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(71) Applicant: **VERSUM MATERIALS US, LLC** [US/US];
8555 SOUTH RIVER PARKWAY, TEMPE, Arizona
85284 (US).

(72) Inventors: **VRTIS, Raymond N.**; VERSUM
MATERIALS US, LLC, 8555 SOUTH RIVER PARK-
WAY, TEMPE, Arizona 85284 (US). **KIM, Moo-sung**;
VERSUM MATERIALS US, LLC, 8555 SOUTH RIVER
PARKWAY, TEMPE, Arizona 85284 (US). **CHANDRA,**
Haripin; VERSUM MATERIALS US, LLC, 8555 SOUTH
RIVER PARKWAY, TEMPE, Arizona 85284 (US). **LEI,**
Xinjian; VERSUM MATERIALS US, LLC, 8555 SOUTH
RIVER PARKWAY, TEMPE, Florida 85284 (US).

(74) Agent: **BENSON, David**; VERSUM MATERIALS US,
LLC, 8555 SOUTH RIVER PARKWAY, TEMPE, Arizona
85284 (US).

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(54) Title: BORON-CONTAINING PRECURSORS FOR THE ALD DEPOSITION OF BORON NITRIDE FILMS

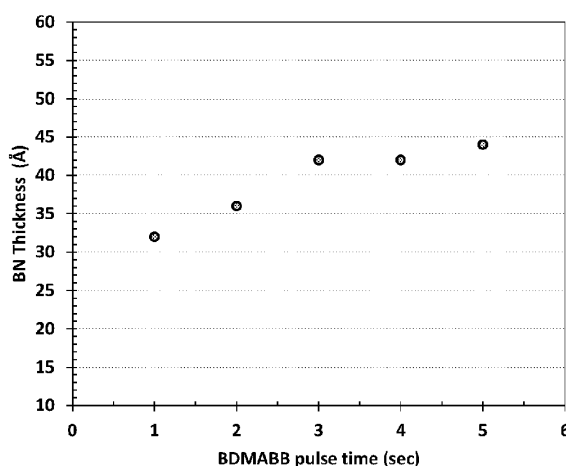


FIG. 1

(57) **Abstract:** A boron-containing precursor having the structure of Formula I: $B(NR^1R^2)_nX_{3-n}$ (I), wherein R^1 is selected from a linear C_1 to C_{10} alkyl group, a branched C_3 to C_{10} alkyl group, a linear or branched C_3 to C_{10} alkenyl group, a linear or branched C_3 to C_{10} alkynyl group, a C_1 to C_6 dialkylamino group, an electron withdrawing group, and a C_4 to C_{10} aryl group; R^2 is selected from hydrogen, a linear C_1 to C_{10} alkyl group, a branched C_3 to C_{10} alkyl group, a linear or branched C_3 to C_6 alkenyl group, a linear or branched C_3 to C_6 alkynyl group, a C_1 to C_6 dialkylamino group, a C_6 to C_{10} aryl group, a linear or branched C_1 to C_6 fluorinated alkyl group, an electron withdrawing group, and a C_4 to C_{10} aryl group; X is Cl, Br, I, or F; and $n = 1$ or 2, wherein R^1 and R^2 are optionally linked together to form a ring selected from a substituted or unsubstituted aromatic ring or a substituted or unsubstituted aliphatic ring, and wherein R^1 and R^2 may be the same moiety or different moieties. Deposition methods are also disclosed.

[Continued on next page]

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