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(54) Title: FUNCTIONAL HYDROGEN SILSESQUIOXANE RESINS AND THE USE THEREOF

(57) Abstract: Carbon-carbon unsaturated bond containing, halogen containing, and solubility-enhancer containing coatings on semi-conductor substrates for forming patterns thereon. The present coatings can be produced by coating of semiconductor substrates with carbon-carbon unsaturated bond-containing, halogen-containing, and solubility-enhancer containing polyhydrogensilsesquioxane resin solutions. Provided herein is also a method for patterning substrate coating of a polyhydrogensilsesquioxane containing a carbon-carbon unsaturated bond, halogen, and solubility-enhancer with radiation of light, the method comprising the steps of irradiating a coated substrate along a selected pattern to form an irradiated structure with a region of irradiated coating and a region with un-irradiated coating and selectively developing the irradiated structure to remove a substantial portion of the un-irradiated coating to form a patterned substrate.



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