

Plasma-Etched Vertically Aligned CNTs with Enhanced Antibacterial Power

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Table S1. Optimization of plasma treatment conditions.

| Identifier | Ar [sccm] | O ₂ [sccm] | Pressure [mTorr] | Power [W] | Time [min] |
|------------|--------------|--------------------------|---------------------|--------------|---------------|
| 1 | 0 | 195 | 1 | 33 | 1 |
| 2 | 0 | 66 | 40 | 100 | 1 |
| 3 | 0 | 66 | 40 | 100 | 2 |
| 4 | 52 | 14 | 40 | 80 | 1 |
| 5 | 52 | 14 | 40 | 80 | 5 |
| 6 | 20 | 5 | 70 | 50 | 5 |
| 7 | 20 | 5 | 100 | 50 | 5 |
| 8 | 10 | 2 | 200 | 50 | 5 |
| 9 | 10 | 2 | 200 | 35 | 5 |

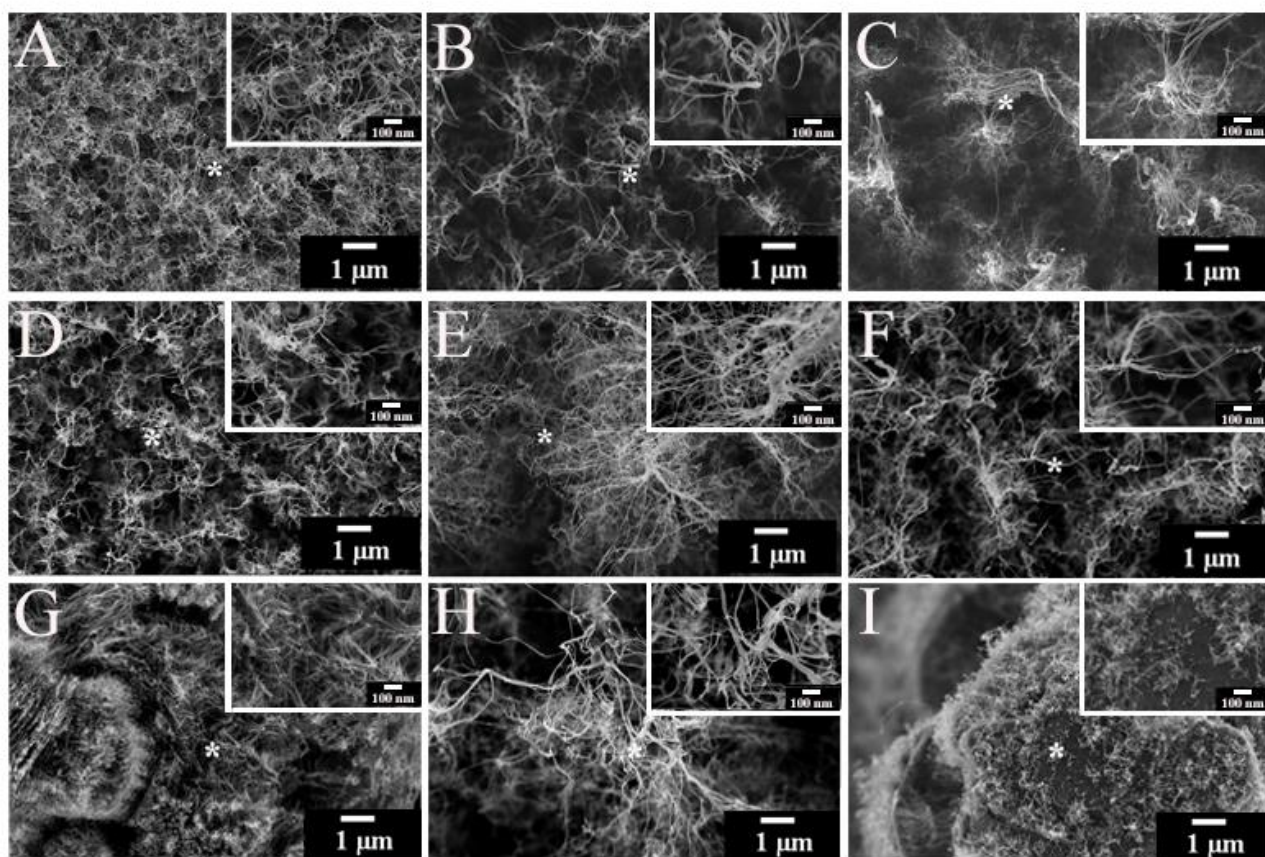


Figure S1. (A-I) Top view SEM micrographs of VA-CNTs modified with different plasma etching conditions showing the morphology of: (A) sample 1 in Table S1 where no significant morphological alterations occur and the crust layer seems to be still present over the surface of CNT mats (*i.e.* “light” etching), (B-C) samples identified as 2 and 3 in Table S1 in which the uniform layer of randomly oriented CNTs (*i.e.* crust layer) switches to a more spiky CNTs arrangement, categorized as “aggressive” etching, (D-H) samples 4-8, upon which significant morphological and structural alterations emerge, (I) sample 9 where the crust is removed and the structural integrity of CNT forests is maintained, identified as “modest” etching.