

Directed Assembly of a Conducting Polymer

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Description

Self-assembly of conducting polymers assisted by electric field has never been reported till date. The prior art discloses the use of many direct and indirect assembly techniques such as ink-jet printing, screen printing, soft lithography, and electropolymerization. However, these assembly techniques are associated with possible limitations such as complicated and slow polymerization, low resolution and yield, and use of harsh assembly environment. Moreover, the current pattern transfer techniques are highly inefficient, requiring separate materials for patterning and transferring. **This approach discloses a novel procedure for assembly of conducting polymers using an external electric field.**

Value Proposition

The procedure:

- Allows for a high rate nanoscale manufacturing
- Avoids use of complicated chemistry methods as observed with conventional assembly techniques
- Offers an easy control of on-off assembly cycles
- Enables a simple, straightforward, rapid/high throughput and easy assembly of polymers
- Works well even for fully polymerized molecules, without requiring a separate assembly template
- Would be commercially useful for preparation of microchip reactors, nanoelectronic devices, photonic materials, and biosensors

Intellectual Property Status

Pending Utility Application 11/921,715

License Status

Available for license

