



## BLOCK COPOLYMER SELF-ALIGNMENT ON ISOLATED CHEMICAL STRIPES

[View U.S. Patent Application Publication No. US-2023-0036175 in PDF format.](#)

**WARF: P190247US02**

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### The Invention

UW-Madison and University of Chicago researchers have developed a method for directed self-assembly of block copolymer films that relies on obtaining the correct balance of surface energies for the template materials as well as the interfacial energies between each template material and each block of the block copolymer. This technique spatially directs the orientation, lateral order, and placement of BCP lamellae using isolated chemical stripes as templates, providing a simpler path towards high-volume sub-10 nm manufacturing. This method is not unique to 2D materials such as graphene and can be used with other materials that have similar surface energy such as photoresist, organic planarization layers, spin-on carbon, amorphous carbon, nitrides, self-assembled monolayers with various head groups and organic small molecules.

### Additional Information

#### For More Information About the Inventors

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#### Tech Fields

- [Semiconductors & Integrated Circuits: Components & materials](#)
- [Semiconductors & Integrated Circuits: Lithography](#)

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