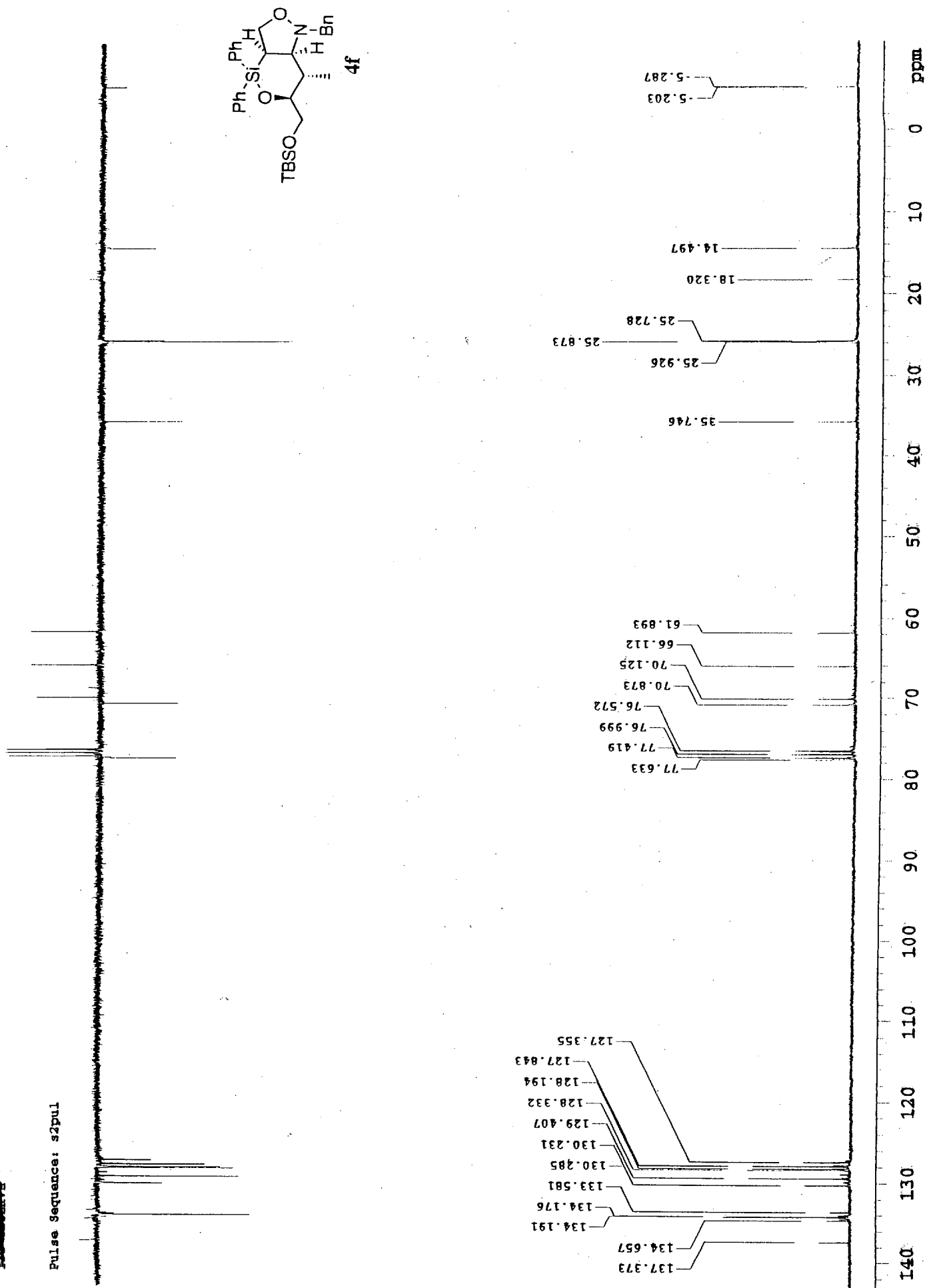
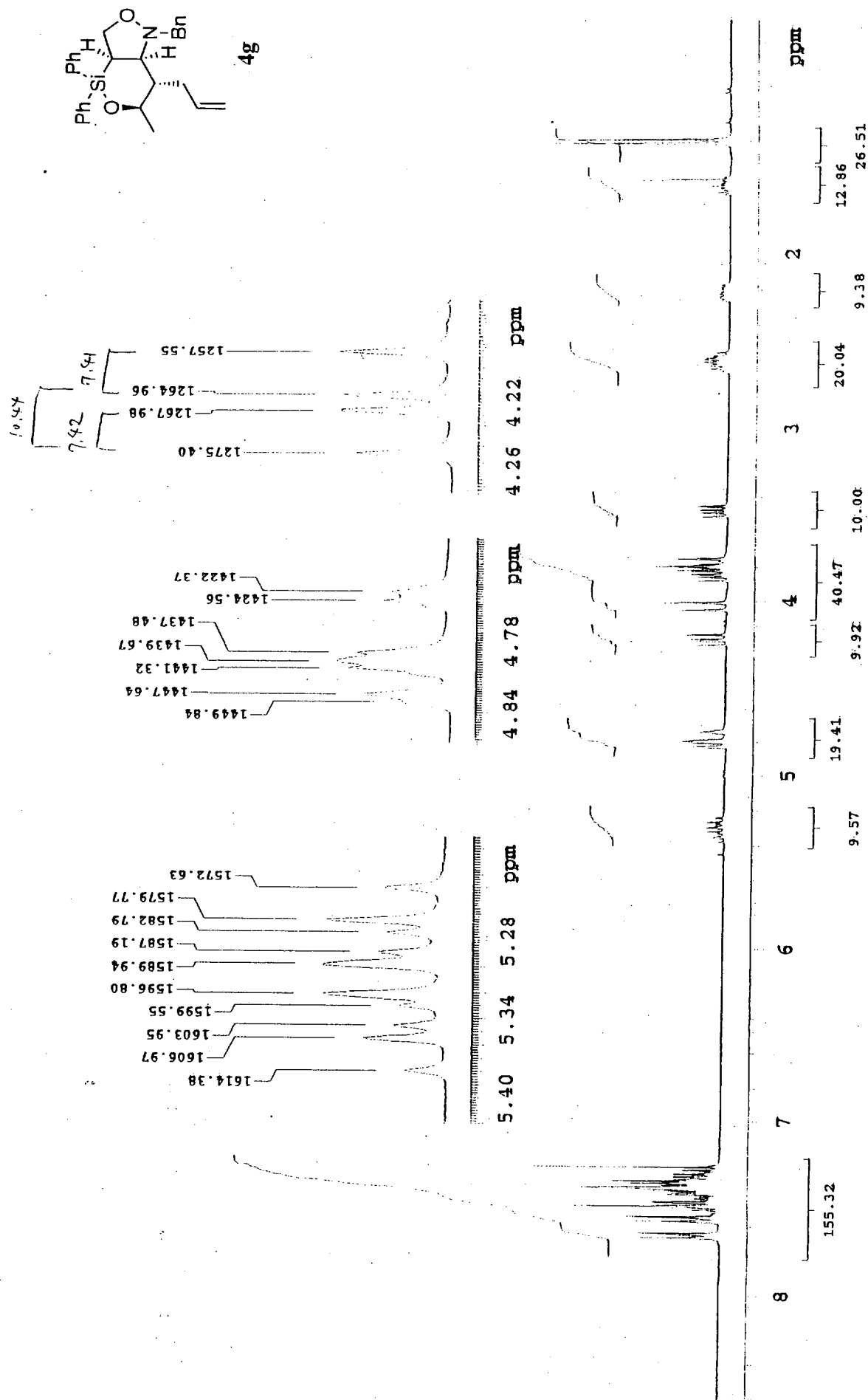




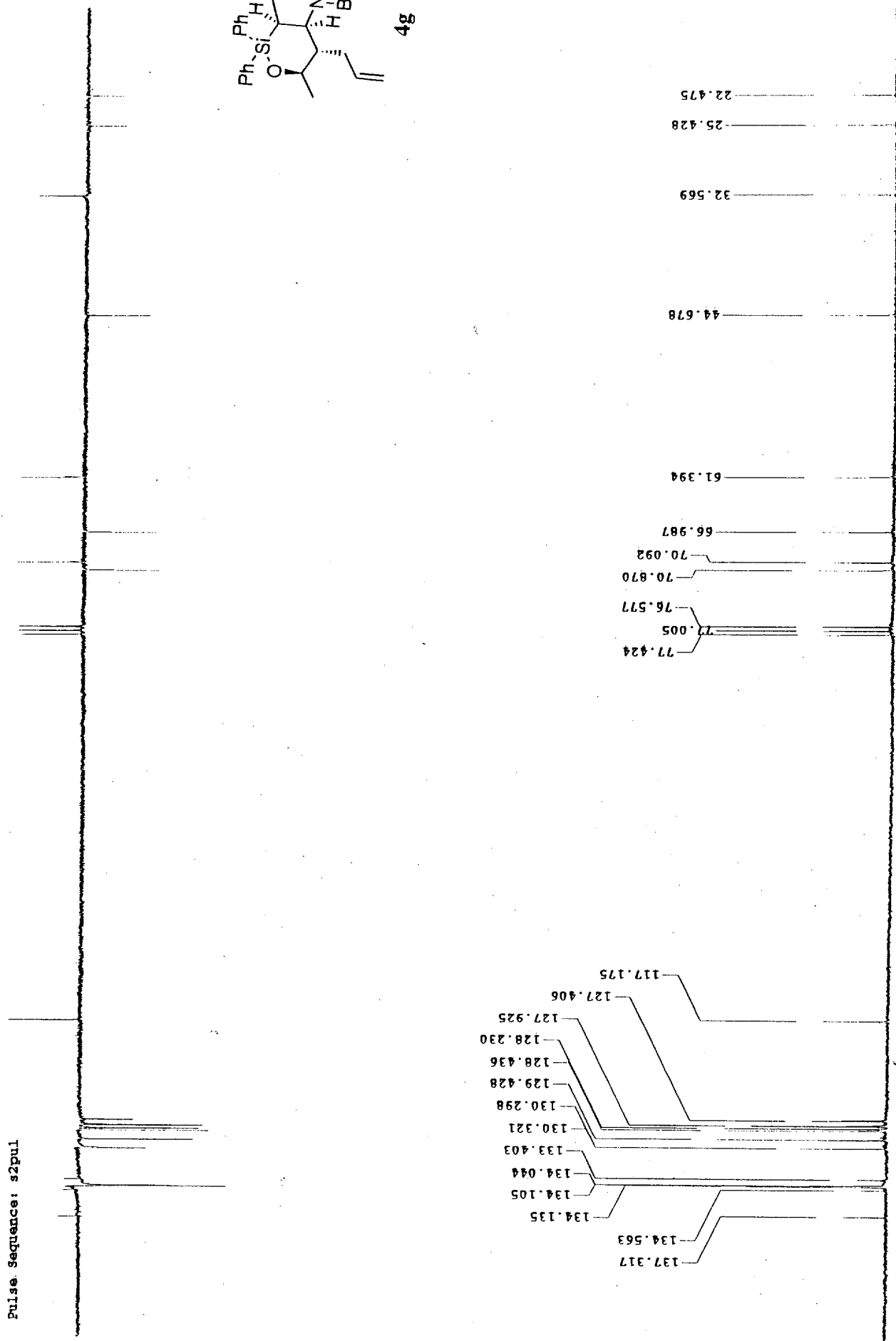
7-90 B

Pulse Sequence: s2pul



7-90 B

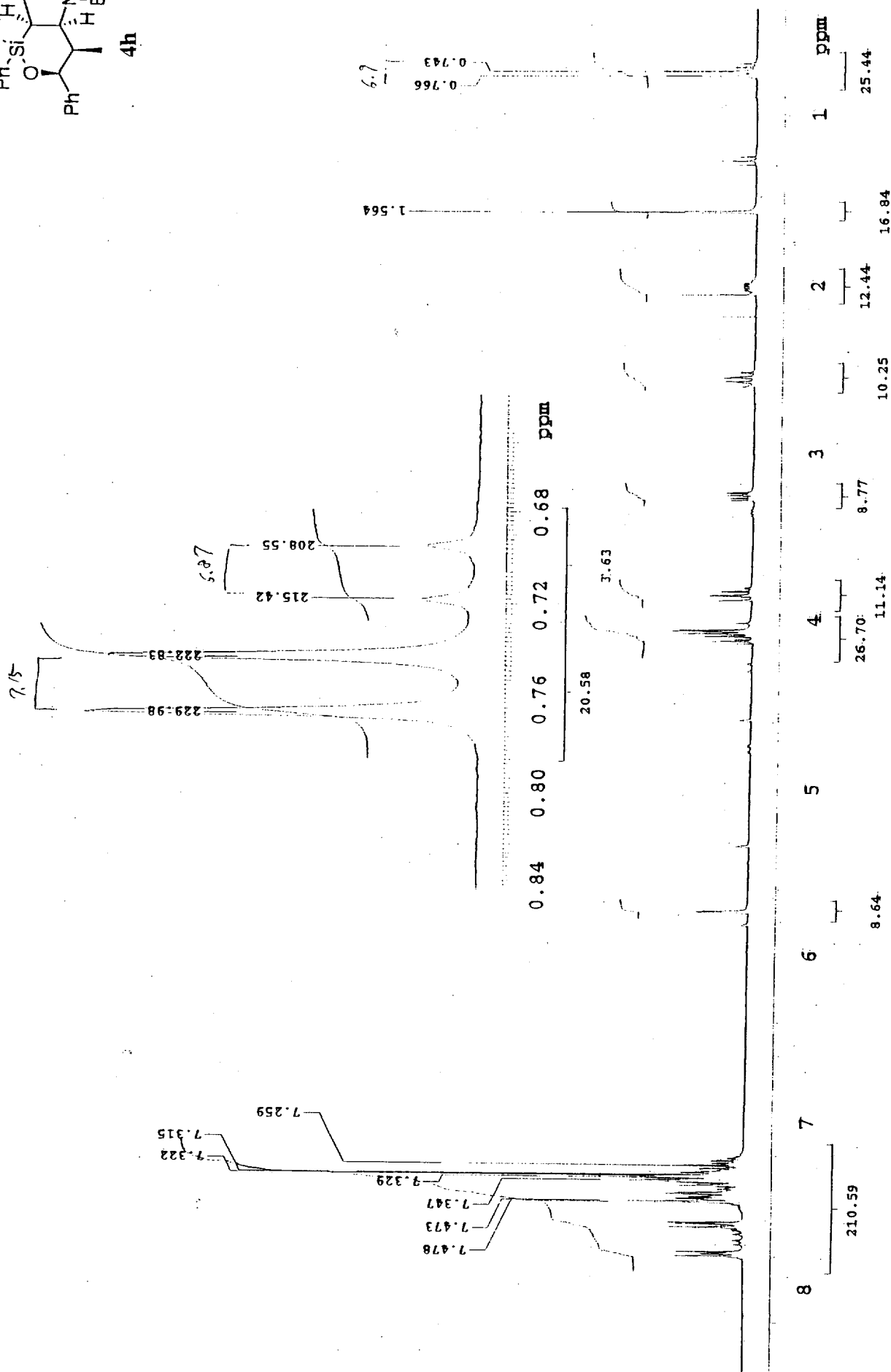
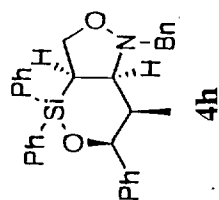
Pulse sequence: s2pul



4g

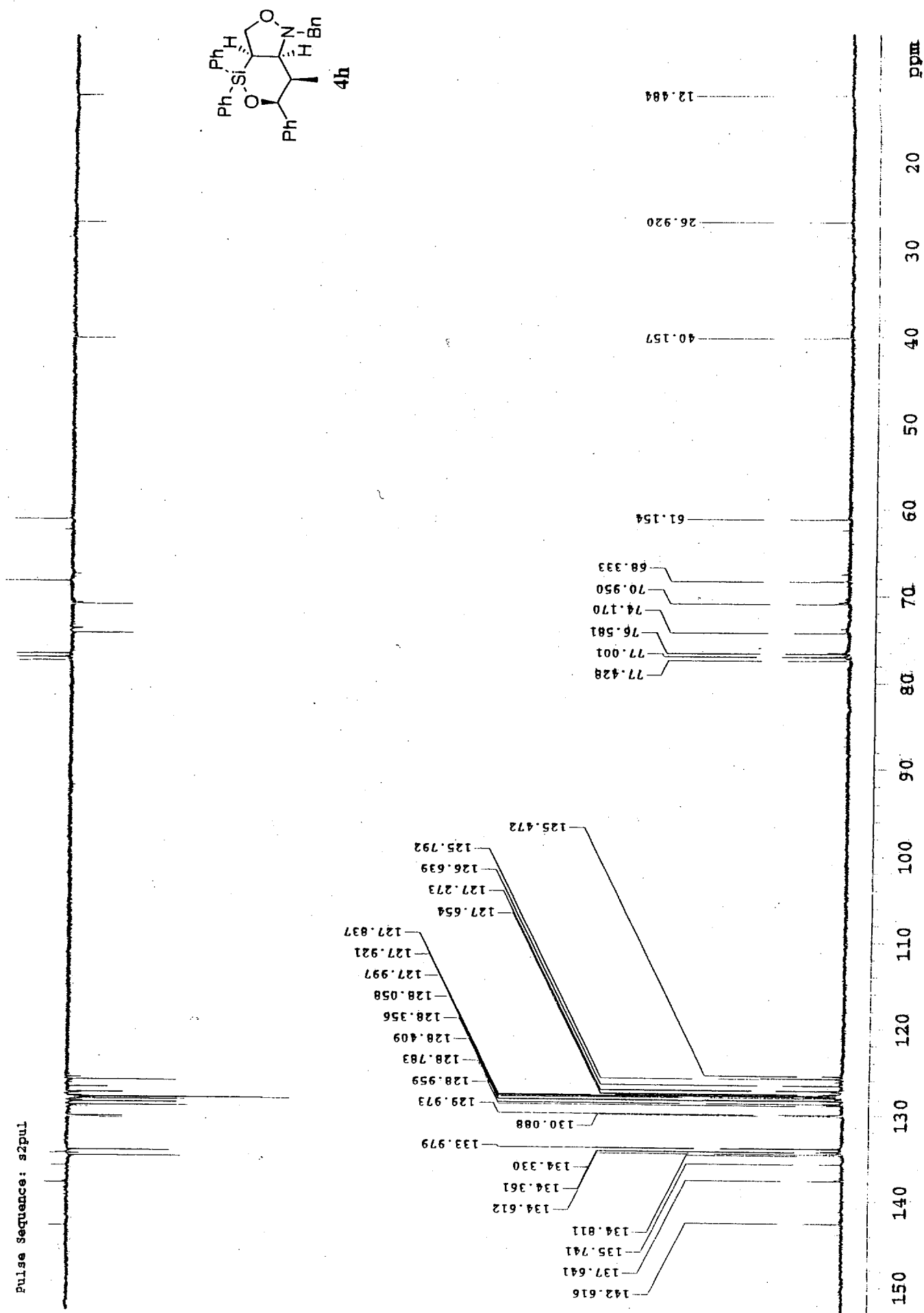
6-206 A

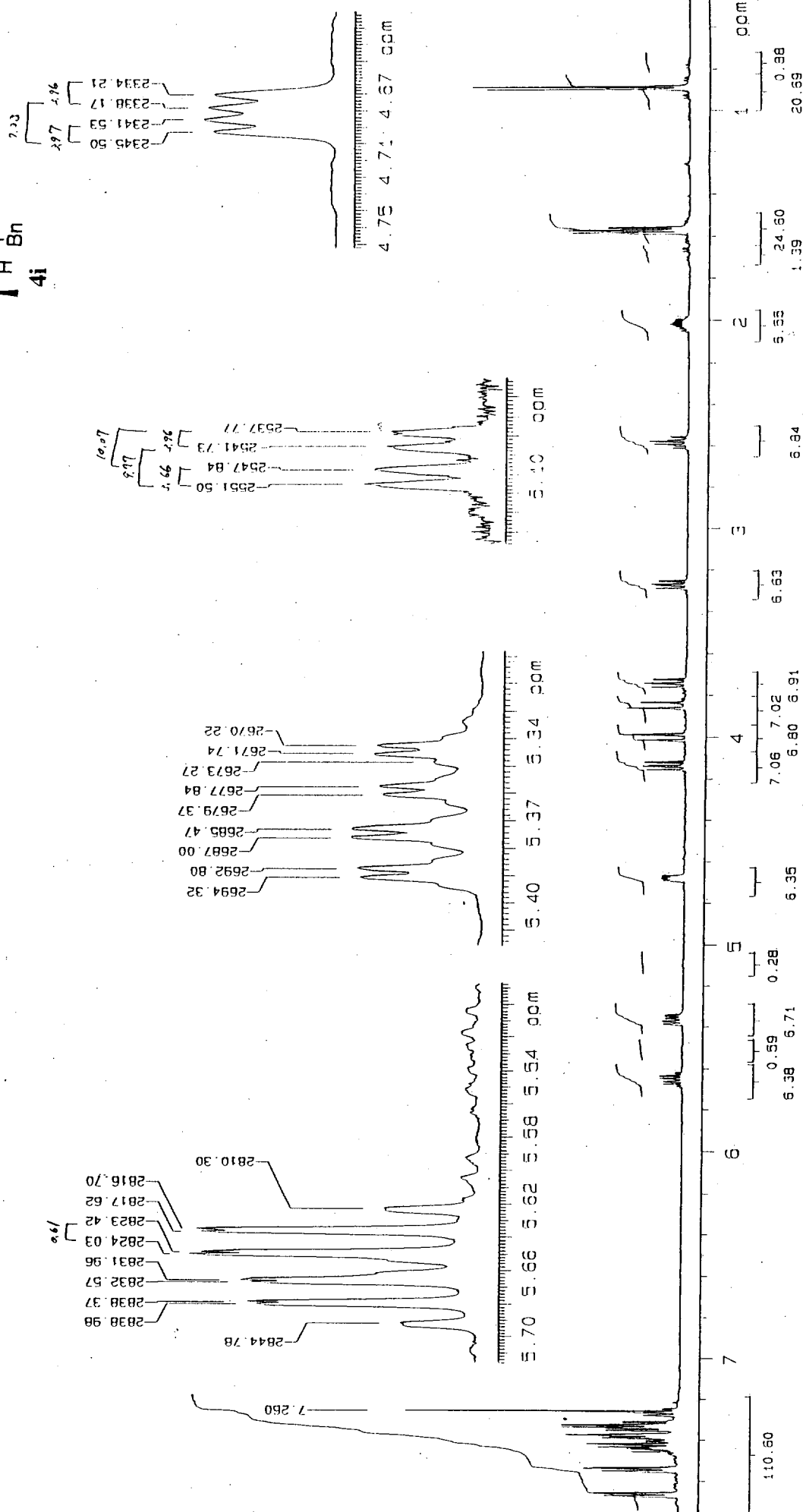
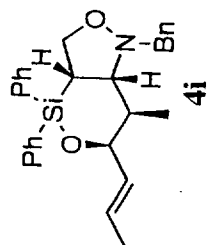
Pulse Sequence: s2pul



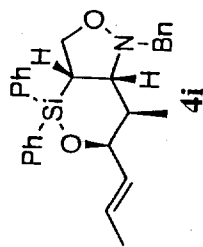
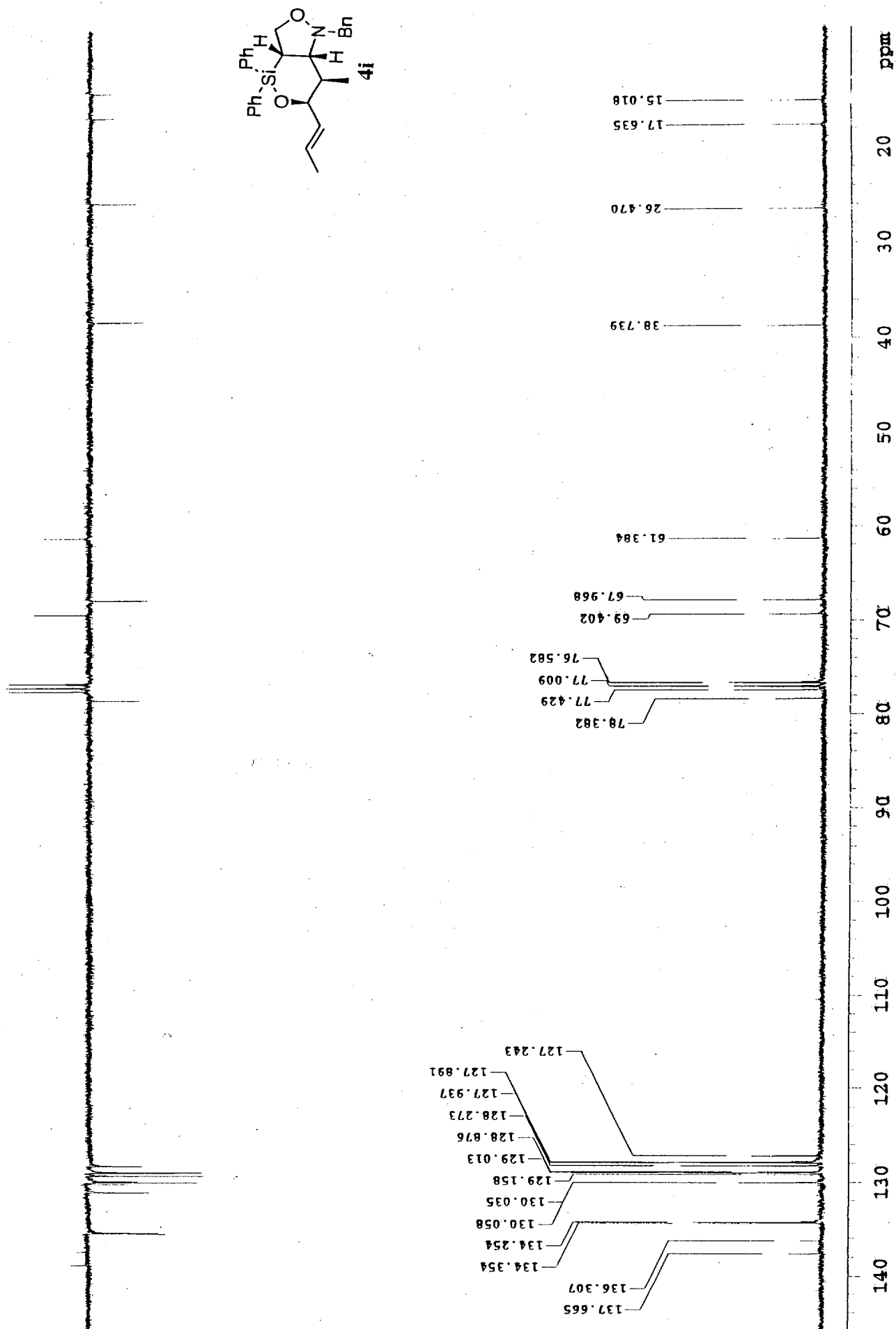
13C OBSERVE

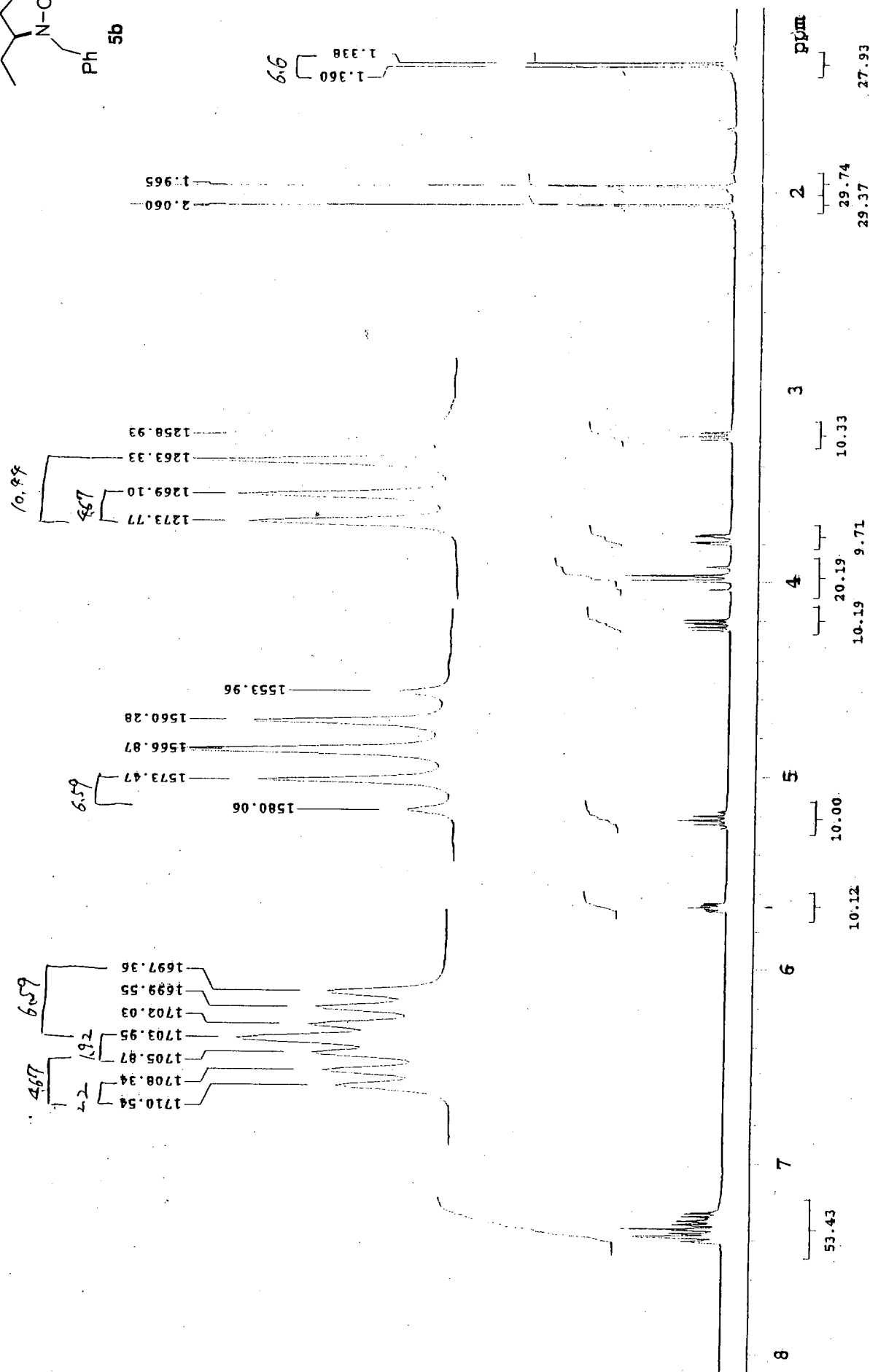
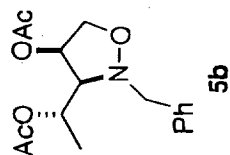
Pulse sequence: s2pul





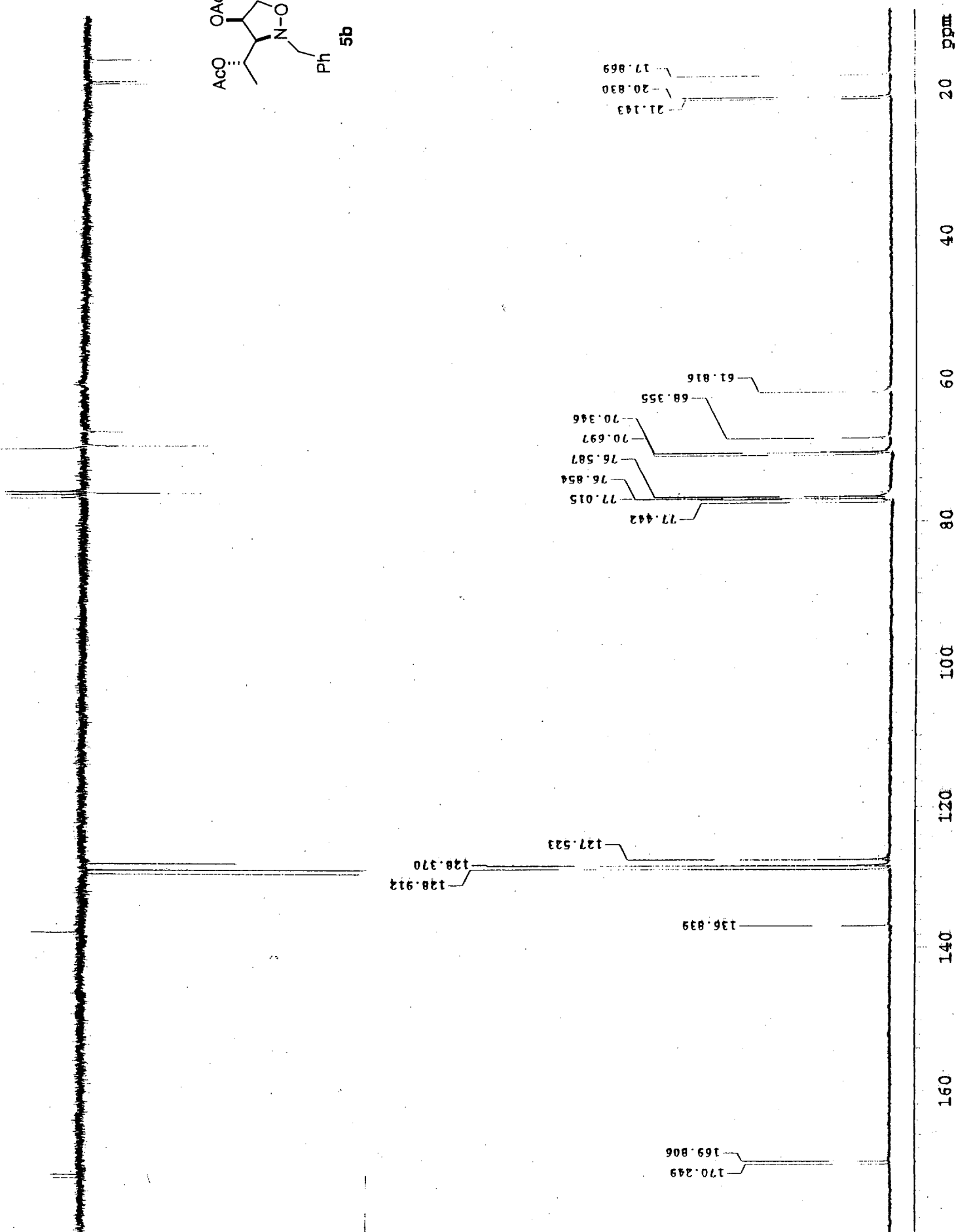
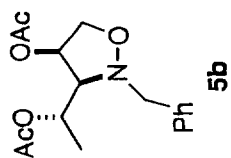
Pulse sequence: s2pul





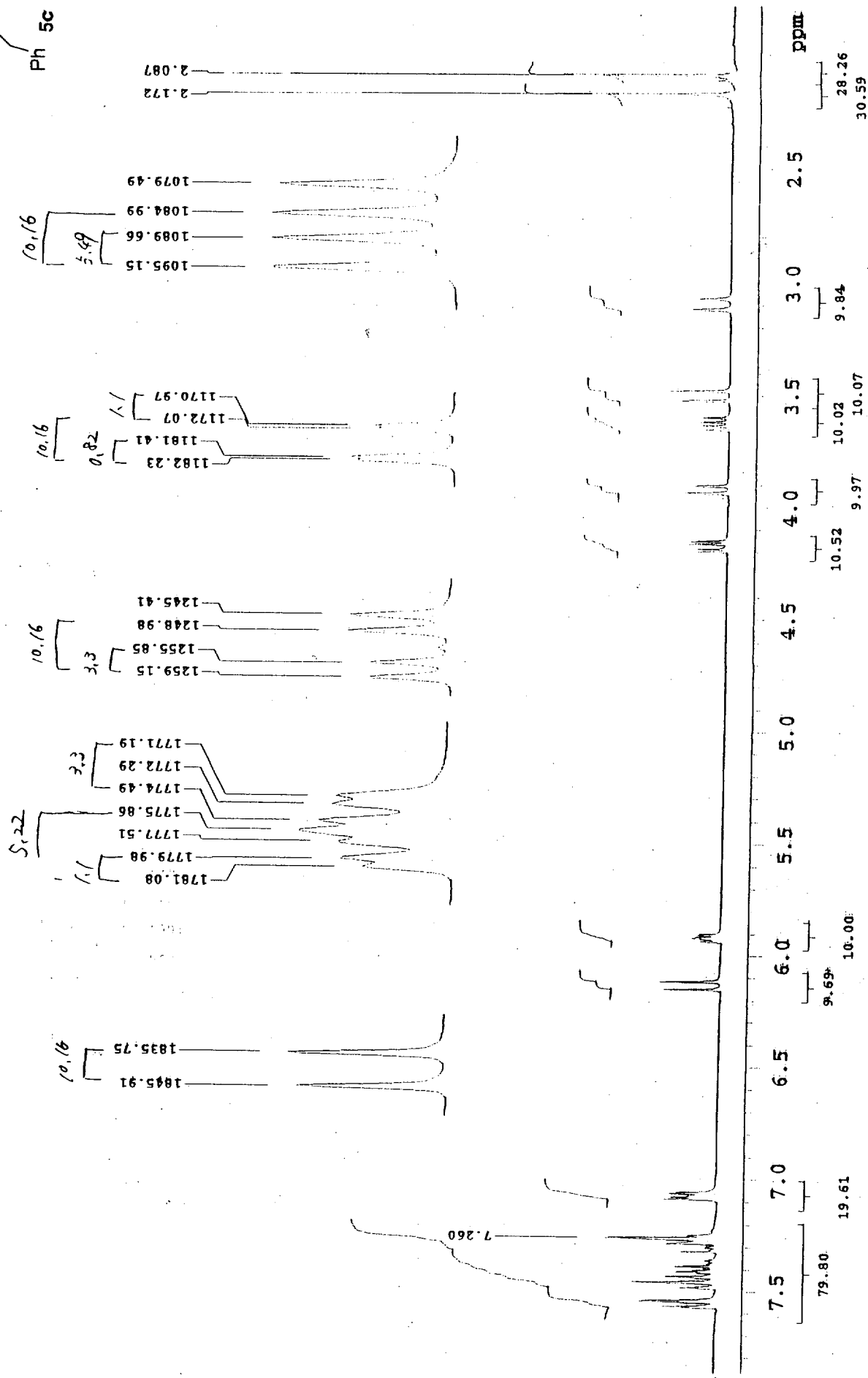
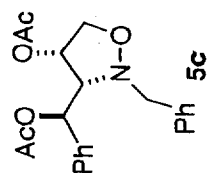
6-15

Pulse sequence: s2pul

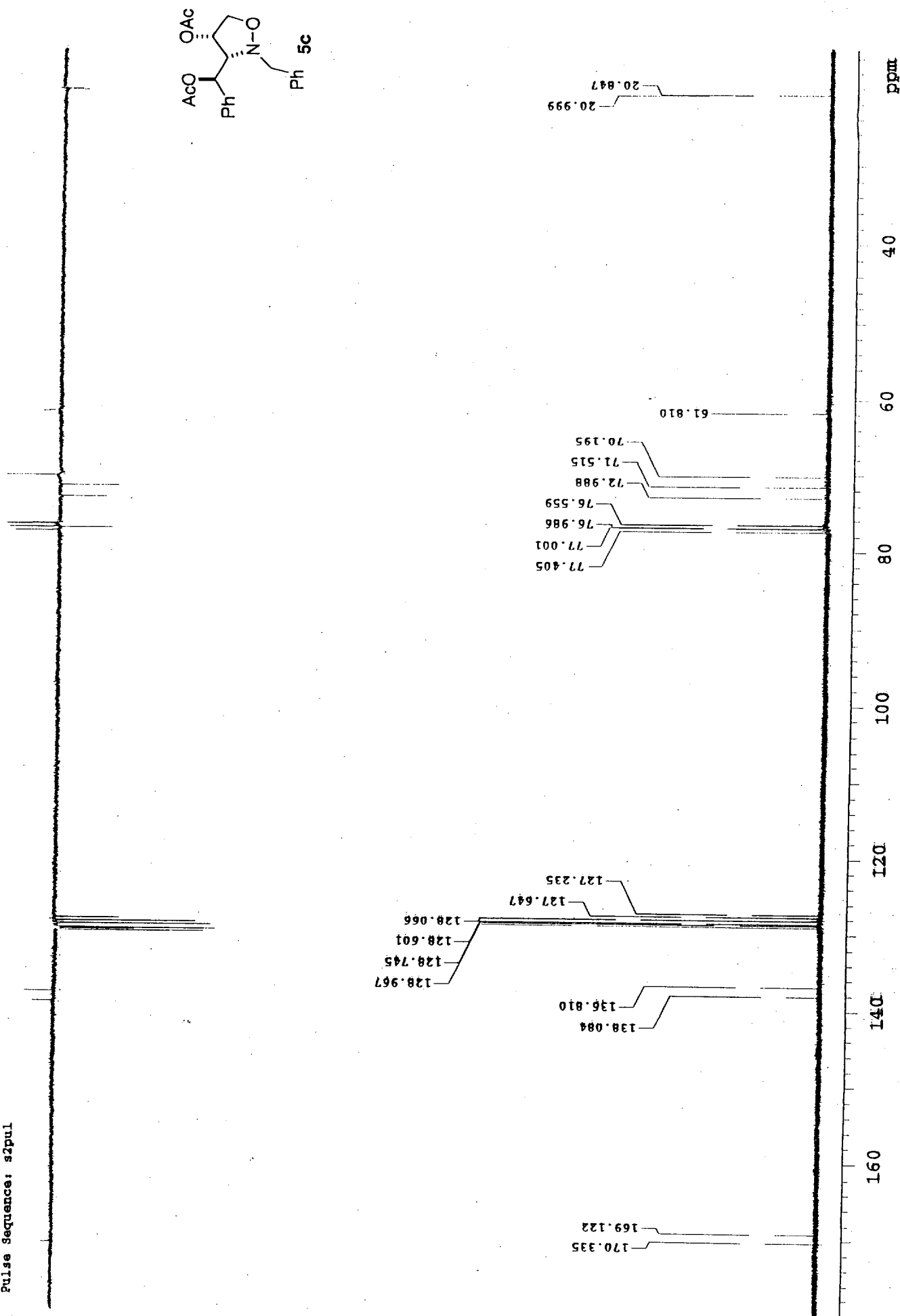


6-51 pro

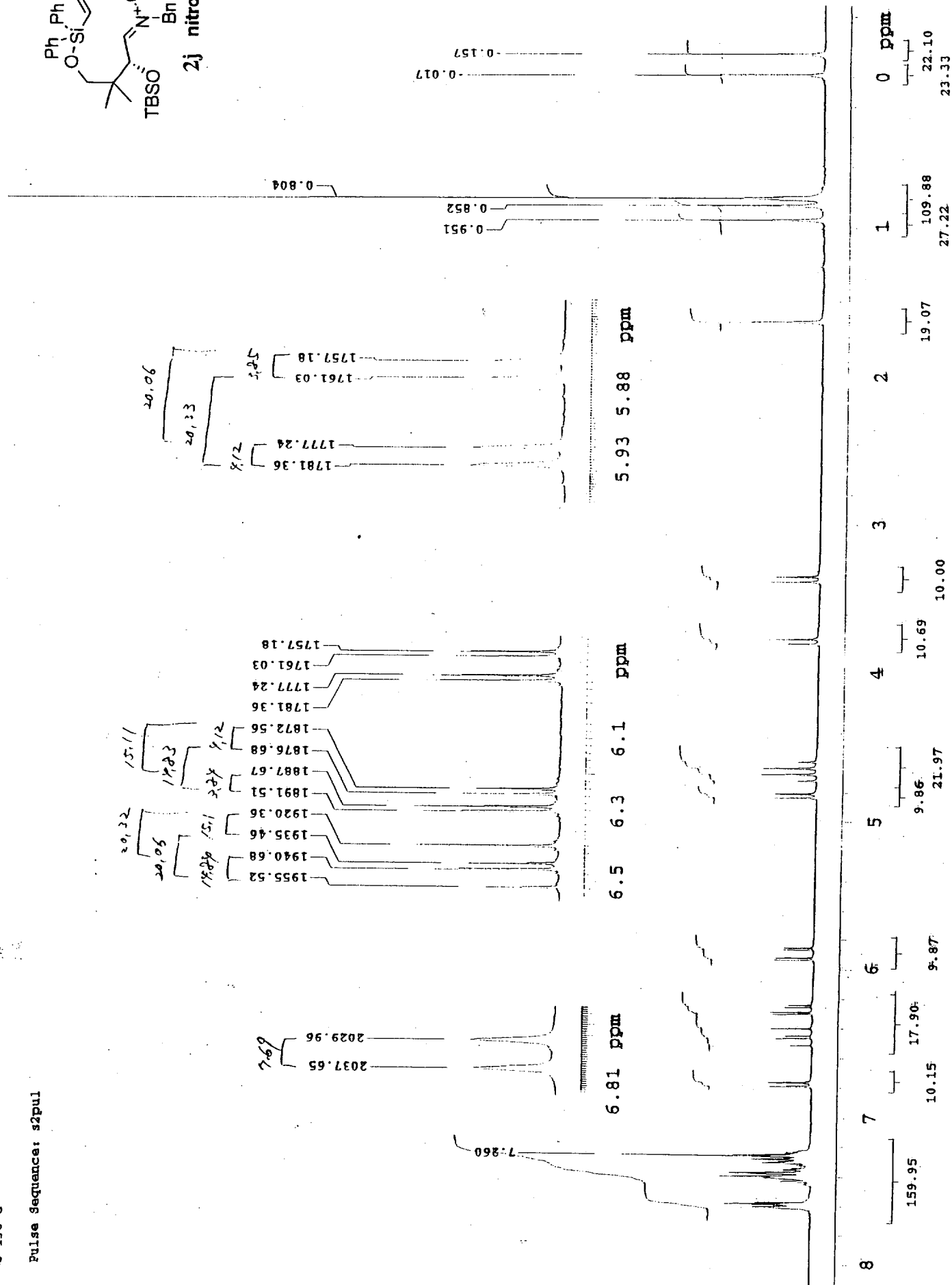
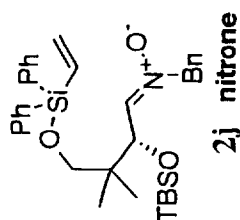
Pulse Sequence: s2pul



Pulse sequence: s2pul



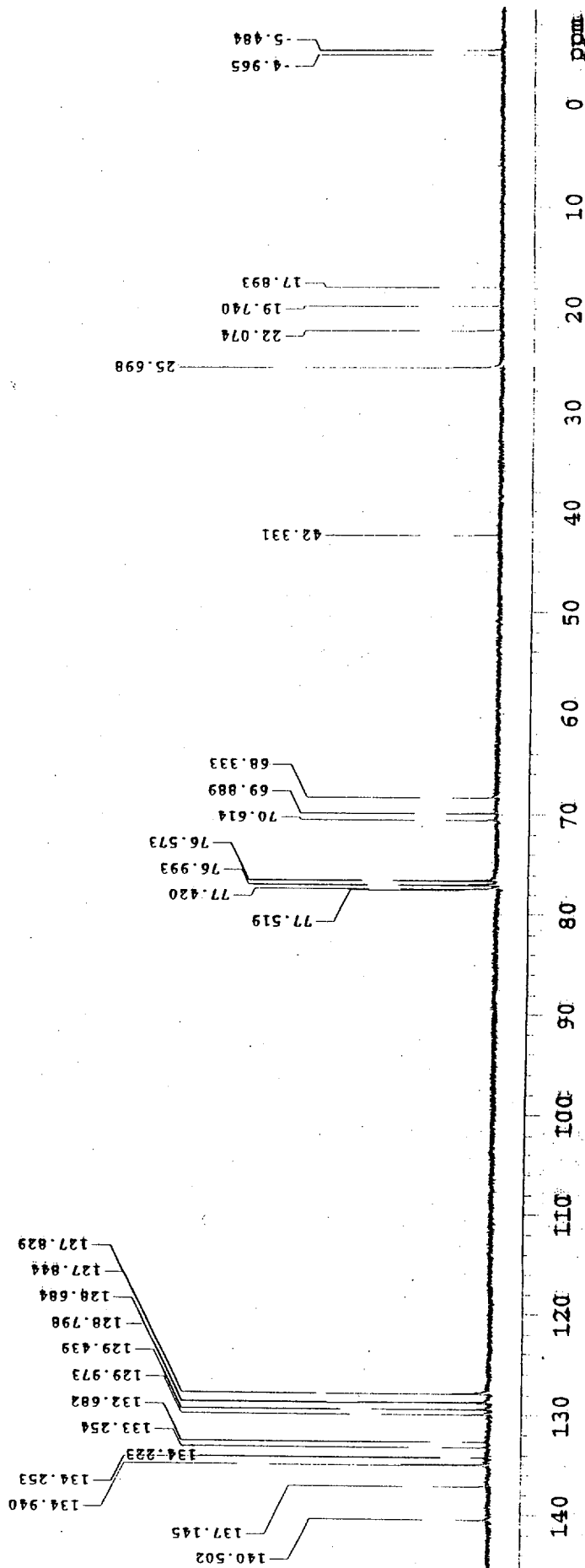
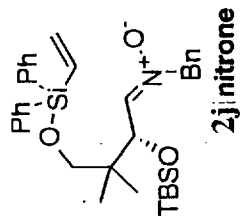
Pulse sequence: s2pul

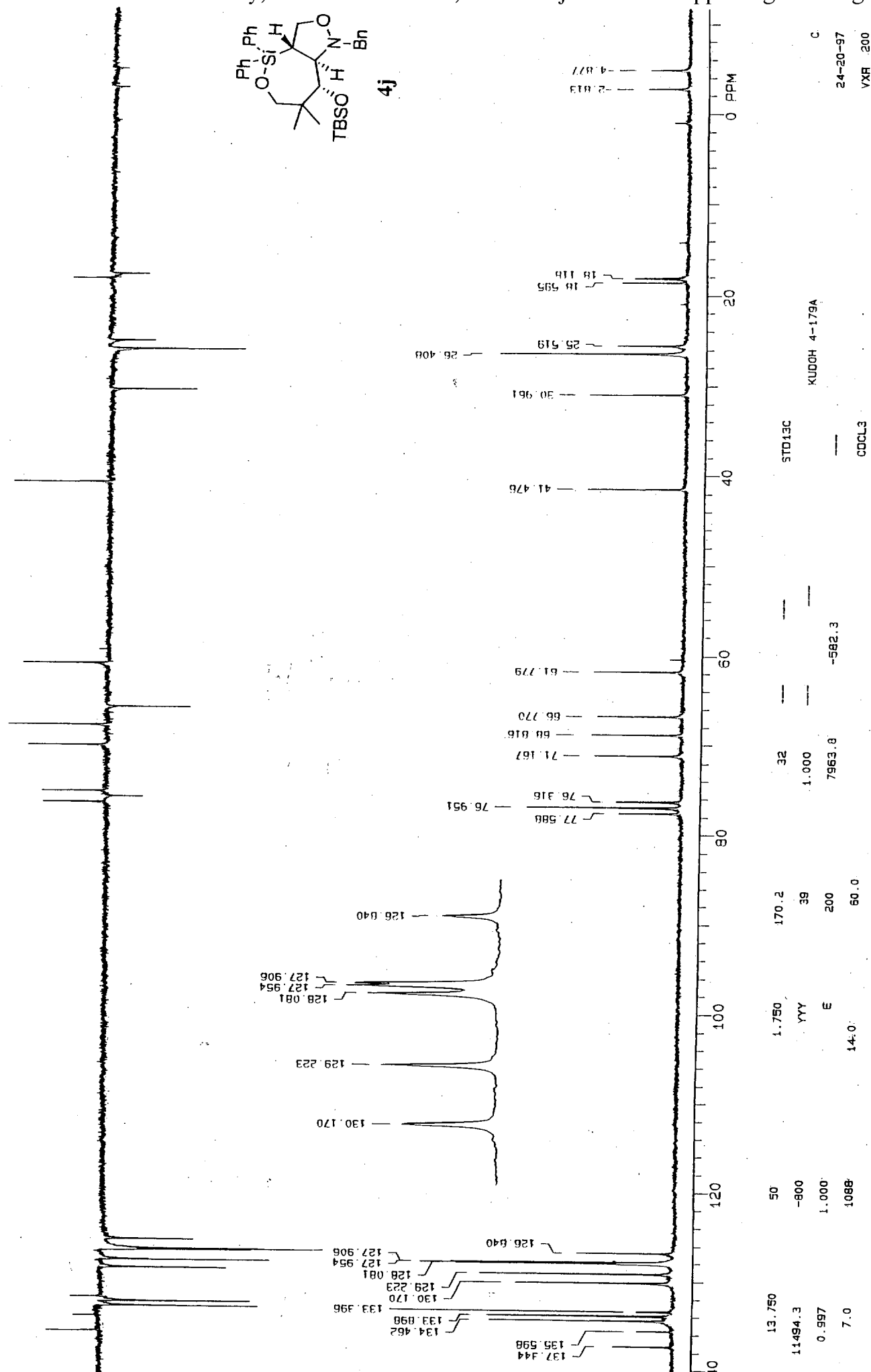


6-198e

13C OBSERVE

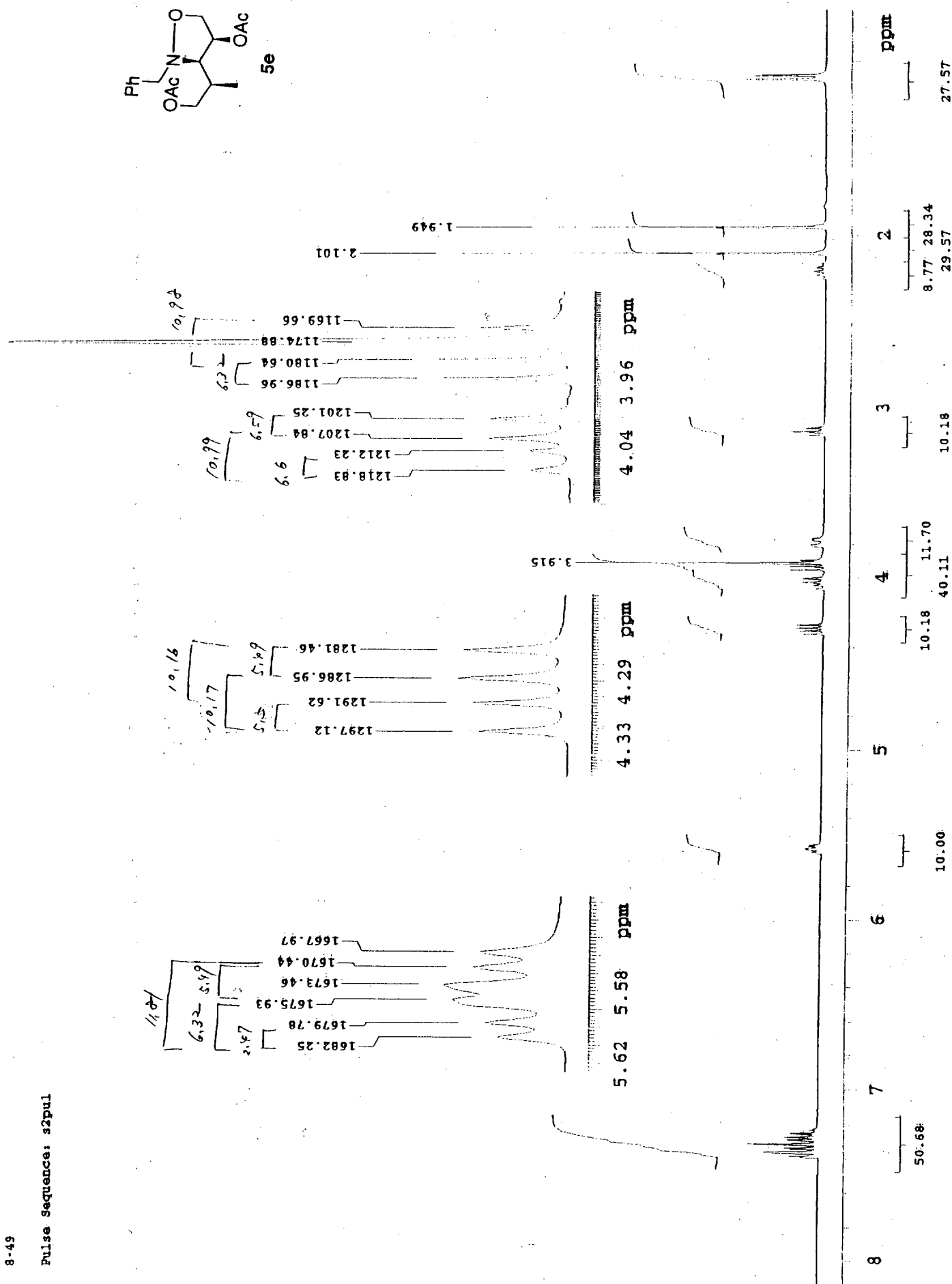
Pulse Sequence: s2pul





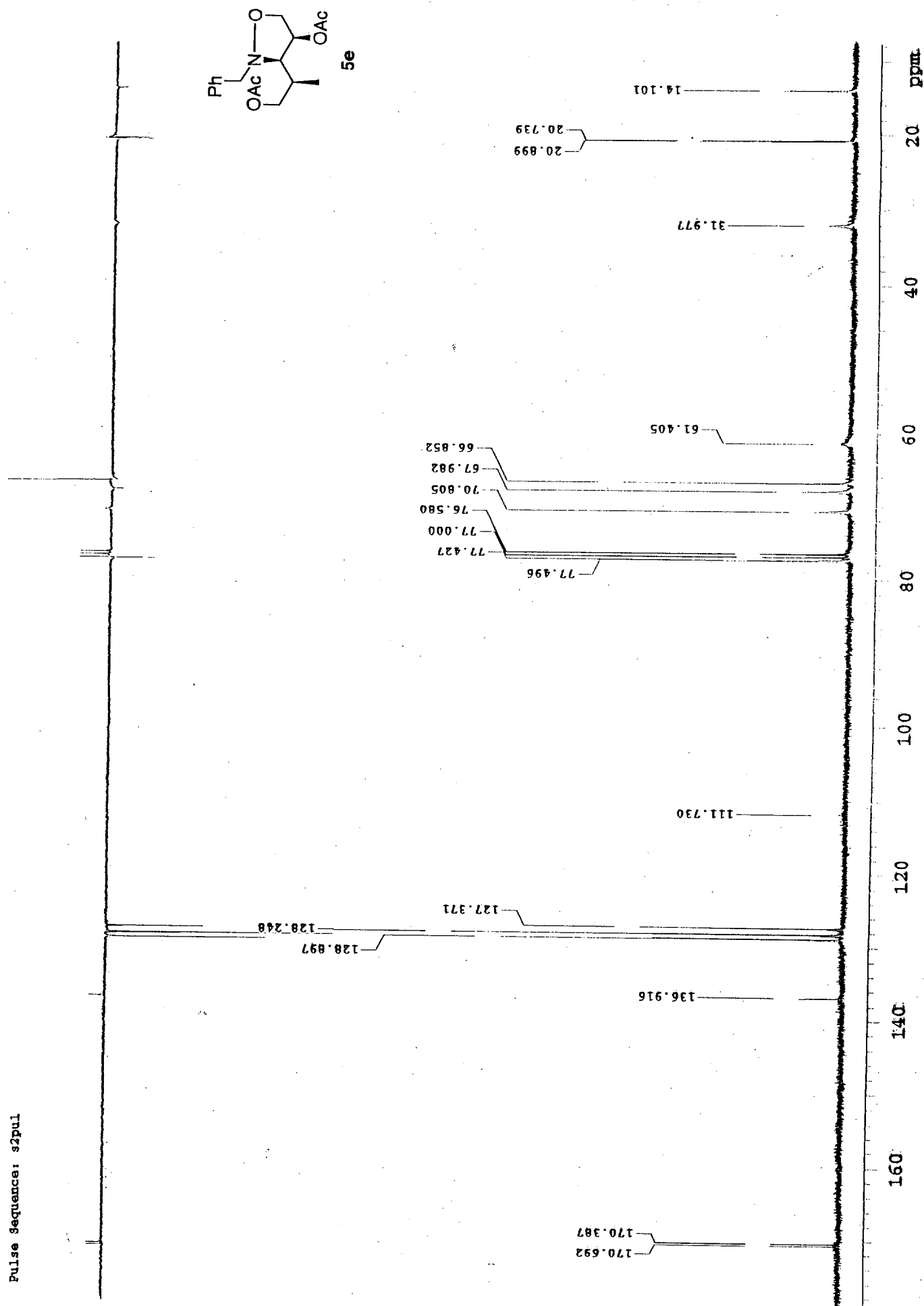
8-49

Pulse Sequence: s2pul



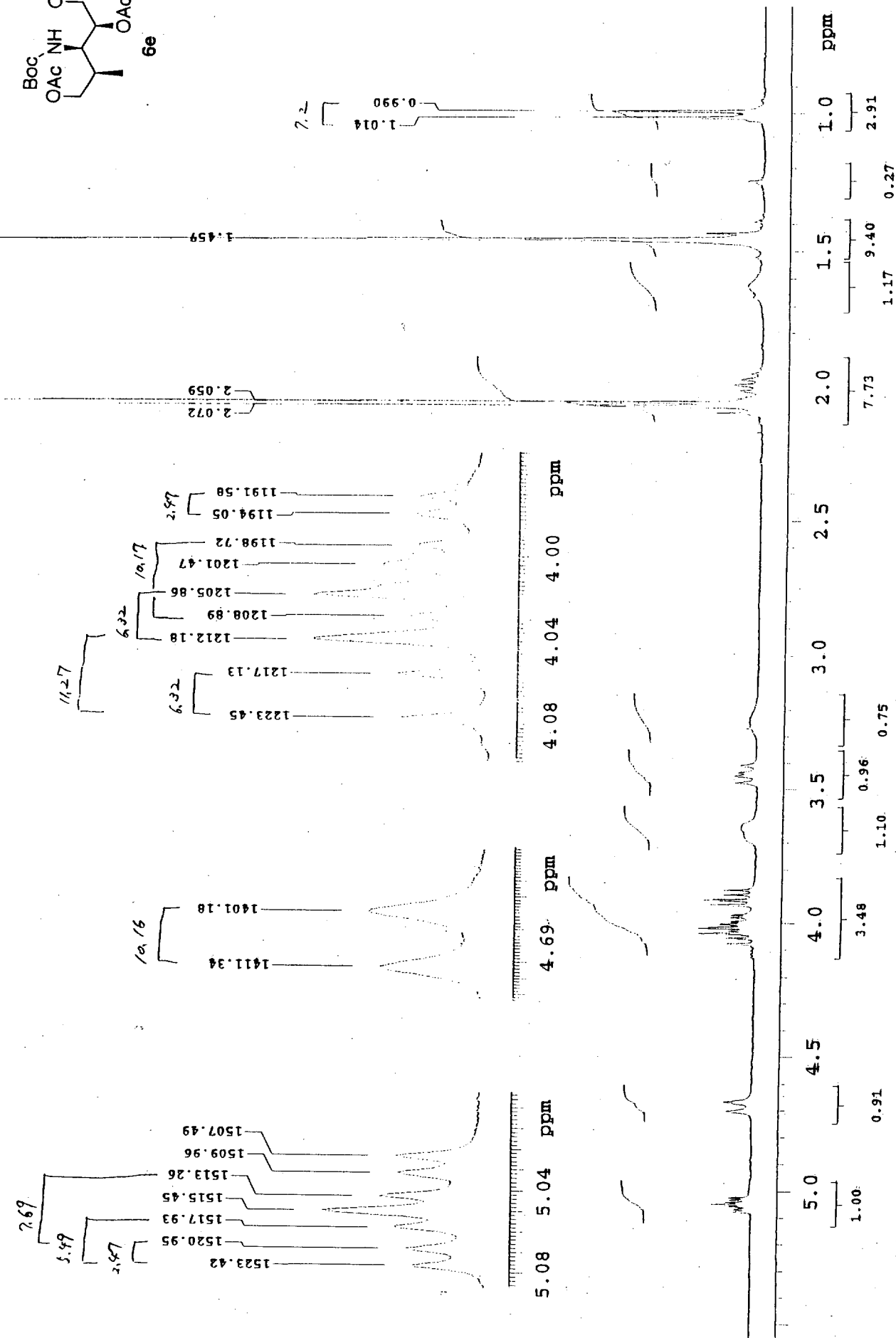
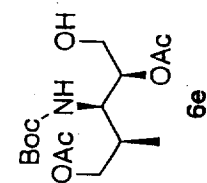
8-49

Pulse sequence: s2pul



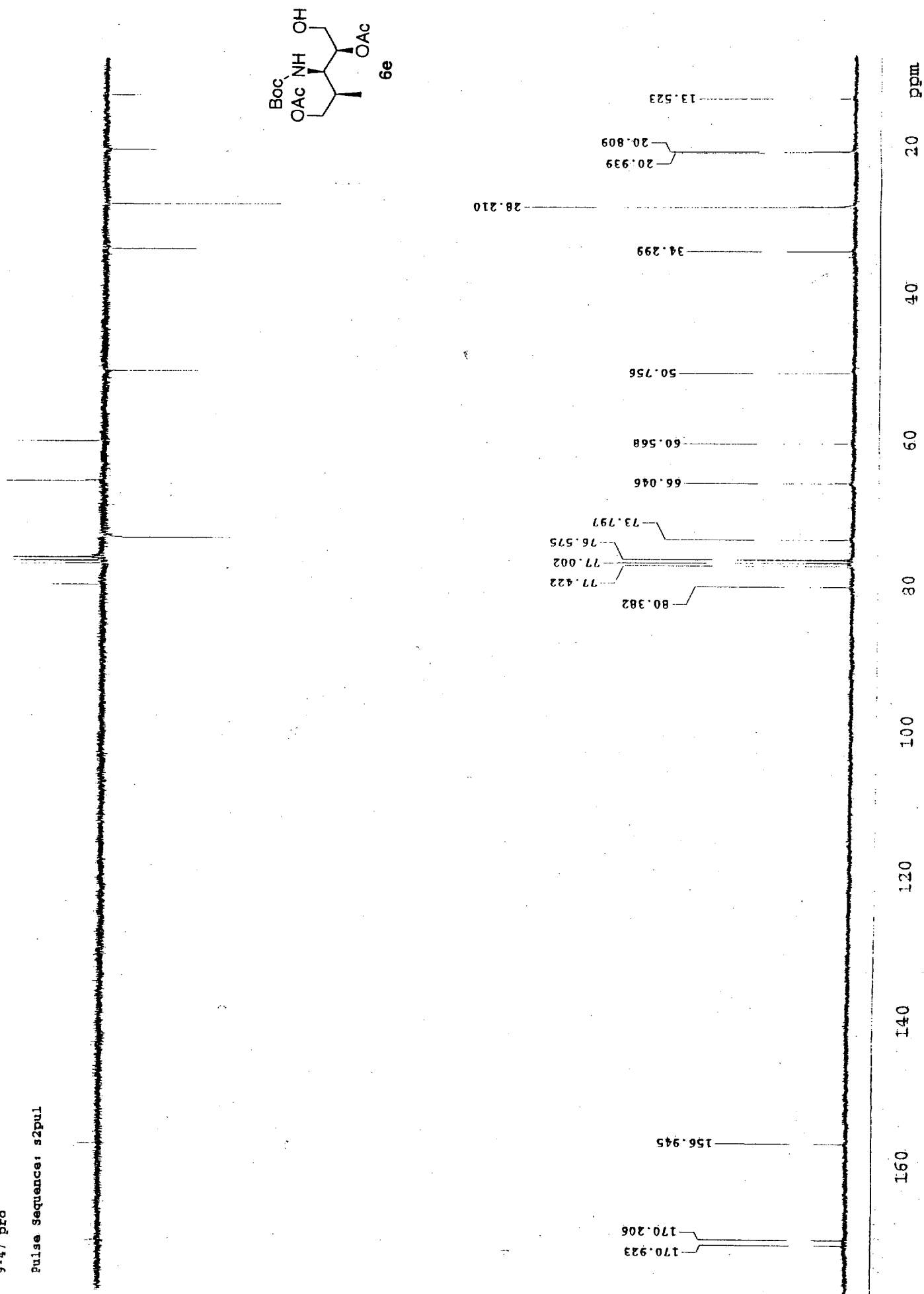
9-47 pure pro

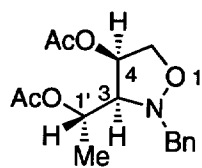
Pulse sequence: s2pul



9-47 pro

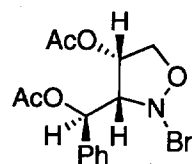
Pulse sequence: s2pul





5b

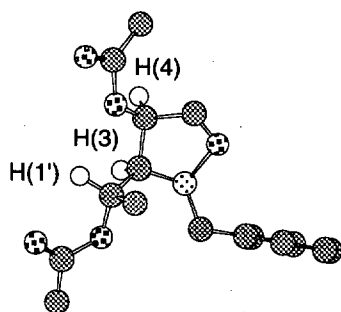
$$J_{3,4} = J_{3,1'} = 6.6 \text{ Hz}$$



5c

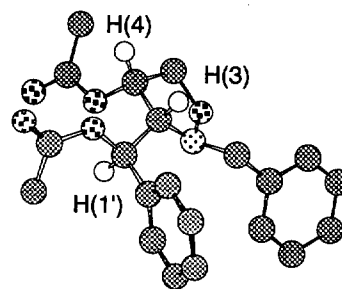
$$J_{3,4} = 5.5 \text{ Hz}$$

$$J_{3,1'} = 10.2 \text{ Hz}$$



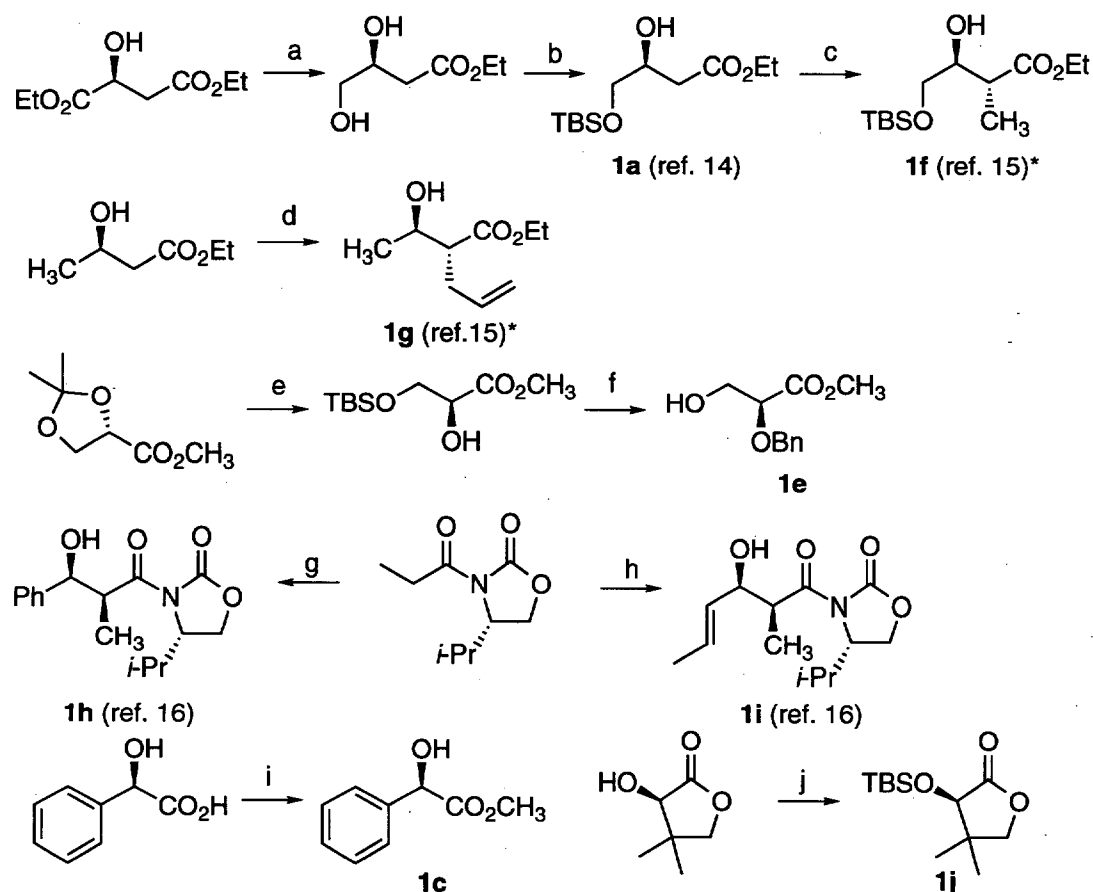
$$\angle \text{H(4)-C(4)-C(3)-H(3)} = 31^\circ$$

$$\angle \text{H(3)-C(3)-C(1')-H(1')} = 62^\circ$$



$$\angle \text{H(4)-C(4)-C(3)-H(3)} = 32^\circ$$

$$\angle \text{H(3)-C(3)-C(1')-H(1')} = 177^\circ$$



(a) $\text{BH}_3 \cdot \text{SMe}_2 / \text{THF} / 20^\circ\text{C}$, 30 min, then 5% $\text{NaBH}_4 / 20^\circ\text{C}$, 40 min (97%); (b) $\text{TBS-Cl} / \text{imidazole} / \text{THF} / 0^\circ\text{C}$, 2h (95%); (c) $2 \times \text{LDA} / \text{THF} / -78^\circ\text{C} \rightarrow -20^\circ\text{C}$, 0.5 h, then $1 \times \text{CH}_3\text{I} / -20 \rightarrow 25^\circ\text{C}$, 15 min (80%); (d) the same as (c) with $\text{CH}_2=\text{CHCH}_2\text{Br}$ in place of CH_3I (80%); (e) 1. $\text{HCl} / \text{THF} / \text{rt}$, 1 h, 2. $\text{TBS-Cl} / \text{imidazole} / \text{THF} / \text{rt}$, 5 h (78%); (f) 1. $\text{NaH} / \text{BnBr} / \text{DMF} / \text{rt}$, 3 h (62%), 2. $\text{TBAF} / \text{THF} / \text{rt}$, 0.5 h (75%); (g) $\text{BBu}_2\text{OTf} / \text{Et}_3\text{N} / \text{CH}_2\text{Cl}_2 / 0^\circ\text{C}$, 20 min, then $\text{PhCHO} / -78^\circ\text{C}$, 1 h (72%); (h) the same as (g) with crotonaldehyde in place of PhCHO (71%); (i) $\text{MeOH} / \text{cat. H}_2\text{SO}_4 / \text{rt}$, 12 h (85%); (j) $\text{TBS-Cl} / \text{imidazole} / \text{THF} / 0^\circ\text{C} \rightarrow \text{rt}$, 24 h (97%)

* See also Seebach, D.; Wasmuth, Helv. Chim. Acta 1980, 63 197–200 and Seebach, D.; Aebi, J.; Wasmuth, D. Org. Syn. 1990, Coll. Vol. VII, 153–159.