Electronic Supplementary Material (ESI) for Nanoscale. This journal is © The Royal Society of Chemistry 2020

## Supplementary information

## Nanomechanics of the molecular complex between

## staphylococcal adhesin SpsD and elastin

Marion Mathelié-Guinlet<sup>1</sup>, Constance Chantraine<sup>1</sup>, Felipe Viela<sup>1</sup>, Giampiero Pietrocola<sup>2</sup>, Pietro Speziale<sup>2</sup>, and Yves F. Dufrêne<sup>1,3</sup>

<sup>1</sup>Louvain Institute of Biomolecular Science and Technology, UCLouvain, Croix du Sud, 4-5, bte L7.07.07, B-1348 Louvain-la-Neuve, Belgium

<sup>2</sup>Department of Molecular Medicine, Unit of Biochemistry, University of Pavia, Viale Taramelli 3/b, 27100 Pavia, Italy

<sup>3</sup>Walloon Excellence in Life sciences and Biotechnology (WELBIO), B-1300 Wavre, Belgium

\*Corresponding authors:

Yves Dufrêne: <a href="mailto:yves.dufrene@uclouvain.be">yves.dufrene@uclouvain.be</a>

Pietro Speziale: pspeziale@unipv.it

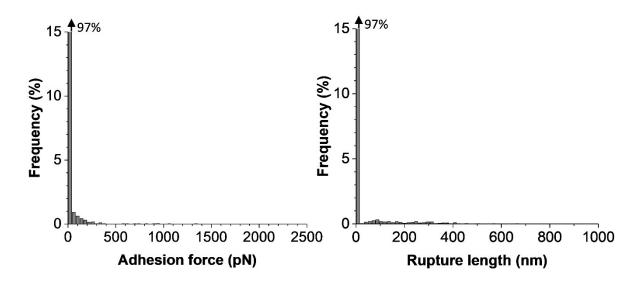
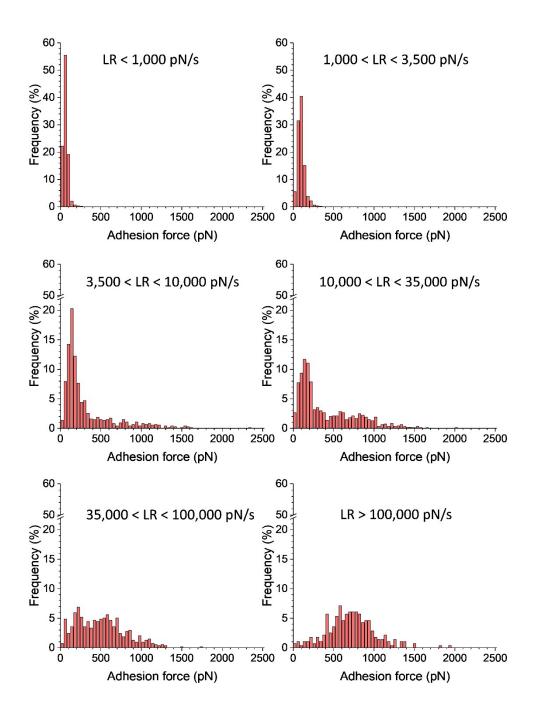


Figure S1. Binding specificity of SpsD and SpsL to elastin. Adhesion force and rupture length histograms obtained for six S. pseudintermedius  $\Delta spsD\Delta spsL$  cells interacting with elastin-tips.



**Figure S2. Strong interactions are favored at high loading rates.** Adhesion forces were measured at various loading rates (*LRs*) between SpsD cells and elastin-tips (Fig. 4A). Small ranges of LRs were binned and the force distribution plotted as histograms (data pooled from 4,424 adhesive events on five cells).