

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
29 March 2018 (29.03.2018)



(10) International Publication Number
WO 2018/057636 A1

(51) International Patent Classification:
G21G 1/00 (2006.01) **A61K 51/12** (2006.01)

(21) International Application Number:
PCT/US2017/052537

(22) International Filing Date:
20 September 2017 (20.09.2017)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
62/397,022 20 September 2016 (20.09.2016) US
62/397,025 20 September 2016 (20.09.2016) US
62/397,026 20 September 2016 (20.09.2016) US

(71) Applicant: **BRACCO DIAGNOSTICS INC.** [US/US];
259 Prospect Plains Road, Building H, Monroe Township,
New Jersey 08831 (US).

(72) Inventors: **NUNN, Adrian**; 33 Mill Road, Lambertville,
New Jersey 08530 (US). **MOYERS, Clif**; 101-B Valley Ct,
Oak Ridge, Tennessee 37830 (US). **SCHIMMOELLER,**
Andrew; 9645 Ward Rd., Plain City, Ohio 43064 (US).
CHERUNDOLO, Brian; 5708 Gunpowder Rd., White
Marsh, Maryland 21162 (US). **BOLAS, Tarah**; 1522
Chapes Lane, Knoxville, Tennessee 37932 (US).

(74) Agent: **LAVANWAY, JR., Paul J.** et al.; FREDRIKSON
& BYRON, P.A., 200 South Sixth Street, Suite 4000, Min-
neapolis, Minnesota 55402-1425 (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: SYSTEMS AND TECHNIQUES FOR GENERATING, INFUSING, AND CONTROLLING RADIOISOTOPE DELIVERY

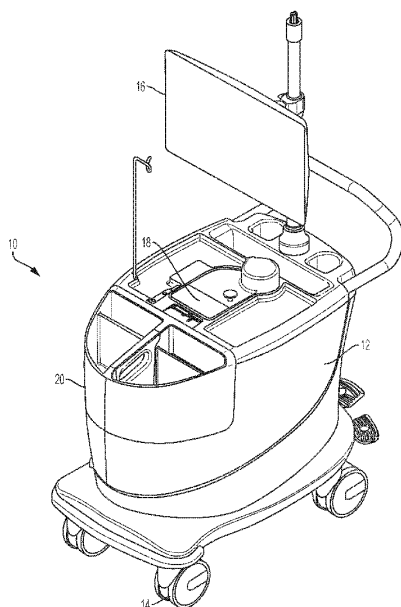


FIG. 1

(57) Abstract: An infusion system may include a strontium-rubidium radioiso-
tope generator that generates a radioactive eluate via elution, a beta detector,
a gamma detector, and a controller. The beta detector and the gamma detector
may be positioned to measure beta emissions and gamma emissions, respective-
ly, emitted from the radioactive eluate. In some examples, the controller is con-
figured to determine an activity of rubidium in the radioactive eluate based on
the beta emissions measured by the beta detector and determine an activity of
strontium in the radioactive eluate based on the gamma emissions measured by
the gamma detector.

WO 2018/057636 A1

[Continued on next page]

Published:

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