Supporting information to

**One-pot radiosynthesis of [18F]Anle-138b - 5-(3-bromophenyl)-3-(6-[18F]fluorobenzo[d][1,3]dioxol-5-yl)-1H-pyrazole -  a potential PET radiotracer targeting α-synuclein aggregates**

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1. **NMR and HRMS (ESI) spectra**



**Figure S1**. 1H NMR spectrum of 6-fluorobenzo-1,3-dioxole-5-carbaldehyde (400 MHz, CDCl3).



**Figure S2**. 13C NMR spectrum of **6-fluorobenzo-1,3-dioxole-5-carbaldehyde** (101 MHz, CDCl3).



**Figure S3**. 19F NMR spectrum of **6-fluorobenzo-1,3-dioxole-5-carbaldehyde** (376.5 MHz, CDCl3).



**Figure S4**. 1H NMR spectrum of **N'-((6-fluorobenzo-1,3-dioxole-5-yl)methylene)-4-methylbenzenesulfonohydrazide** (400 MHz, DMSO-d6).



**Figure S5**. 13C NMR spectrum of **N'-((6-fluorobenzo-1,3-dioxole-5-yl)methylene)-4-methylbenzenesulfonohydrazide (101 MHz, DMSO-d6)**.



**Figure S6**. 19F NMR spectrum for compound **N'-((6-fluorobenzo-1,3-dioxole-5-yl)methylene)-4-methylbenzenesulfonohydrazide** (376.5 MHz, DMSO-d6).



**Figure S7**. 1H NMR spectrum for compound **[19F]Anle138b** (400 MHz, CDCl3).



**Figure S8**. 19F NMR spectrum of **[19F]Anle138b** (376.5 MHz, CDCl3).



**Figure S9**. HRMS (ESI) spectrum of **[19F]Anle138b**.



**Figure S10**. 1H NMR spectrum of compound **4b** (400 MHz, DMSO-d6).



**Figure S11**. 13C NMR spectrum of compound **4b** (101 MHz, DMSO-d6).



**Figure S12**. 1H NMR spectrum for compound **4a** (400 MHz, DMSO-d6).



**Figure S13**. 13C NMR spectrum for compound **4a** (101 MHz, DMSO-d6).



**Figure S14**. 1H NMR spectrum of (6-formylbenzo-1,3-dioxole-5-yl)(2,4,6-trimethylphenyl)iodonium bromide(400 MHz, CDCl3).



**Figure S15**. 13C NMR spectrum of (6-formylbenzo-1,3-dioxole-5-yl)(2,4,6-trimethylphenyl)iodonium bromide (101 MHz, CDCl3).



**Figure S16**. 1H NMR spectrum of (6-formylbenzo-1,3-dioxole-5-yl)(2,4,6-trimethylphenyl)iodonium tosylate(400 MHz, CDCl3).



**Figure S17**. 13C NMR spectrum of (6-formylbenzo-1,3-dioxole-5-yl)(2,4,6-trimethylphenyl)iodonium tosylate (101 MHz, CDCl3).

1. **RadioTLC chromatograms** (ethyl acetate)



6-[18F]FP

[18F]fluoride

**Figure S18.** RadioTLC analysis of 6-[18F]FP obtained via radiofluorination of **4b.**



[18F]anle138b

**Figure S19.** radioTLC analysis of the formulated [18F]anle138b.