**ESI Fig. 1.** Images of spherically-tipped indenters. Rows 1 and 2 show indenters fabricated by gluing beads (no scale bars, labels indicate sphere radii), while row 3 shows indenters pulled and annealed in a microforge (scale bars indicate 1 mm, labels indicate tip radii).

**ESI Fig. 2.** Shear rheology of triblock copolymer gels. (a) Parallel-plate shear rheology of \( A_{25} B_{116} A_{25} \) gels. Storage modulus is plotted versus angular frequency between 1 and 10 Hz. (b) Storage modulus, \( G' \), averaged between 1 and 10 Hz versus weight percent polymer for \( A_{25} B_{116} A_{25} \) gels.
ESI Fig. 3. Loading curve for 650μm spherical tip indenter fit with equation 5.

ESI Fig. 4. Puncture depth, \( d_c \) versus shear modulus, \( G' \), for flat-punch indenters of various radii.