## Supporting information to manuscript:

# Adhesion of bioinspired micropatterned surfaces: Effects of pillar radius, aspect ratio

## and preload

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## Table 1A: SU-8 processing conditions

Resist Thickness (µm)	2.5	5	10	20	40	50	60	80
SU-8 Resist Type	2	5	5	25	25	50	50	50
Spin Coating								
5 s at 500 rpm + 60 s at (rpm)	1150	2050	970	1750	900	1710	1490	1200
Soft Bake								
(min) at 65°C	1	1	2	3	5	6	7	8
8min) at 95°C	3	3	5	7	15	20	22	26
Exposure Time (s)	10.5	12	13.5	23	30.5	39.8	42.8	44.4
Post Exposure Bake								
(min) at 65°C	1	1	1	1	1	1	1	1
(min) at 95°C	1	1	2	3	4	5	6	8
Development								
(min)	1	1	2	4	6	6	7	9
Hard Bake	30 min at 150°C							

**Figure 1A:** SEM micrographs of selected pillar structures  $r = 5 \ \mu m$  and  $\lambda = 0.5, 1, 2 \ and 4$ . Specimens were coated with 10 nm Au/Pd before taking pictures.



**Figure 2A**: Load-displacement curves at different preloads obtained on patterned surfaces  $(r = 25 \ \mu m, \lambda = 1)$ . Each graph contains data corresponding to five experiments to demonstrate the high reproducibility of the measurements.



**Figure 3A:** Tenacity of pillars arrays of different radius ( $\lambda = 1$ ) compared to flat surface.



**Figure 4A:** Variation of  $E^*$  of patterned surfaces with different radii, heights and  $\lambda$ .  $E^*$  has been calculated by fitting the loading curves to the Hertz model.





**Figure 5A:** Critical contact radius,  $a_{crit}$ , and number of pillars in contact at  $a_{crit}$  for different pillar radii, heights and  $\lambda$ . The values for  $a_{crit}$  were determined by fitting the  $P_c$ - $P_p$  data with the spring model<sup>33</sup>.



