Supplementary Materials: Synthesis and Evaluation of Ciprofloxacin-Nitroxide Conjugates as Anti-Biofilm Agents

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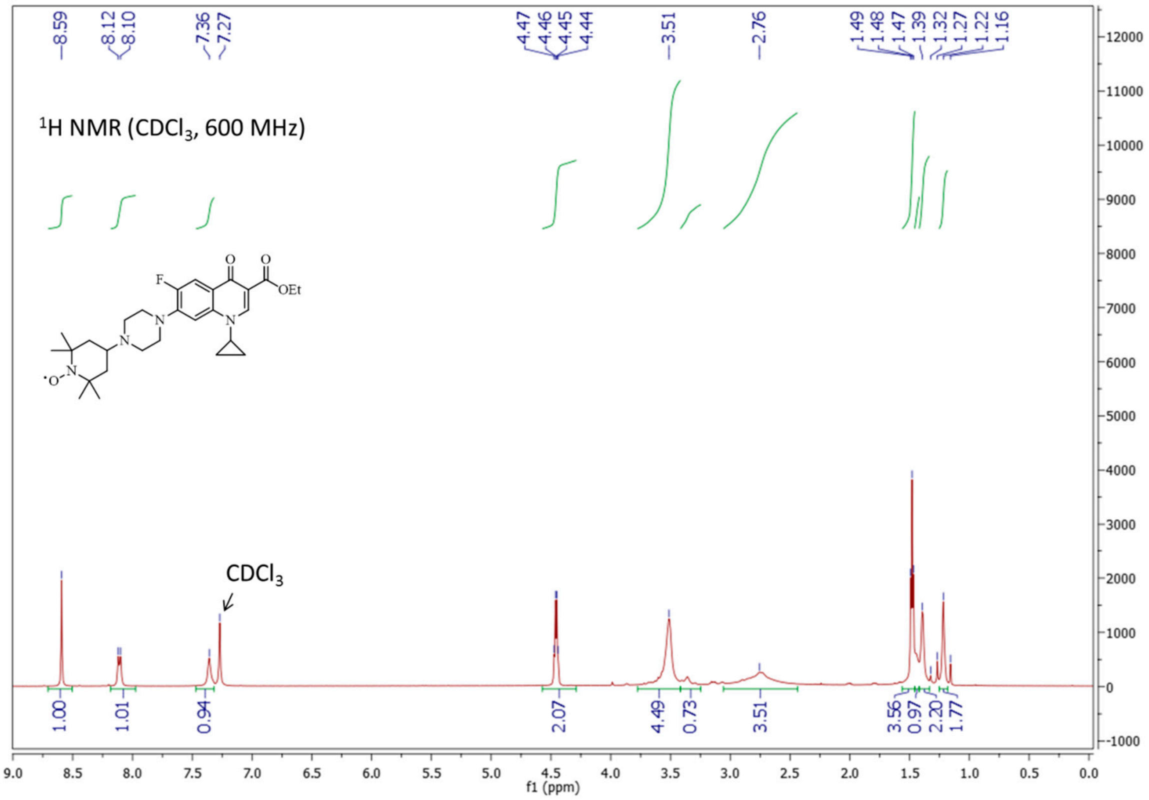


Figure S1. ^{1}H-NMR spectrum of **8**.

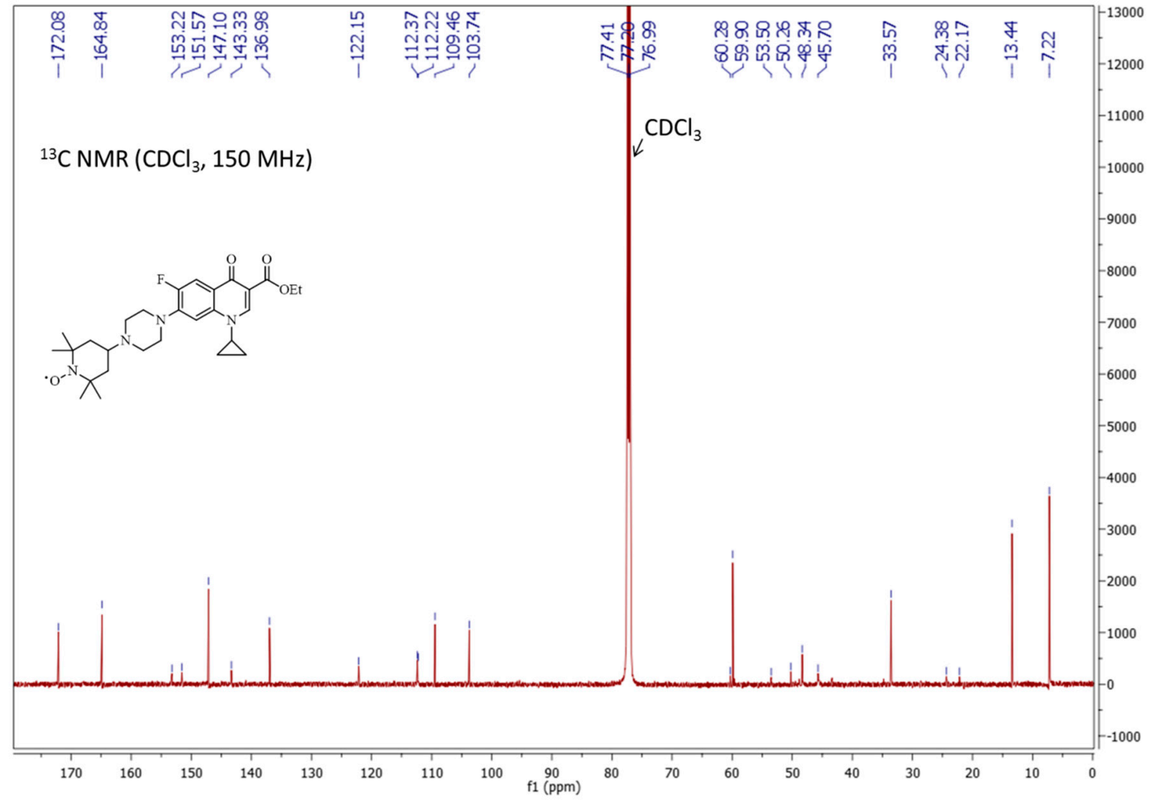
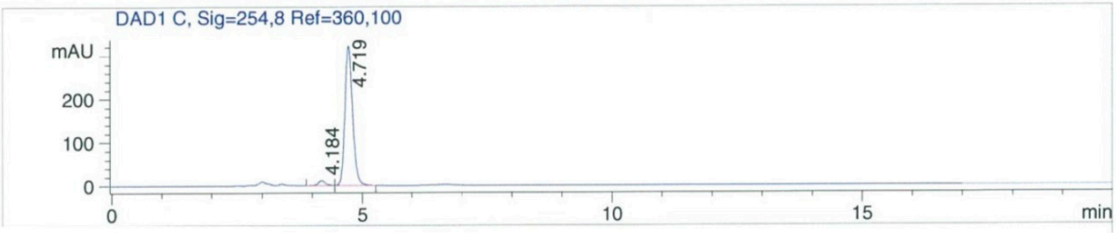


Figure S2. ^{13}C-NMR spectrum of **8**.

Column Type: Agilent C18 column (4.6 × 250 mm, 5 µm).
Flow Rate: 1 mL/min.
Solvent Composition: (MeOH:H_2O, 80:20).



```
 Peak      Area        Retention Time
  No.      (%)           (minutes)
------- ------- --------------------
1          3.700 4.184
2         96.300 4.719
------------------------------------
```

Figure S3. HPLC chromatogram of **8**.

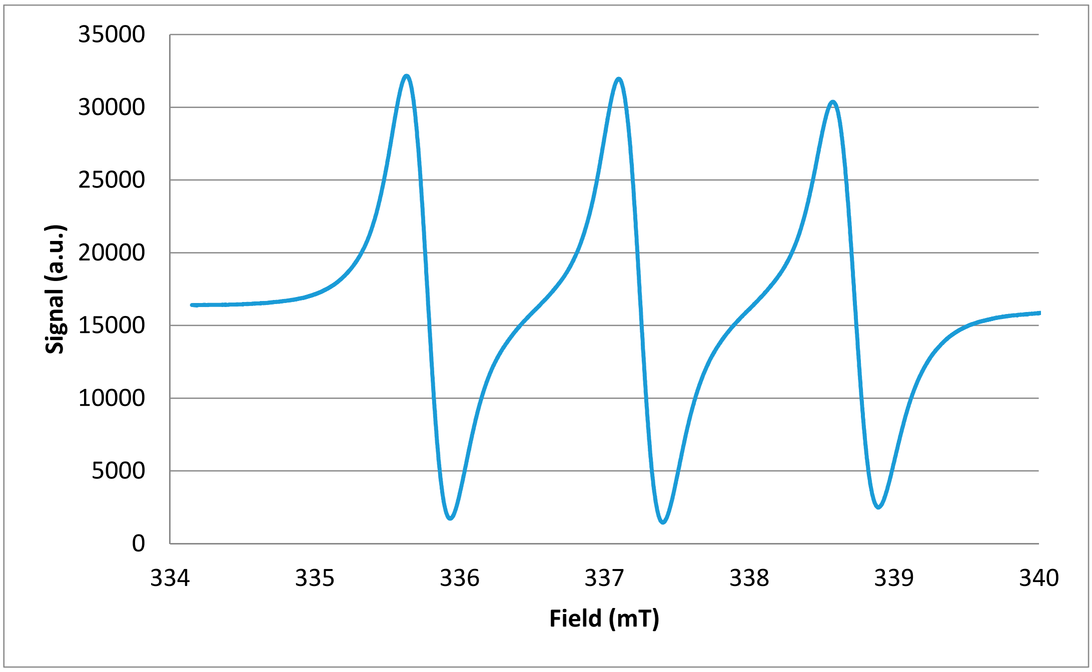


Figure S4. EPR spectrum of **8**.

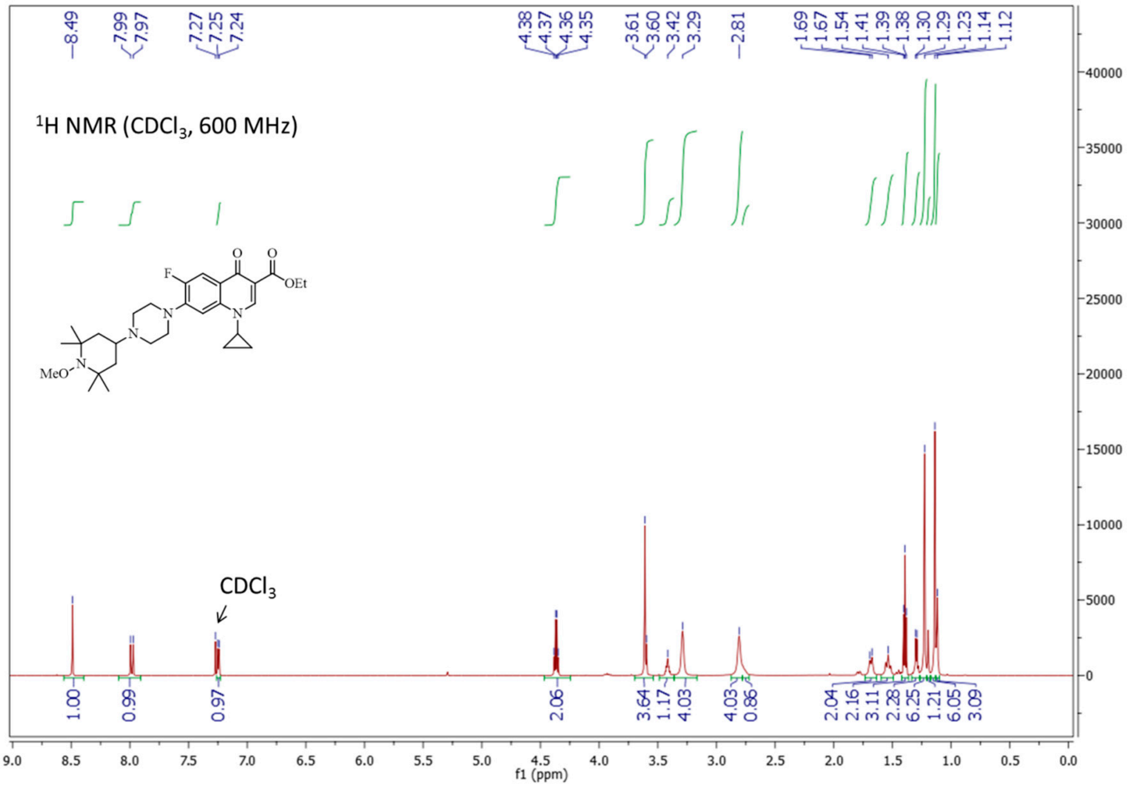


Figure S5. ^{1}H-NMR spectrum of **9**.

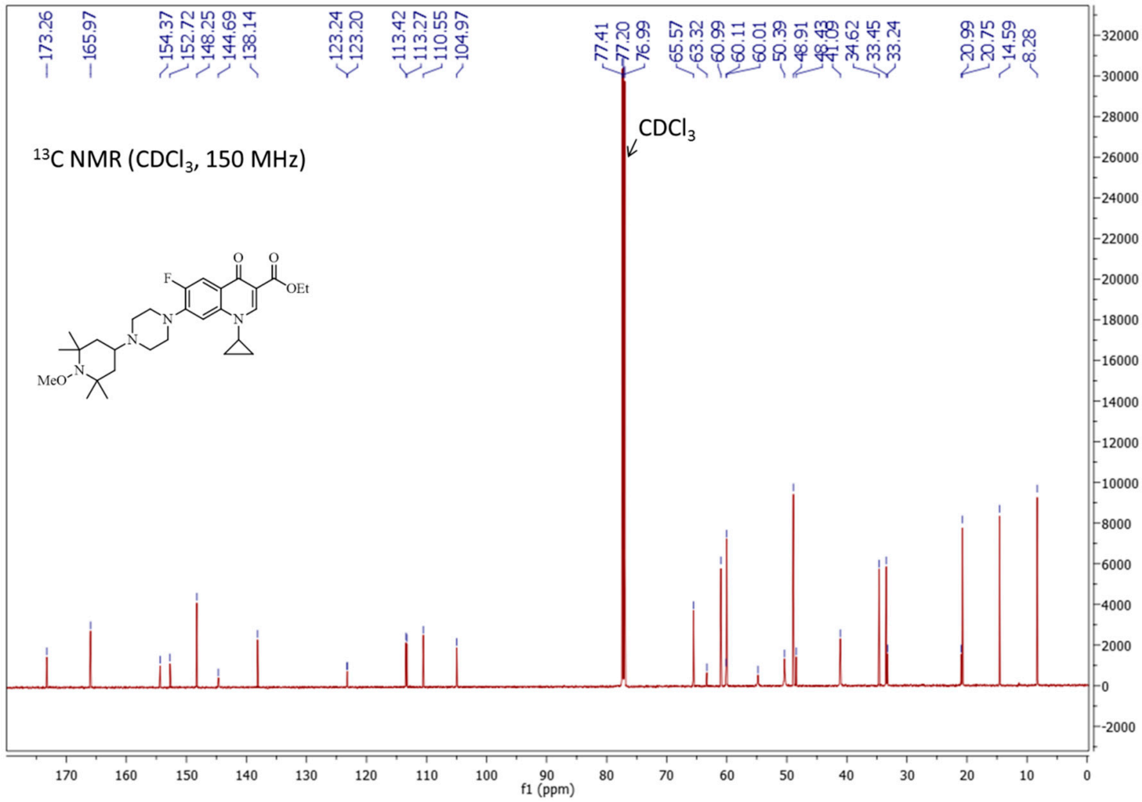
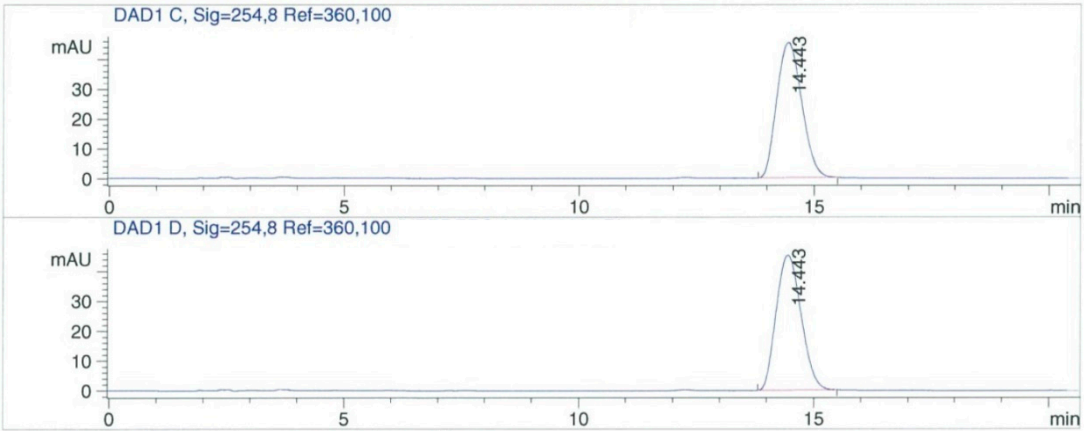


Figure S6. ^{13}C-NMR spectrum of **9**.

Column Type: Agilent C18 column (4.6 × 250 mm, 5 μm).
Flow Rate: 1 mL/min.
Solvent Composition: (MeOH:H_2O, 80:20).



```
 Peak     Area       Retention Time
  No.      (%)         (minutes)
------- ------- --------------------
1        100.000 14.443
------------------------------------
```

Figure S7. HPLC chromatogram of **9**.

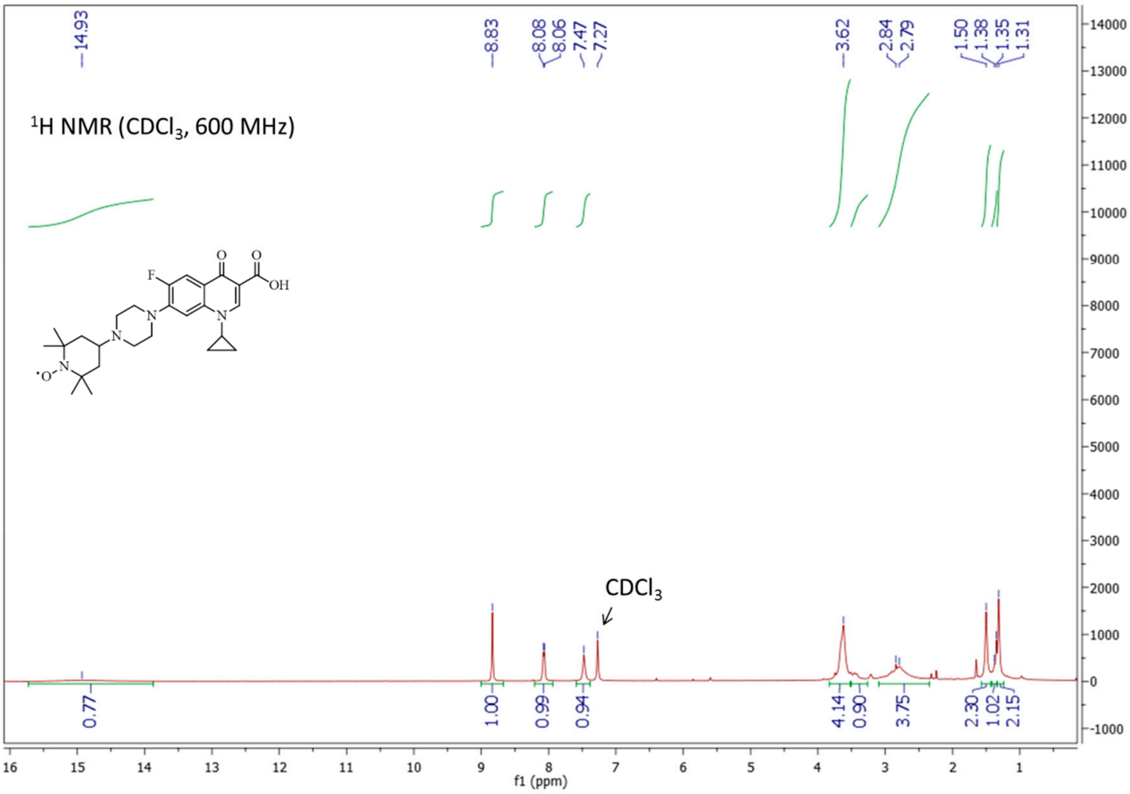


Figure S8. ^{1}H-NMR spectrum of **10**.

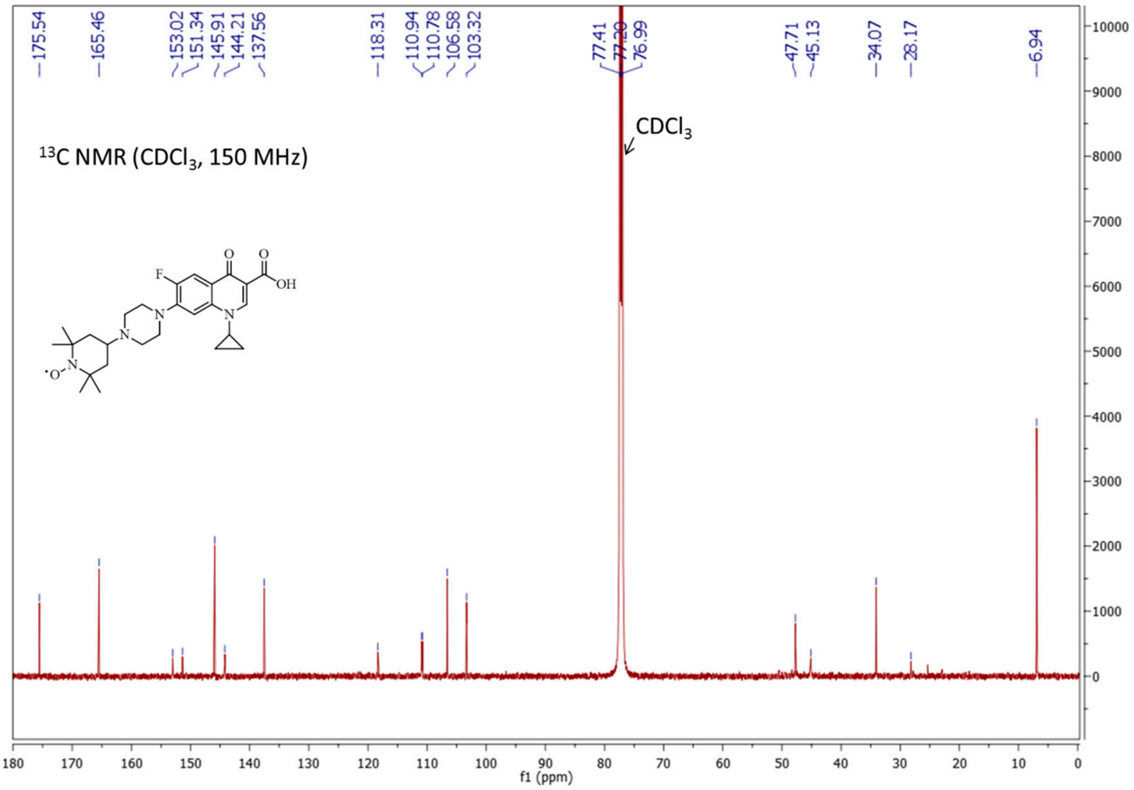
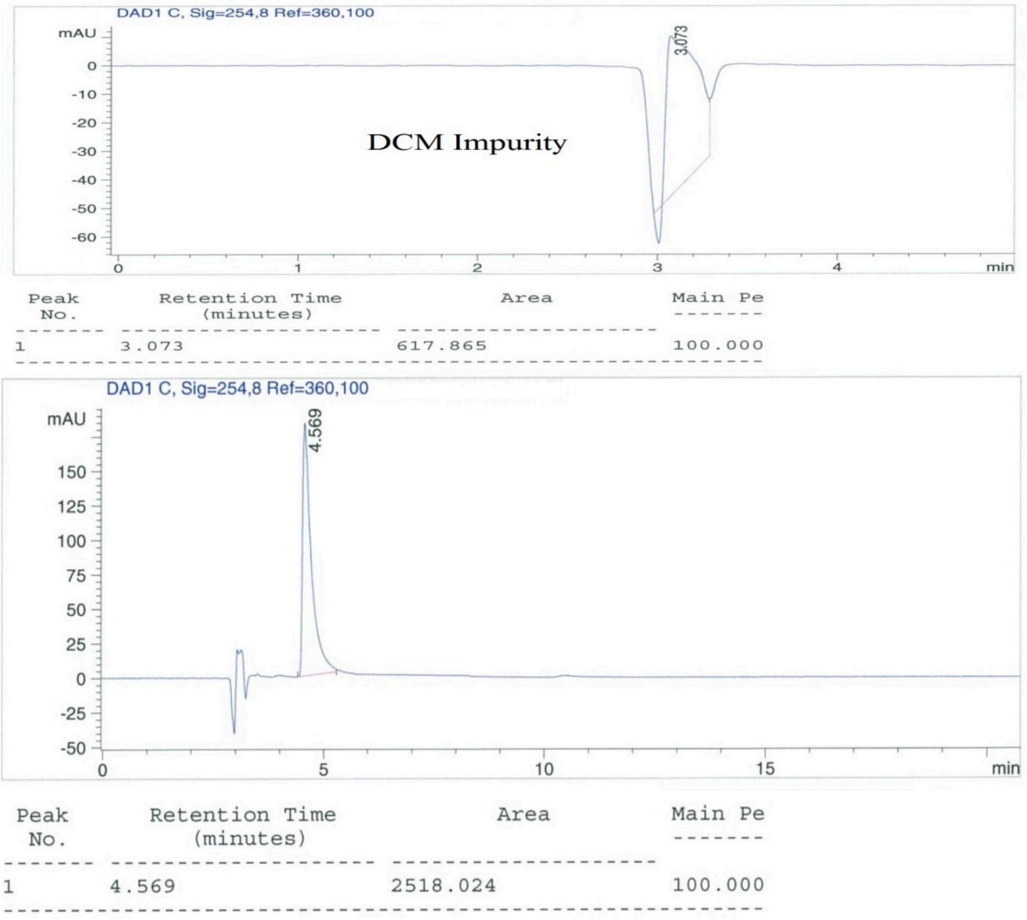


Figure S9. ^{13}C-NMR spectrum of **10**.



```
Peak       Retention Time            Area            Main Pe
 No.         (minutes)                               -------
------- -------------------- --------------------
1       3.073               617.865                  100.000
-------------------------------------------------------------
```

```
Peak       Retention Time            Area            Main Pe
 No.         (minutes)                               -------
------- -------------------- --------------------
1       4.569               2518.024                 100.000
-------------------------------------------------------------
```

Figure S10. HPLC chromatogram of **10**.

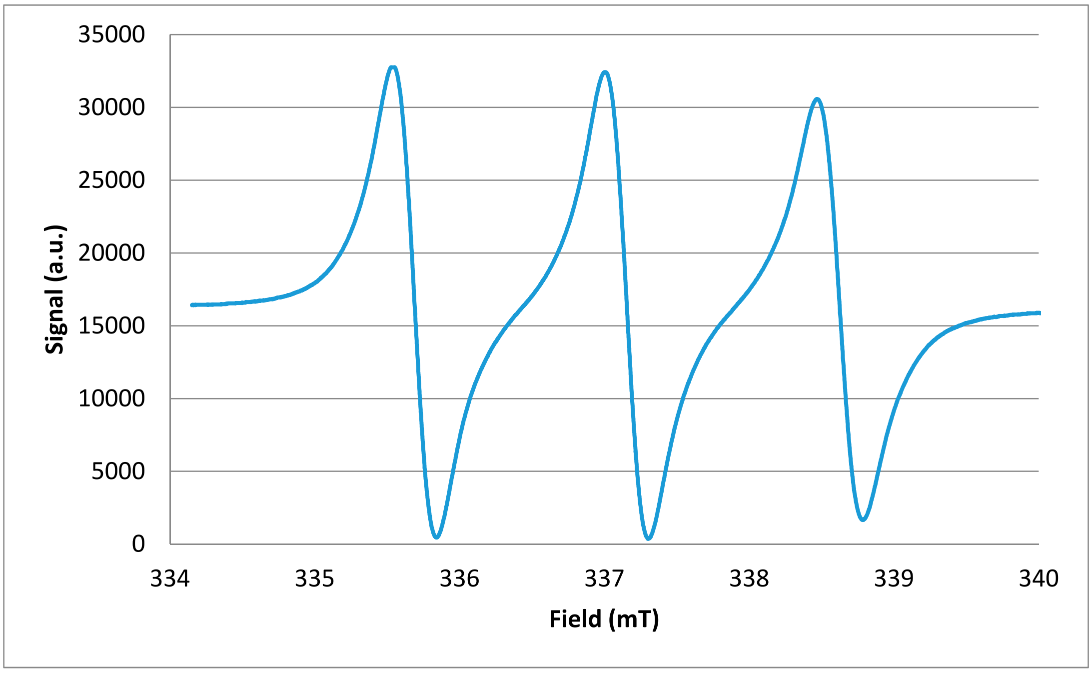


Figure S11. EPR spectrum of **10.**

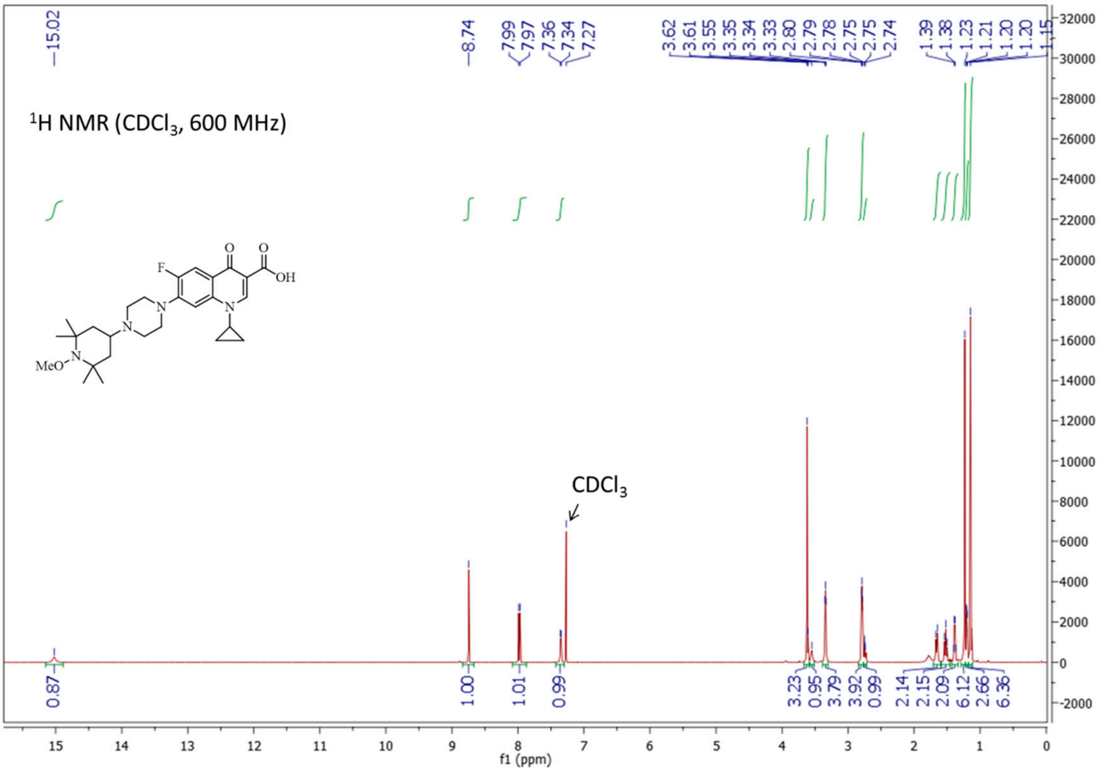


Figure S12. ^{1}H-NMR spectrum of **11**.

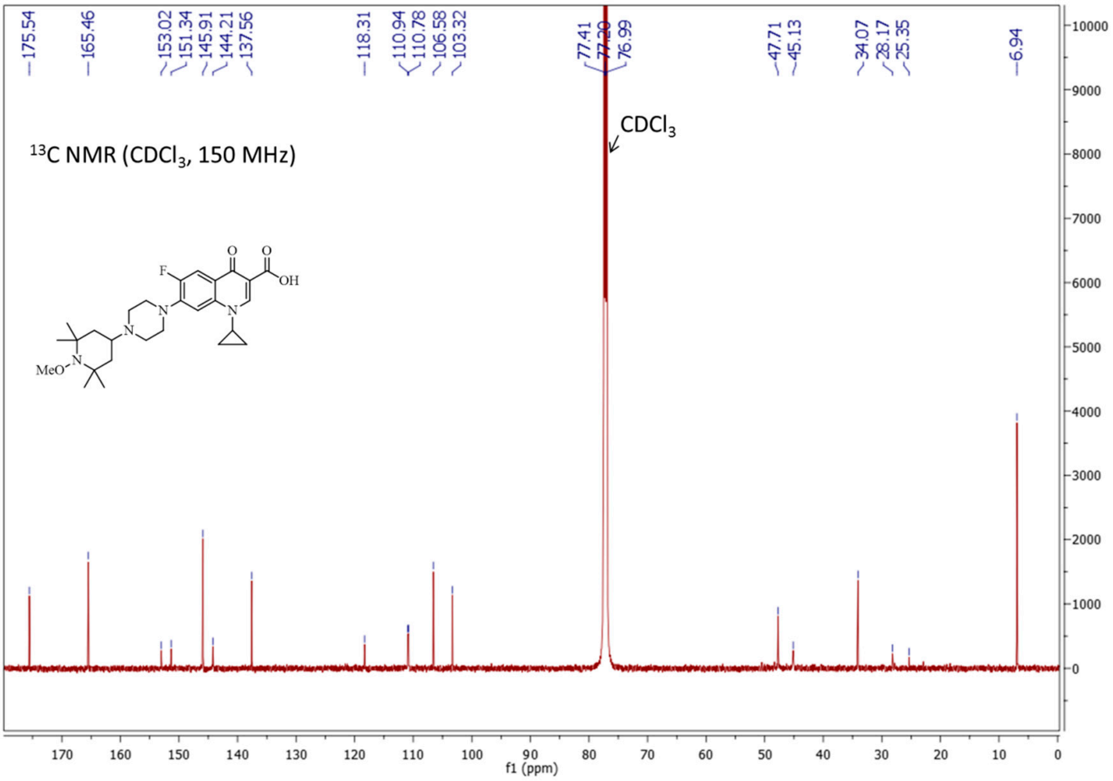
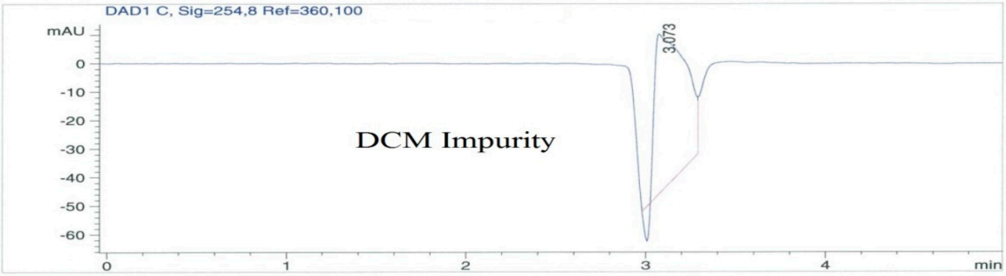
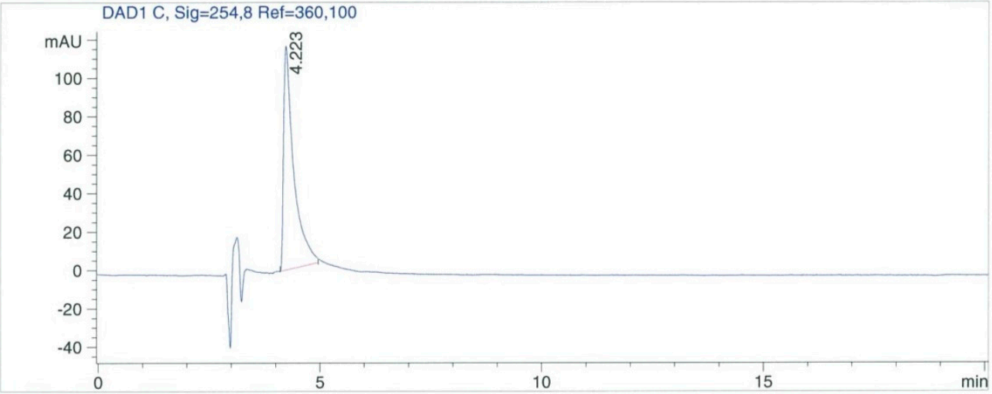


Figure S13. ^{13}C-NMR spectrum of **11**.

Column Type: Agilent Zorbax RX-SIL column (4.6 × 250 mm, 5 µm).
Flow Rate: 1 mL/min.
Solvent Composition: (DCM:THF, 70:30).



```
 Peak        Retention Time              Area             Main Pe
  No.          (minutes)                                  -------
------- -------------------- -------------------- 
1        3.073                  617.865                 100.000
-------------------------------------------------------------------
```



```
Peak        Retention Time             Area           Main Pe
 No.          (minutes)                               -------
-------  --------------------  --------------------
1        4.223                 1842.200              100.000
-----------------------------------------------------------
```

Figure S14. HPLC chromatogram of **11**.

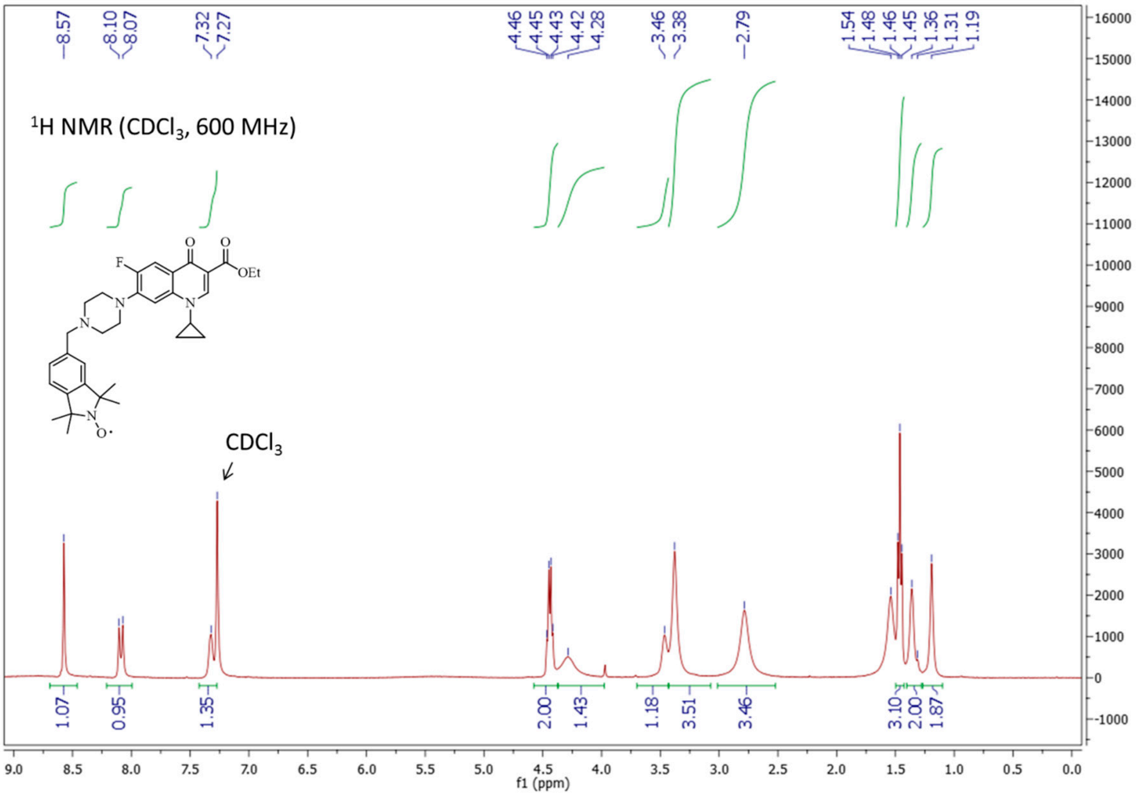


Figure S15. ^{1}H-NMR spectrum of **14**.

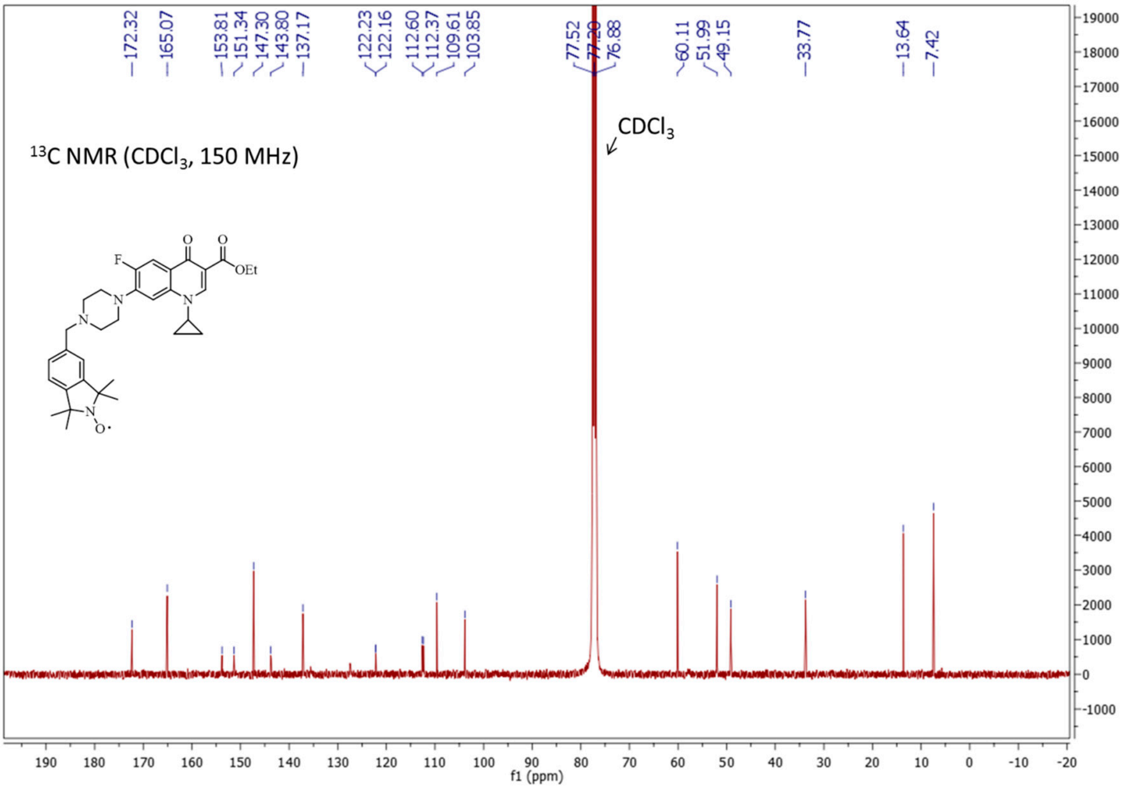
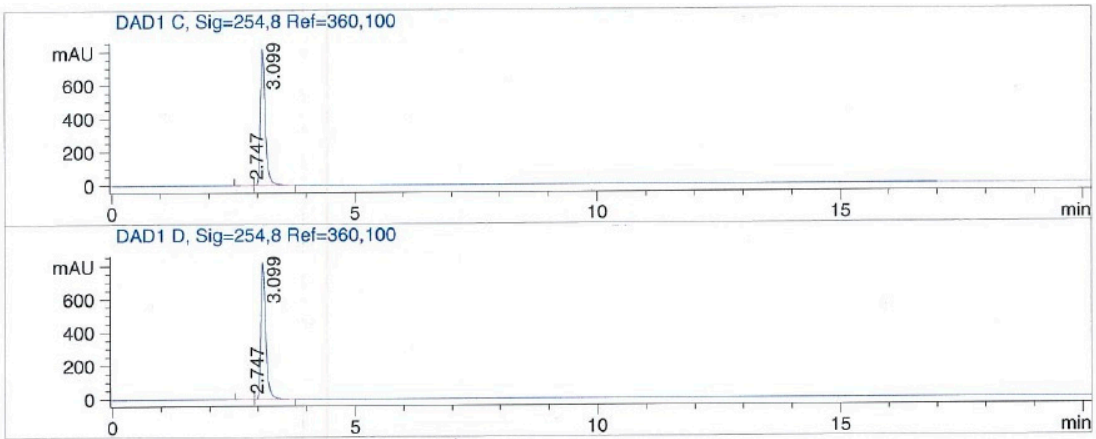


Figure S16. ^{13}C-NMR spectrum of **14**.

Column Type: Agilent C18 column (4.6 × 250 mm, 5 μm).
Flow Rate: 1 mL/min.
Solvent Composition: (MeOH:H_2O, 80:20).



```
 Peak      Area      Retention Time
  No.       (%)        (minutes)
------- ------- --------------------
1          0.274 2.747
2         99.726 3.099
------------------------------------
```

Figure S17. HPLC chromatogram of **14**.

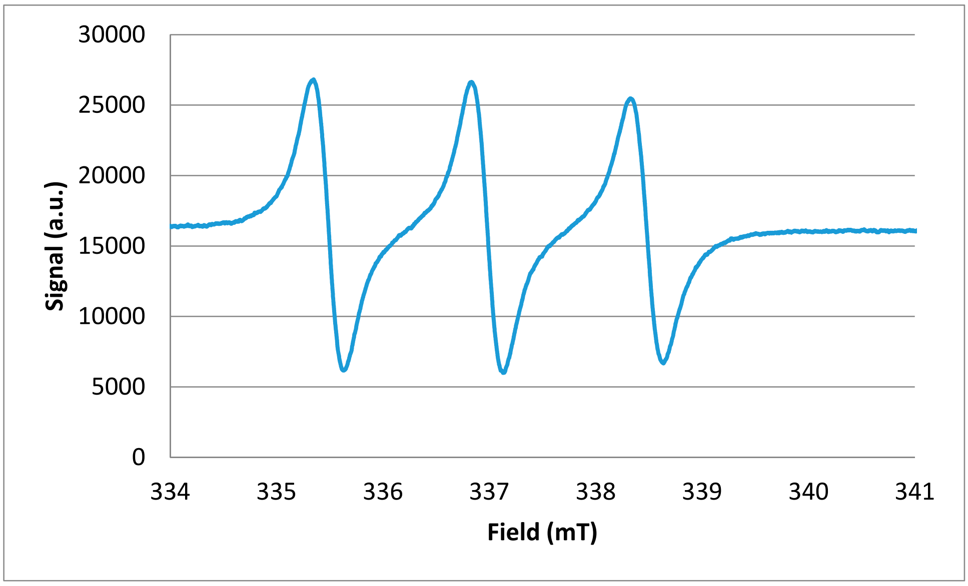


Figure S18. EPR spectrum of **14**.

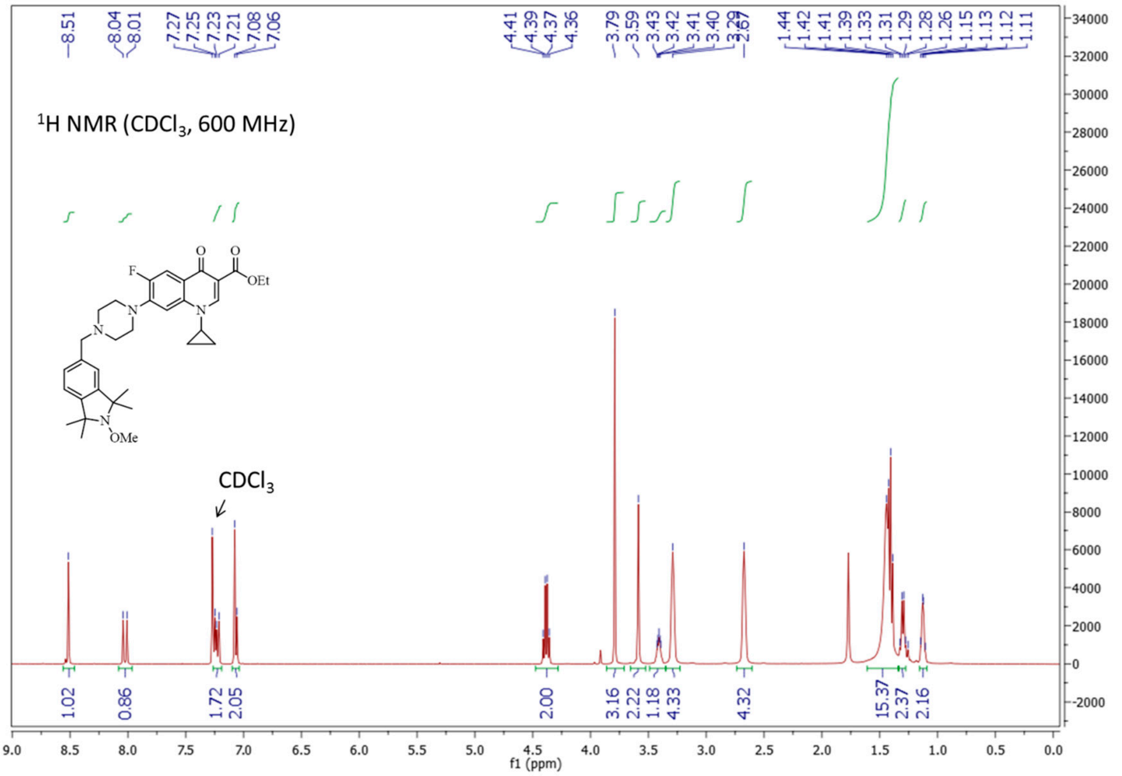


Figure S19. ^{1}H-NMR spectrum of **15**.

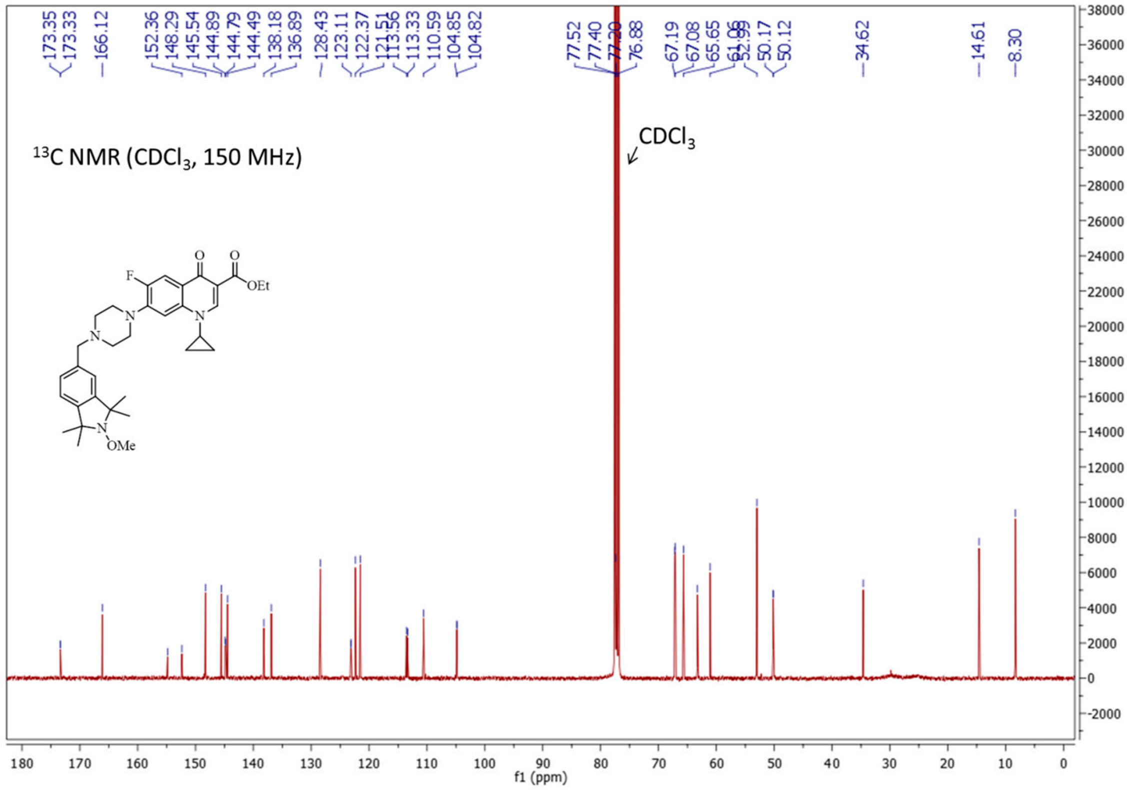
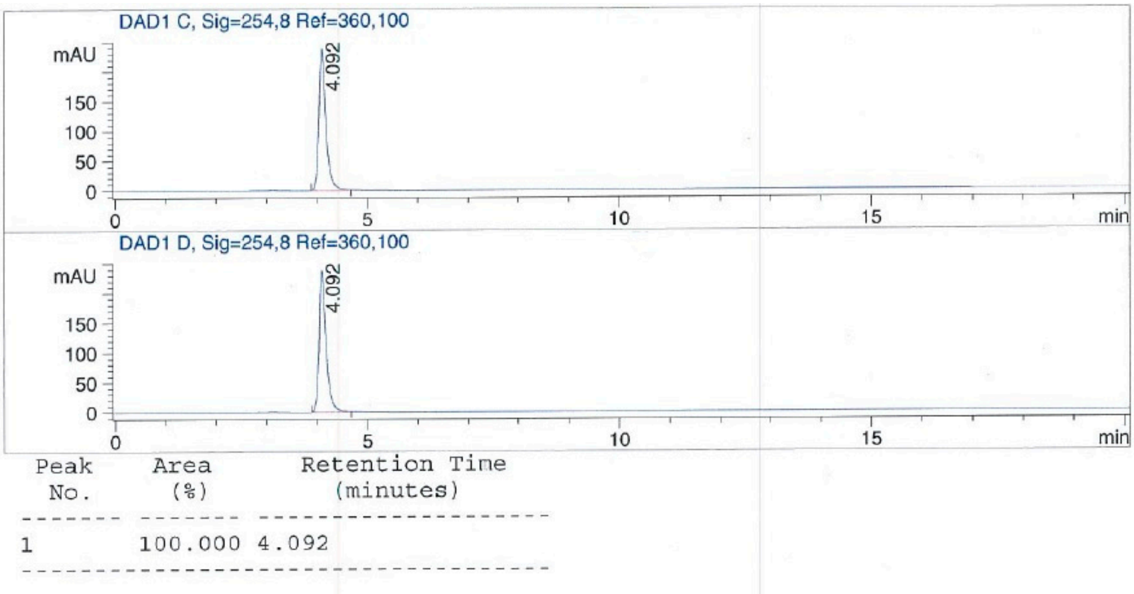


Figure S20. ^{13}C-NMR spectrum of **15**.

Column Type: Agilent C18 column (4.6 × 250 mm, 5 µm).
Flow Rate: 1 mL/min.
Solvent Composition: (MeOH:H_2O, 80:20).



```
  Peak      Area      Retention Time
  No.       (%)         (minutes)
------- ------- --------------------
1         100.000 4.092
------------------------------------
```

Figure S21. HPLC chromatogram of **15**.

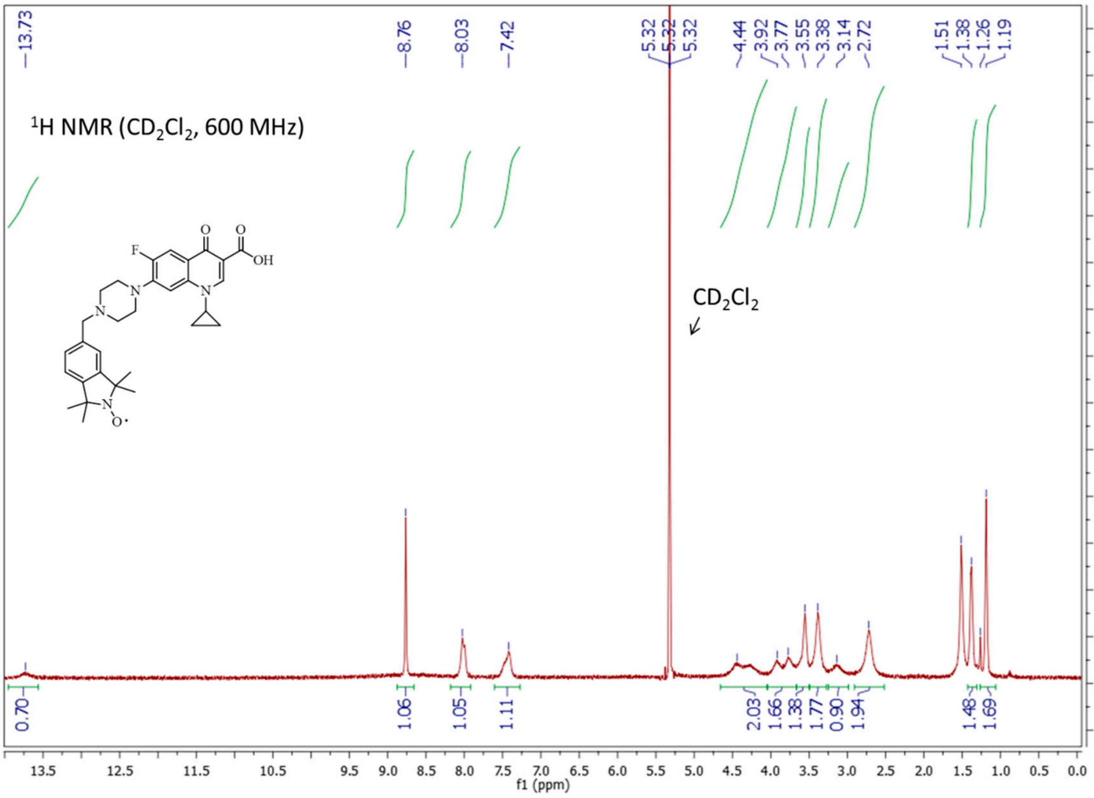


Figure S22. ^{1}H-NMR spectrum of **16**.

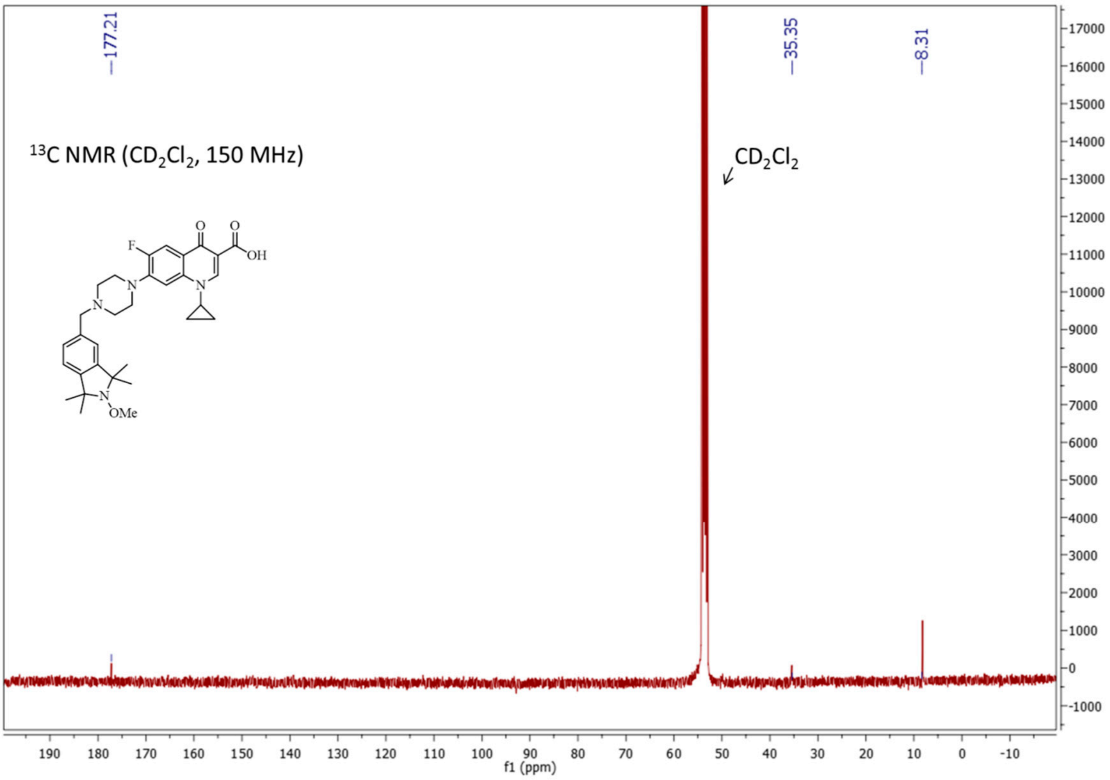
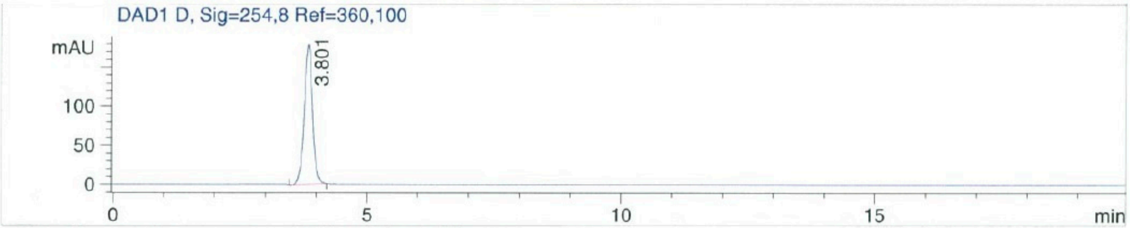


Figure S23. ^{13}C-NMR spectrum of **16**.

Column Type: Agilent C18 column (4.6 × 250 mm, 5 μm).
Flow Rate: 1 mL/min.
Solvent Composition: (MeCN:H_2O/TFA(99:1), 95:5).



```
 Peak      Area        Retention Time
  No.      (%)           (minutes)
------- ------- --------------------
1         0.000 0.000
2         0.000 0.000
3       100.000 3.801
------------------------------------
```

Figure S24. HPLC chromatogram of **16**.

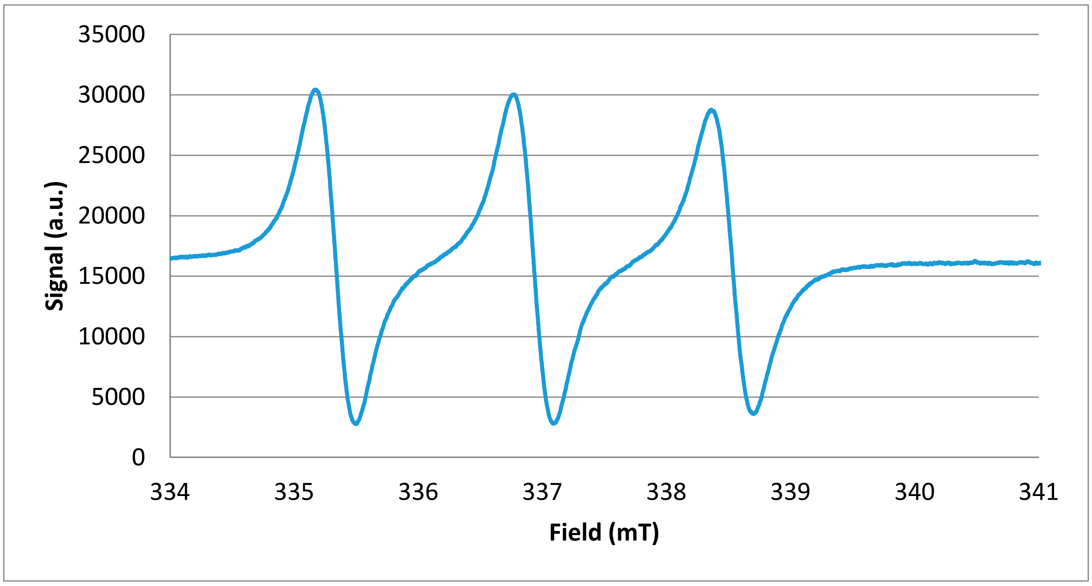


Figure S25. EPR spectrum of **16**.

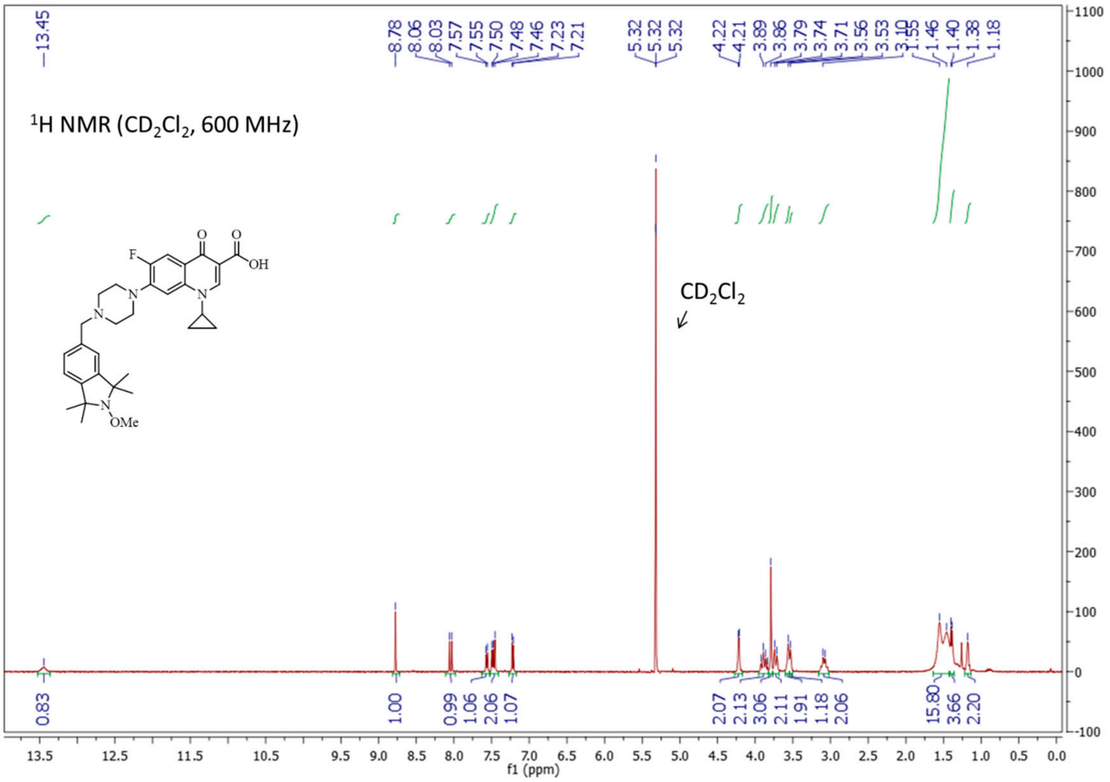


Figure S26. ^{1}H-NMR spectrum of **17**.

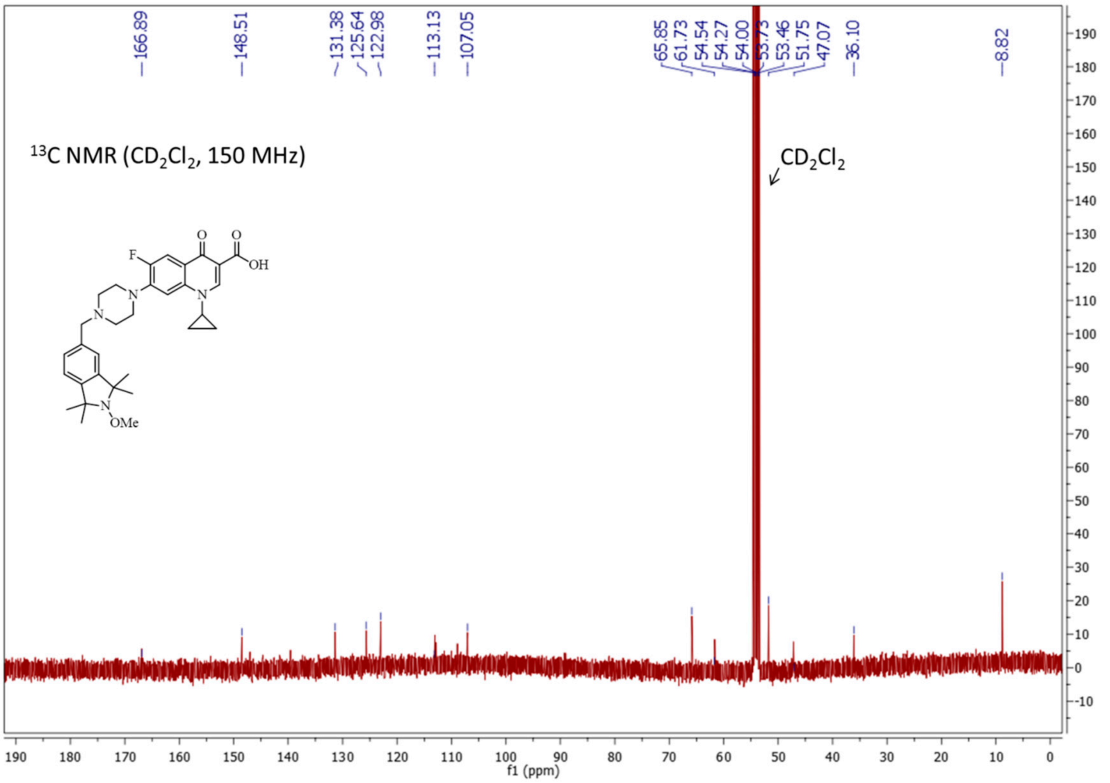
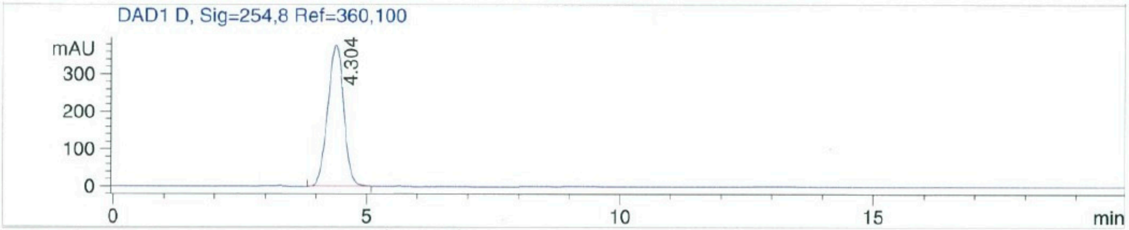


Figure S27. ^{13}C-NMR spectrum of **17**.

Column Type: Agilent C18 column (4.6 × 250 mm, 5 μm).
Flow Rate: 1 mL/min.
Solvent Composition: (MeCN:H_2O/TFA(99:1), 95:5).



```
 Peak    Area        Retention Time
  No.     (%)           (minutes)
------- ------- --------------------
1          0.000 0.000
2        100.000 4.304
------------------------------------
```

Figure S28. HPLC chromatogram of **17**.