PDMS-Fluorous Polyoxetane-PDMS Triblock Hybrid Elastomers: Tough and Transparent with Novel Bulk Morphologies.

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Table S1. Calculation parameters for the valence angle model applied to PDMS (4.5kDa).[a,b]

Polymer MW	4500
Repeat unit MW	72
# of repeat units	63
Bond length (nm)	0.16
Valence angle (deg)	120
Vaence angle (rad)	2.09
Number of bonds/repeat	5
RMS end to end distance (nm)	4.9

a. Approximations include the Si-O-Si angle (120 deg) and Si-O bond length (0.16 nm); reference, Owen, M. J. Why Silicones Behave Funny, *Chemtech* **1981**, *11*, 288.
b. The RMS end to end distance varies significantly depending on the average valence angle chosen.

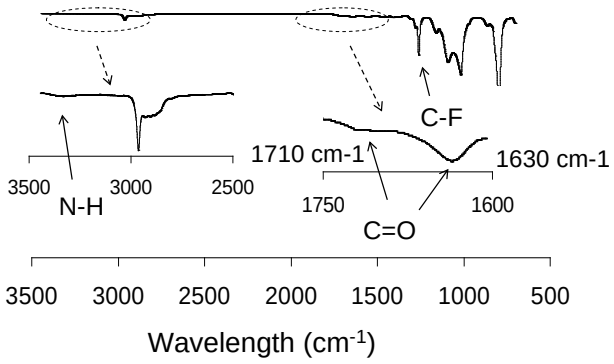

Figure S1. ATR-IR spectrum for A-4.5.

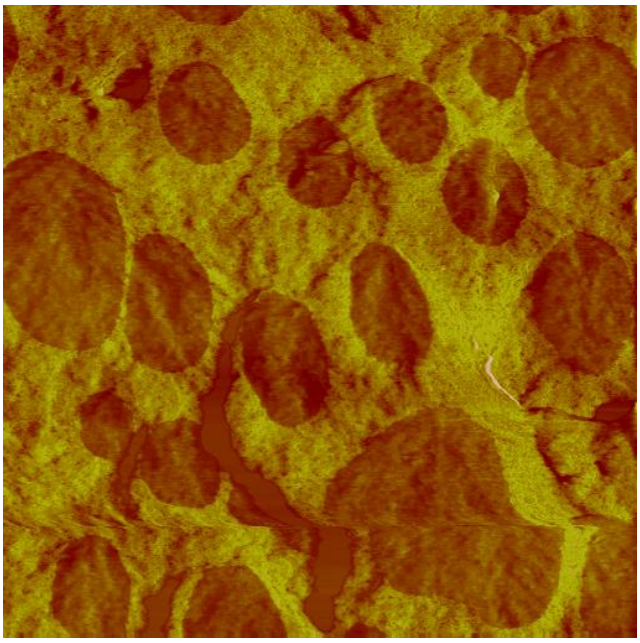

Figure S2. An enlarged, 10 μm x 10 μm phase image of A-4.5 (fracture surface).

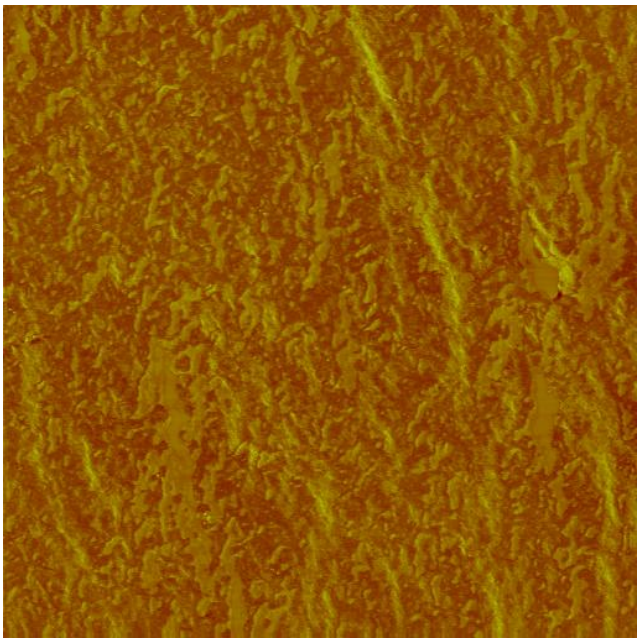

Figure S3. Enlarged, 10 µm x 10 µm phase image of C2-4.5 (fracture surface).

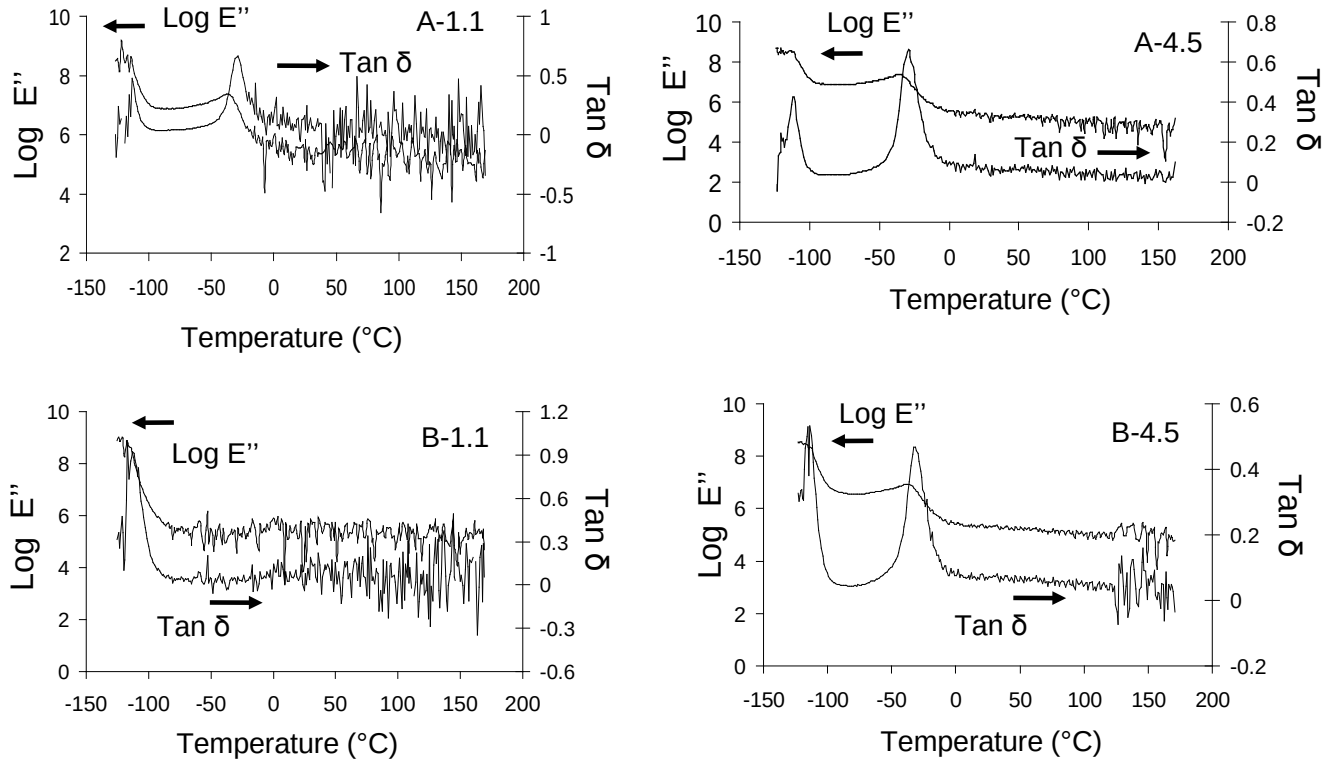

Figure S4. Representative DMA data (log E" and tan δ) for the triblock hybrid elastomers

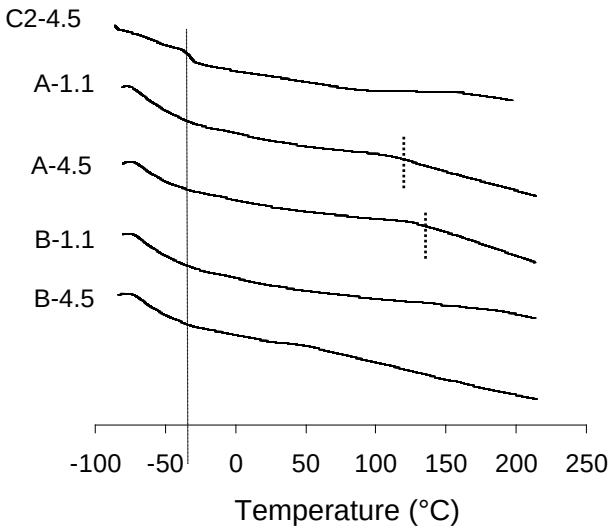

Figure S5. Modulated DSC thermograms for hybrid triblock elastomers and C2-4.5.

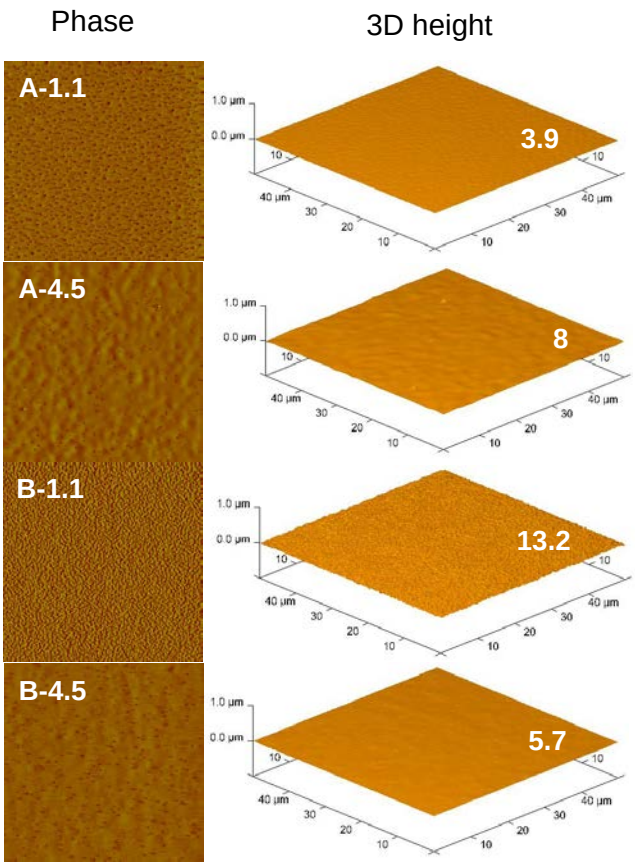

Figure S6. TM-AFM Phase and 3D height images for triblock hybrids at r_{sp} = 0.9, scan size = 50 µm x 50 µm, z (phase) = 60°, z (height) = 1 µm. Rq values (nm) are indicated in 3D height images.

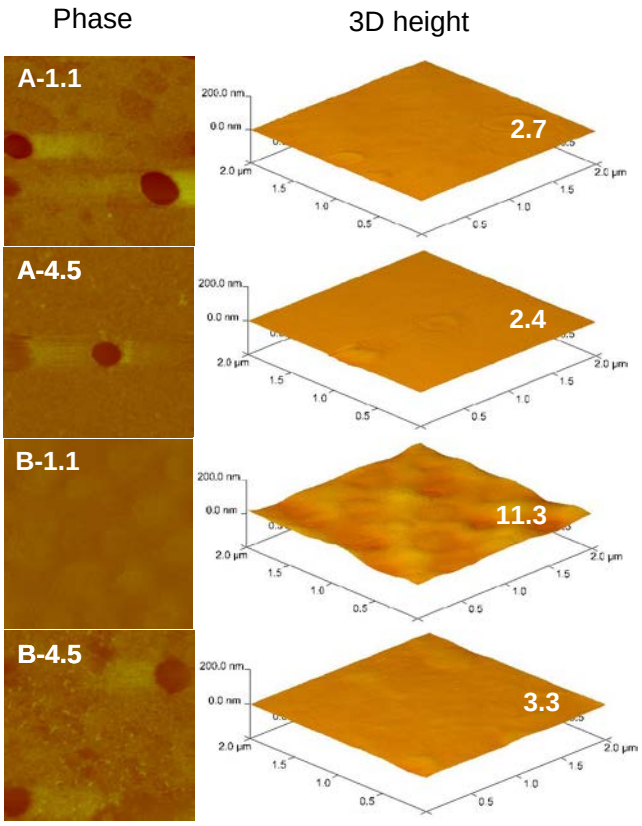

Figure S7. TM-AFM phase and 3D height images for hybrid triblocks; r_{sp} = 0.9, scan size = 2 µm x 2 µm, z (phase) = 60°, z (height) = 200 nm. Rq values (nm) are indicated on the 3D height images.

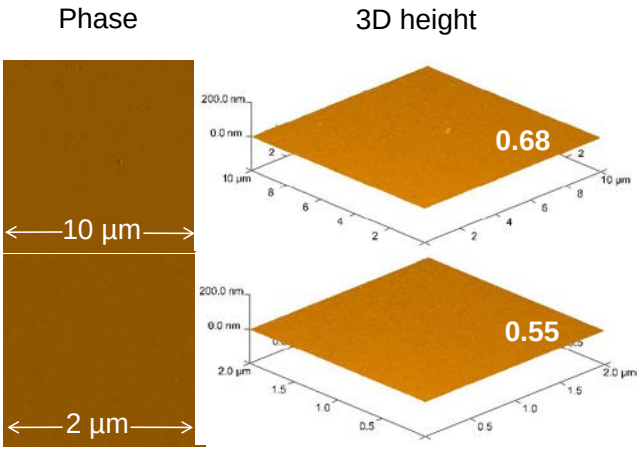

Figure S8. TM-AFM 2D height and phase images of control C1 at rsp = 0.9, z (height) = 200 nm, z (phase) = 60°. Rq values (nm) are reported in the right hand corner of the 3D height images.

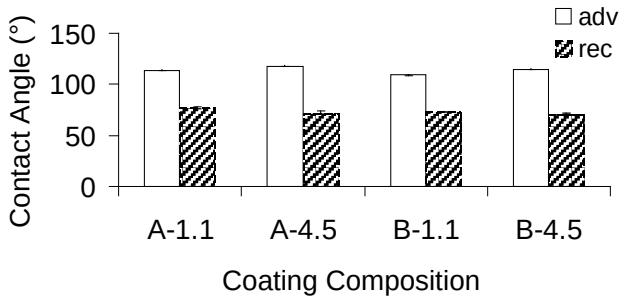

Figure S9. Advancing and receding contact angles (water).

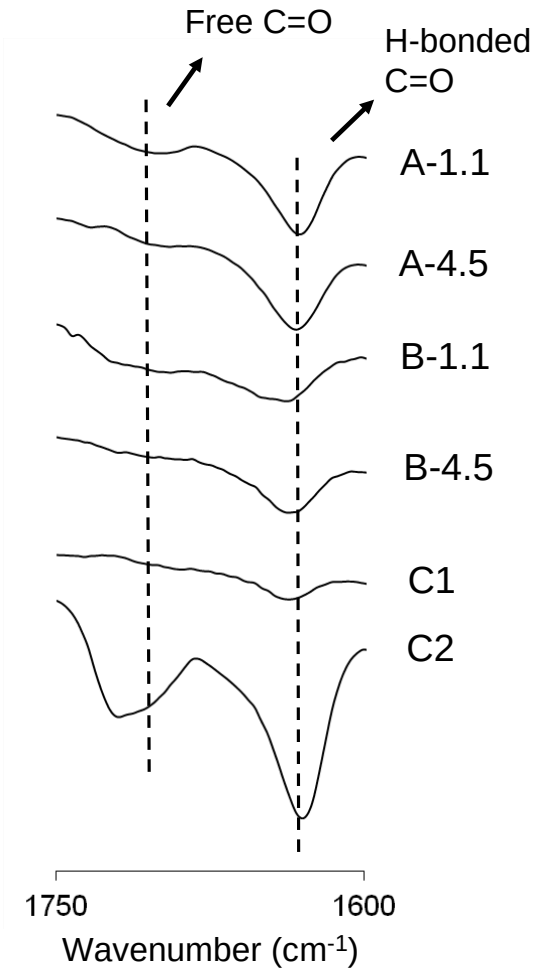

Figure S10. ATR-IR in the carbonyl region for triblocks and controls, Ge crystal. (see Experimental Section for details and designations)