Supporting Information

Visible-Light-Induced Three-Component Reactions of α-Diazoesters，Quinazolinones and Cyclic Ethers Lead to Quinazoline-Based Hybrids
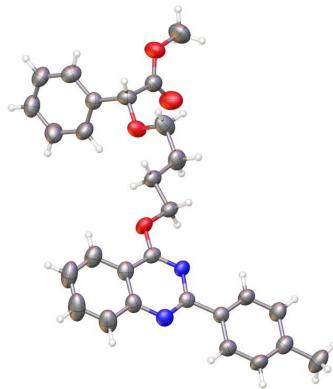
Yan Liu, Qin Yang, Wei Wang, Yang Fu，Qiuping and Yiyuan Peng*

Key Laboratory for Green Chemistry of Jiangxi Province, College of Chemistry and Chemical Engineering, Jiangxi Normal University, 99 Ziyang Avenue, Nanchang 330022, China

Contents

I. X-ray Single Crystal Diffraction Data of 4aaa


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Bond precision:    C-C = 0.0073 A              Wavelength=0.71073

Cell:              a=6.1921(6)      b=11.9580(15)        c=32.979(4)
                   alpha=90         beta=91.359(10)      gamma=90
Temperature:       293 K

                   Calculated                 Reported
Volume             2441.3(5)                  2441.3(5)
Space group        P 21/n                     P 1 21/n 1
Hall group         -P 2yn                     -P 2yn
Moiety formula     C28 H28 N2 O4              C28 H28 N2 O4
Sum formula        C28 H28 N2 O4              C28 H28 N2 O4
Mr                 456.52                     456.52
Dx,g cm-3          1.242                      1.242
Z                  4                          4
Mu (mm-1)          0.083                      0.083
F000               968.0                      968.0
F000'              968.44
h,k,lmax           7,14,41                    7,14,41
Nref               4990                       4981
Tmin,Tmax          0.987,0.992                0.535,1.000
Tmin'              0.975

Correction method= # Reported T Limits: Tmin=0.535 Tmax=1.000
AbsCorr = MULTI-SCAN

Data completeness= 0.998           Theta(max)= 26.372

                                              wR2(reflections)=
R(reflections)= 0.1175( 2898)                 0.2823( 4981)

S = 1.072                Npar= 309
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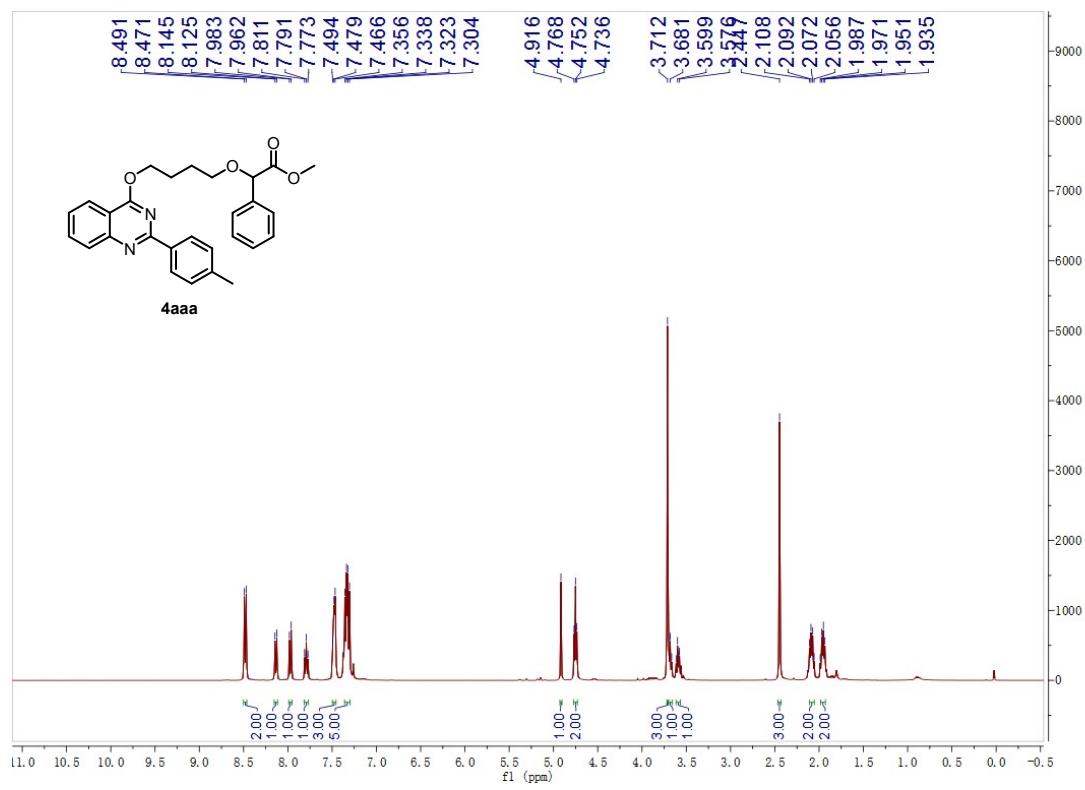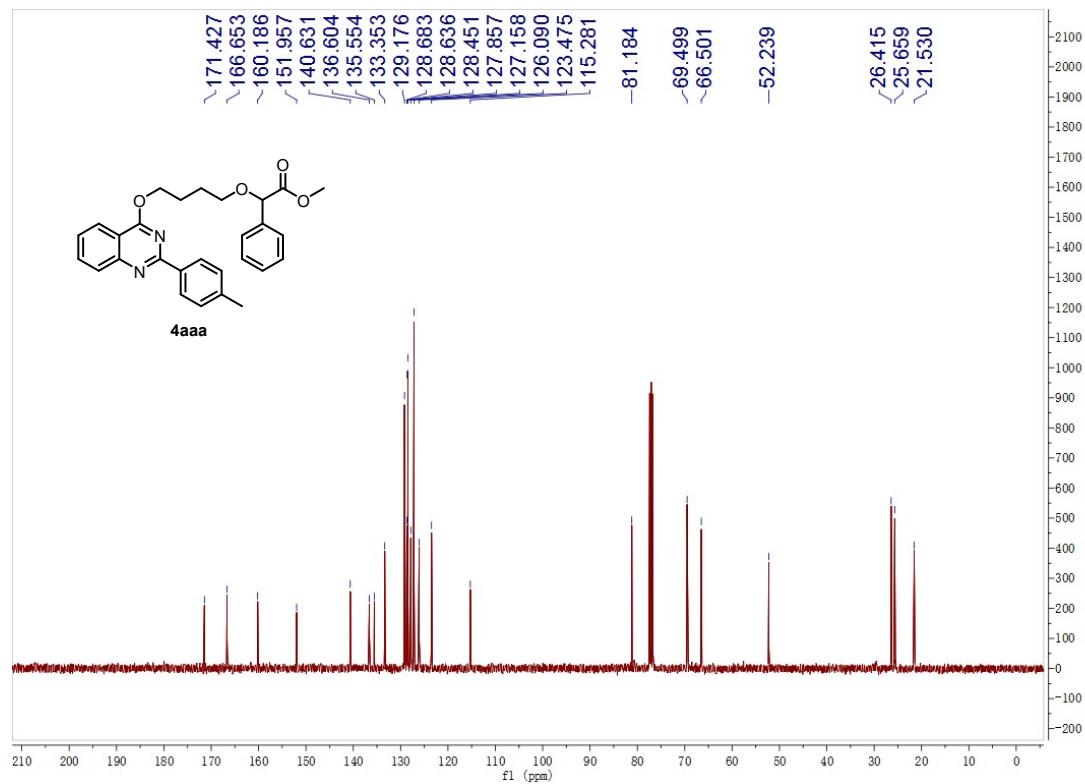
II. Copies of NMR Spectra
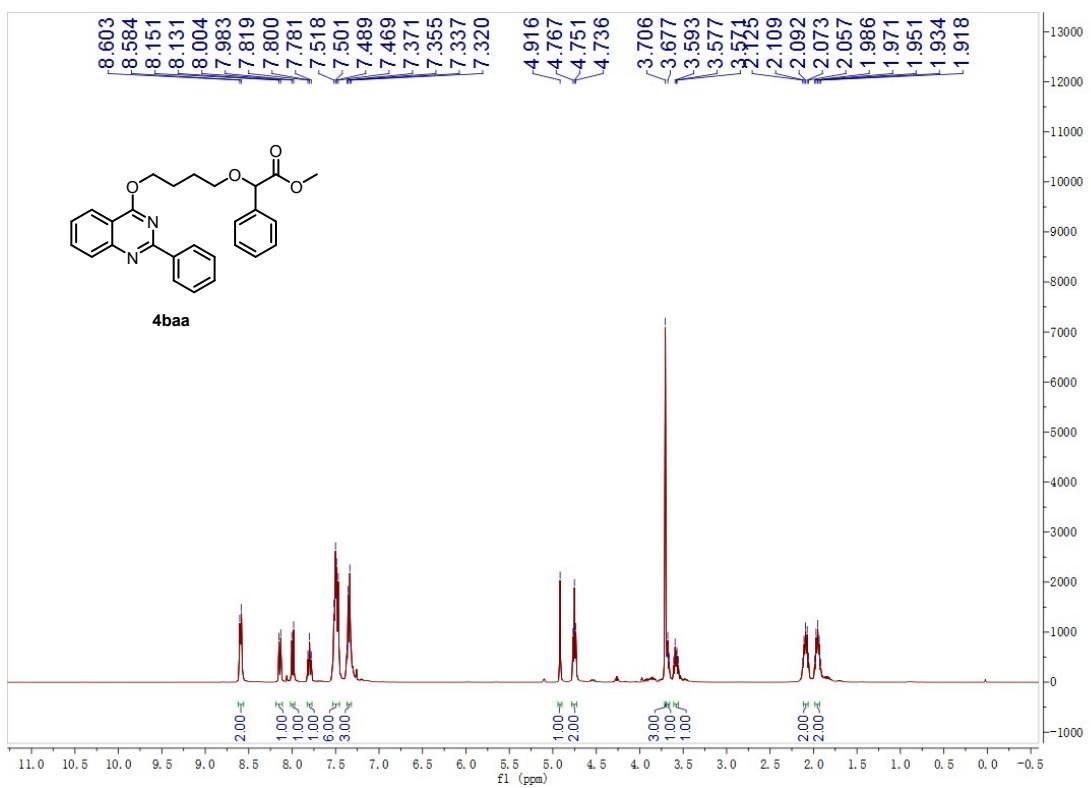
^{1}H-NMR of **4aaa** (CDCl$_3$, 400 Hz)
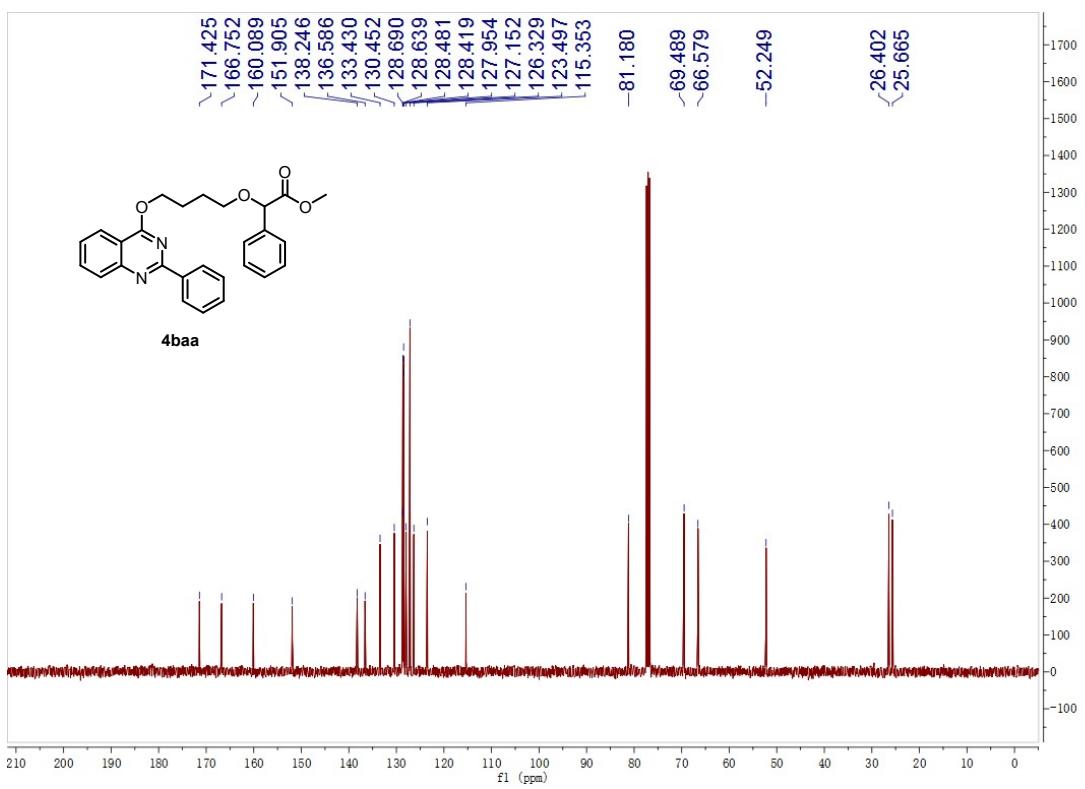
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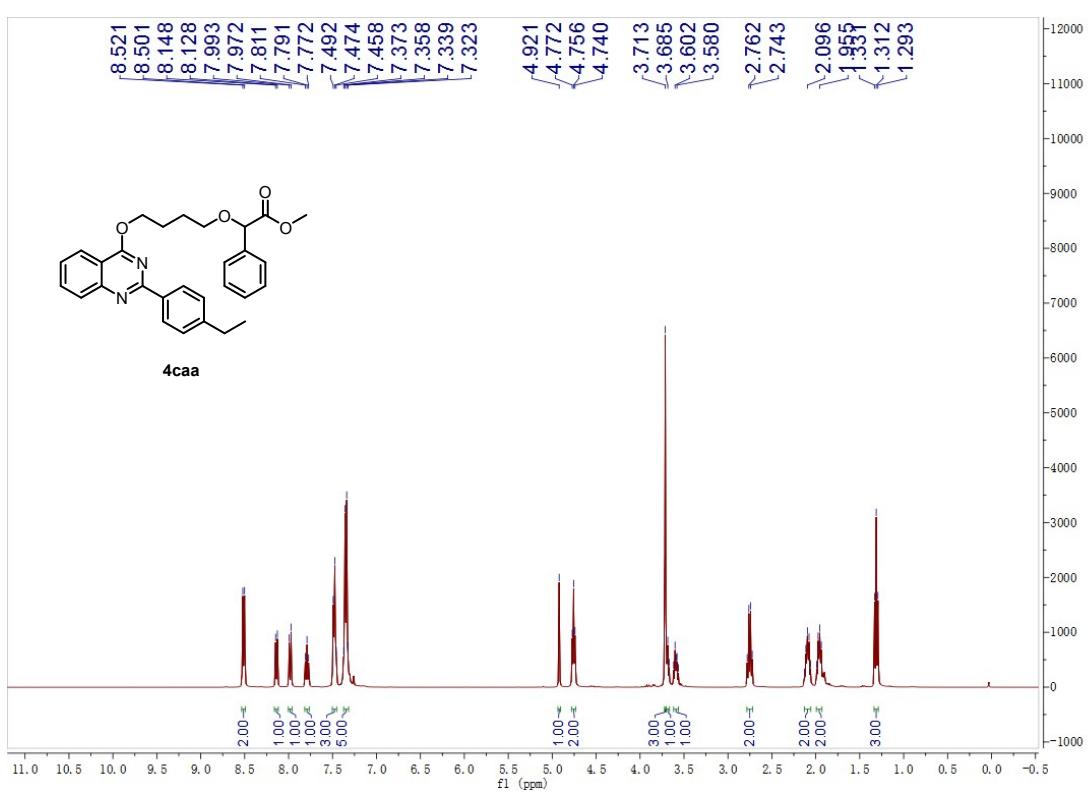
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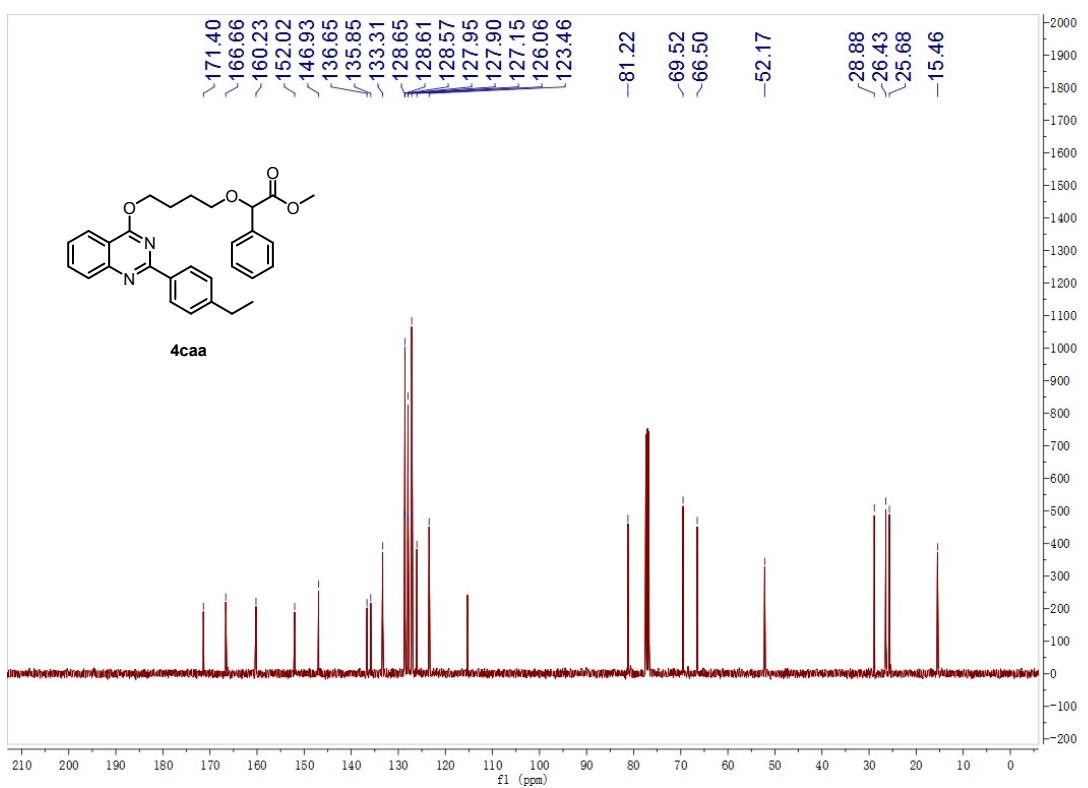
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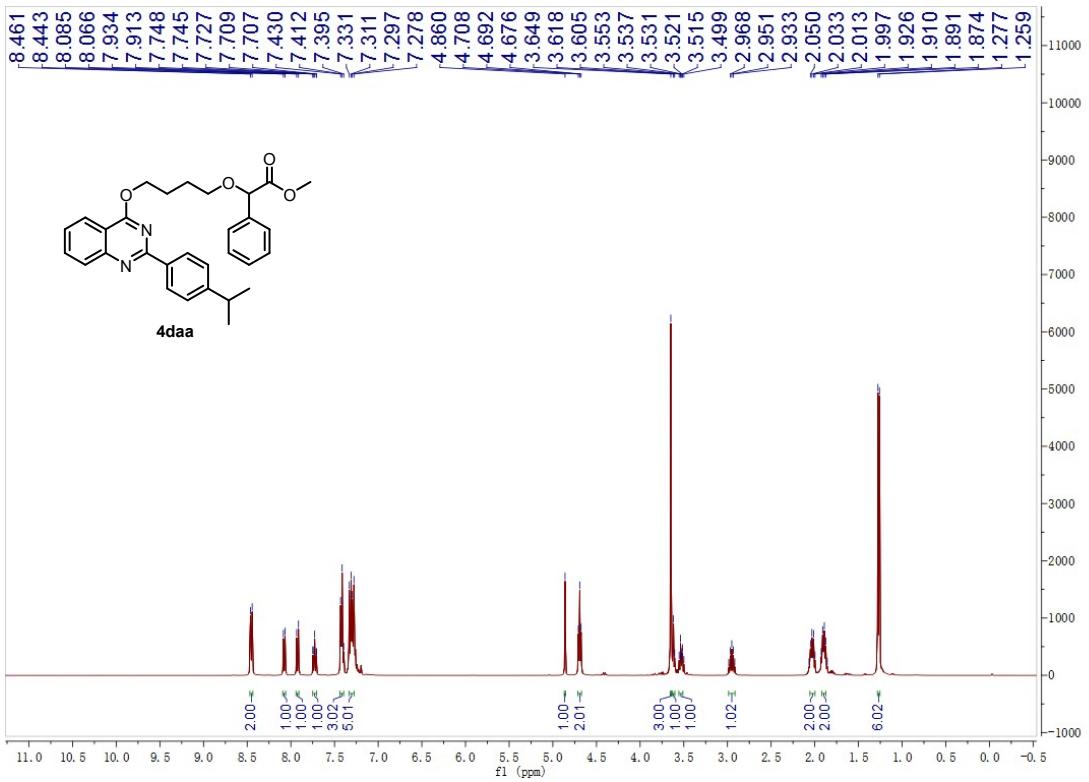
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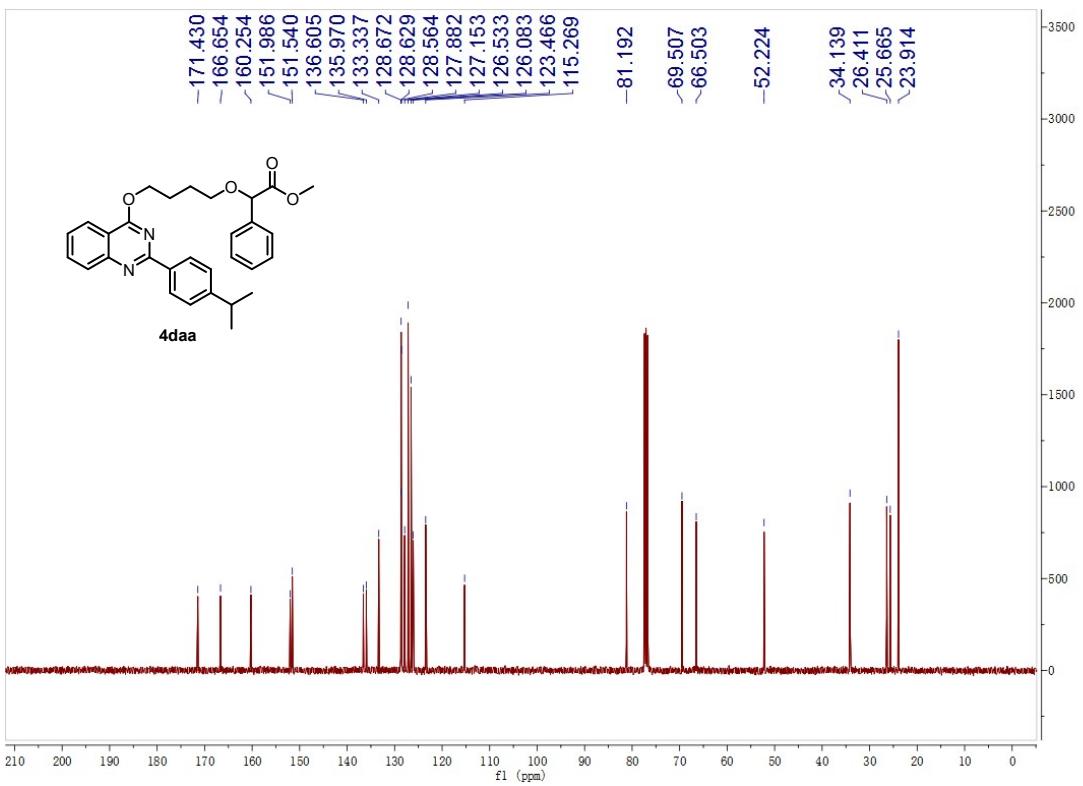
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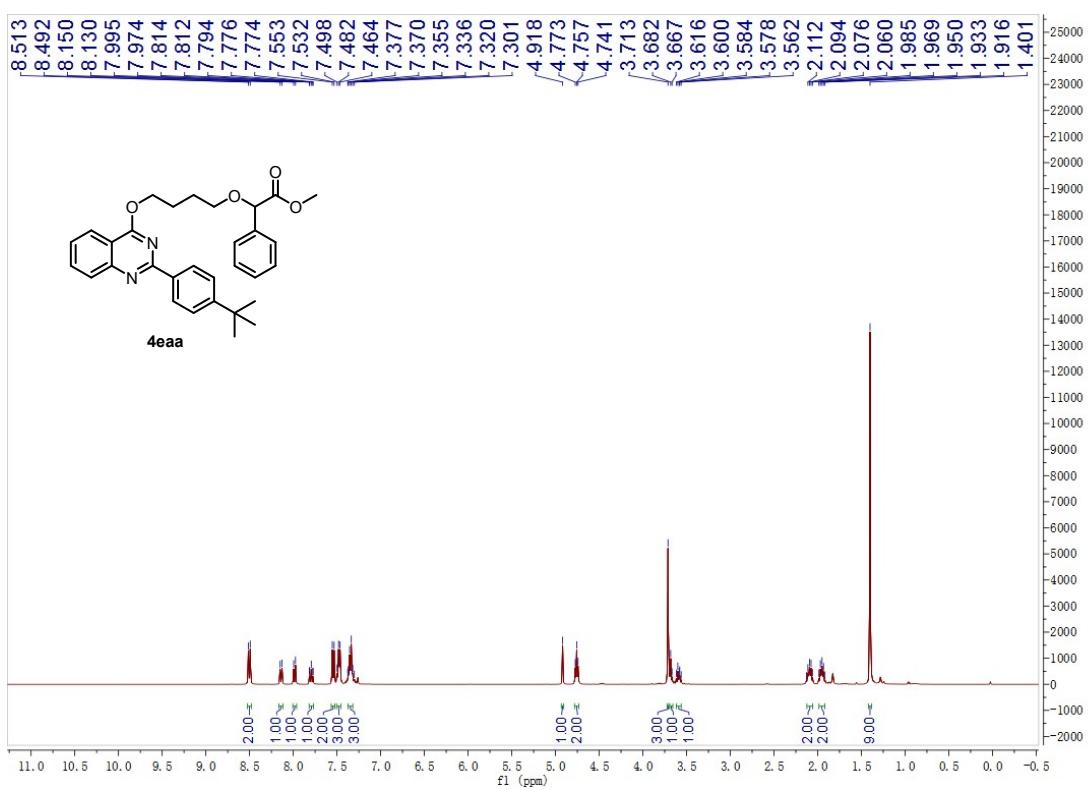
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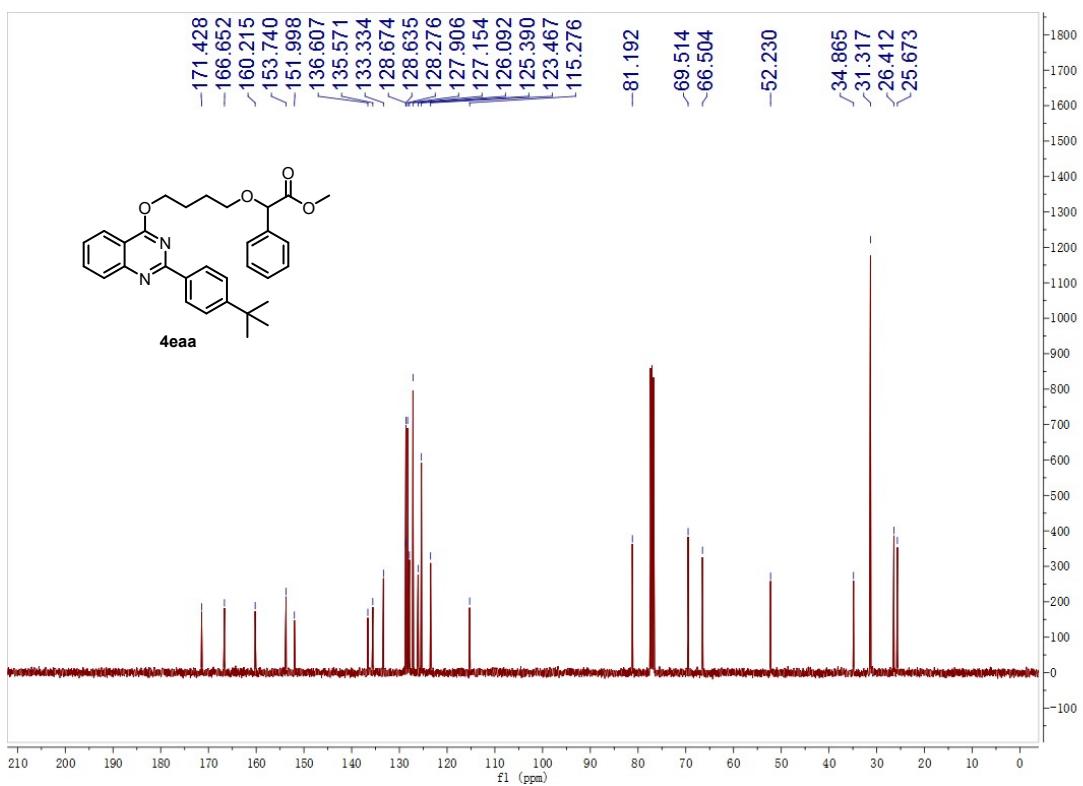
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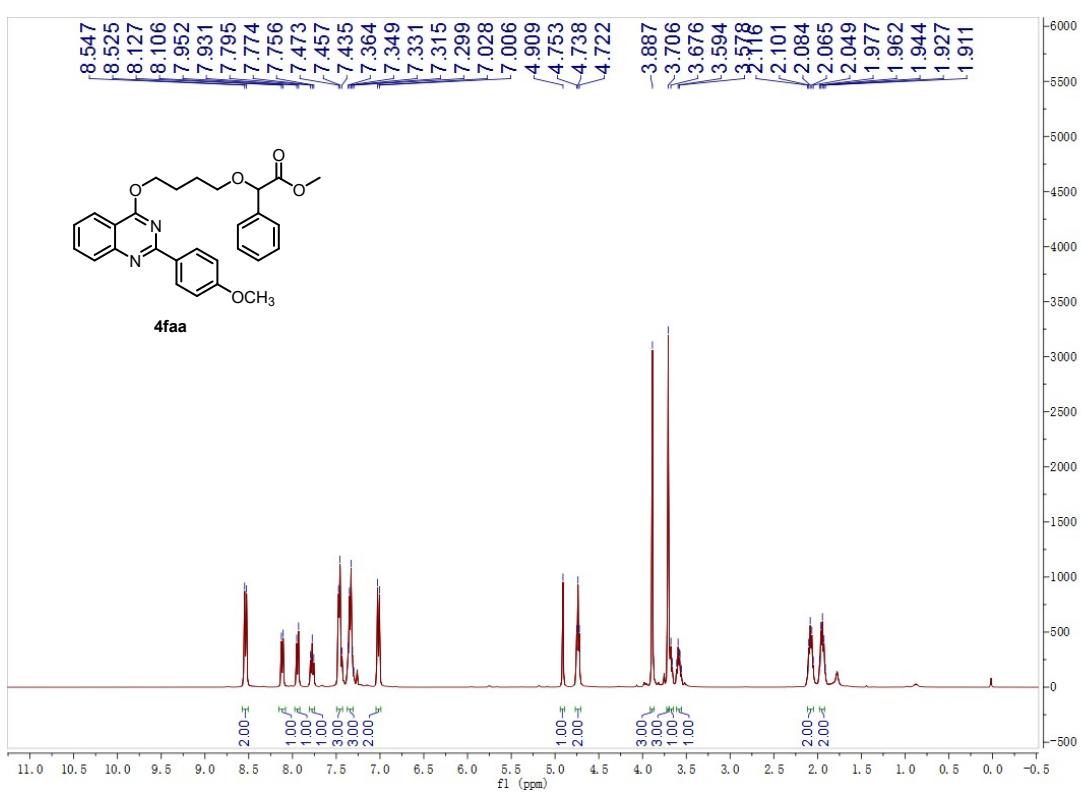
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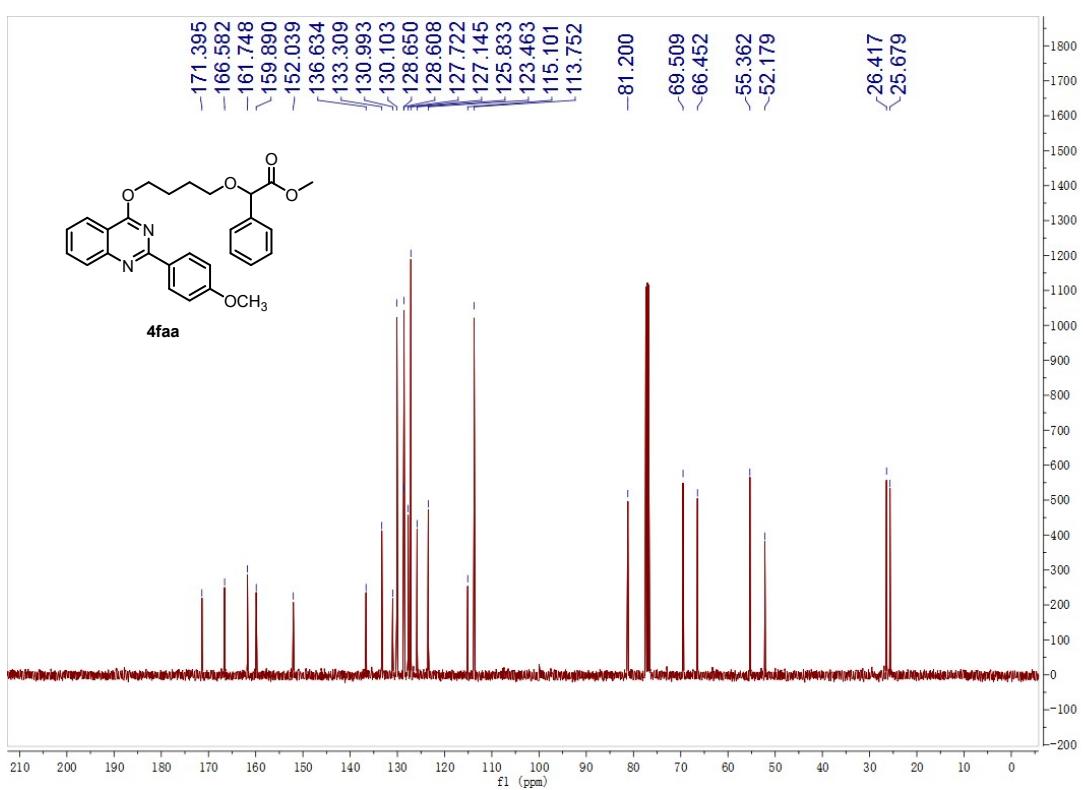
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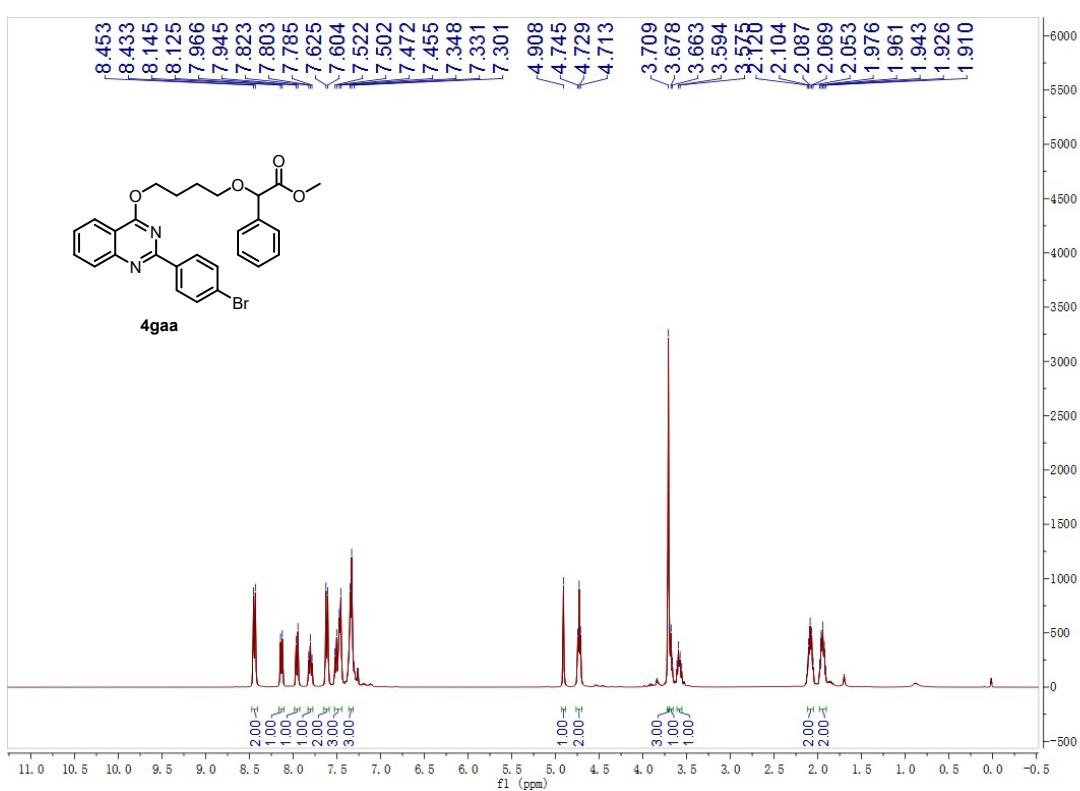
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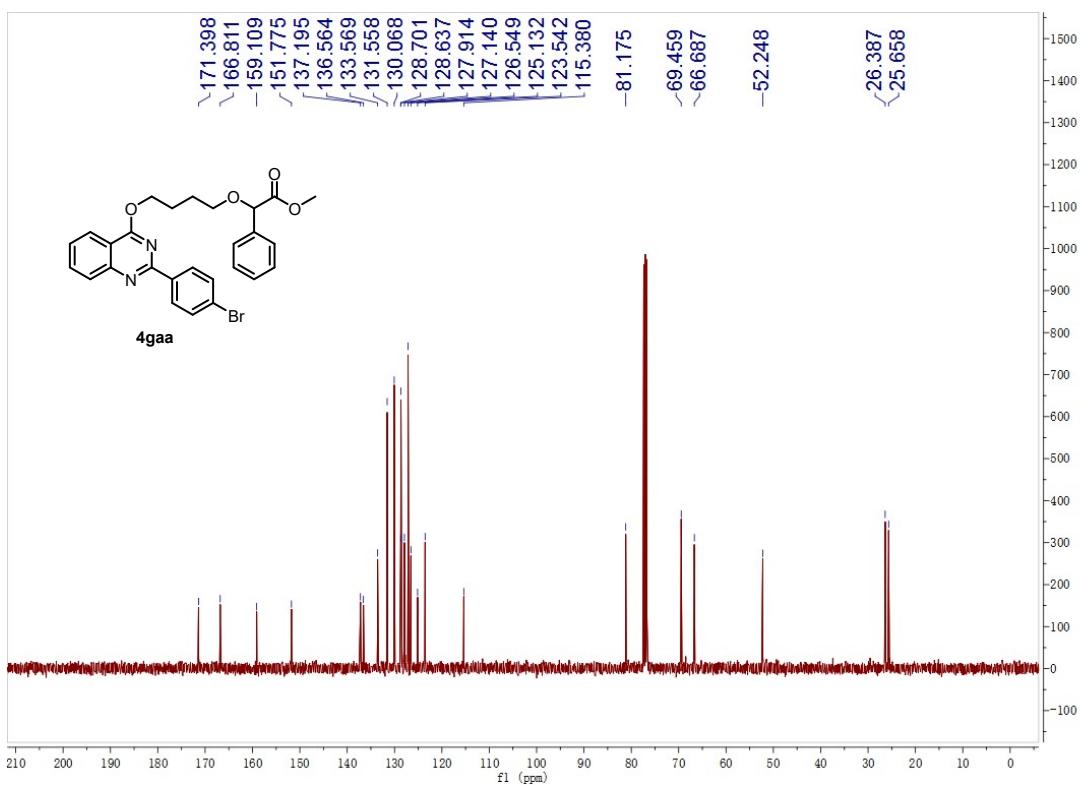
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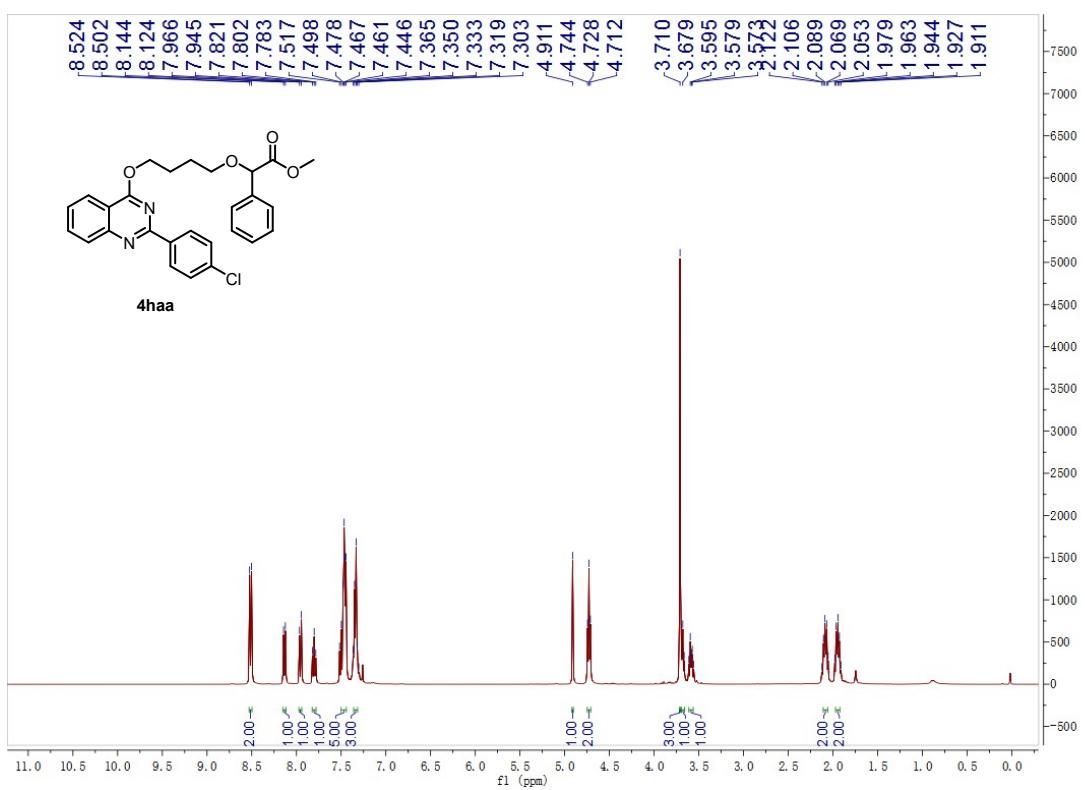
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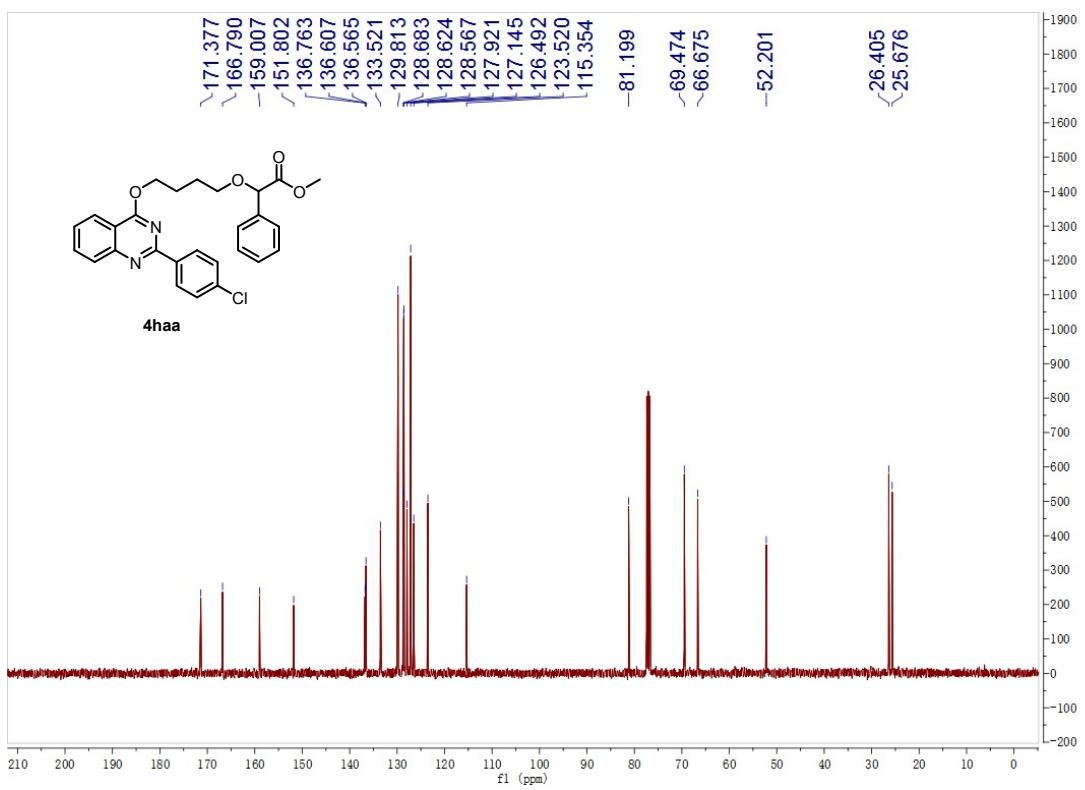
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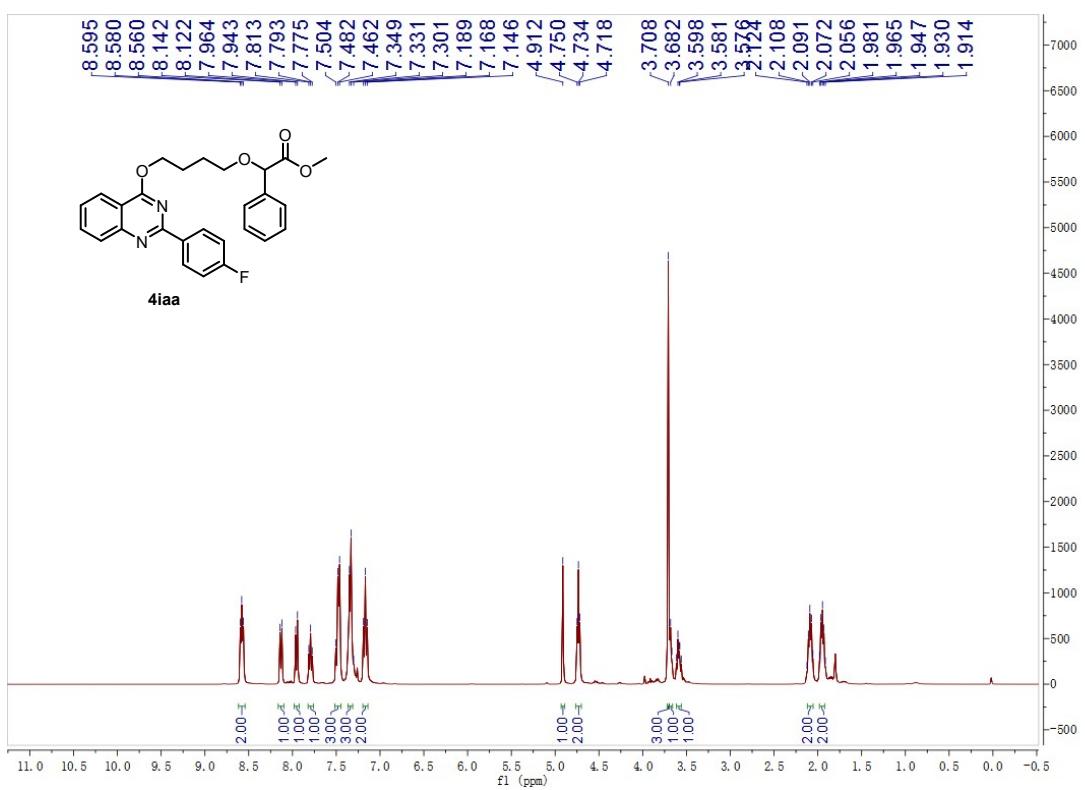
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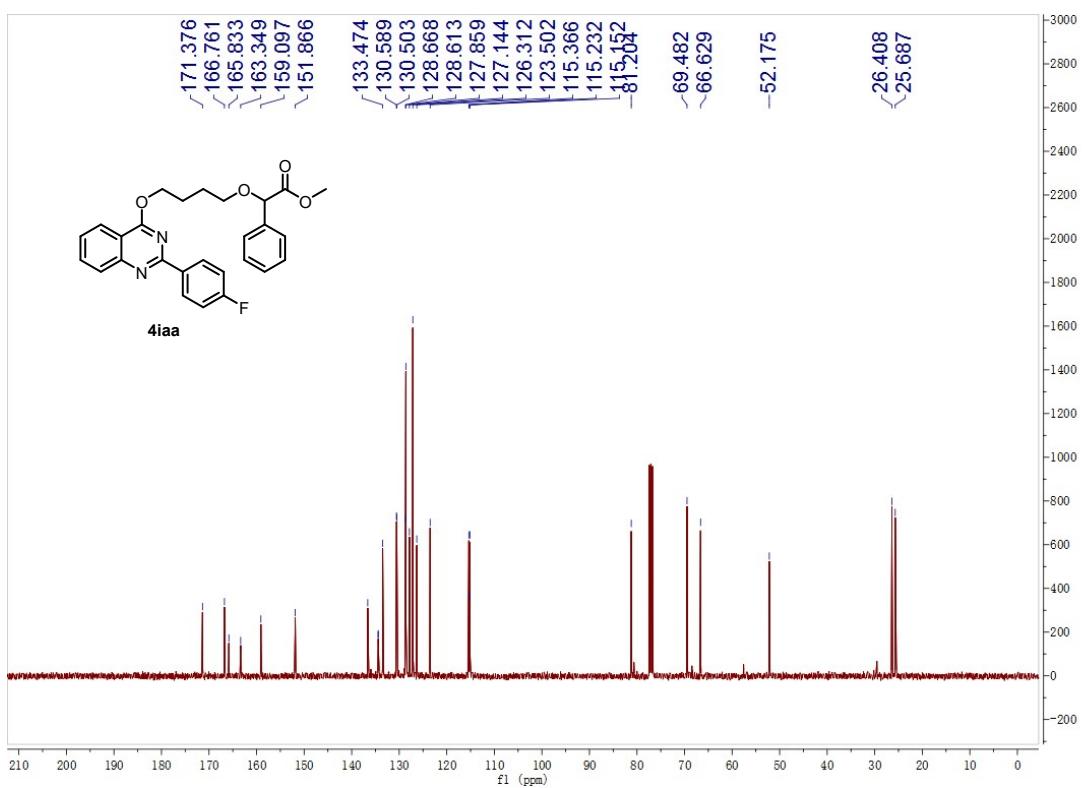
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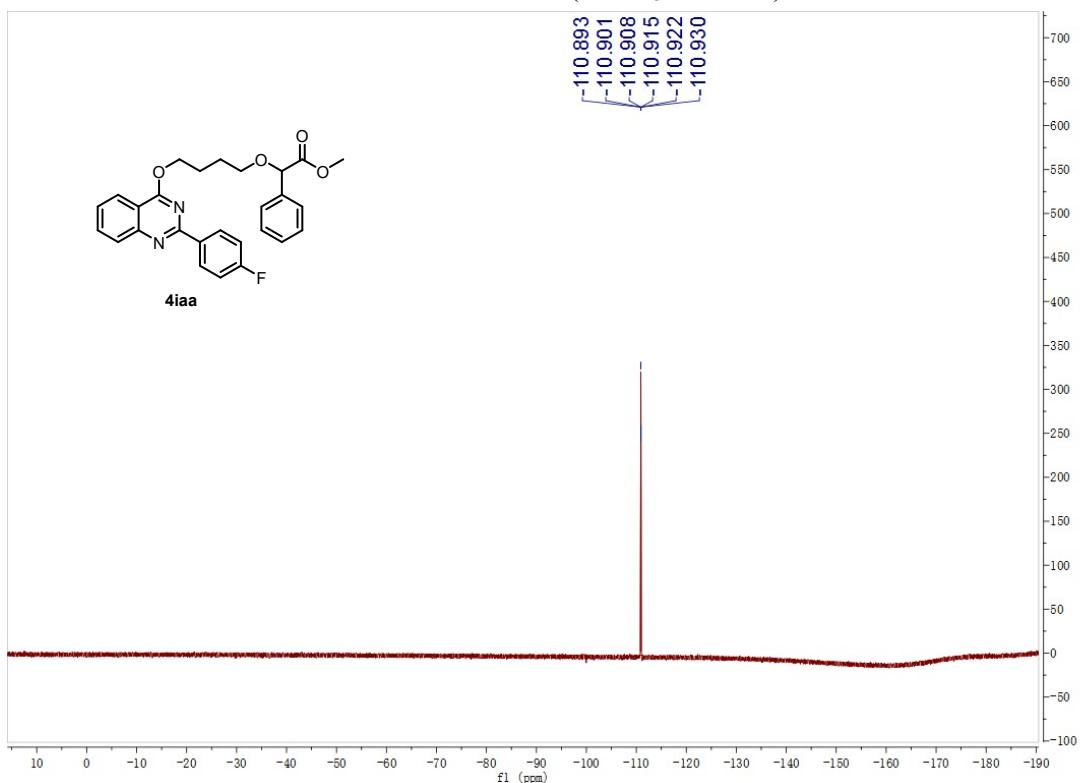
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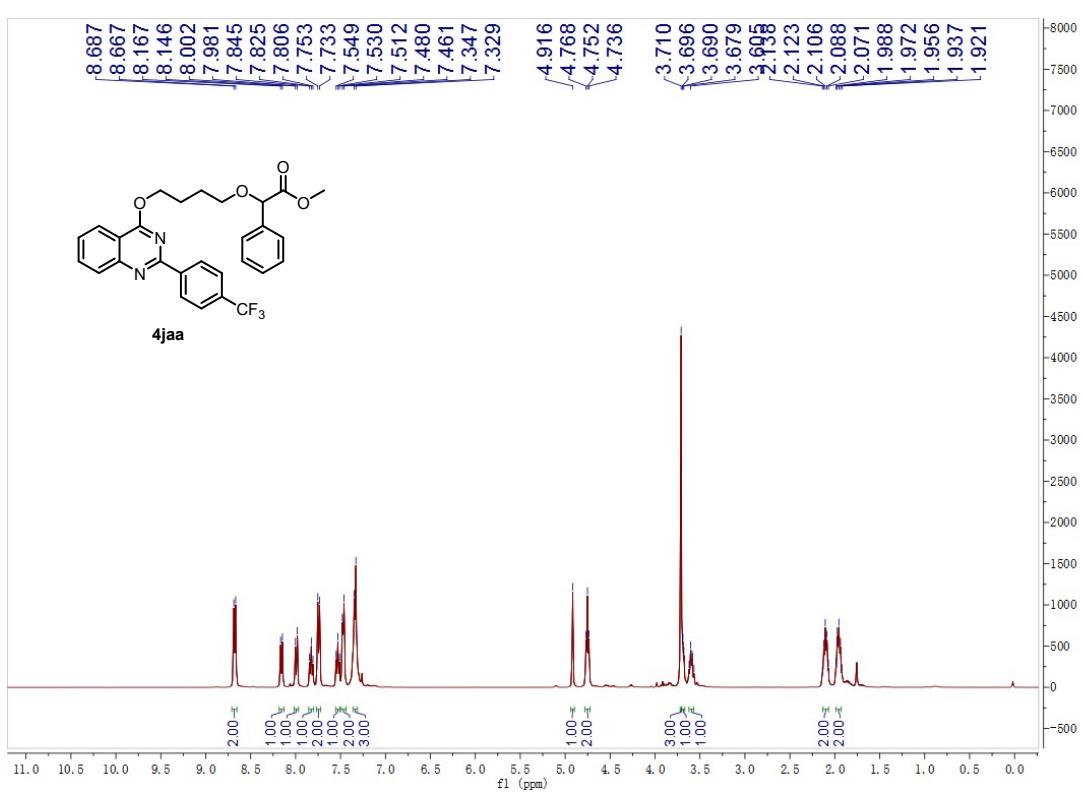
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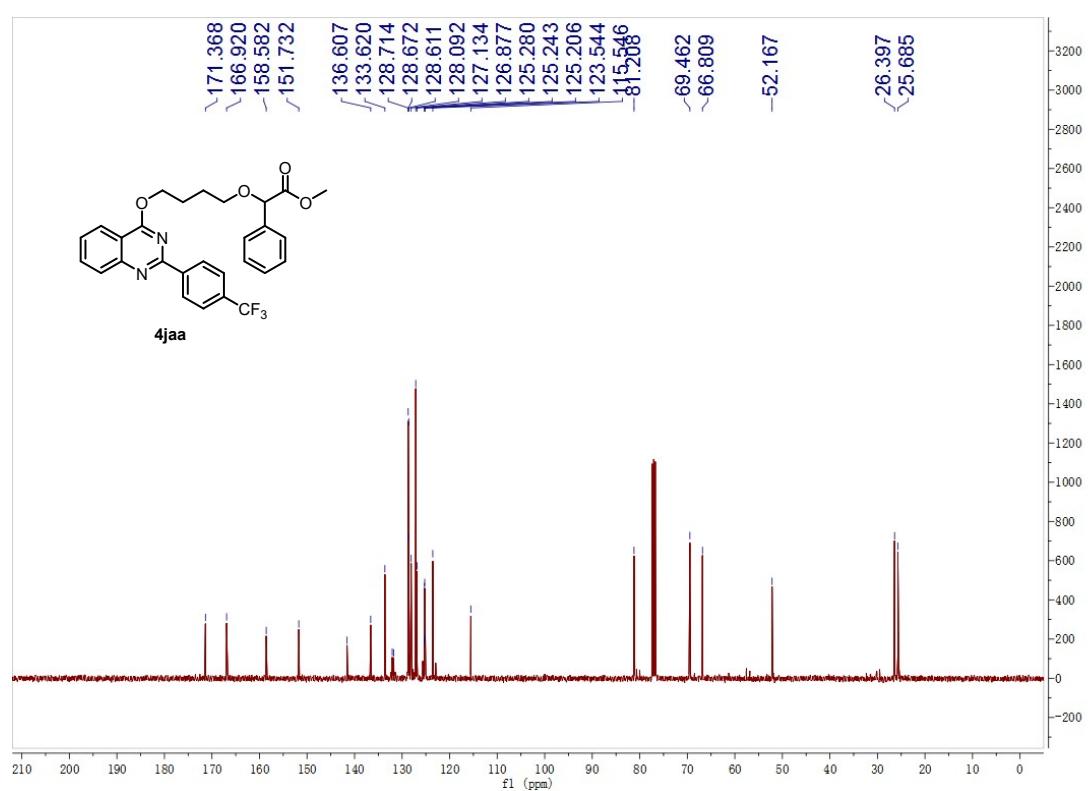
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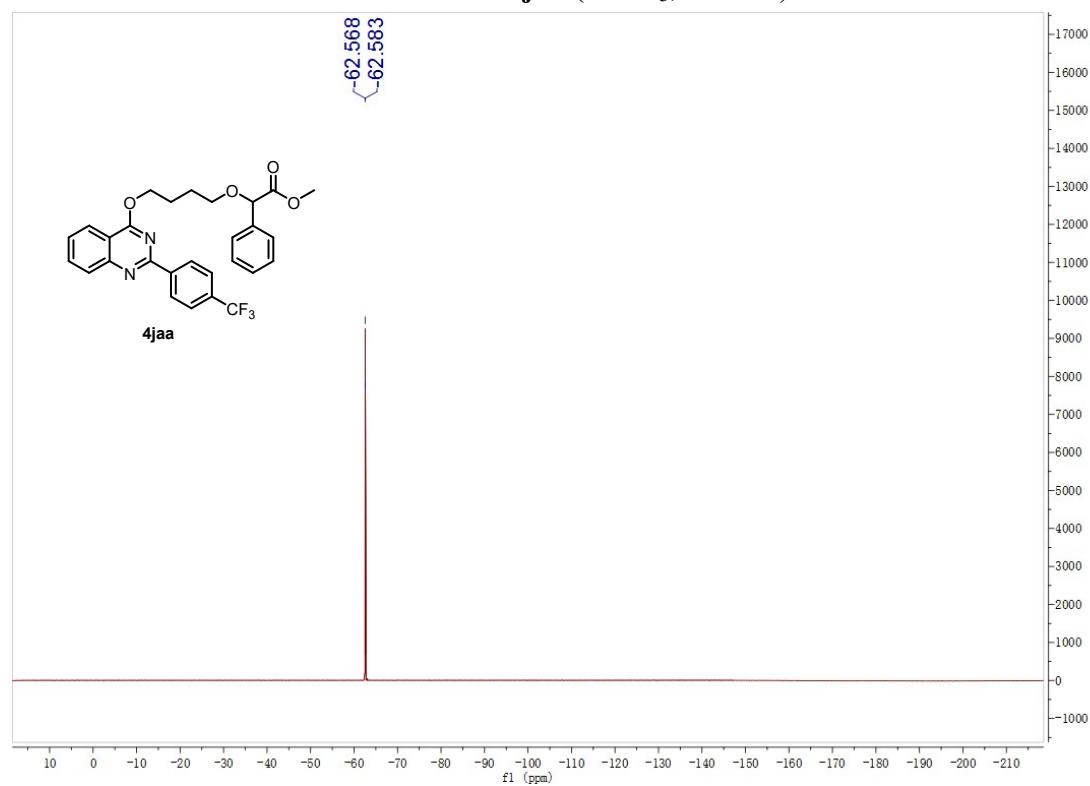
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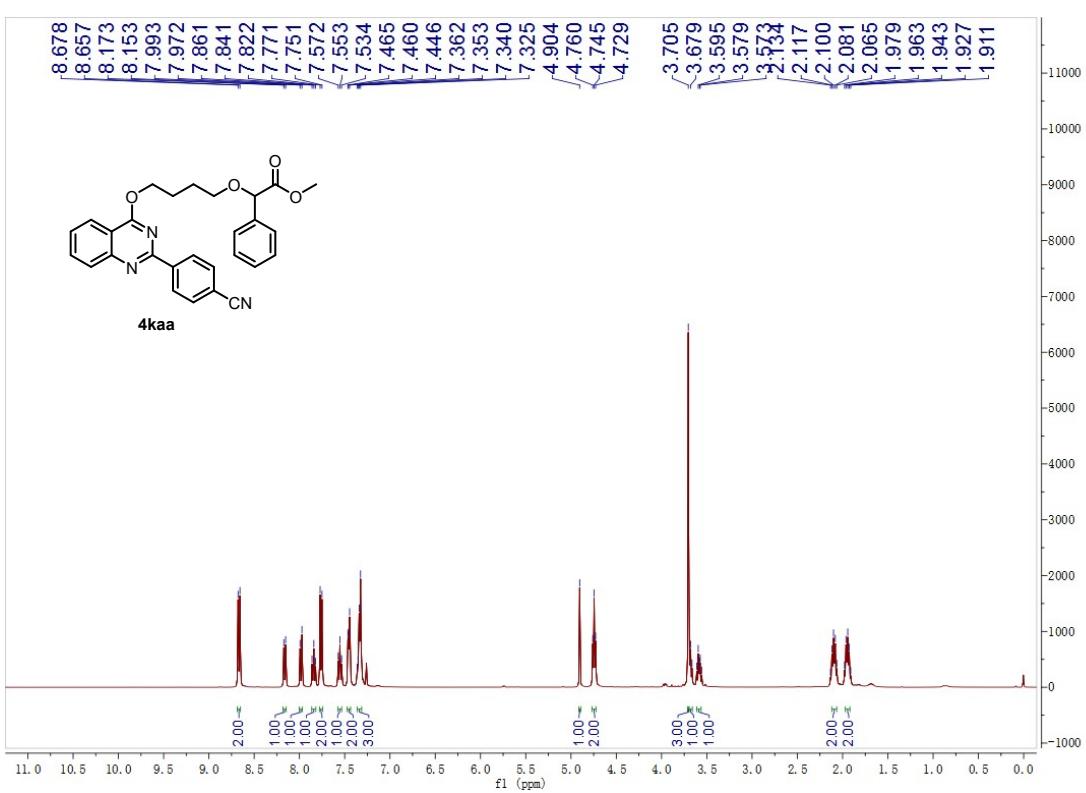
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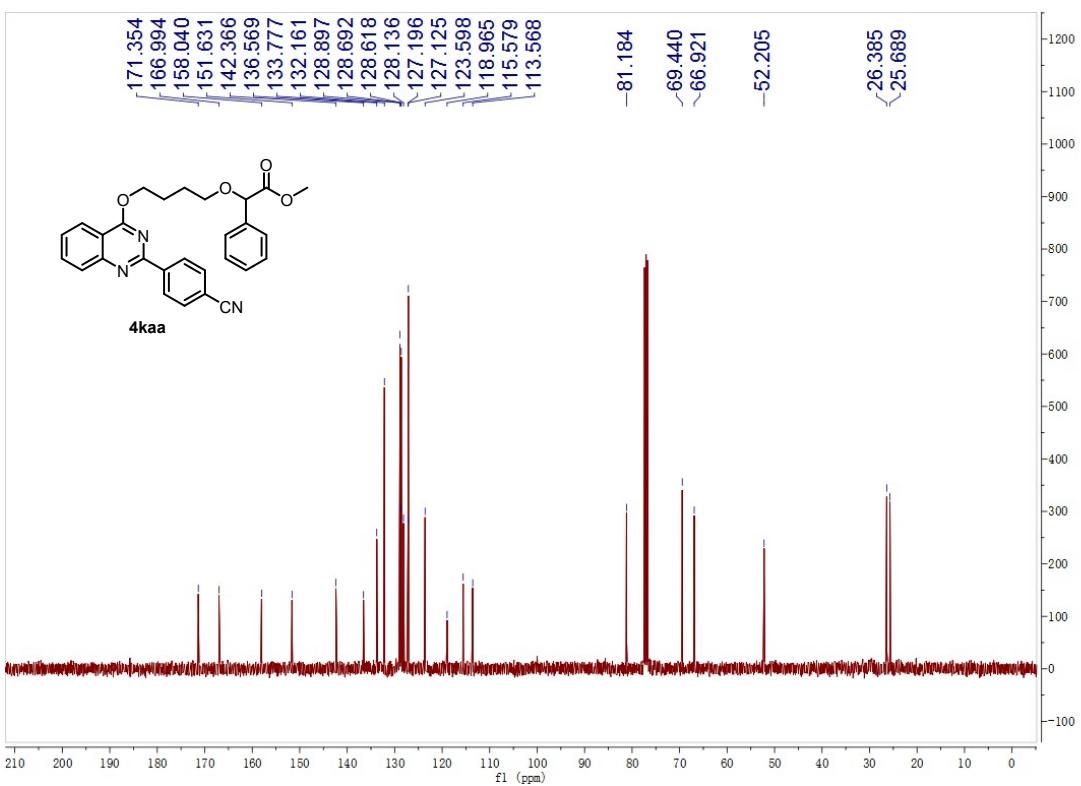
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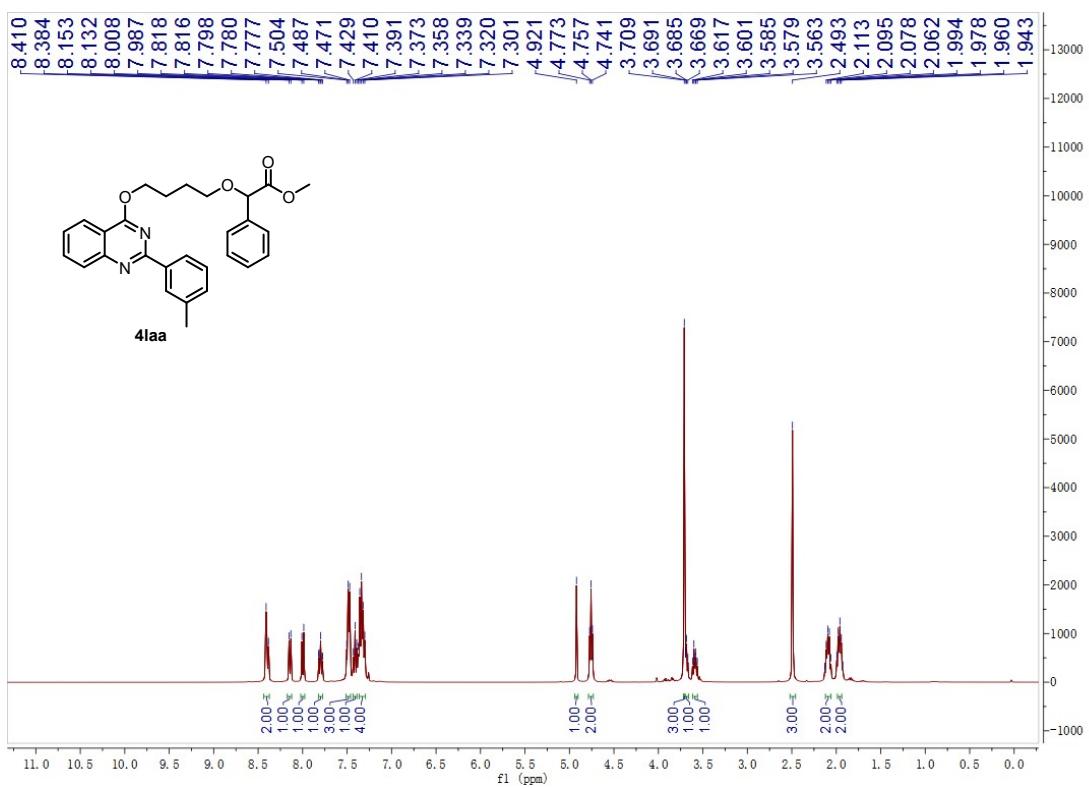
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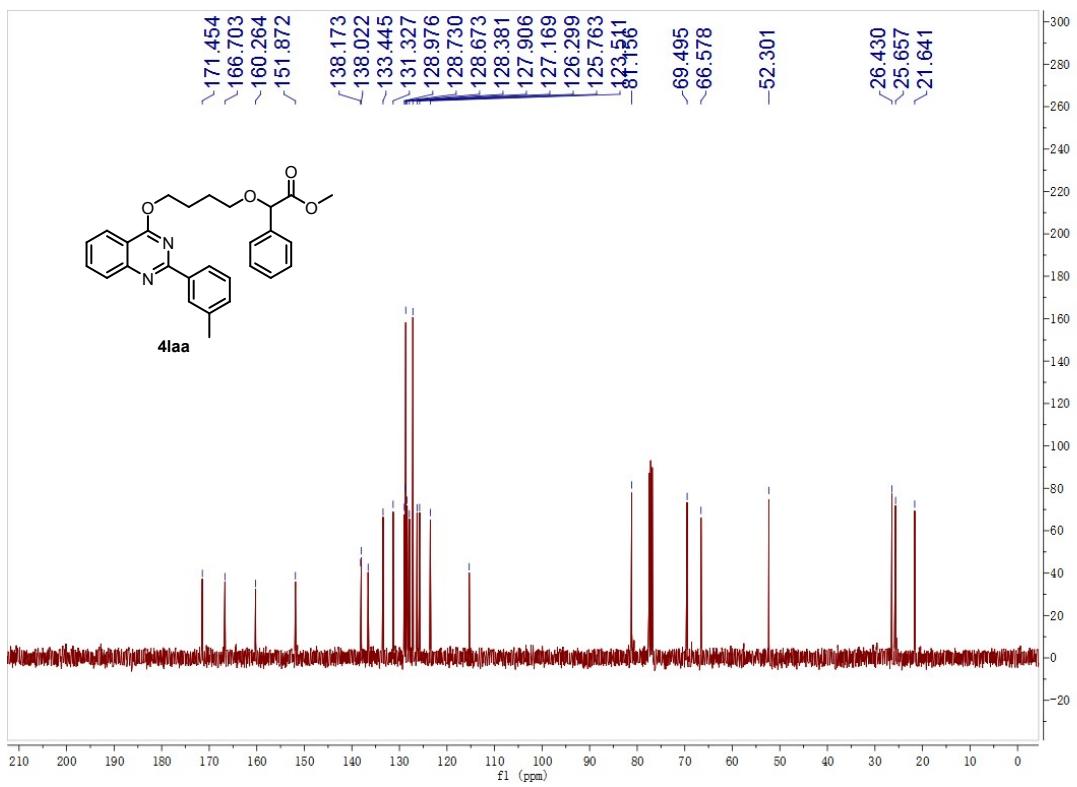
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¹H-NMR of **4laa** (CDCl₃, 400 Hz)
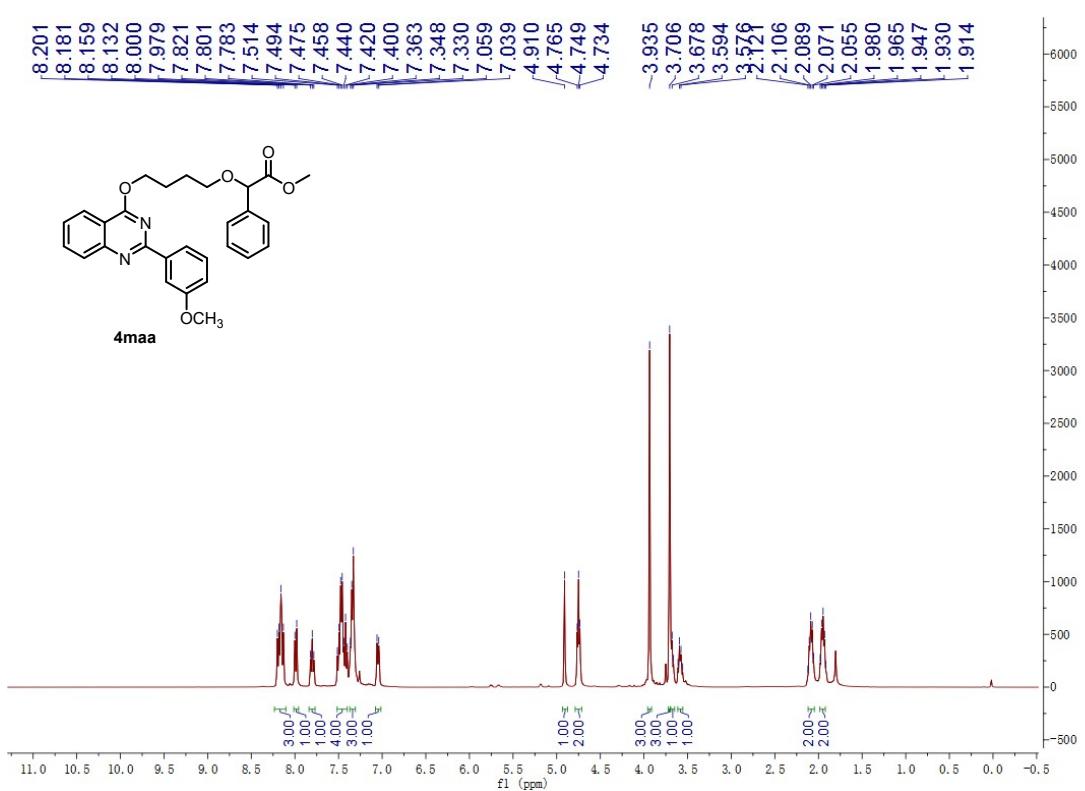
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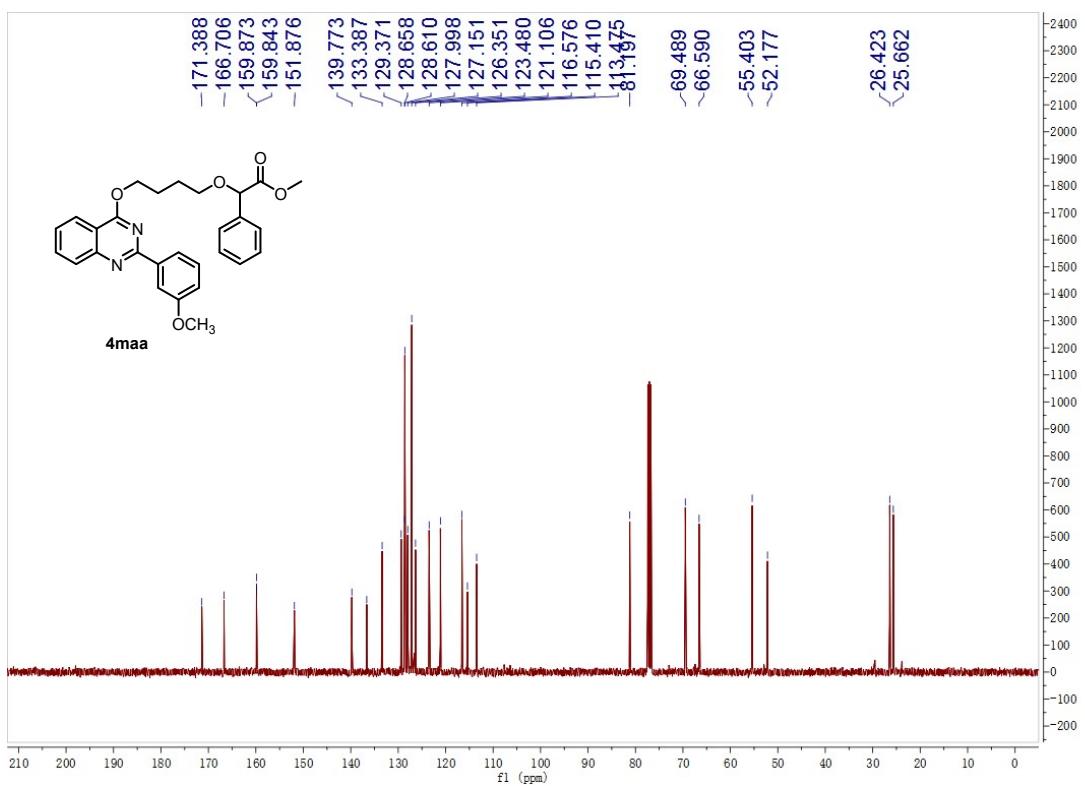
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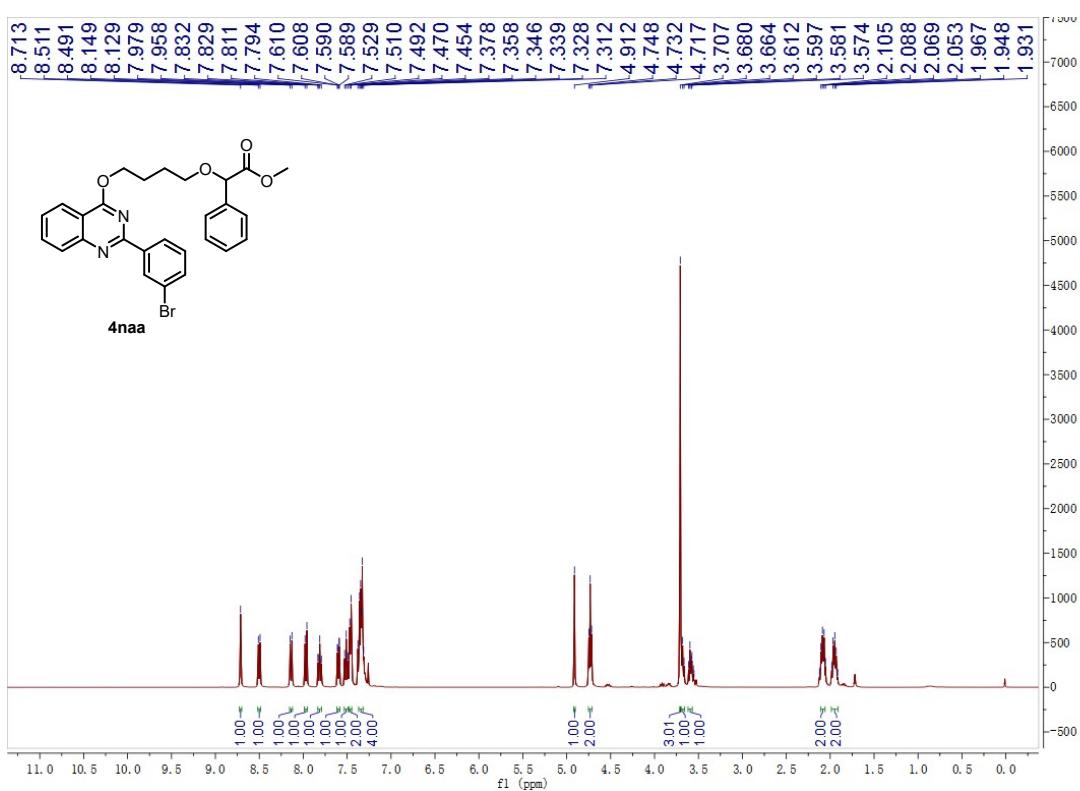
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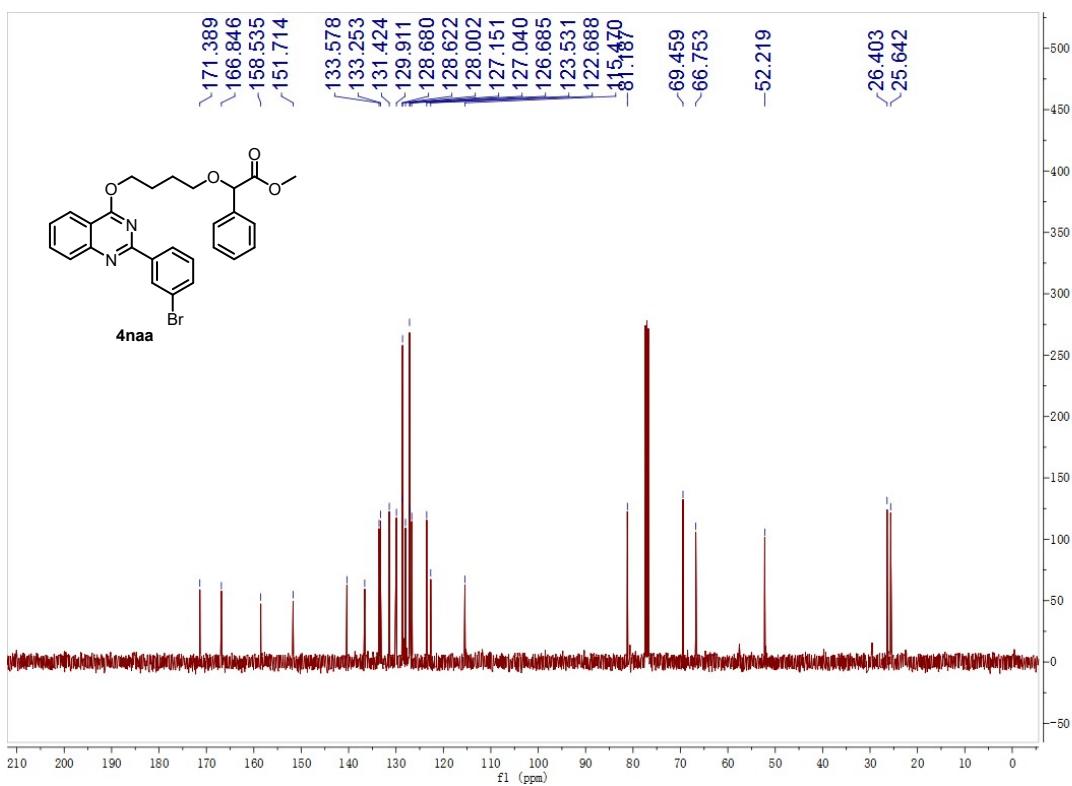
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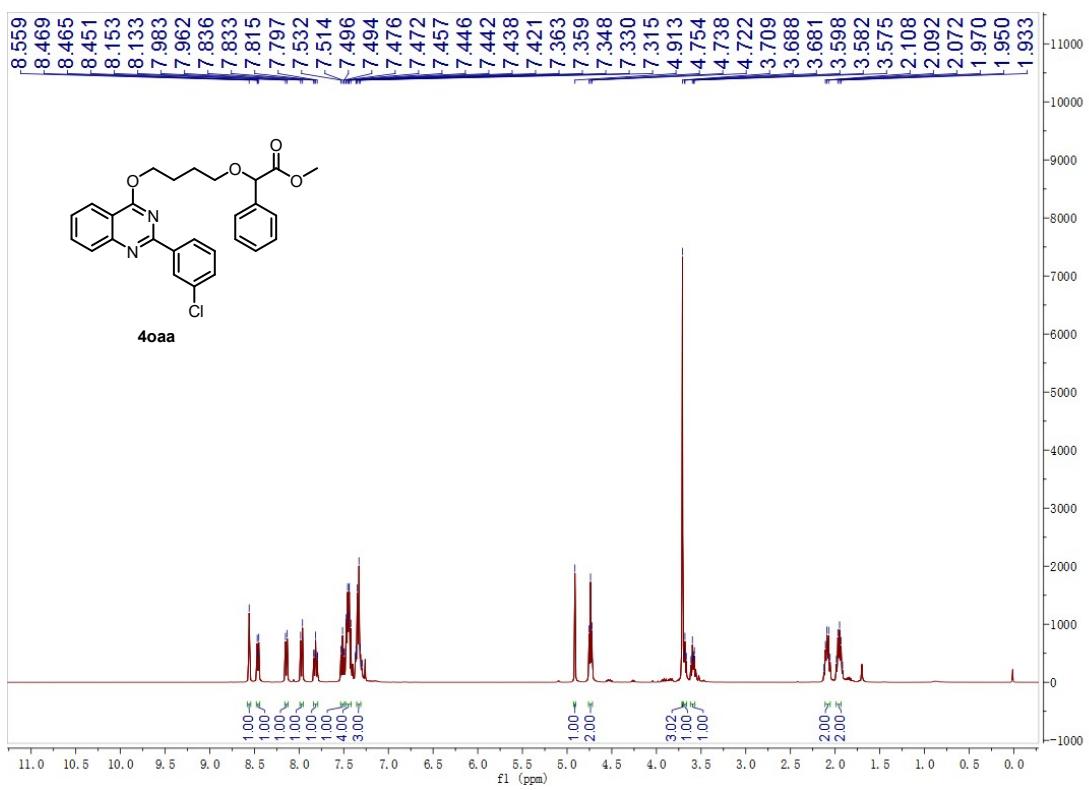
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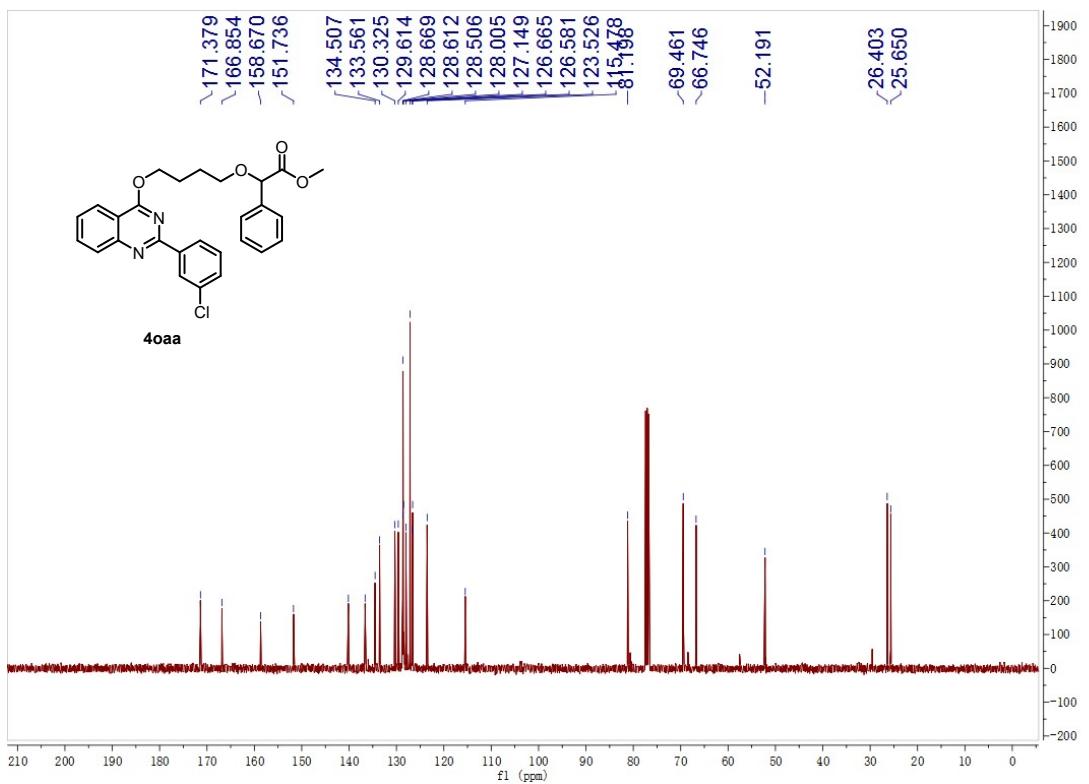
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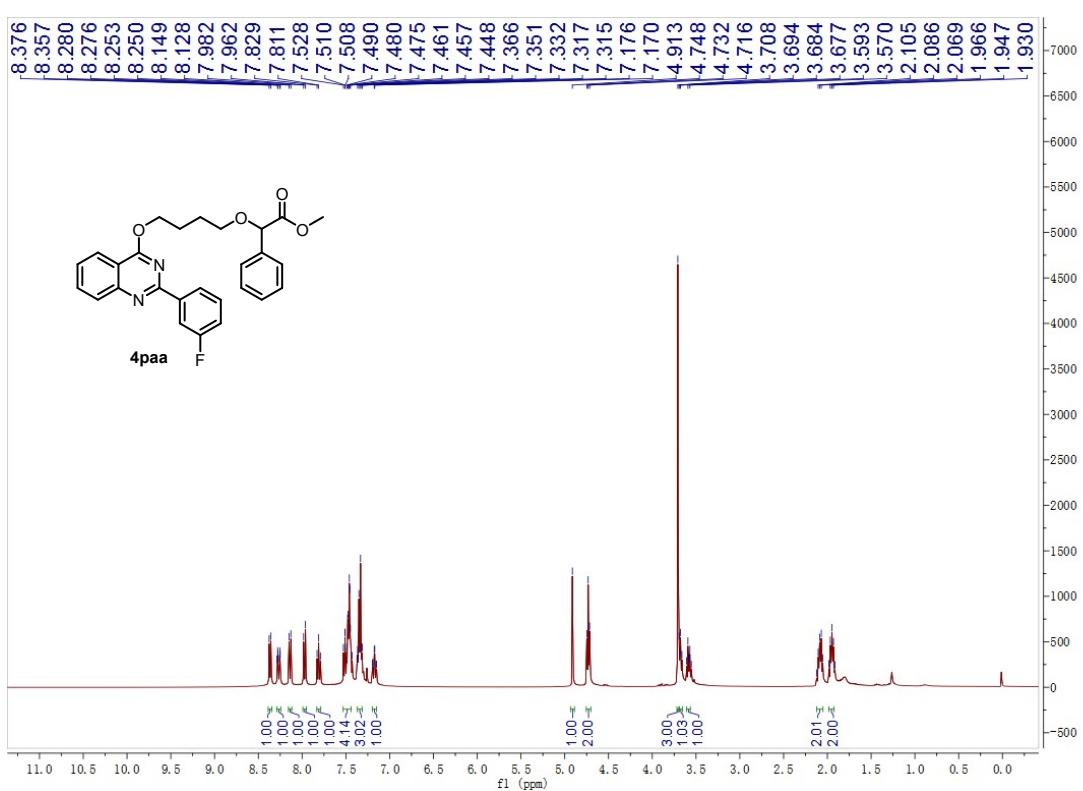
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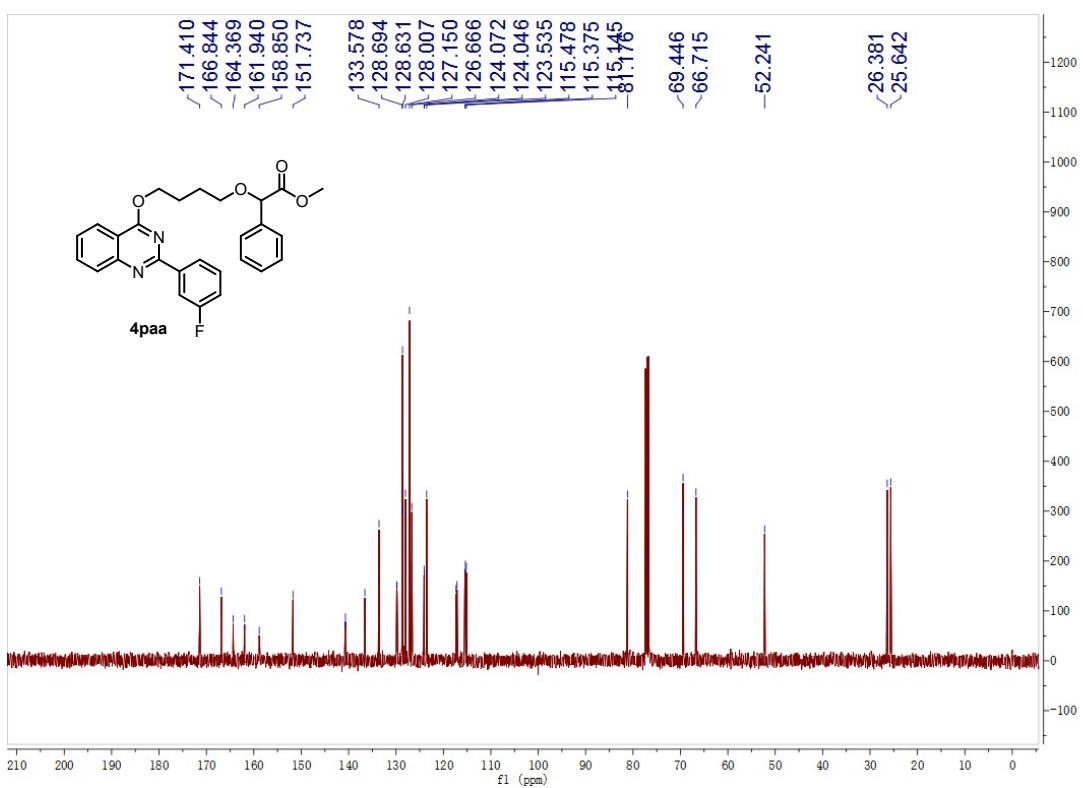
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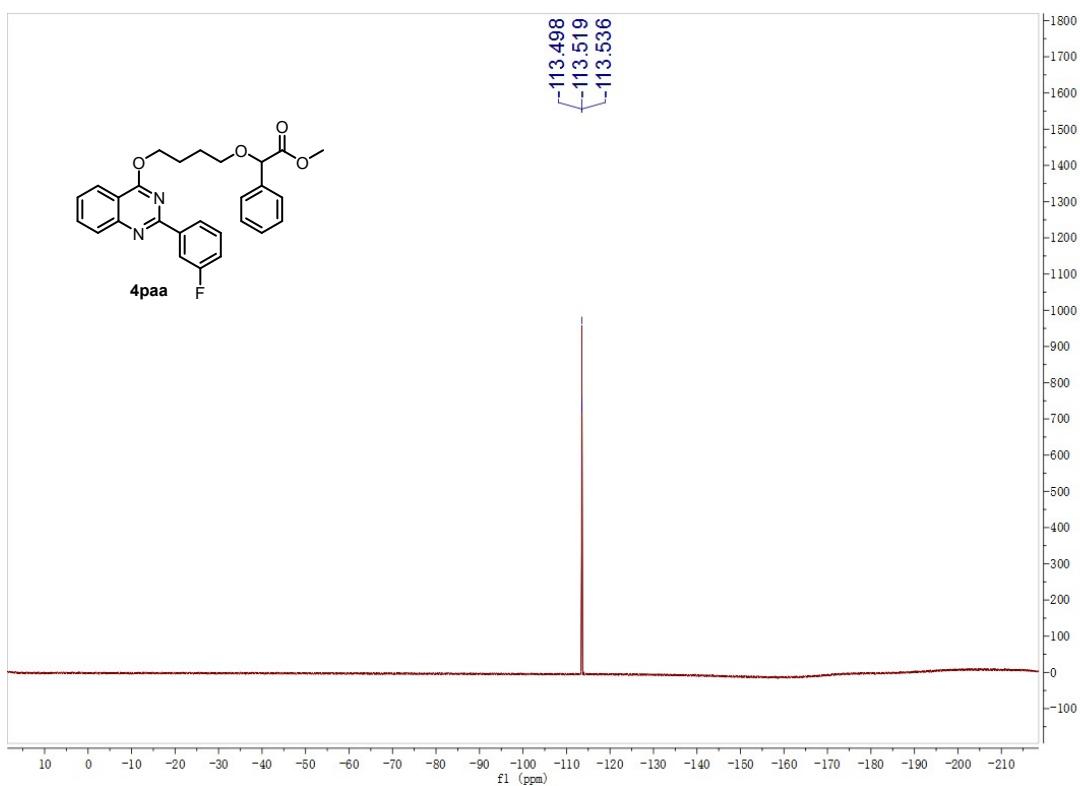
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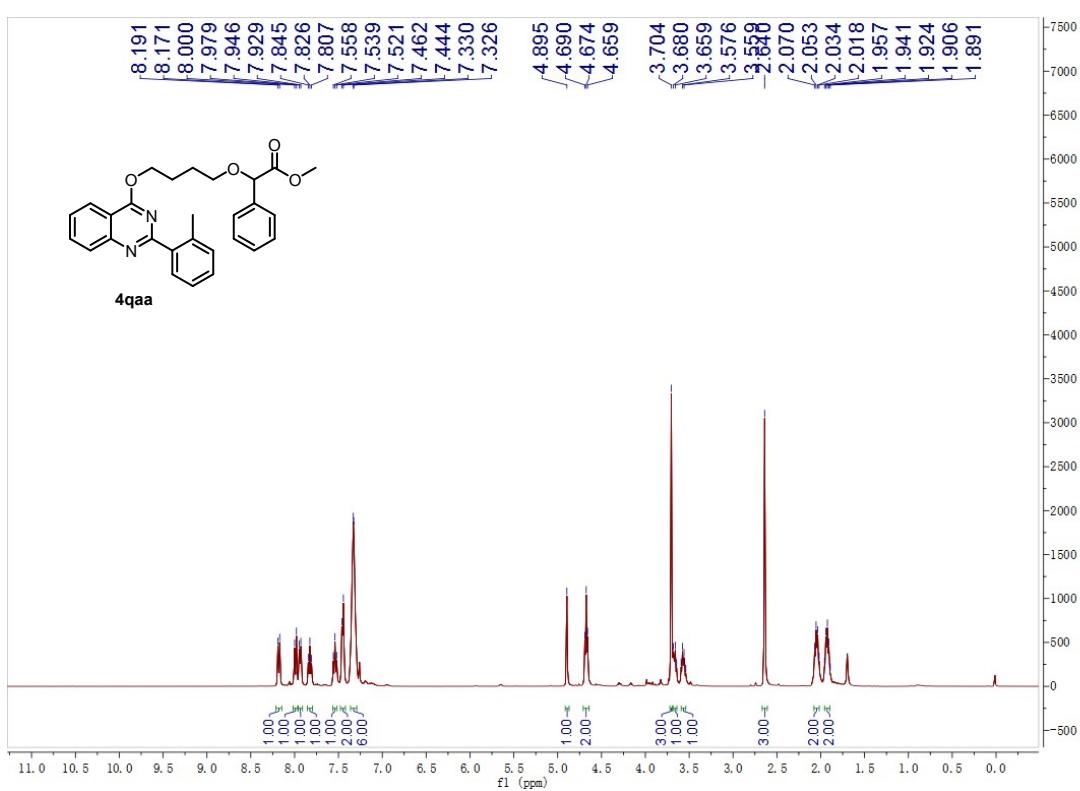
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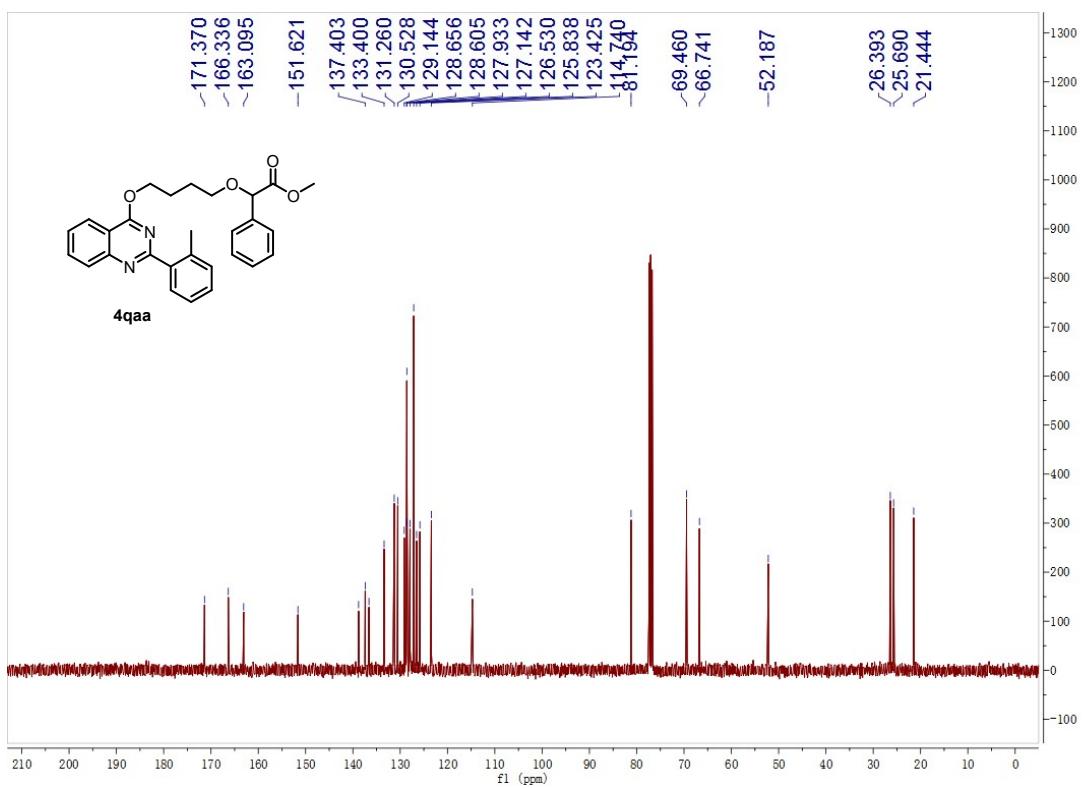
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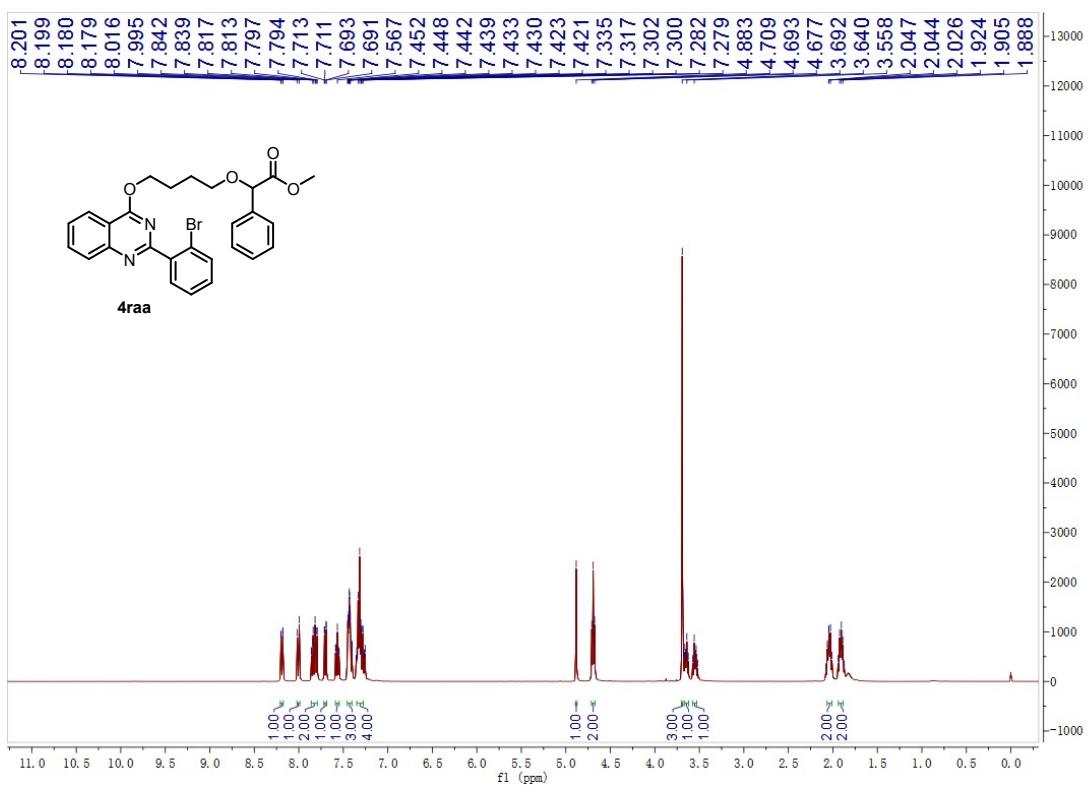
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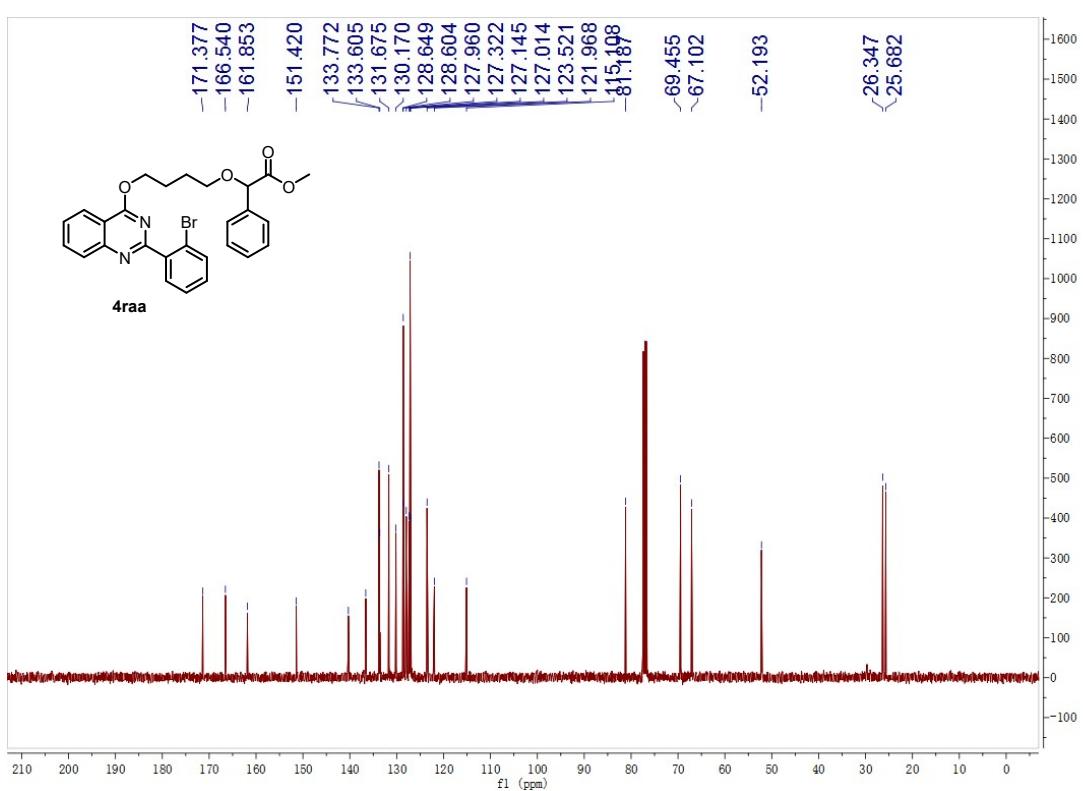
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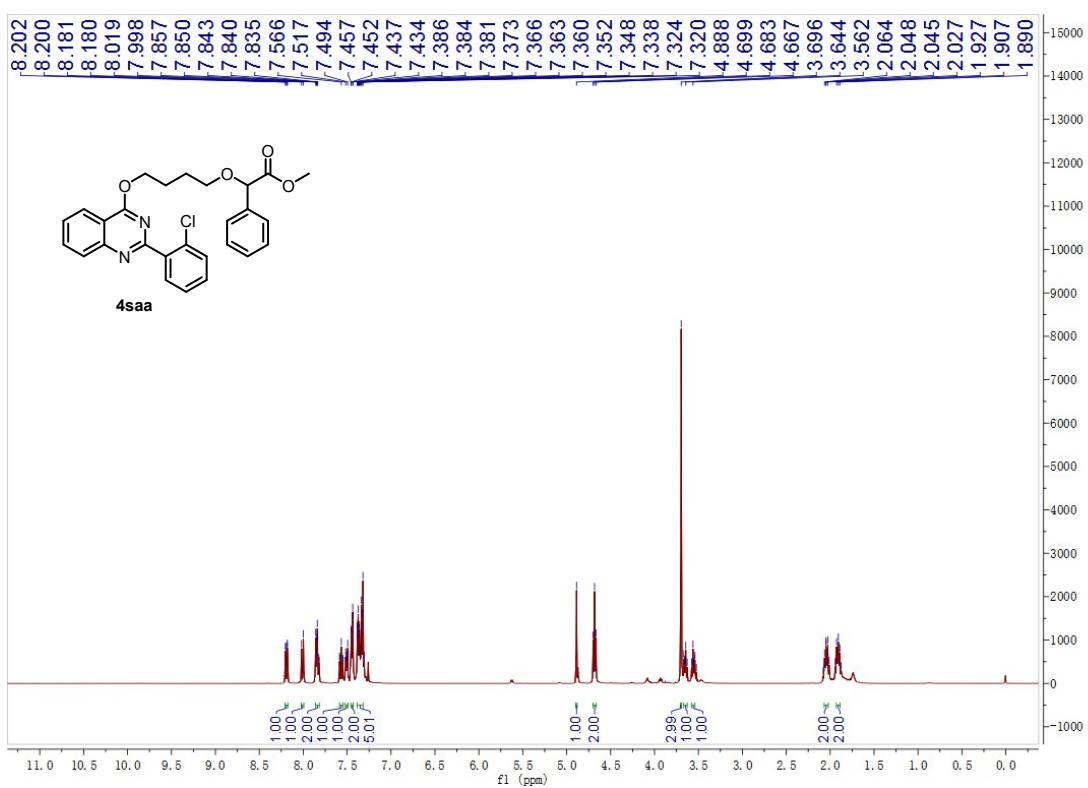
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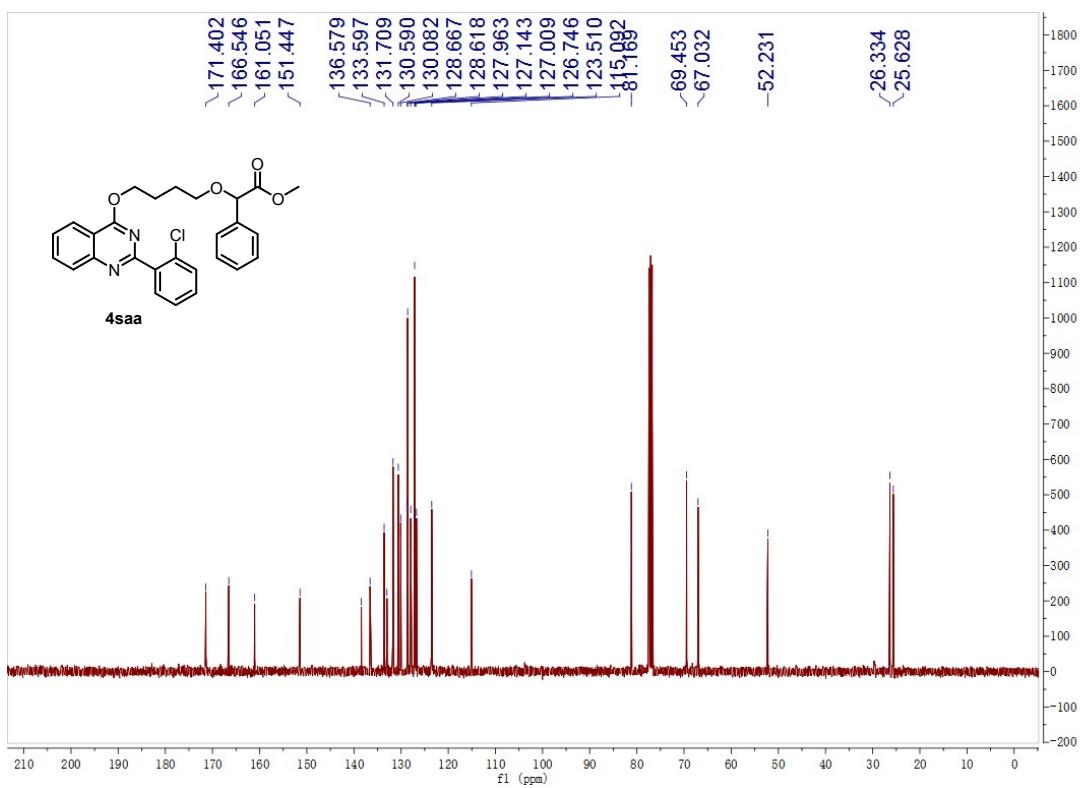
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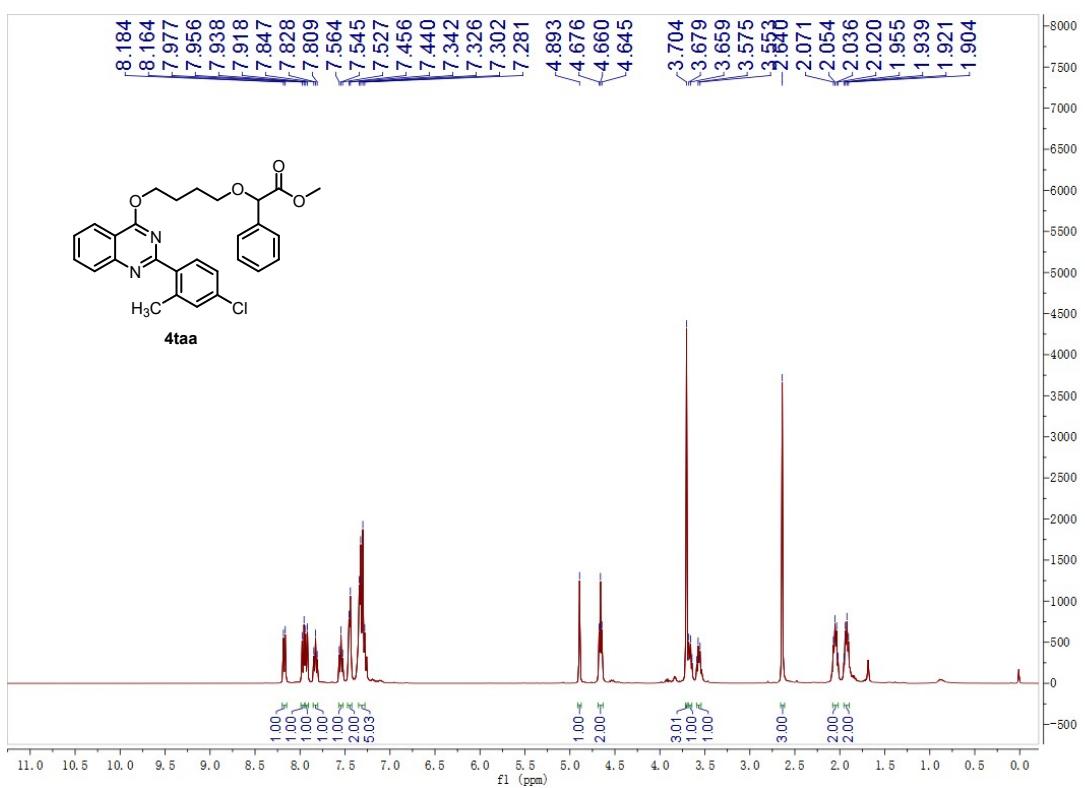
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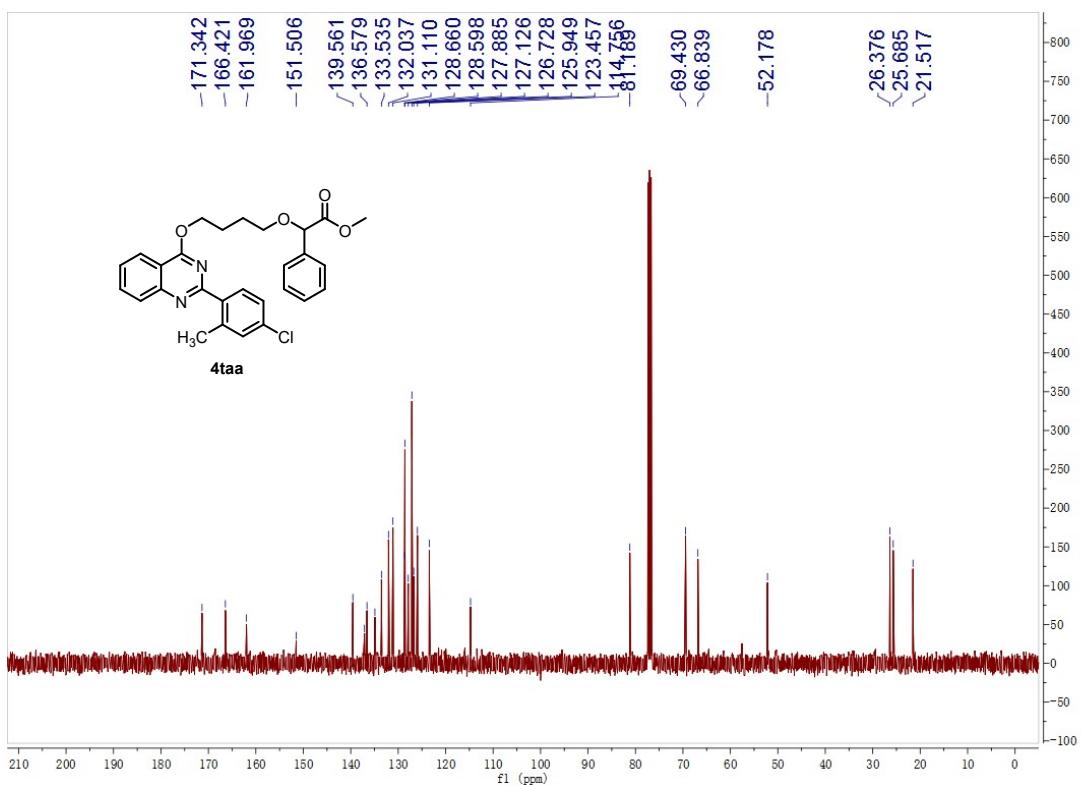
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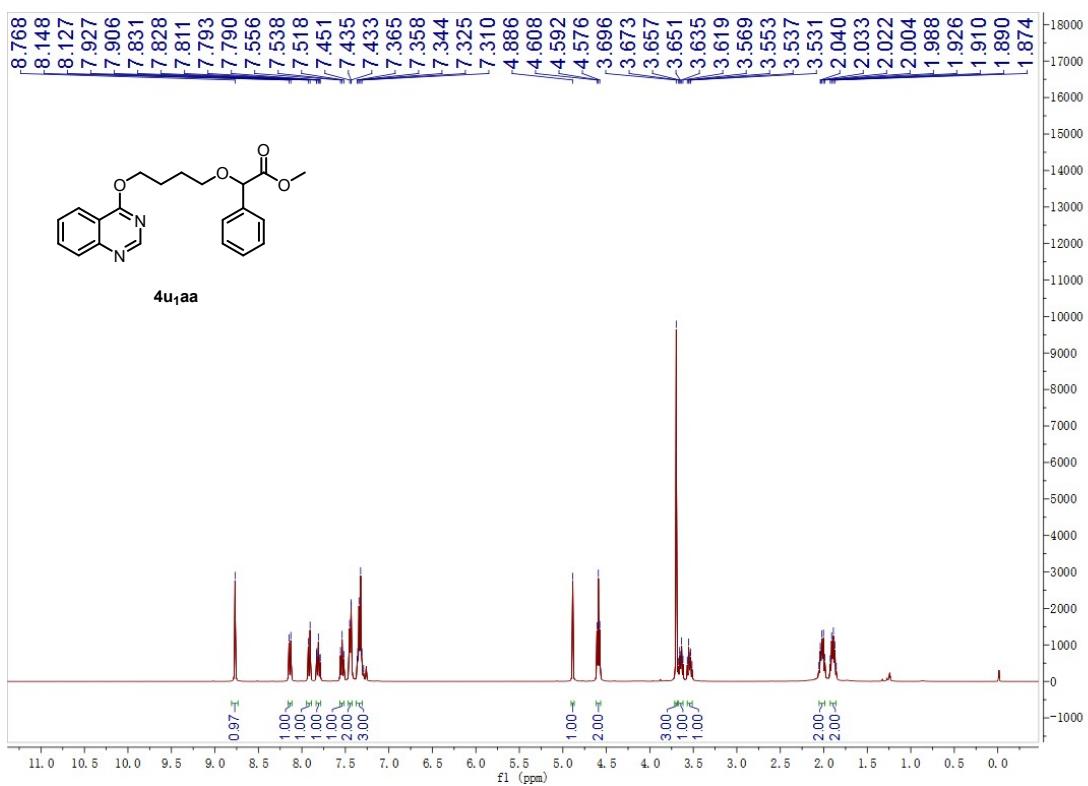
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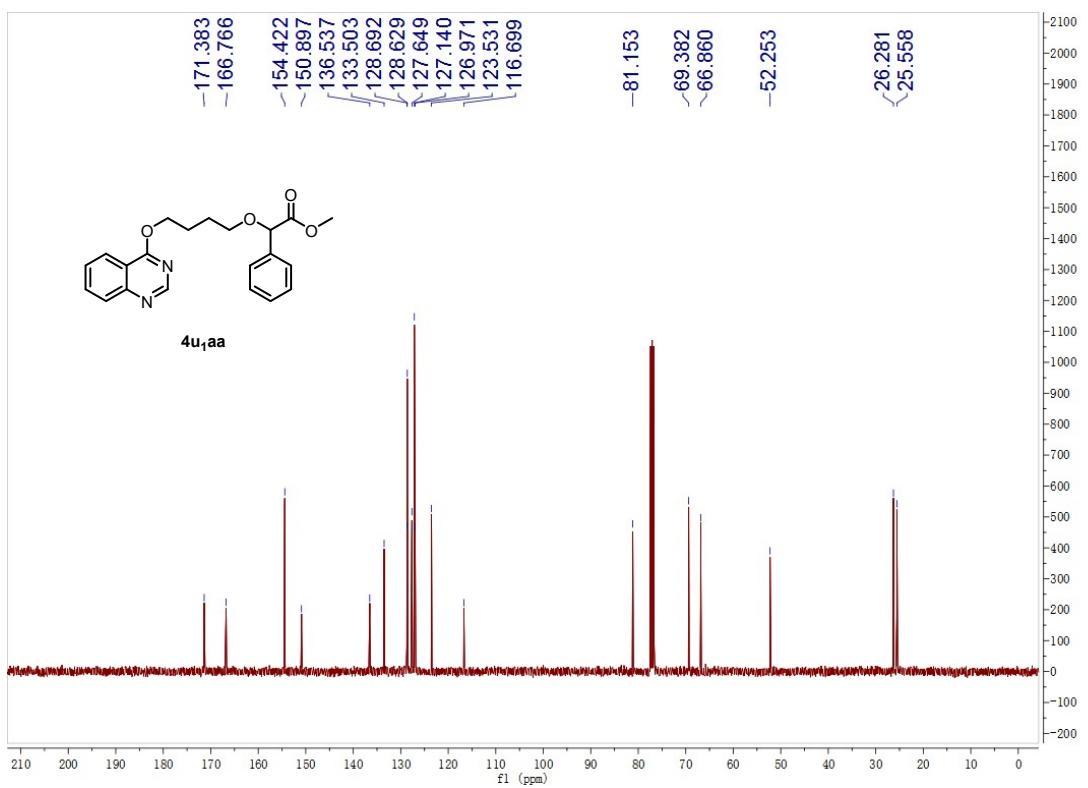
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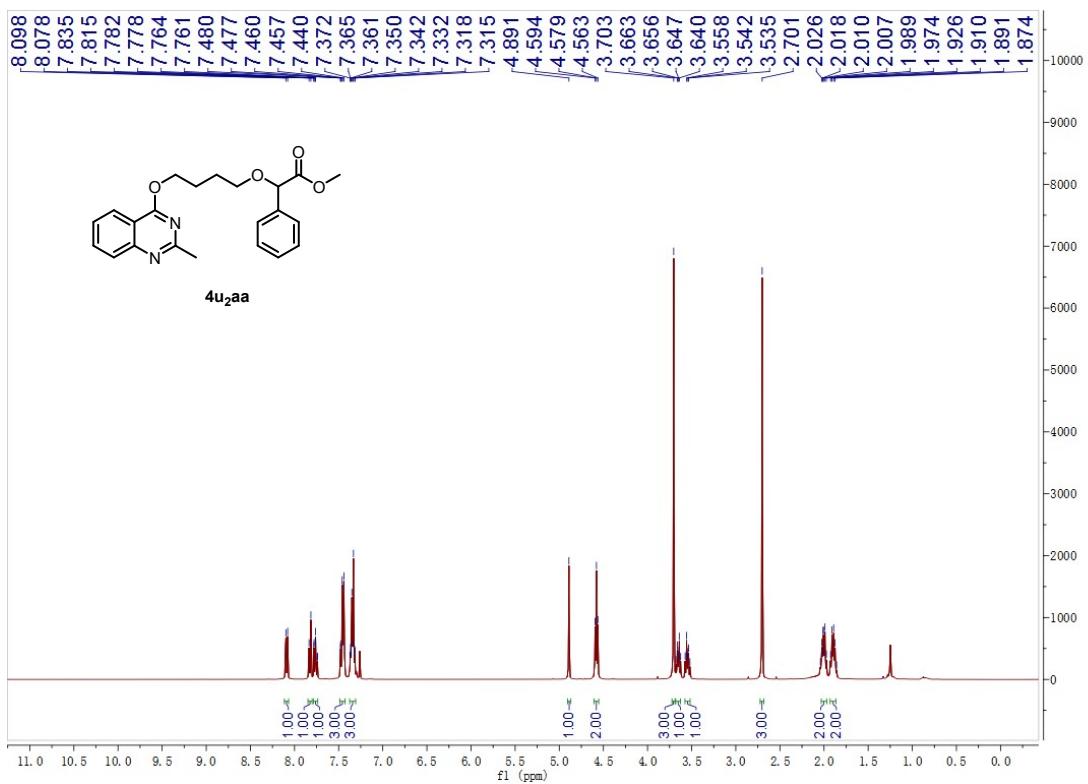
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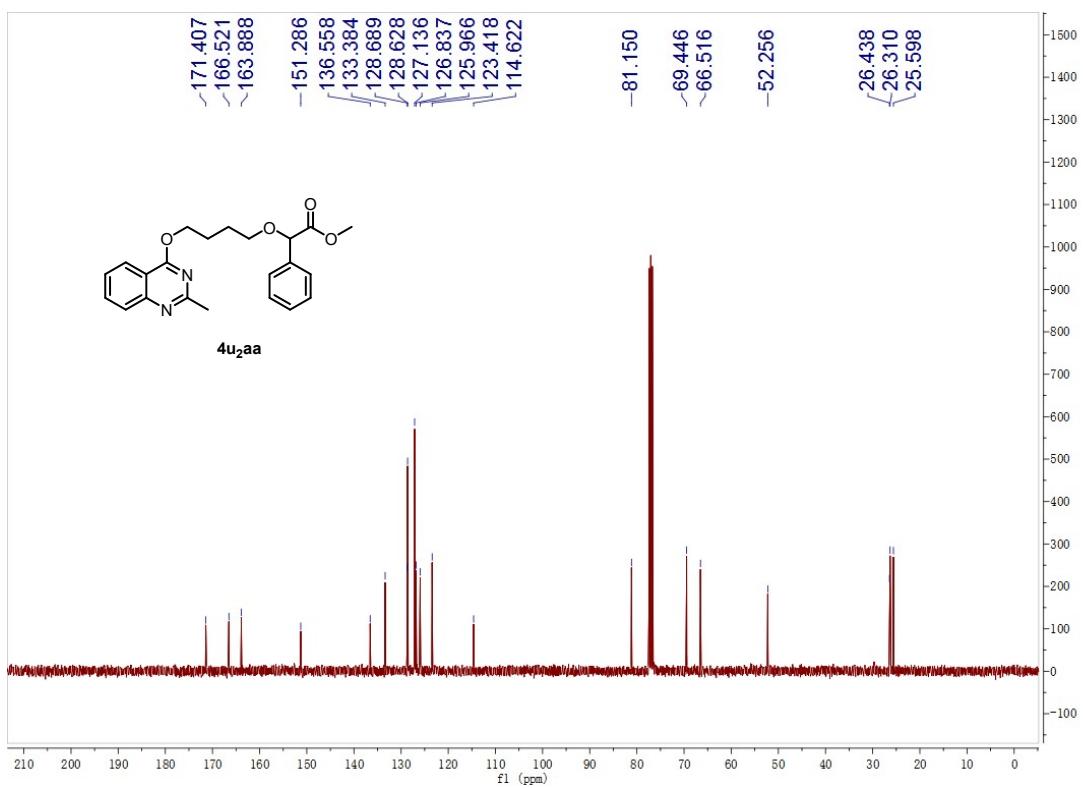
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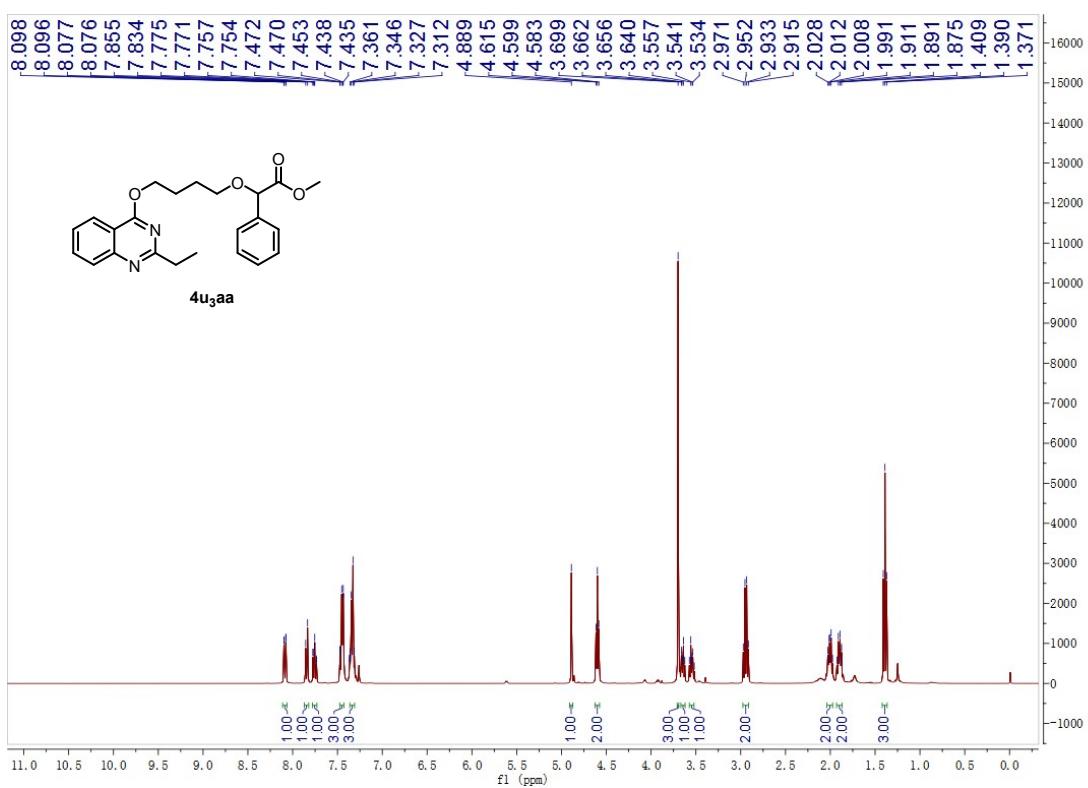
¹H-NMR of **4u₂aa** (CDCl₃, 400 Hz)

¹³C-NMR of **4u₂aa** (CDCl₃, 100 Hz)

^{13}C-NMR of **4u$_2$aa** (CDCl$_3$, 100 Hz)
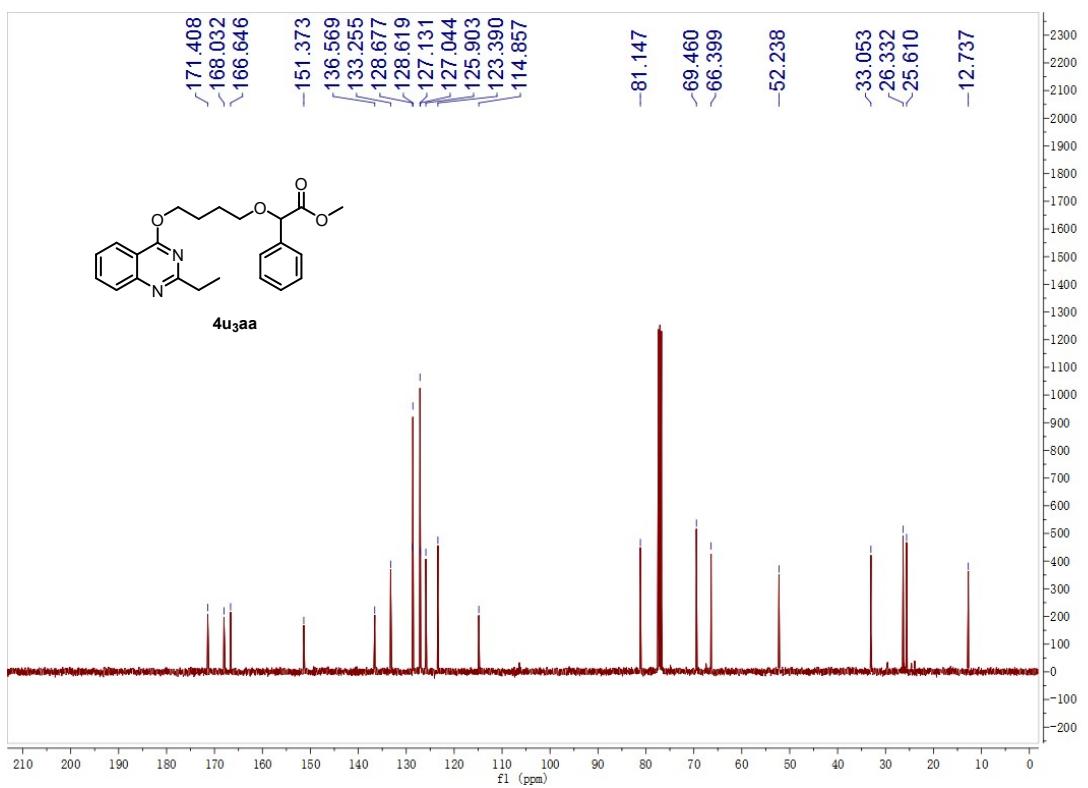
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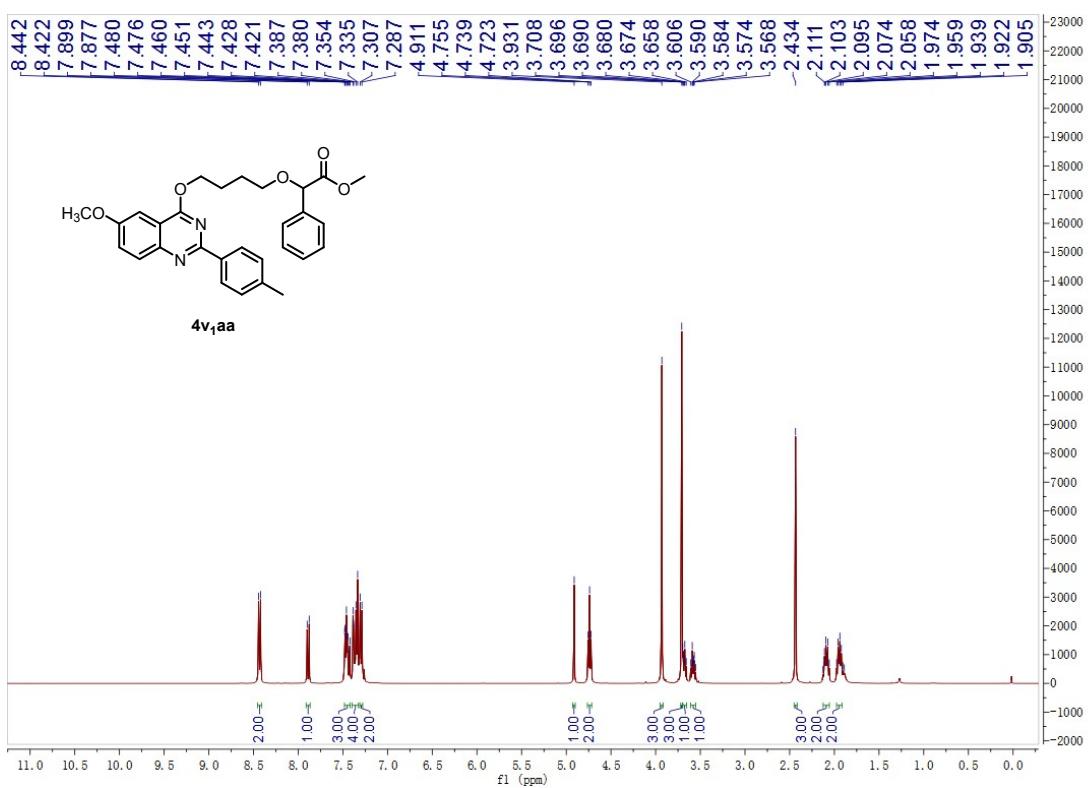
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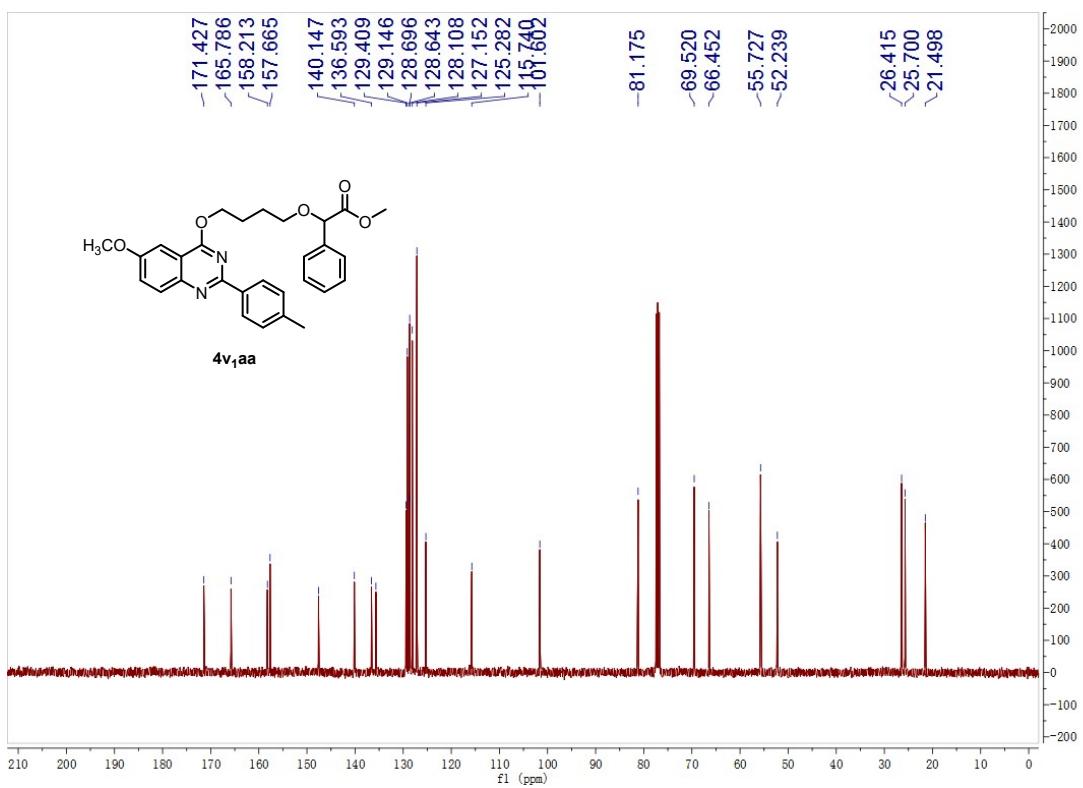
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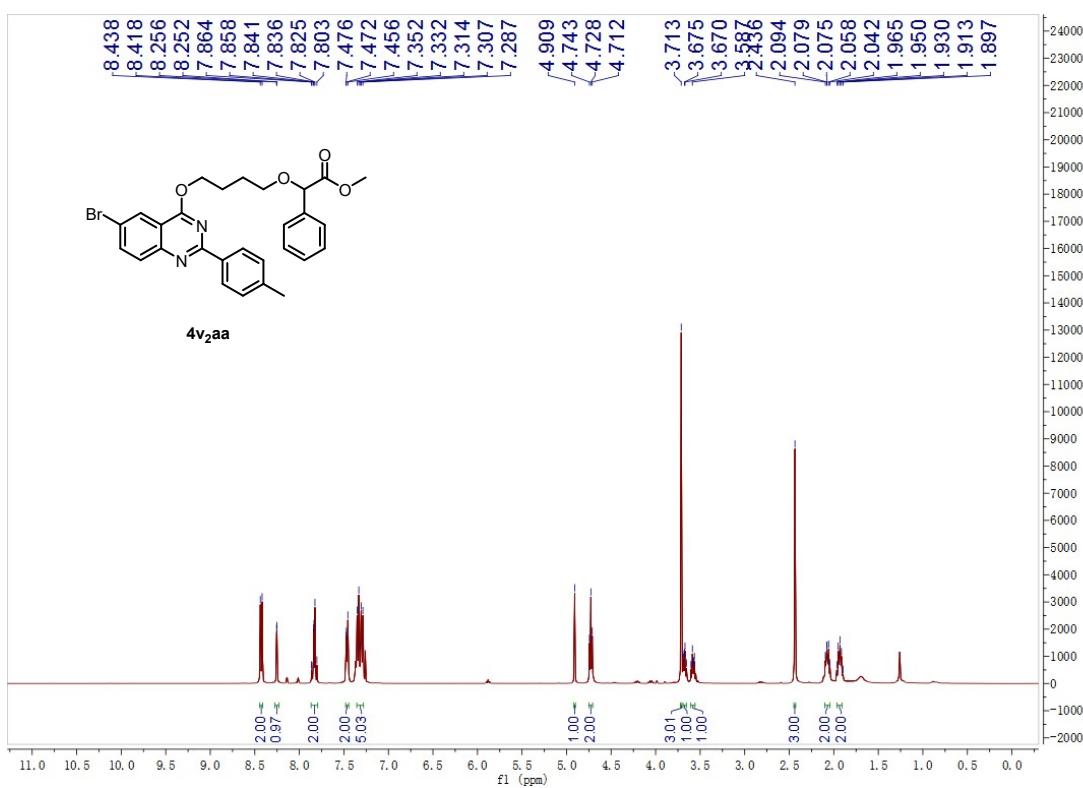
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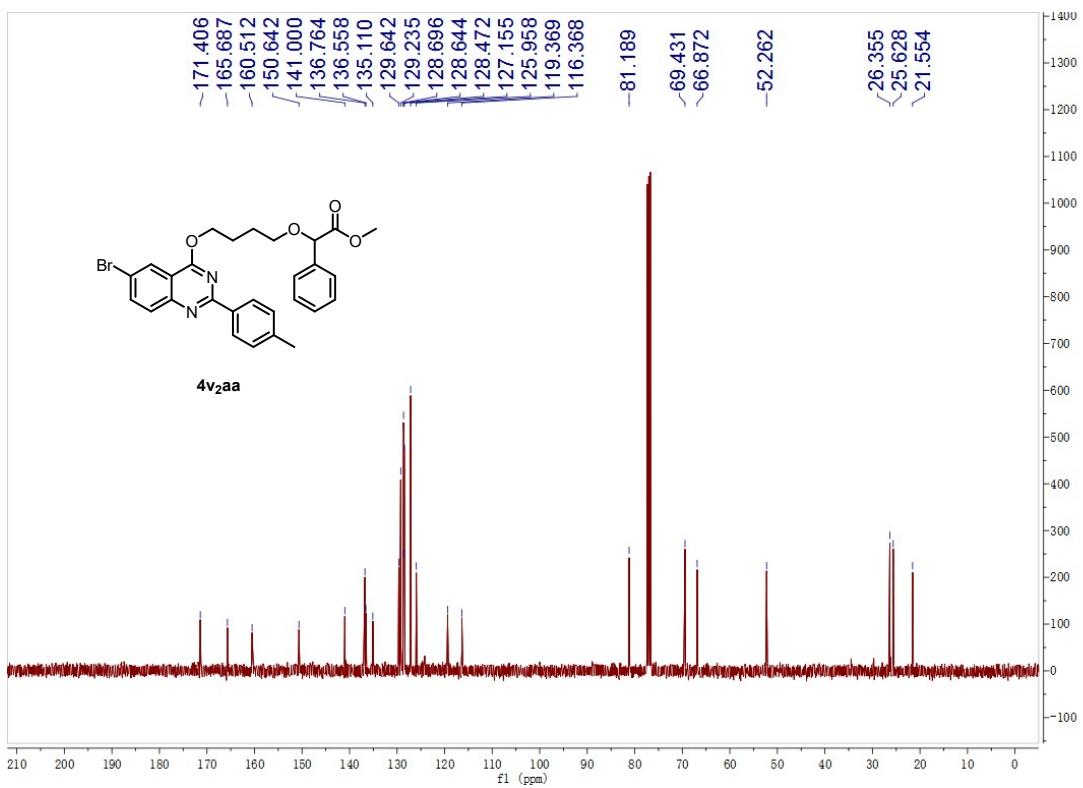
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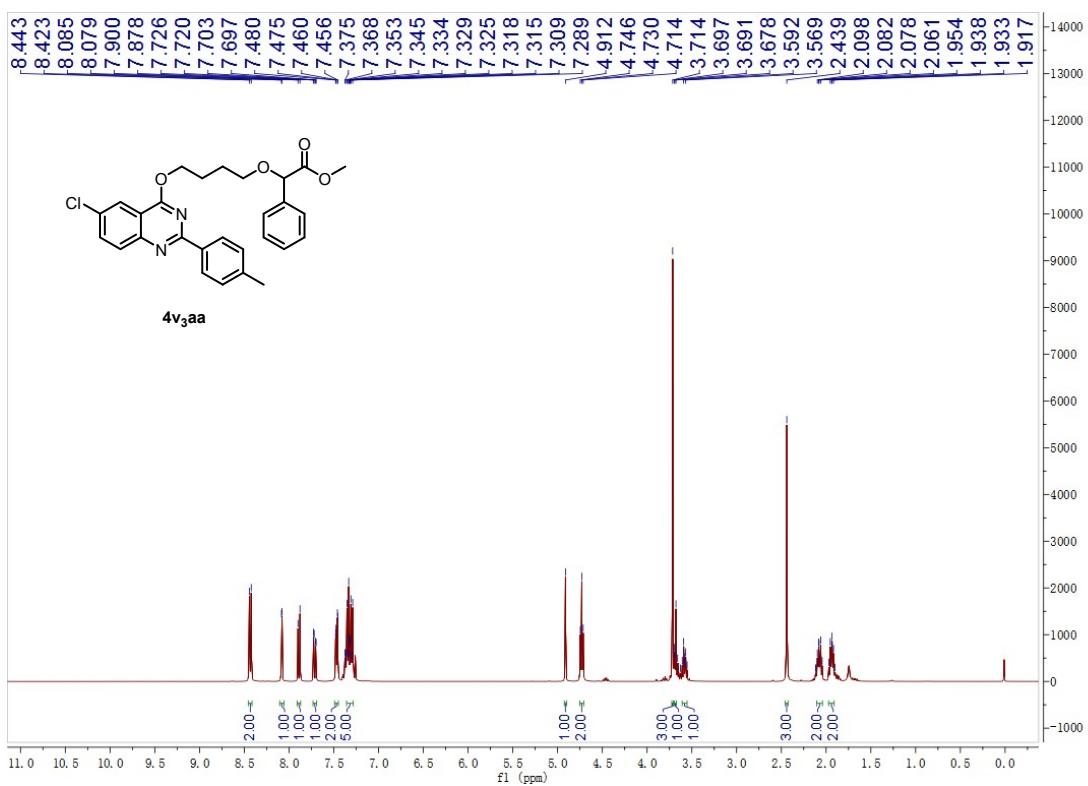
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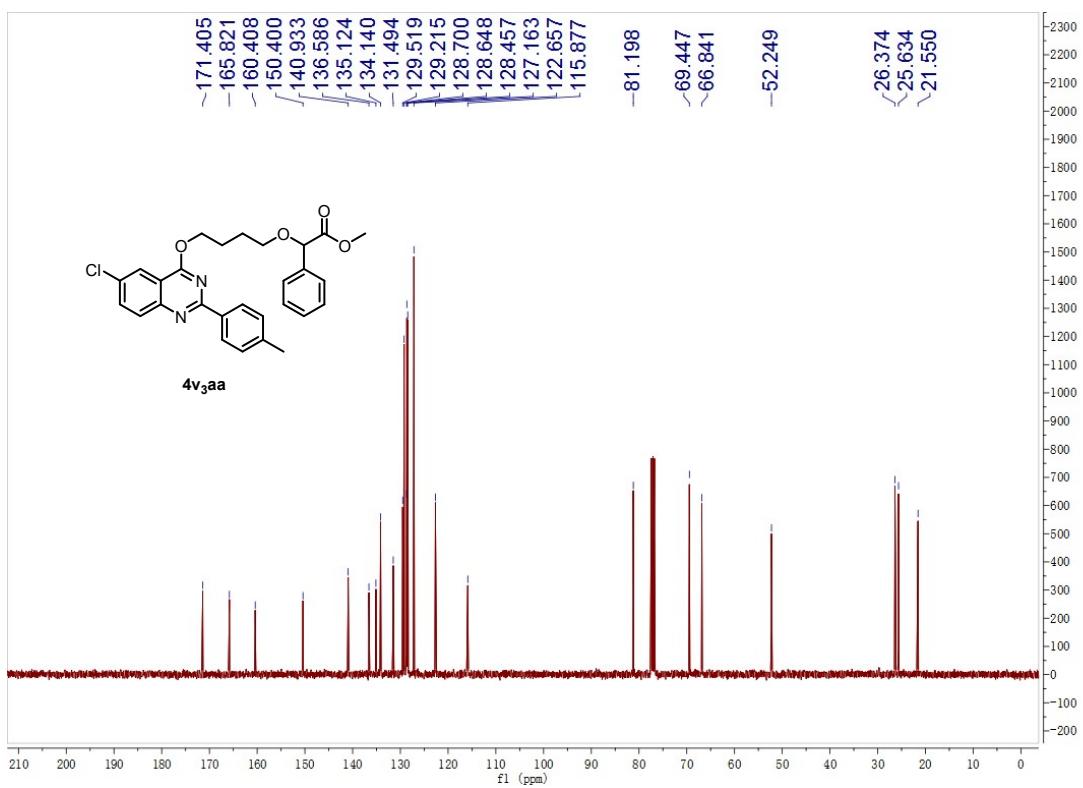
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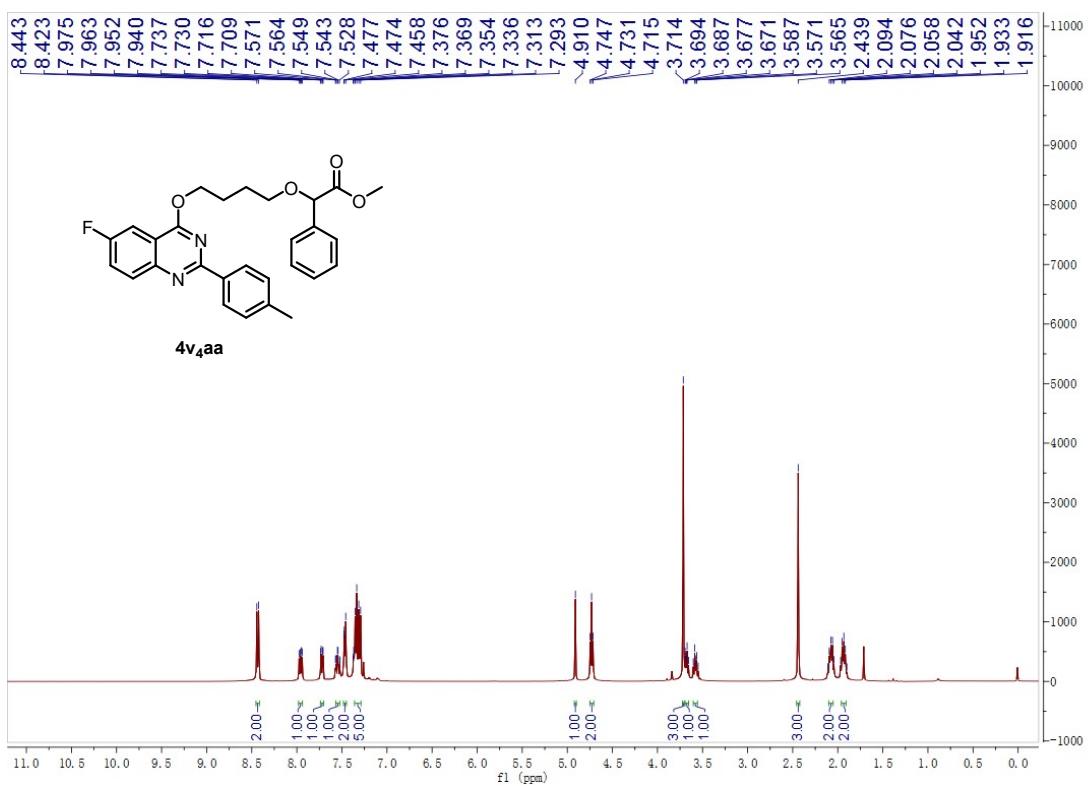
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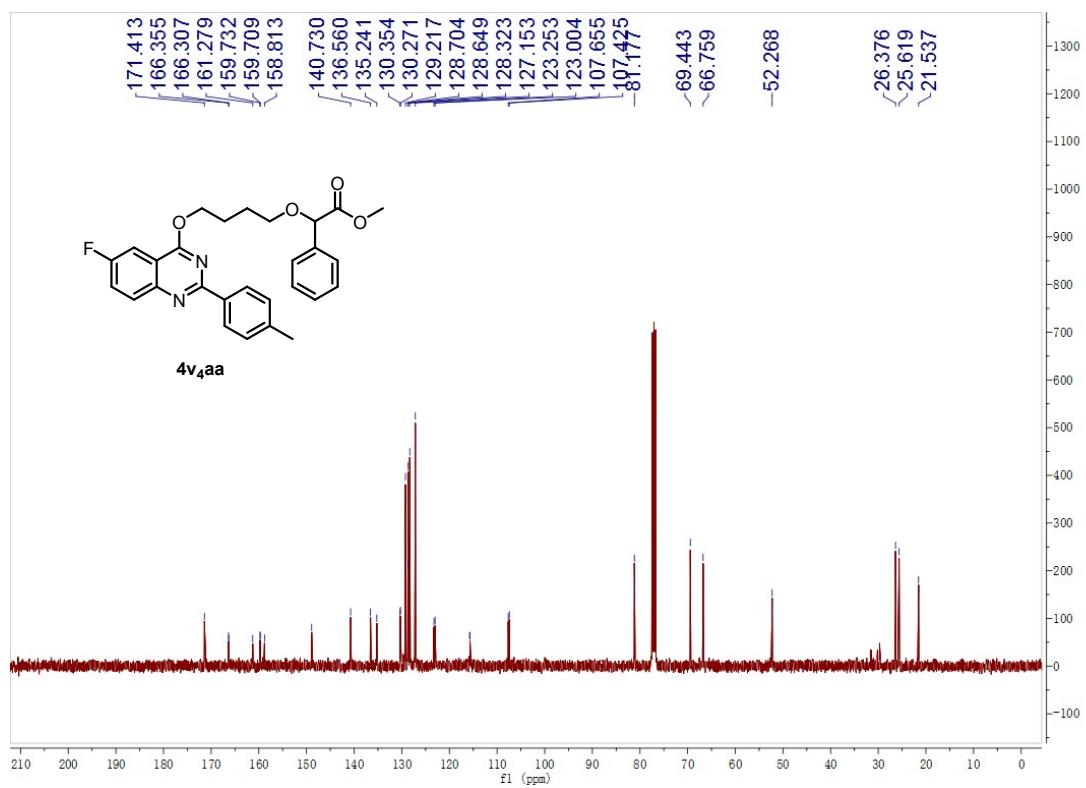
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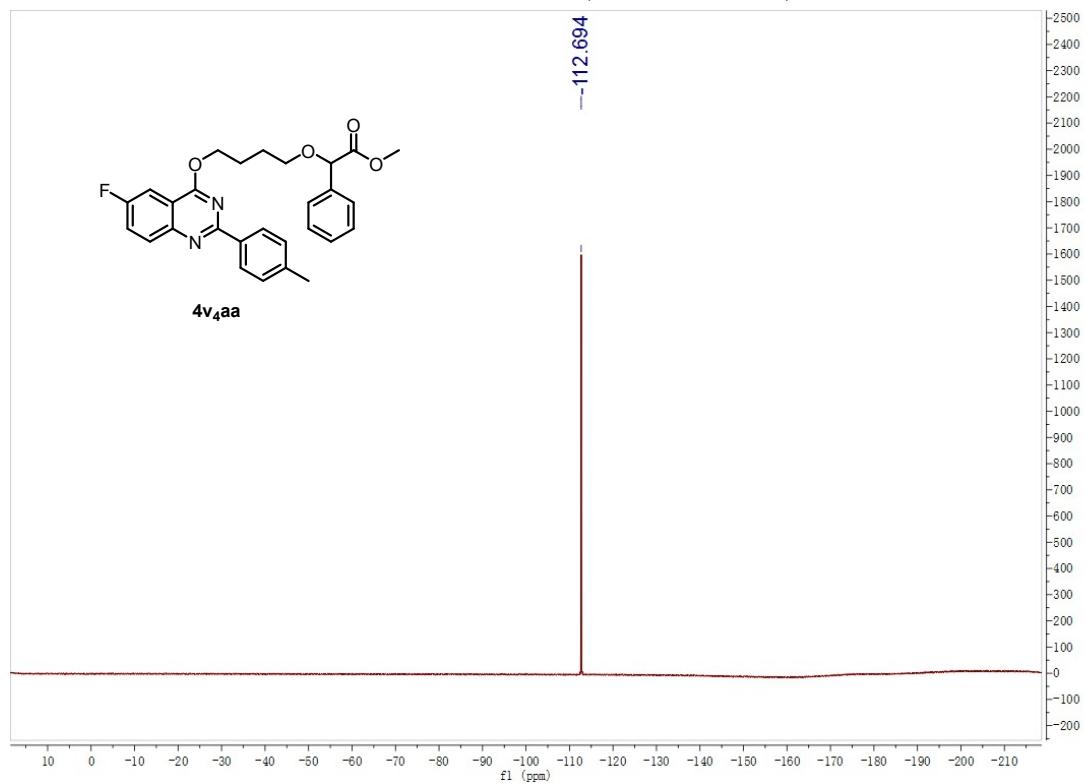
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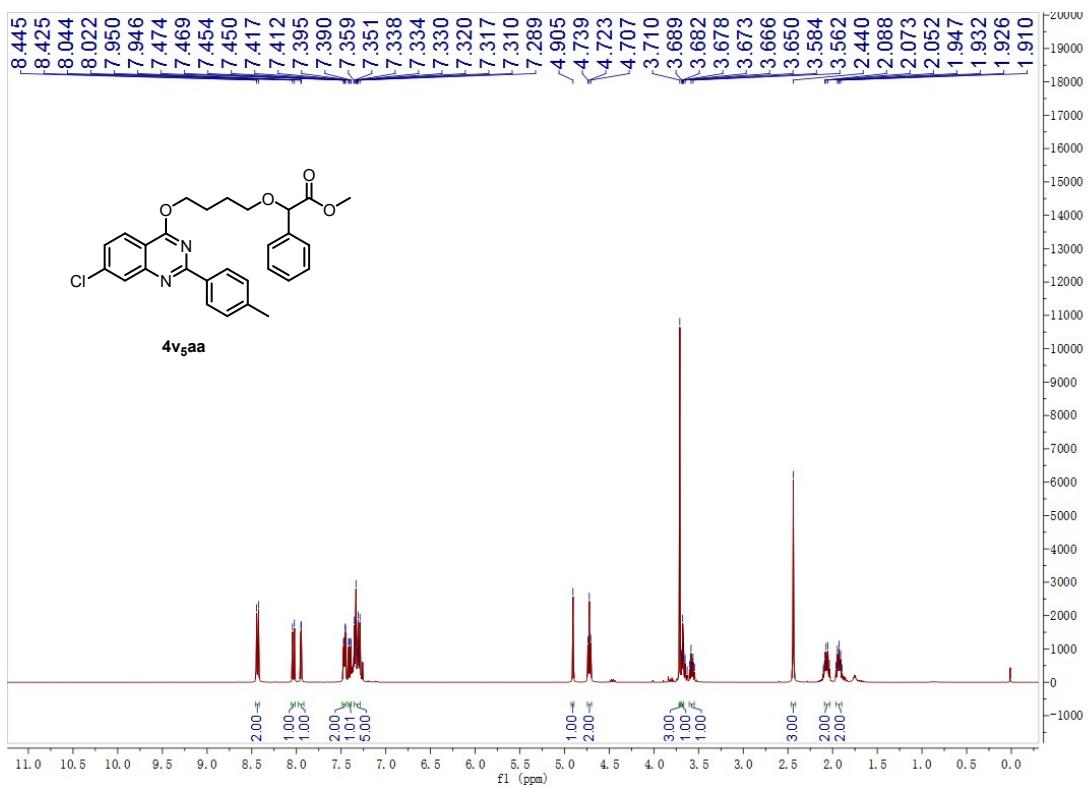
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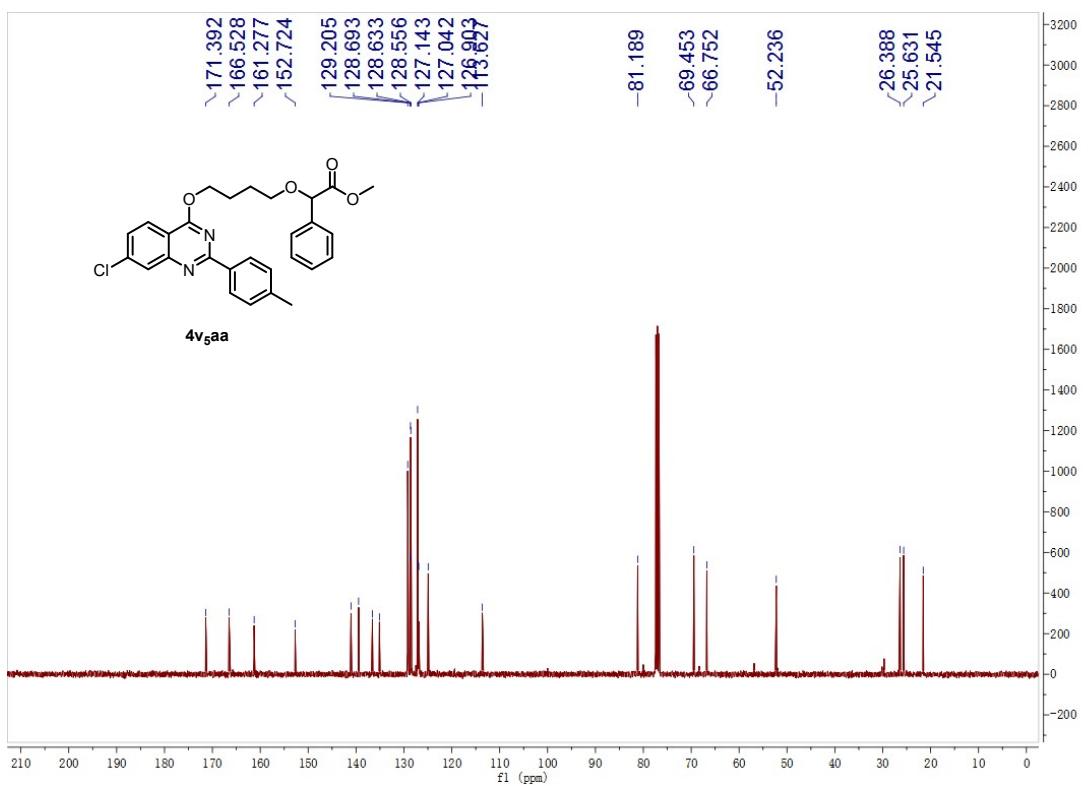
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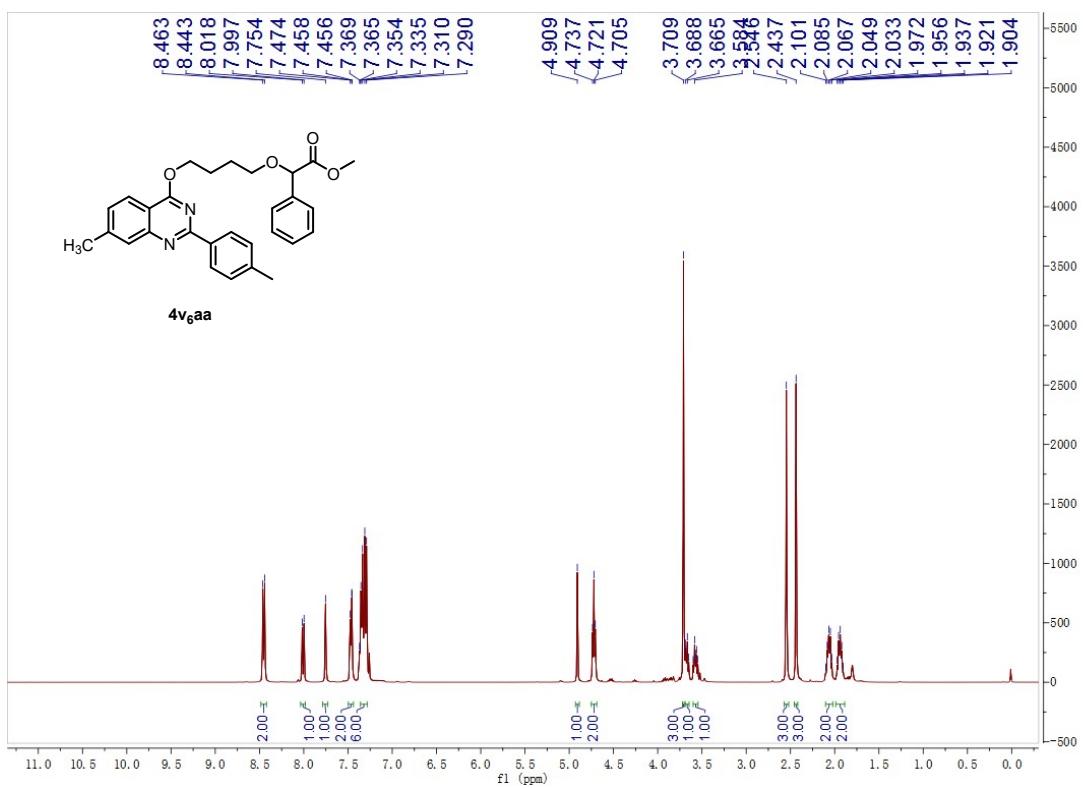
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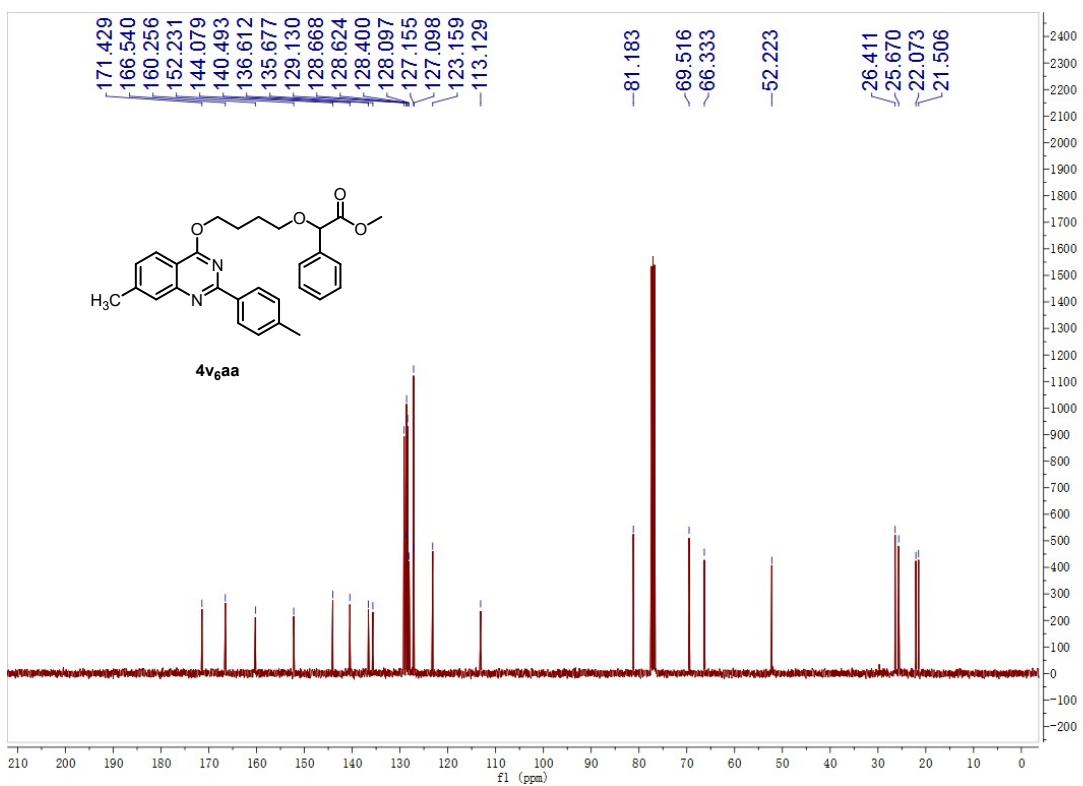
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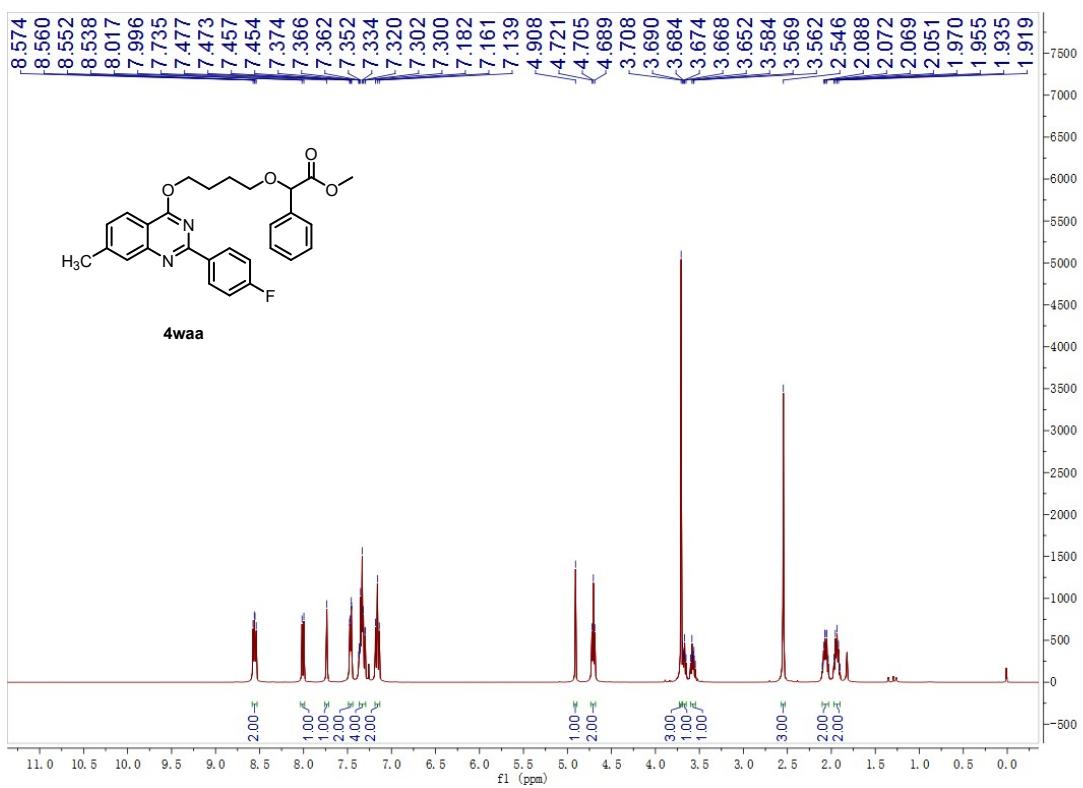
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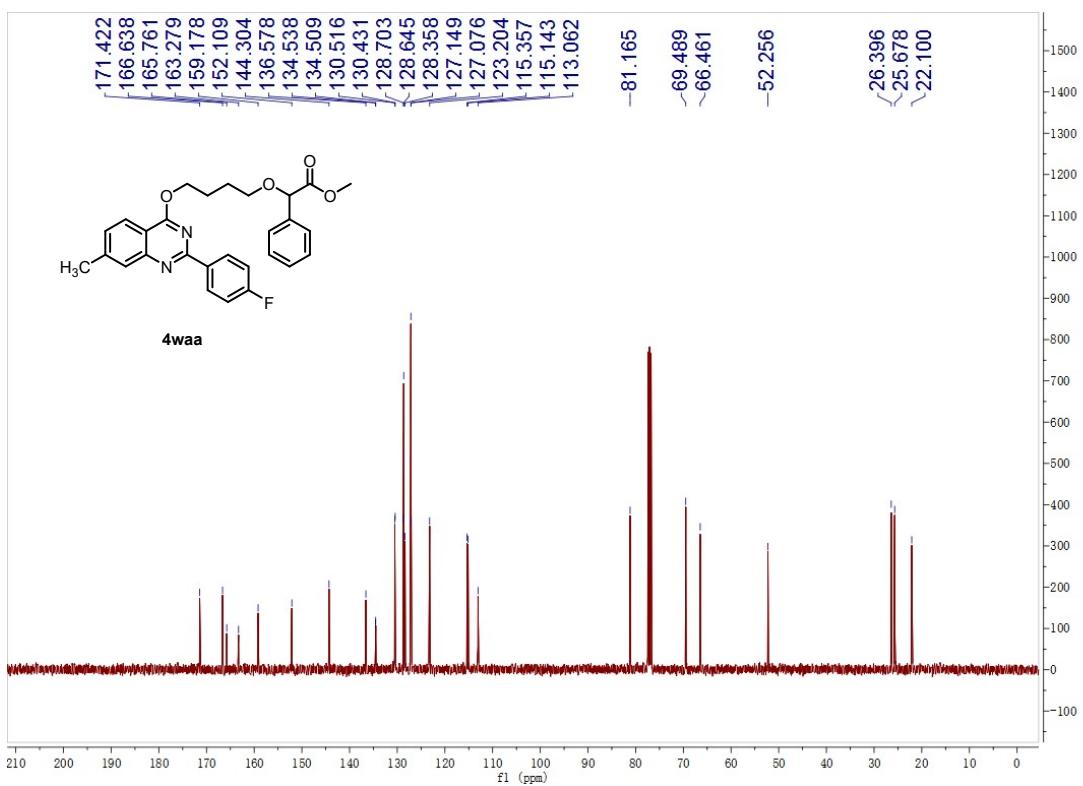
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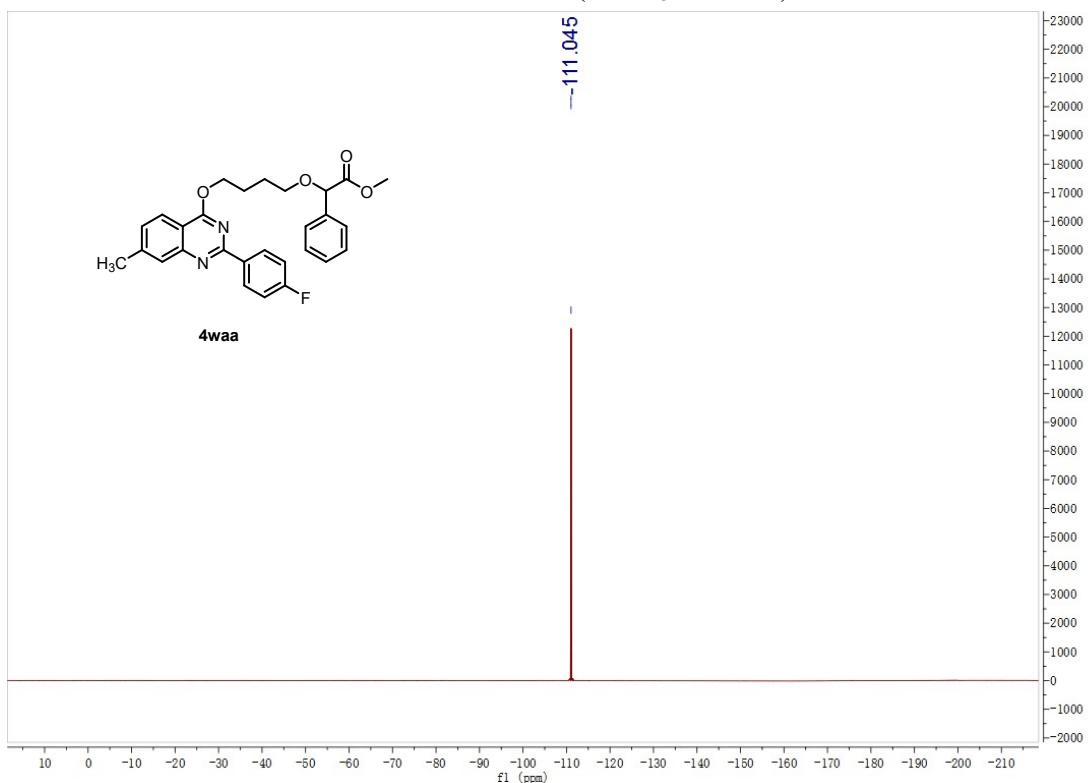
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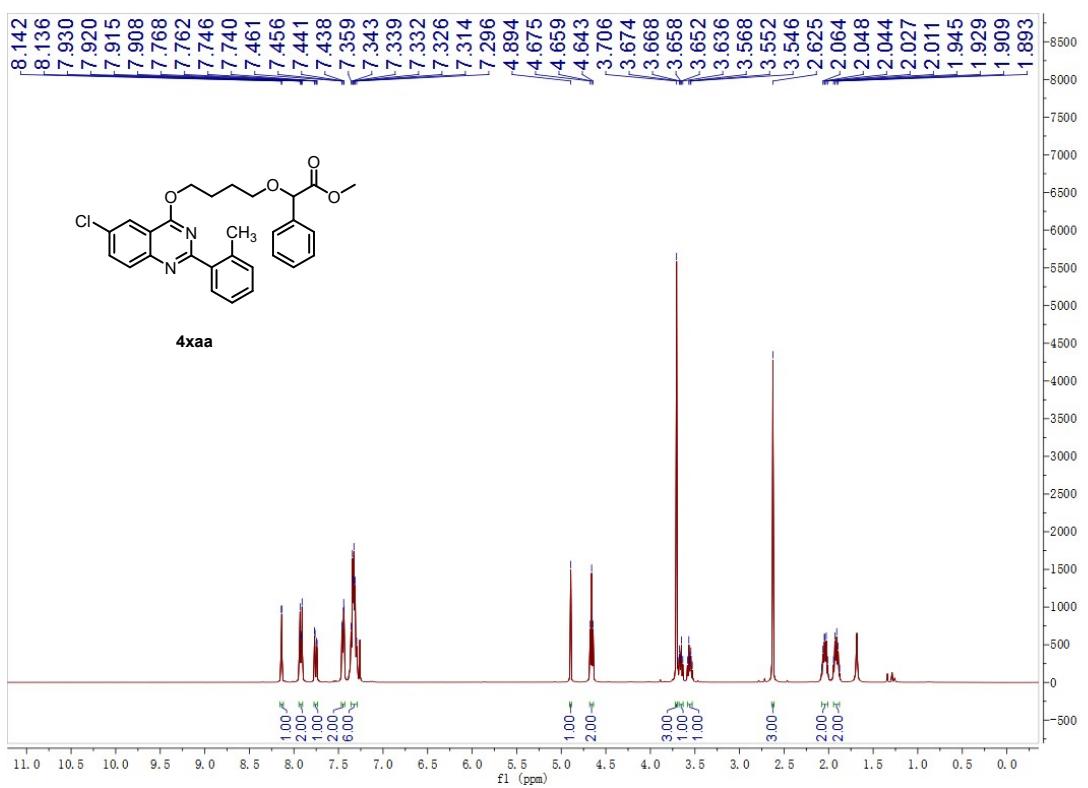
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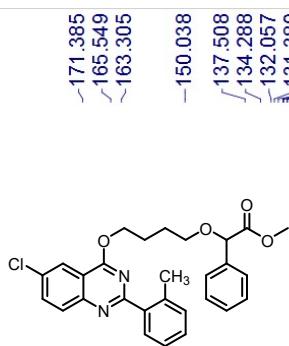
^{19}F-NMR of **4waa** (CDCl$_3$, 376 Hz)
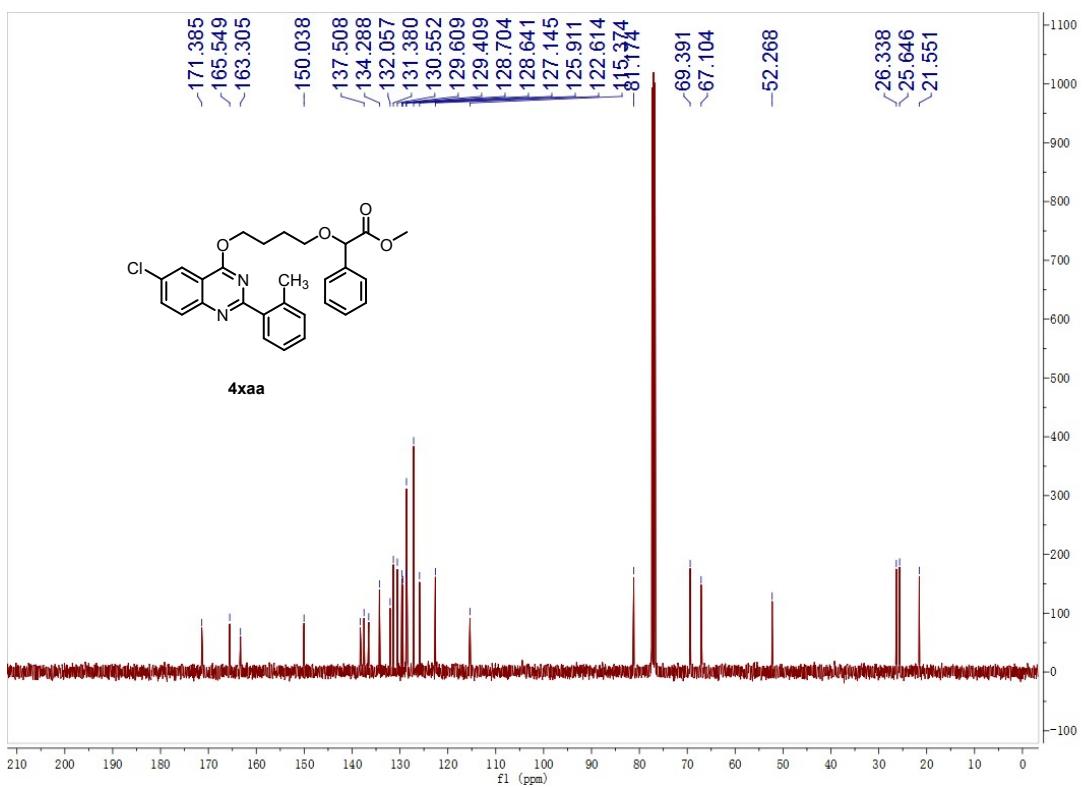
^{1}H-NMR of **4xaa** (CDCl$_3$, 400 Hz)

^{13}C-NMR of **4xaa** (CDCl$_3$, 100 Hz)
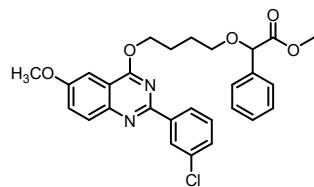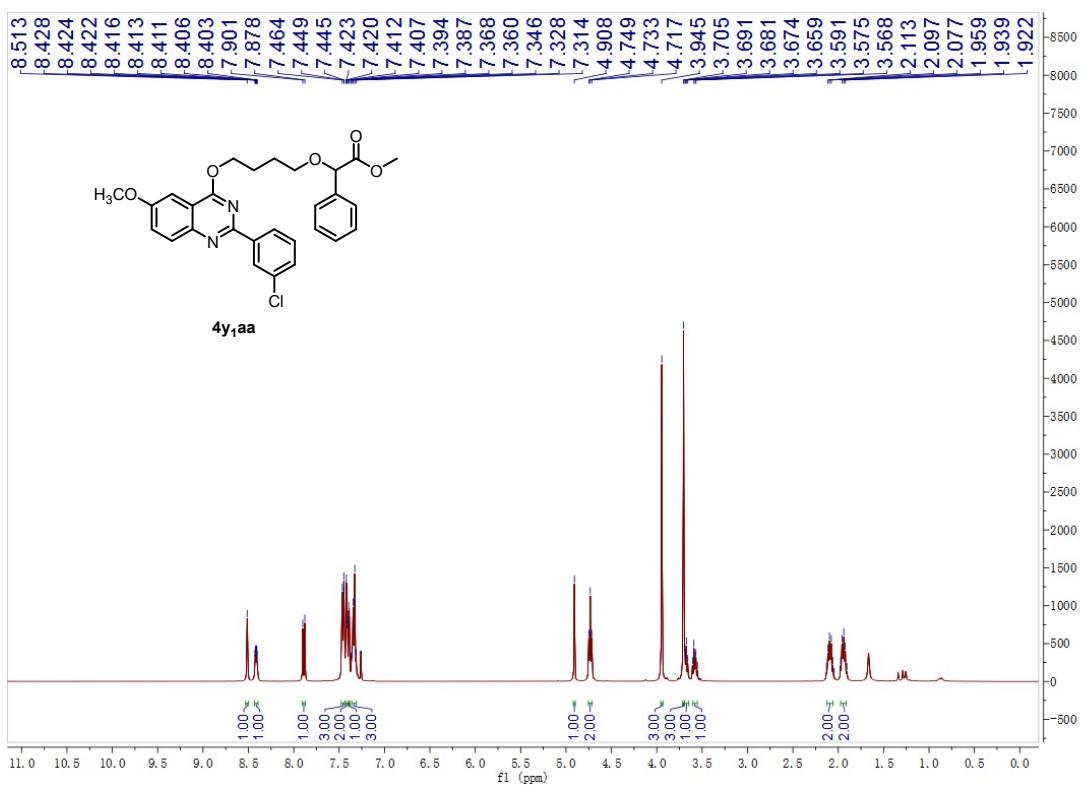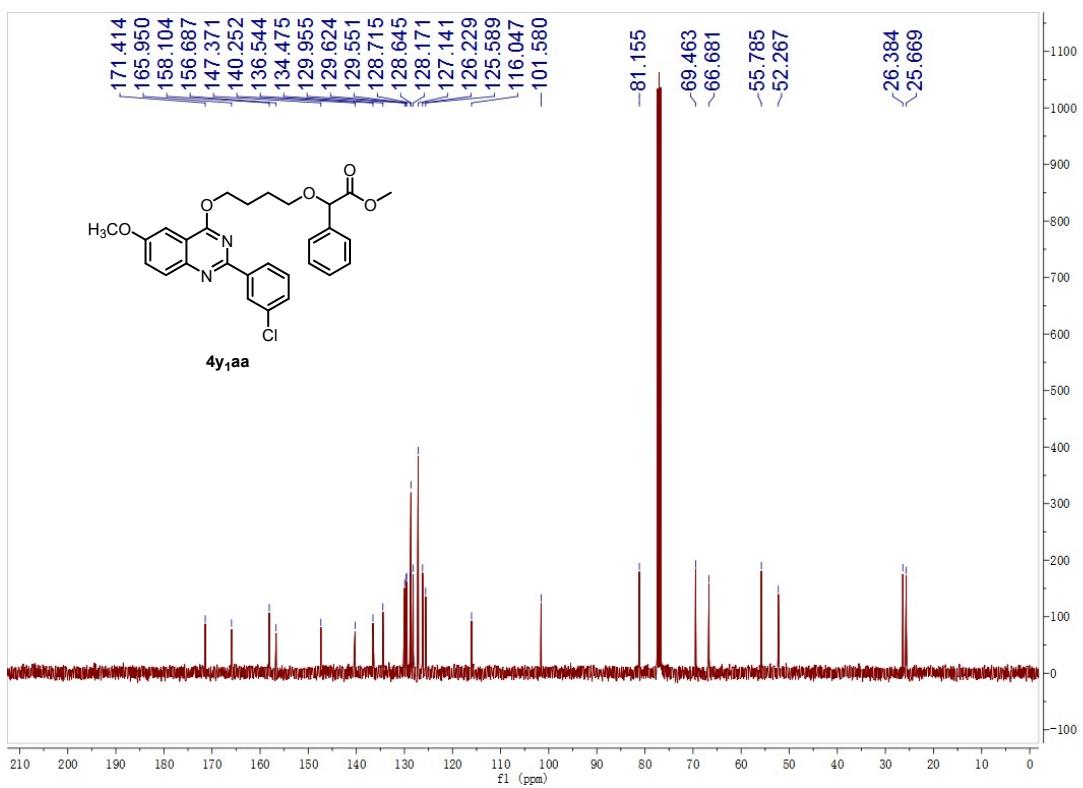
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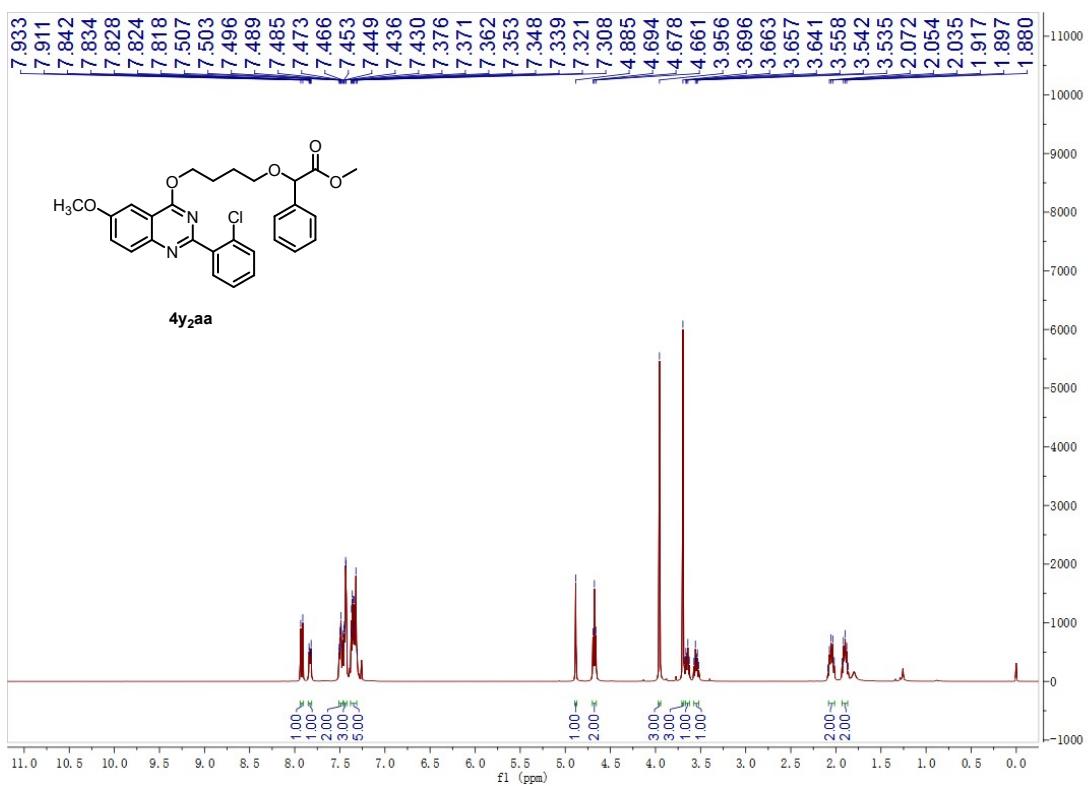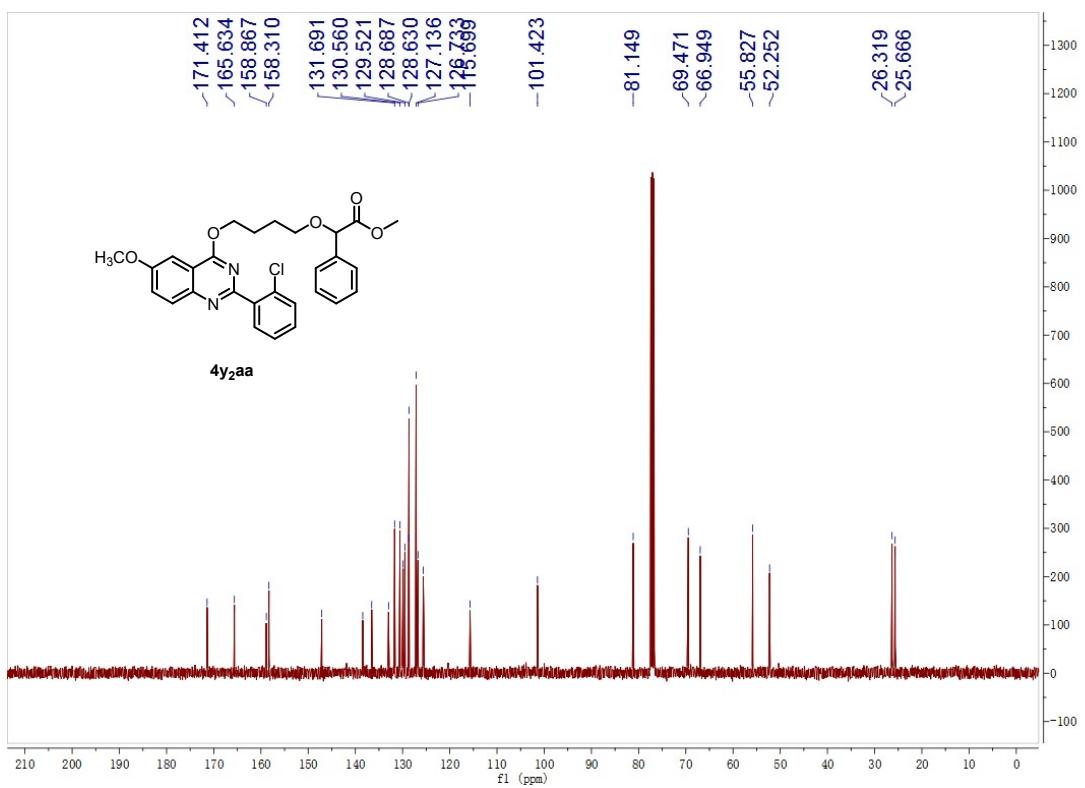
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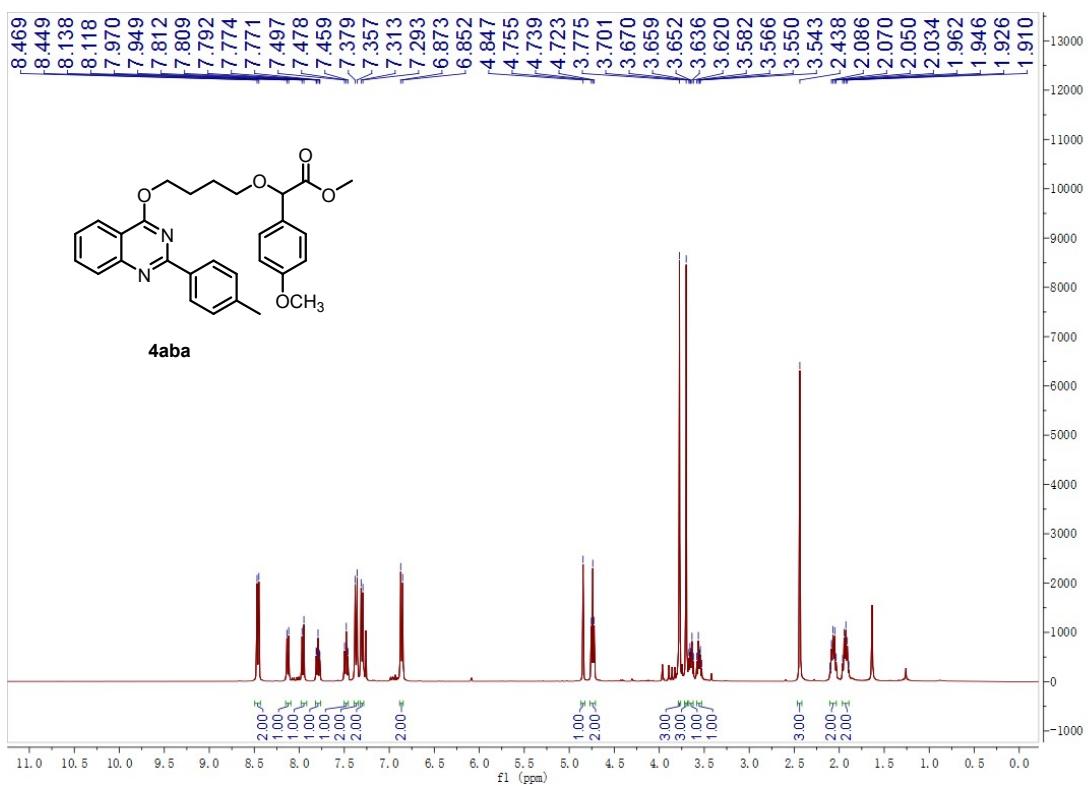
^{1}H-NMR of **4y$_2$aa** (CDCl$_3$, 400 Hz)
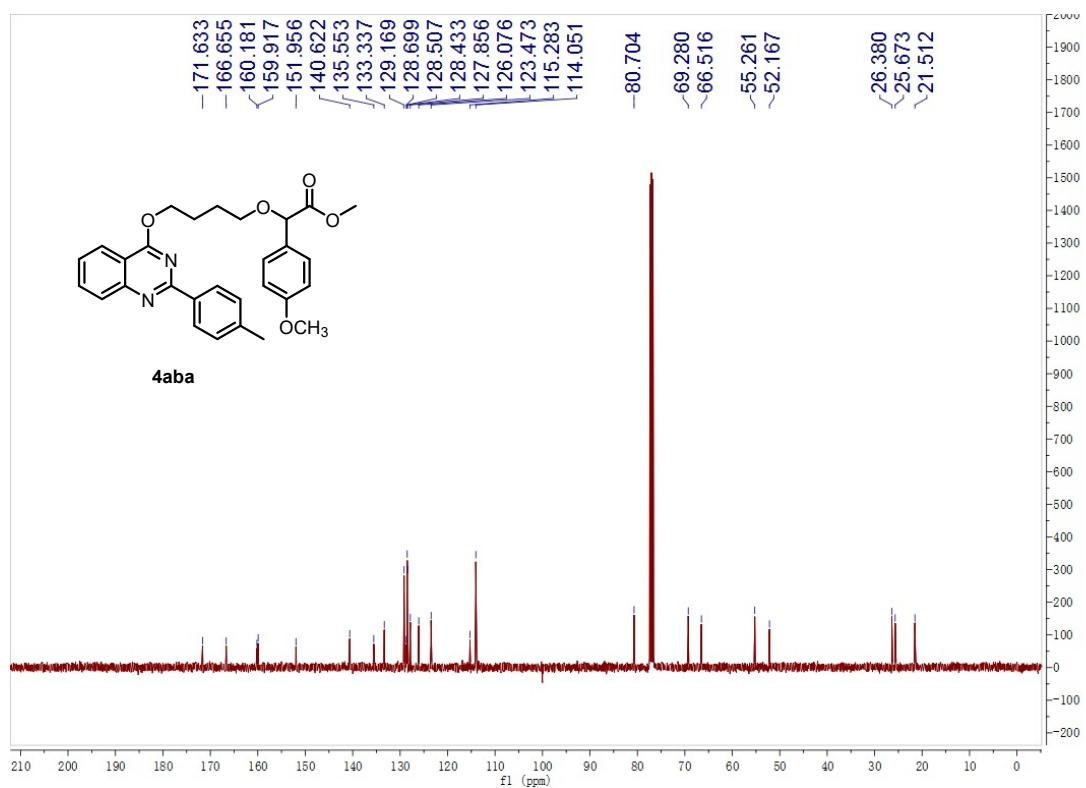
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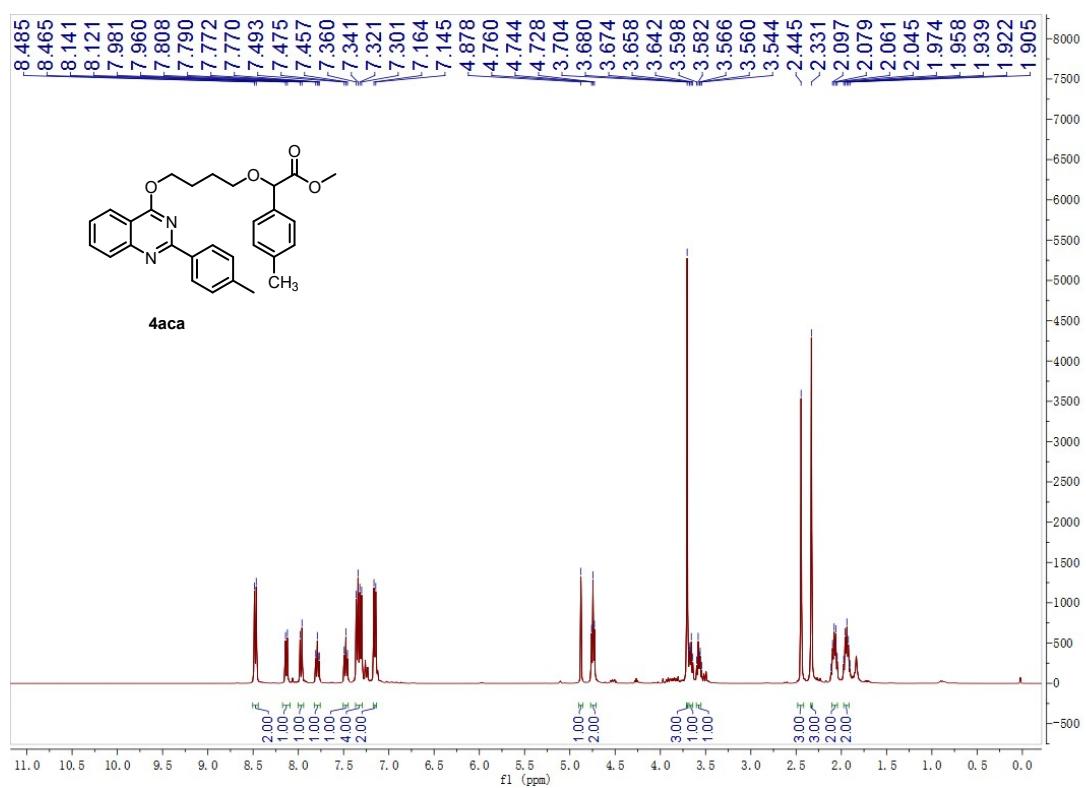
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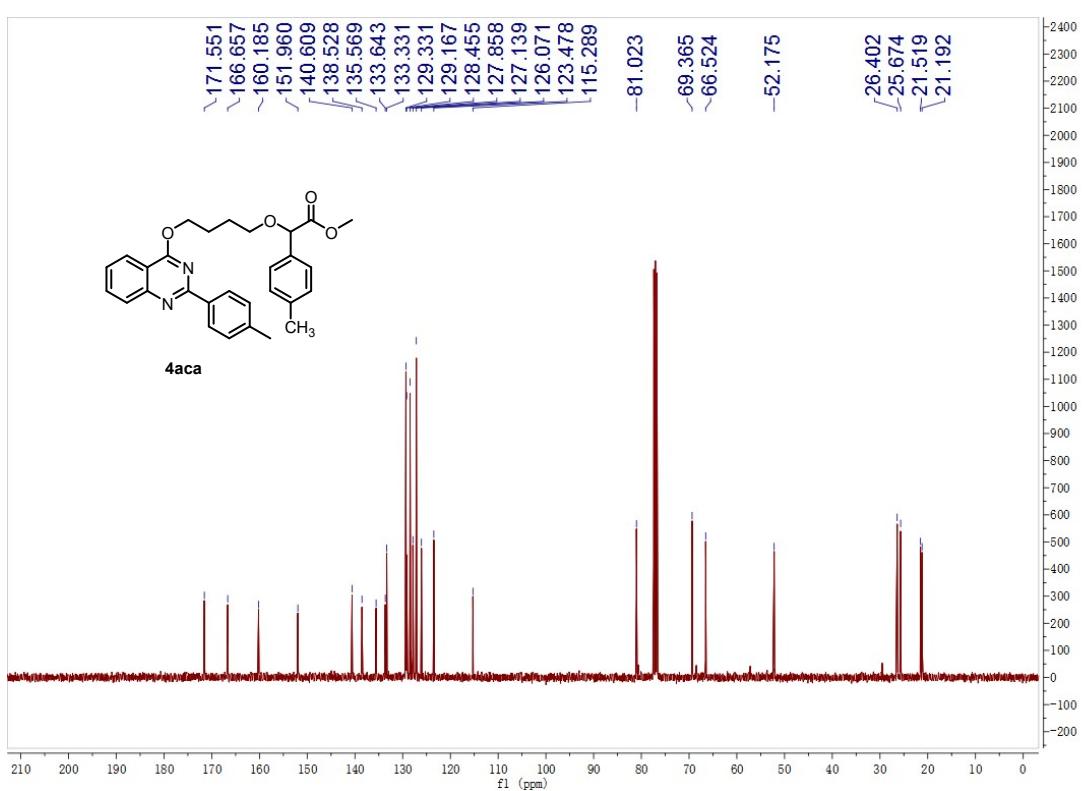
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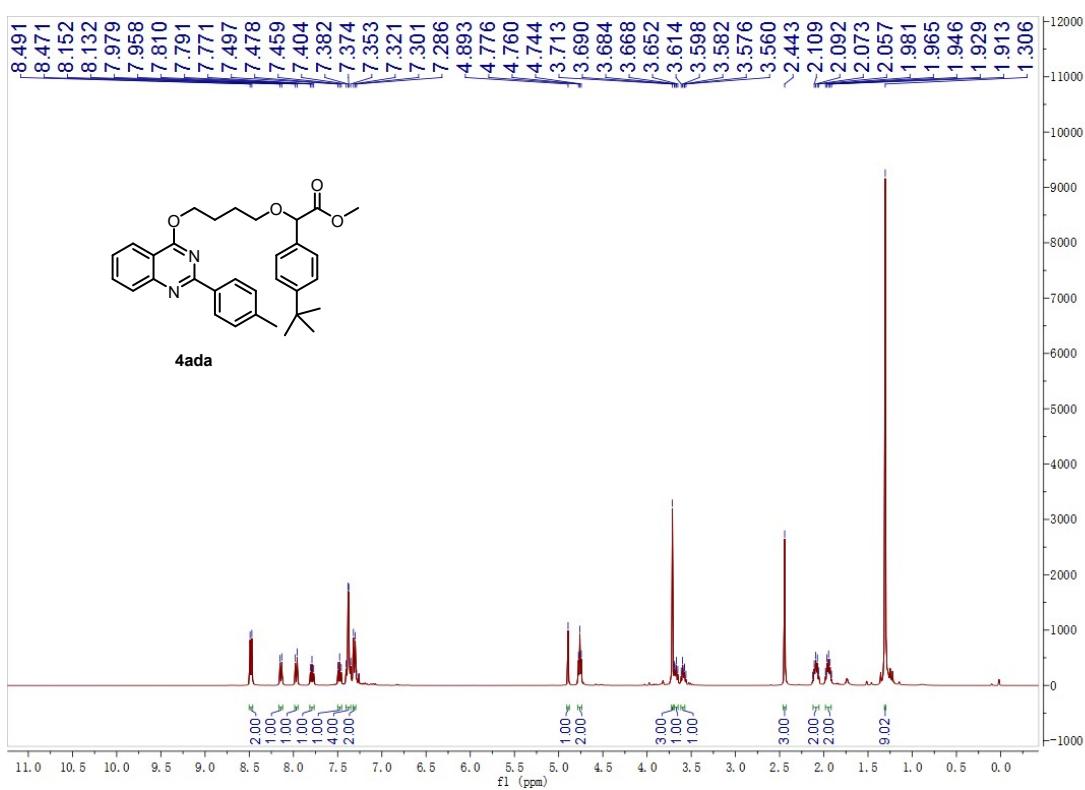
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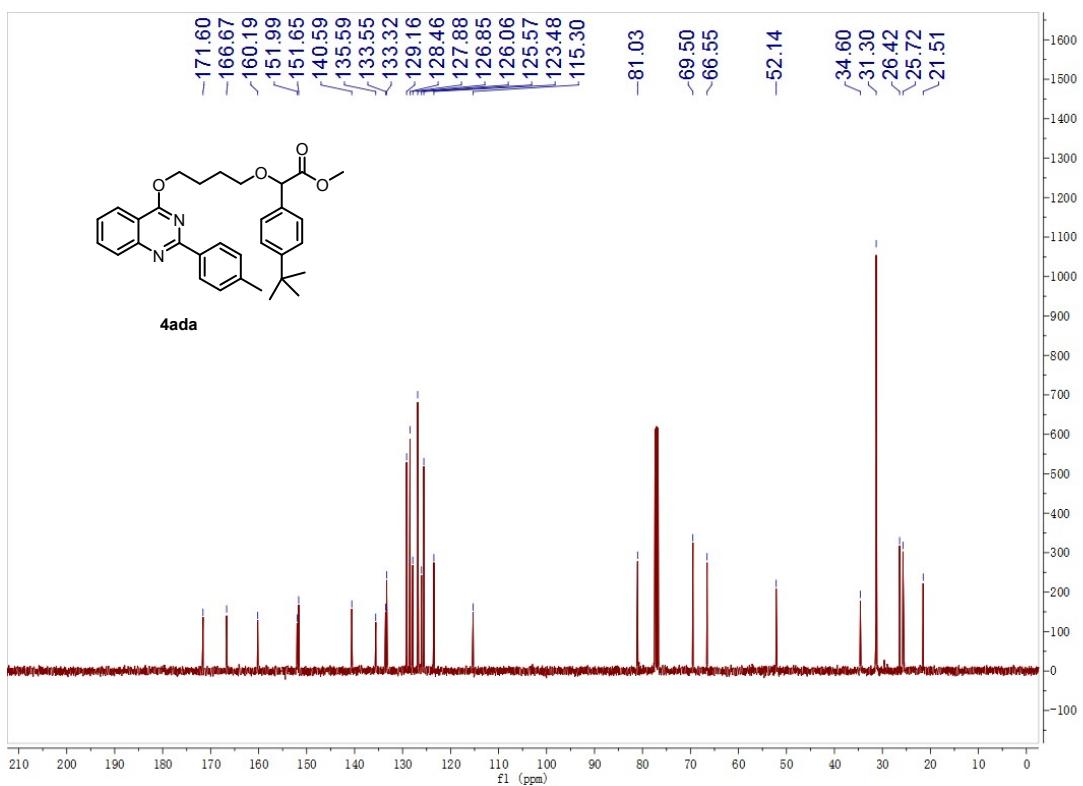
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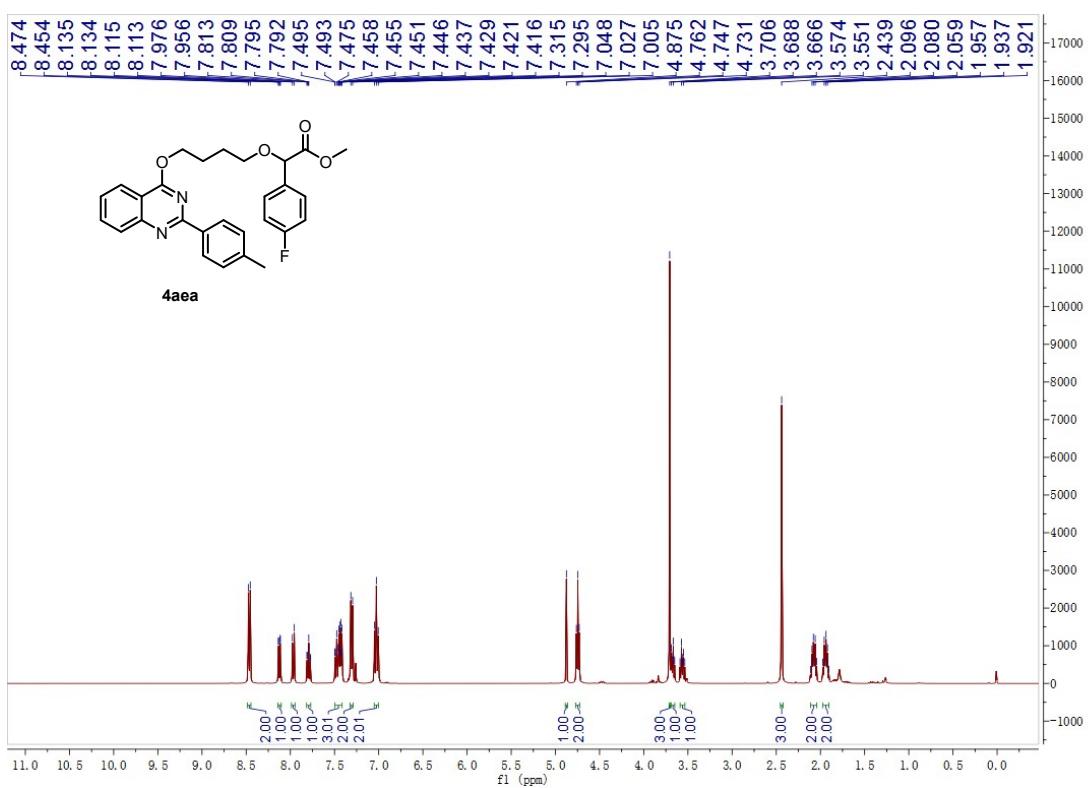
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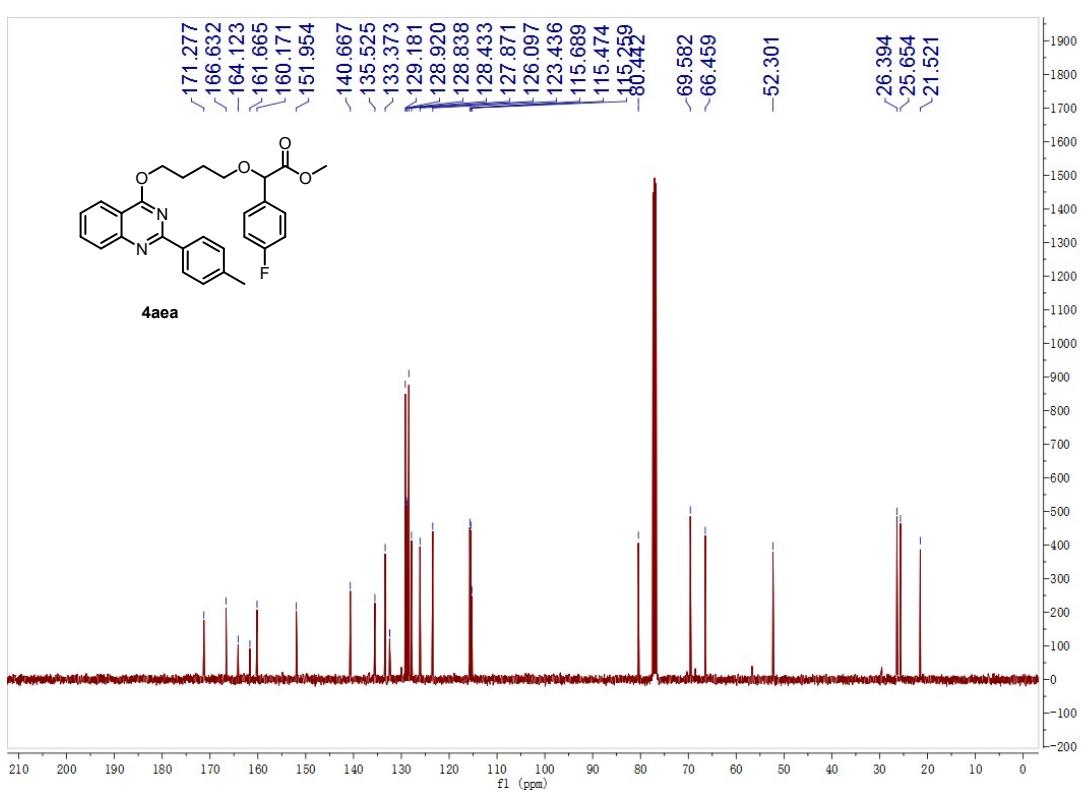
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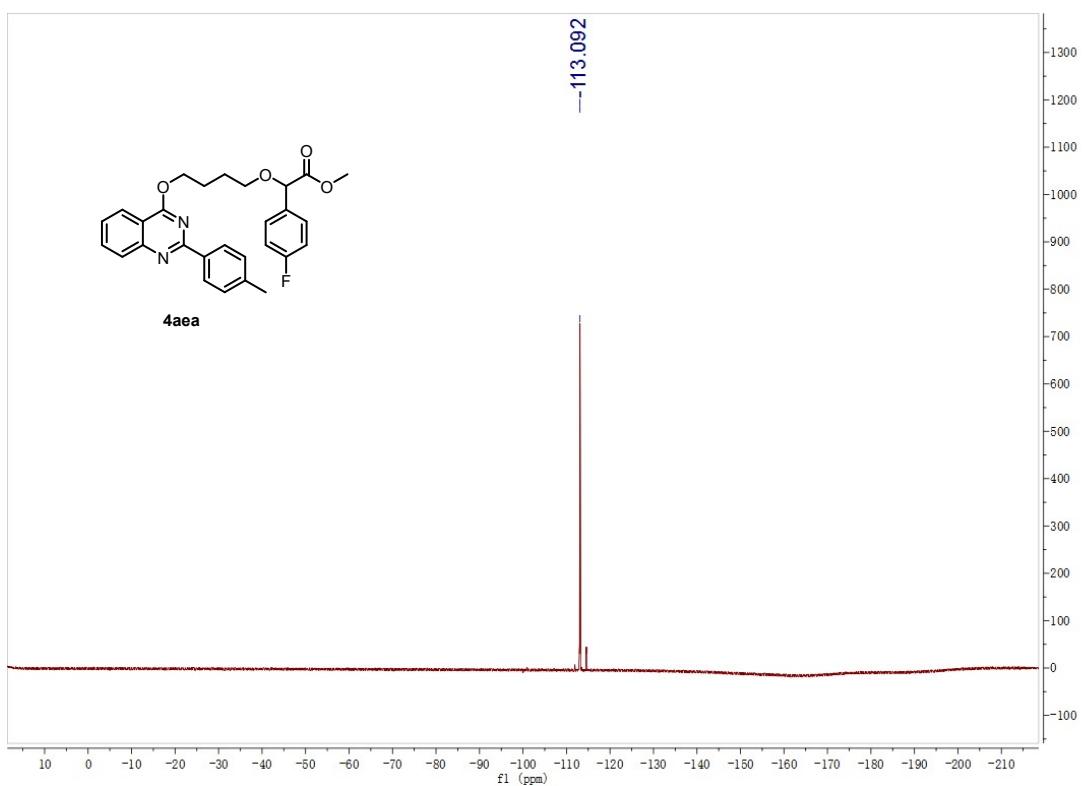
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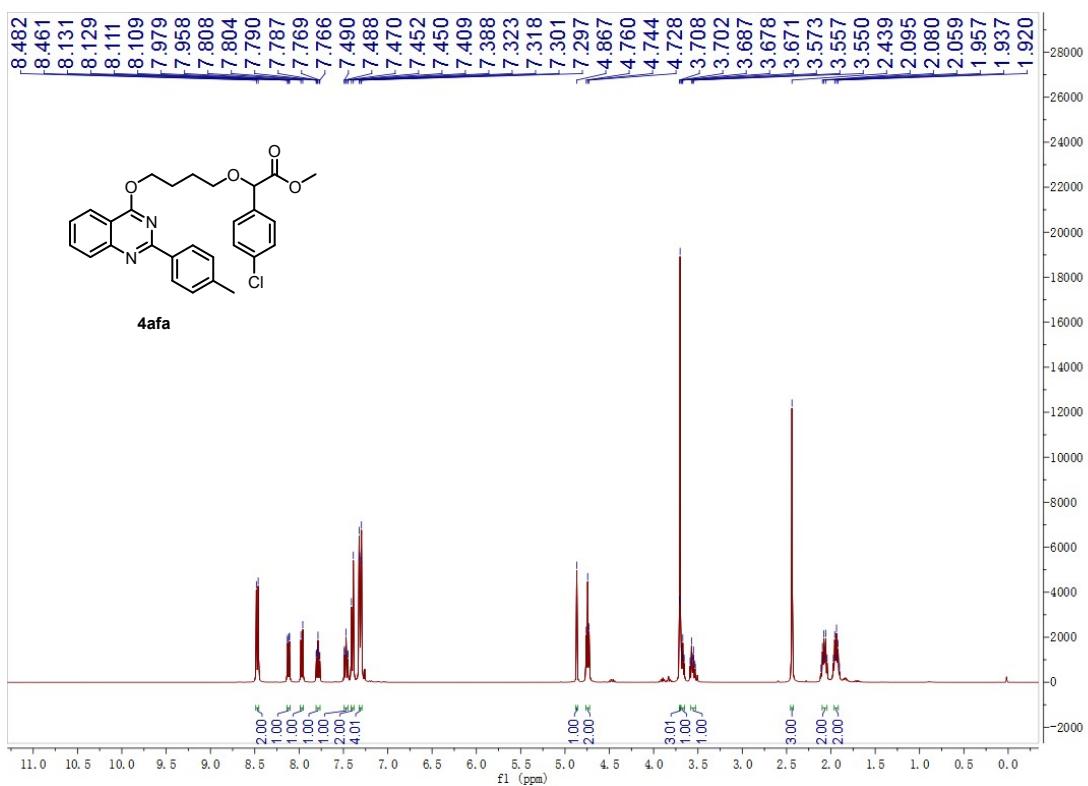
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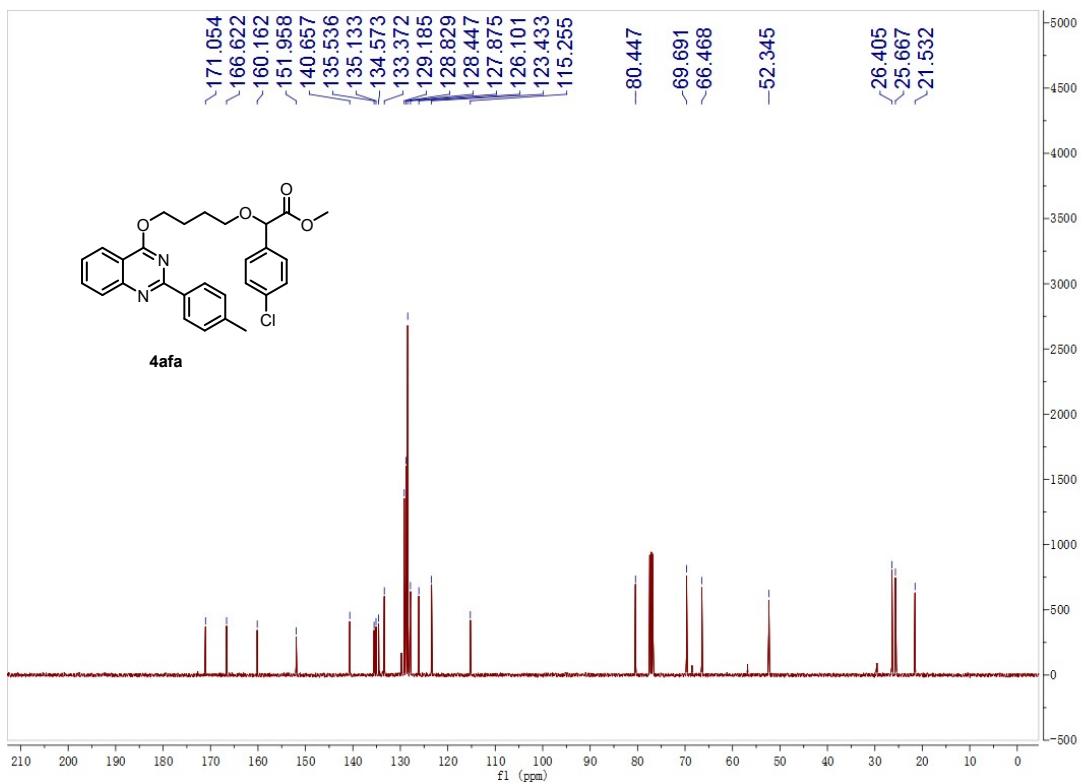
^{19}F-NMR of **4aea** (CDCl$_3$, 376 Hz)
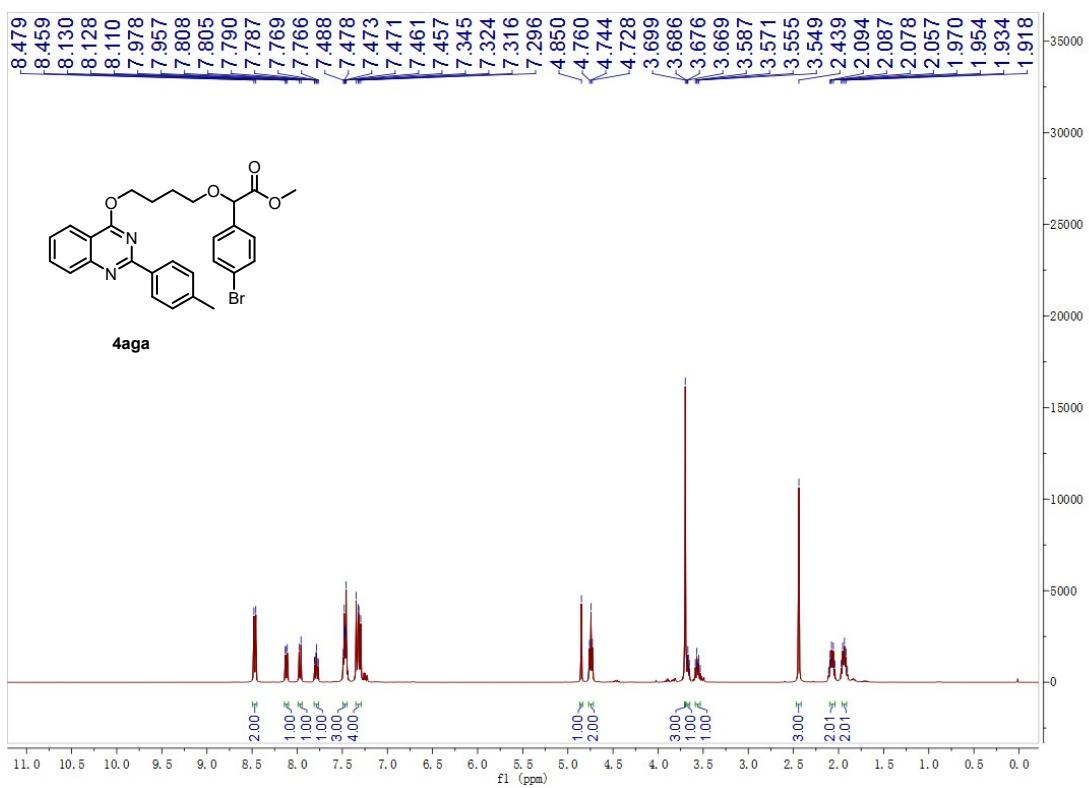
¹H-NMR of **4afa** (CDCl₃, 400 Hz)
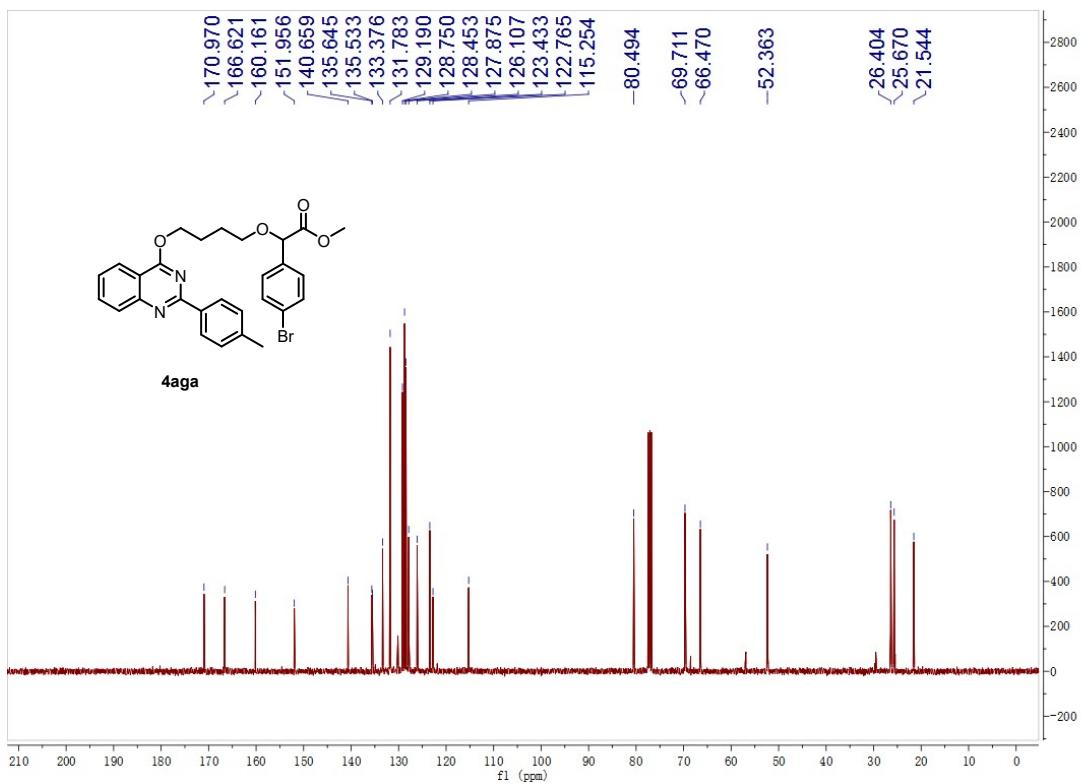

¹³C-NMR of **4afa** (CDCl₃, 100 Hz)
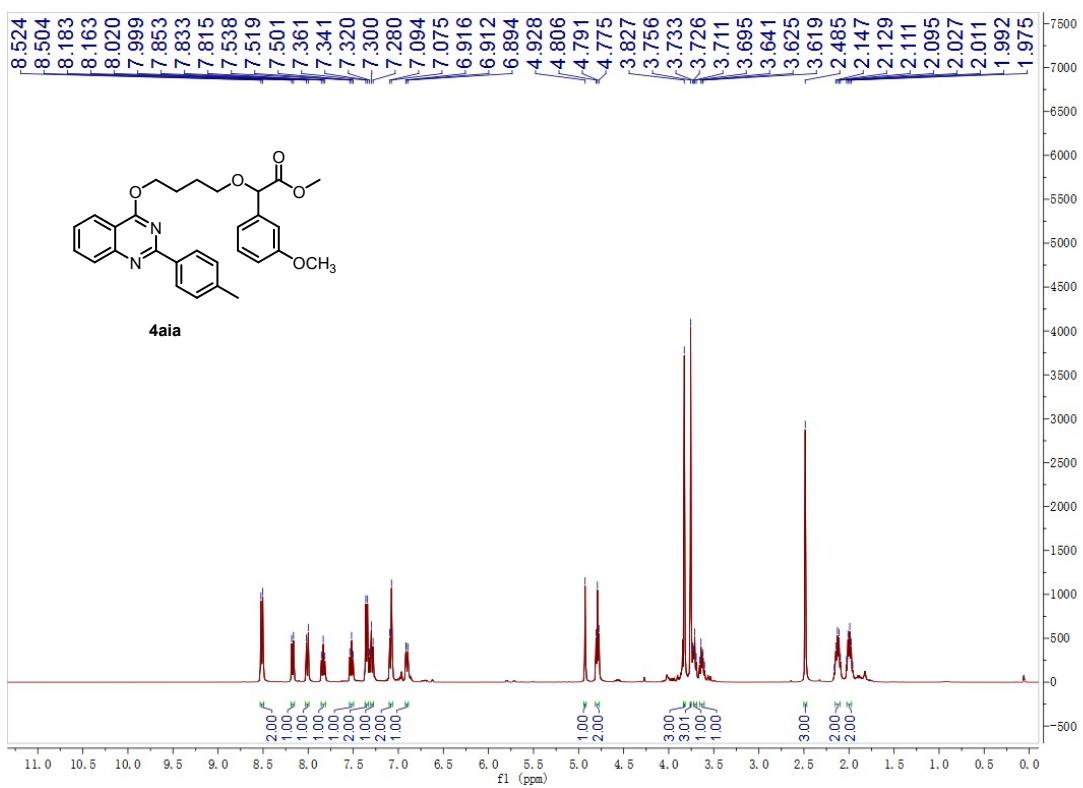
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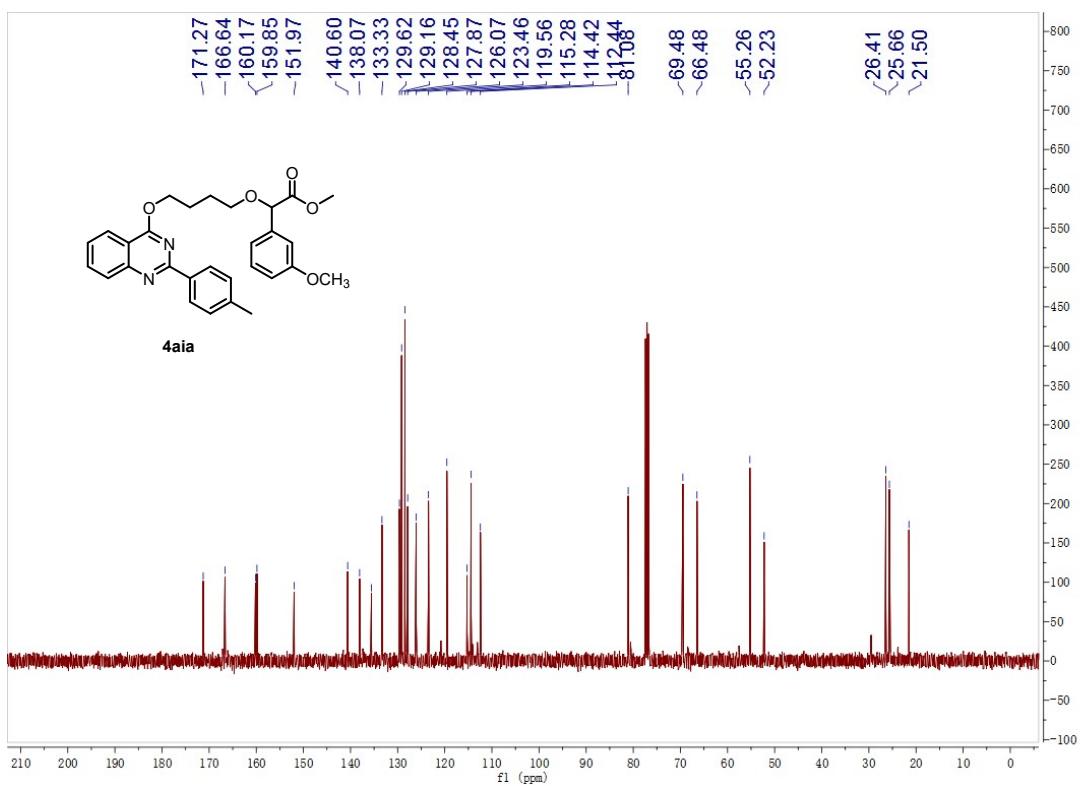
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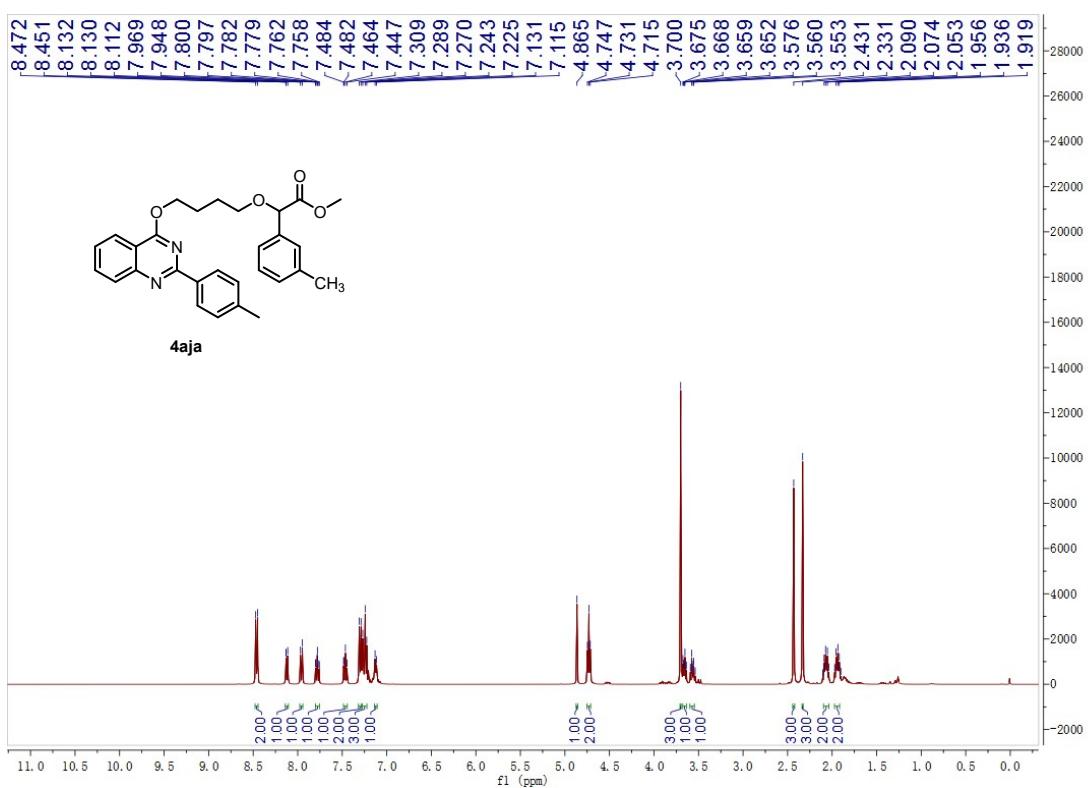
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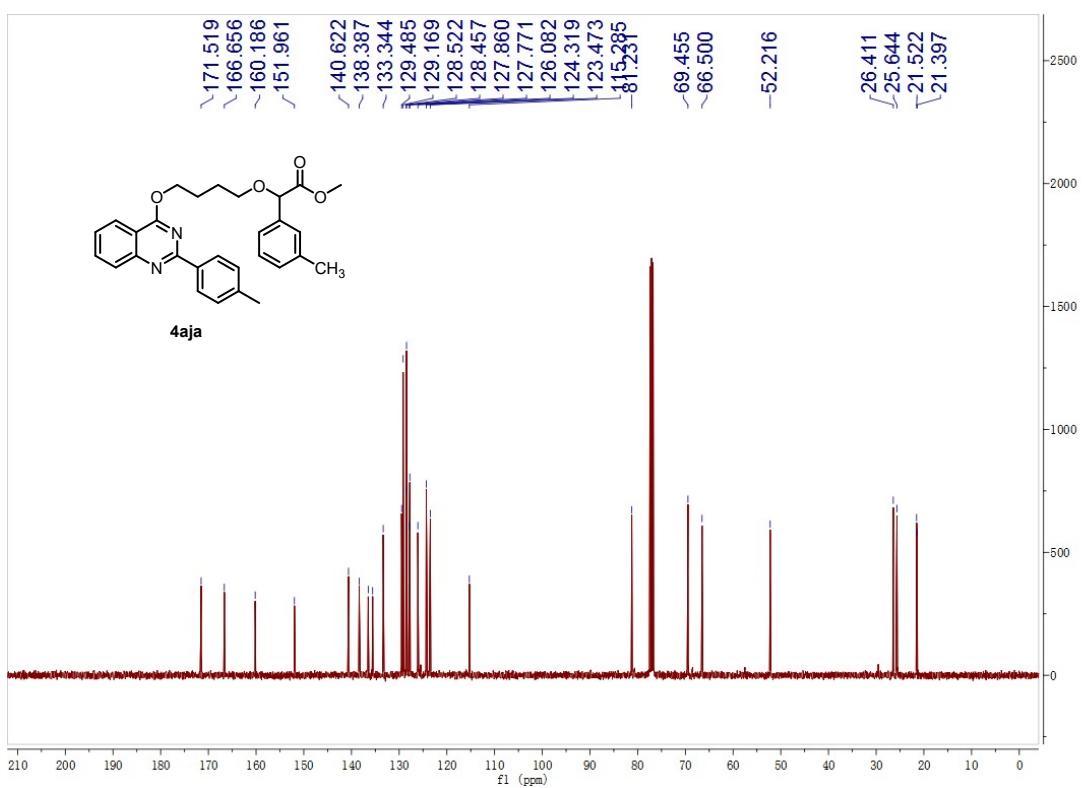
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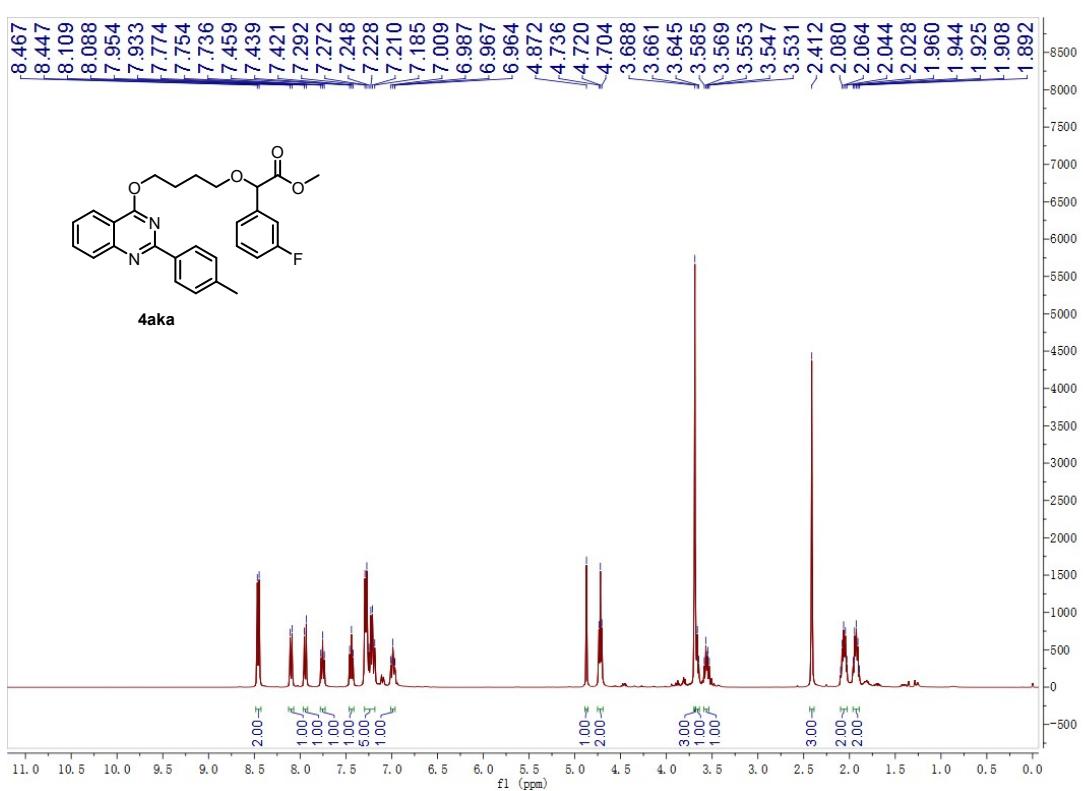
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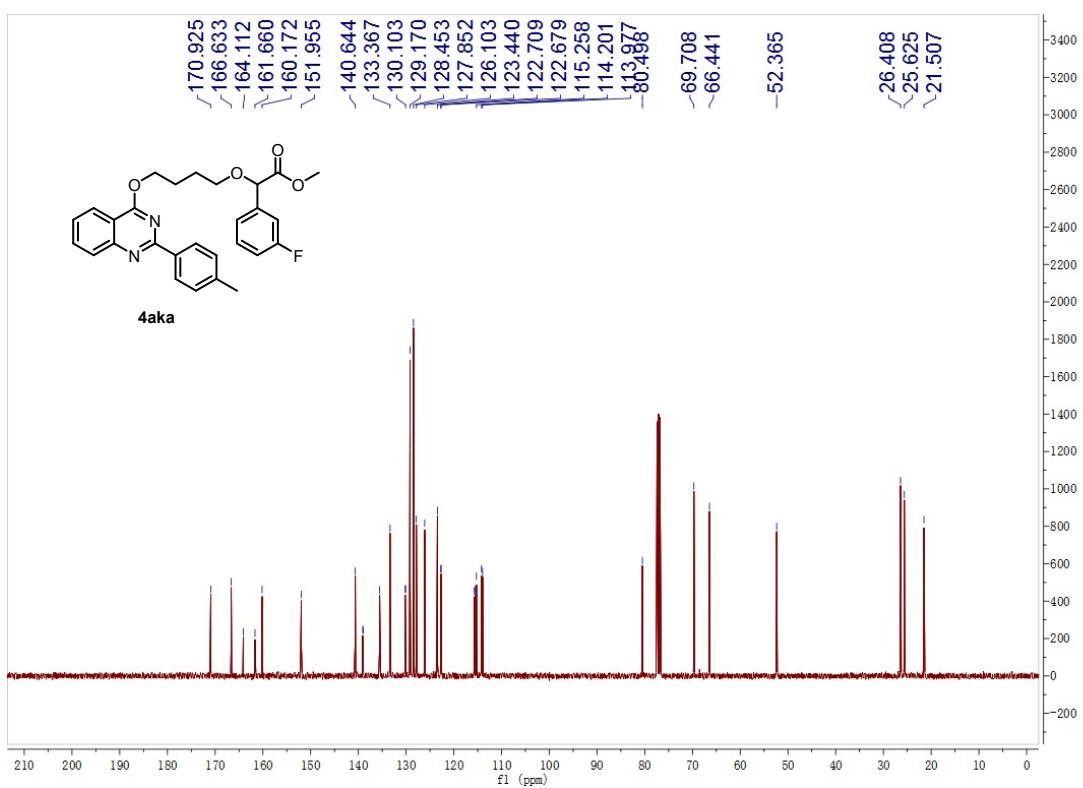
^{13}C-NMR of **4aja** (CDCl$_3$, 100 Hz)

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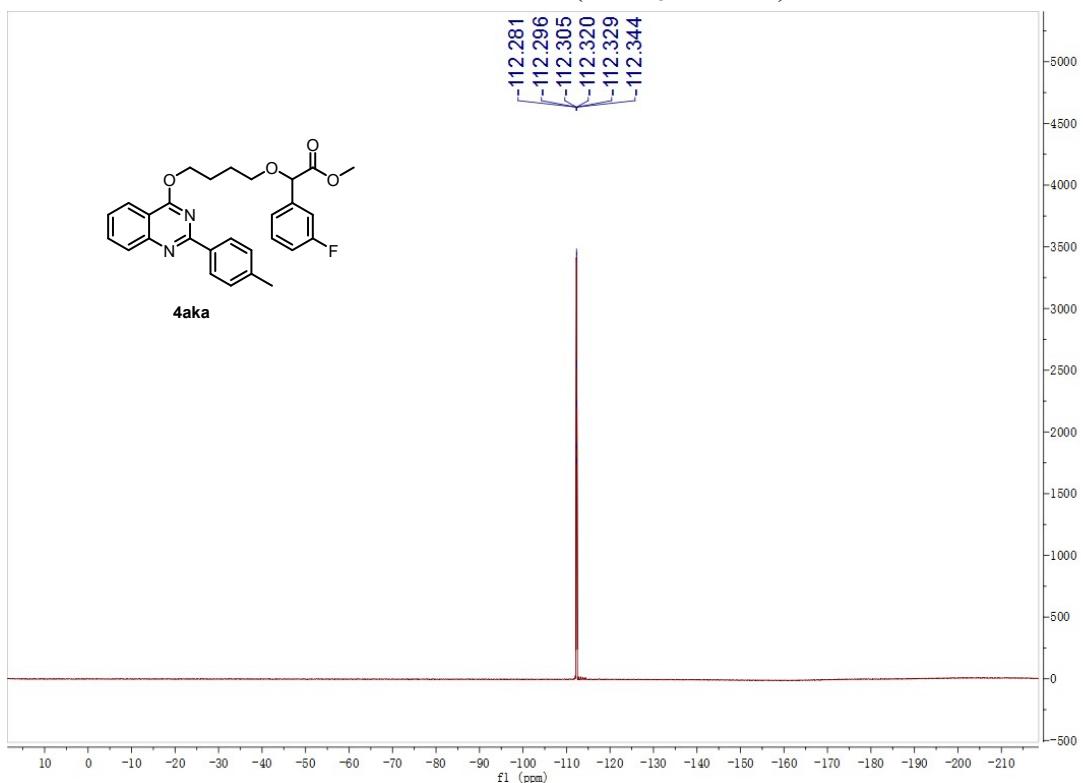
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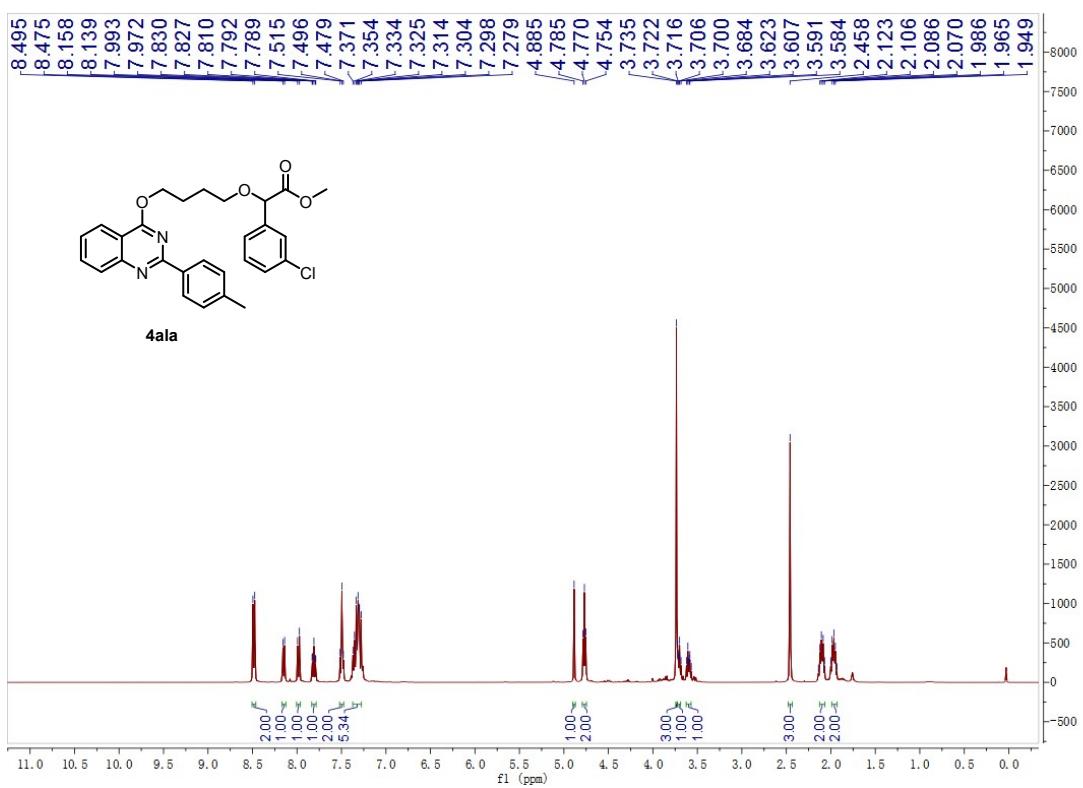
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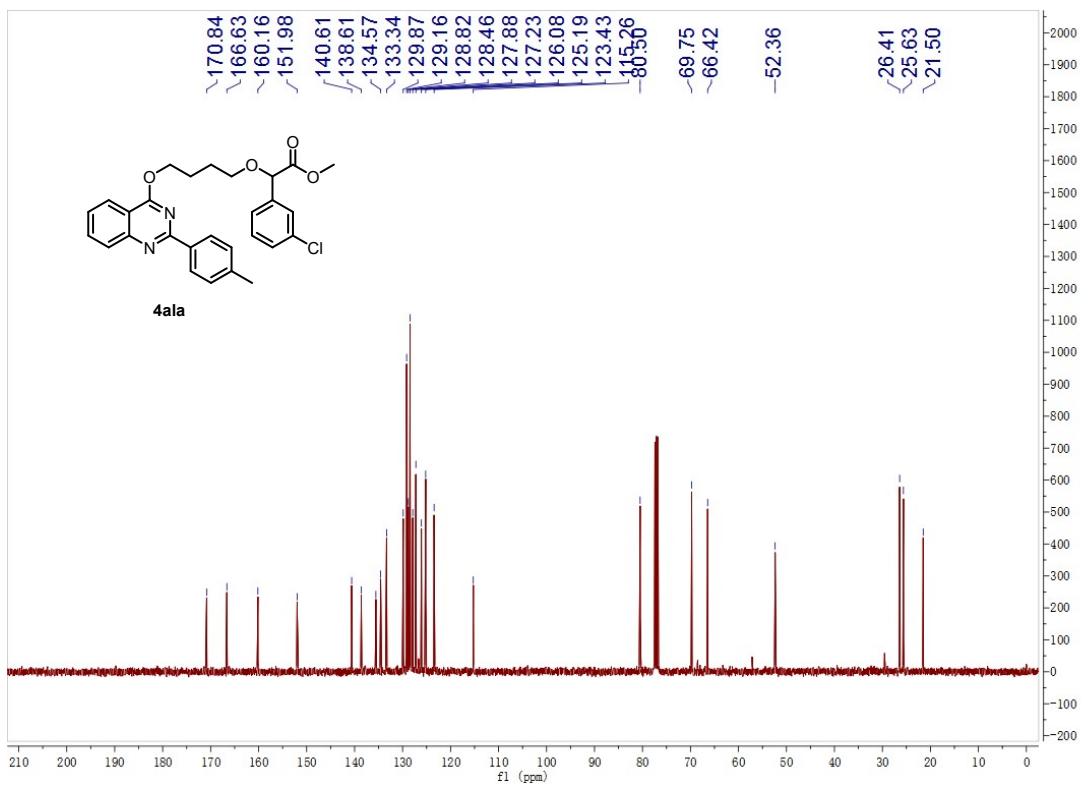
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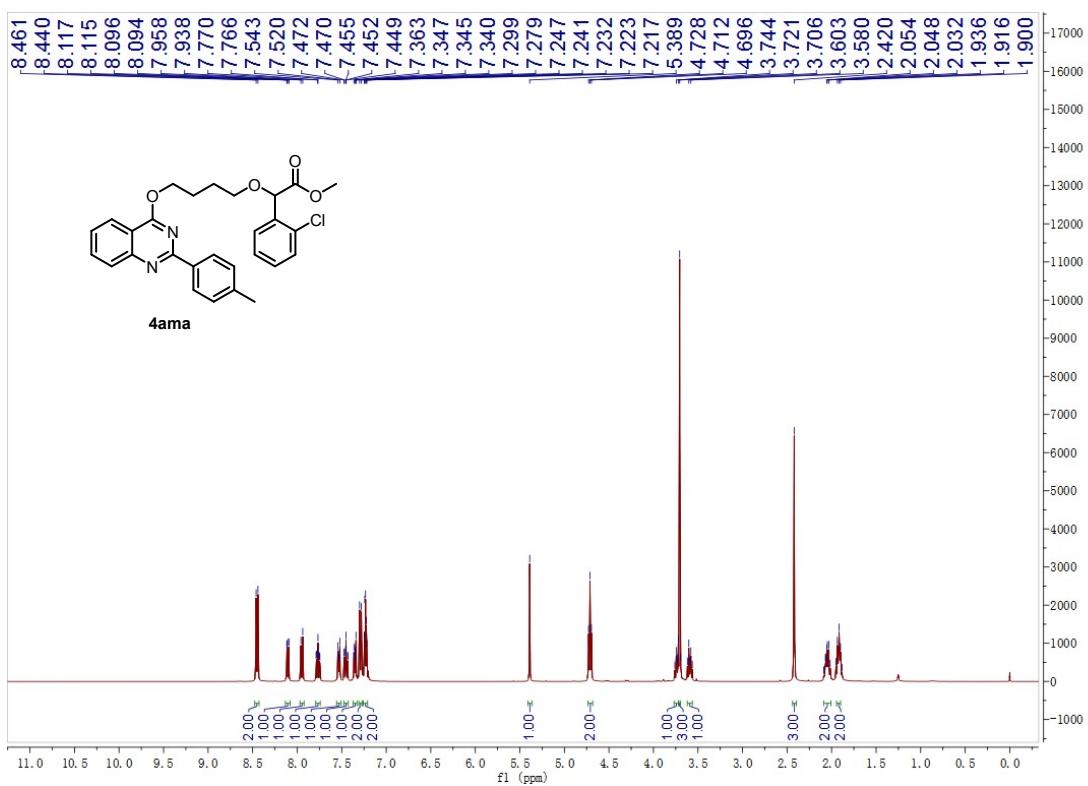
^{1}H-NMR of **4ala** (CDCl$_3$, 400 Hz)
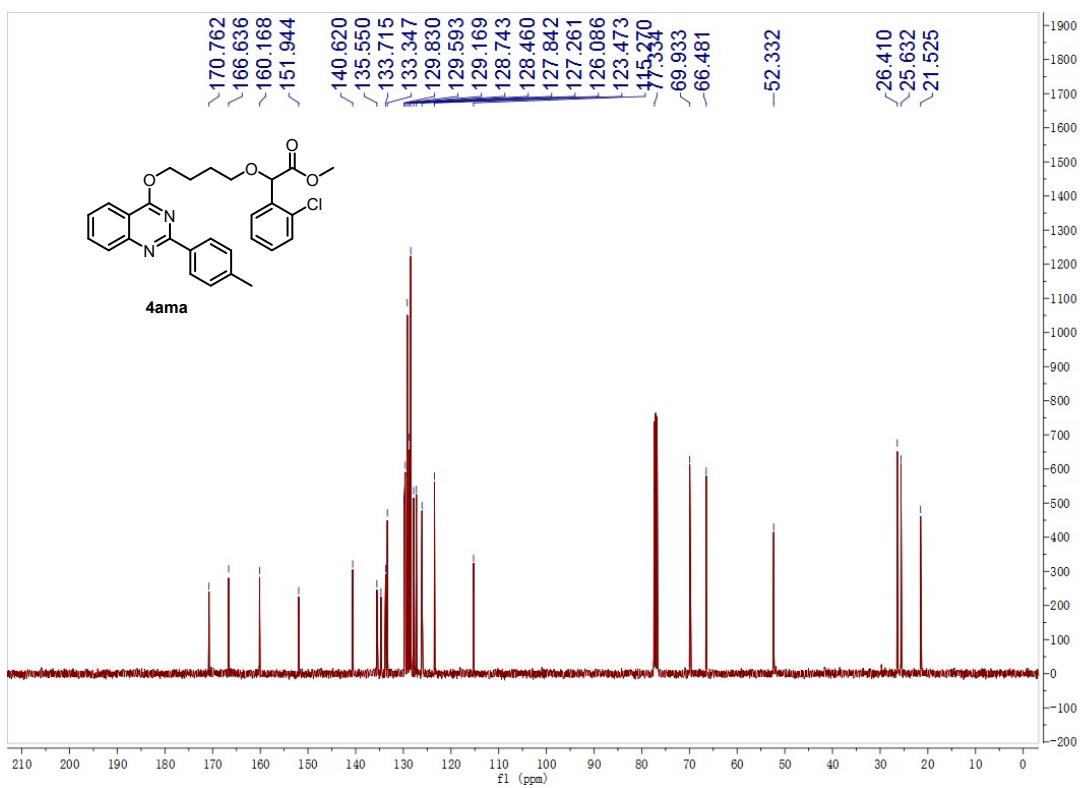
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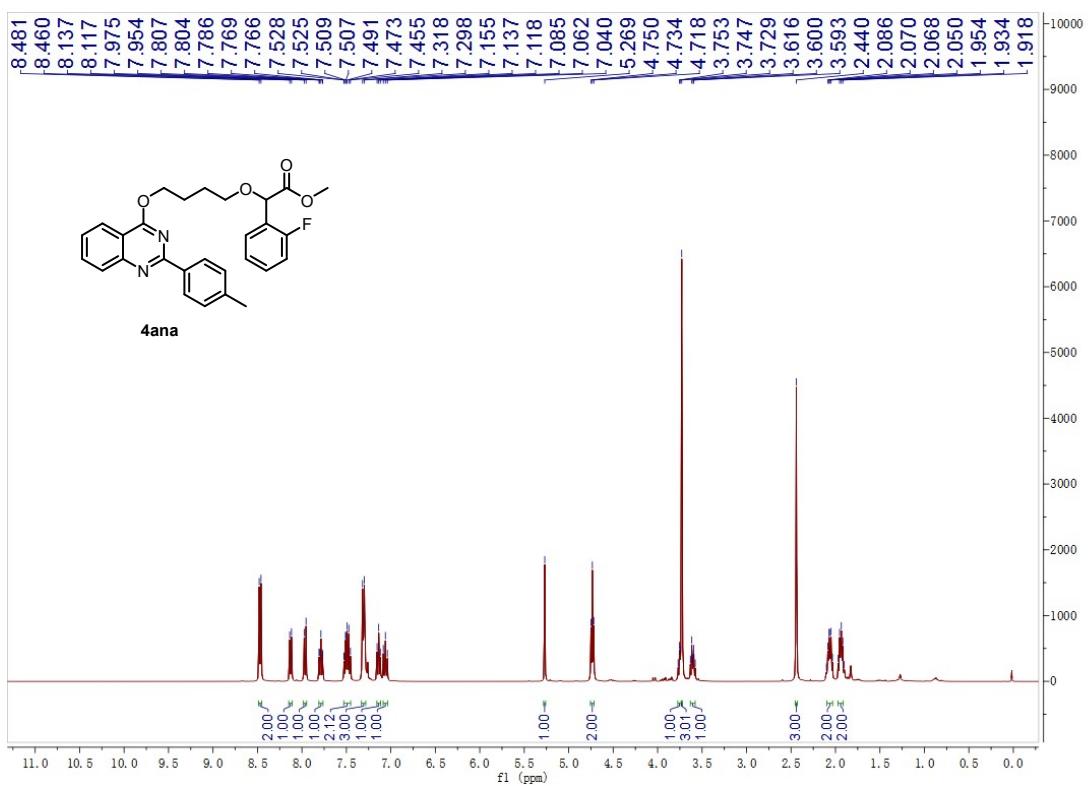
^{1}H-NMR of **4ama** (CDCl$_3$, 400 Hz)
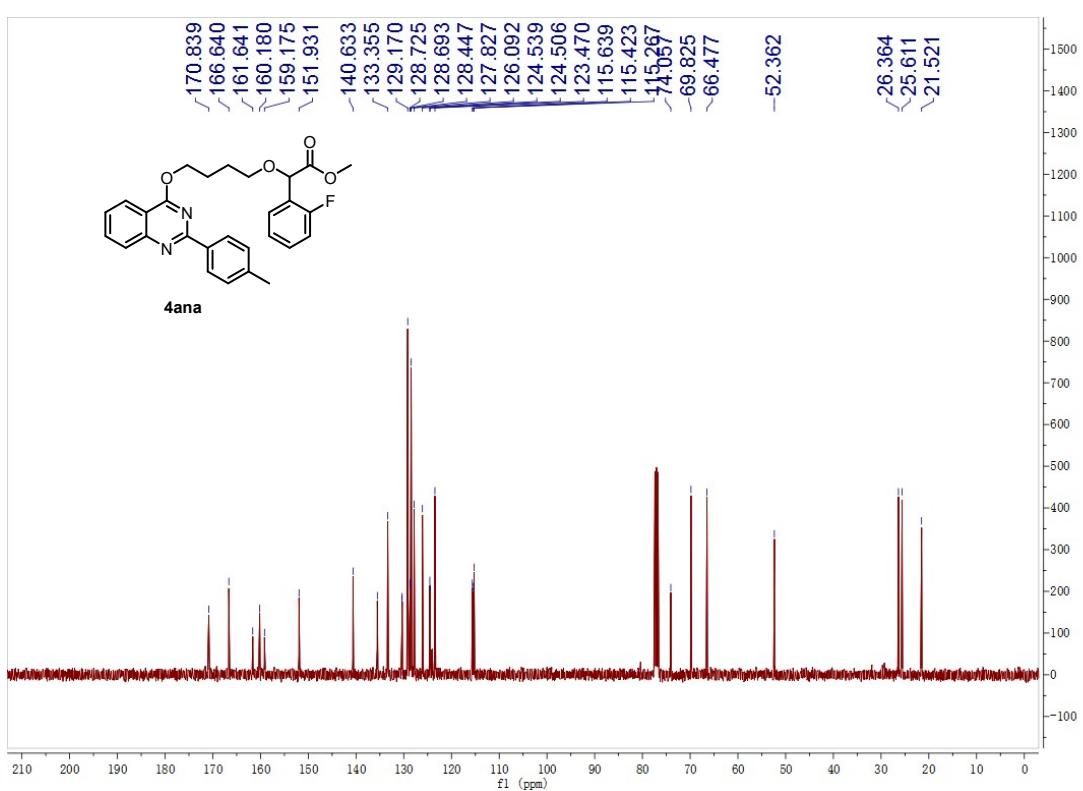
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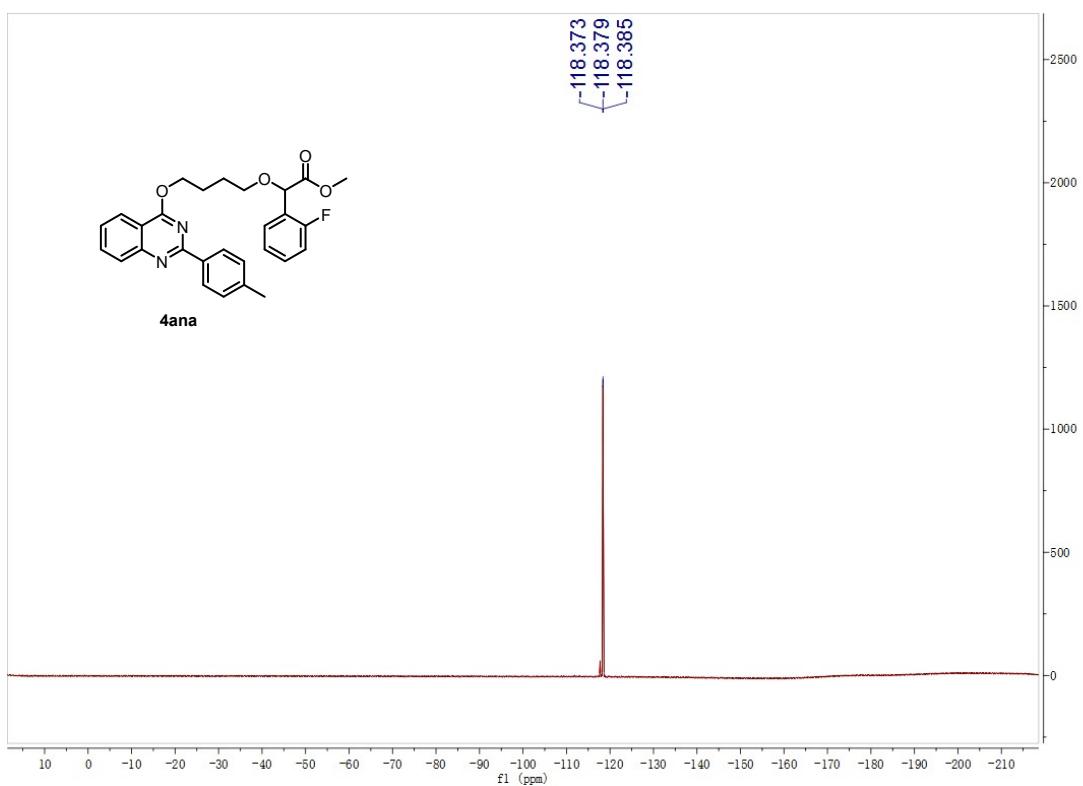
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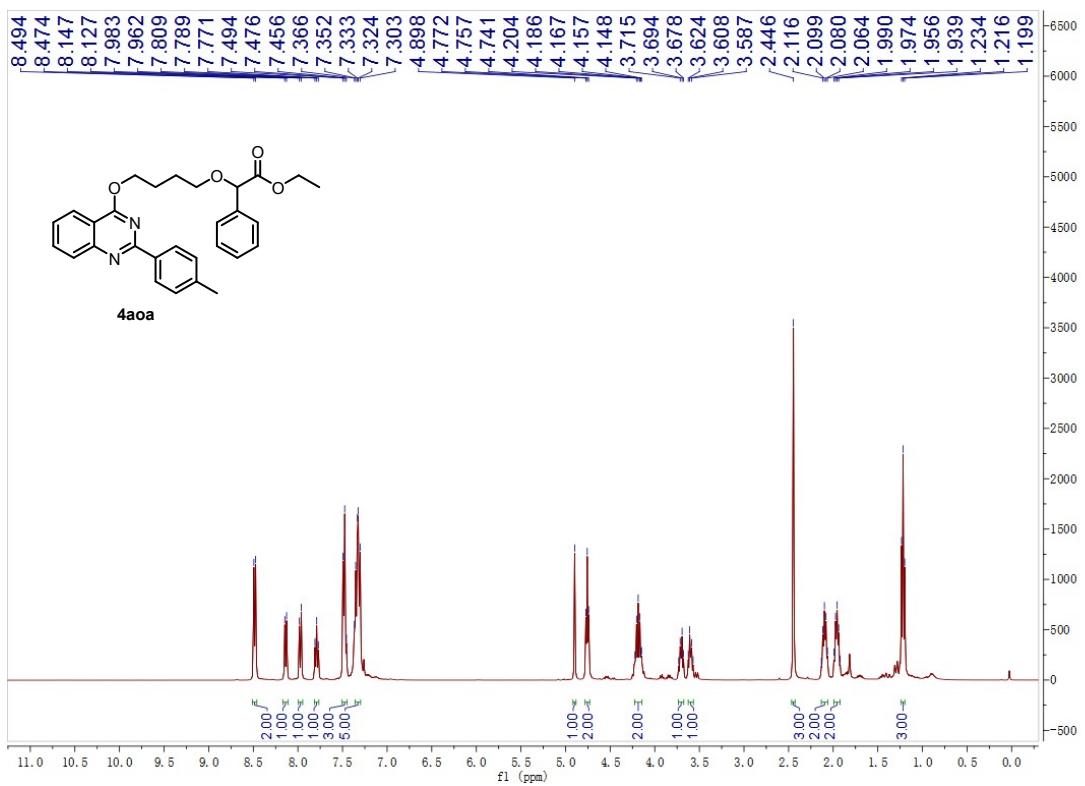
^{13}C-NMR of **4ana** (CDCl$_3$, 100 Hz)

170.839
166.640
161.641
160.180
159.175
151.931
140.633
133.355
129.170
128.725
128.693
128.447
127.827
126.092
124.539
124.506
123.470
115.639
115.423
75.297
74.057
69.825
66.477
52.362
26.364
25.611
21.521
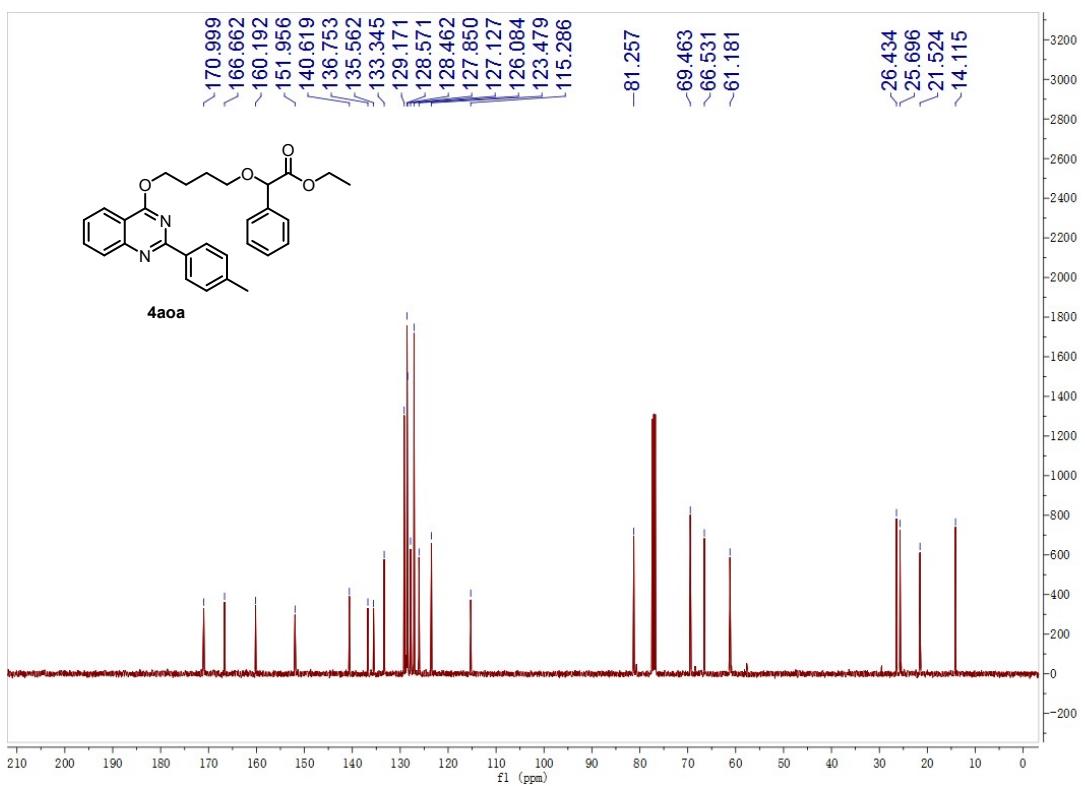
^{19}F-NMR of **4ana** (CDCl$_3$, 376 Hz)

-118.373
-118.379
-118.385
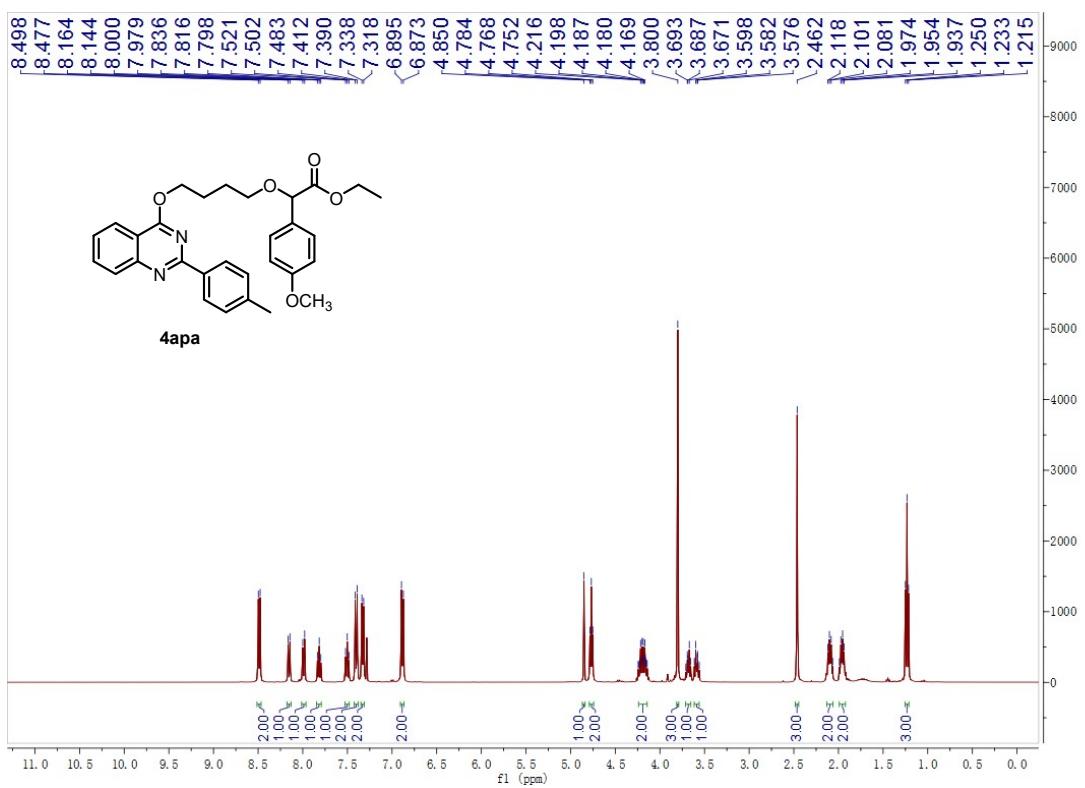
^{1}H-NMR of **4aoa** (CDCl$_3$, 400 Hz)
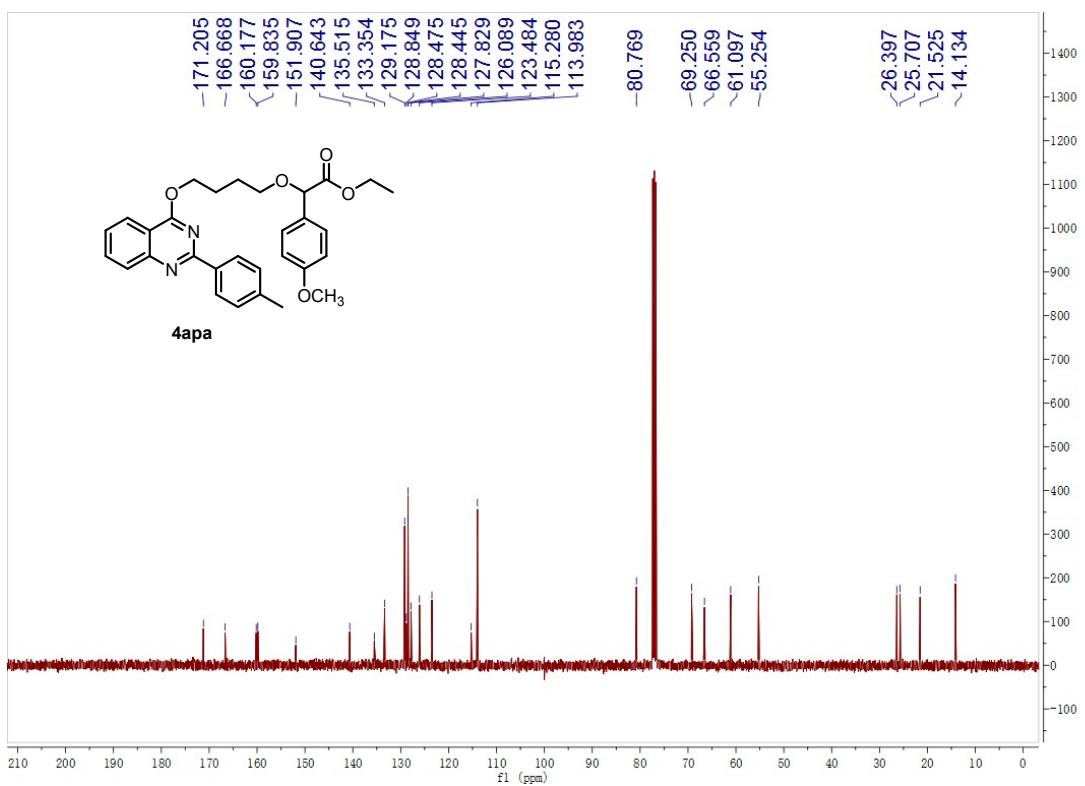
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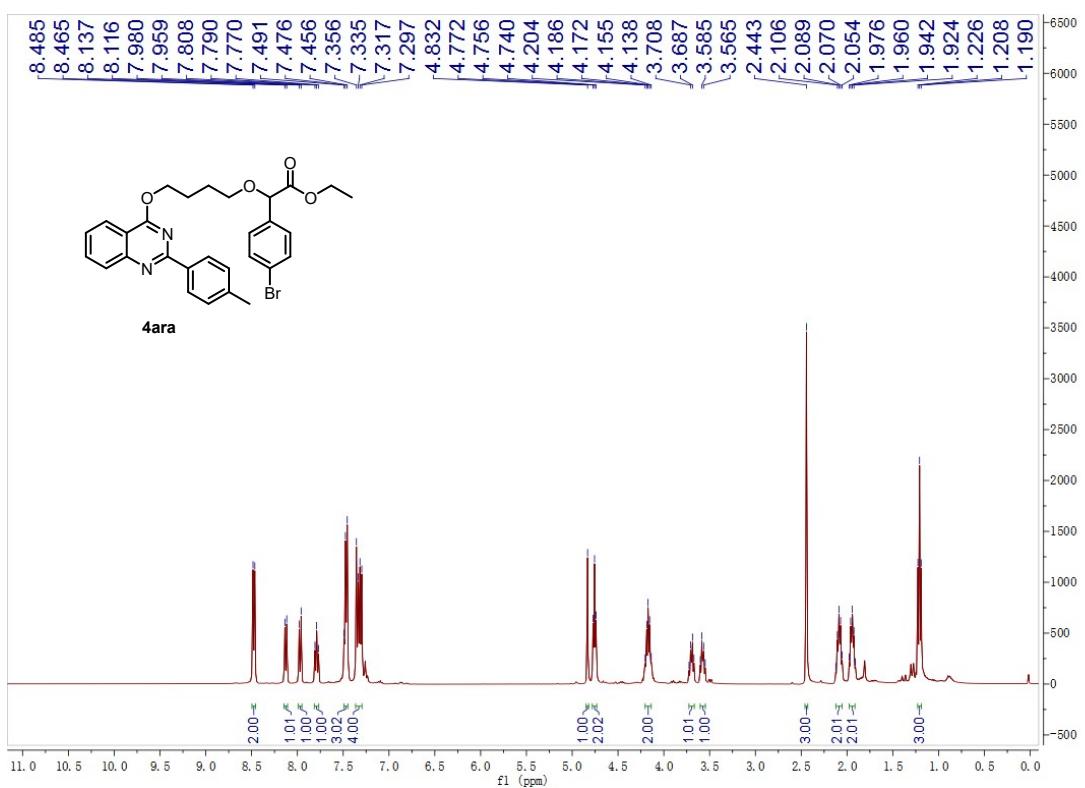
^{1}H-NMR of **4apa** (CDCl$_3$, 400 Hz)
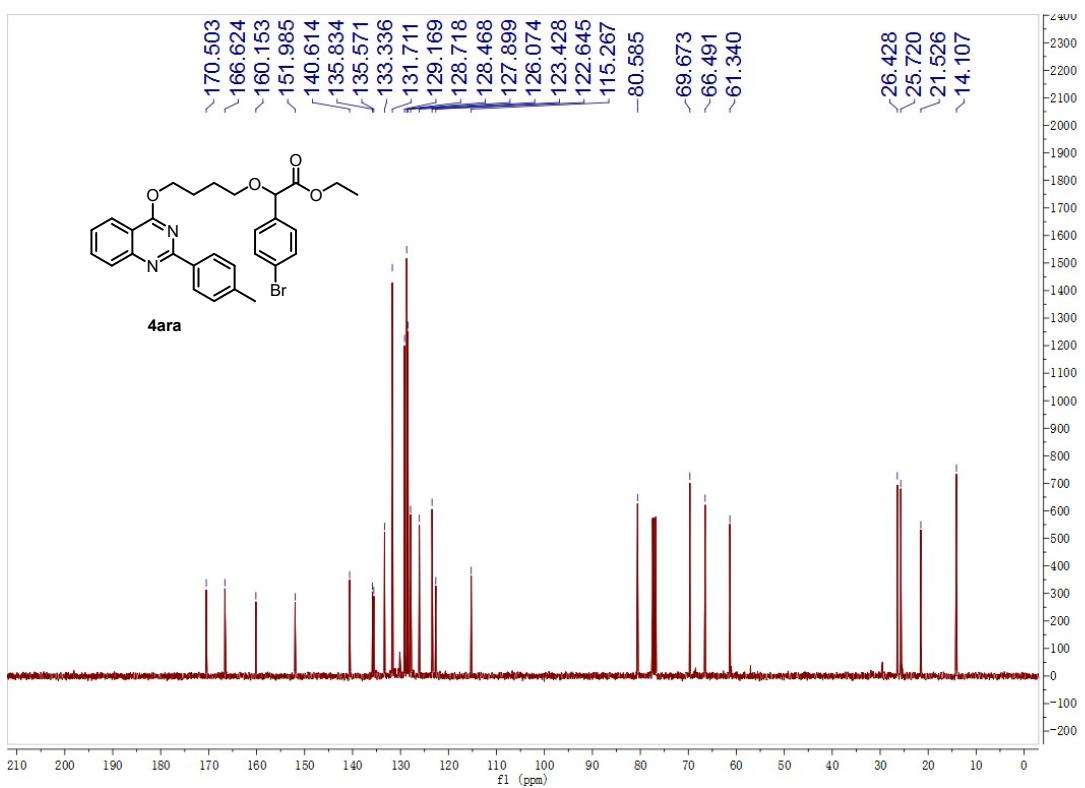
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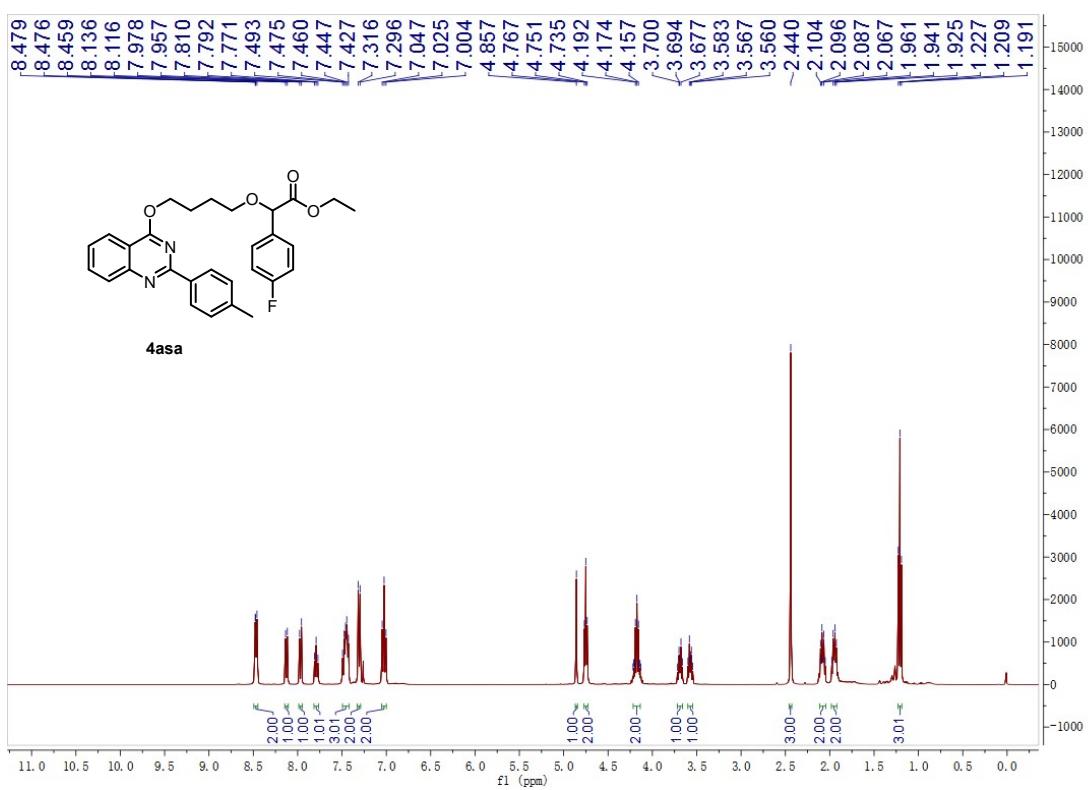
¹H-NMR of **4ara** (CDCl₃, 400 Hz)
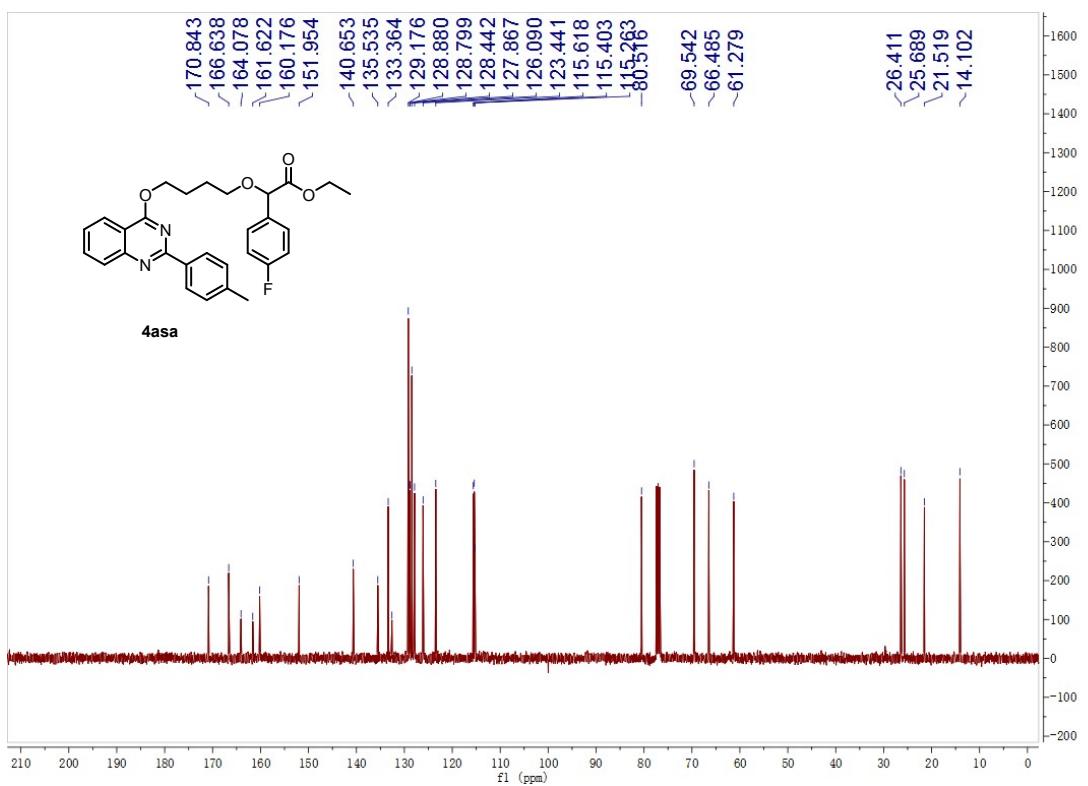
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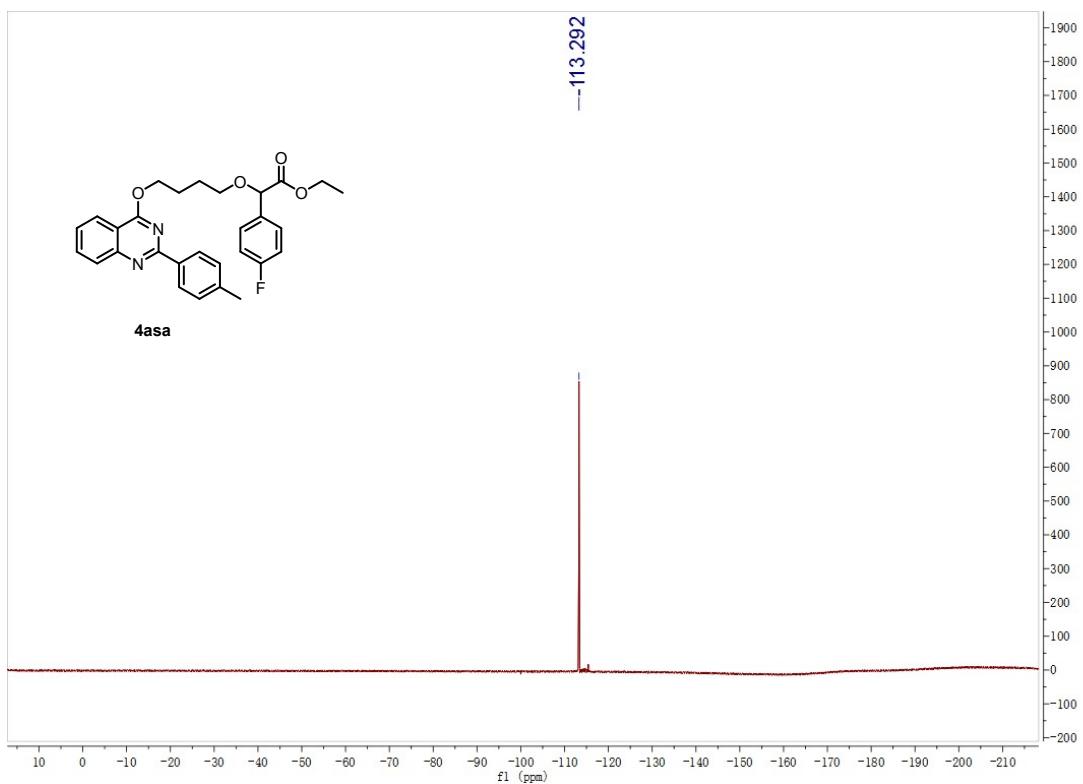
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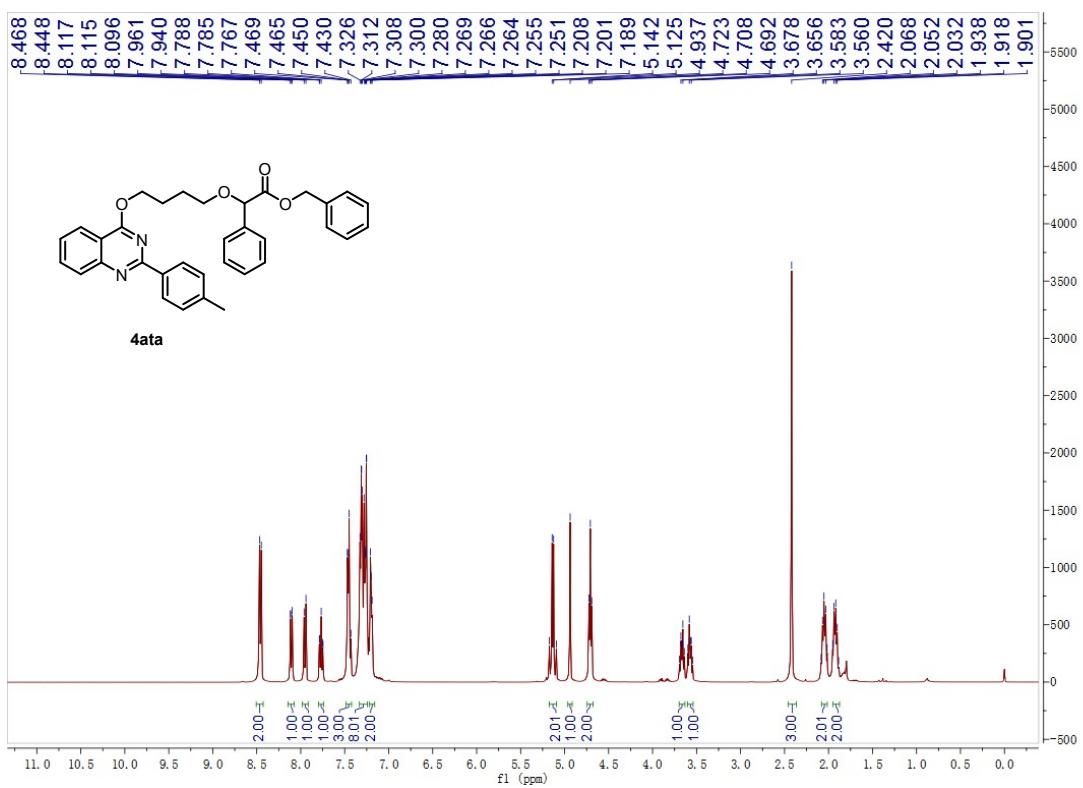
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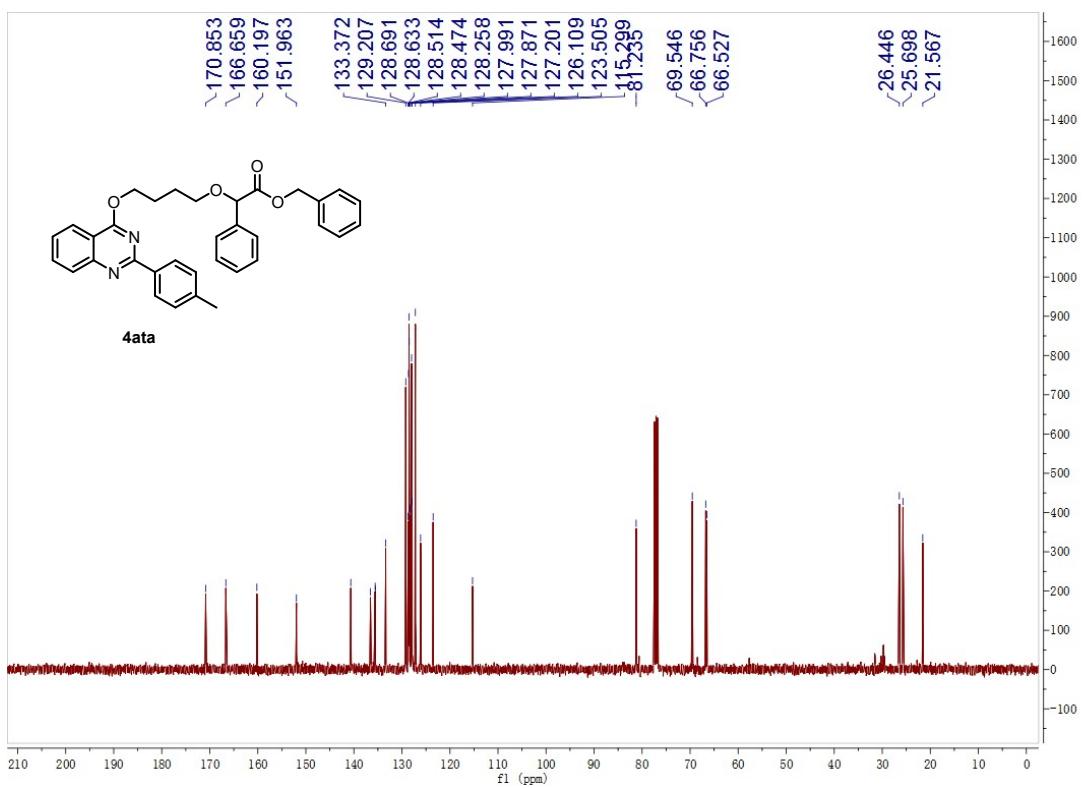
^{19}F-NMR of 4asa (CDCl₃, 376 Hz)
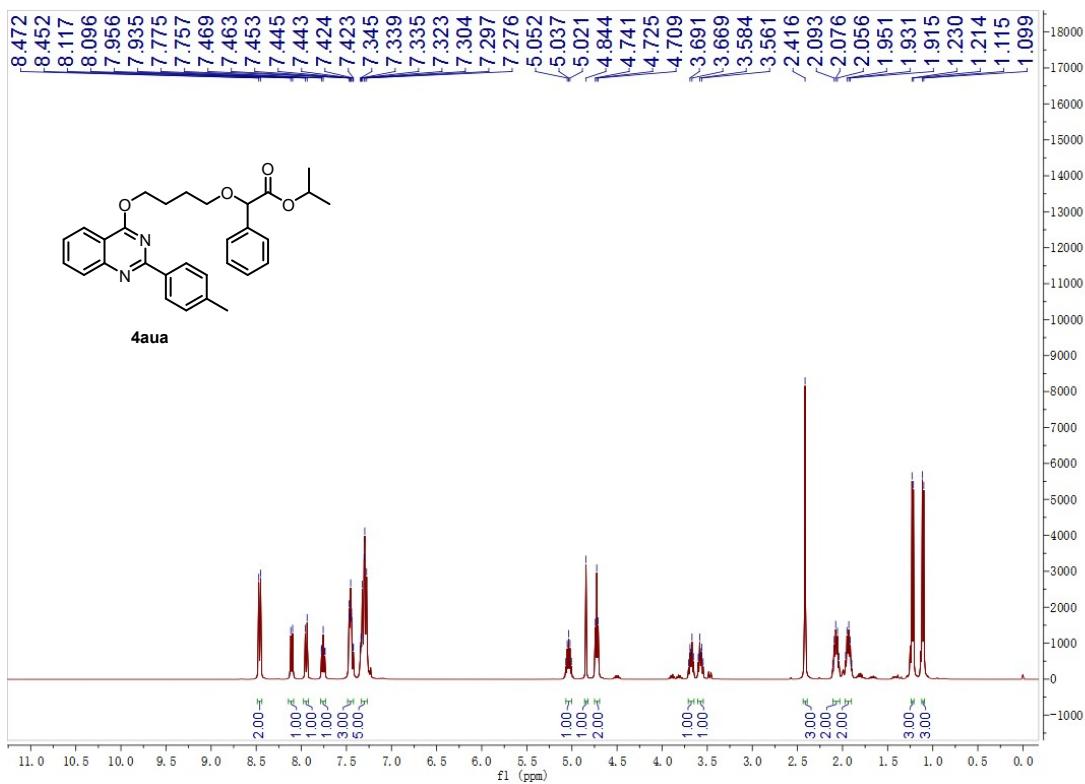
^{1}H-NMR of 4ata (CDCl₃, 400 Hz)
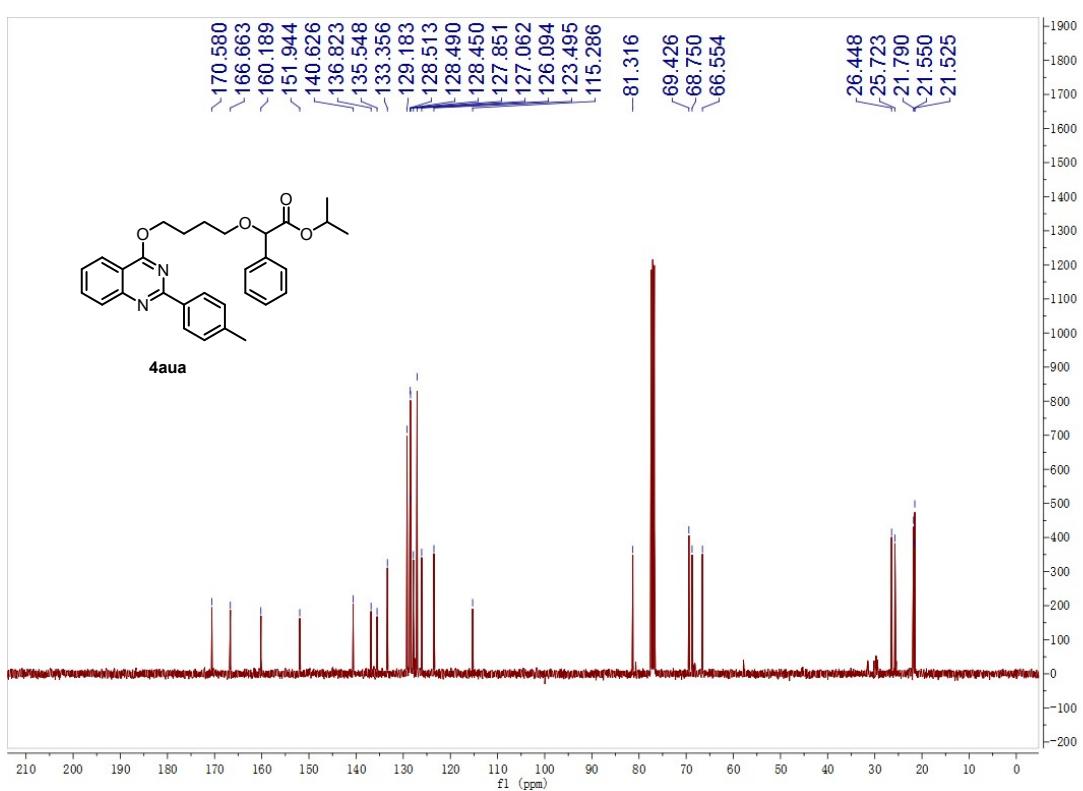
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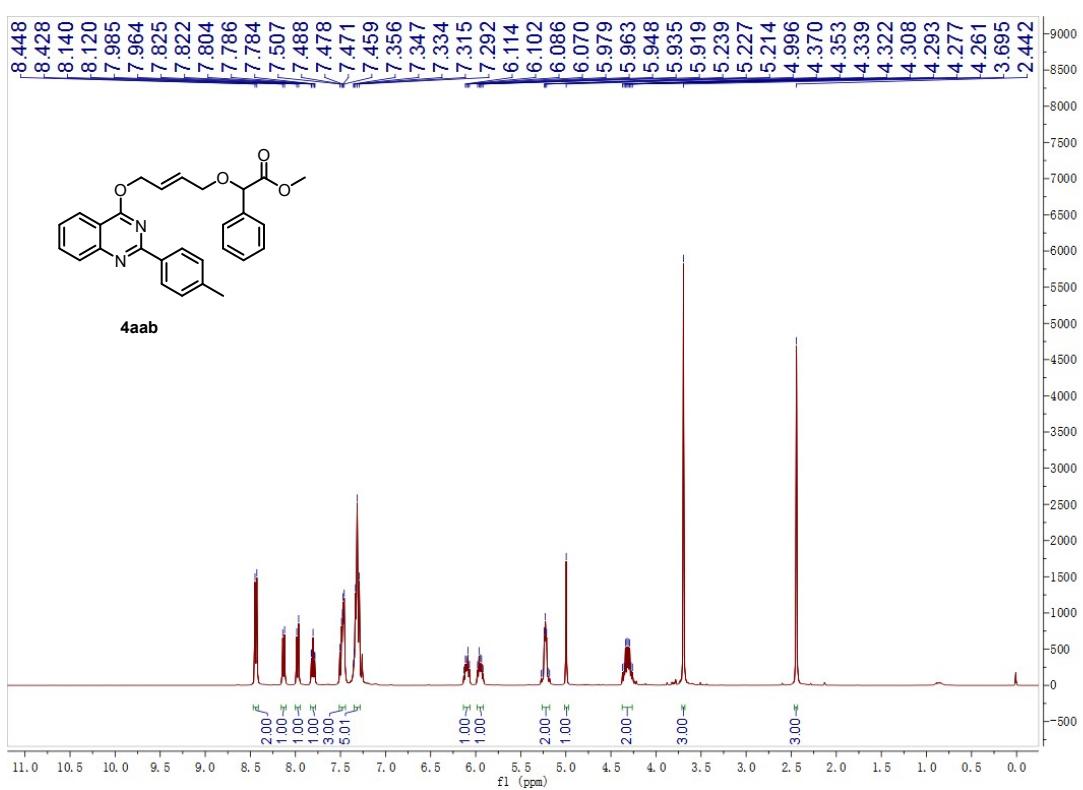
^{1}H-NMR of **4aua** (CDCl$_3$, 400 Hz)

¹³C-NMR of **4aua** (CDCl₃, 100 Hz)
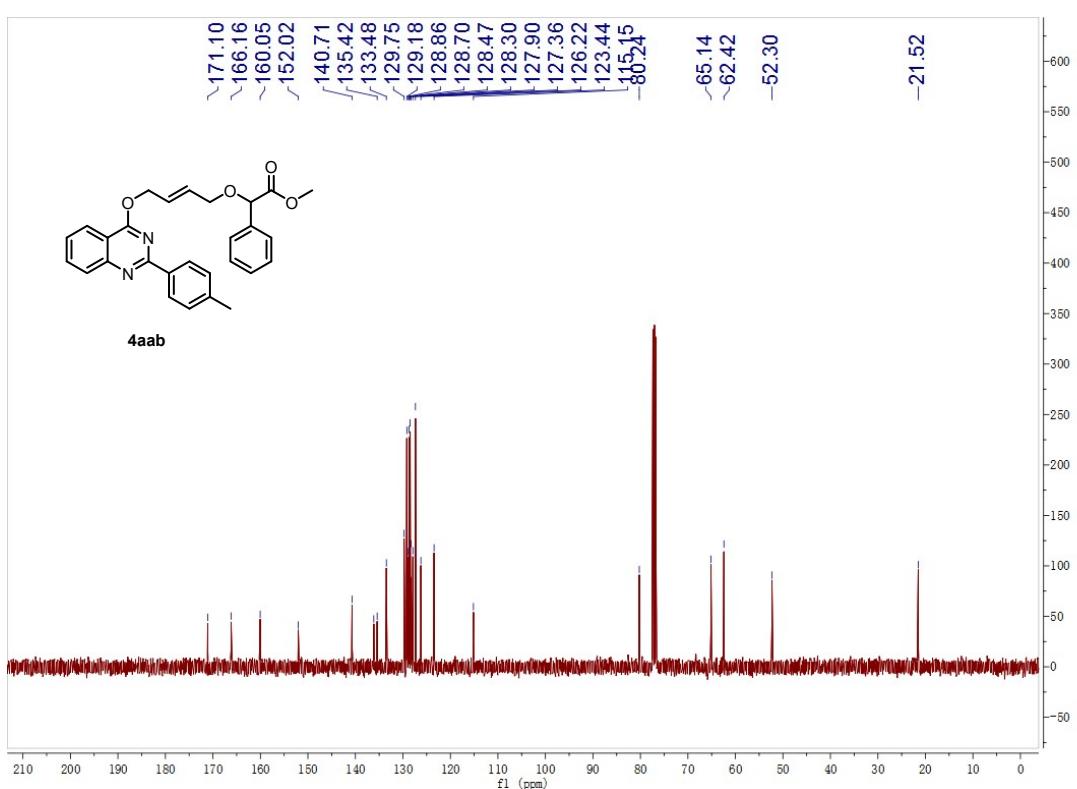
The title above reads: ^{13}C-NMR of **4aua** (CDCl$_3$, 100 Hz)
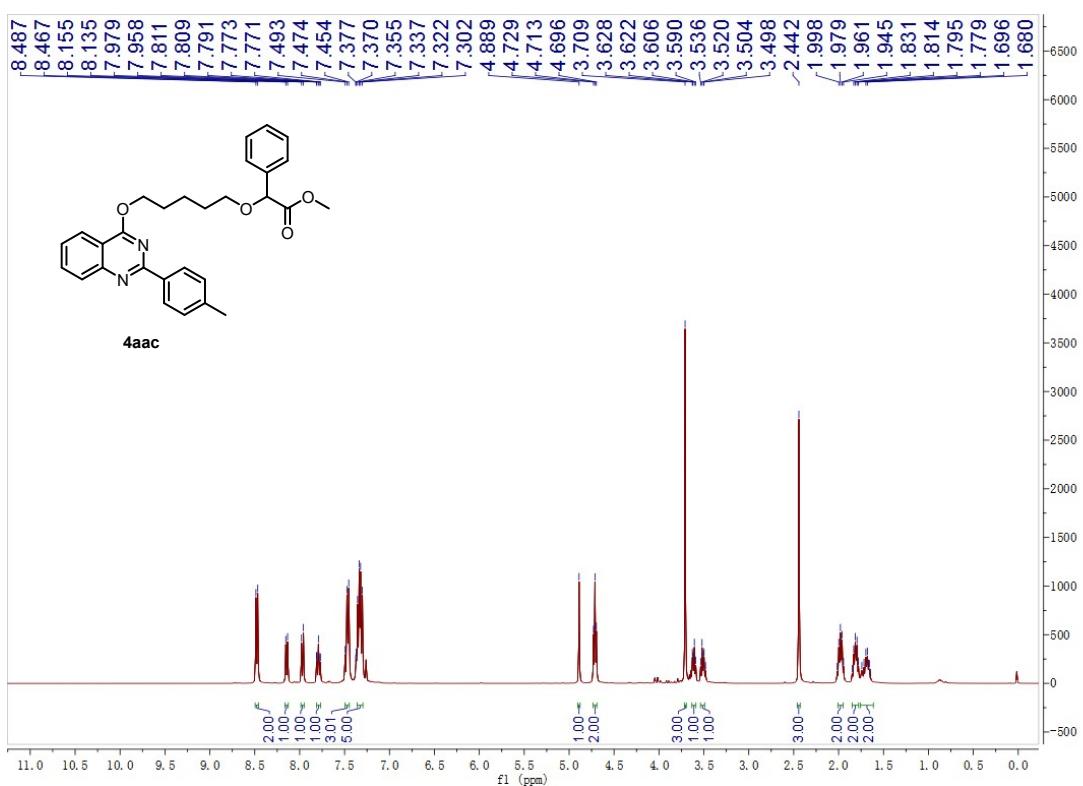
^{1}H-NMR of **4aab** (CDCl$_3$, 400 Hz)

¹³C-NMR of **4aab** (CDCl₃, 100 Hz)

^{13}C-NMR of **4aab** (CDCl$_3$, 100 Hz)
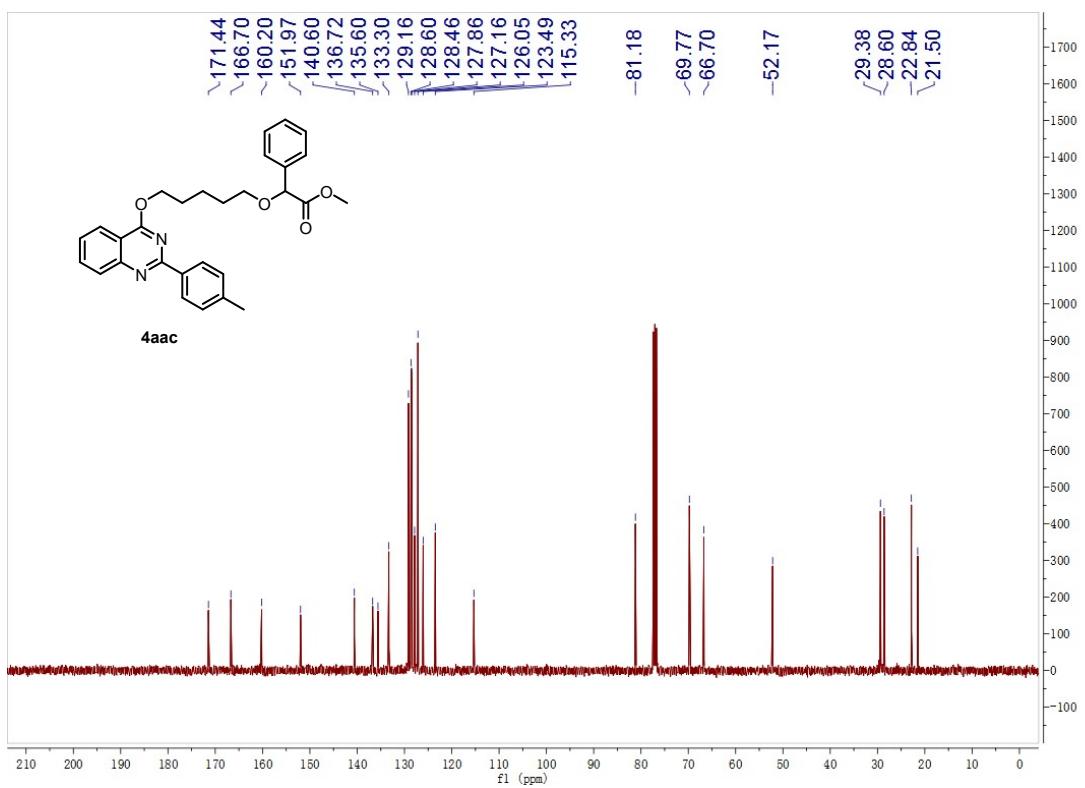
¹H-NMR of **4aac** (CDCl₃, 400 Hz)
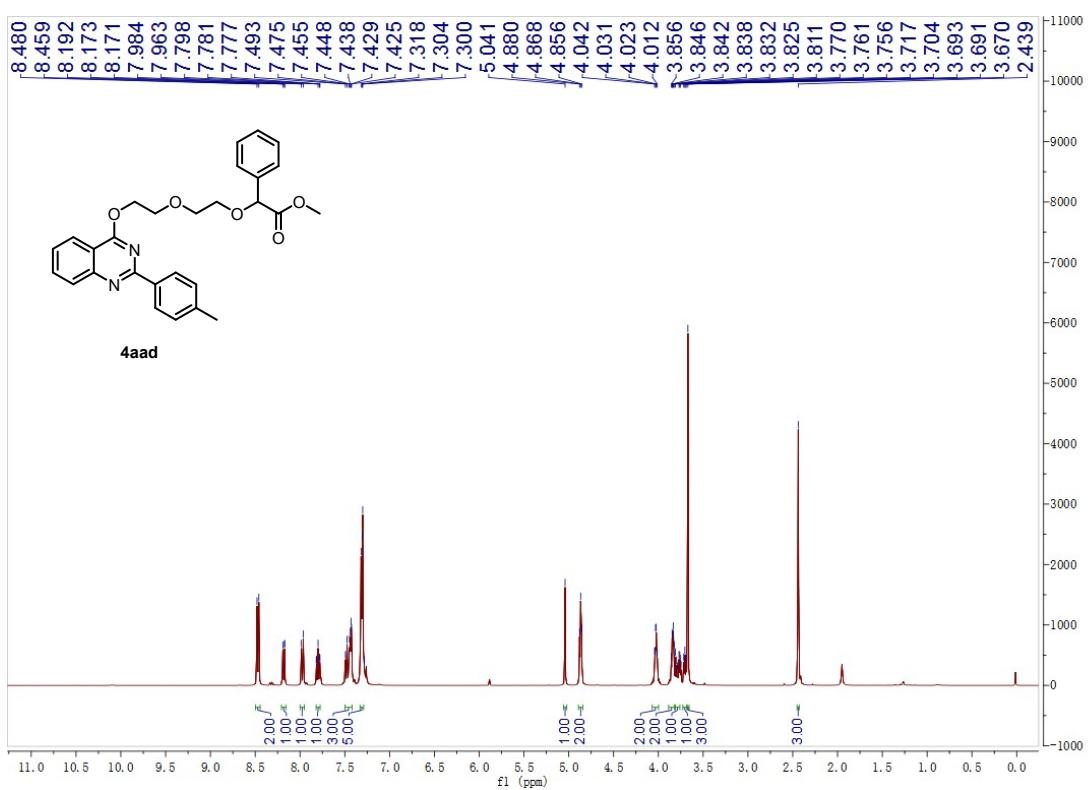
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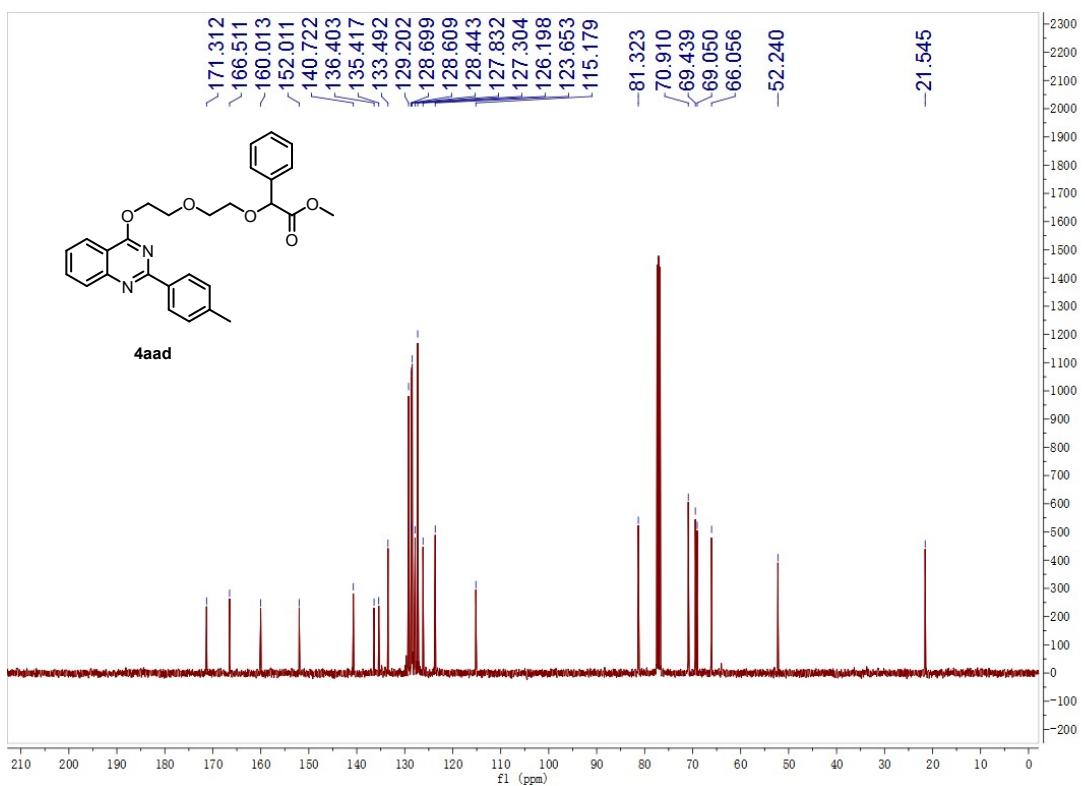
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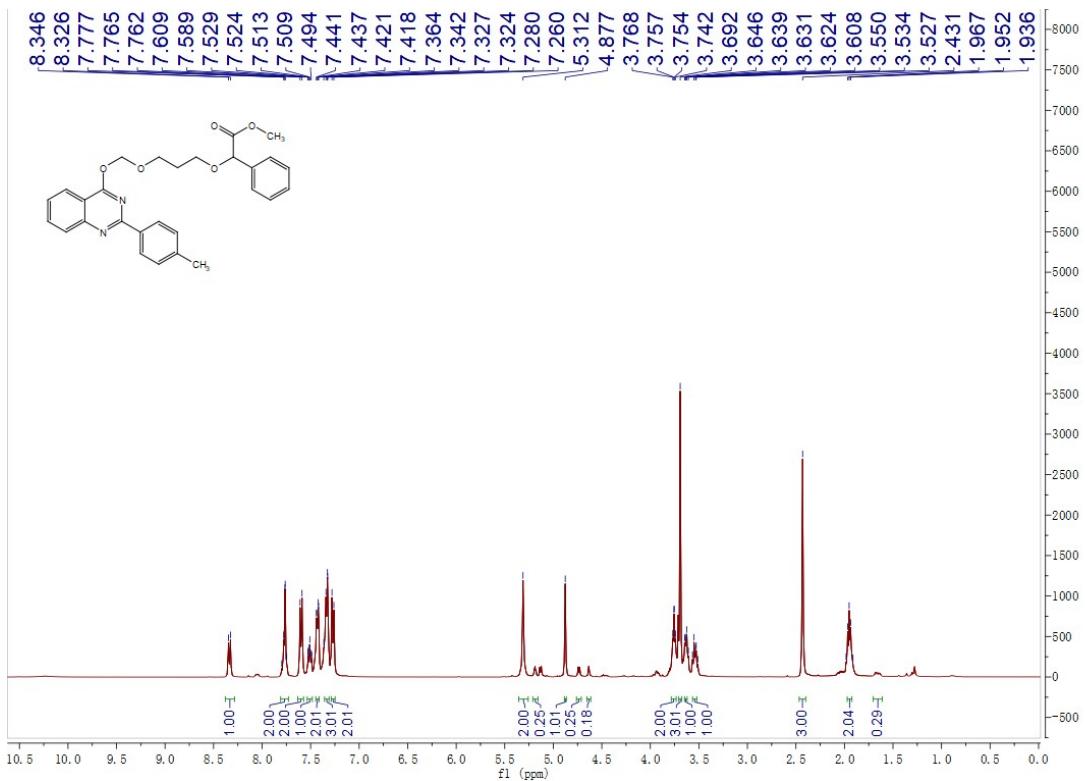
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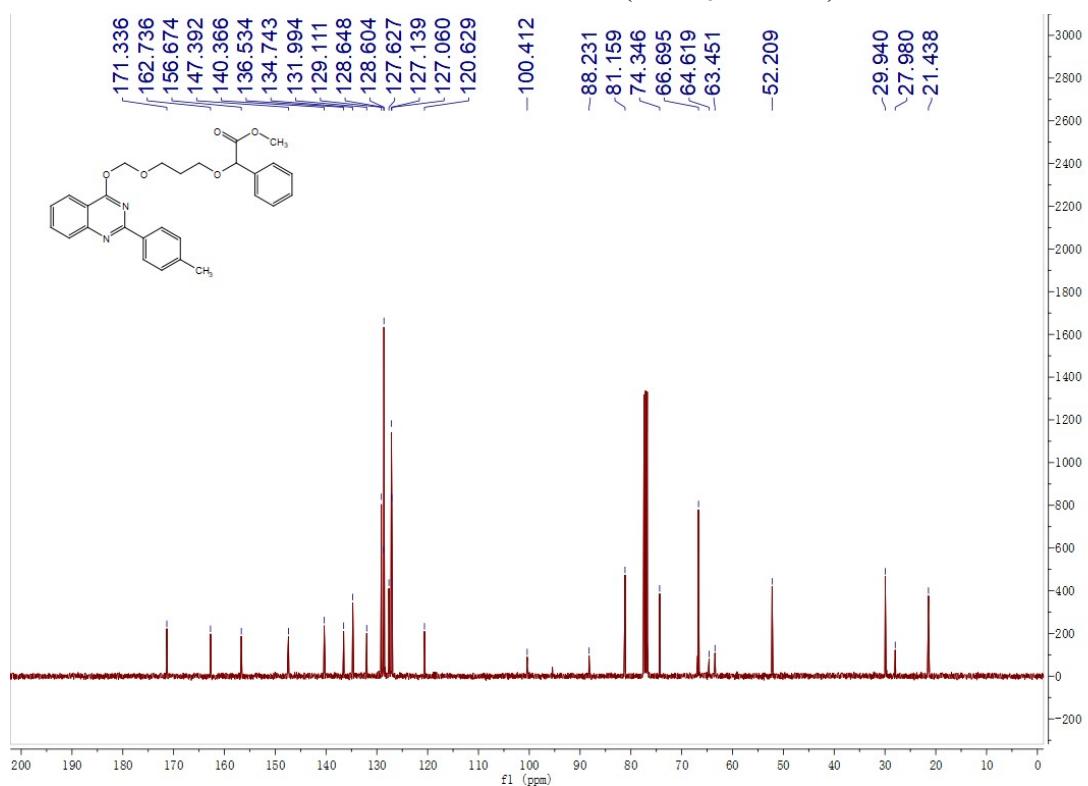
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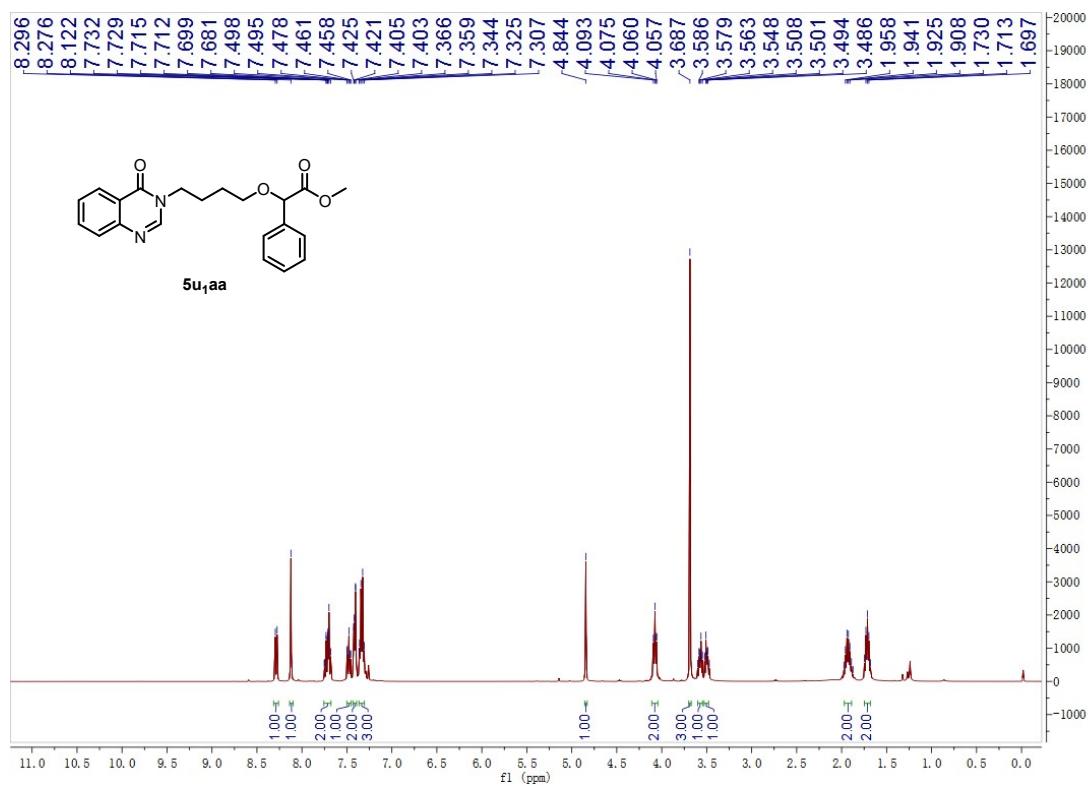
^{1}H-NMR of **4aae$_1$/4aae$_2$** (CDCl$_3$, 400 Hz)
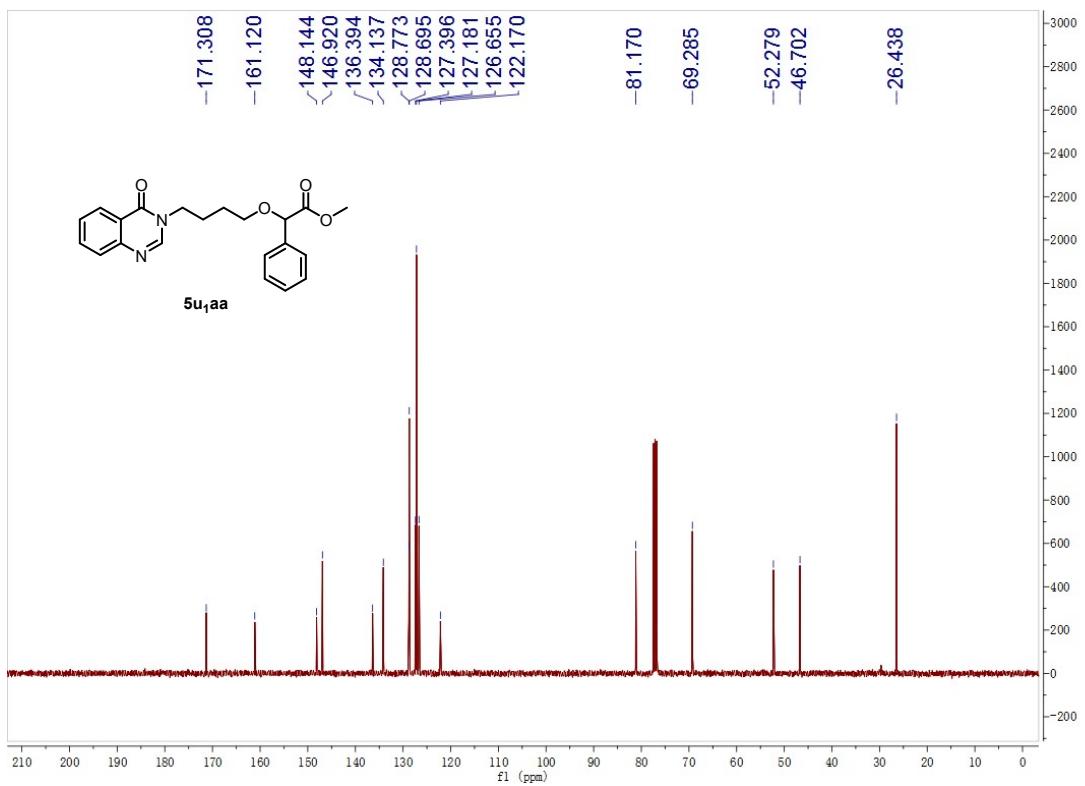
^{13}C-NMR of **4aae₁/4aae₂** (CDCl₃, 100 Hz)
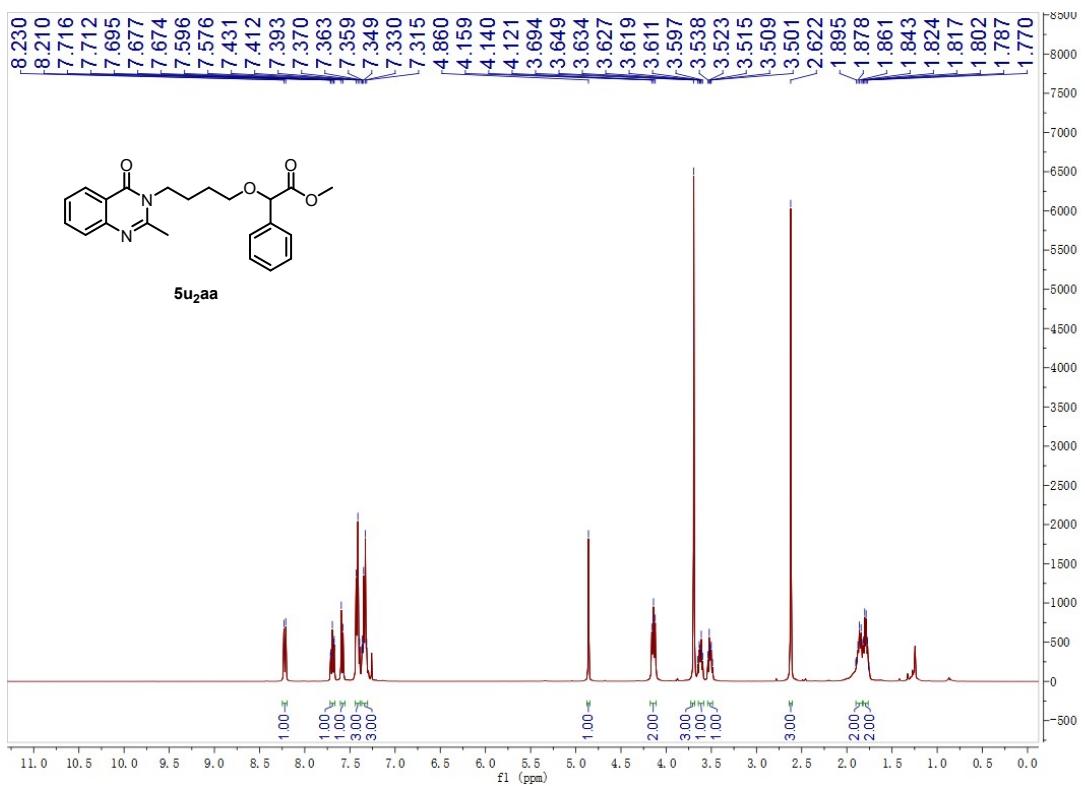
^{1}H-NMR of **5u₁aa** (CDCl₃, 400 Hz)

^{13}C-NMR of 5u$_1$aa (CDCl$_3$, 100 Hz)
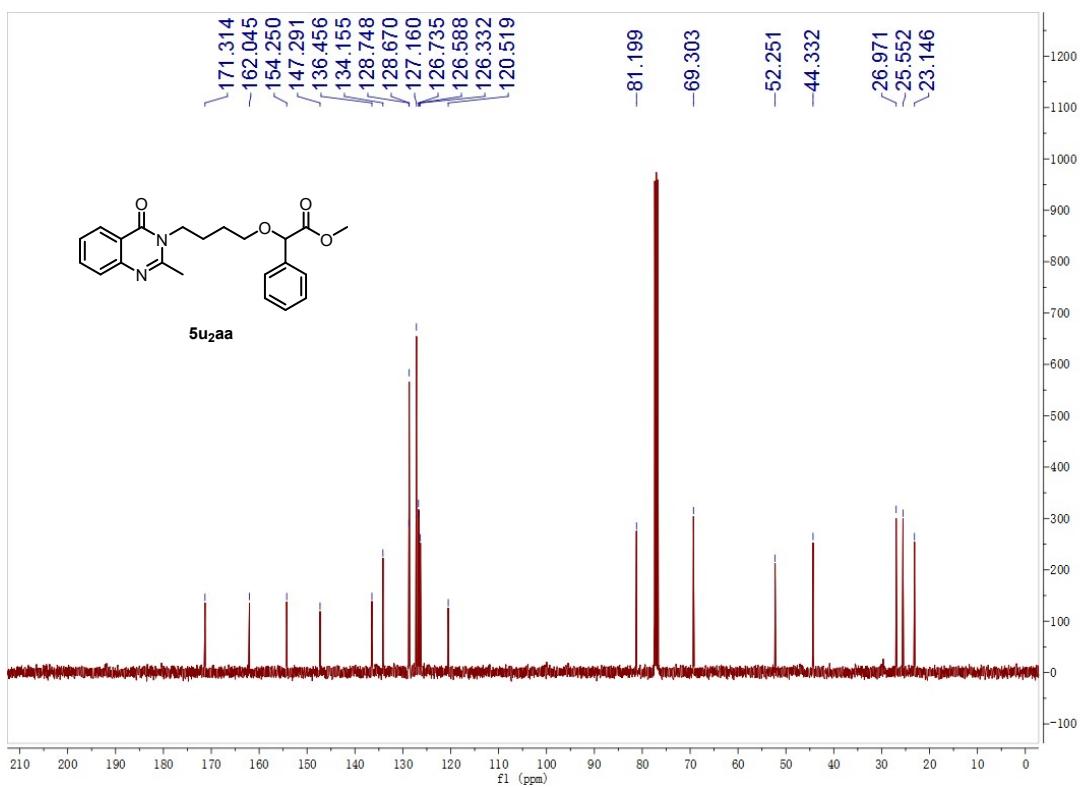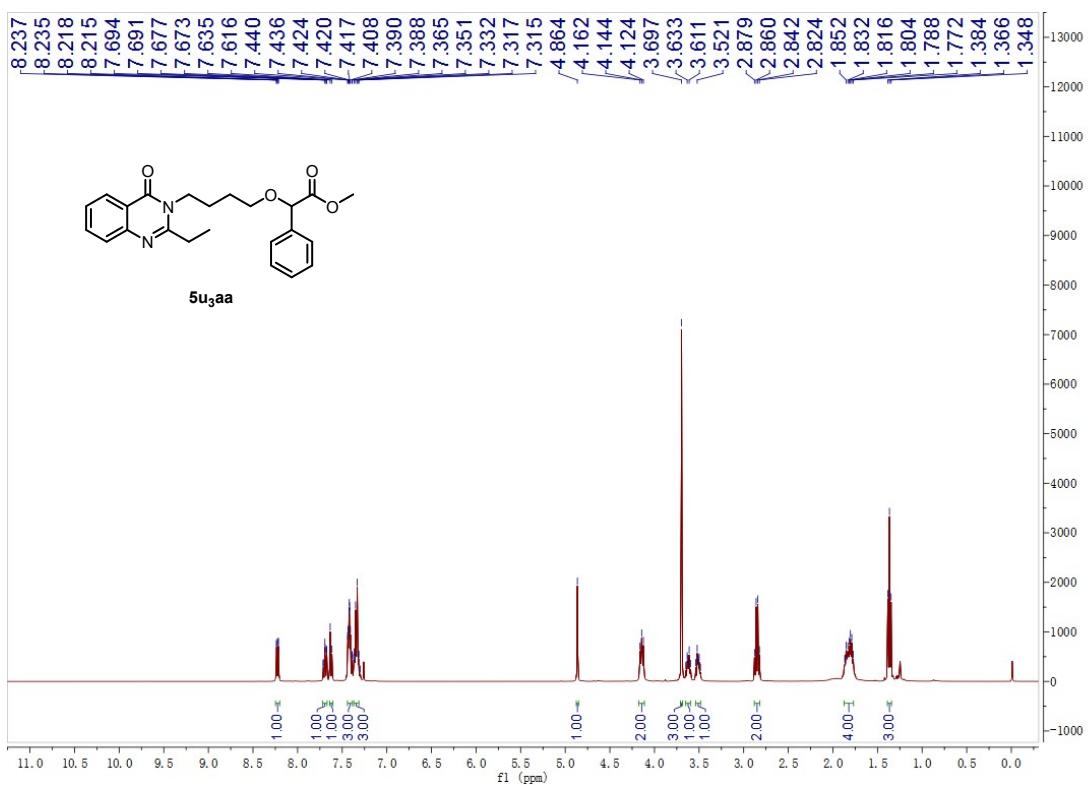
^{1}H-NMR of 5u$_2$aa (CDCl$_3$, 400 Hz)
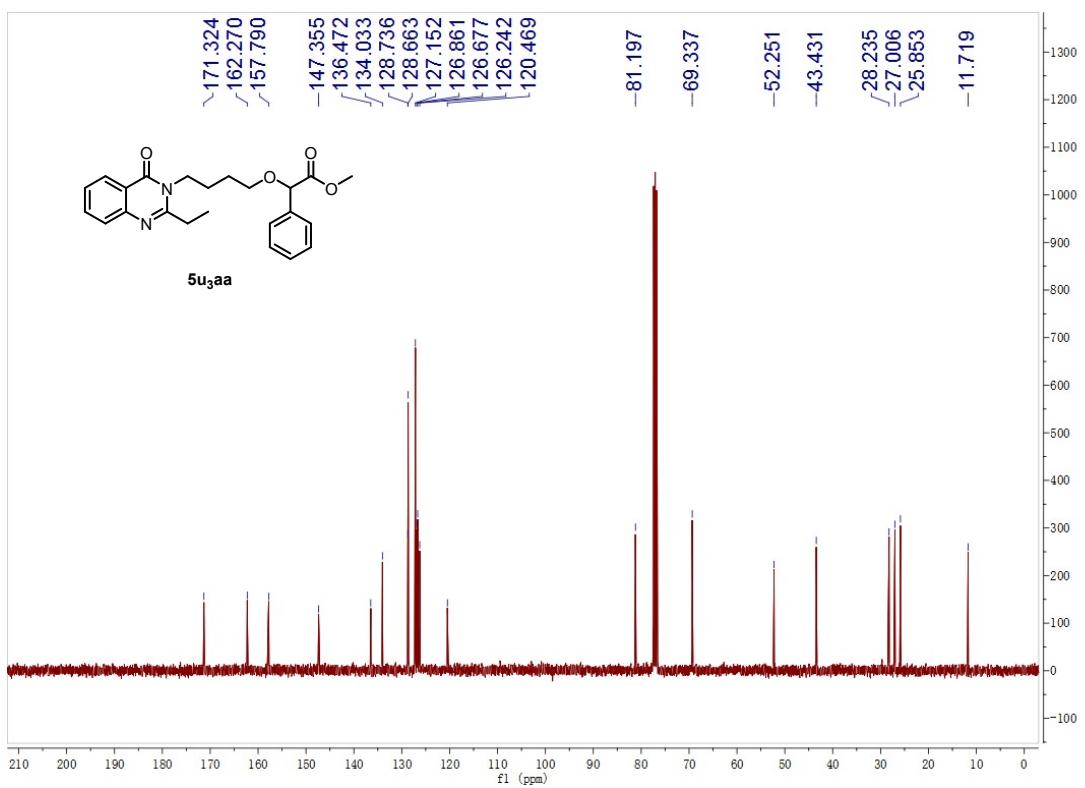
¹³C-NMR of **5u₂aa** (CDCl₃, 100 Hz)
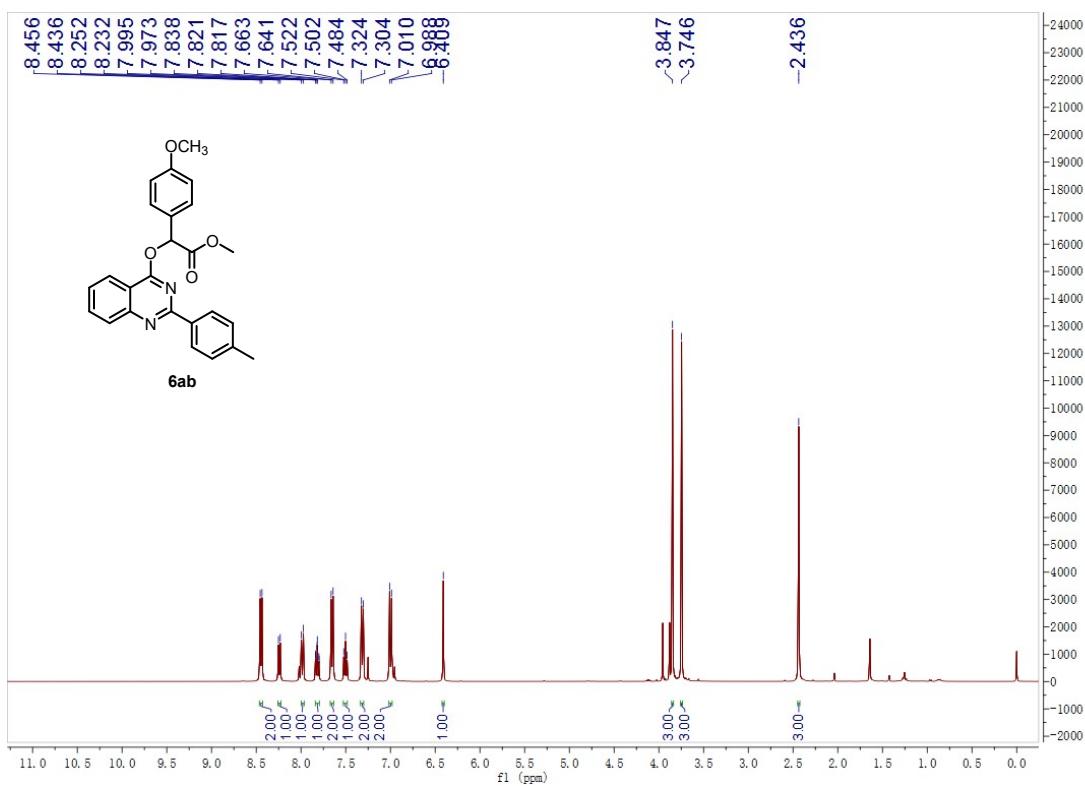
## ¹H-NMR of **5u₃aa** (CDCl₃, 400 Hz)
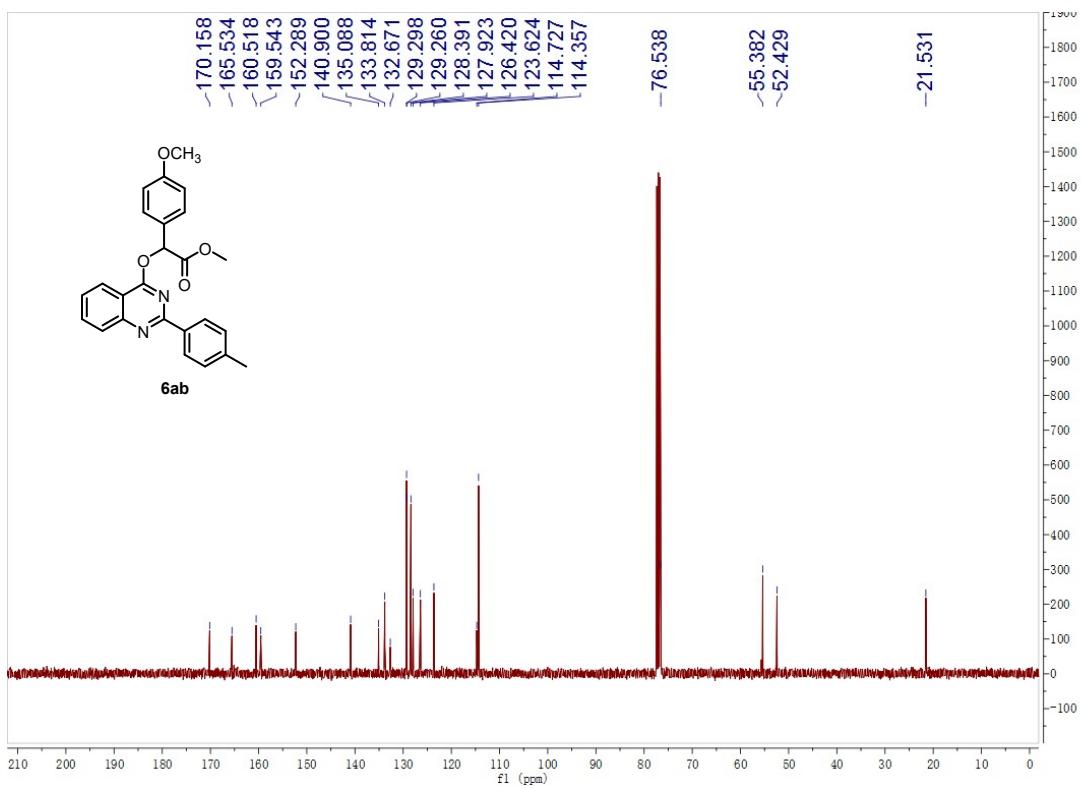
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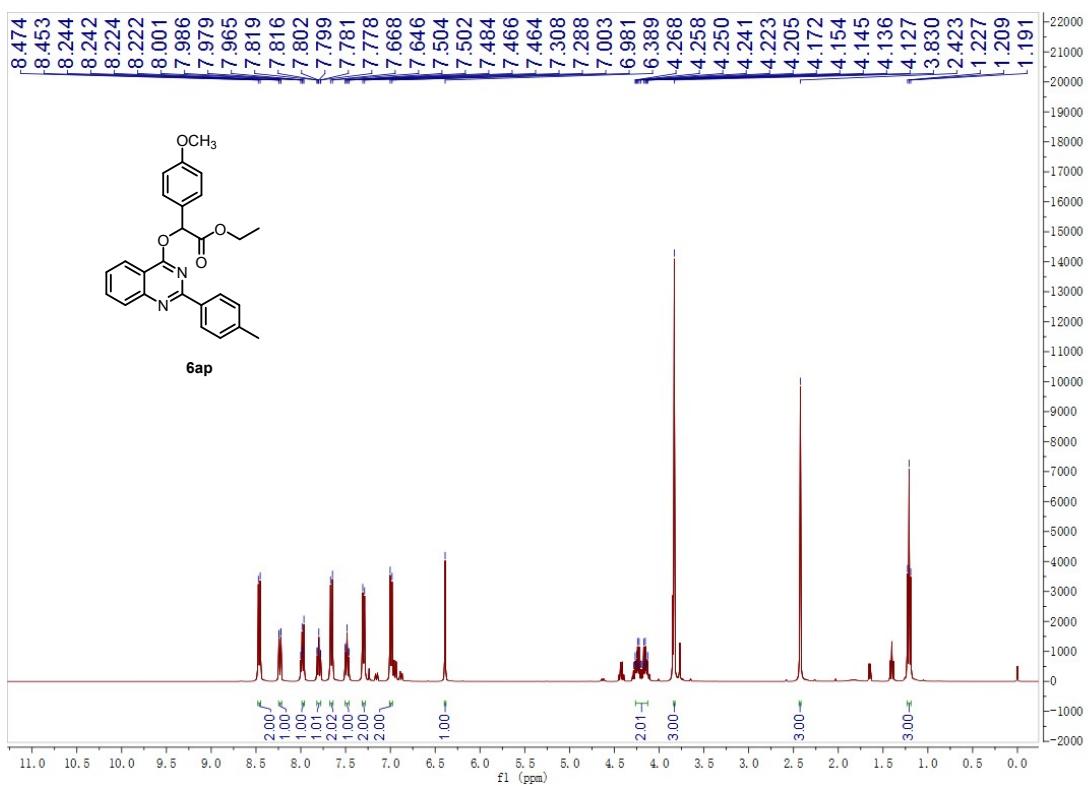
¹H-NMR of **6ab** (CDCl₃, 400 Hz)

^{13}C-NMR of **6ab** (CDCl$_3$, 100 Hz)

^{1}H-NMR of **6ap** (CDCl$_3$, 400 Hz)

6ap