



- (51) **International Patent Classification:**
C12Q 1/68 (2006.01) *G06F 19/20* (2011.01)
- (21) **International Application Number:**
PCT/FI2013/050457
- (22) **International Filing Date:**
23 April 2013 (23.04.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

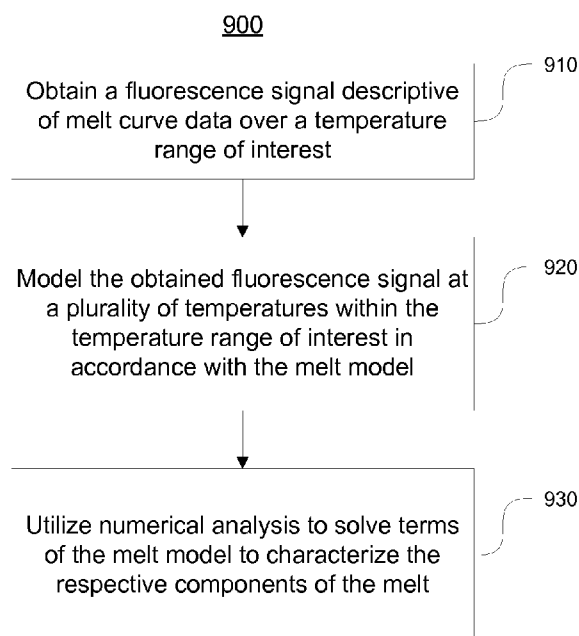
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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, 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, ML, MR, NE, SN, TD, TG).

Published:

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

- (54) **Title:** MELT CURVE ANALYSIS



(57) **Abstract:** A method of high resolution melting curve analysis for characterizing nucleic acid molecules such as PCR products having a distinct T_m using fluorescence is provided. The technique comprises modeling the raw melting curve data as a sum of at least two signal components, the first signal component representing the light intensity emitted by unbound / free fluorophores and the one or more second signal components representing the combined light intensity emitted by fluorophores bound to double stranded DNA. Numerical analysis is used to determine the values of the different components contributing to the total signal such that the model matches the raw fluorescence data as closely as possible. The method enables an improved resolution of mixtures of target nucleic acids even at non-saturating dye concentrations because it takes into account the effect of redistribution of intercalating dye from low-temperature duplexes to duplexes that melt at higher temperatures.

Figure 9