Electronic Supplementary Material (ESI) for Soft Matter.

Supporting Information

Dependence of Adhesive Friction on Surface Roughness and Elastic Modulus

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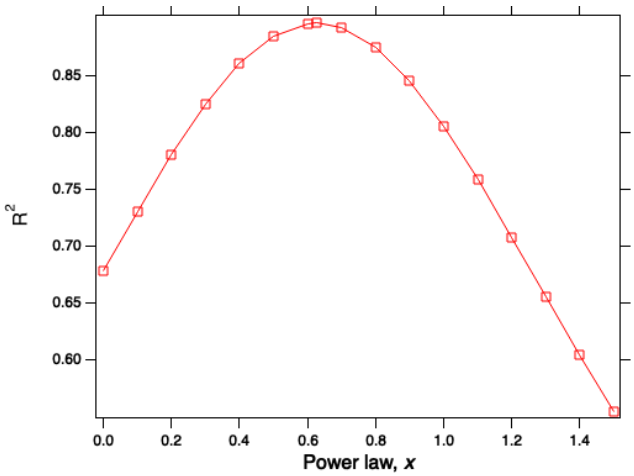

Figure S1: calculated R^2 for figure versus modulus normalization exponent, E'^{x}, for figure 5b. Normalization is optimal at approximately 0.6274 with one standard deviation giving an upper and lower bound of about 0.5 and 0.75.

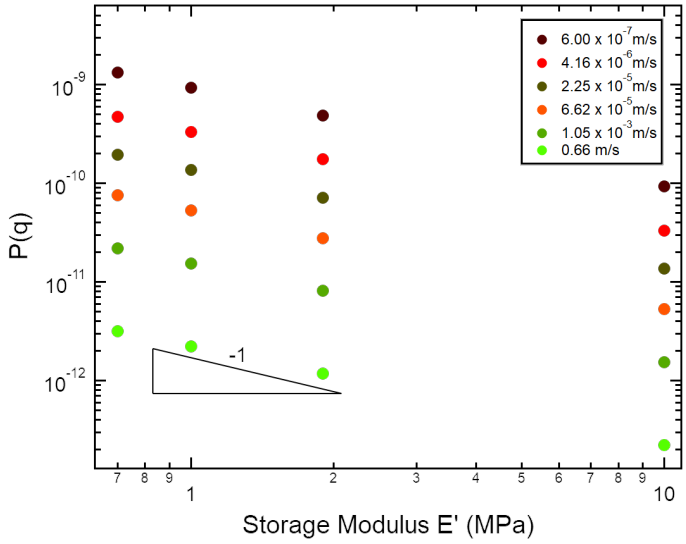

Figure S2. Calculated P(q) for four different moduli across a range of velocities for flat punch geometry. The slope of this graph implies that P(q) scales as 1/E. Elastic modulus data from Ref. [1].

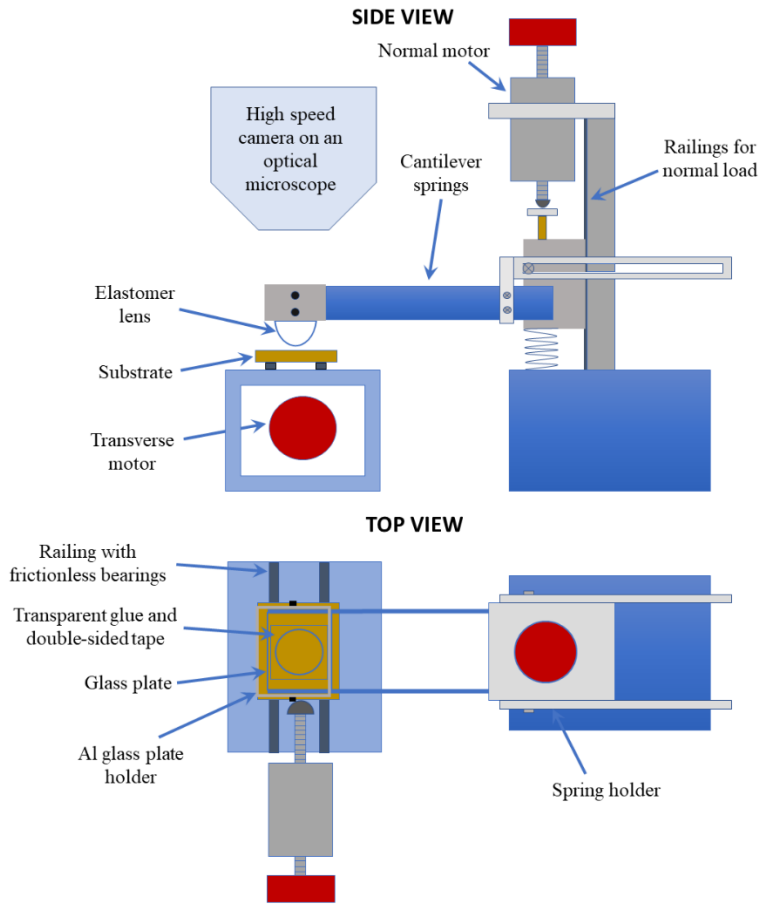

Figure S3. The double-cantilever setup for friction measurement through spring deflection and real-time area tracking through high-speed camera.[2]

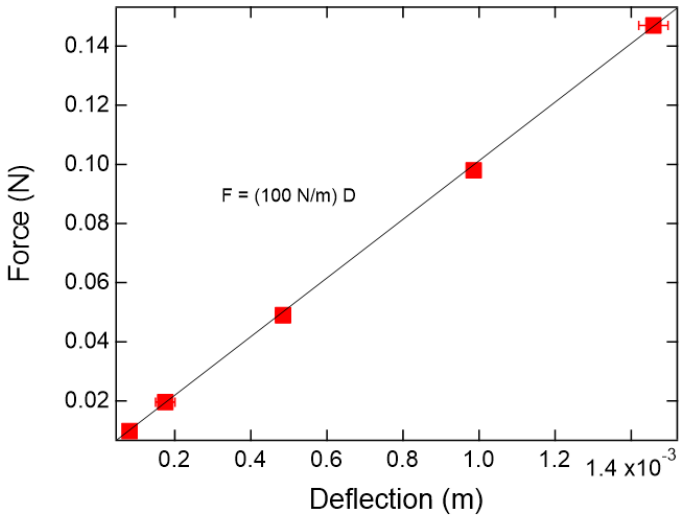

Figure S4. Spring constant calibration. Force was applied to the spring and the corresponding deflection was measured.

References

[1] B. Lorenz, B. A. Krick, N. Mulakaluri, M. Smolyakova, S. Dieluweit, W. G. Sawyer, and B. N. J. Persson, *J. Phys. Condens. Matter*, 2013, *25, 225004*.

[2] K. Vorvolakos and M. K. Chaudhury, *Langmuir*, 2003, *19*, *6778*.