



(51) International Patent Classification:

H01J 49/06 (2006.01) *H01J 49/28* (2006.01)
H01J 49/22 (2006.01)

(21) International Application Number:

PCT/FI2009/050249

(22) International Filing Date:

2 April 2009 (02.04.2009)

(25) Filing Language:

Finnish

(26) Publication Language:

English

(30) Priority Data:

20085283 3 April 2008 (03.04.2008) FI

(71) Applicant (for all designated States except US): **ENVIRONICS OY** [FI/FI]; Graanintie 5, FI-50190 Mikkeli (FI).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **MATTILA, Terhi** [FI/FI]; Retkeilijäntie 18 C 13, FI-70200 Kuopio (FI). **ANTTALAINEN, Osmo** [FI/FI]; Visatie 7, FI-50120 Mikkeli (FI). **KÄRPÄNOJA, Esko** [FI/FI]; Saukonkuja 6 A, FI-50190 Mikkeli (FI). **PAAKKANEN, Heikki** [FI/FI]; Sairaalakatu 5 A 26, FI-70110 Kuopio (FI). **KÄTTÖ, Tero** [FI/FI]; Rauhaniementie 10 as. 5, FI-50190 Mikkeli (FI). **SAUKKO, Erkka** [FI/FI]; Matti Tapionkatu 2 F 46, FI-33720 Tampere (FI).

(74) Agent: **KESPAT OY**; P.O. Box 601, FI-40101 Jyväskylä (FI).

(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, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, 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: METHOD FOR MEASURING GASES AND CORRESPONDING ION MOBILITY SPECTROMETRY

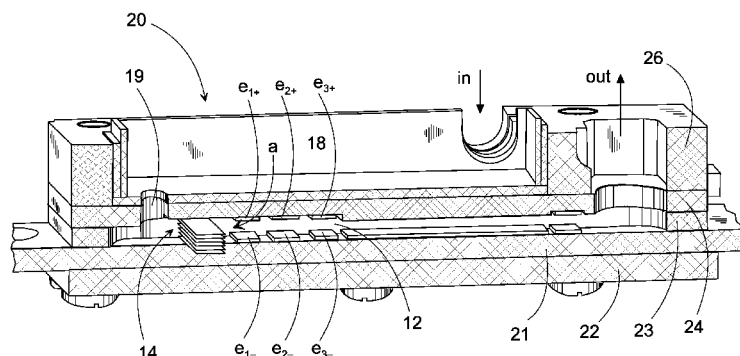


Fig. 9

(57) Abstract: The invention relates to a method and device for measuring gaseous substances, in which the method comprises the stages: - ionization of the sample gas in a gas flow (10), - leading of the ionized gas flow through an elongated ion-mobility measuring chamber (12) in the cross-section defined by it, - filtering out (14) of ions from the ionized gas flow at a distance from the measuring electrodes (ex, e2, e3), permitting the passage of only the ions travelling from the flow cross-section at the selected point, - separation of ions (J_{1-n}) with a different ion mobility, with the aid of a transverse static electric field and at least one measuring-electrode pair (e1, e2, e3) arranged along the wall of the measuring chamber.