WHAT IS CLAIMED IS:

1. A method for removing the residual layer of a patterned layer formed on a substrate, comprising the steps of:

(a) forming a patterned layer having a residual layer on a at least a portion of substrate;

(b) providing a vacuum ultraviolet (VUV) radiation source;

(c) positioning said substrate such that said portion of said substrate having a residual layer is in alignment with said vacuum ultraviolet (VUV) radiation source; and

(d) providing a gas composition of less than 10% oxygen between said portion of said substrate and said vacuum ultraviolet (VUV) radiation source;

(e) irradiating said substrate with vacuum ultraviolet (VUV) radiation to remove said residual layer from said portion of said substrate.

2. The method of claim ~~6~~ wherein said provided vacuum ultraviolet (VUV) radiation source is enclosed within a chamber, said chamber having an exposure aperture, and wherein said substrate positioning step further comprises positioning said substrate portion in alignment with said exposure aperture.

3. The method of claim 2 further comprising providing said gas composition to said chamber.

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(a) forming a patterned layer having a residual layer on a at least a portion of substrate;

(b) providing a vacuum ultraviolet (VUV) radiation source;

(c) positioning said substrate such that said portion of said substrate having a residual layer is in alignment with said vacuum ultraviolet (VUV) radiation source; and

(d) providing a gas composition of less than 10% oxygen between said portion of said substrate and said vacuum ultraviolet (VUV) radiation source;

(e) irradiating said substrate with vacuum ultraviolet (VUV) radiation to remove said residual layer from said portion of said substrate.

2. The method of claim 1 wherein said provided vacuum ultraviolet (VUV) radiation source is enclosed within a chamber, said chamber having an exposure aperture, and wherein said substrate positioning step further comprises positioning said substrate portion in alignment with said exposure aperture.

3. The method of claim 2 further comprising providing said gas composition to said chamber.