



(51) International Patent Classification:
H01L 21/02 (2006.01)

(21) International Application Number:
PCT/US2021/042663

(22) International Filing Date:
21 July 2021 (21.07.2021)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
16/935,385 22 July 2020 (22.07.2020) US

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(54) Title: MOLECULAR LAYER DEPOSITION METHOD AND SYSTEM

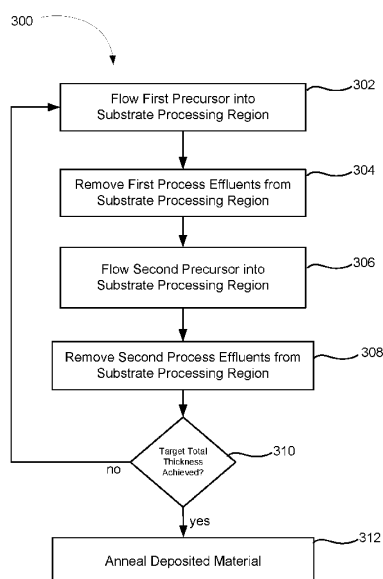


FIG. 3

(57) **Abstract:** Exemplary processing methods may include flowing a first deposition precursor into a substrate processing region to form a first portion of an initial compound layer. The first deposition precursor may include an aldehyde reactive group. The methods may include removing a first deposition effluent including the first deposition precursor from the substrate processing region. The methods may include flowing a second deposition precursor into the substrate processing region. The second deposition precursor may include an amine reactive group, and the amine reactive group may react with the aldehyde reactive group to form a second portion of the initial compound layer. The methods may include removing a second deposition effluent including the second deposition precursor from the substrate processing region. The methods may include annealing the initial compound layer to form an annealed carbon-containing material on the surface of the substrate.

[Continued on next page]

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))