Electronic Supplementary Material (ESI) for RSC Advances.

Supplementary Information for

Amplitude response of conical multiwalled carbon nanotube probes for atomic force microscopy

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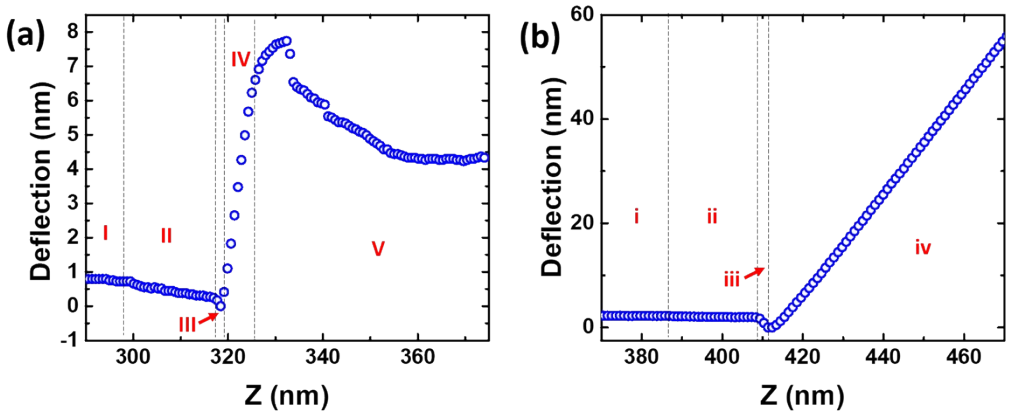
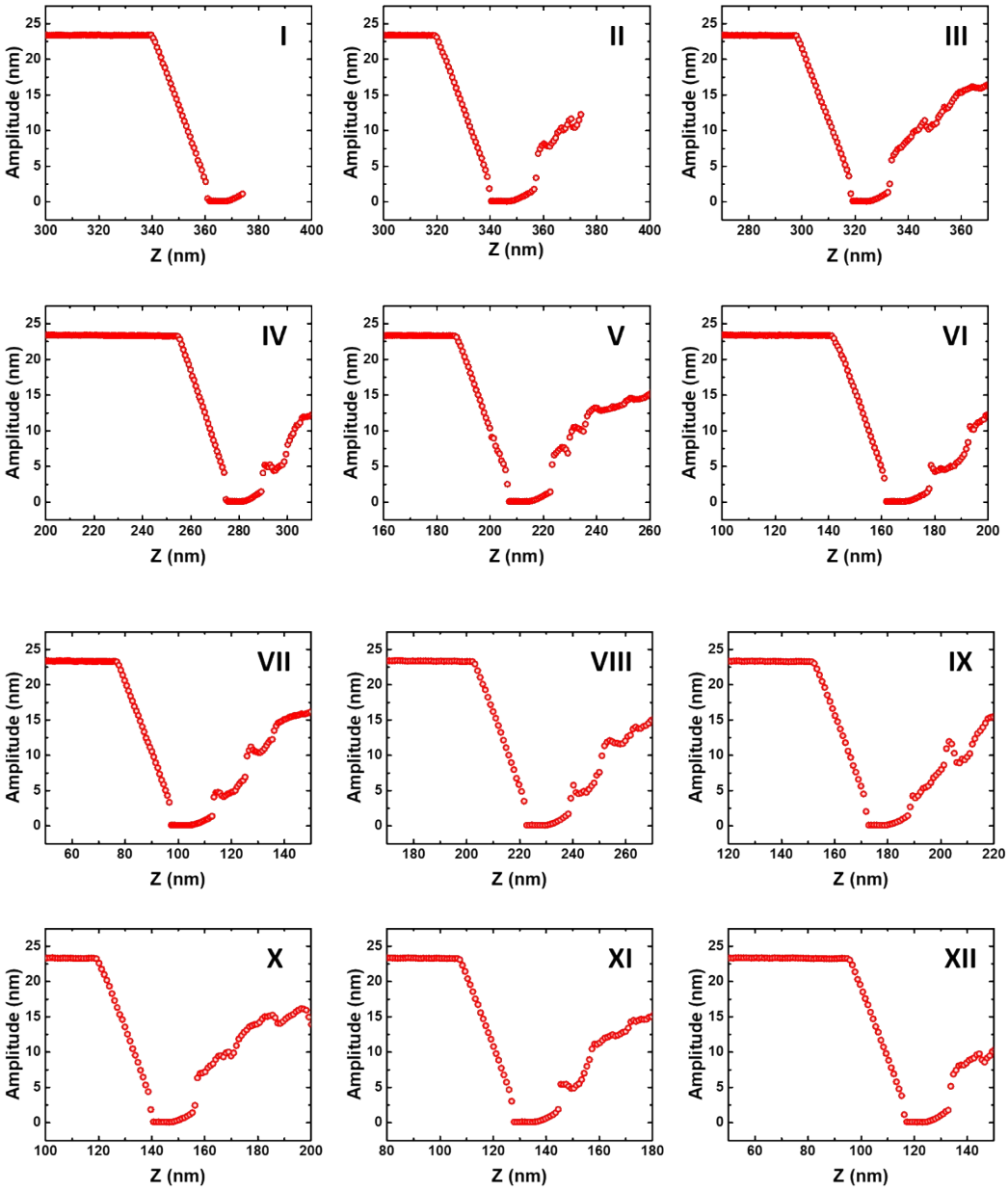


Figure S1. (a) Deflection-displacement curve of conical MWCNT probe. (b) Deflection-displacement curve of commercial probe. I, II, III, IV, V and i, ii, iii, iv represent the corresponding motion stages in Figure 3(a) and (b), respectively.


I
II
III
IV
V
VI
VII
VIII
IX
X
XI
XII
Amplitude (nm)
Z (nm)

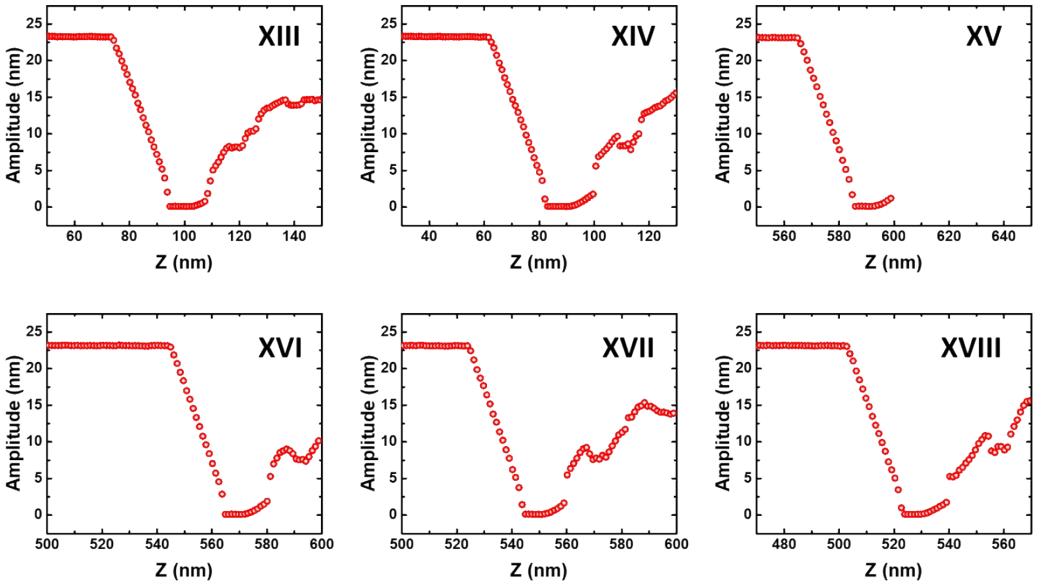


Figure S2. Typical amplitude-displacement curves for 18 times of a conical MWCNT probe. III is used as Figure 3(a) in the main context.

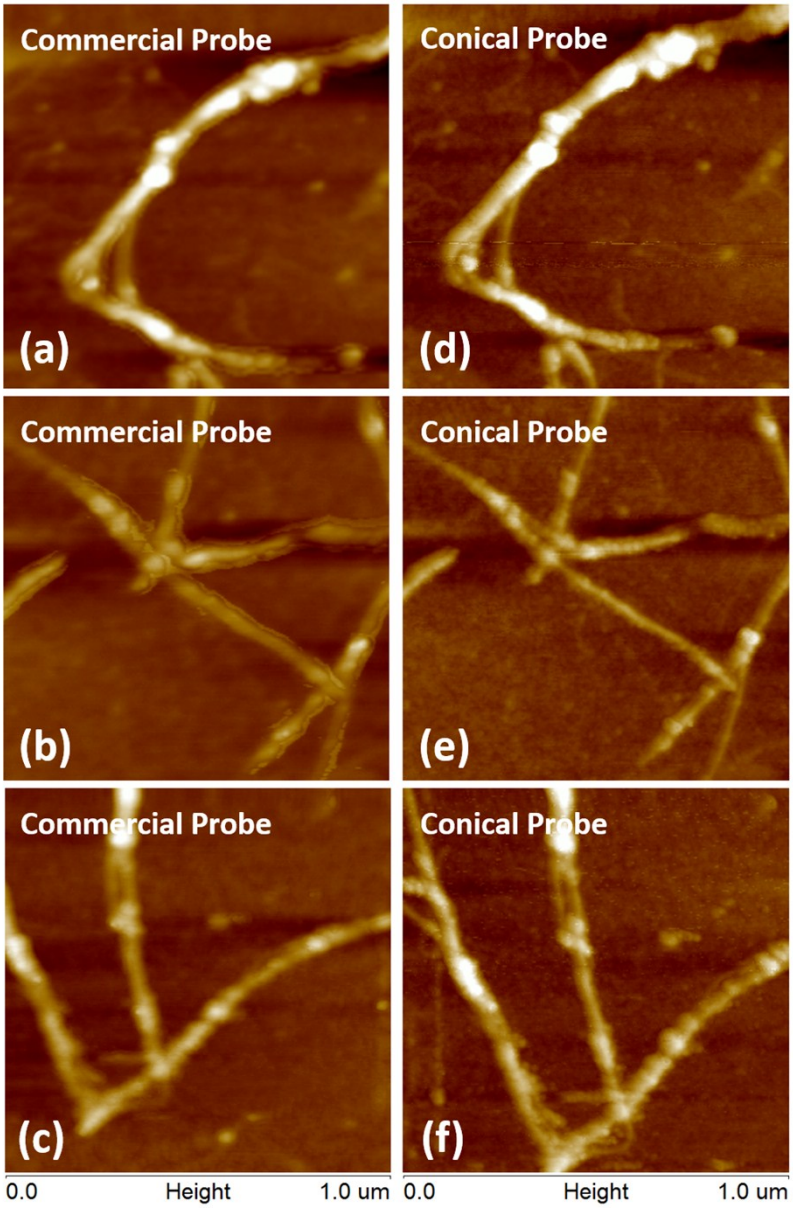


Figure S3. Comparison of the topography of SWCNT networks in 3 different positions. Topography in (a), (b), (c) is acquired by commercial probes. Topography in (d), (e), (f) corresponds to the same positions in (a), (b), (c) and is acquired by a MWCNT conical probe.

Measurements	Probe	W (nm)	h (nm)	estimated radius (nm)
1	MWCNT probe	23.4	1.7	40.3
2	MWCNT probe	24.1	1.7	42.7
3	MWCNT probe	27.6	2.2	43.3
4	SCM-PIT	25.8	1.7	48.9
5	SCM-PIT	28.2	2.0	49.7
6	SCM-PIT	32.2	2.8	46.3

Table S1. Estimation of the radius of a MWCNT probe and a commercial probe (SCM-PIT). The average radius of the MWCNT probe is 42.1 nm and the average radius of commercial probe is 48.3 nm