CLAIMS:

1. A semiconductor processing method comprising:

treating a surface of a substrate with a hydrogen-containing precursor, wherein the substrate is disposed within a processing region of a semiconductor processing chamber;

contacting the substrate with a tungsten-containing precursor;

forming an initiation layer comprising tungsten on the substrate;

treating the initiation layer with a hydrogen-containing precursor;

forming a plasma of the tungsten-containing precursor and a carbon-containing precursor, wherein hydrogen in the plasma is limited to hydrogen included in the carbon-containing precursor; and

forming a tungsten-containing hardmask layer on the initiation layer.

2. The semiconductor processing method of claim 1, treating the surface of the substrate comprises:

forming a plasma of the hydrogen-containing precursor, and

contacting the surface of the substrate with effluents of the plasma to produce hydrogen terminations.

3. The semiconductor processing method of claim 1, wherein the tungsten-containing precursor is delivered for the contacting while the treating the surface of the substrate is being performed.

4. The semiconductor processing method of claim 3, wherein a flow rate of the tungsten-containing precursor is increased while it is being delivered.

5. The semiconductor processing method of claim 1, treating the initiation layer comprises:

forming a plasma of the hydrogen-containing precursor, and

contacting the initiation layer with effluents of the plasma.

6. The semiconductor processing method of claim 5, wherein the plasma further includes a nitrogen-containing precursor.

7. The semiconductor processing method of claim 6, wherein the hydrogen-containing precursor comprises diatomic hydrogen, and wherein the nitrogen-containing precursor comprises diatomic nitrogen.

8. The semiconductor processing method of claim 1, wherein the tungsten-containing precursor comprises tungsten hexafluoride, and wherein the carbon-containing precursor comprises propene.

9. The semiconductor processing method of claim 8, wherein diatomic hydrogen is excluded from the semiconductor processing chamber while forming the plasma of the tungsten-containing precursor and the carbon-containing precursor.

10. The semiconductor processing method of claim 1, further comprising forming a seasoning layer comprising a silicon-containing material on exposed surfaces of the processing region of the semiconductor processing chamber.

11. A semiconductor processing method comprising:

forming a seasoning layer on exposed surfaces of a processing region of a semiconductor processing chamber;

forming an initiation layer comprising tungsten on a substrate, wherein the substrate is disposed within the processing region of the semiconductor processing chamber;

forming a plasma of a tungsten-containing precursor and a carbon-containing precursor, wherein an atomic ratio of hydrogen in precursors delivered to form the plasma to tungsten in precursors delivered to form the plasma is less than 8:1; and

forming a tungsten-containing hardmask layer on the initiation layer.

12. The semiconductor processing method of claim 11, wherein the seasoning layer comprises silicon oxide and silicon nitride.

13. The semiconductor processing method of claim 11, wherein forming the initiation layer comprises:

forming a plasma of a hydrogen-containing precursor,

contacting a surface of the substrate with effluents of the plasma to produce hydrogen terminations, and

flowing a tungsten-containing precursor into the processing region to contact the surface of the substrate.

14. The semiconductor processing method of claim 13, wherein the tungsten-containing precursor is unexcited while flowed to contact the surface of the substrate.

15. The semiconductor processing method of claim 11, further comprising:

forming a plasma of a hydrogen-containing precursor,

contacting the initiation layer with effluents of the plasma.

16. The semiconductor processing method of claim 11, wherein the tungsten-containing precursor comprises tungsten hexafluoride, and wherein the carbon-containing precursor comprises propylene.

17. The semiconductor processing method of claim 16, wherein diatomic hydrogen is excluded from the semiconductor processing chamber while forming the plasma of the tungsten-containing precursor and the carbon-containing precursor.

18. A semiconductor processing method comprising:

forming a seasoning layer on exposed surfaces of a processing region of a semiconductor processing chamber;

treating a surface of a substrate with a hydrogen-containing precursor, wherein the substrate is disposed within the processing region of a semiconductor processing chamber;

contacting the substrate with a tungsten-containing precursor;

forming an initiation layer comprising tungsten on the substrate;

treating the initiation layer with a hydrogen-containing precursor;

forming a plasma of the tungsten-containing precursor and a carbon-containing precursor, wherein hydrogen in the plasma is limited to hydrogen included in the carbon-containing precursor; and

forming a tungsten-containing hardmask layer on the initiation layer.

19. The semiconductor processing method of claim 18, further comprising:

removing the substrate from the semiconductor processing chamber; and

performing a chamber cleaning process in the processing region of the semiconductor processing chamber.

20. The semiconductor processing method of claim 19, further comprising forming a plasma of an oxygen-containing precursor within the processing region of the semiconductor processing chamber.