

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
07 September 2018 (07.09.2018)



(10) International Publication Number
WO 2018/160756 A1

(51) International Patent Classification:

G01N 15/06 (2006.01) *G01N 21/63* (2006.01)
G01N 15/14 (2006.01) *G01N 21/65* (2006.01)
G01N 21/05 (2006.01) *G01N 21/85* (2006.01)
G01N 21/15 (2006.01) *G01N 3/44* (2006.01)
G01N 21/53 (2006.01) *G02B 7/02* (2006.01)

(21) International Application Number:

PCT/US2018/020312

(22) International Filing Date:

28 February 2018 (28.02.2018)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/464,994 28 February 2017 (28.02.2017) US
62/606,133 04 May 2017 (04.05.2017) US

(71) Applicant: **MARQMETRIX INC** [US/US]; 2157 N Northlake Way, Ste 240, Seattle, Washington 98103 (US).

(72) Inventors: **PROSKUROWSKI, Giora**; 2157 N Northlake Way, Ste 240, Seattle, Washington 98103 (US). **MARQUARDT, Brian James**; 2157 N Northlake Way, Ste 240, Seattle, Washington 98103 (US).

(74) Agent: **WAGNER, Bradley W.** et al.; Lee & Hayes PLLC, 601 W. Riverside Ave. Suite 1400, Spokane, Washington 99201 (US).

(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, 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, 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, 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).

(54) Title: FLUID FLOW CELL INCLUDING A SPHERICAL LENS

(57) Abstract: A flow cell device including a spherical optical element is disclosed. The spherical lens can be sealed to the body of the flow cell device in a manner that provides external optical access to a fluid in an analysis region of a flow path through the flow cell device. The seal can be provided by an elastomer, a polymer, or a deformable metal. The disposition of the spherical lens to the flow path enables in situ optical analysis of the fluid. An optical analysis device can be removably connected to the flow cell device to provide the optical analysis. In some embodiments the optical analysis device is a portable Raman spectrometer. The flow cell device can provide a supplementary interrogation interface, and/or an on board sensor device(s) to enable multivariate analysis and/or advanced triggering.

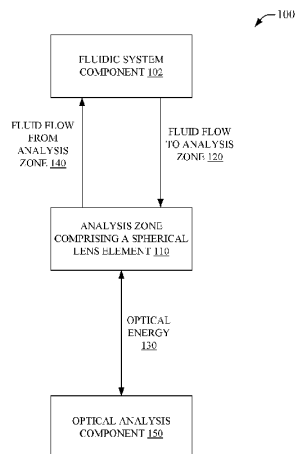


FIG. 1

WO 2018/160756 A1

[Continued on next page]

Published:

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