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ABSTRACT OF THE DISCLOSURE

A method for controlling etch bias of carbon doped oxide films comprising performing the etch in a cyclic two step process i.e., a carbon doped oxide (CDO) removal process, said CDO removal process comprises a first gas to etch a trench in the CDO layer. The CDO removal process is followed by a polymer deposition process. The polymer deposition process comprises introducing a second gas in the reactor to deposit a polymer in the trench of the CDO layer. The first gas comprises a first molecule having a first ratio of carbon atoms to fluorine atoms, and the second gas comprises a second molecule having a second ratio of carbon atoms to fluorine atoms, such that the second ratio of carbon atoms to fluorine atoms is greater than the first ratio of carbon atoms to fluorine atoms. The above process may be repeated to etch the final structure.



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