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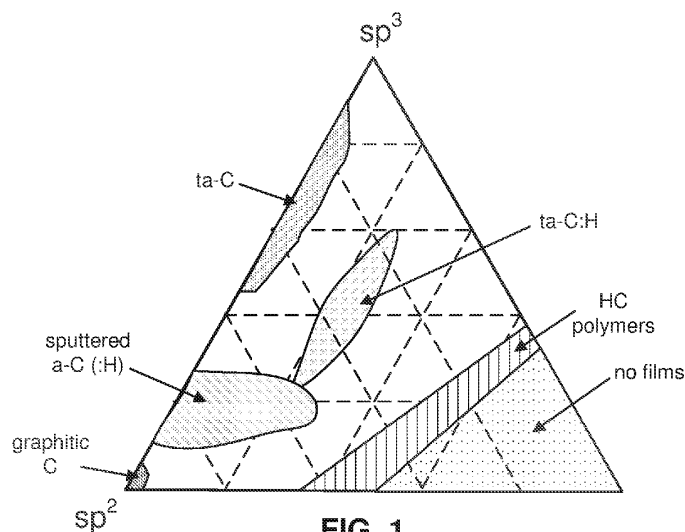


FIG. 1

(57) Abstract: Crystalline or amorphous carbon films are deposited on a substrate using radical-activated carbon-containing precursors. The carbon-containing precursors include one or more C-C bonds and/or one or more C-H bonds. Radicals are generated in a remote plasma source located upstream of a reaction chamber, and carbon-containing precursors are flowed into the reaction chamber downstream from the remote plasma source. The radicals interact with the C-C bonds and/or C-H bonds to activate the carbon-containing precursors in an environment adjacent to the substrate. In some implementations, highly conformal amorphous carbon films are deposited by radical-activated carbon-containing precursors.

[Continued on next page]

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