

Single-Step Flame Synthesis of Carbon Nanoparticles with Tunable Structure and Chemical Reactivity

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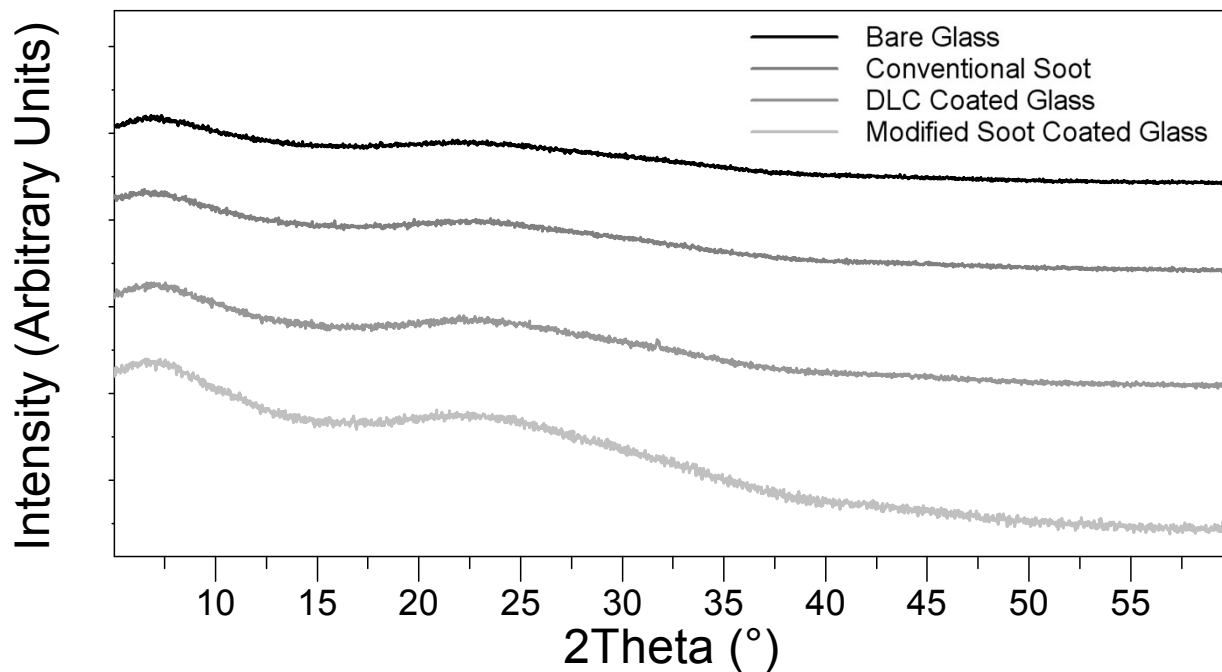
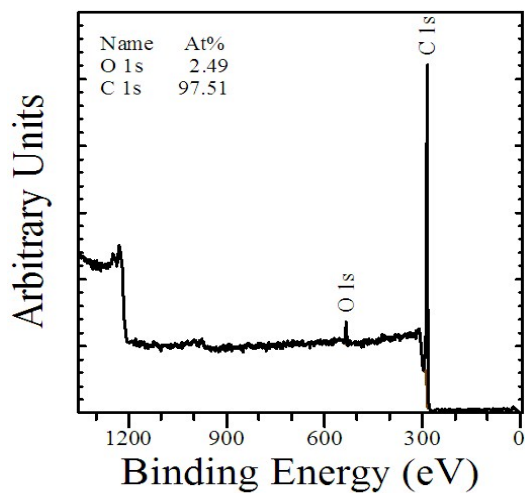
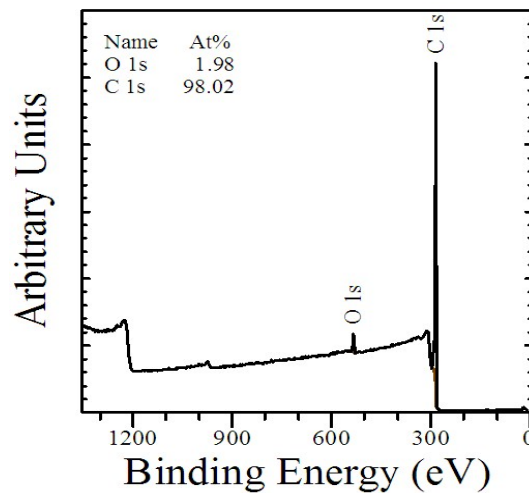


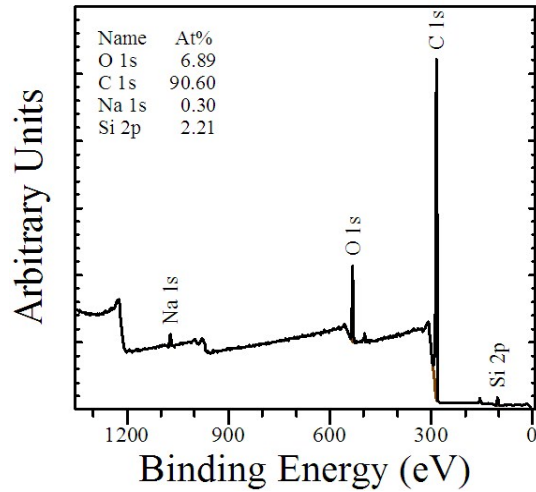
Figure S1: X-ray diffraction of a bare microscope glass slide and after its coverage with carbon coatings synthesized by the conventional (with no chimney) and modified (with chimney) approach.



a)



b)



c)

Figure S2: XPS scan survey of carbon coatings deposited after modification with chimney at a) fully-open, b) half-open and c) fully-closed opening.

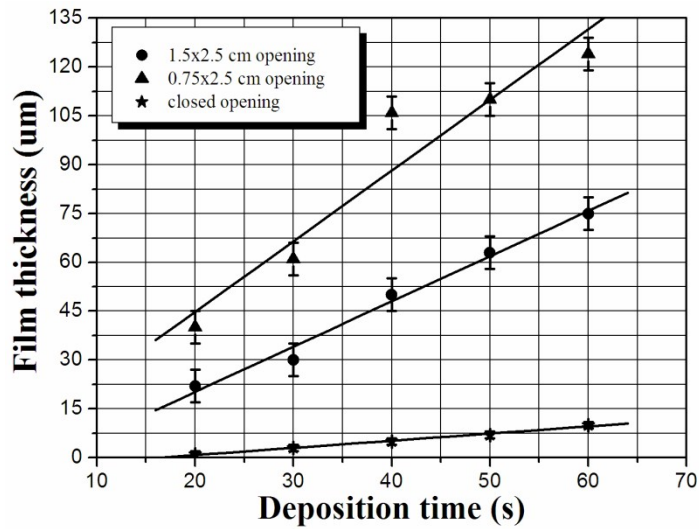
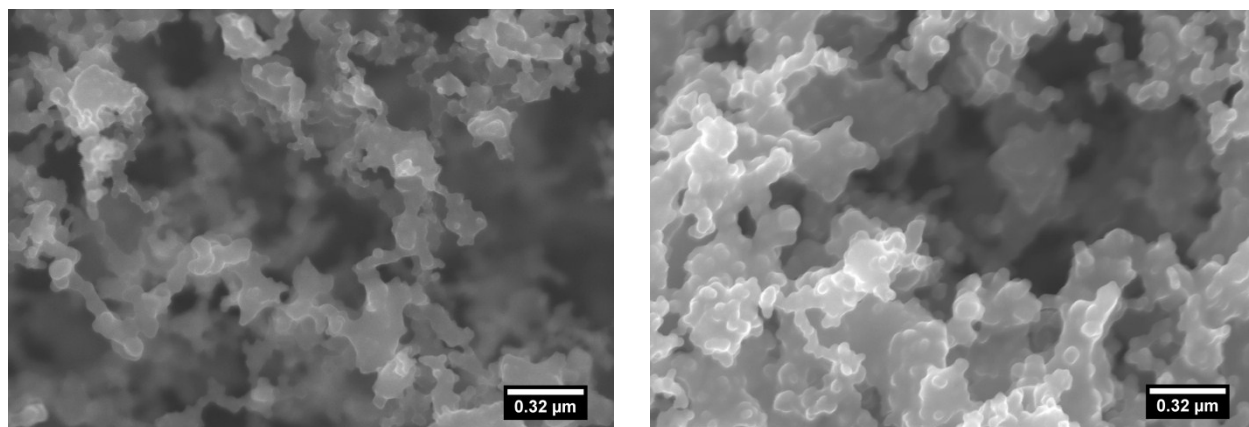


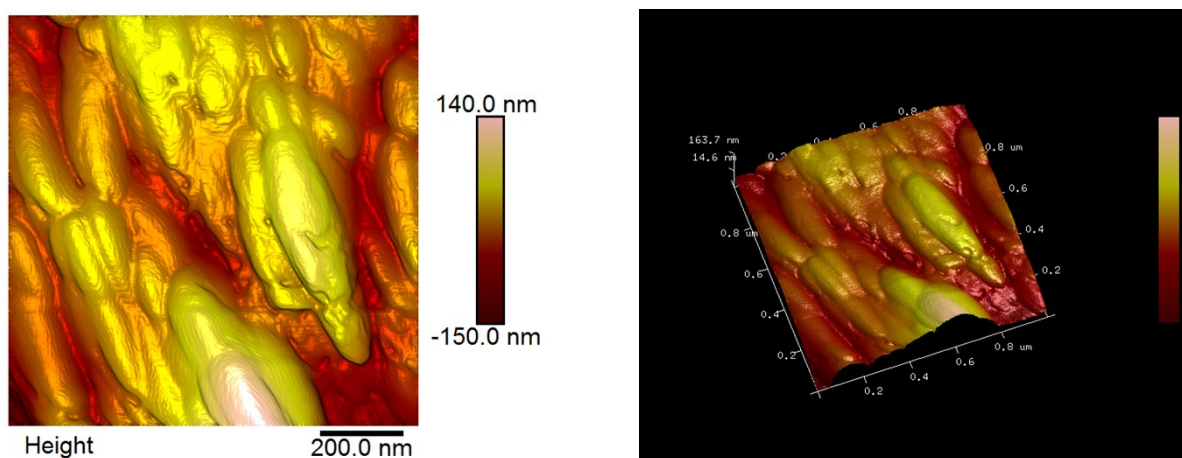
Figure S3: Relation between the film thickness and the deposition time for each regime of combustion.



a)

b)

Figure S4: High-resolution SEM images of carbon nanoparticles deposited at fully-open opening a) prior to and b) after chemical treatment with ethanol.



a)

b)

Figure S5: a) 2-D and b) 3-D AFM images of carbon coatings with a short-range ordered nanocrystalline diamond-like structure.