Supplementary Information

Synthesis of 1,2,4-oxadiazoles utilizing ethyl 2-cyano-2-(2-nitrophenylsulfonyloxyimino) acetate (*ortho*-nosylOXY) as a catalyst and dehydrating reagent under microwave irradiation

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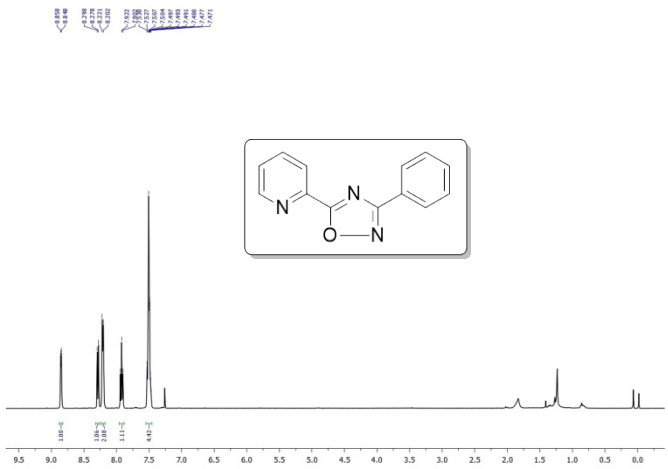

Fig. S1 — ^{1}H NMR spectrum of compound 3a

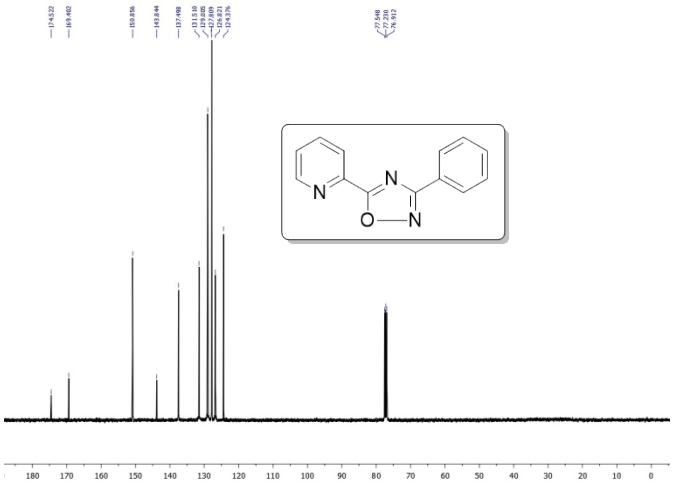

Fig. S2 — ^{13}C NMR spectrum of compound 3a

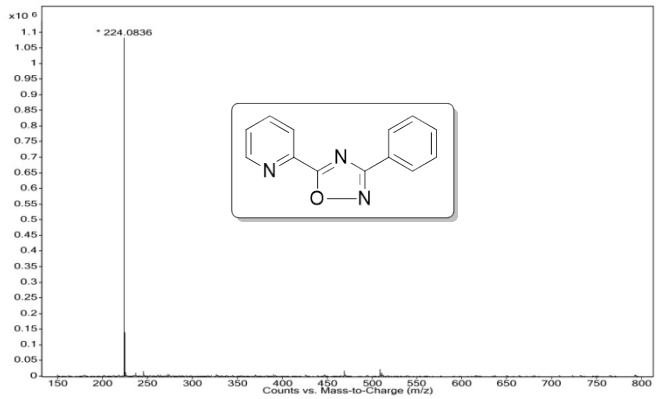

Fig. S3 — Mass spectrum of compound 3a

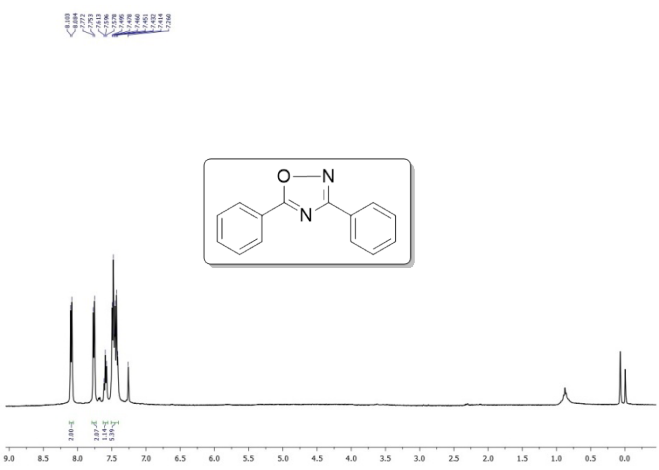

Fig. S4 — ^{1}H NMR spectrum of compound 3b

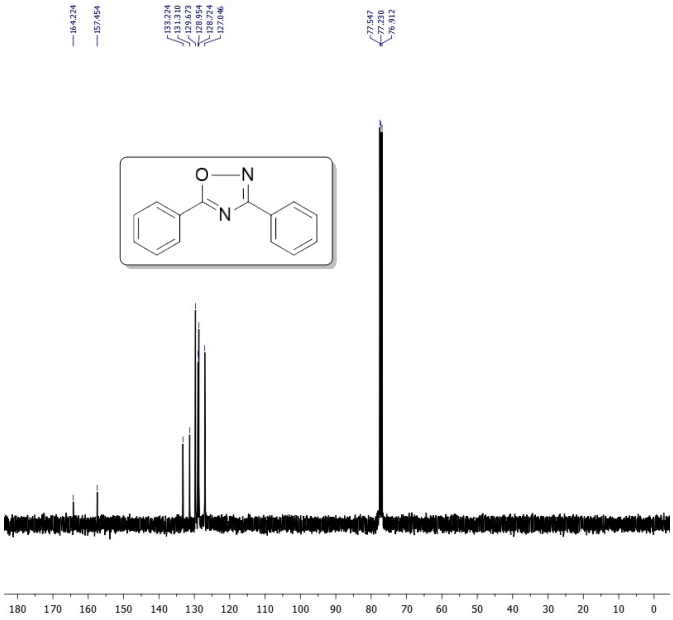

Fig. S5 — ^{13}C NMR spectrum of compound 3b

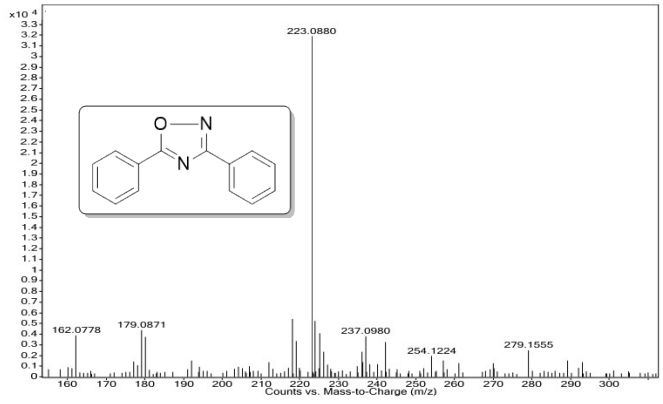

Fig. S6 — Mass spectrum of compound 3b

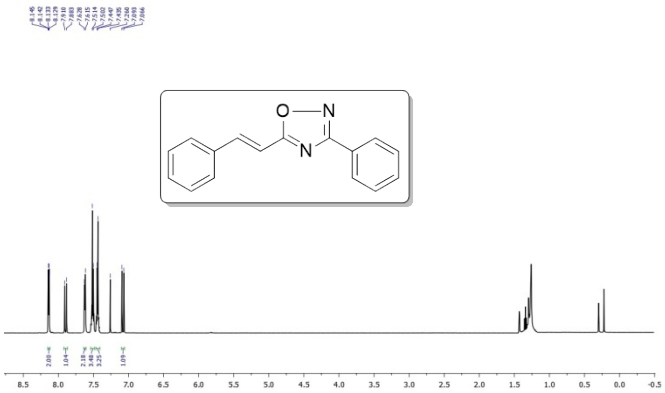

Fig. S7 — ^{1}H NMR spectrum of compound 3c

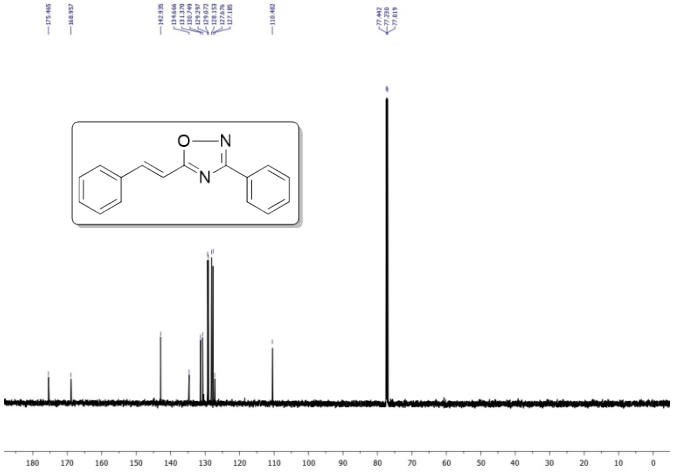

Fig. S8 — ^{13}C NMR spectrum of compound 3c

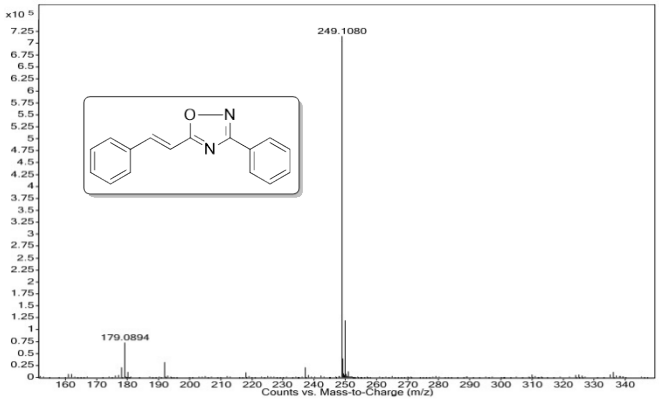

Fig. S9 — Mass spectrum of compound 3c

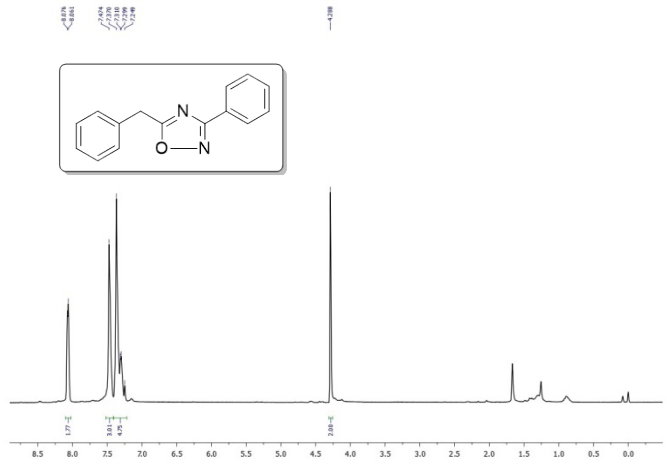

Fig. S10 — ^{1}H NMR spectrum of compound 3d

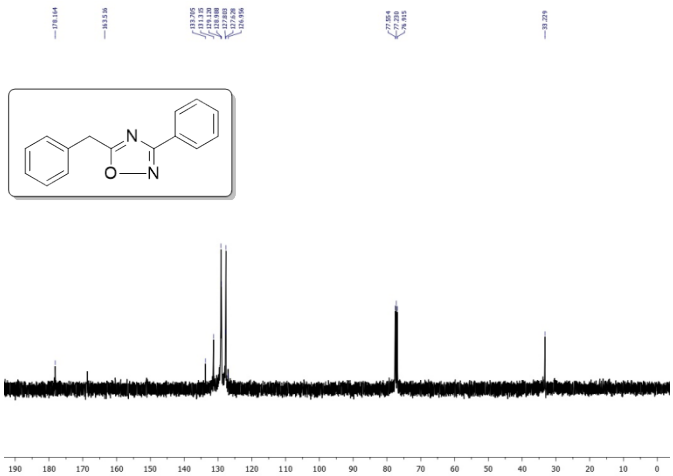

Fig. S11 — ^{13}C NMR spectrum of compound 3d

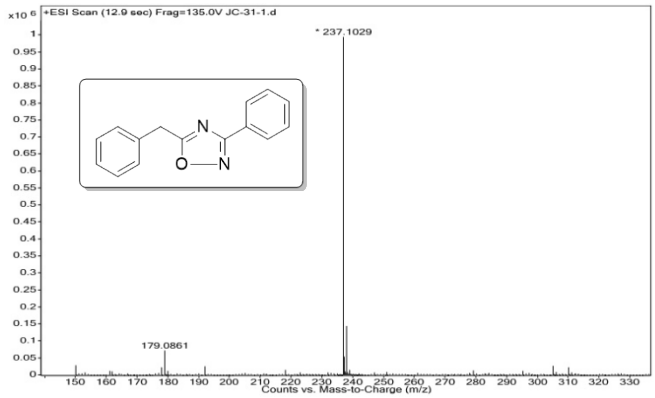

Fig. S12 —Mass spectrum of compound 3d

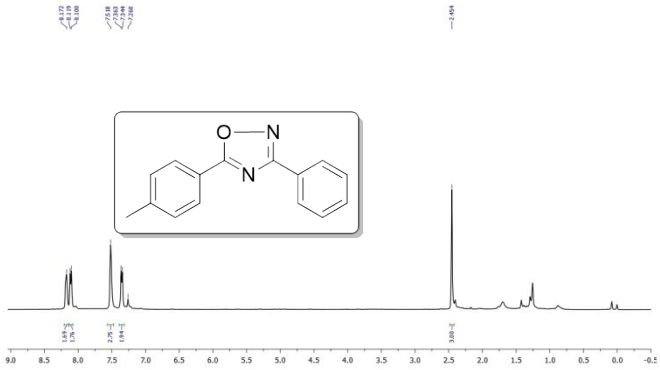

Fig. S13 —^{1}H NMR spectrum of compound 3e

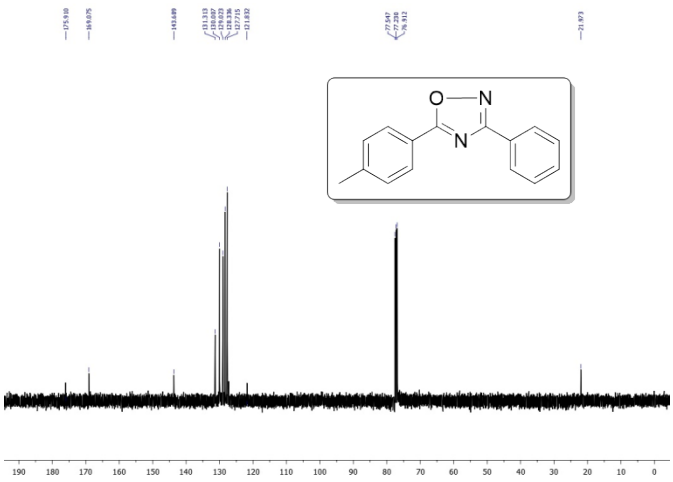

Fig. S14 — ^{13}C NMR spectrum of compound 3e

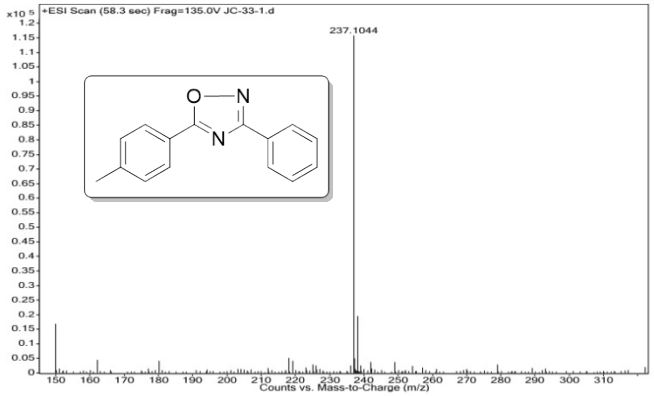

Fig. S15 — Mass spectra of compound 3e

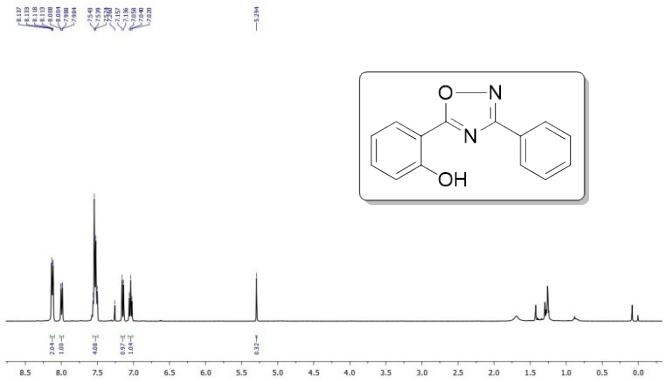

Fig. S16 — ^{1}H NMR spectrum of compound 3f

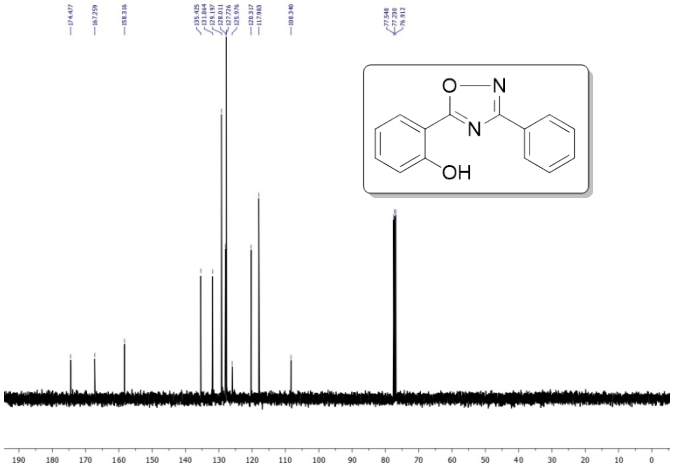

Fig. S17 — ^{13}C NMR spectrum of compound 3f

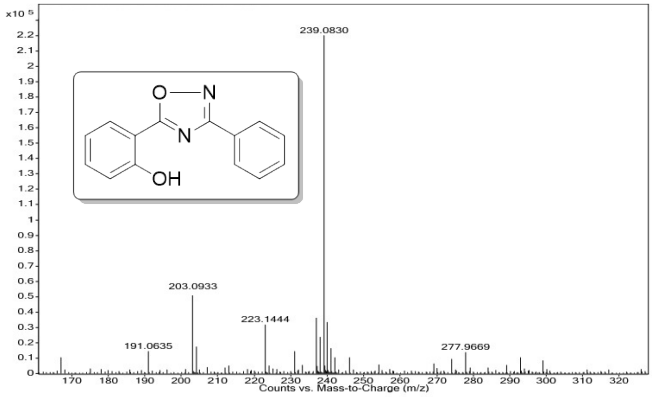

Fig. S18 — Mass spectrum of compound 3f

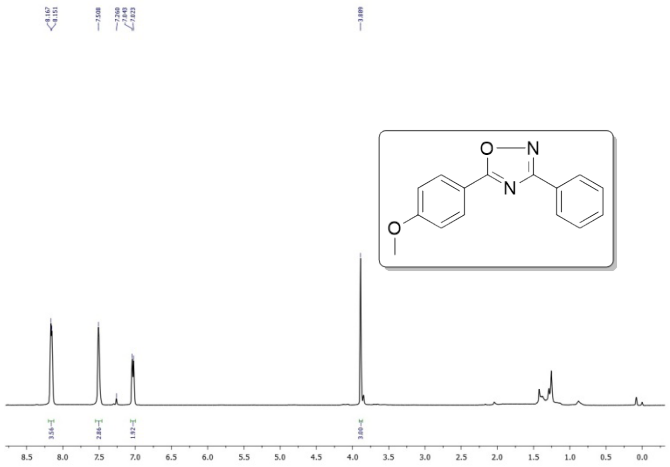

Fig. S19 — ^{1}H NMR spectrum of compound 3g

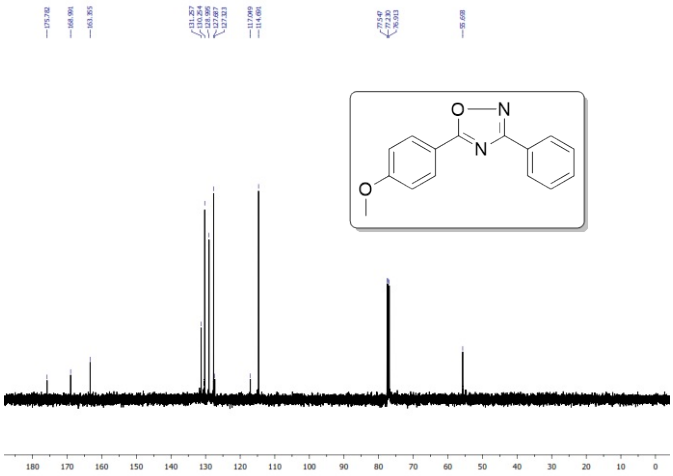

Fig. S20 — ^{13}C NMR spectrum of compound 3g

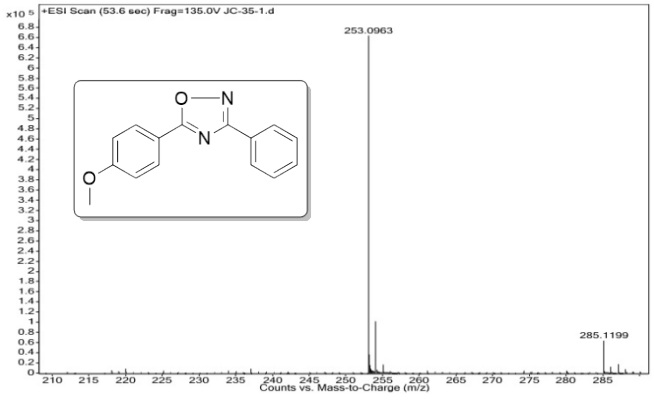

Fig. S21 — Mass spectrum of compound 3g

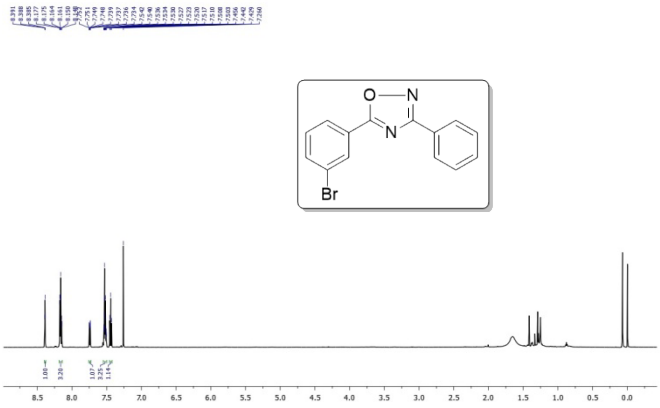

Fig. S22 — ^{1}H NMR spectrum of compound 3h

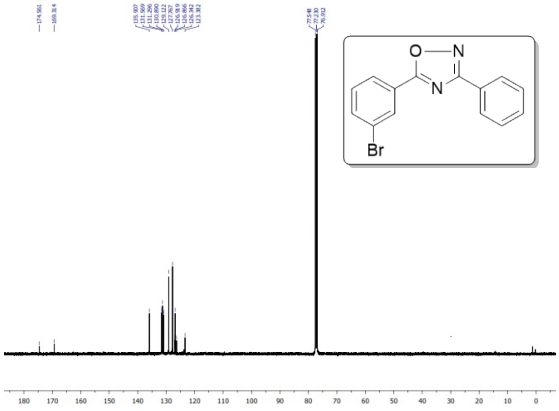

Fig. S23— ^{13}C NMR spectrum of compound 3h

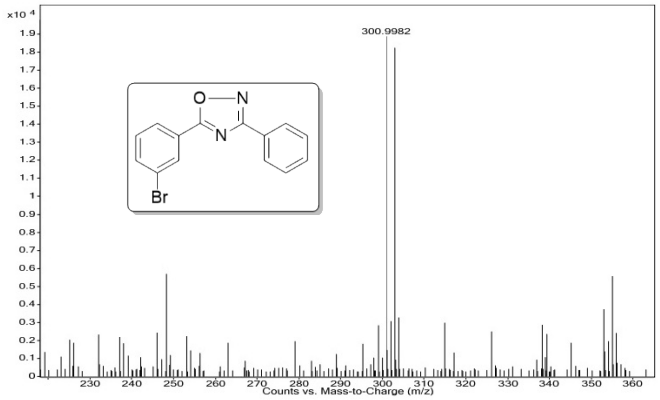

Fig. S24 — Mass spectrum of compound 3h

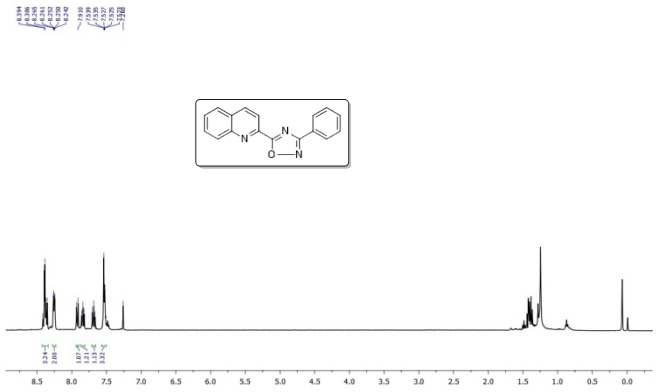

Fig. S25 — ^{1}H NMR spectrum of compound 3i

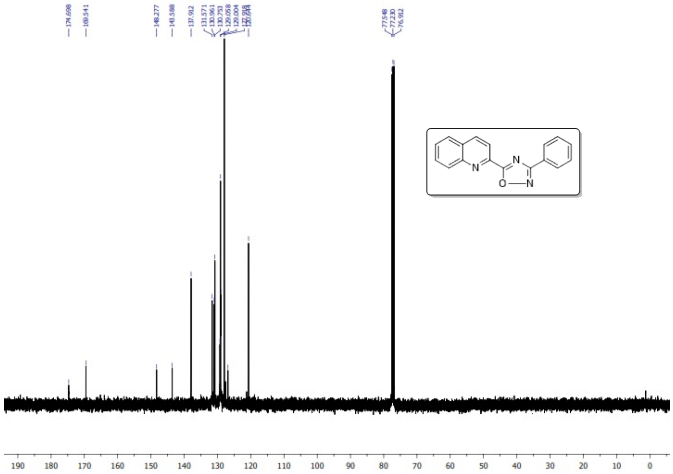

Fig. S26 — ^{13}C NMR spectrum of compound 3i

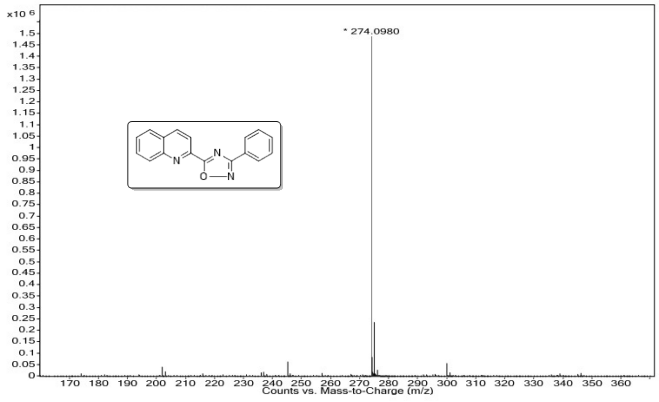

Fig. S27 — Mass spectrum of compound 3i

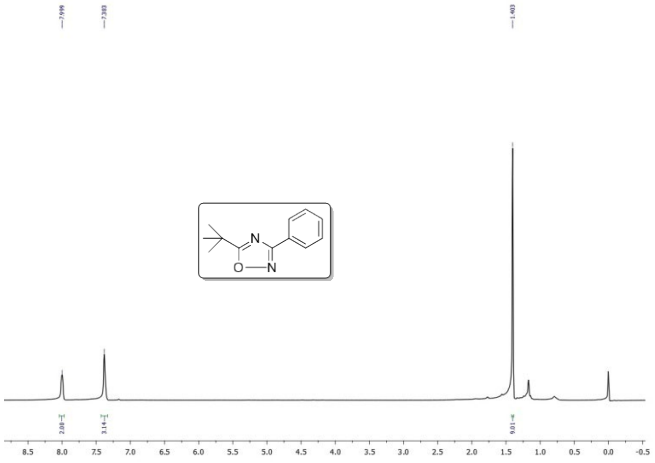

Fig. S28 — ^{1}H NMR spectrum of compound 3j

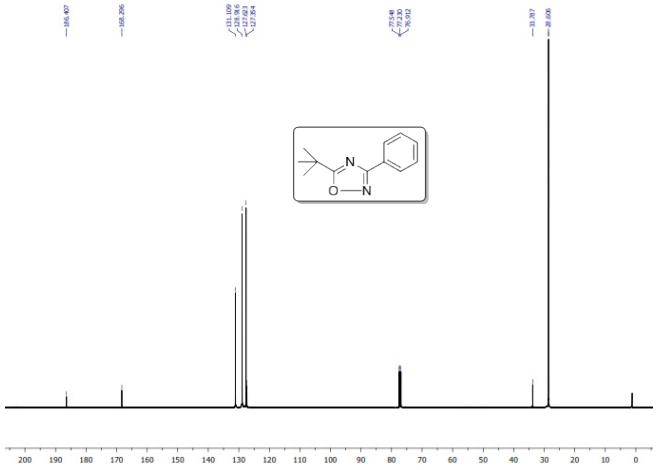

Fig. S29 — ^{13}C NMR spectrum of compound 3j

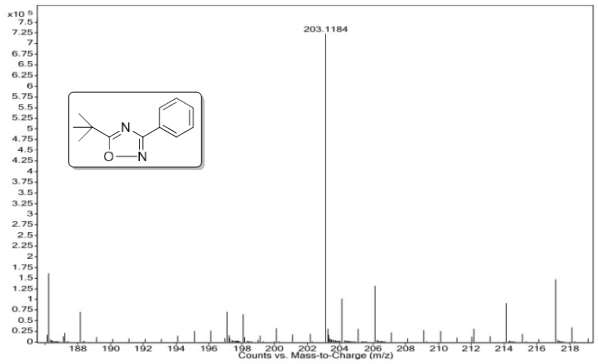

Fig. S30 — Mass spectrum of compound 3j

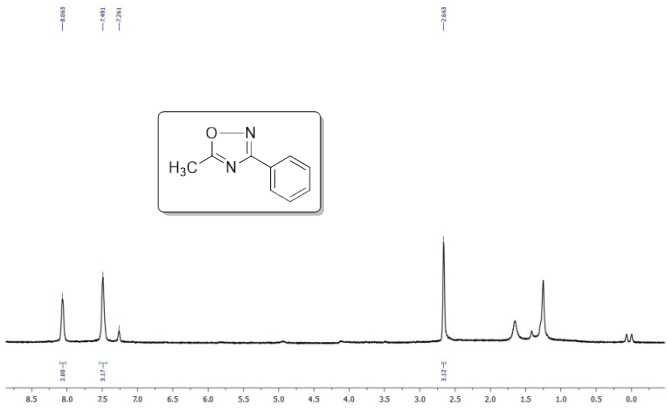

Fig. S31 — ^{1}H NMR spectrum of compound 3k

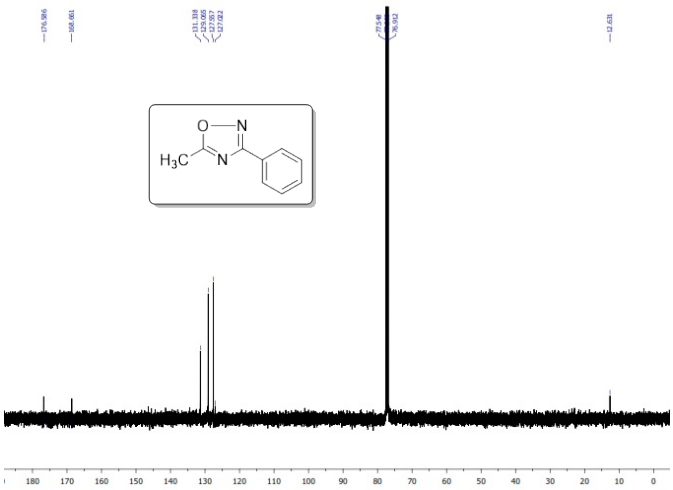

Fig. S32 — ^{13}C NMR spectrum of compound 3k

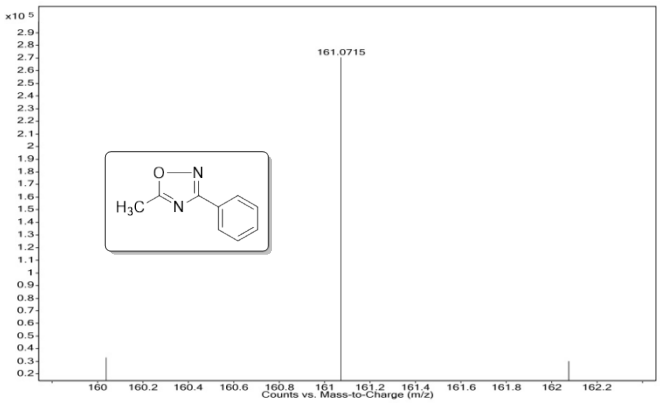

Fig. S33 — Mass spectrum of compound 3k

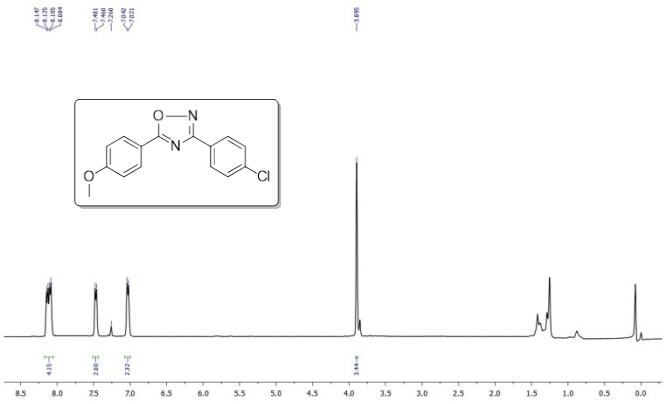

Fig. S34 — ^{1}H NMR spectrum of compound 4a

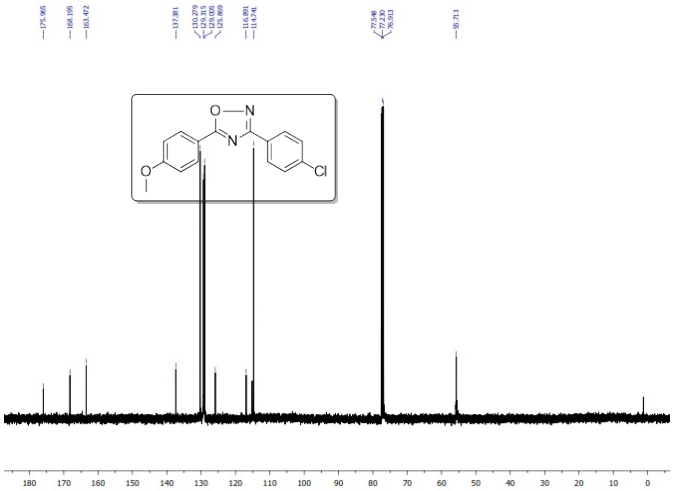

Fig. S35 — ^{13}C NMR spectrum of compound 4a

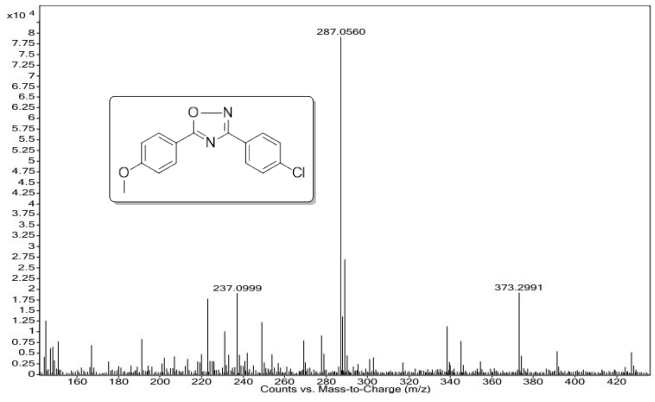

Fig. S36 — Mass spectrum of compound 4a

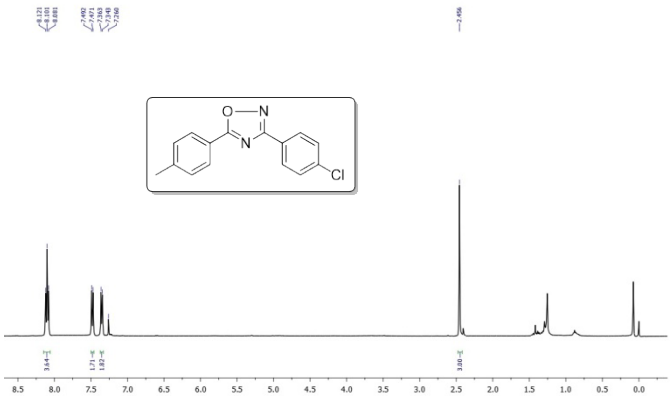

Fig. S37 — ^{1}H NMR spectrum of compound 4b

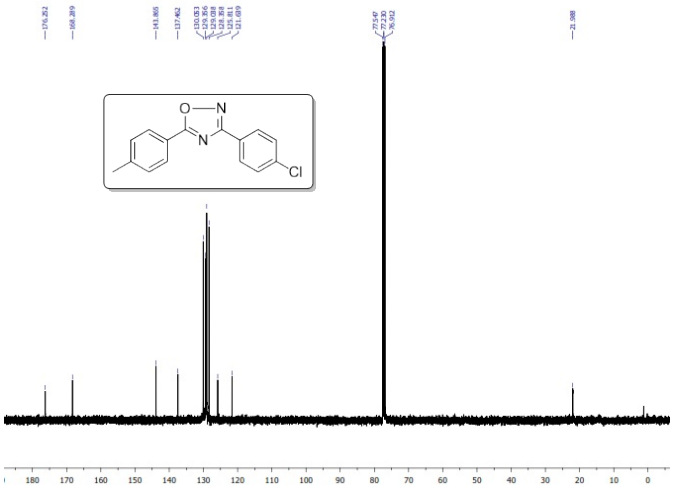

Fig. S38 — ^{13}C NMR spectrum of compound 4b

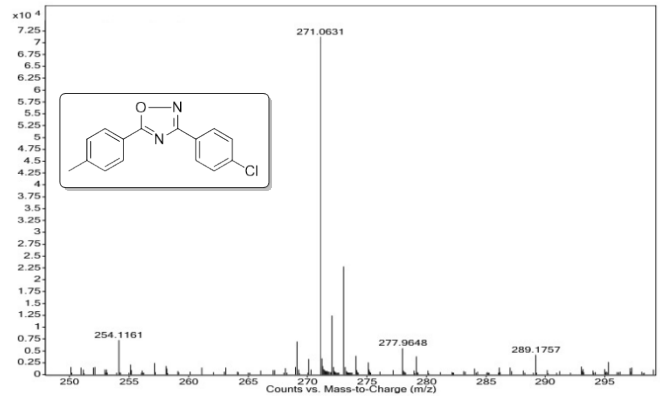

Fig. S39 — Mass spectrum of compound 4b

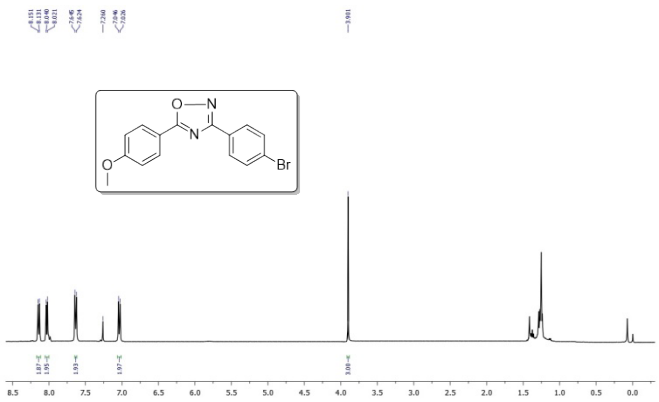

Fig. S40 — ^{1}H NMR spectrum of compound 4c

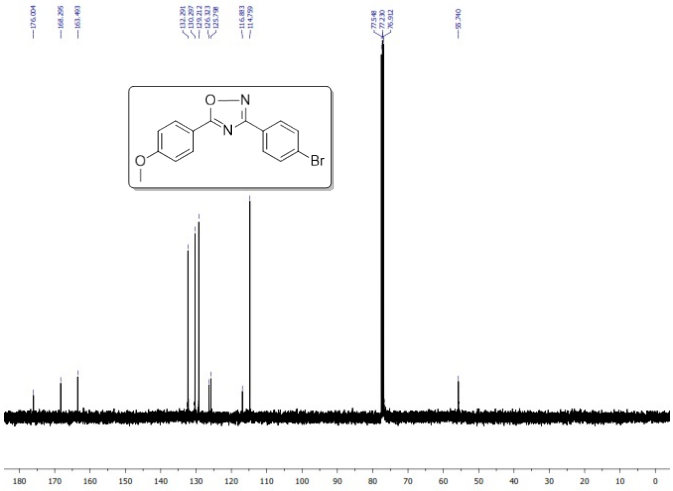

Fig. S41 — ^{13}C NMR spectrum of compound 4c

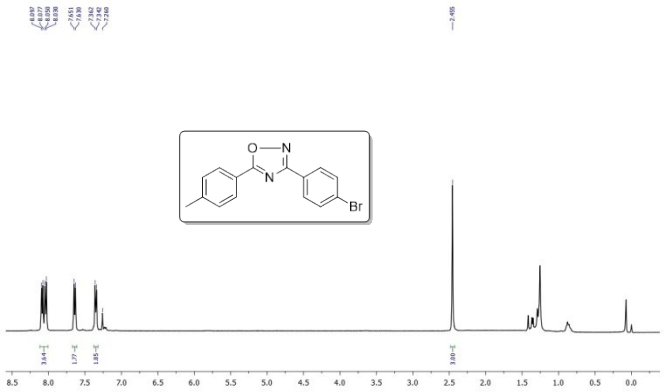

Fig. S42 — ^{1}H NMR spectrum of compound 4d

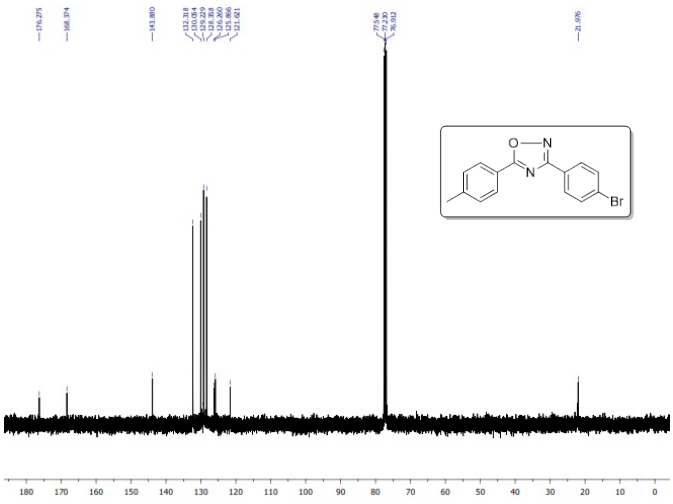

Fig. S43 — ^{13}C NMR spectrum of compound 4d

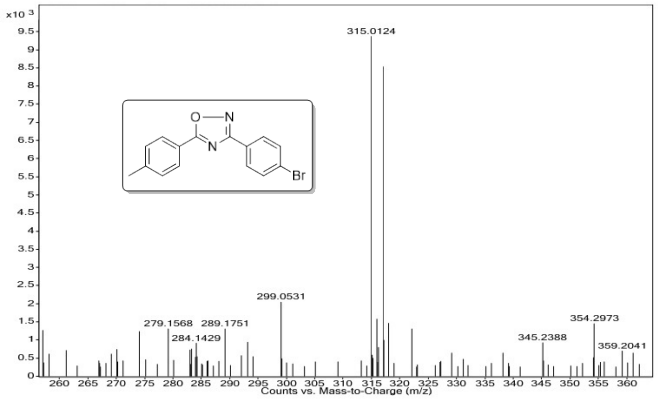

Fig. S44 — Mass spectrum of compound 4d

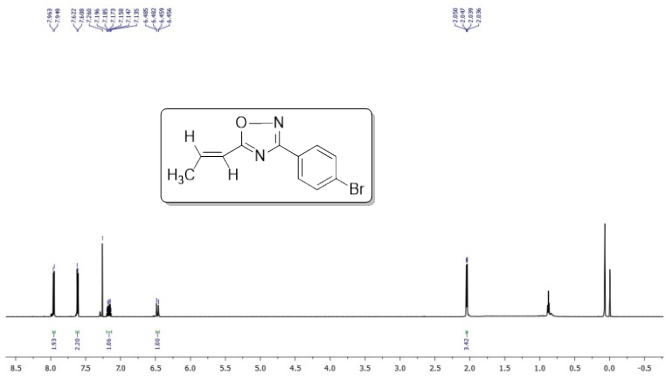

Fig. S45 — ^{1}H NMR spectrum of compound 4e

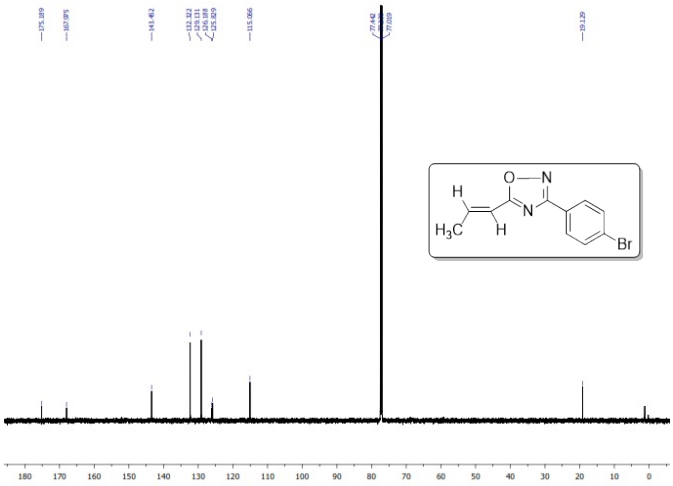

Fig. S46 — ^{13}C NMR spectrum of compound 4e

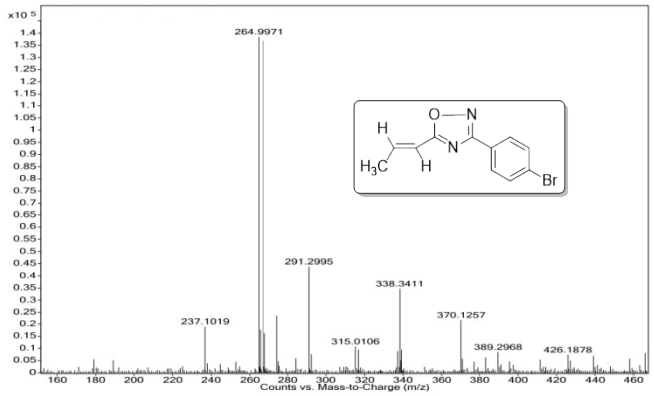

Fig. S47 — Mass spectrum of compound 4e

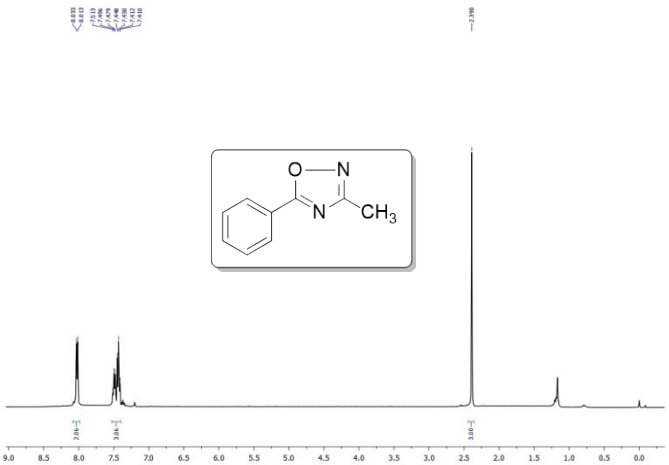

Fig. S48 — ^{1}H NMR spectrum of compound 4f

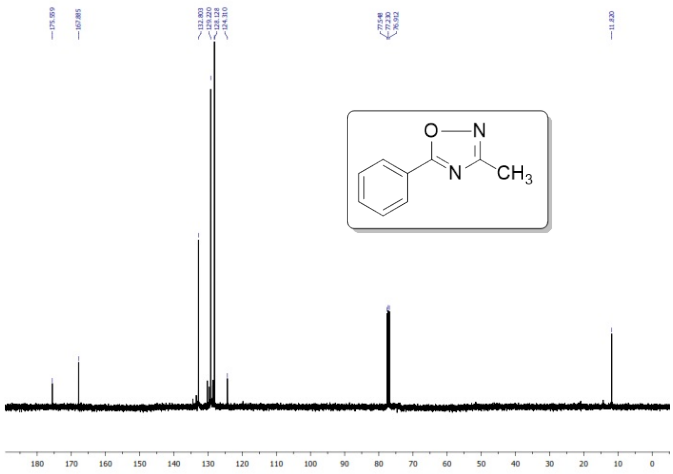

Fig. S49 — ^{13}C NMR spectrum of compound 4f

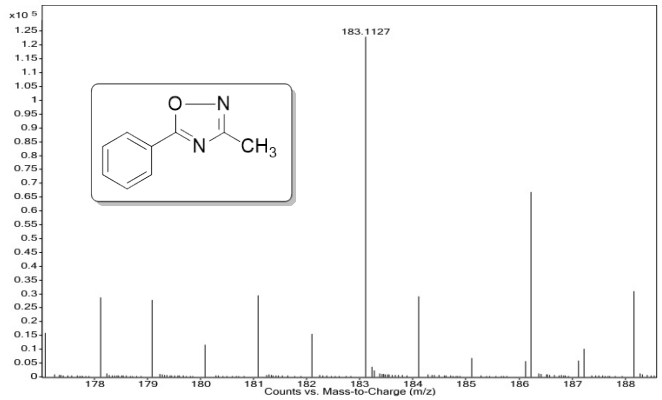

Fig. S50 — Mass spectrum of compound 4f

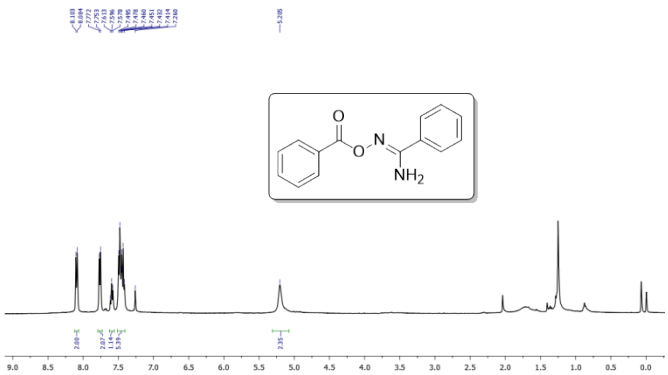

Fig. S51 — ^{1}H NMR spectrum of Intermediate 3

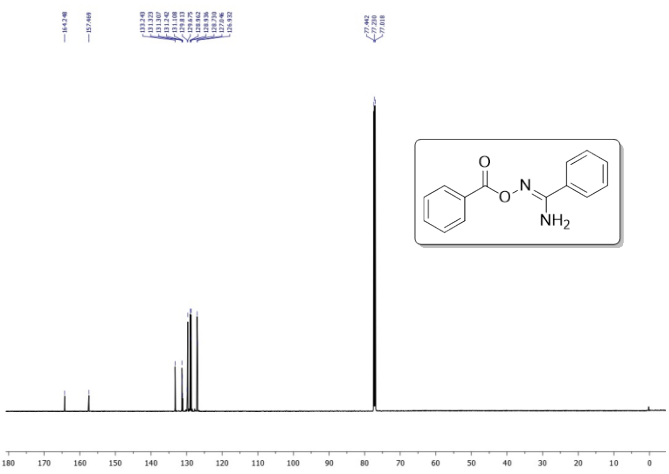

Fig. S52 — ^{13}C NMR spectrum of Intermediate 3

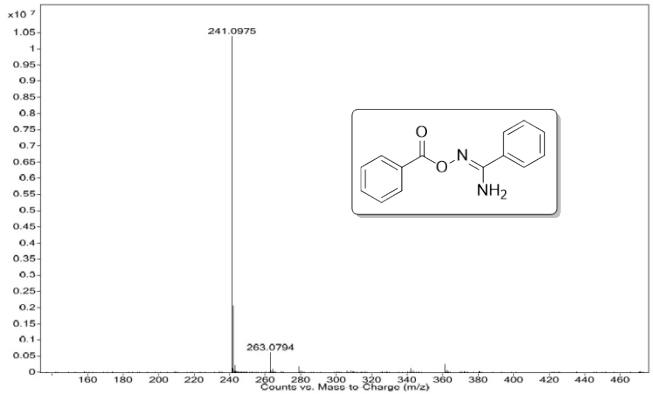

Fig. S53 — Mass spectrum of Intermediate 3

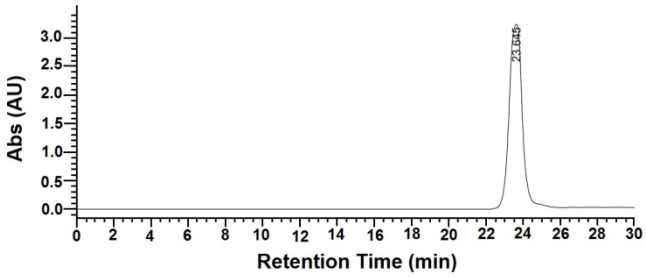

Fig. S54 — HPLC chromatogram of formation of intermediate 3 with 0.1 equiv of Iwhich run up to 30 min in AscentisC18 reverse phase analytical column and a linear gradient of 0 to 90%, 0-10 min then 90 to 100% up to 30 min, CH_3CN in H_2O with 0.1% formic acid

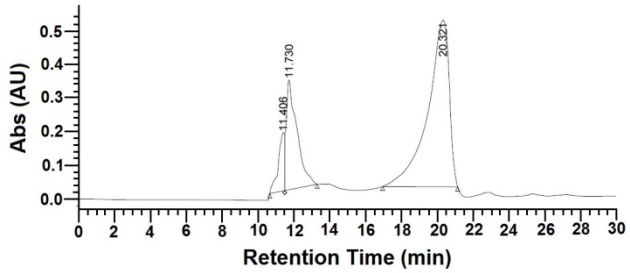

Fig. S55 — HPLC chromatogram of Benzoic acid and benzamidoxime without reagent I which run upto 30 min in Ascentis C18 reverse phase analytical column and a linear gradient of 0 to 90%, 0-10 min then 90 to 100% up to 30 min, CH_3CN in H_2O with 0.1% formic acid

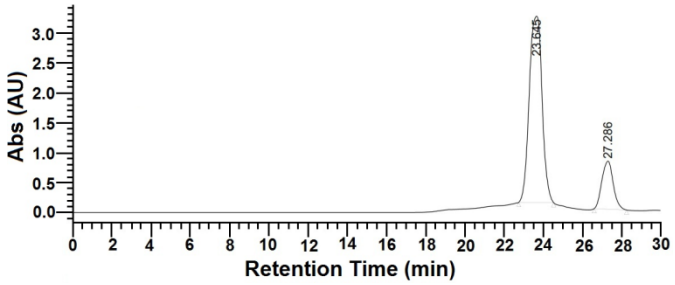

Fig. S56 — HPLC chromatogram of conversion of intermediate 3 to product 4 without reagent Iwhich run upto 30 min in AscentisC18 reverse phase analytical column and a linear gradient of 0 to 90%, 0-10 min then 90 to 100% up to 30 min, CH3CN in H2O with 0.1% formic acid

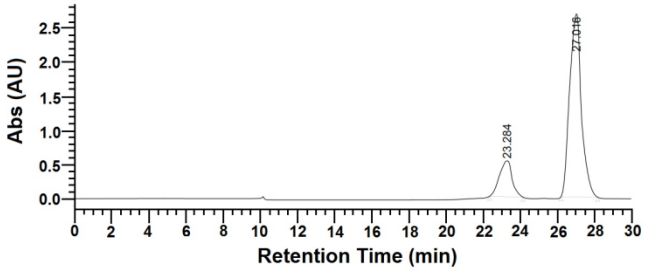

Fig. S57 — HPLC chromatogram of conversion of 3 to 4 with 0.1 equiv of Iwhich run up to 30 min in AscentisC18 reverse phase analytical column and a linear gradient of 0 to 90%, 0-10 min then 90 to 100% up to 30 min, CH_3CN in H_2O with 0.1% formic acid

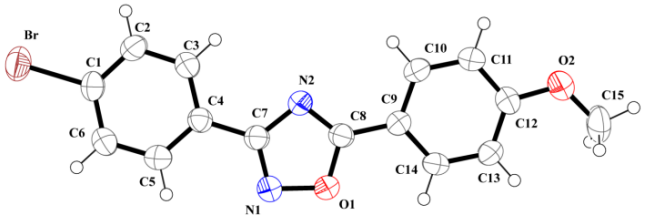

Fig. 58 — Crystallographic structure for 4c at 296(2) K

Table S1 — Crystallographic data for 4c at 296(2) K	
Formulae	$C_{15}H_{11}O_2N_2Br$
CCDC NO	1043141
Formula. wt.	331.17
Crystal system	triclinic
Space group	P1
a (Å)	4.0341(3)
b (Å)	11.8698(8)
c (Å)	15.0530(11)
α(°)	69.345(5)
β(°)	88.560(5)
γ(°)	85.109(4)
V/ $Å^3$	672.00(8)
Z	2
Density/Mgm^{-3}	1.637
Abs. Coeff. /mm^{-1}	3.061
F(000)	332
Total no. of reflections	9877
Reflections, $I > 2\sigma(I)$	0.0307
Max. 2θ/°	25.25
Ranges (h, k, l)	$-4 \le h \le 4$ $-14 \le k \le 14$ $-18 \le l \le 18$
Complete to 2θ (%)	25.25
Data/ Restraints/Parameters	0.0714 /0/182
Goof (F^2)	1.924
R indices [$I > 2\sigma(I)$]	0.0359
R indices (all data)	0.0467