

Synthesis, characterization and antimicrobial activity screening of some novel 3-(2-(3-(substituted benzyloxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline derivatives as potential antimycobacterial agents

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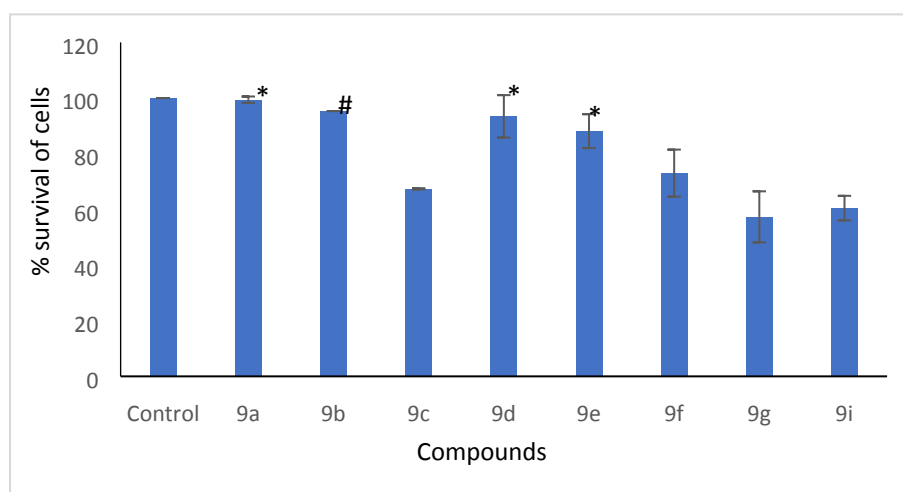
[Index](#)

Table S1 Antimicrobial activity in the zone of inhibition (mm) of compounds (9a-i)	S2
Figure S1 : Cytotoxicity of compounds 9a-I	S2
Figures S2 and S3 : Spectral Data of Compound 6	S3
Figures S4 and S5 : Spectral Data of Compound 7	S4-S5
Figures S6 to S28 : Spectral data of Compound 9a-i	S6-S27

Table S1: Antimicrobial activity in the zone of inhibition (mm) of compounds (**9a-i**)

Comp.	R	<i>P. mirabilis</i>	<i>E. coli</i>	<i>B. subtilis</i>	<i>S. albus</i>	<i>C. albicans</i>	<i>A. niger</i>
9a	C ₆ H ₅	16.2	11.8	16	12.6	13.2	16.6
9b	4-BrC ₆ H ₄	15.0	12.2	12.3	15.4	13.4	15.6
9c	4-ClC ₆ H ₄	15.6	12.4	12.6	13.8	11.0	14.6
9d	4-CH ₃ C ₆ H ₄	15.6	11.2	12.5	13.2	11.2	16
9e	2-CNC ₆ H ₄	17.0	14.0	11.2	12.4	12.4	15
9f	3-CNC ₆ H ₄	20.6	13.5	13.3	14.2	13.0	15.4
9g	4-CNC ₆ H ₄	14.4	12.2	10.0	13.4	13.5	15.8
9h	3,5-F ₂ C ₆ H ₃	17.8	12.4	13.6	13.2	13.8	15.8
9i	6-PPyridin-3-yl	14.4	11.25	13.8	13.8	12.6	15.8
Streptomycin		21.0	25.0	21.6	21.6	21.0	NA
Fluconazole		NA	NA	NA	NA	NA	20.2
Ravuconazole		NA	NA	NA	NA	NA	28.6

NA = Not applicable

**Figure S1:** Cytotoxicity of compounds **9a-i**. (*: Statistically not significant as compared to control, #: Statistically significant as compared to control)

Representative Spectral data: **Figures S2 to S28**

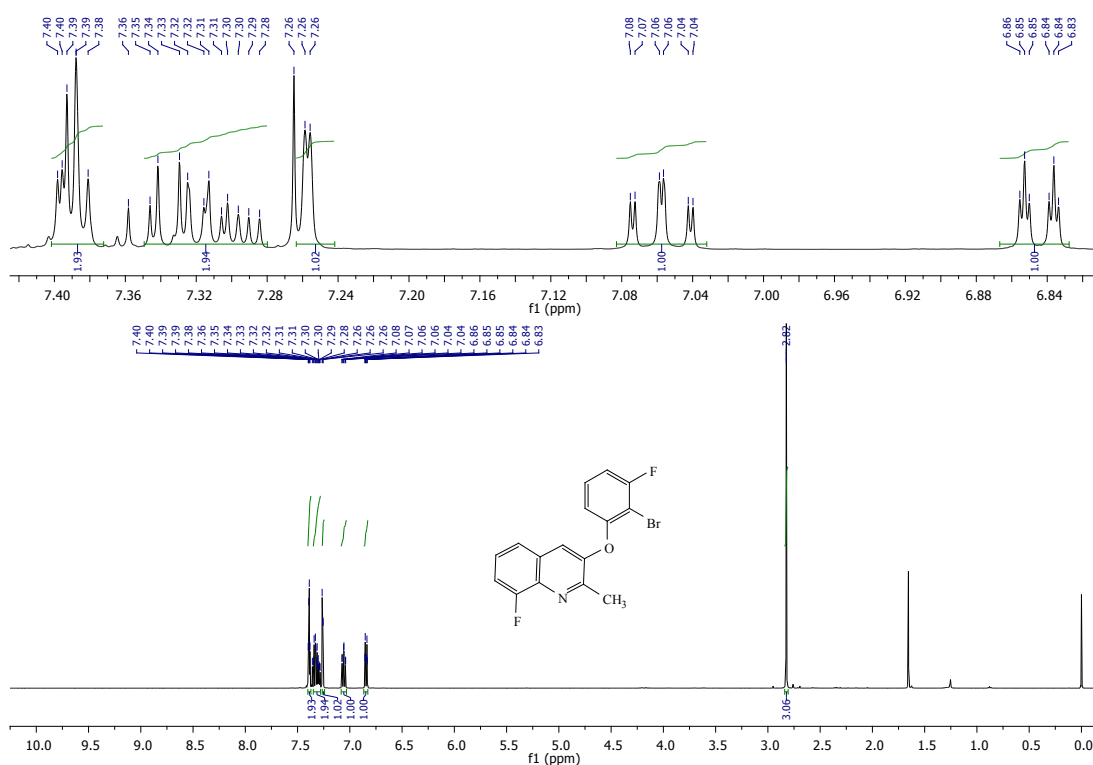


Figure S2: ^1H NMR (500 MHz, CDCl_3) spectrum of 3-(2-bromo-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **6**

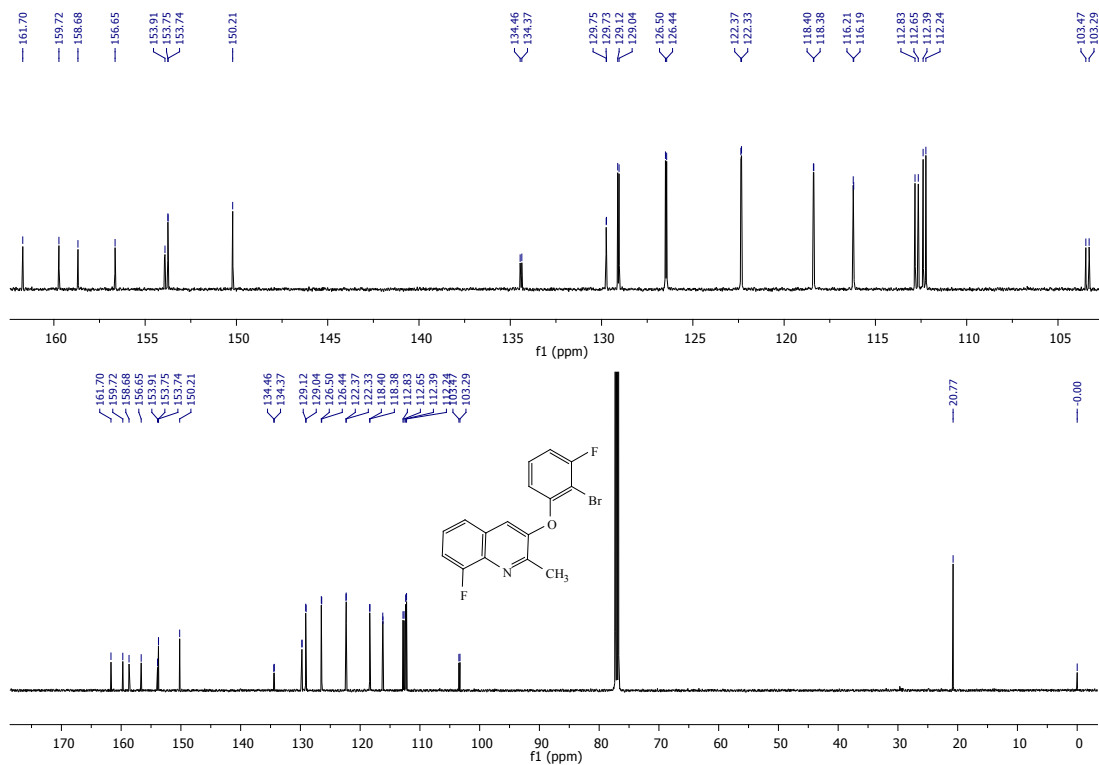


Figure S3: ^{13}C NMR (126 MHz, CDCl_3) spectrum of 3-(2-bromo-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **6**

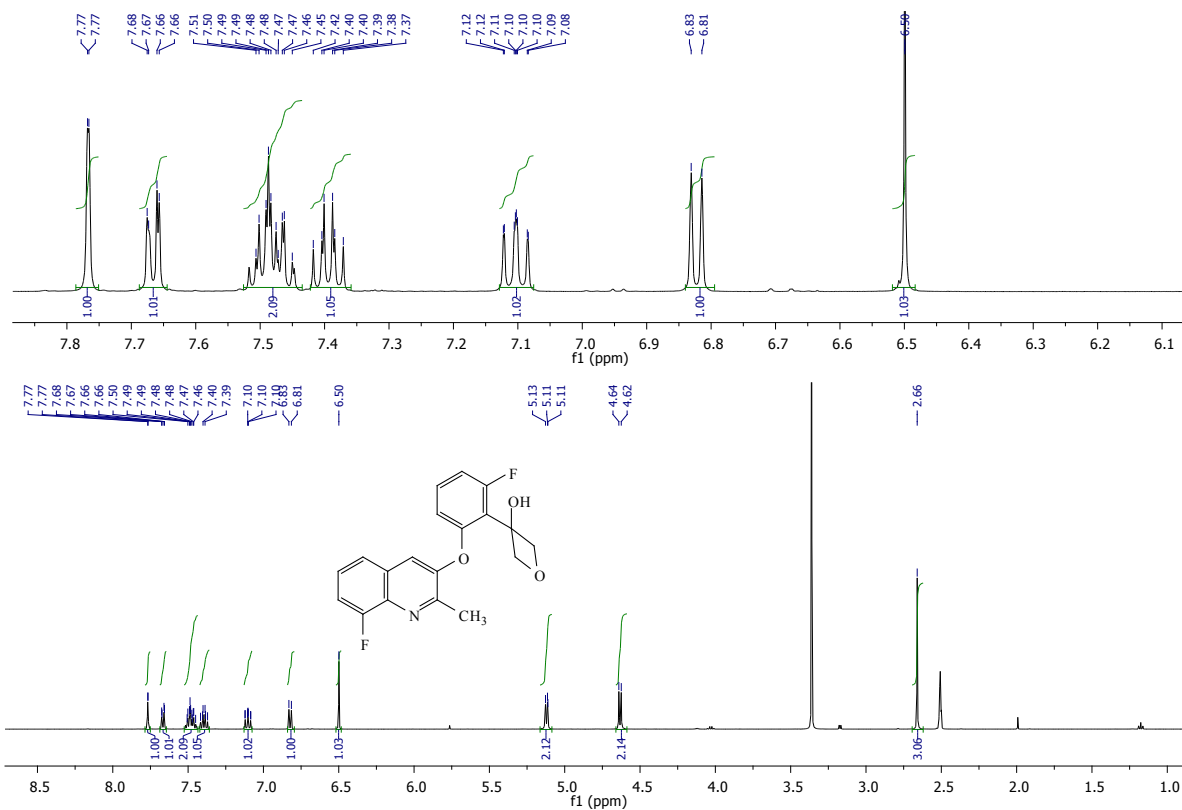
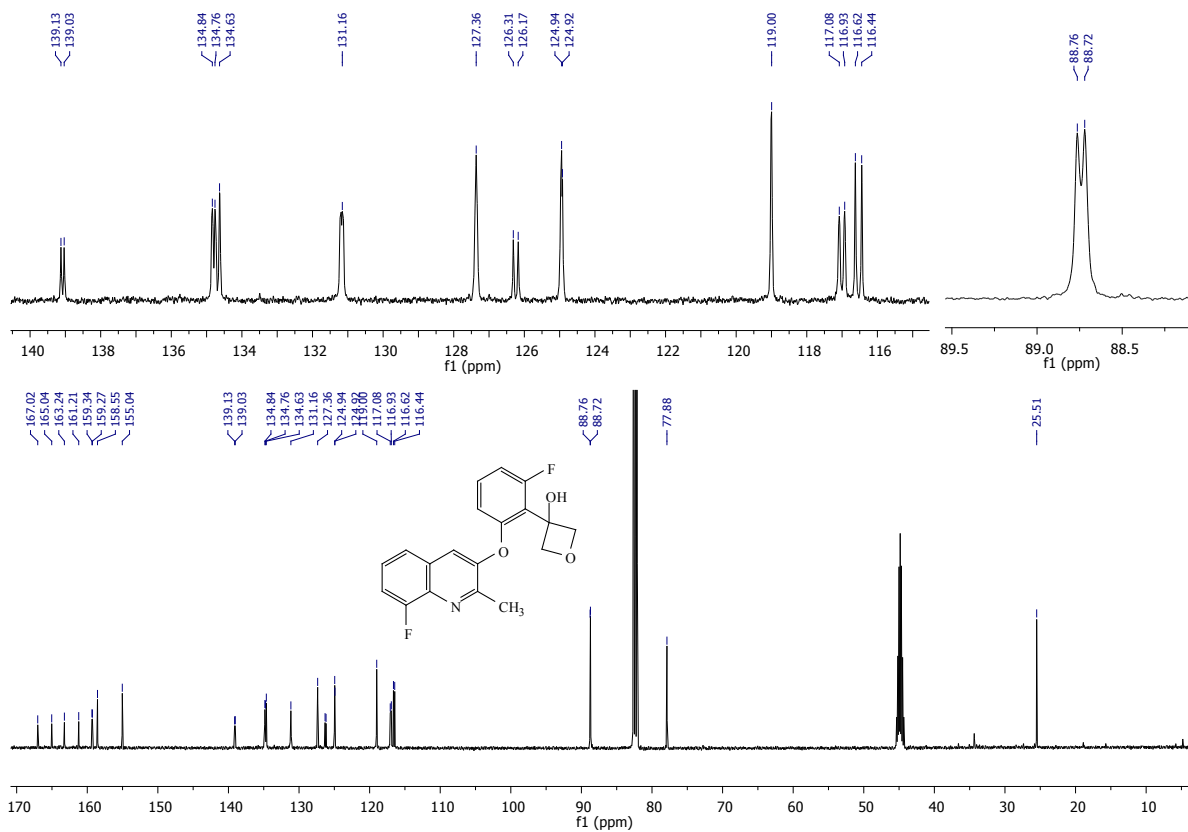


Figure S4: ^1H NMR (500 MHz, CDCl_3) spectrum of 3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-ol, **7**



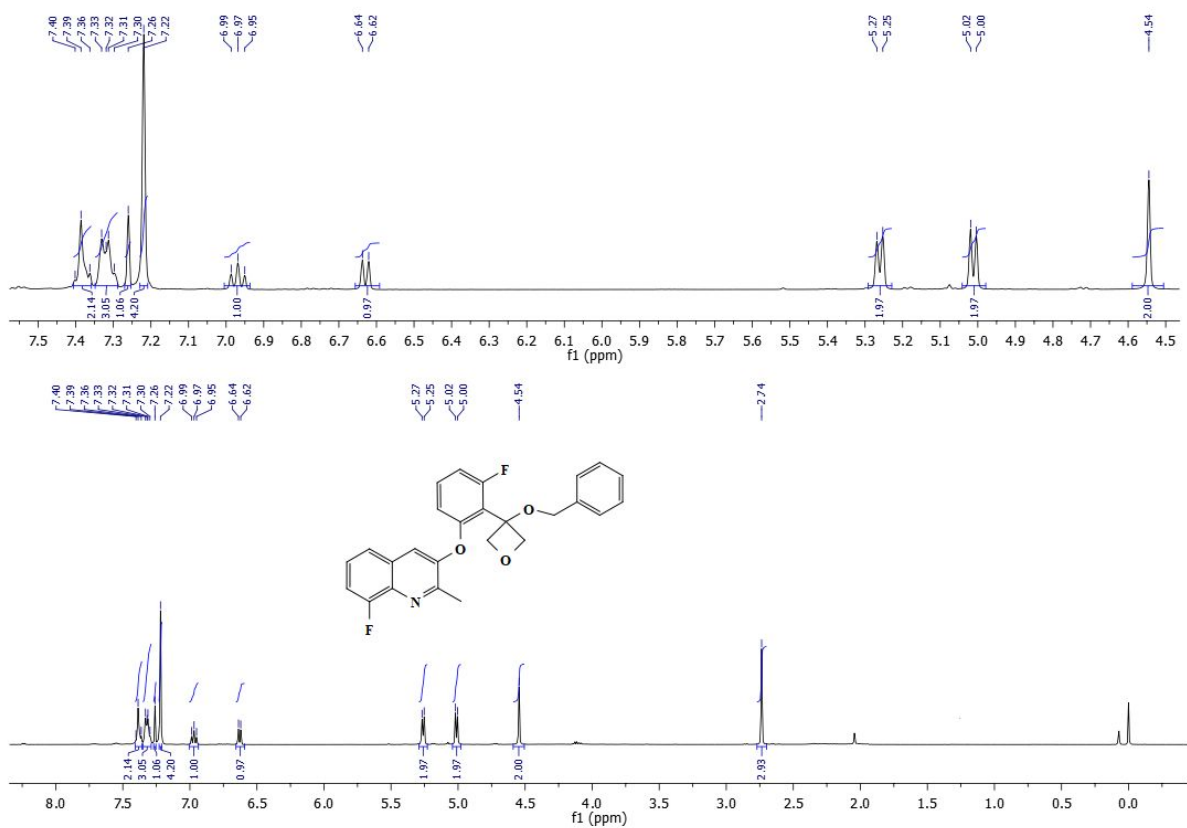


Figure S6: ¹H NMR (500 MHz, CDCl₃) spectrum of 3-(2-(3-(benzyloxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9a**

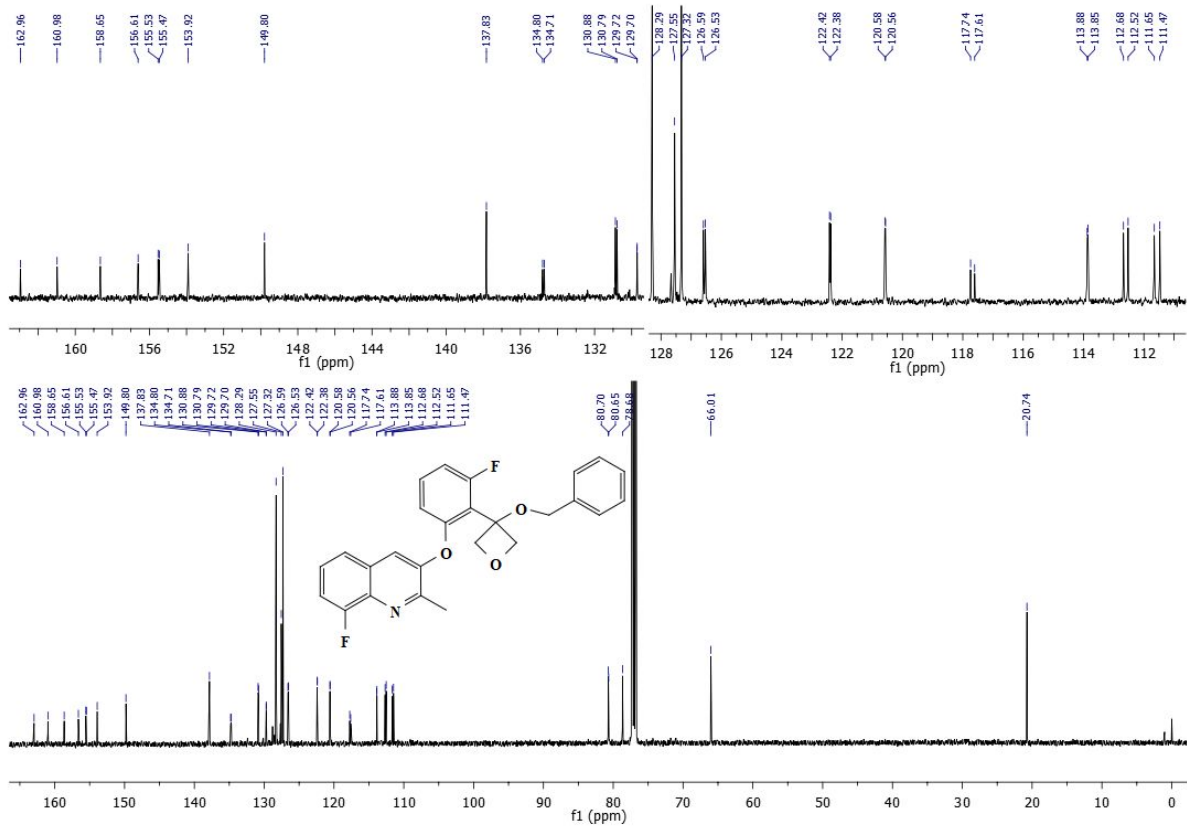


Figure S7: ¹³C NMR (126 MHz, CDCl₃) spectrum of 3-(2-(3-(benzyloxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9a**

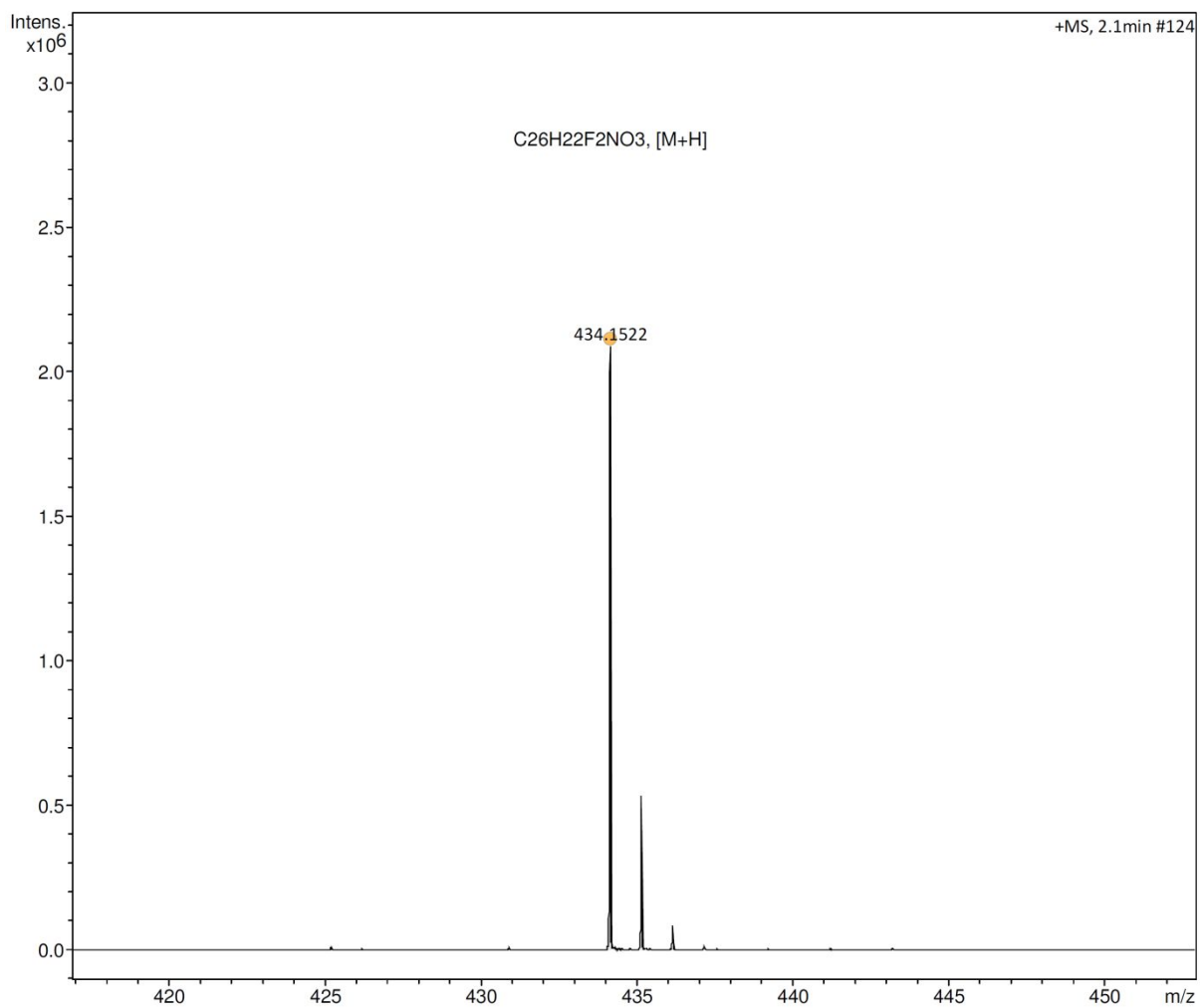


Figure S8: HRMS spectrum of 3-(2-(3-(benzyloxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9a**

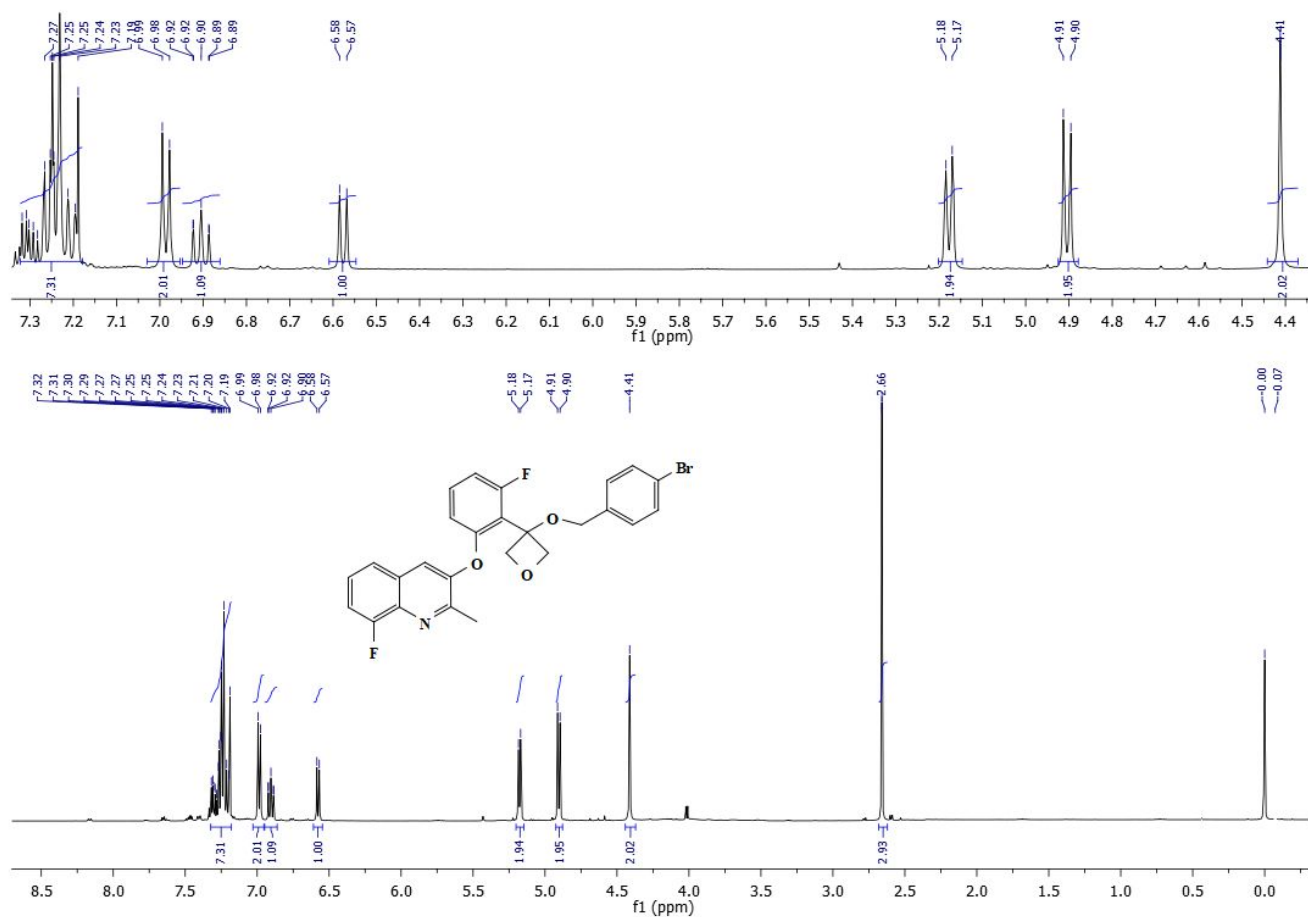


Figure S9: ^1H NMR (500 MHz, CDCl_3) spectrum of 3-(2-(3-((4-bromobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9b**

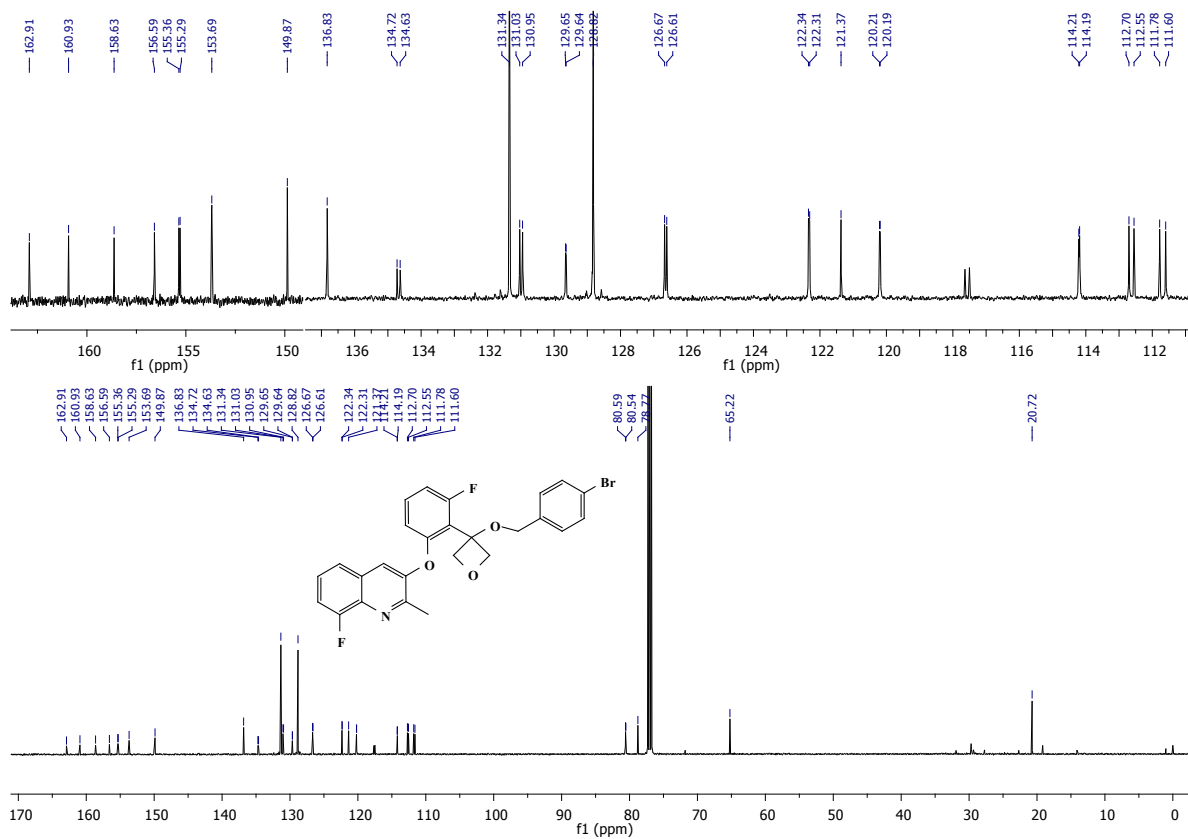


Figure S10: ¹³C NMR (126 MHz, CDCl₃) spectrum of 3-(2-(3-((4-bromobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9b**

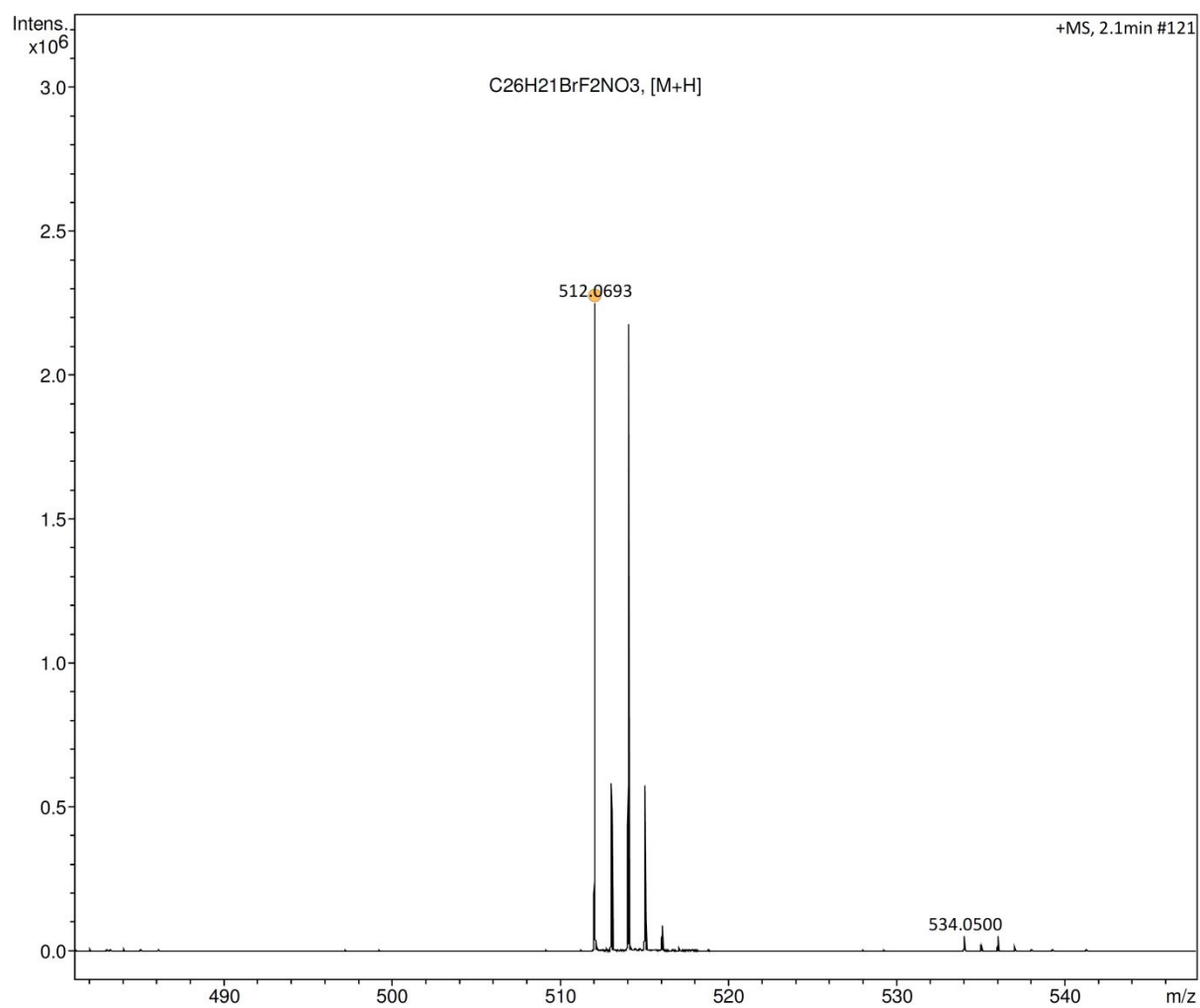


Figure S11: HRMS spectrum of 3-(2-(3-((4-bromobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9b**

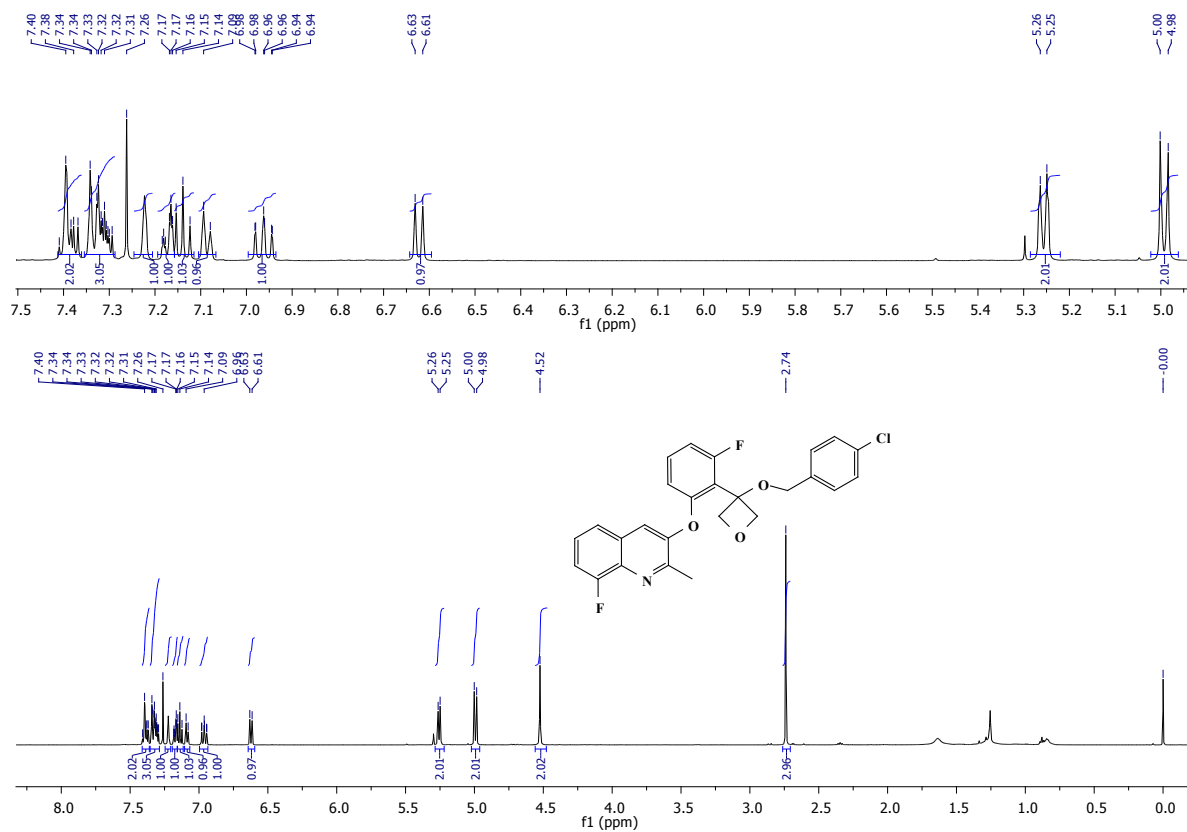


Figure S12: ¹H NMR (500 MHz, CDCl₃) spectrum of 3-(2-(3-((4-chlorobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9c**

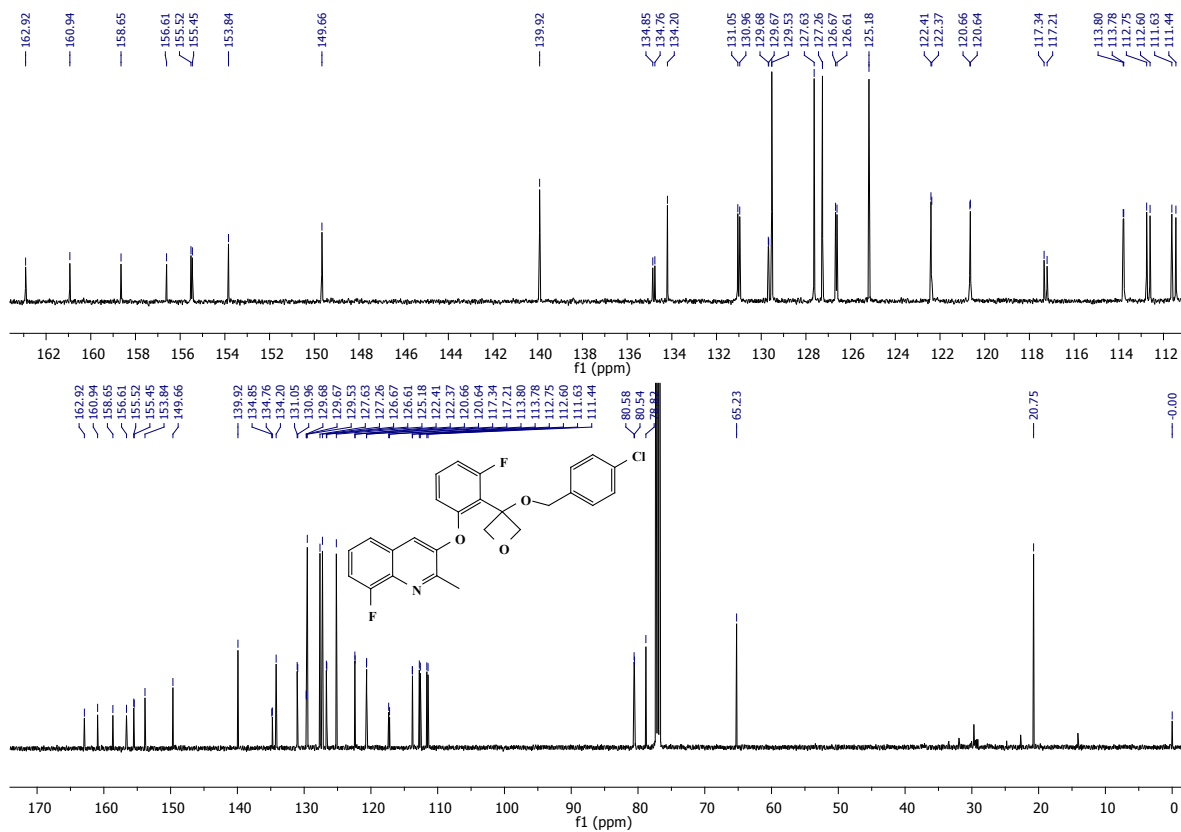


Figure S13: ¹³C NMR (126 MHz, CDCl₃) spectrum of 3-(2-(3-(4-chlorobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9c**

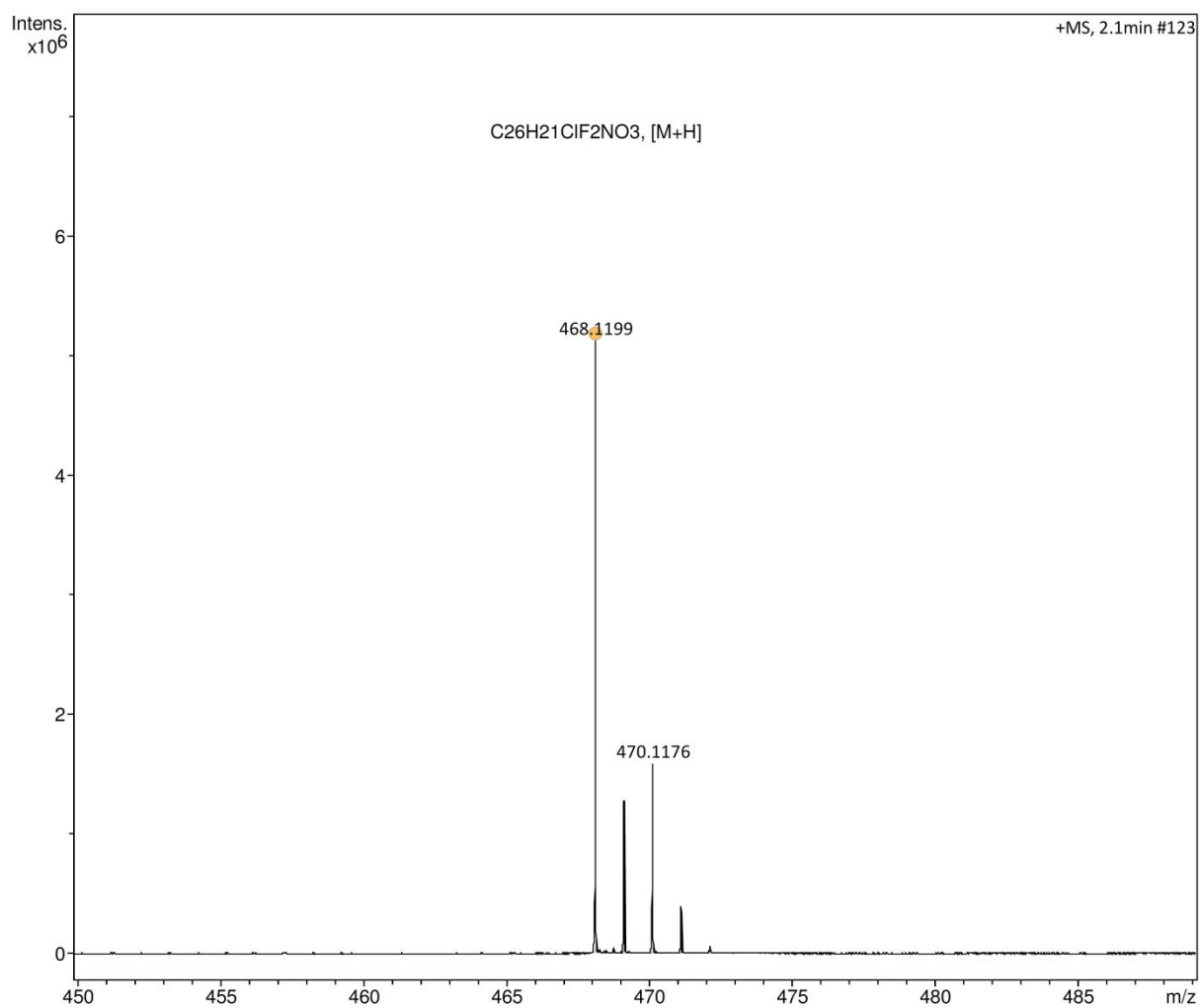


Figure S14: HRMS spectrum of 3-(2-(3-((4-chlorobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9c**

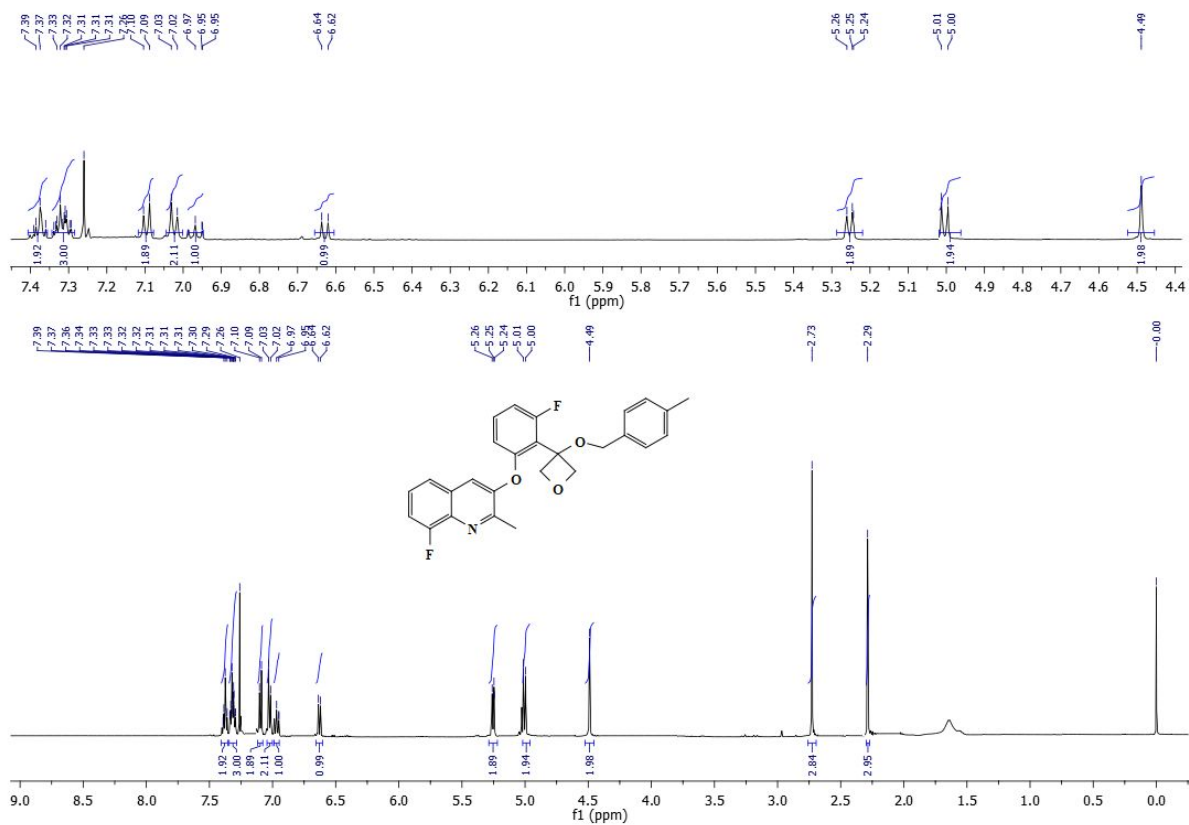


Figure S15: ^1H NMR (500 MHz, CDCl_3) spectrum of 8-fluoro-3-(3-fluoro-2-(3-((4-methylbenzyl)oxy)oxetan-3-yl)phenoxy)-2-methylquinoline, **9d**

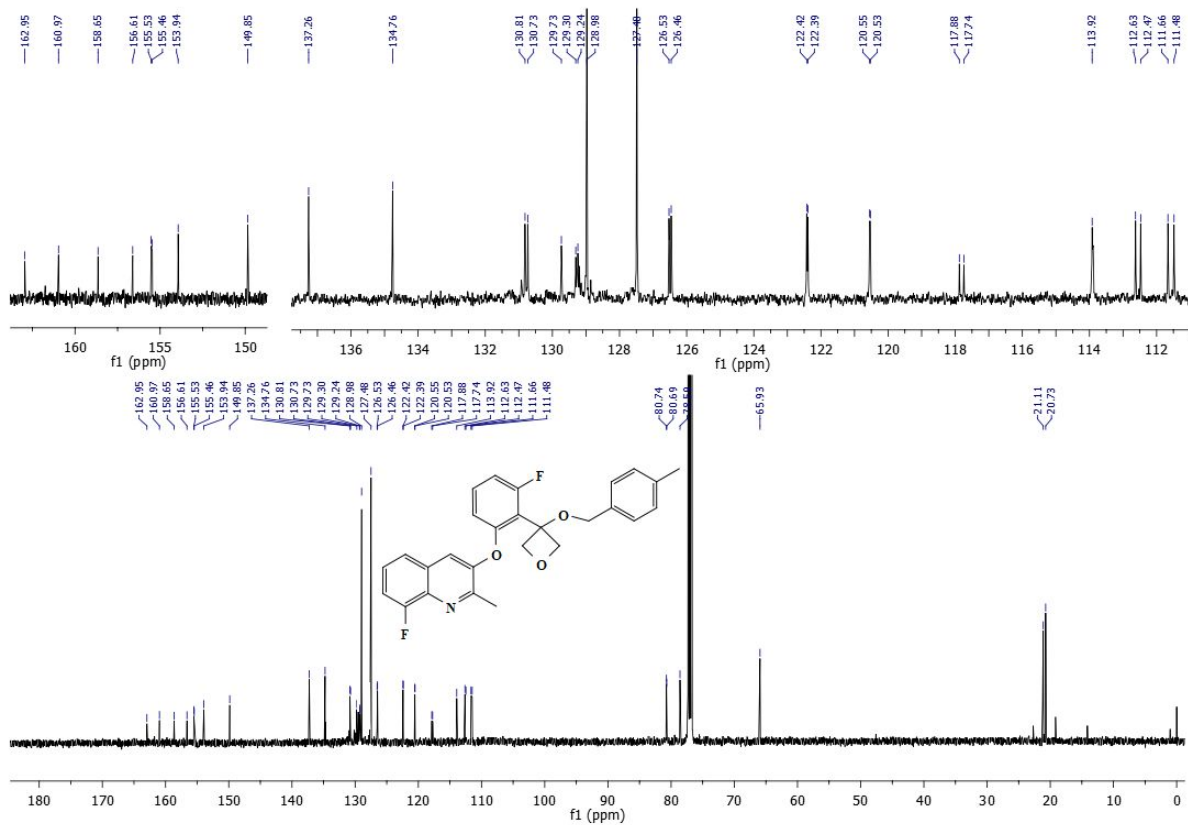


Figure S16: ¹³C NMR (126 MHz, CDCl₃) spectrum of 8-fluoro-3-(3-fluoro-2-(3-((4-methylbenzyl)oxy)oxetan-3-yl)phenoxy)-2-methylquinoline, **9d**

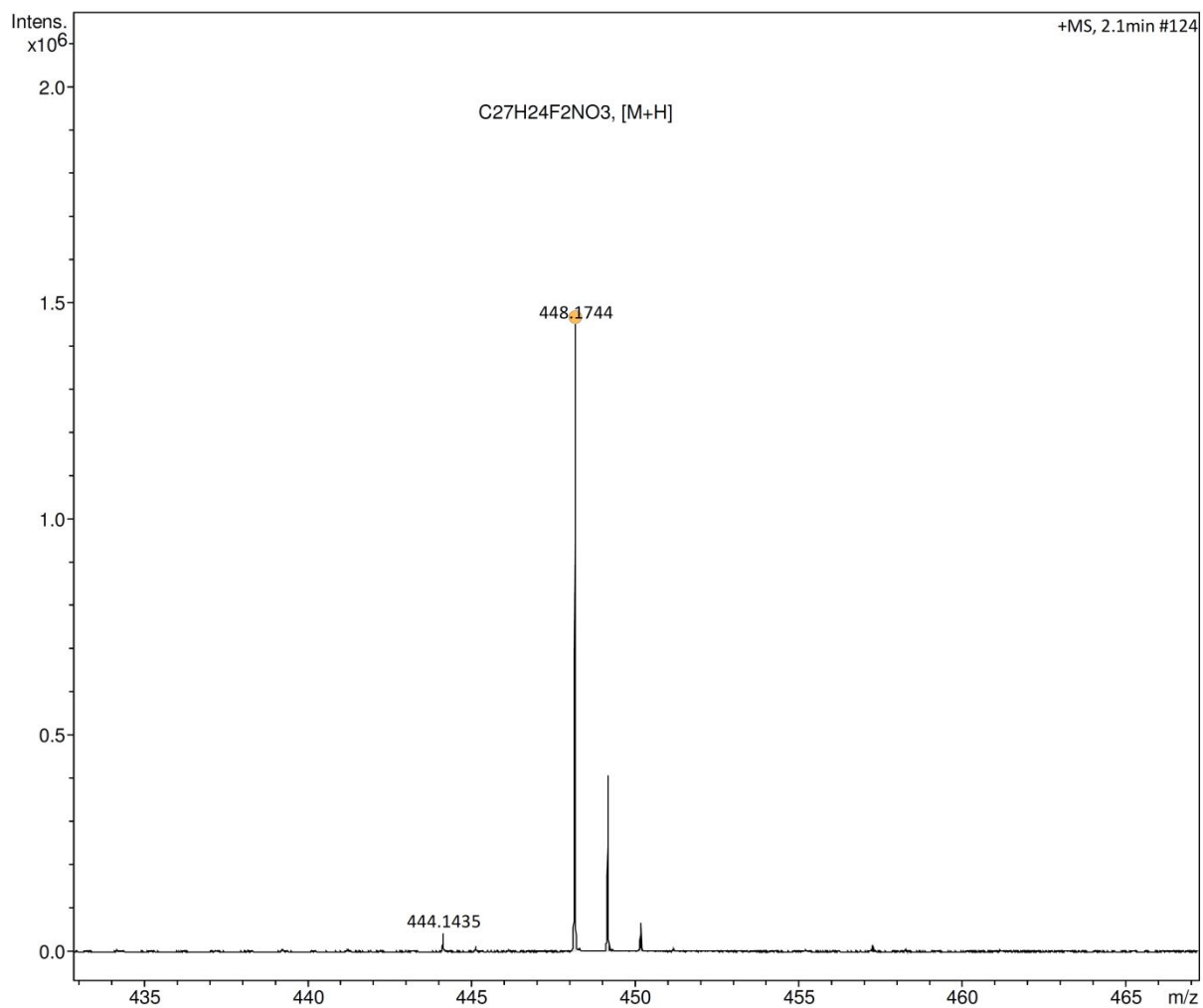


Figure S17: HRMS spectrum of 8-fluoro-3-(3-fluoro-2-(3-((4-methylbenzyl)oxy)oxetan-3-yl)phenoxy)-2-methylquinoline, **9d**

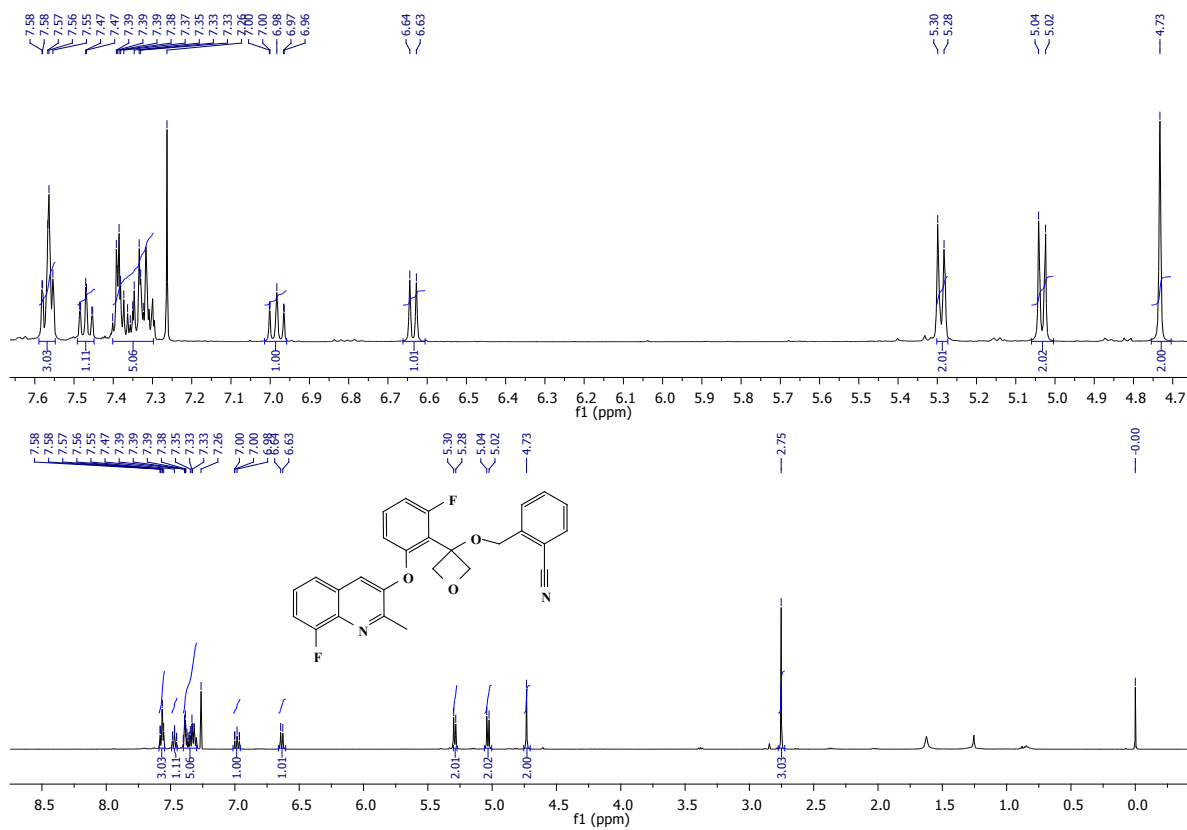


Figure S18: ¹H NMR (500 MHz, CDCl₃) spectrum of 2-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzonitrile, **9e**

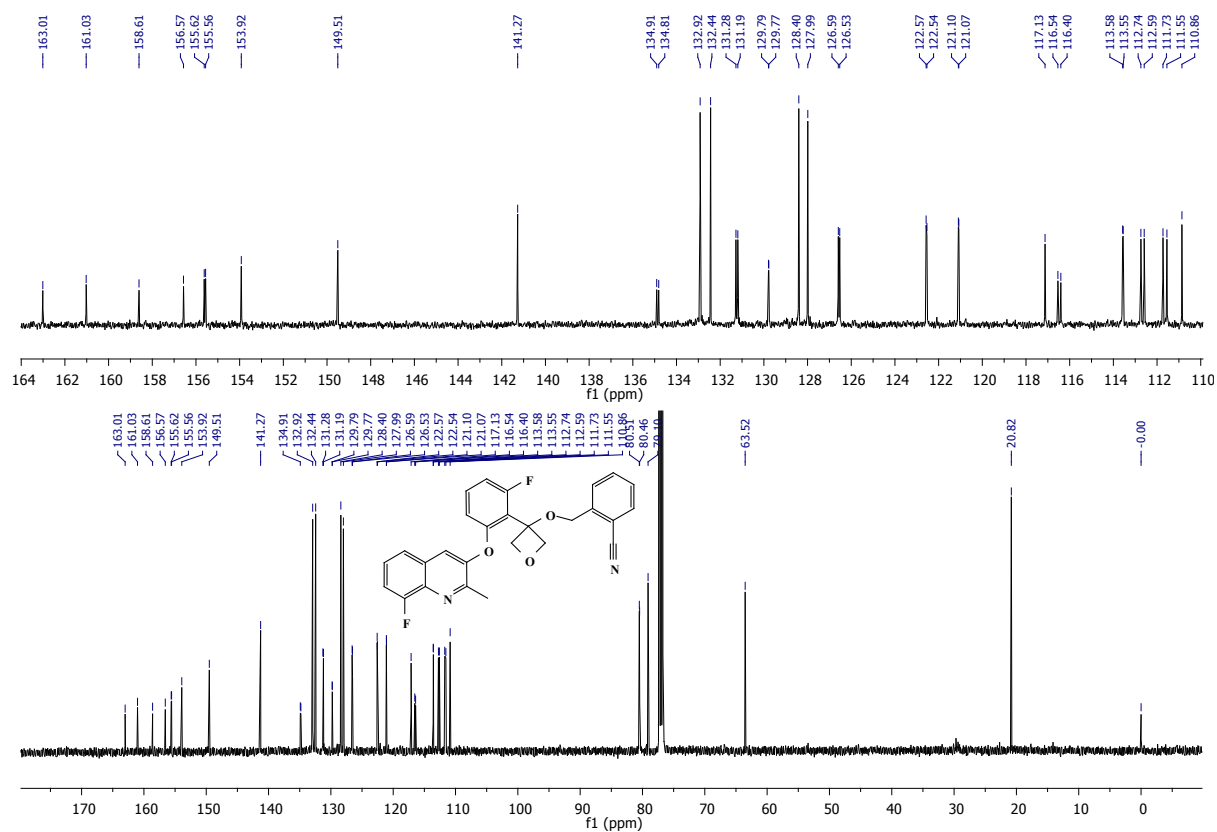


Figure S19: ¹³C NMR (126 MHz, CDCl₃) spectrum of 2-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzonitrile, **9e**

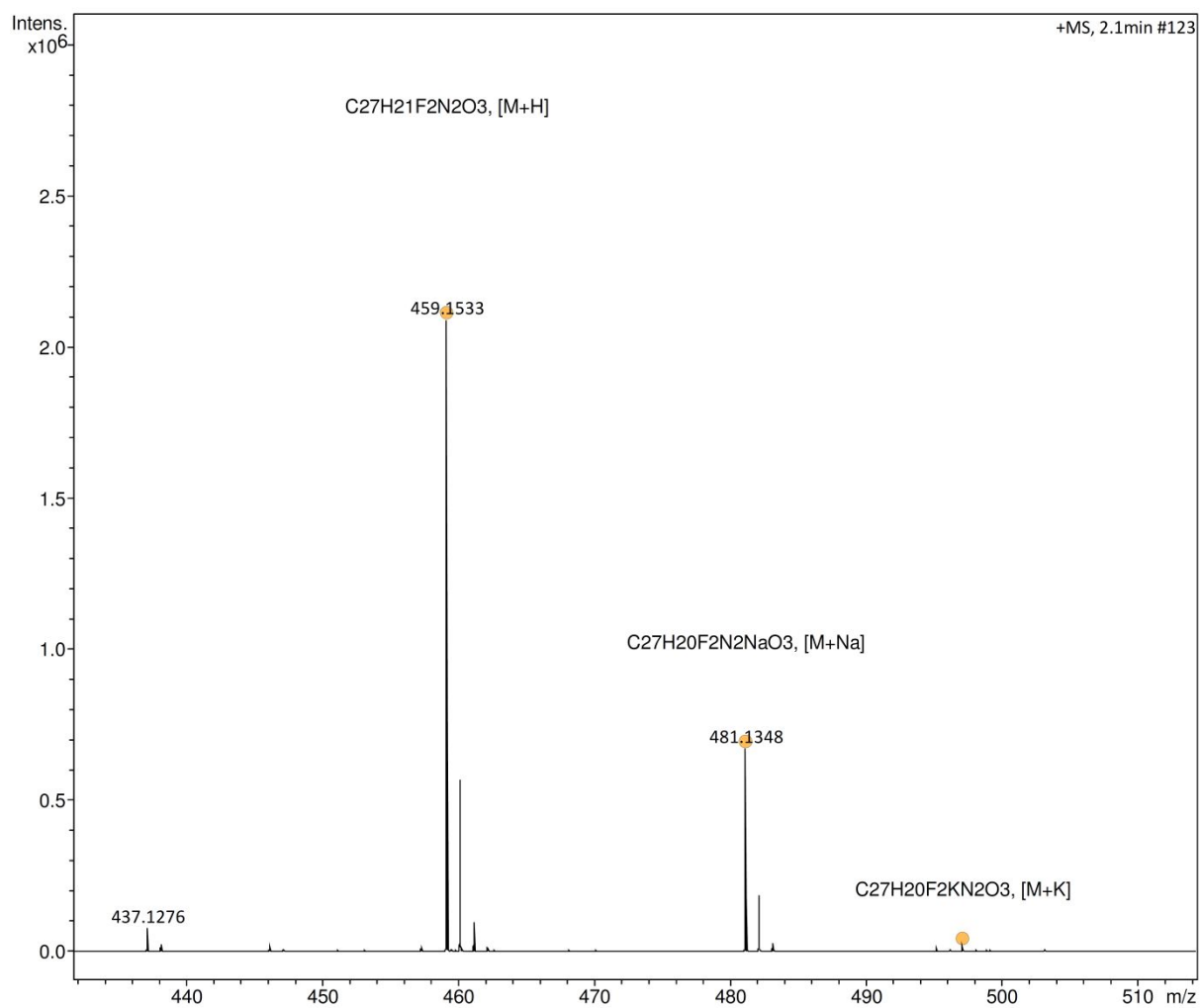


Figure S20: HRMS spectrum of 2-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzotrile, **9e**

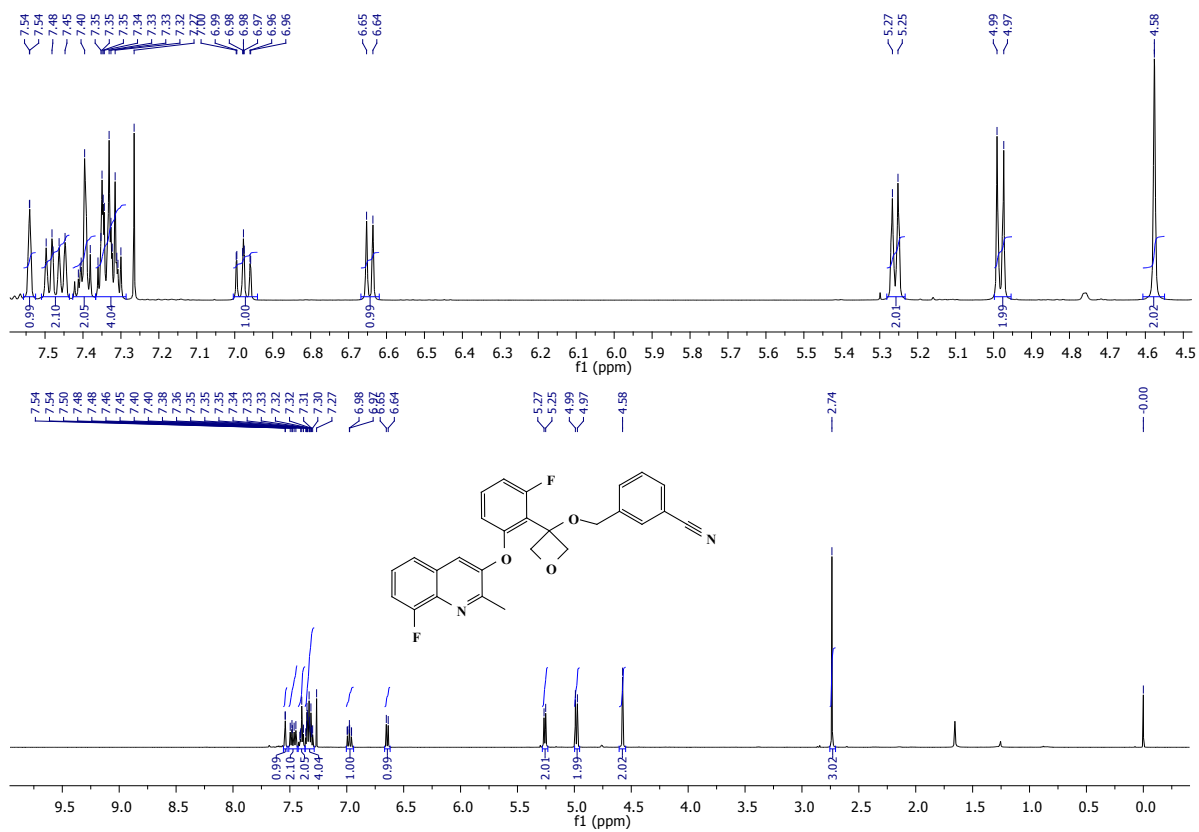


Figure S21: ¹H NMR (500 MHz, CDCl₃) spectrum of 3-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzonitrile, **9f**

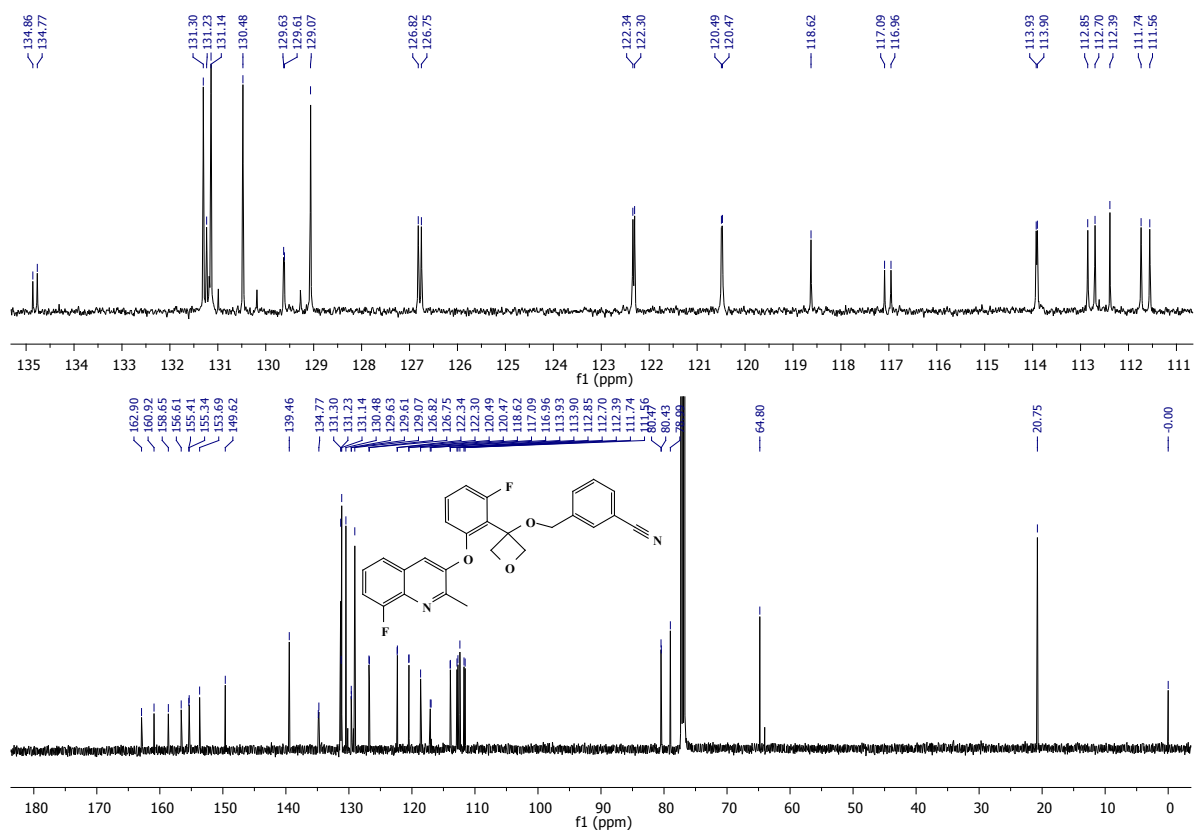


Figure S22: ^{13}C NMR (126 MHz, CDCl_3) spectrum of 3-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzonitrile, **9f**

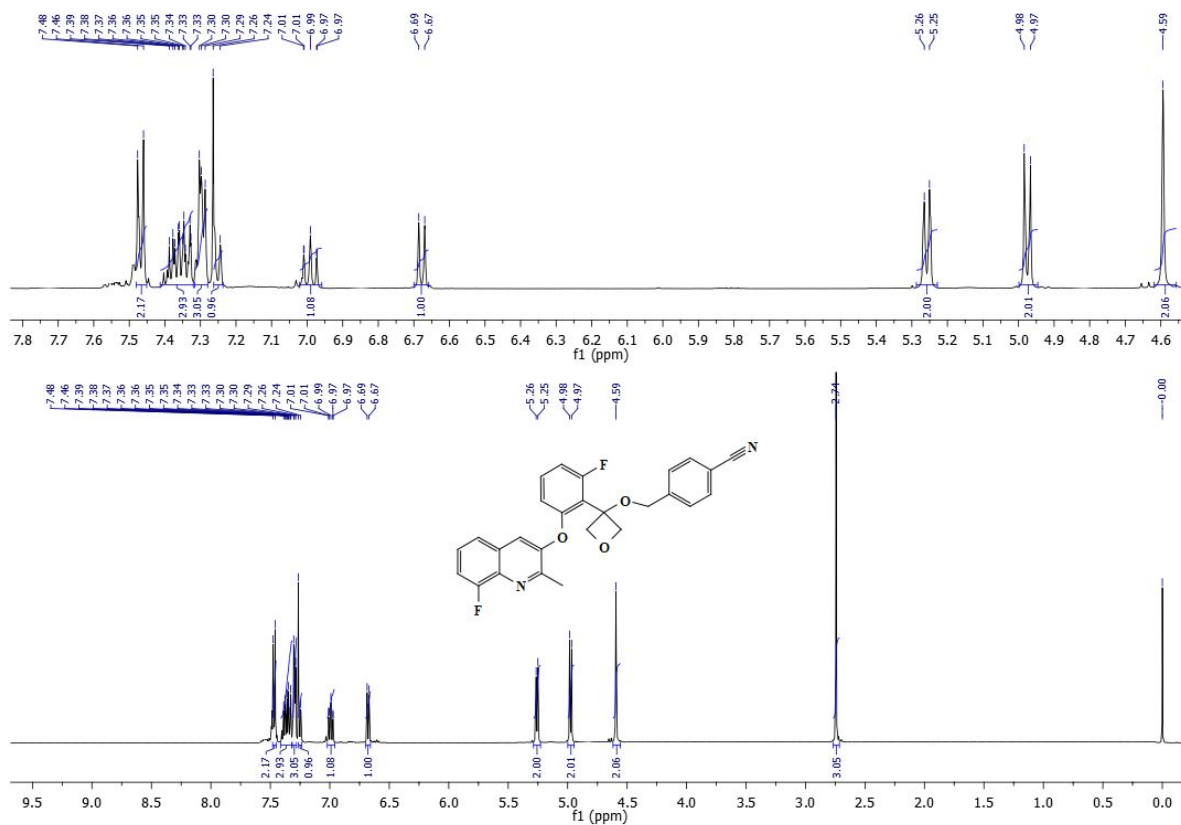
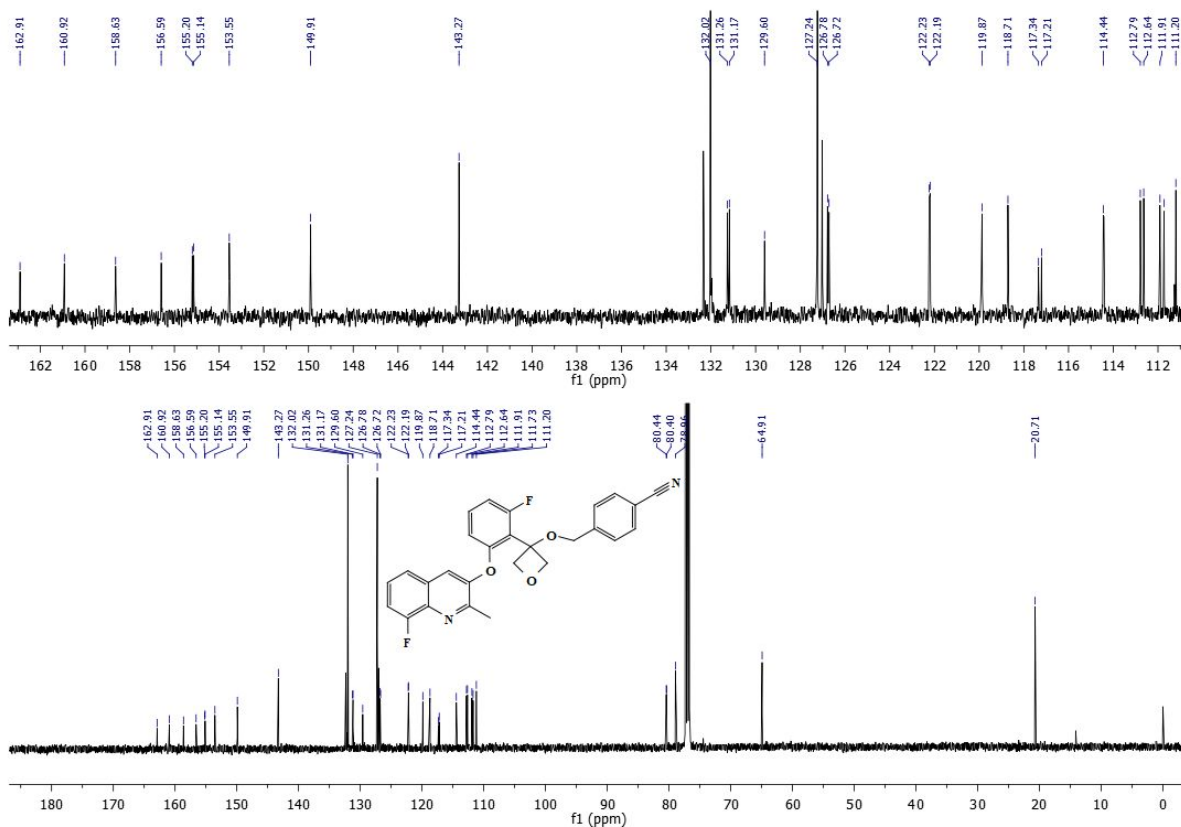


Figure S23: ¹H NMR (500 MHz, CDCl₃) spectrum of 4-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzonitrile, **9g**



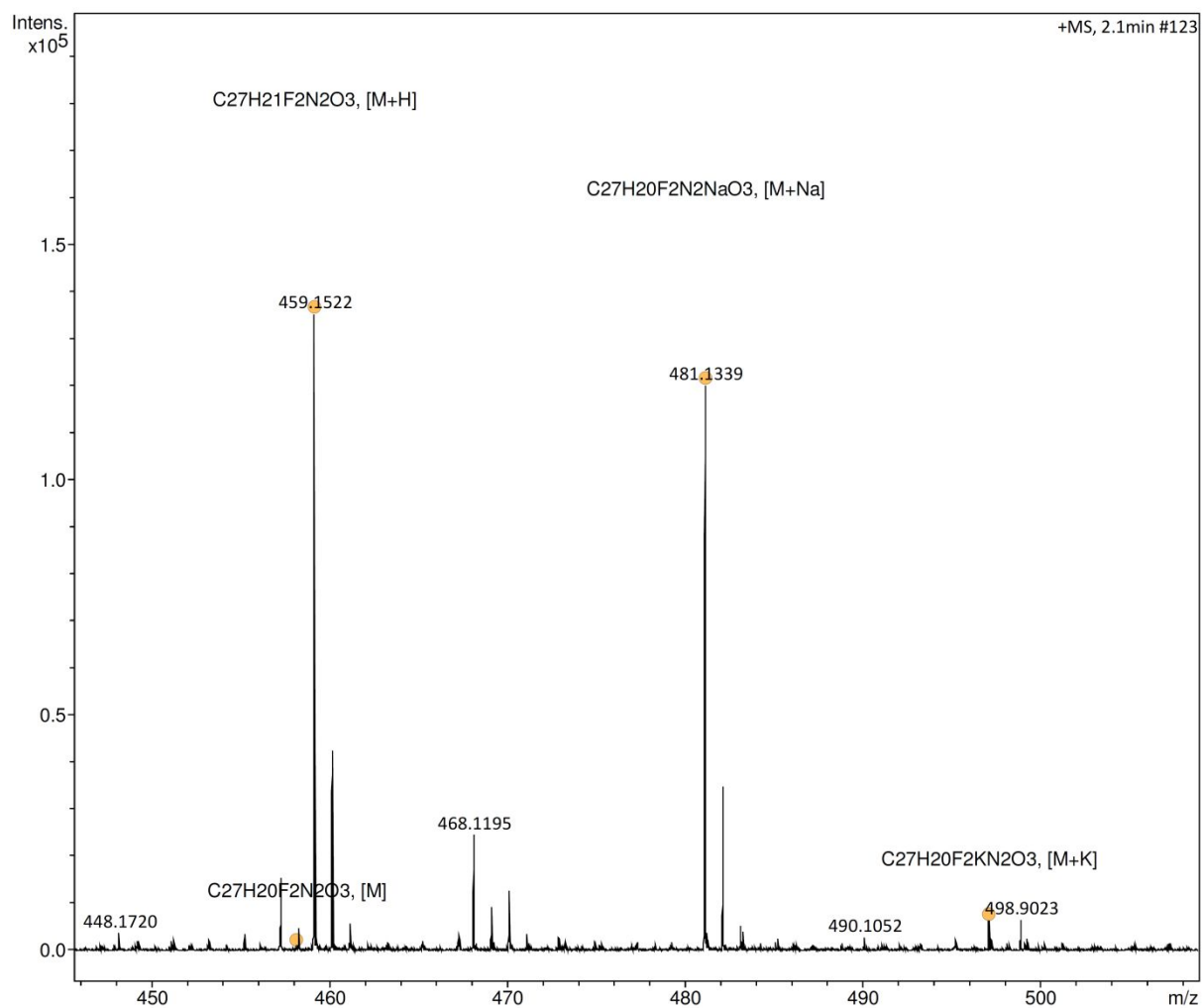


Figure S25: HRMS spectrum of 4-(((3-(2-fluoro-6-((8-fluoro-2-methylquinolin-3-yl)oxy)phenyl)oxetan-3-yl)oxy)methyl)benzotrile, **9g**

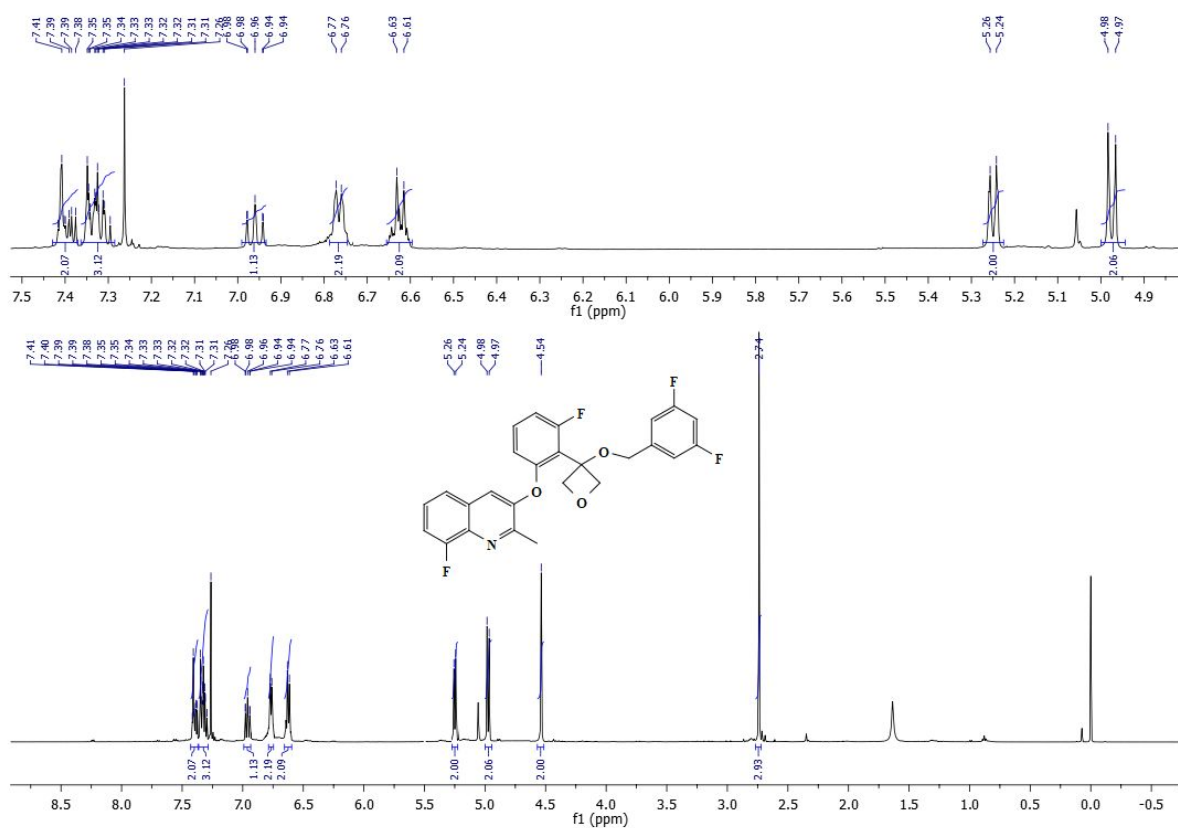


Figure S26: ^1H NMR (500 MHz, CDCl_3) spectrum of 3-(2-(3-((3,5-difluorobenzyl)oxy)oxetan-3-yl)-3-fluorophenoxy)-8-fluoro-2-methylquinoline, **9h**

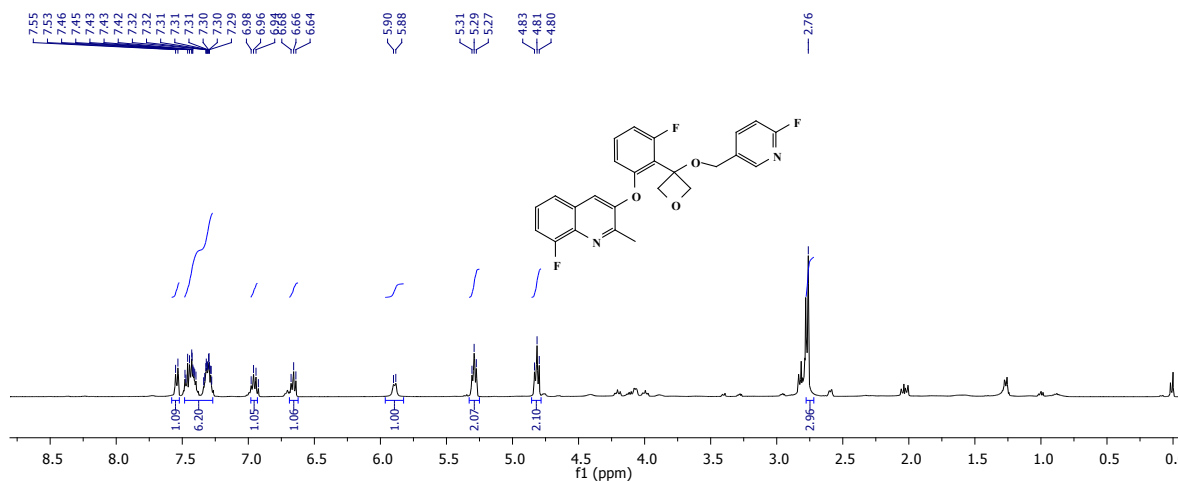


Figure S27: ^1H NMR (500 MHz, CDCl_3) spectrum of 8-fluoro-3-(3-fluoro-2-(3-((6-fluoropyridin-3-yl)methoxy)oxetan-3-yl)phenoxy)-2-methylquinoline, **9i**

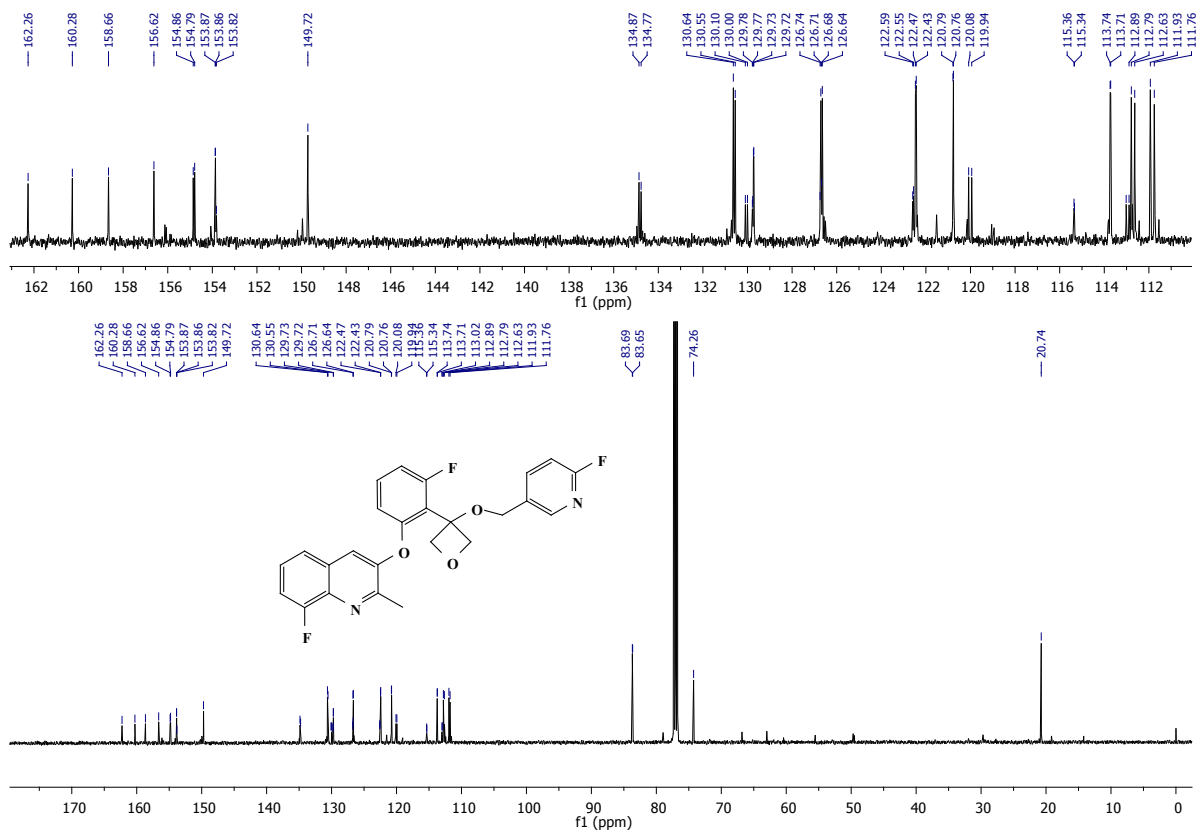


Figure S28: ¹³C NMR (126 MHz, CDCl₃) spectrum of 8-fluoro-3-(3-fluoro-2-(3-((6-fluoropyridin-3-yl)methoxy)oxetan-3-yl)phenoxy)-2-methylquinoline, **9i**