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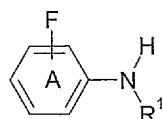
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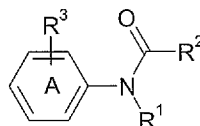
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(54) Title: FLUORINATION PROCESS OF ANILIDE DERIVATIVES AND BENZOTHAZOLE FLUORINATE DERIVATIVES AS IN VIVO IMAGING AGENTS



(I)



(II)

(57) Abstract: The invention relates to a process for preparation of a compound of formula (I):  $R^1$  is selected from  $C_{1-6}$ alkyl,  $C_{2-6}$ alkenyl, and  $C_{2-6}$ alkynyl; which comprises: (i) reaction with fluoride, suitably  $[^{18}F]$ fluoride, of a corresponding compound of formula (II): wherein  $R^2$  is selected from hydrogen,  $C_{1-10}$ alkyl,  $C_{1-10}$ haloalkyl,  $C_{6-14}$ aryl,  $C_{6-14}$ arylalkyl,  $-(CH_2CH_2O)_q-CH_3$  wherein  $q$  is an integer of from 1 to 10;  $R^1$  is as defined for the compound of formula (I); and  $R^3$  is a leaving group. Certain novel precursors of formula (II) and radiopharmaceutical kits containing such precursors are also claimed.