

(51) International Patent Classification:
G21G 1/00 (2006.01) **A61K 51/02** (2006.01)(21) International Application Number:
PCT/EP2011/002156(22) International Filing Date:
29 April 2011 (29.04.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
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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, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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: ISOTOPE PRODUCTION METHOD

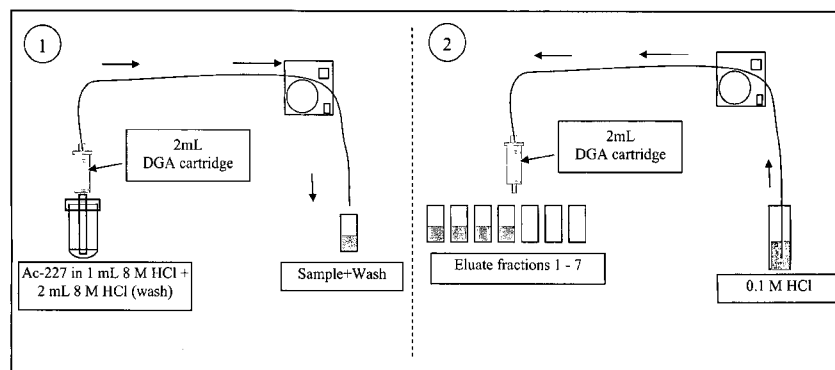


Figure 2 Experimental setup for DGA resin experiment 1

(57) **Abstract:** The present invention relates to a method for the generation of ^{223}Ra of pharmaceutically tolerable purity comprising: i) preparing a generator mixture comprising ^{227}Ac , ^{227}Th and ^{223}Ra in a first aqueous solution comprising a first mineral acid; ii) loading said generator mixture onto a DGA separation medium (e.g. resin); iii) eluting said ^{223}Ra from said DGA separation medium using a second mineral acid in a second aqueous solution to give an eluted ^{223}Ra solution; and iv) stripping the DGA separation medium of said ^{227}Ac and ^{227}Th by flowing a third mineral acid in a third aqueous solution through the DGA separation medium in a reversed direction; The invention further relates to high purity radium-223 formed or formable by such a method as well as pharmaceutical compositions comprising such radium-223 of pharmaceutical purity.