

Supplementary Materials

Radiosynthesis and *in vitro* and *in vivo* evaluation of talazoparib and its derivatives as PARP-1 targeting agents for cancer

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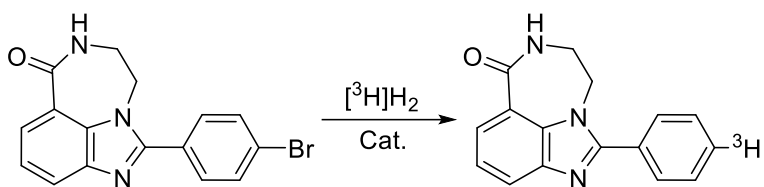
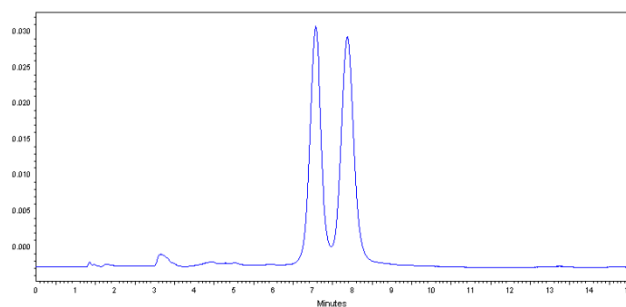
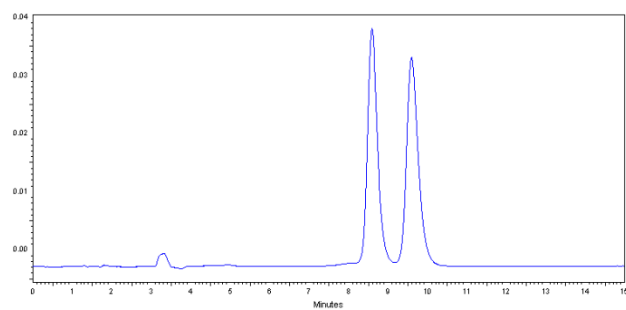


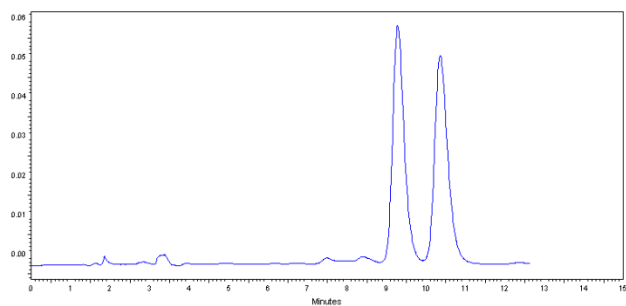
Figure S1. Radiosynthesis of $[^3\text{H}]$ WC-DZ from the bromo-precursor WC-DZ-Br



(a)



(b)



(c)

Figure S2. Chiral analytical HPLC of talazoparib derivatives (a) **3a** (F), (b) **3b** (Br), (c) **3c** (I). Column: Chirobiotech T; Mobile phase: 35% methanol/water; Flow rate: 1 mL/min; UV: 254 nm.

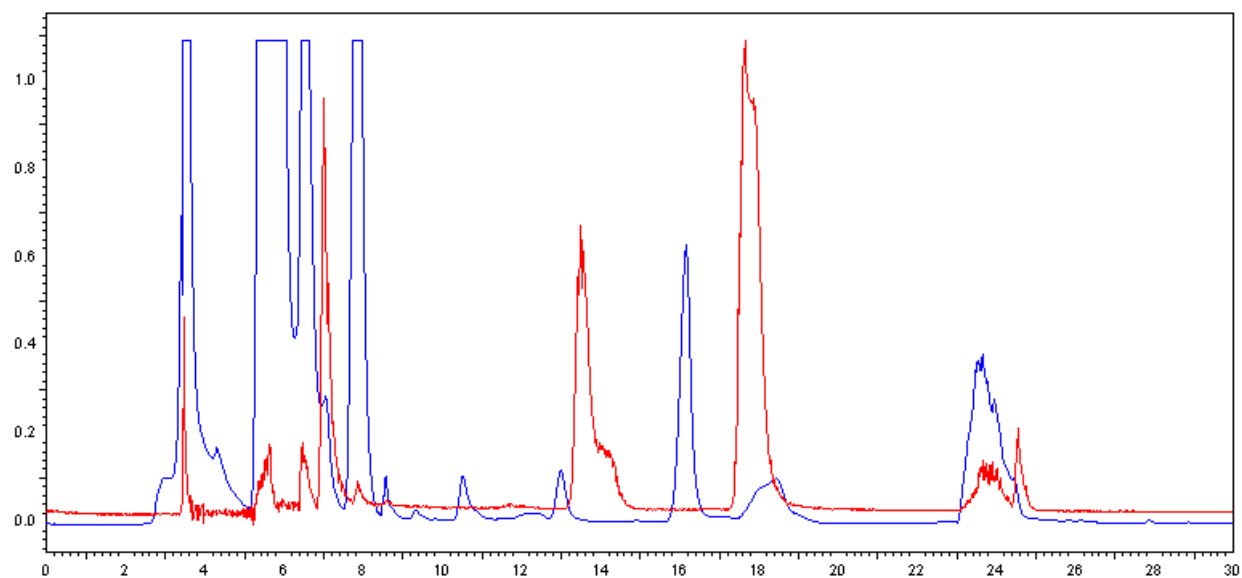


Figure S3. Semi-preparative HPLC of [^{18}F]**3a**. [^{18}F]**3a** was collected at 18 min. Blue: UV; Red: Radioactivity.

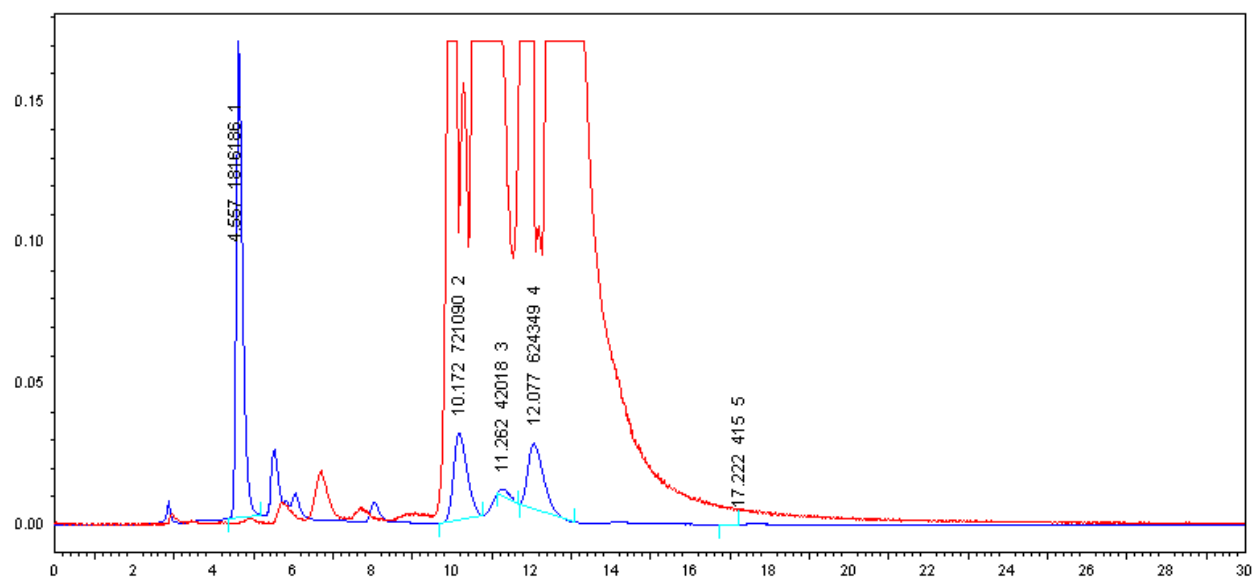
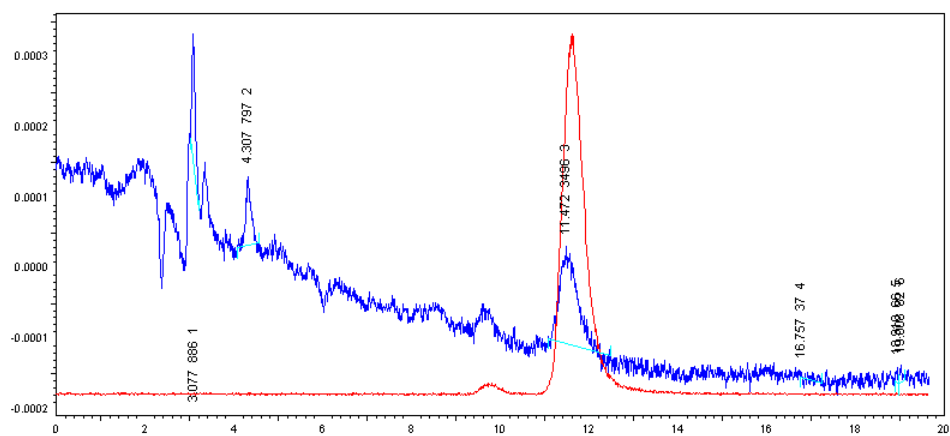
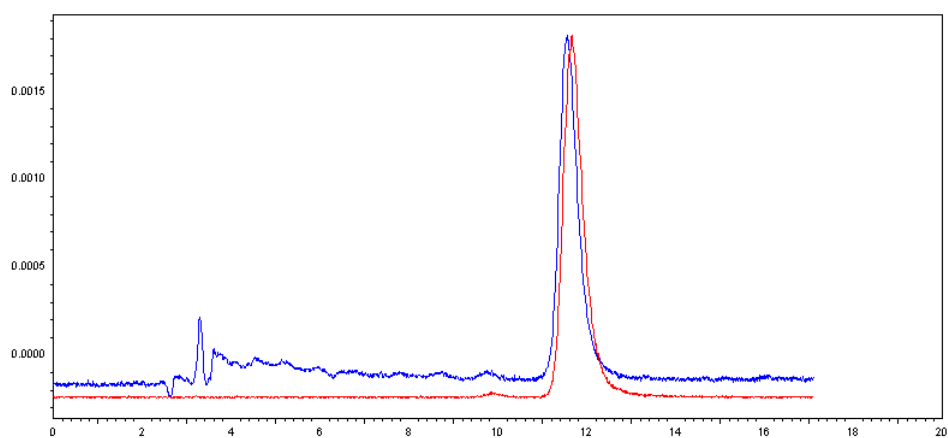


Figure S4. Chiral HPLC separation of [^{18}F]talazoparib ([^{18}F]**3a''**) and its enantiomer ([^{18}F]**3a'**). [^{18}F]Talazoparib ([^{18}F]**3a''**) was collected at 12.1 min. Blue: UV; Red: Radioactivity.



(a)



(b)

Figure S5. Analytical chiral HPLC of [^{18}F]talazoparib: (a) Animal dose; (b) Co-injection with authentic Talazoparib. Blue: UV; Red: Radioactivity.