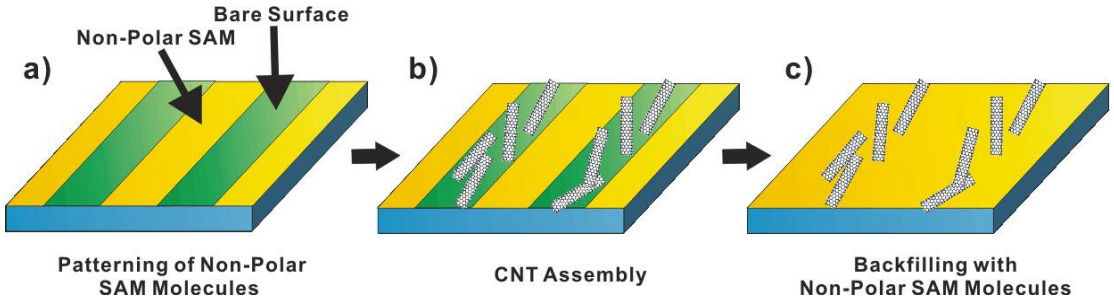
Schematic diagram depicting the protocol to prepare carbon nanotube patterns on *non-polar* surfaces:

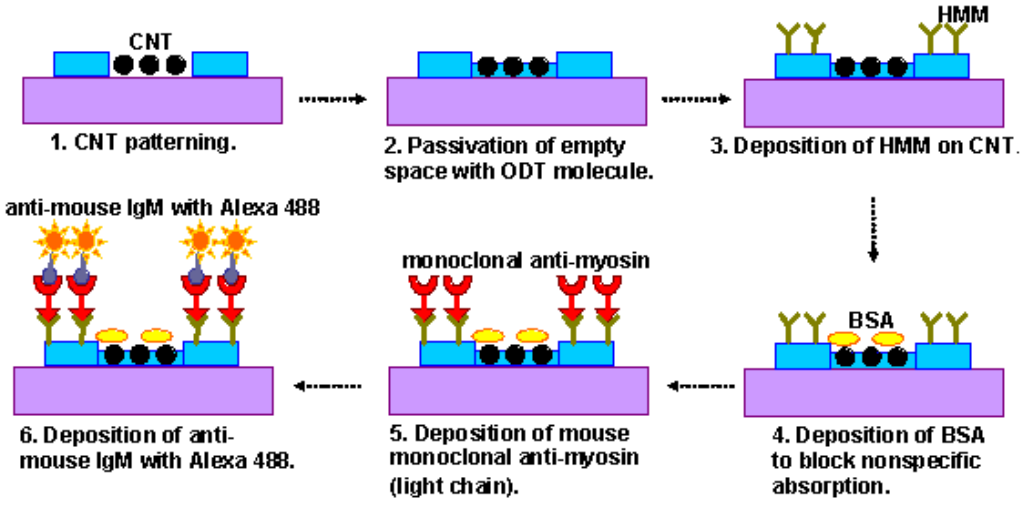


a) Patterning non-polar SAM while leaving some bare surface regions.

b) Assembly of carbon nanotubes directly onto bare surface regions.

c) Backfilling the bare surface area with non-polar SAM molecules.

Immunofluorescence Assay for HMM Adhesion



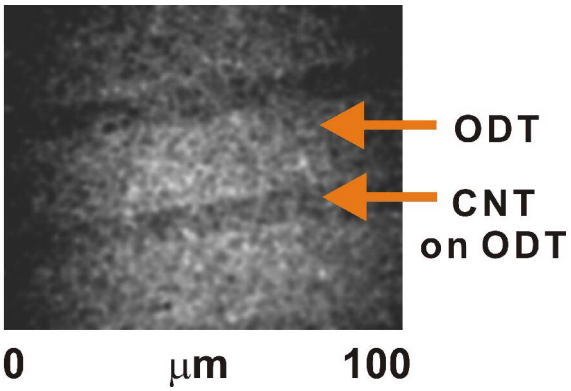
1. Deposition of HMM for 1 min on the CNT patterned substrate. (CNT 10μm, ODT 20μm)

2. Deposition of BSA to block nonspecific absorption for 1 min.

3. Deposition of mouse monoclonal anti-myosin (light chain) for 30 min.

4. Deposition of anti-mouse IgM with Alexa 488 for 30 min.

Immunofluorescence image of HMM on the CNT patterned substrate.



Fluorescence image showing the blocking effect of actin adsorption by BSA. The horizontal size of the image is 140μm. In this experiment, the MHA SAM was incubated in BSA solution (1mg/ml in buffer solution) for ten minutes, and then it was kept in actin solution (0.033mg/ml in buffer solution) for thirty minutes. Since BSA works as a good blocking reagent, only very few actin filaments (small bright spots) could be observed.