

# Highly Organized Single-Walled Carbon Nanotube Networks and Method of Making Using Template Guided Fluidic Assembly

INV-0823

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## Description

Existing nanotube assembling approaches use complex wet chemical functionalization on different surfaces. Such processes are time consuming as well as have a low yield. Chemical vapor deposition, electrophoretic deposition and dielectrophoresis are a few of the other approaches used in this regard. However, most have associated limitations such as high temperature requirement, in the case of chemical deposition, and area limited process efficacy as observed in electrophoretic and dielectrophoresis processes. **This novel process enables fabrication of single walled carbon nanotube networks over a large area, overcoming the above limitations.**

## Value Proposition

The process:

- Is cleaner and less time consuming than conventional procedures
- Involves controlled fabrication of nanotube structures using plasma enhanced surface modification and template guided site-selective assembly processes
- Enables a high yield of fabrication, and is effectively scaled up for large scale fabrication
- Is simpler (involving a single step) and is easily controllable as compared to conventional approaches
- Would be commercially useful for fabrication of various networks and structures to be used for applications such as high performance interconnects, FETs, nano switches, sensing elements, flexible devices, micro-batteries and defense purposes

## Intellectual Property Status

Pending Utility Application 12/619,187

## License Status

Available for license

