

Supporting Information

S1. The spectra data of some of intermediates 18, 19 and 20.

S1.1. Compounds 18i, 18l, 18o, 18p and 18r-18w were prepared following the procedure described for the compound 18q.

(E)-3-(2-Hydroxyphenyl)-1-(2-iodophenyl)prop-2-en-1-one (**18i**)

Yellow solid, yield: 59%, mp: 110-112 °C. ESI-MS m/z 351.1 [M+H]⁺.

(E)-1-(2,6-Dimethoxyphenyl)-3-(2-hydroxyphenyl)prop-2-en-1-one (**18l**)

Yellow solid, yield: 62%, mp: 152-154 °C. ESI-MS m/z 285.1 [M+H]⁺.

(E)-3-(3-Bromo-2-hydroxyphenyl)-1-(2-iodophenyl)prop-2-en-1-one (**18o**)

Yellow solid, yield: 60%, mp: 108-110 °C. ESI-MS m/z 428.5 [M+H]⁺.

(E)-3-(4-Bromo-2-hydroxyphenyl)-1-(2-iodophenyl)prop-2-en-1-one (**18p**)

Yellow solid, yield: 58%, mp: 162-164 °C. ESI-MS m/z 428.5 [M+H]⁺.

(E)-3-(2-Bromo-6-hydroxyphenyl)-1-(2-iodophenyl)prop-2-en-1-one (**18r**)

Yellow solid, yield: 58%, mp: 166-168 °C. ESI-MS m/z 428.5 [M+H]⁺.

(E)-3-(2-Chloro-6-hydroxyphenyl)-1-(2-iodophenyl)prop-2-en-1-one (**18s**)

Yellow solid, yield: 65%, mp: 154-156 °C. ESI-MS m/z 384.9 [M+H]⁺.

(E)-1-(2-(Benzyloxy)phenyl)-3-(2-hydroxyphenyl)prop-2-en-1-one (**18t**)

Yellow solid, yield: 57%, mp: 146-148 °C. ESI-MS m/z 331.1 [M+H]⁺.

(E)-1-(2-((2-Bromobenzyl)oxy)phenyl)-3-(2-hydroxyphenyl)prop-2-en-1-one (**18u**)

Yellow solid, yield: 63%, mp: 130-132 °C. ESI-MS m/z 409.2 [M+H]⁺.

(E)-1-(2-((3-Bromobenzyl)oxy)phenyl)-3-(2-hydroxyphenyl)prop-2-en-1-one (**18v**)

Yellow solid, yield: 61%, mp: 134-136 °C. ESI-MS m/z 409.5 [M+H]⁺.

(E)-1-(2-((4-Bromobenzyl)oxy)phenyl)-3-(2-hydroxyphenyl)prop-2-en-1-one (**18w**)

Yellow solid, yield: 57%, mp: 126-128 °C. ESI-MS m/z 409.5 [M+H]⁺.

S1.2. Compounds 19a-19c, 19e-19i, 19k-19m, 19o-19q, 19s, 19u, 19w, 19y, 19aa, 19cc, 19ee and 19gg were prepared following the procedure described for the compound 19d.

1-(3-(2-Bromophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19a**)

White solid, yield: 68%, mp: 166-168 °C. ESI-MS m/z 359.5 [M+H]⁺.

1-(3-(3-Bromophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19b**)

White solid, yield: 70%, mp: 248-250 °C. ESI-MS m/z 359.5 [M+H]⁺.

1-(3-(4-Bromophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19c**)

White solid, yield: 64%, mp: > 250 °C. ESI-MS m/z 359.5 [M+H]⁺.

1-(5-(2-Hydroxyphenyl)-3-(3-methoxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19e**)

White solid, yield: 62%, mp: 204-208 °C. ESI-MS m/z 311.2 [M+H]⁺.

1-(5-(2-Hydroxyphenyl)-3-(4-methoxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19f**)

White solid, yield: 60%, mp: 230-232 °C. ESI-MS m/z 311.2 [M+H]⁺.

1-(3-(2-Fluorophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19g**)

White solid, yield: 53%, mp: 208-210 °C. ESI-MS m/z 299.1 [M+H]⁺.

1-(3-(2-Chlorophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19h**)

White solid, yield: 59%, mp: 142-144 °C. ESI-MS m/z 315.2 [M+H]⁺.

1-(5-(2-Hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19i**)

White solid, yield: 62%, mp: 152-154 °C. ESI-MS *m/z* 407.5 [M+H]⁺.
 1-(5-(2-Hydroxyphenyl)-3-(*o*-tolyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19k**)

White solid, yield: 64%, mp: 180-182 °C. ESI-MS *m/z* 295.2 [M+H]⁺.
 1-(3-(2,4-Dichlorophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19l**)

White solid, yield: 72%, mp: 226-228 °C. ESI-MS *m/z* 349.1 [M+H]⁺.
 1-(3-(2,6-Dimethoxyphenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19m**)

White solid, yield: 69%, mp: 148-150 °C. ESI-MS *m/z* 341.4 [M+H]⁺.
 1-(3-(2,6-Dichlorophenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19o**)

White solid, yield: 65%, mp: 180-182 °C. ESI-MS *m/z* 349.1 [M+H]⁺.
 1-(5-(2-Hydroxyphenyl)-3-(naphthalen-1-yl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19p**)

White solid, yield: 71%, mp: 208-210 °C. ESI-MS *m/z* 331.2 [M+H]⁺.
 1-(5-(3-Bromo-2-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19q**)

White solid, yield: 72%, mp: 132-134 °C. ESI-MS *m/z* 484.9 [M+H]⁺.
 1-(5-(4-Bromo-2-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19s**)

White solid, yield: 74%, mp: 98-100 °C. ESI-MS *m/z* 484.9 [M+H]⁺.
 1-(5-(5-Bromo-2-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19u**)

White solid, yield: 77%, mp: 176-178 °C. ESI-MS *m/z* 484.9 [M+H]⁺.
 1-(5-(2-Bromo-6-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19w**)

White solid, yield: 68%, mp: 214-216 °C. ESI-MS *m/z* 484.9 [M+H]⁺.
 1-(5-(2-Chloro-6-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19y**)

White solid, yield: 67%, mp: 204-206 °C. ESI-MS *m/z* 440.9 [M+H]⁺.
 1-(3-(2-(Benzyloxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19aa**)

White solid, yield: 70%, mp: 170-172 °C. ESI-MS *m/z* 387.5 [M+H]⁺.
 1-(3-(2-((2-Bromobenzyl)oxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19cc**)

White solid, yield: 72%, mp: 176-178 °C. ESI-MS *m/z* 465.1 [M+H]⁺.
 1-(3-(2-((3-Bromobenzyl)oxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19ee**)

White solid, yield: 67%, mp: 182-184 °C. ESI-MS *m/z* 465.1 [M+H]⁺.
 1-(3-(2-((4-Bromobenzyl)oxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazol-1-yl) ethan-1-one (**19gg**)

White solid, yield: 71%, mp: 142-144 °C. ESI-MS *m/z* 465.1 [M+H]⁺.

S1.3. Compounds 19n, 19r, 19t, 19v, 19x, 19z, 19bb, 19dd, 19ff and 19hh were prepared following the procedure described for the compound 19j.

3-(2,6-Dimethoxyphenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19n**)

White solid, yield: 64%, mp: 216-218 °C. ESI-MS m/z 342.5 [M+H]⁺.

5-(3-Bromo-2-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19r**)

White solid, yield: 61%, mp: 184-186 °C. ESI-MS m/z 485.9 [M+H]⁺.

5-(4-Bromo-2-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19t**)

White solid, yield: 65%, mp: 206-208 °C. ESI-MS m/z 485.9 [M+H]⁺.

5-(5-Bromo-2-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19v**)

White solid, yield: 68%, mp: 220-222 °C. ESI-MS m/z 485.9 [M+H]⁺.

5-(2-Bromo-6-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19x**)

White solid, yield: 65%, mp: 218-220 °C. ESI-MS m/z 485.9 [M+H]⁺.

5-(2-Chloro-6-hydroxyphenyl)-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19z**)

White solid, yield: 66%, mp: 218-220 °C. ESI-MS m/z 441.9 [M+H]⁺.

3-(2-(Benzyloxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19bb**)

White solid, yield: 62%, mp: 172-174 °C. ESI-MS m/z 388.2 [M+H]⁺.

3-(2-((2-Bromobenzyl)oxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19dd**)

White solid, yield: 63%, mp: 132-134 °C. ESI-MS m/z 466.1 [M+H]⁺.

3-(2-((3-Bromobenzyl)oxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19ff**)

White solid, yield: 60%, mp: 200-202 °C. ESI-MS m/z 466.1 [M+H]⁺.

3-(2-((4-Bromobenzyl)oxy)phenyl)-5-(2-hydroxyphenyl)-4,5-dihydro-1H-pyrazole-1-carboxamide (**19hh**)

White solid, yield: 64%, mp: 174-176 °C. ESI-MS m/z 466.1 [M+H]⁺.

S1.4. Compounds 20a-20c, 20e-20z and 20aa-20hh were prepared following the procedure described for the compound 20d.

Methyl 2-(2-(1-acetyl-3-(2-bromophenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20a**)

White solid, yield: 64%, mp: 92-94 °C. ESI-MS m/z 431.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(3-bromophenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20b**)

White solid, yield: 61%, mp: 142-144 °C. ESI-MS m/z 431.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(4-bromophenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20c**)

White solid, yield: 68%, mp: 158-160 °C. ESI-MS m/z 431.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(3-methoxyphenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20e**)

White solid, yield: 59%, mp: 138-140 °C. ESI-MS m/z 383.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(4-methoxyphenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20f**)

White solid, yield: 67%, mp: 106-108 °C. ESI-MS m/z 383.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-fluorophenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20g**)
 White solid, yield: 68%, mp: 110-112 °C. ESI-MS m/z 371.3 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-chlorophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20h**)
 White solid, yield: 70%, mp: 108-110 °C. ESI-MS m/z 413.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20i**)
 White solid, yield: 62%, mp: 98-100 °C. ESI-MS m/z 479.2 [M+H]⁺.

Methyl 2-(2-(1-carbamoyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (**20j**)
 White solid, yield: 68%, mp: 184-186 °C. ESI-MS m/z 480.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(o-tolyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20k**)
 White solid, yield: 62%, mp: 122-124 °C. ESI-MS m/z 367.1 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2,4-dichlorophenyl)-4,5-dihydro-1H-pyrazol-5-yl) phenoxy) acetate (**20l**)
 White solid, yield: 65%, mp: 96-98 °C. ESI-MS m/z 421.1 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2,6-dimethoxyphenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20m**)
 White solid, yield: 60%, mp: 164-166 °C. ESI-MS m/z 413.5 [M+H]⁺.

Methyl 2-(2-(1-carbamoyl-3-(2,6-dimethoxyphenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20n**)
 White solid, yield: 69%, mp: 170-172 °C. ESI-MS m/z 414.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2,6-dichlorophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20o**)
 White solid, yield: 61%, mp: 162-164 °C. ESI-MS m/z 421.3 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(naphthalen-1-yl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20p**)
 White solid, yield: 67%, mp: 170-172 °C. ESI-MS m/z 403.1 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)-6-bromophenoxy) acetate (**20q**)
 White solid, yield: 62%, mp: 110-112 °C. ESI-MS m/z 556.9 [M+H]⁺.

Methyl 2-(2-bromo-6-(1-carbamoyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20r**)
 White solid, yield: 64%, mp: 166-168 °C. ESI-MS m/z 558.0 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)-5-bromophenoxy) acetate (**20s**)
 White solid, yield: 66%, mp: 114-116 °C. ESI-MS m/z 556.9 [M+H]⁺.

Methyl 2-(5-bromo-2-(1-carbamoyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20t**)
 White solid, yield: 72%, mp: 148-150 °C. ESI-MS m/z 557.9 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)-4-bromophenoxy) acetate (**20u**)
 White solid, yield: 70%, mp: 82-84 °C. ESI-MS m/z 556.9 [M+H]⁺.

Methyl 2-(4-bromo-2-(1-carbamoyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy) acetate (**20v**)
 White solid, yield: 65%, mp: 192-194 °C. ESI-MS m/z 557.9 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)-3-bromophenoxy)acetate

(20w)

White solid, yield: 63%, mp: 112-114 °C. ESI-MS m/z 556.9 [M+H]⁺.

Methyl 2-(3-bromo-2-(1-carbamoyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20x)

White solid, yield: 61%, mp: 188-190 °C. ESI-MS m/z 557.9 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)-3-chlorophenoxy)acetate (20y)

White solid, yield: 69%, mp: 118-120 °C. ESI-MS m/z 513.2 [M+H]⁺.

Methyl 2-(2-(1-carbamoyl-3-(2-iodophenyl)-4,5-dihydro-1H-pyrazol-5-yl)-3-chlorophenoxy)acetate (20z)

White solid, yield: 68%, mp: 206-208 °C. ESI-MS m/z 514.1 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-(benzyloxy)phenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20aa)

White solid, yield: 58%, mp: 130-132 °C. ESI-MS m/z 459.1 [M+H]⁺.

Methyl 2-(2-(3-(2-(benzyloxy)phenyl)-1-carbamoyl-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20bb)

White solid, yield: 61%, mp: 178-180 °C. ESI-MS m/z 460.2 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-((2-bromobenzyl)oxy)phenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20cc)

White solid, yield: 65%, mp: 120-122 °C. ESI-MS m/z 537.2 [M+H]⁺.

Methyl 2-(2-(3-(2-((2-bromobenzyl)oxy)phenyl)-1-carbamoyl-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20dd)

White solid, yield: 67%, mp: 152-154 °C. ESI-MS m/z 538.5 [M+H]⁺.

Methyl 2-(2-(1-acetyl-3-(2-((3-bromobenzyl)oxy)phenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20ee)

White solid, yield: 68%, mp: 102-104 °C. ESI-MS m/z 537.2 [M+H]⁺.

Methyl 2-(2-(3-(2-((3-bromobenzyl)oxy)phenyl)-1-carbamoyl-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20ff)

White solid, yield: 70%, mp: 128-130 °C. ESI-MS m/z 538.5 [M+H]⁺.

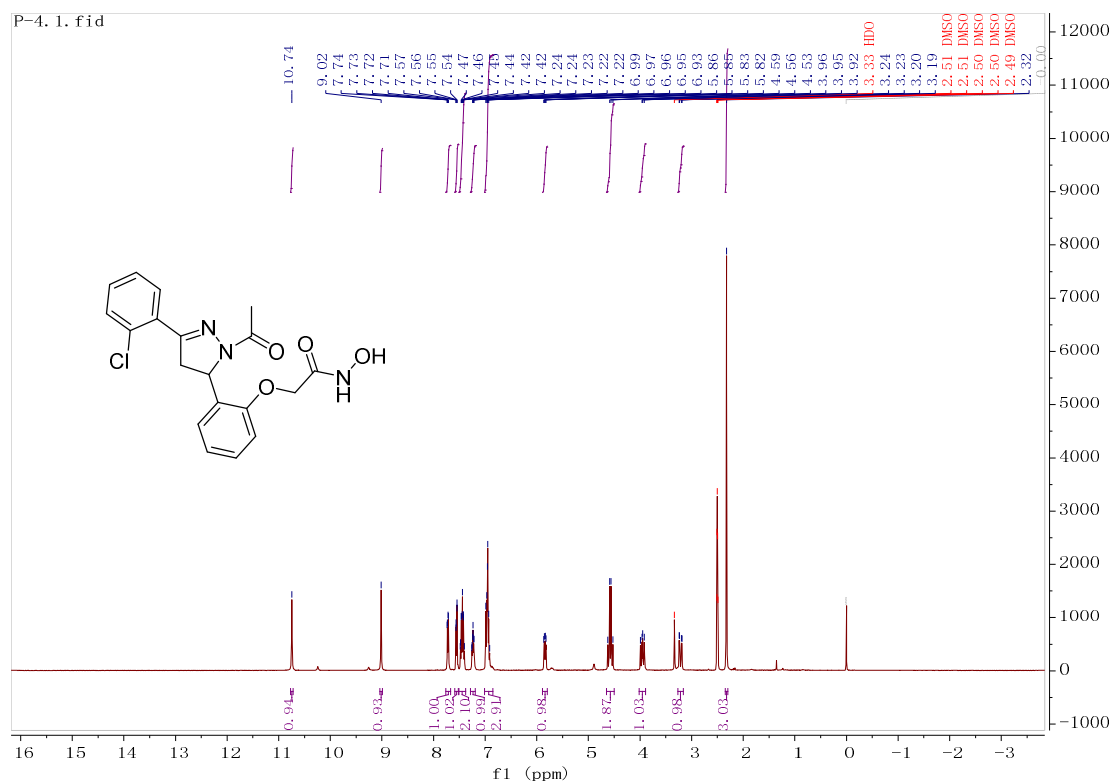
Methyl 2-(2-(1-acetyl-3-(2-((4-bromobenzyl)oxy)phenyl)-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20gg)

White solid, yield: 71%, mp: 106-108 °C. ESI-MS m/z 537.2 [M+H]⁺.

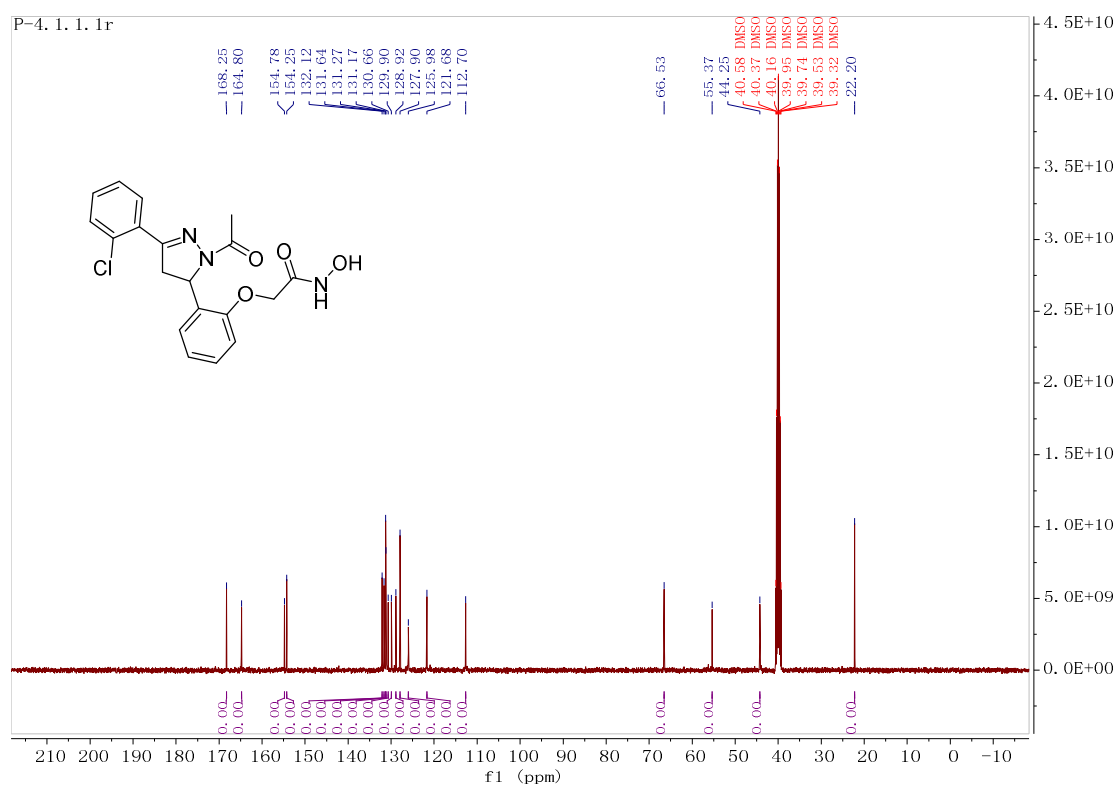
Methyl 2-(2-(3-(2-((4-bromobenzyl)oxy)phenyl)-1-carbamoyl-4,5-dihydro-1H-pyrazol-5-yl)phenoxy)acetate (20hh)

White solid, yield: 67%, mp: 134-136 °C. ESI-MS m/z 538.5 [M+H]⁺.

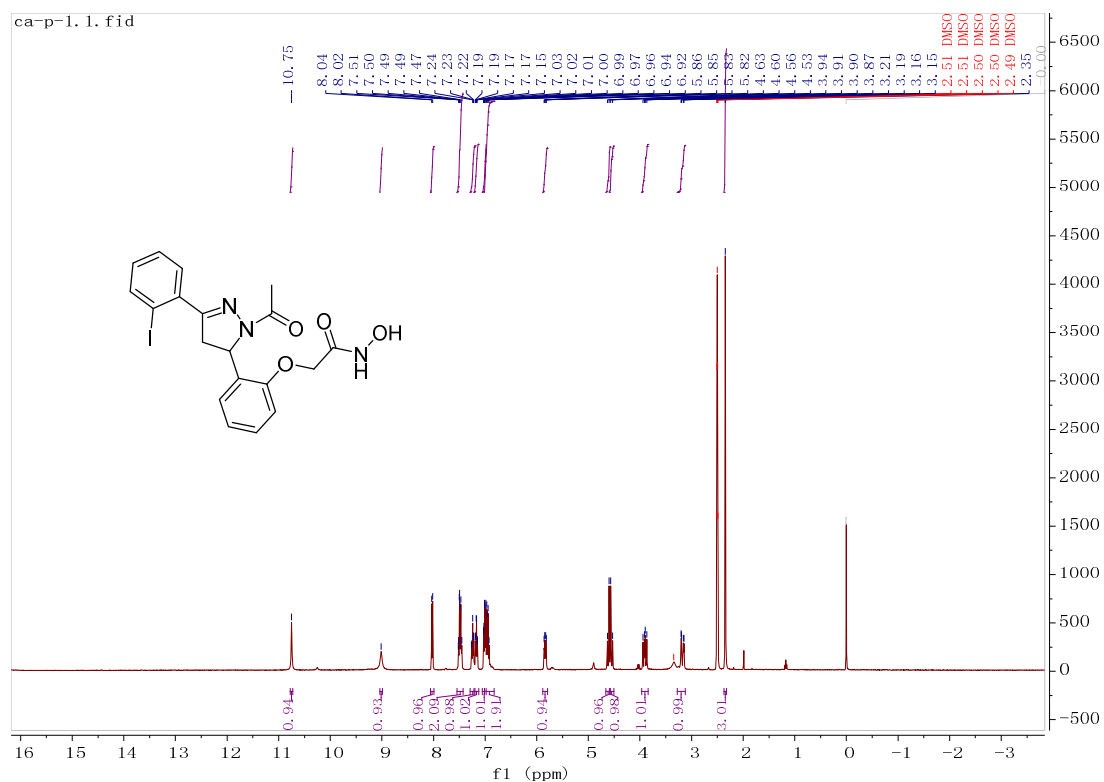
S2. The ¹H NMR and ¹³C NMR spectra of target compounds 14h-14j, 14o, 14aa-14cc, 14ee, and 14ff.



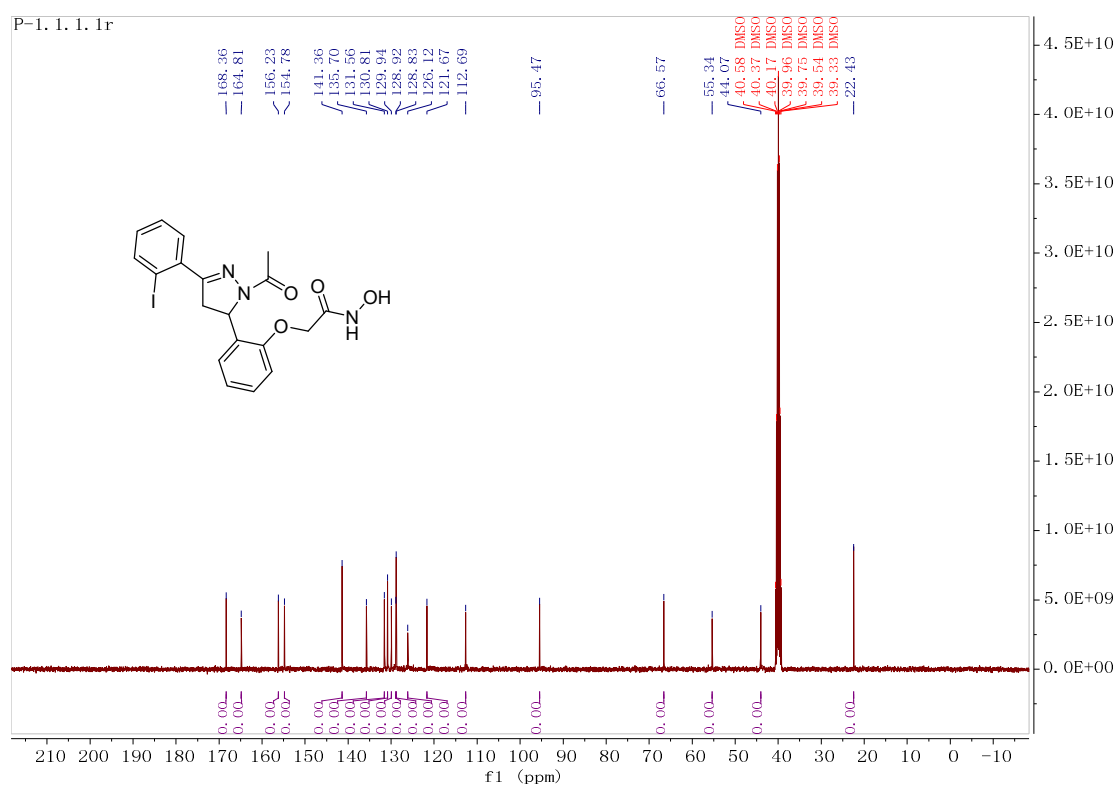
¹H NMR spectrum of compound 14h



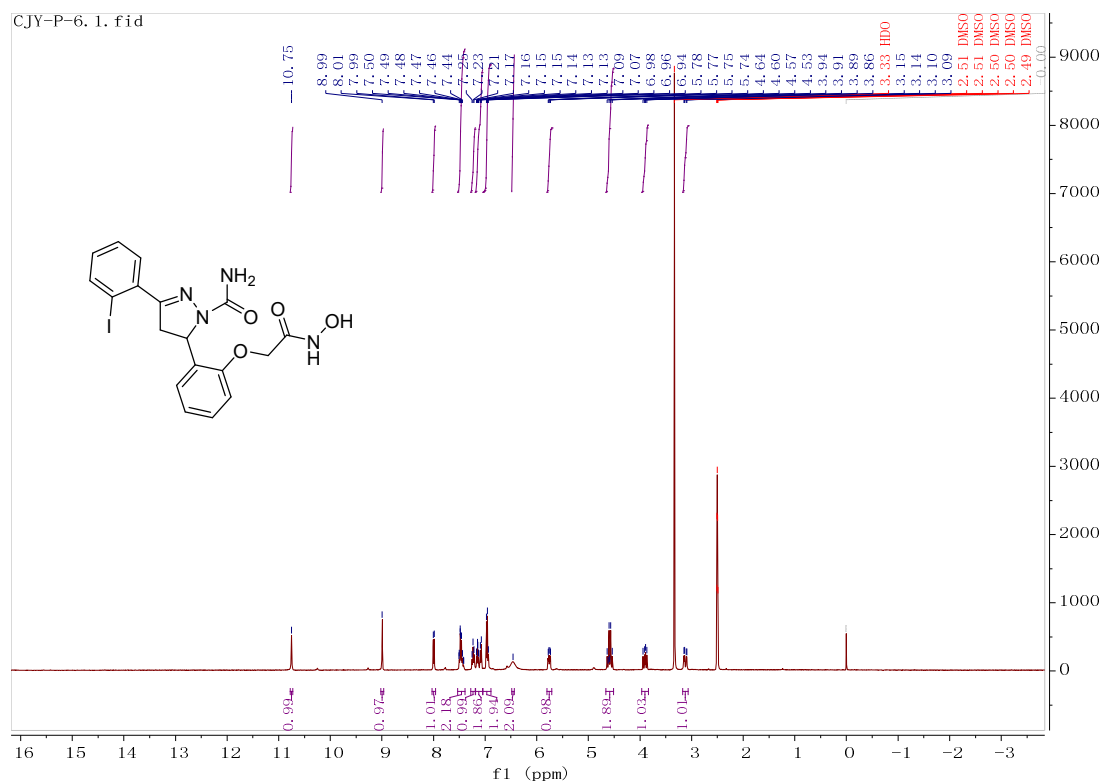
¹³C NMR spectrum of compound 14h



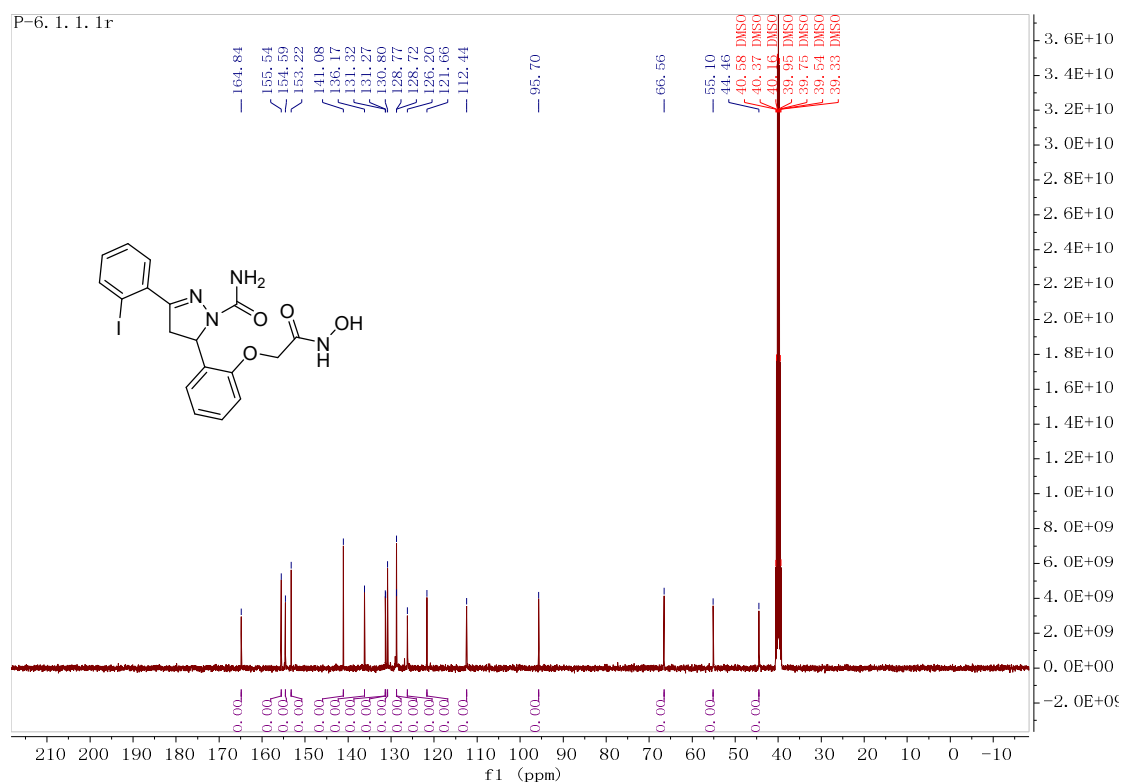
¹H NMR spectrum of compound 14i



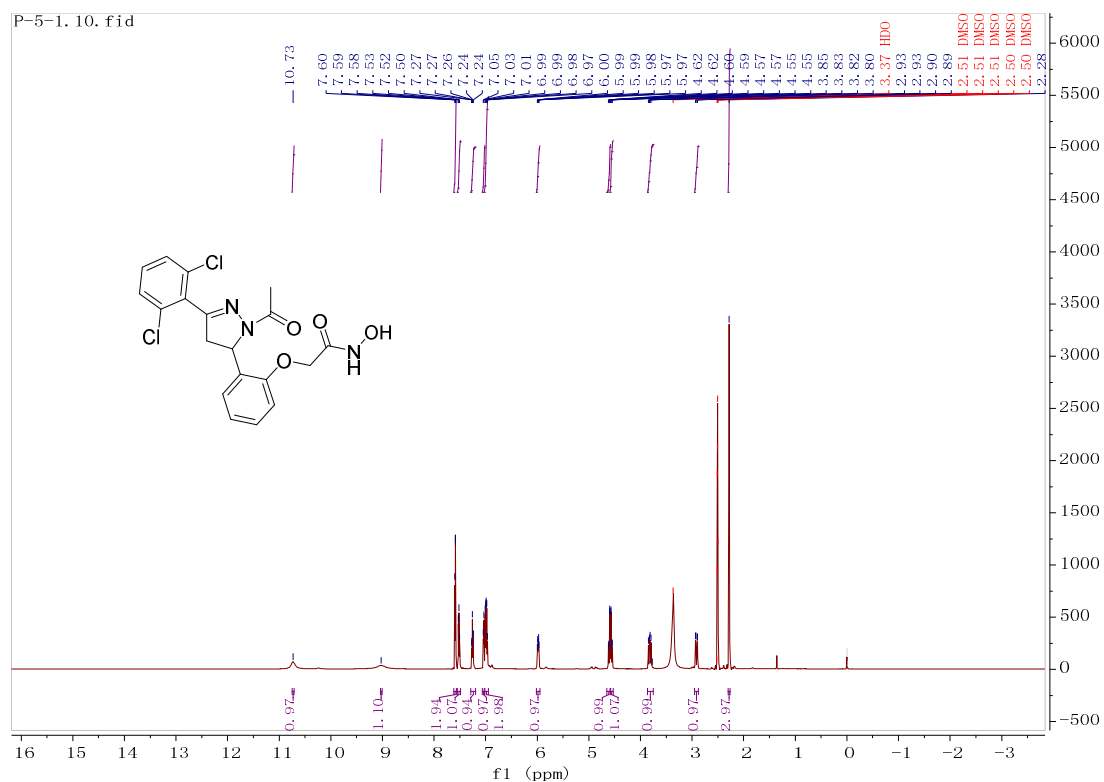
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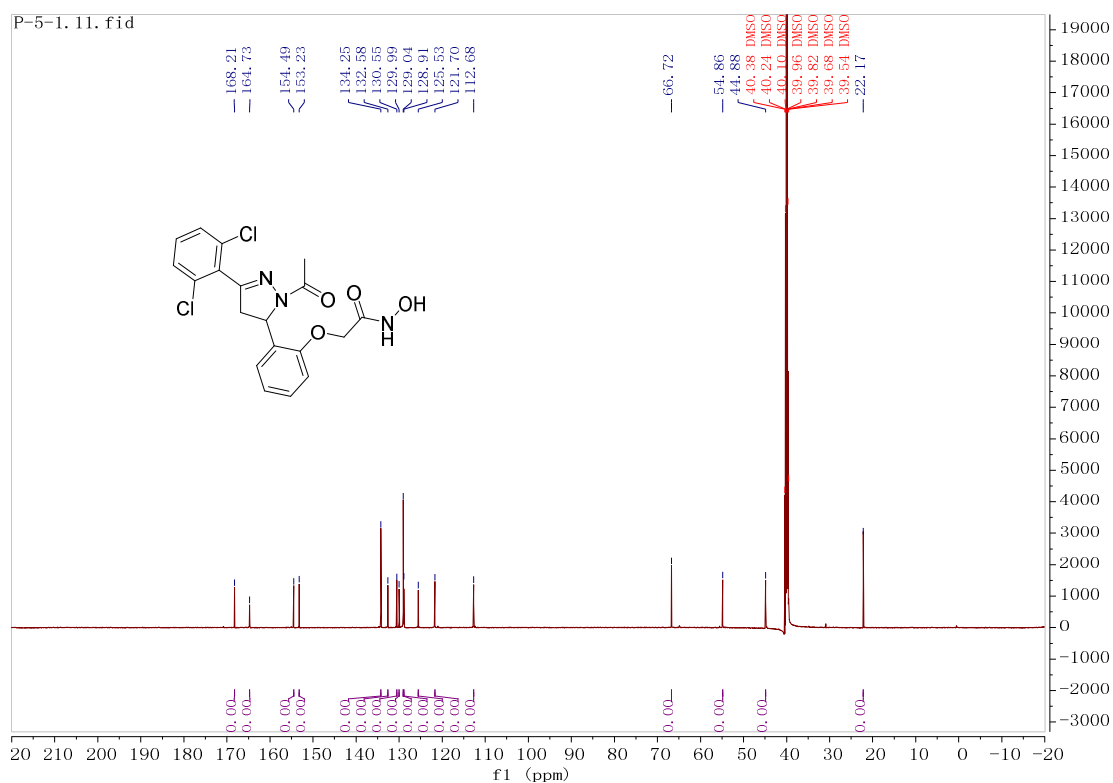
¹H NMR spectrum of compound 14j



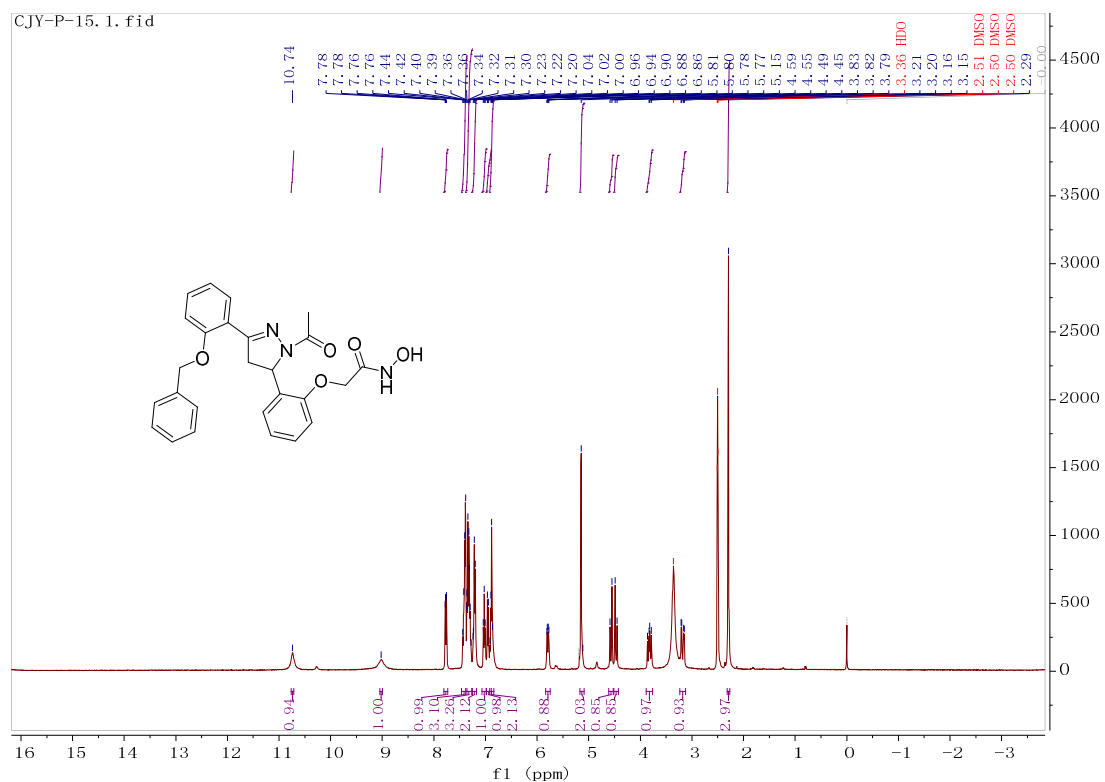
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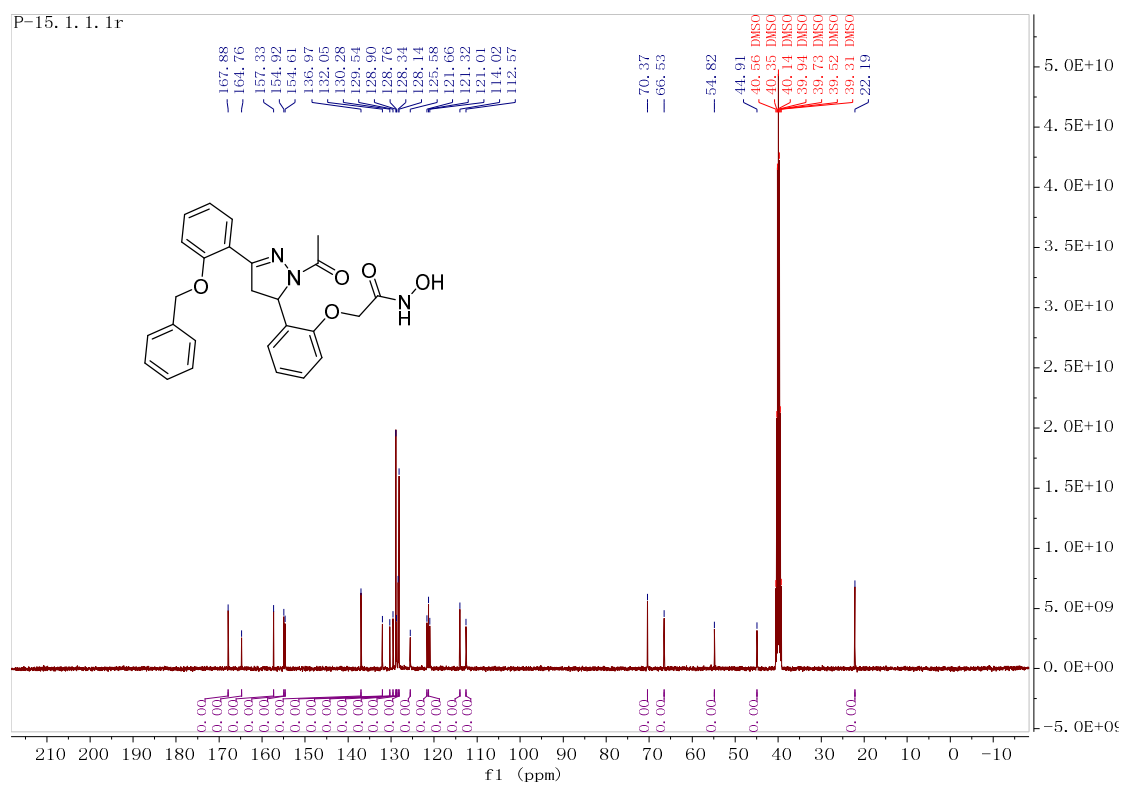
¹H NMR spectrum of compound **14o**



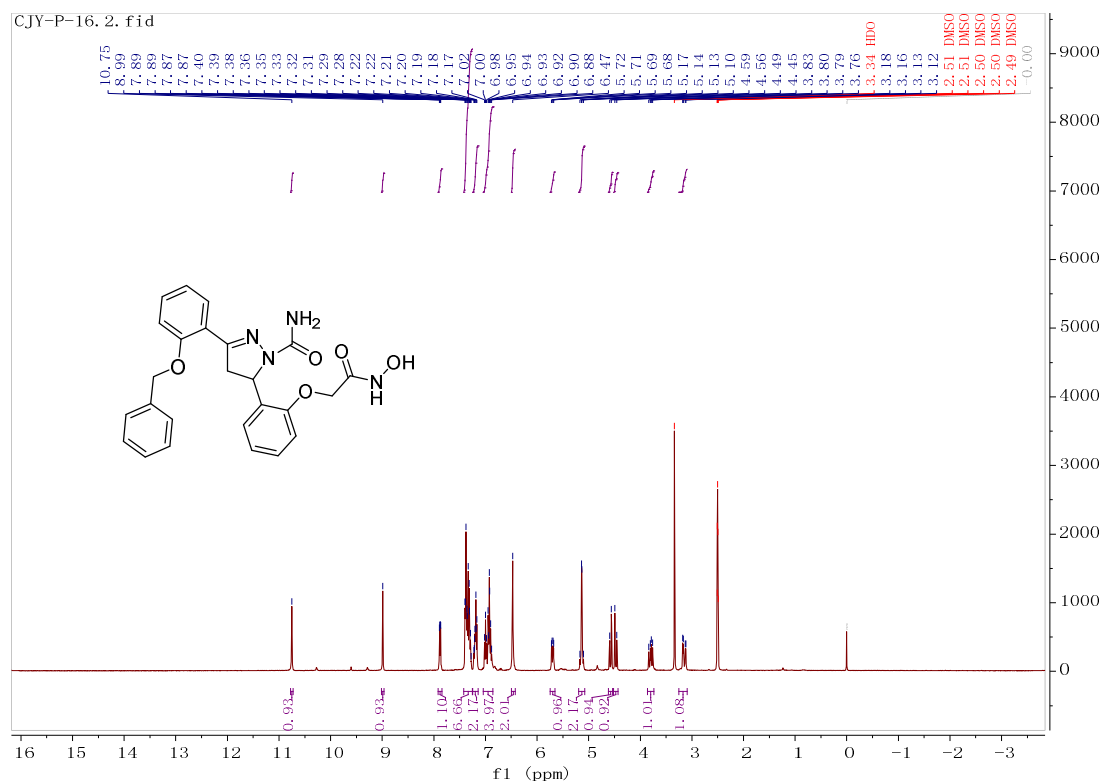
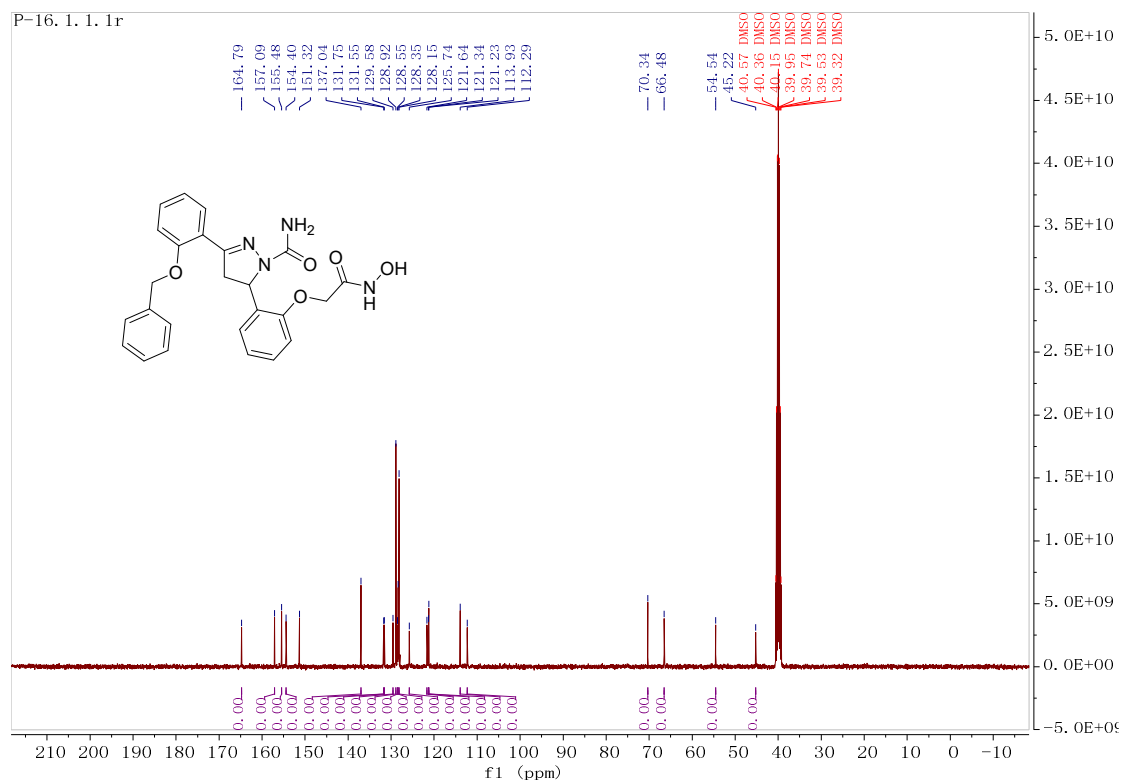
¹³C NMR spectrum of compound **14o**



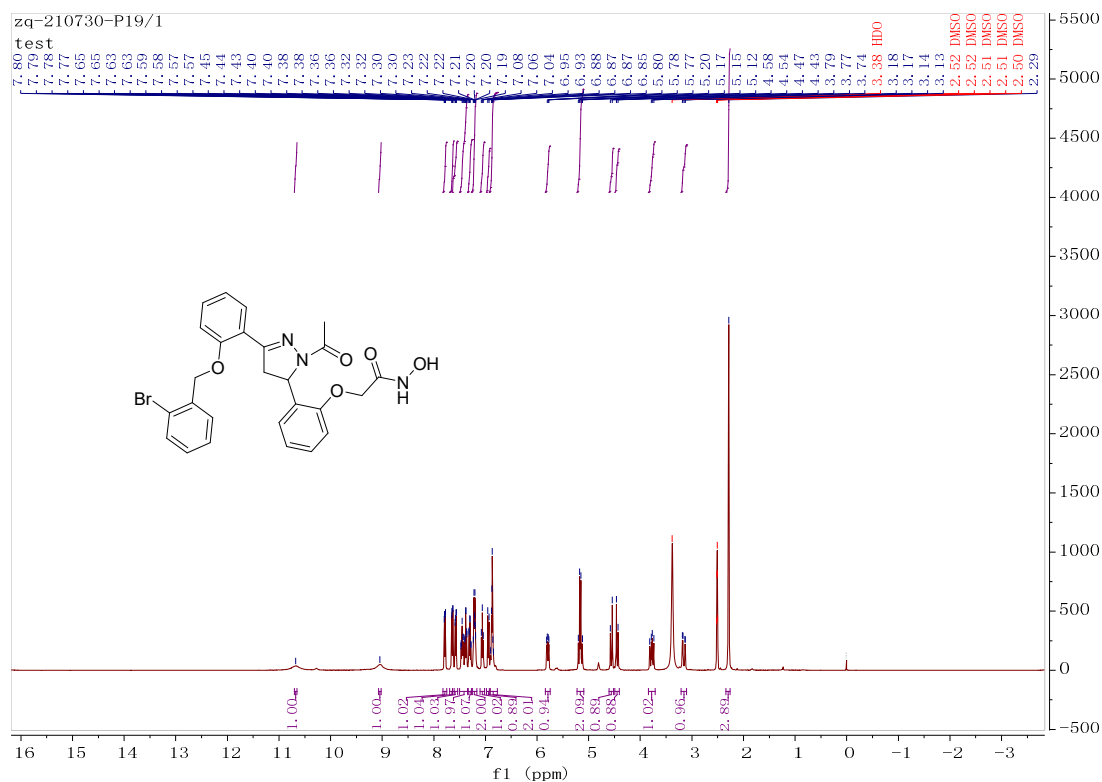
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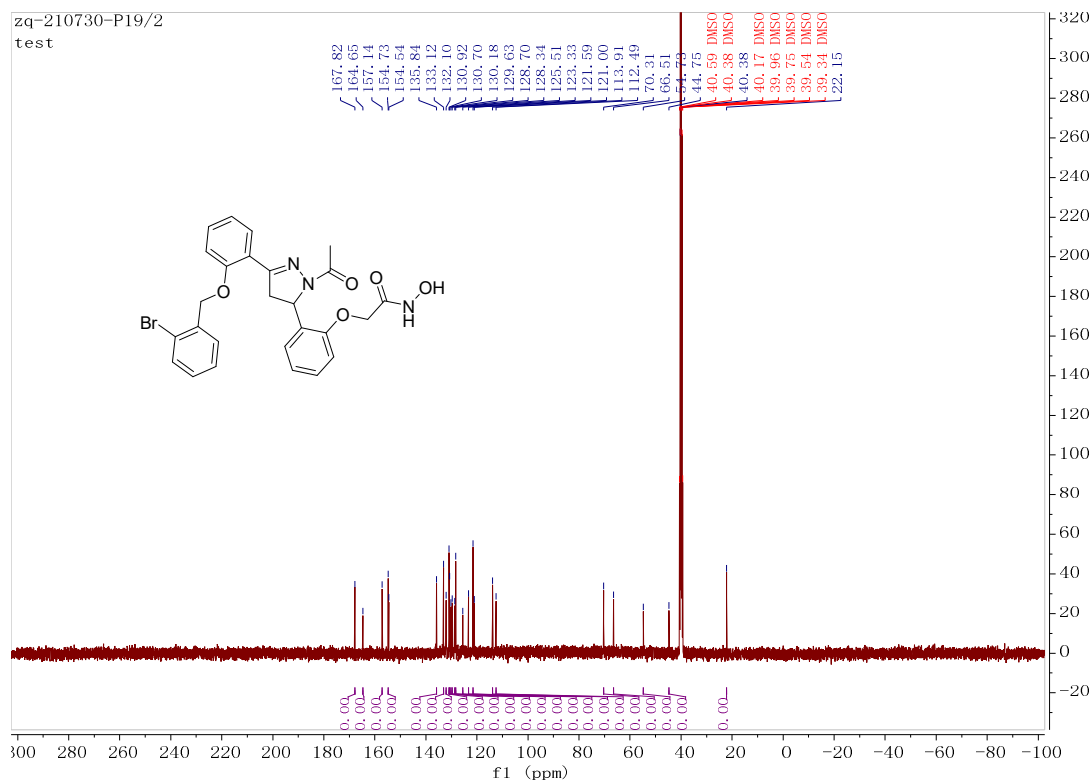
¹³C NMR spectrum of compound 14aa

¹H NMR spectrum of compound **14bb**

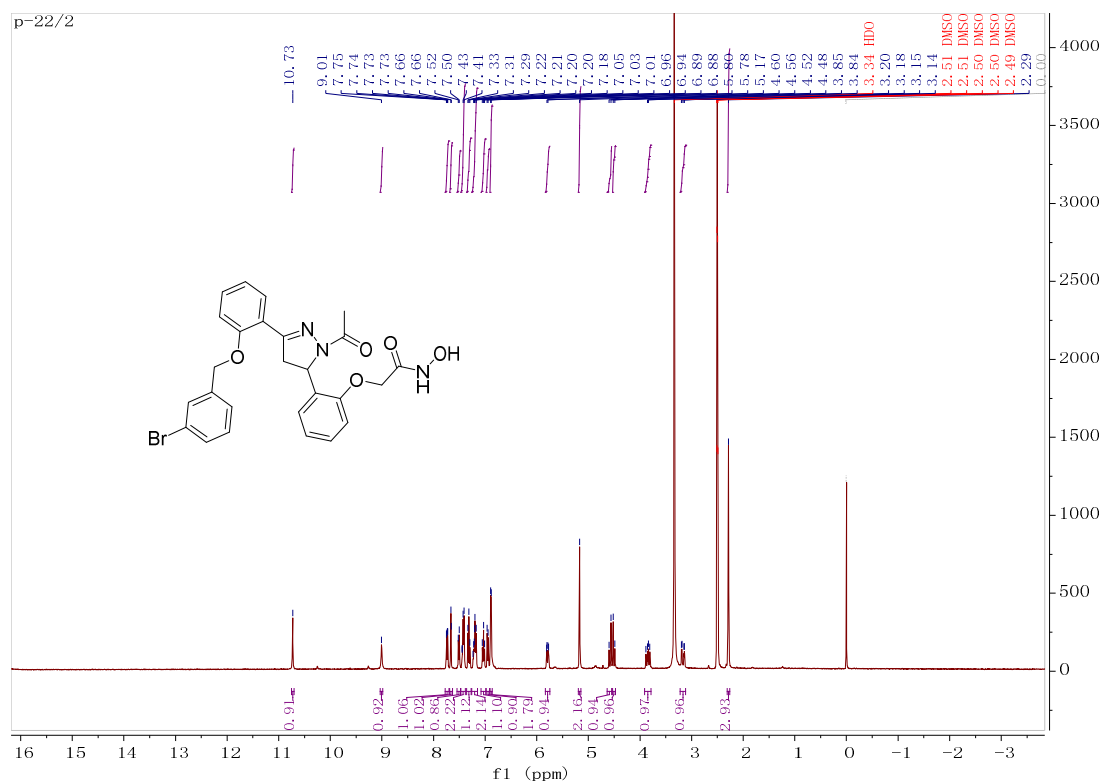
¹³C NMR spectrum of compound **14bb**



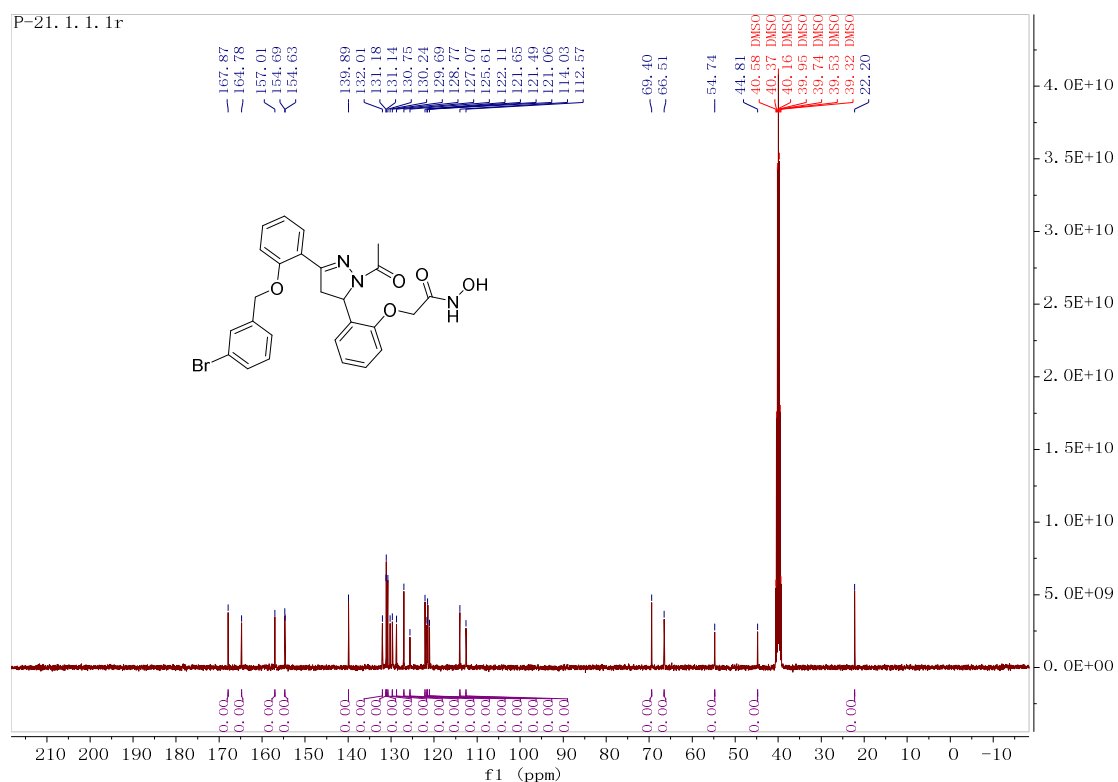
¹H NMR spectrum of compound **14cc**



¹³C NMR spectrum of compound **14cc**



¹H NMR spectrum of compound 14ee



¹³C NMR spectrum of compound 14ee

