVC gels (○ and ●) and the corresponding hybrid gel, namely C_{OPV}= 0.4x10^{-2} g/cm^3 and C_{PVC}= 4.8x10^{-2} g/cm^3 (■ and □). Temperature as indicated.

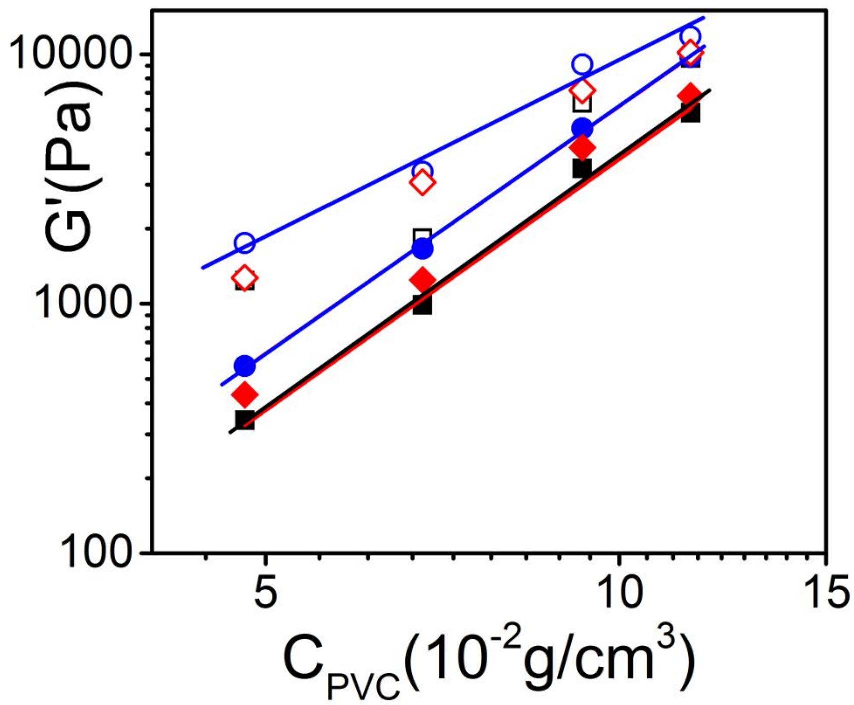


Figure S5: Elastic modulus vs PVC concentration in bromobenzene. Filled symbols= PVC/bromobenzene gels. Open symbols the hybrid gel PVC/OPVOH16/bromobenzene. ●= -20°C, ◆= 10°C, ■= 20°C. The straight lines highlight the variation for the pure PVC gels.

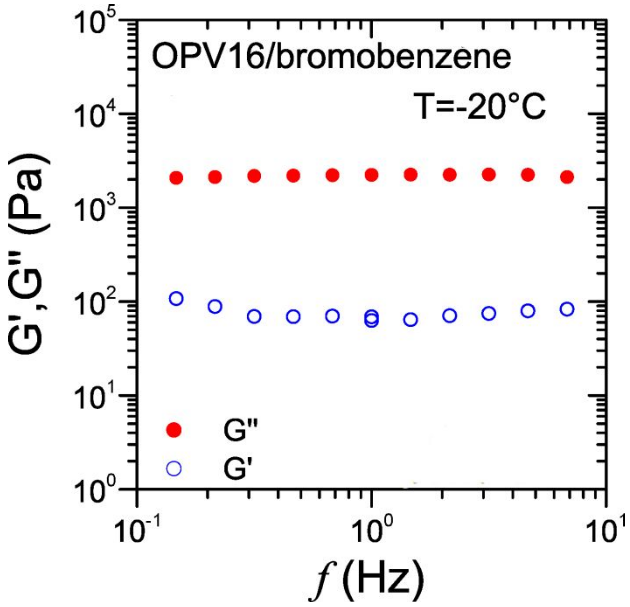
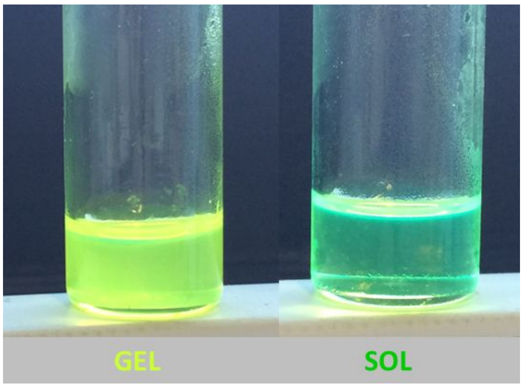


Figure S6: G' and G'' as a function of frequency for the pure 0.4% OPVOH gels (○ and ●) (C_{OPV}= 0.4x10^{-2} g/cm^3). Temperature as indicated.



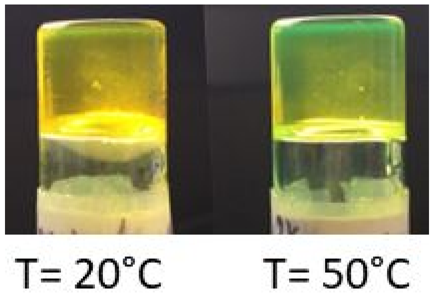


Figure S7: change of colour at the SOL-GEL transition in bromobenzene. The gels are yellowish while the sols are rather greenish. *left* OPVOH/BBZ C_{OPVOH}= 0.4×10^{-2} g/cm^3); *right* the hybrid system PVC/OPVOH/Bromobenzene, C_{OPVOH}= 0.4×10^{-2} g/cm^3, C_{PVC}= 12.5×10^{-2} g/cm^3 Temperatures as indicated. At T= 50°C the OPVOH gel is molten whereas the PVC gel is unaltered.

Table S1: List of the formation and melting temperatures (T_{for} and T_m) corresponding to the maximum of the DSC trace, together with the formation and melting enthalpies (ΔH_m and ΔH_{for}). The PVC concentrations as expressed in 10^{-2}g/cm^3 are as follows in increasing order: 4.8 (5%), 6.8 (7.5%), 9.3 (10%), 11.5 (12.5%), 13.5 (15%), respectively. The OPVOH concentration is always 0.4x10^{-2}g/cm^3.

Sample	**T_m (°C)**	**T_{for} (°C)**	**ΔH_m (J/g)**	**ΔH_{for} (J/g)**
pure OPVOH C12	121	113	78	-80
pure OPVOH C16	118	112	101	-101
BENZYL ACOHOL (BA)				
0,4% OPVOH12/BA	74	44	0.37	-0.38
5%PVC/OPVOH12/BA	75	44	0.57	-0.53
7.5%PVC/OPVOH12/BA	66	36	0.3	-0.34
10%PVC/OPVOH12/BA	73	43	0.55	-0.52
12.5%PVC/OPVOH12/BA	71	38	0.14	-0.16
15%PVC/OPVOH12/BA	65	37	0.22	-0.22
0,4% OPVOH16/BA	68	45	0.41	-0.42
5%PVC/OPVOH16/BA	70	40	0.18	-0.53
7.5%PVC/OPVOH16/BA	70	44	0.13	-0.16
10%PVC/OPVOH16/BA	65	40	0.22	-0.24
12.5%PVC/OPVOH16/BA	70	42	0.2	-0.26
15%PVC/OPVOH16/BA	72	42	0.2	-0.23
BROMOBENZENE (BB)				
0,4% OPVOH12/BB	40	-10	0.2	-0.17
5%PVC/OPVOH12/BB	32	-14	0.13	-0.16
7.5%PVC/OPVOH12/BB	32	-16	0.04	-0.11
10%PVC/OPVOH12/BB	36	-11	0.19	-0.19
12.5%PVC/OPVOH12/BB	39	-9	0.27	-0.24
15%PVC/OPVOH12/BB	42	-15	0.08	-0.07
0,4% OPVOH16/BB	37	4	0.18	-0.25
5%PVC/OPVOH16/BB	38	0	0.11	-0.15
7.5%PVC/OPVOH16/BB	38	-1	0.11	-0.13
10%PVC/OPVOH16/BB	38	-1	0.11	-0.16
12.5%PVC/OPVOH16/BB	35	-2	0.1	-0.09
15%PVC/OPVOH16/BB	40	0	0.16	-0.17

Table S2: values of G’ for top: pure PVC/bromobenzene gels and bottom: PVC/OPVOH/bromobenzene hybrids.

$10^2 \times C_{PVC}$ g/cm^3	G'_{PVC}(-20°C), Pa	G'_{PVC}(10°C), Pa	G'_{PVC}(20°C), Pa
4.8	560	430	340
6.8	1670	1250	990
9.3	5050	4230	3480
11.5	9750	6820	5820

$10^2 \times C_{PVC}$ g/cm^3	G'_{hyb}(-20°C), Pa	G'_{hyb}(10°C), Pa	G'_{hyb}(20°C), Pa
4.8	1750	1270	1240
6.8	3380	3070	1830
9.3	9090	7170	6370
11.5	11770	10170	9637

$10^2 \times C_{OPVOH}$ g/cm^3	G'_{OPVOH}(-20°C), Pa	G'_{OPVOH}(10°C), Pa	G'_{OPVOH}(20°C), Pa
0.4	2240	980	880