

## Supporting Information

*Smooth muscle cell phenotype modulation and contraction on native and crosslinked polyelectrolyte multilayers*

Maroun D. Moussallem,<sup>†</sup> Scott G. Olenych,<sup>‡</sup> Shannon L Scott,<sup>‡</sup> Thomas C. S. Keller III,<sup>‡</sup> and Joseph B. Schlenoff<sup>†</sup>

<sup>†</sup>Department of Chemistry and Biochemistry, Center for Materials Research and Technology and

<sup>‡</sup>Department of Biological Science, Florida State University, Tallahassee, Florida 32306

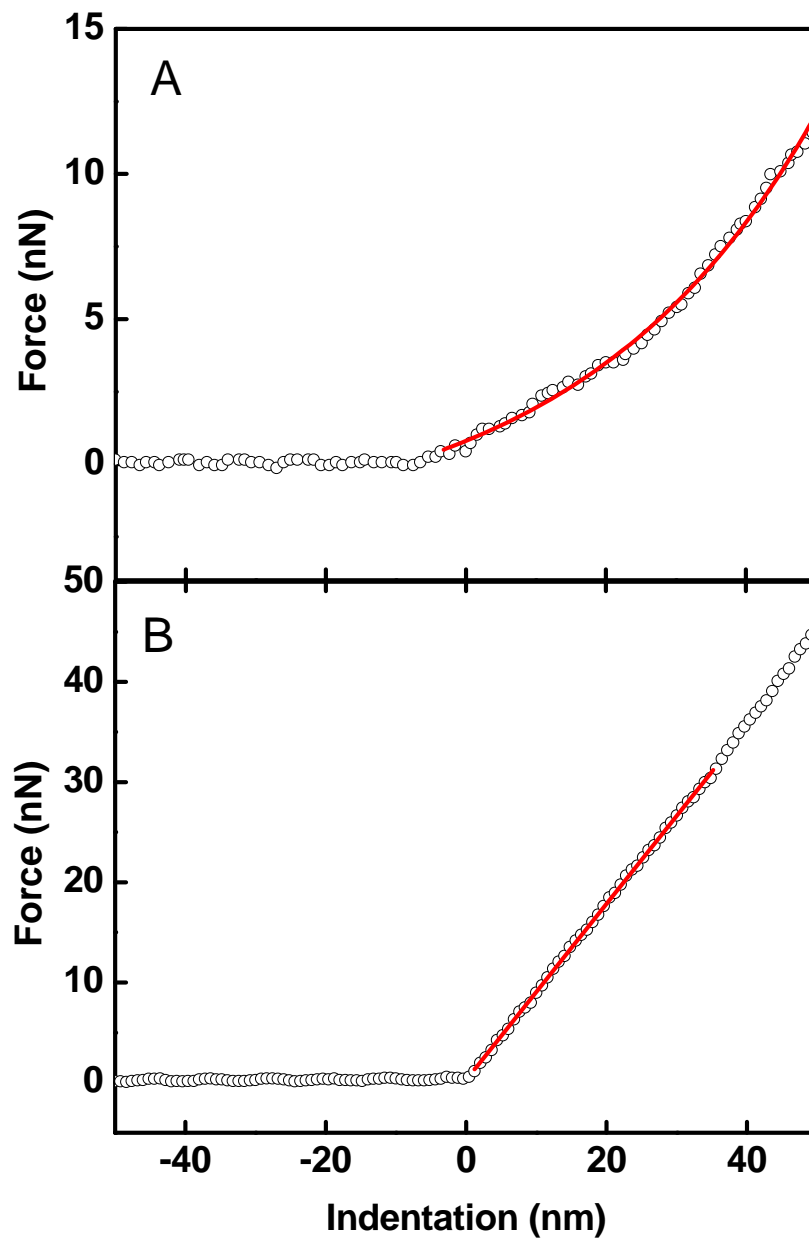


Figure S1: Fitting examples of force curves as a function of the indentation distance obtained from: (A) native (PAH/PAA)<sub>15</sub>PAH multilayer built at pH 7.4/4.6, thickness of the multilayer is around 340 nm; (B) 15 min crosslinked (PAH/PAA)<sub>15</sub>PAH multilayer built at pH 7.4/4.6, thickness of the multilayer is around 220 nm . Force measurements were performed in a 25 mM Tris-HCl buffer at pH 7.4 and 150 mM NaCl. Open circles represent data points. Solid line is the fit using the cone model for the native multilayer and the punch model for the crosslinked multilayer. The half angle for the cone was set at 10°, and the radius of the punch was set 10 nm.

Characteristics of Native and Crosslinked (PAH/PAA) multilayers built at pH 7.4/7.4 and pH 7.4/4.6 measured by AFM.

	pH 7.4/7.4 Native	pH 7.4/7.4 crosslinked	pH 7.4/4.6 Native	pH 7.4/4.6 crosslinked
Dry thickness (nm)	190.4	119.1	268.8	200.1
Wet thickness (nm)	218.2	137.1	343.7	219.2
Swelling (%)	14.6	15.1	27.8	9.6
Apparent Young's modulus (Pa)	6.9x10 <sup>6</sup>	2.8x10 <sup>9</sup>	5.7x10 <sup>6</sup>	> 8.0x10 <sup>9</sup>
Wet thickness decrease (%)		37		36
Dry roughness (nm)		3.8		11.3
Wet roughness (nm)		2.0		6.0