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(54) Title: DEPOSITION OF IODINE-CONTAINING CARBON FILMS

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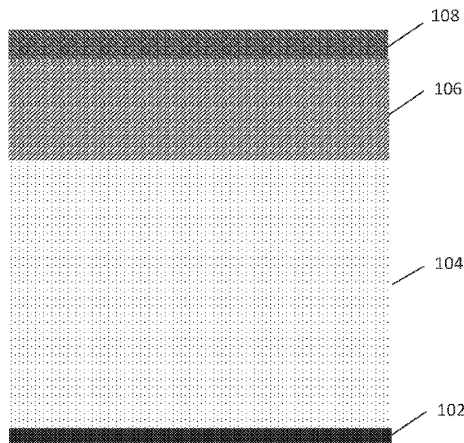


FIG. 8a

(57) Abstract: A method for depositing an iodine-containing film on a substrate material comprises: exposing the substrate material to a vapor of a film-forming composition comprising an iodine-containing precursor having a formula of $C_aH_xI_yF_z$, wherein $a=1-10$, $x>0$, $y>1$, $z>0$, $x+y+z=a$, $2a$ or $2a+2$; provided that when $a=1$, $x=2$ and $z=0$, y is not equal to 2, and depositing the iodine-containing film formed by the iodine-containing precursor on the substrate material through a vapor deposition method. The method further comprises exposing the substrate material to a vapor of a co-reactant nitrogen-containing molecule having a general formula $C_xH_yF_zNH_a$ where $x=1-6$, $y=0-13$, $z=0-13$, and $a=1-2$ or $C_xH_yF_zN-R^1$, where $x=1-6$, $y=0-13$, $z=0-13$, and R^1 is a C_1-C_5 hydrocarbon.

[Continued on next page]

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