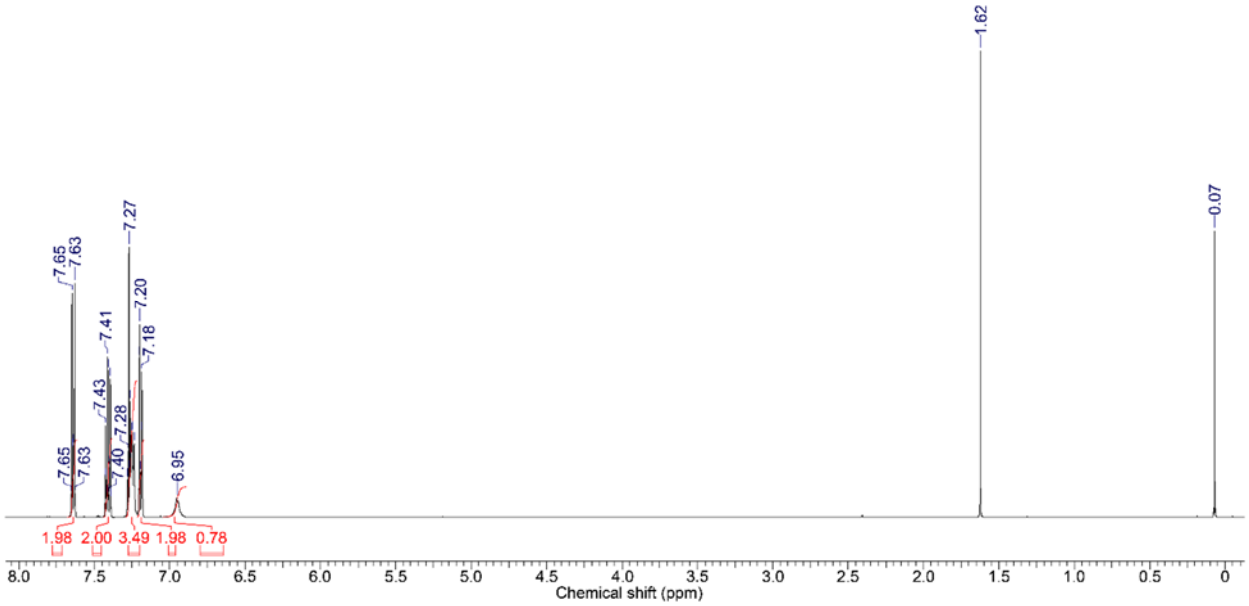
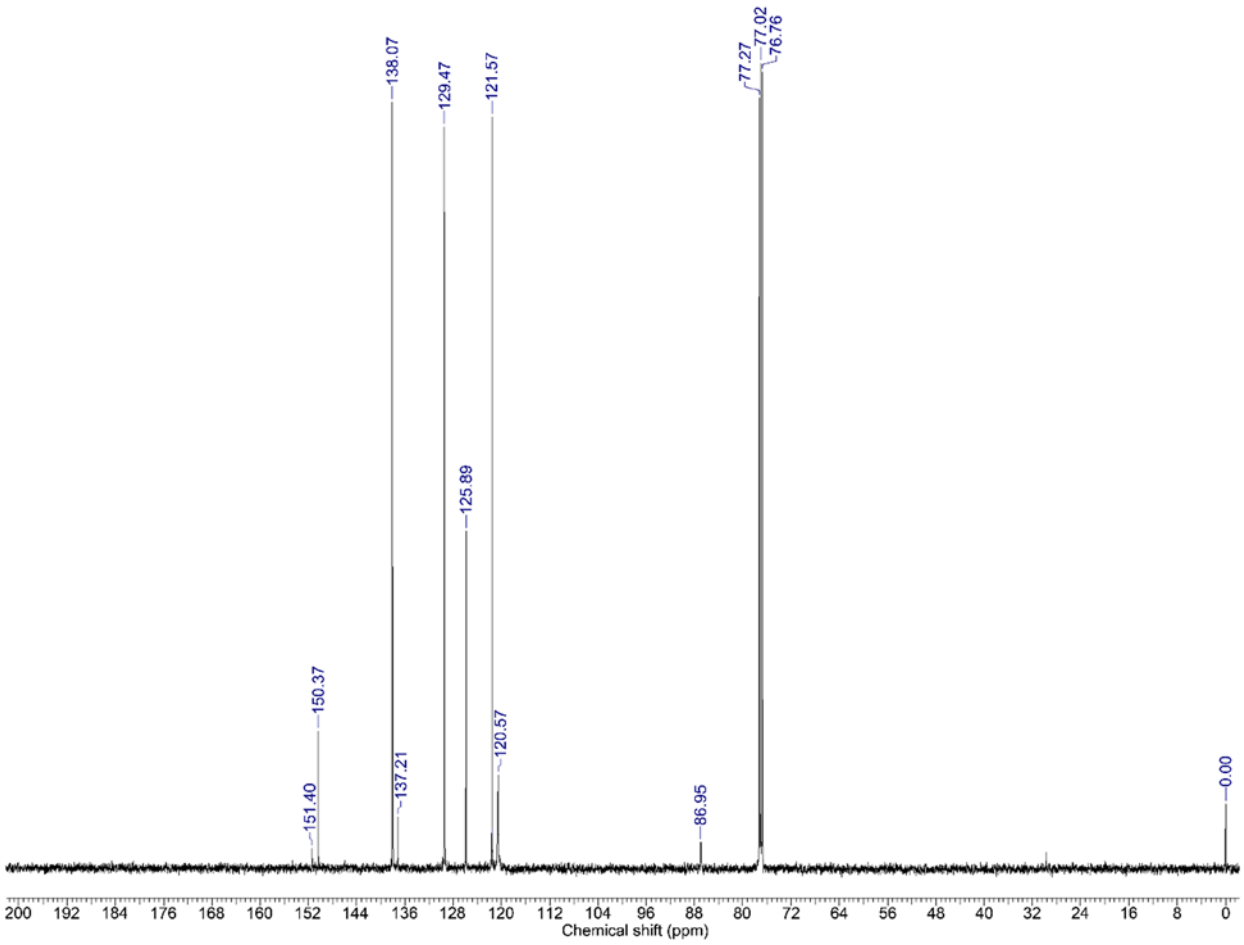
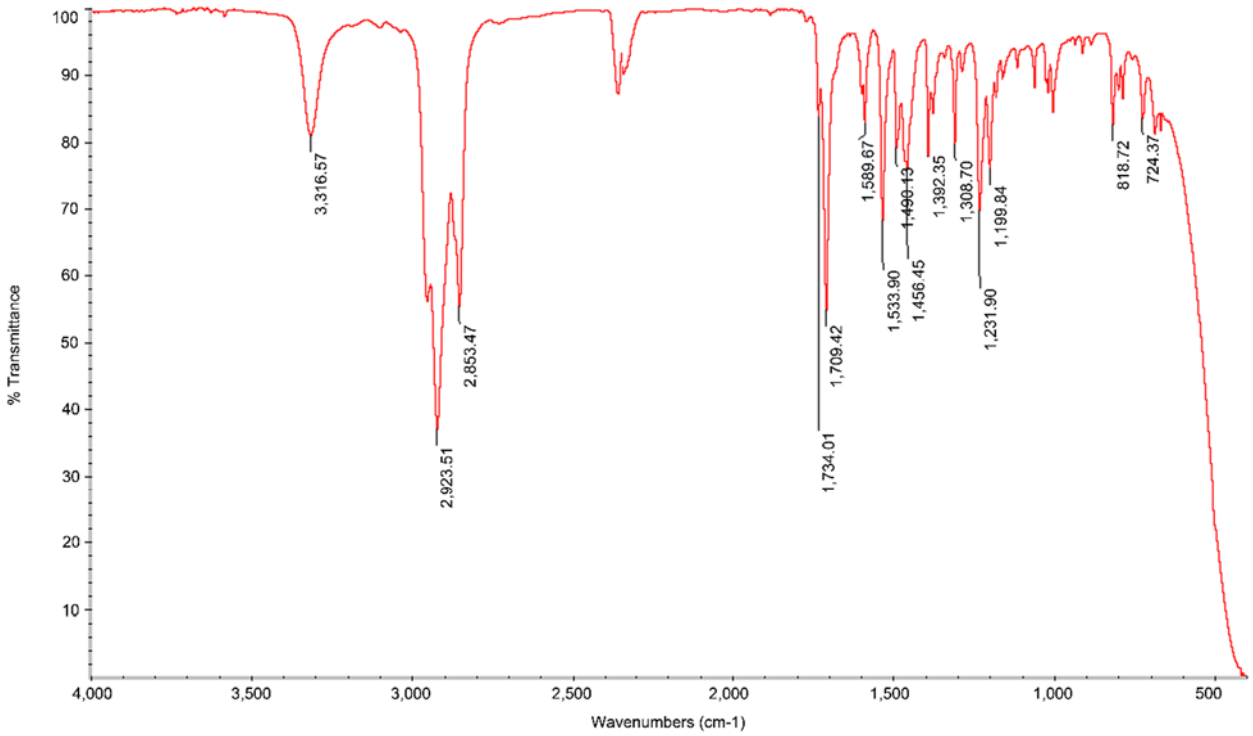


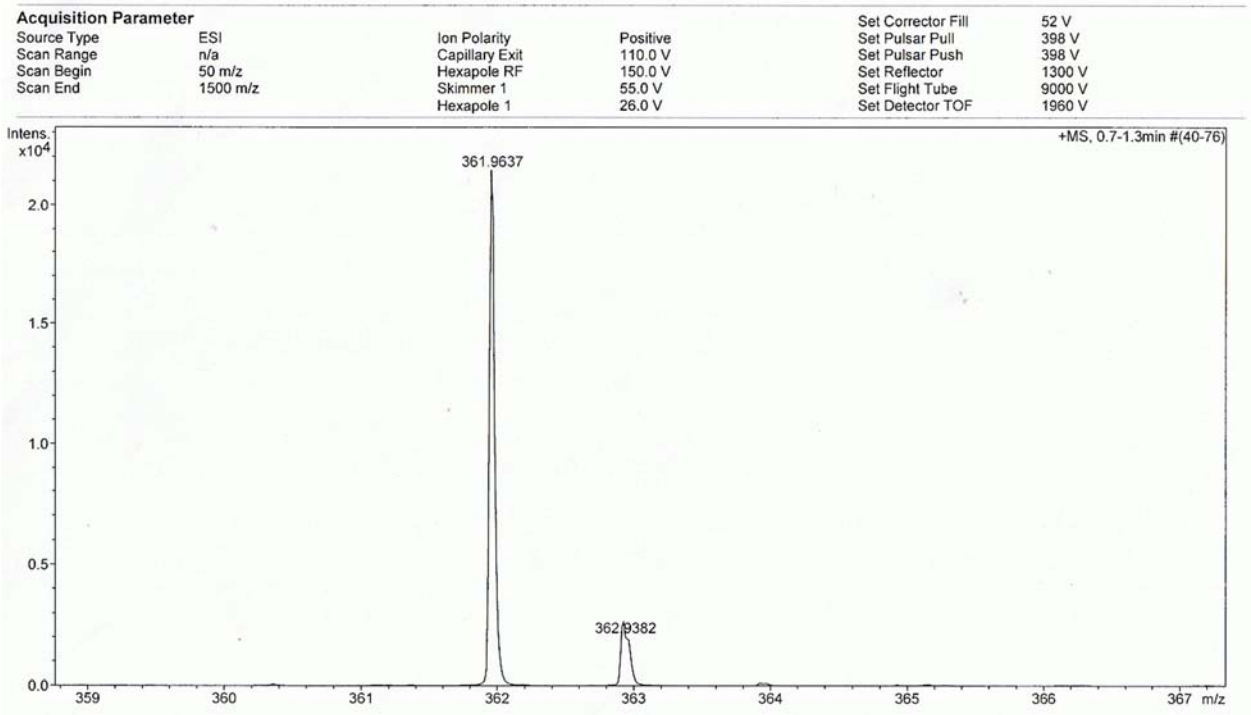
SUPPLEMENTAL FIGURE 1. ^{1}H-NMR of phenyl 4-iodophenylcarbamate (1, PIP) $MP_{(toluene)}$: 159-161 ºC. Data recorded on a Bruker AVANCE 500, operating at 500.1 MHz. Chemical shifts are reported in parts per million relative to Me_4Si in $CDCl_3$.



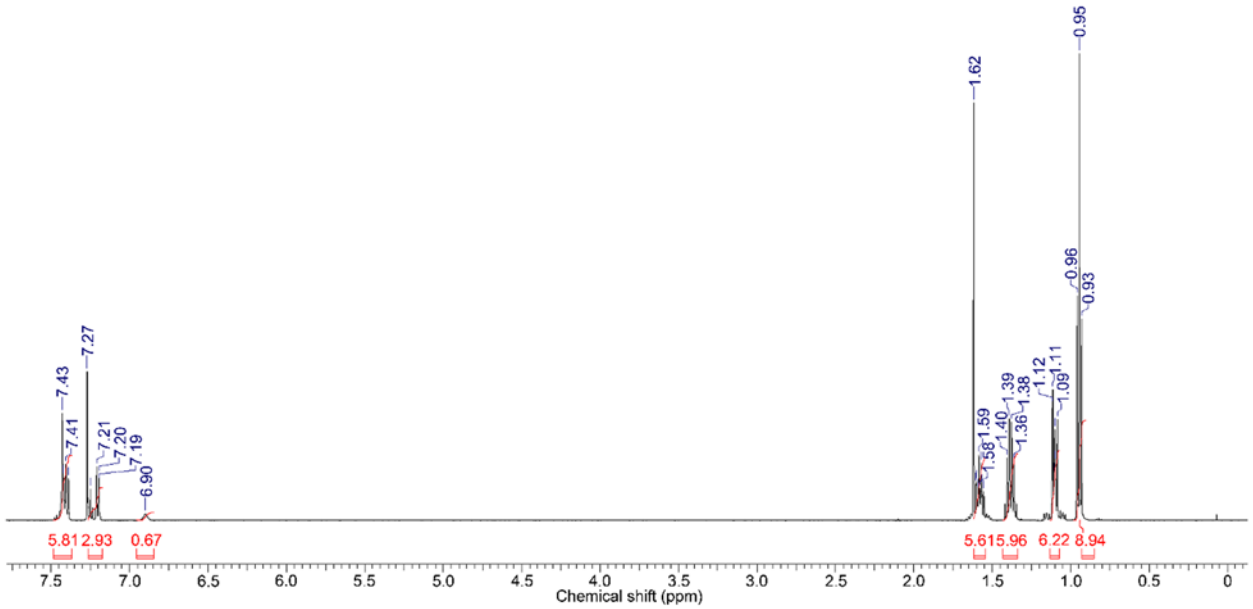
SUPPLEMENTAL FIGURE 2. ^{13}C-NMR of phenyl 4-iodophenylcarbamate (1, PIP). Data recorded on a Bruker AVANCE 500, operating at 125.8 MHz. Chemical shifts are reported in parts per million relative to $CDCl_3$.



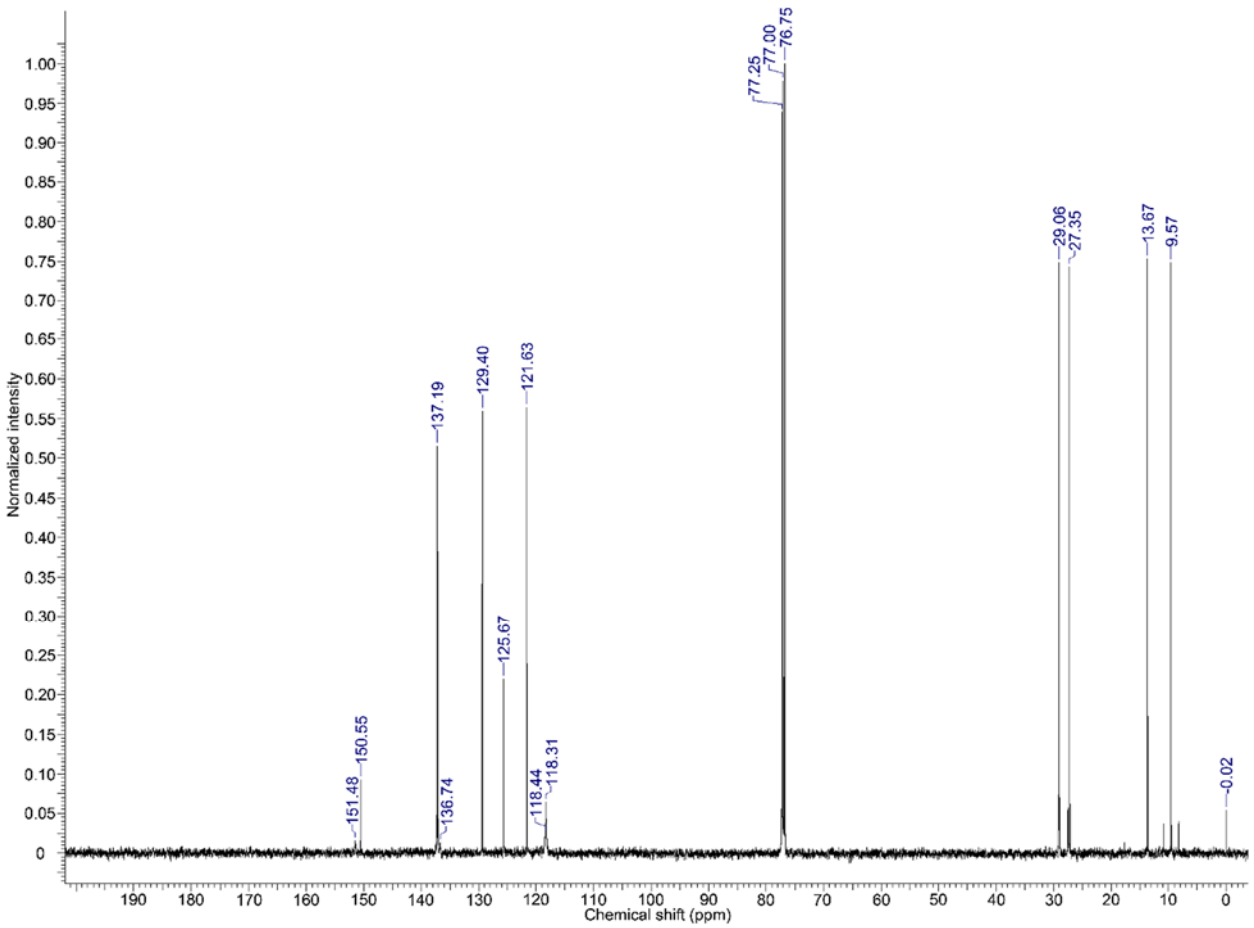
SUPPLEMENTAL FIGURE 3. IR spectrum of phenyl 4-iodophenylcarbamate (1, PIP). Infrared spectra were recorded as nujol mulls on a Nicolet Avatar 330 FT-IR spectrometer



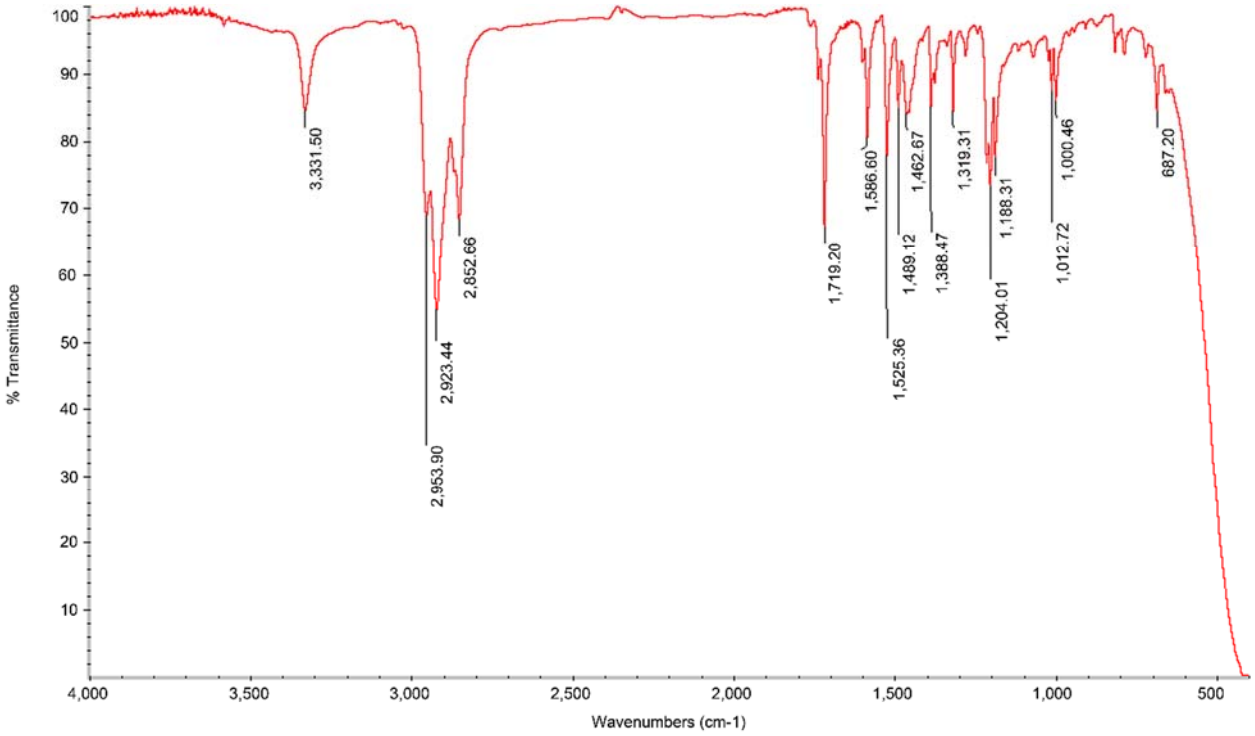
SUPPLEMENTAL FIGURE 4. HRMS of phenyl 4-iodophenylcarbamate (1, PIP). MH^+ is indicated.



SUPPLEMENTAL FIGURE 5. ^{1}H-NMR of phenyl 4-tributylstannylphenylcarbamate (2): $MP_{(hexanes)}$: 53-55 ºC. Data recorded on a Bruker AVANCE 500, operating at 500.1 MHz. Chemical shifts are reported in parts per million relative to Me_4Si in $CDCl_3$.

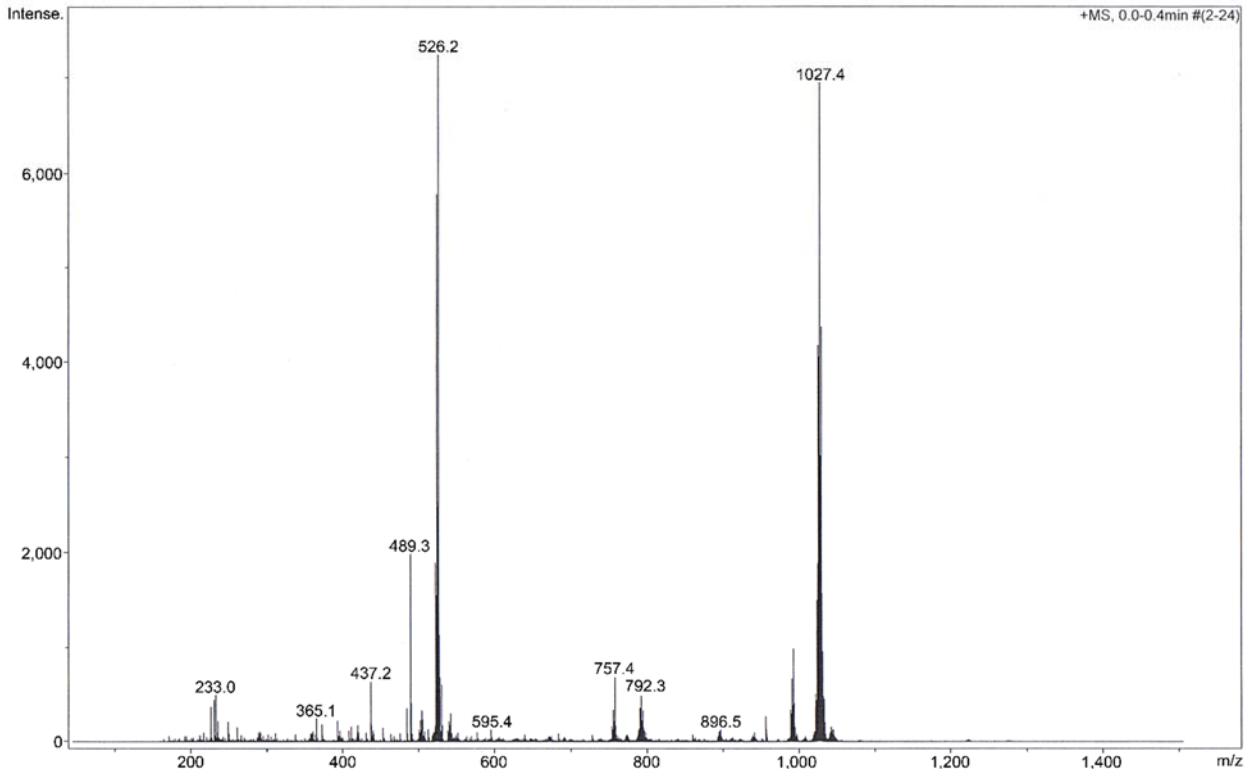


SUPPLEMENTAL FIGURE 6. ^{13}C-NMR of phenyl 4-tributylstannylphenylcarbamate (2). Data recorded on a Bruker AVANCE 500, operating at 125.8 MHz. Chemical shifts are reported in parts per million relative to $CDCl_3$.

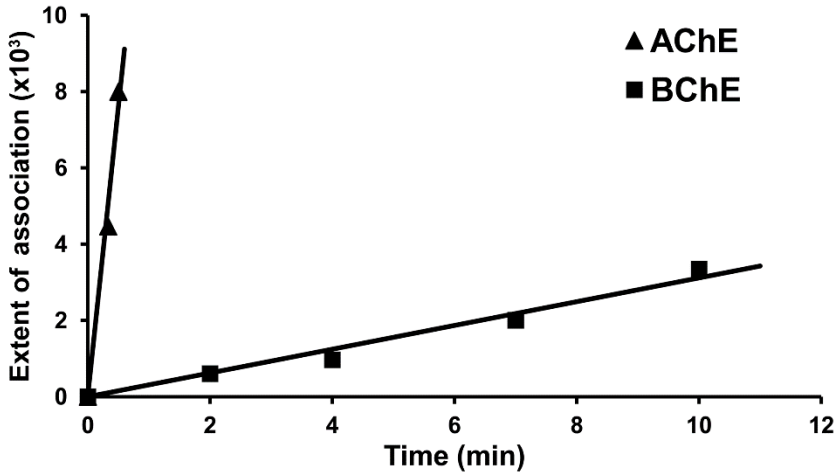


SUPPLEMENTAL FIGURE 7. IR spectrum of phenyl 4-tributylstannylphenylcarbamate (2).

Infrared spectra were recorded as nujol mulls on a Nicolet Avatar 330 FT-IR spectrometer



SUPPLEMENTAL FIGURE 8. HRMS of phenyl 4-tributylstannylphenylcarbamate (2). MH^+ is indicated.



SUPPLEMENTAL FIGURE 9. Plots to determine second-order rate constants (k_a values) of PIP (1) with AChE and BChE. Extent of association is determined by ln $(e_o/e_t)/[I]$ where e_o is the enzymatic activity at time zero (without pre-incubation of enzyme and PIP) and e_t is the enzymatic activity at time (t) minutes of pre-incubation, and [I] is the PIP concentration. The slopes of these plots yield k_a values.

SUPPLEMENTAL TABLE 1. Demographic data of post-mortem human brain tissues. PMI: Post mortem interval. TIF: Time in fix.

	Sex	Age (y)	PMI (h)	TIF (d)
Normal/AB-	M	63	31	2.0
	M	55	15	2.2
	F	71	24	2.0
Normal/AB+	F	86	52	3.0
	F	63	23	2.0
AD	F	87	7	3.8
	M	88	5	3.8
	M	87	19	2.1
	M	93	17	2.0
	M	86	17	4.0
	M	58	10	3.0
	M	72	-	1.9
	M	98	10	2.2
	M	88	11	4.8
	F	68	17	2.0