

Supporting Information

Polycyclic Framework Synthesis of Anominine and Tubingensin A Indole Diterpenoids

*Ben Bradshaw, Gorka Etxebarria-Jardí and Josep Bonjoch**

Laboratori de Química Orgànica, Facultat de Farmàcia, Universitat de Barcelona, Av. Joan
XXIII s/n, 08028-Barcelona, Spain

josep.bonjoch@ub.edu

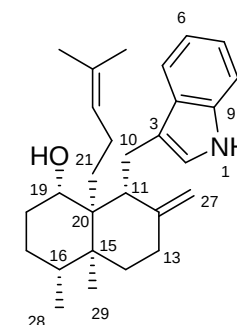
Contents

-Table 1. ^{13}C NMR Chemical shifts of compounds	2
-Copies of NMR spectra (^1H , ^{13}C , COSY, HSQC) of compounds 5-20	3-41

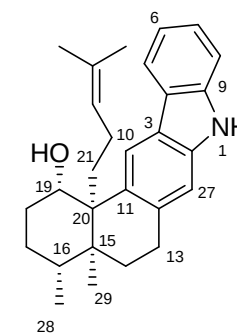
Table 1. ^{13}C NMR Chemical shifts of compounds towards model synthesis of Anominine and Tubingsin A^a

compd	3	5 ^b	6	7	10 ^b	12 ^b	13	15 ^b	16 ^b	18 ^b	19 ^b	20
C2	-	-	-	-	-	-	-	123.5	121.7	206.4	127.6	137.7
C3	-	-	-	-	-	-	-	115.9	116.7	52.8	108.9	122.4
C4	-	-	-	-	-	-	-	127.5	128.0	133.7	130.9	123.7
C5	-	-	-	-	-	-	-	118.5	118.7	132.9	117.9	119.9
C6	-	-	-	-	-	-	-	119.1	119.0	130.6	121.4	119.0
C7	-	-	-	-	-	-	-	121.6	121.7	127.7	119.3	125.2
C8	-	-	-	-	-	-	-	111.0	111.0	124.6	110.6	110.1
C9	-	-	-	-	-	-	-	135.9	135.9	149.5	136.4	140.0
C10	120.5	-	-	-	-	-	-	17.4	19.9	29.9	17.5	117.5
C11	152.4	50.8	43.6	41.8	49.0	40.6	46.1	53.6	42.5	41.4	38.1	135.0
C12	203.2	214.9	109.6	108.1	213.4	110.0	200.2	213.6	149.5	76.4	71.8	136.2
C13	35.3	38.8	34.8	35.8	37.6	37.0	126.3	39.6	32.9	35.0	33.9	26.6
C14	32.2	31.5	31.6	31.2	32.2	29.5	159.4	32.5	33.9	27.0	27.3	28.6
C15	38.3	51.8	51.9	32.3	37.9	37.4	39.3	38.7	39.7	39.1	39.1	37.8
C16	32.6	211.7	216.2	132.1	31.0	39.2	37.8	30.9	30.5	30.2	30.0	32.0
C17	30.4	37.1	37.7	32.9	30.4	30.3	30.1	30.6	31.1	30.7	30.6	29.7
C18	21.7	21.9	21.7	22.5	21.9	21.3	21.7	21.9	21.6	21.6	21.5	22.7
C19	28.9	34.5	30.0	27.3	35.9	25.2	35.4	33.5	32.1	33.1	32.6	33.6
C20	44.8	44.8	41.0	38.3	41.8	37.0	42.1	47.0	42.8	39.2	39.2	42.1
C21	27.2	23.3	24.8	23.2	24.6	25.0	24.9	18.8	18.3	20.6	20.0	30.7
C27	-	-	-	-	-	-	-	-	107.7	57.7	41.4	110.3
C28	15.7	-	-	107.9	15.3	64.2	16.9	16.0	16.5	16.0	15.9	16.3
C29	15.7	21.2	20.5	20.1	16.1	17.1	15.3	16.3	16.3	16.3	16.6	16.3

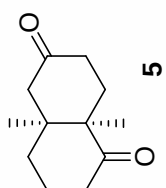
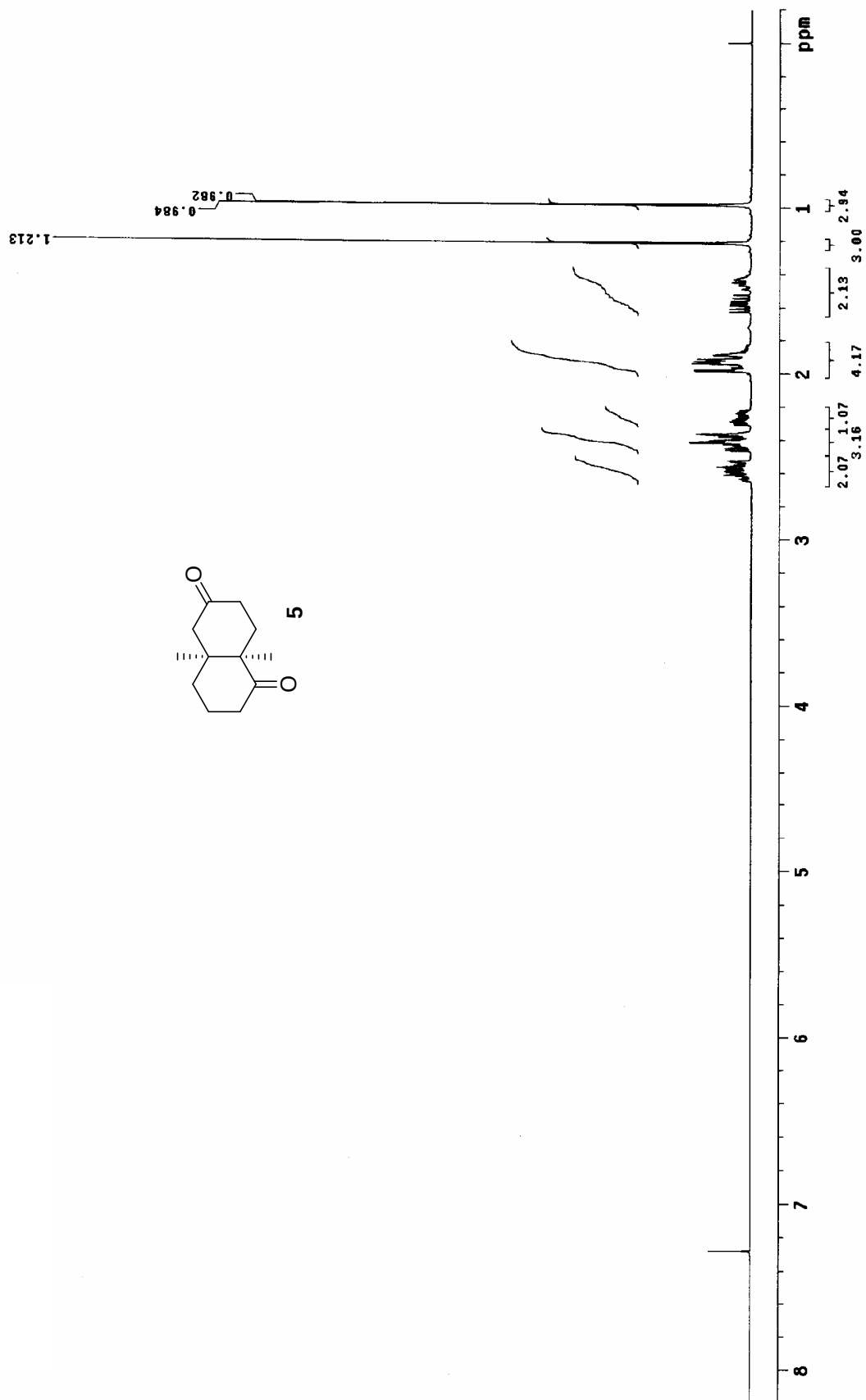
^aDiterpene biogenetic numbering is used in this table. ^bAssignments were aided by gCOSY and gHMQC spectra.

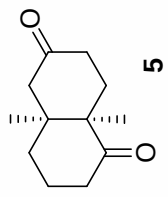
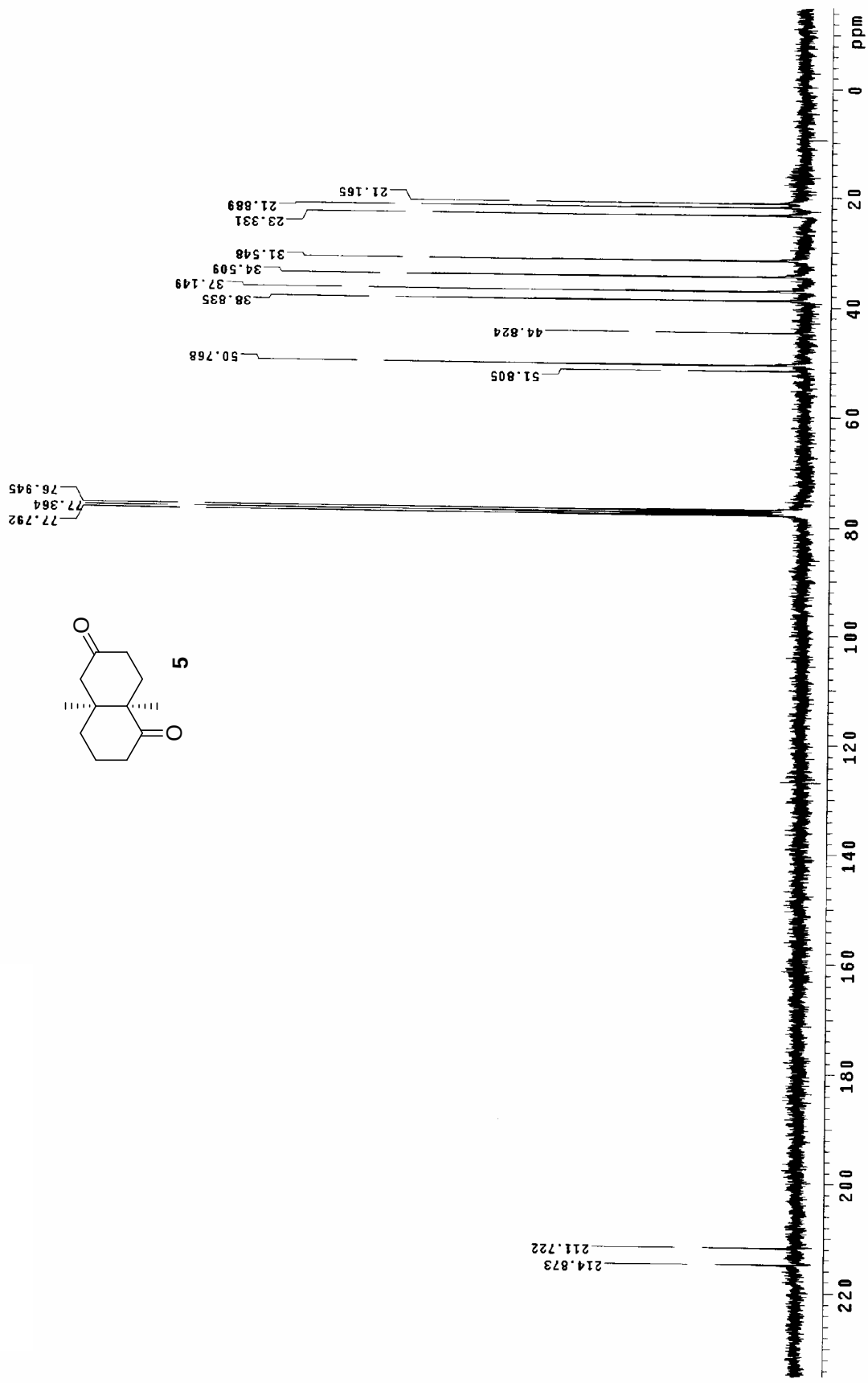


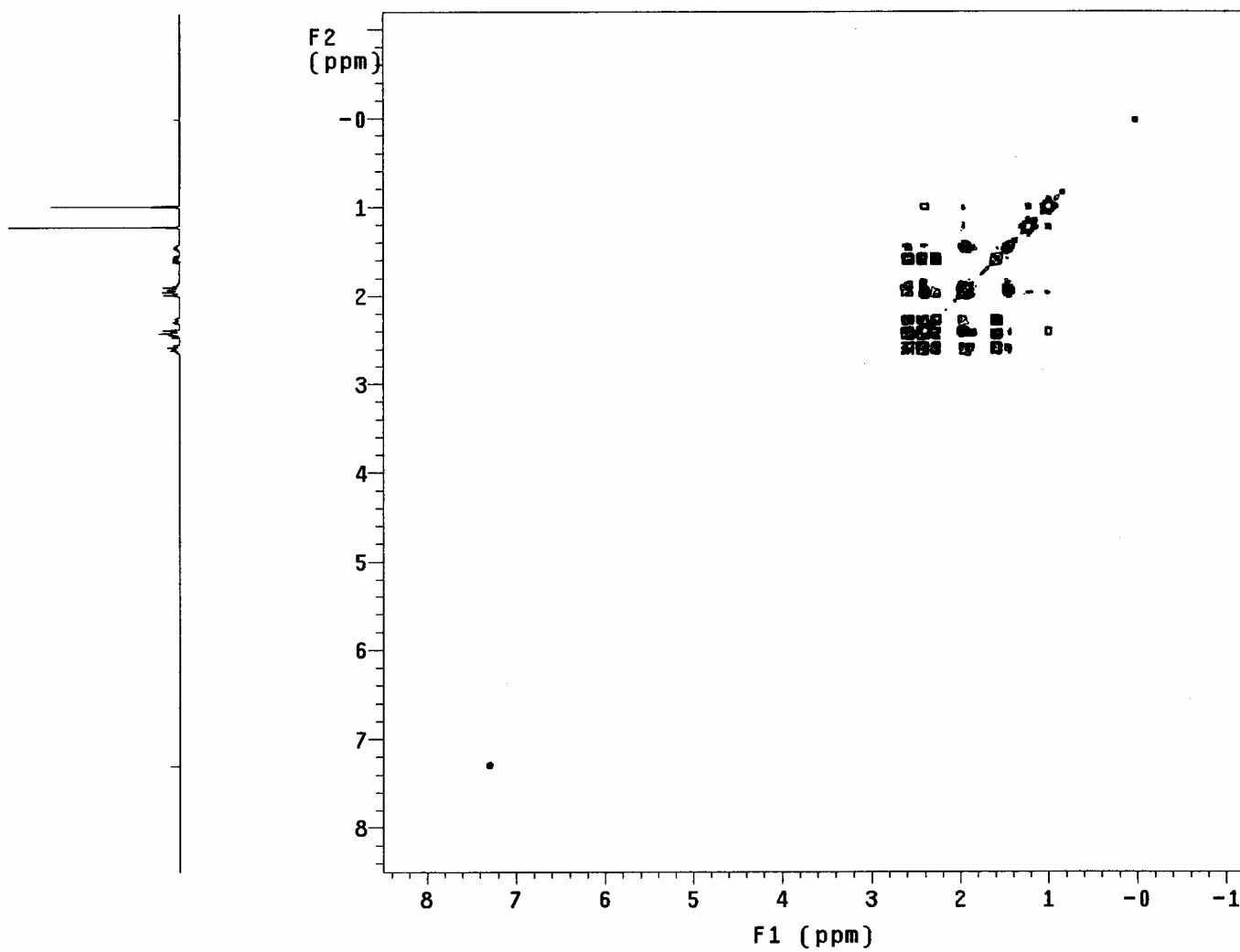
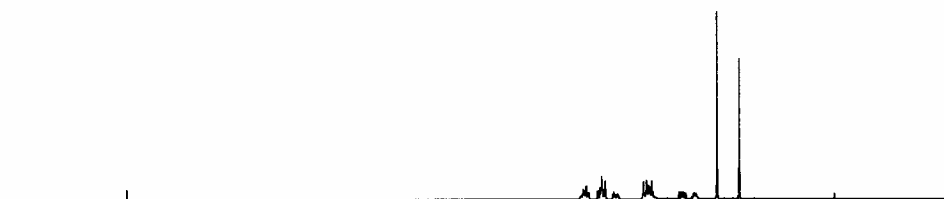
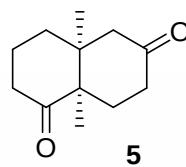
Anominine

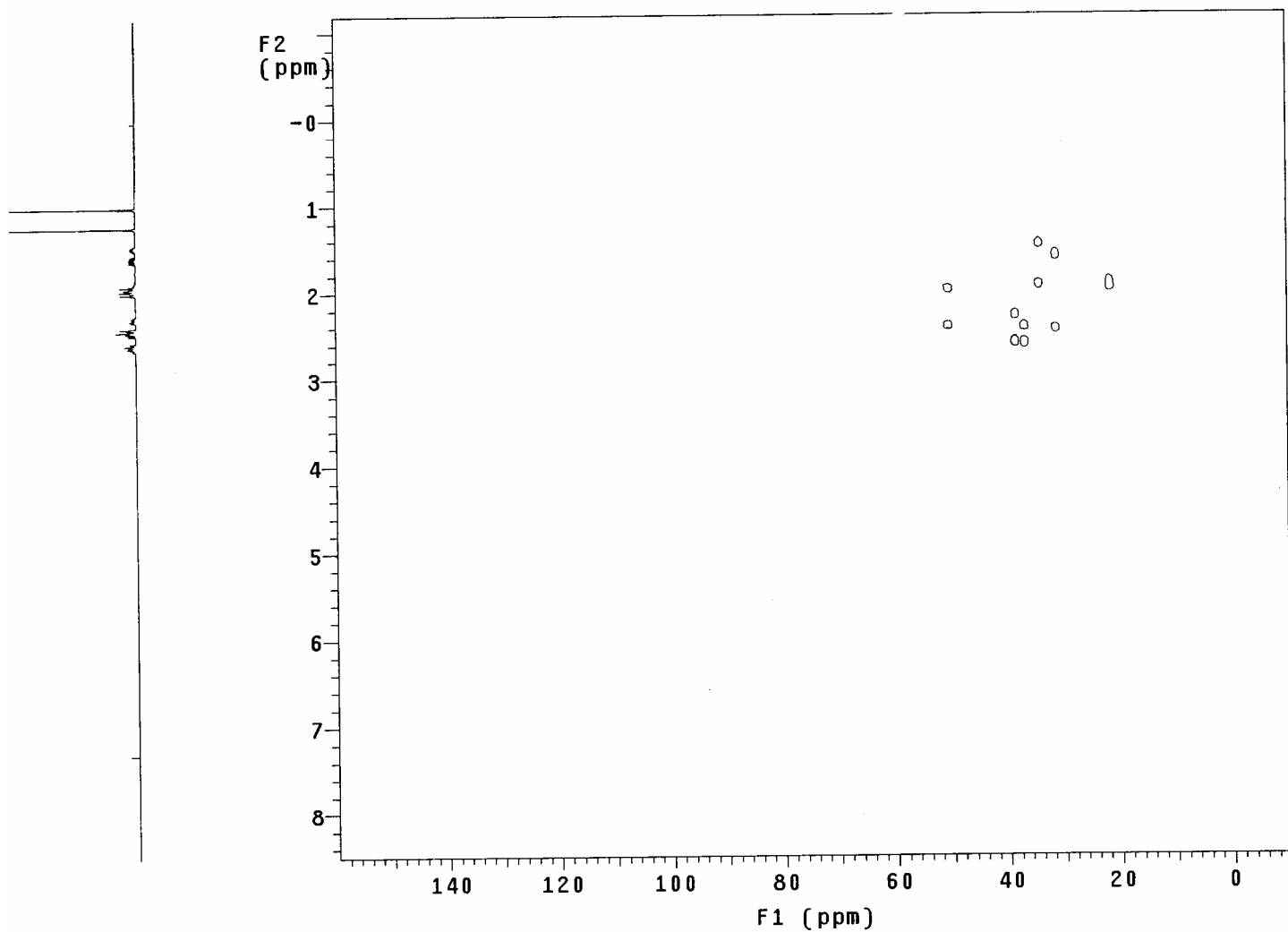
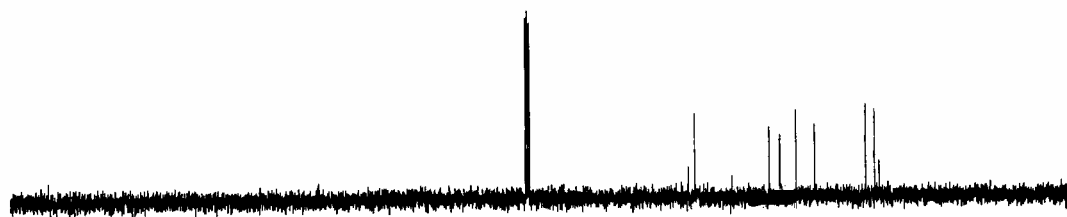
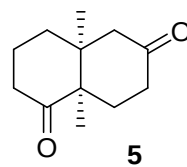


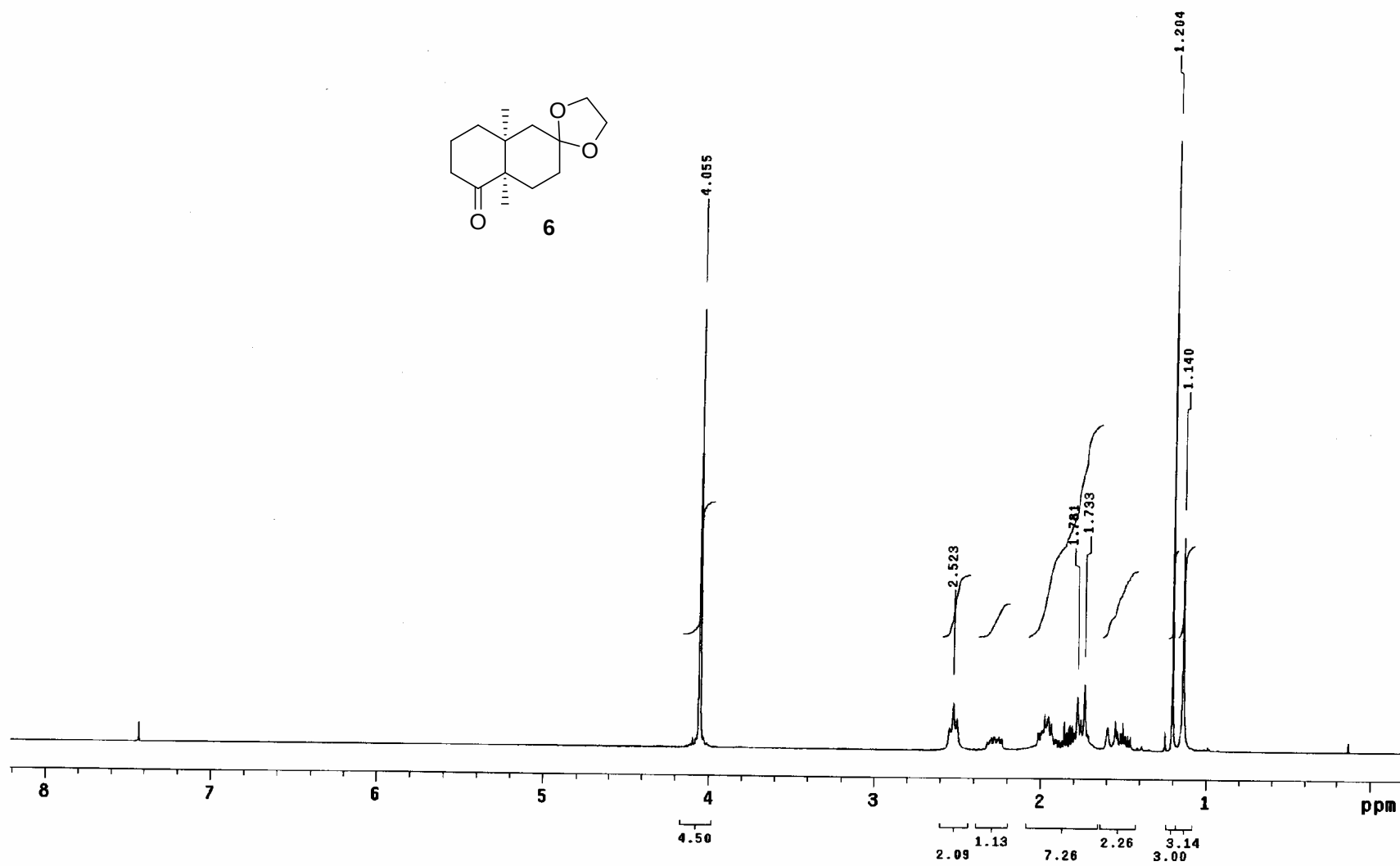
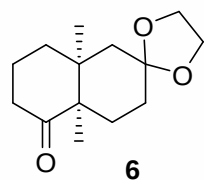
Tubingsin A

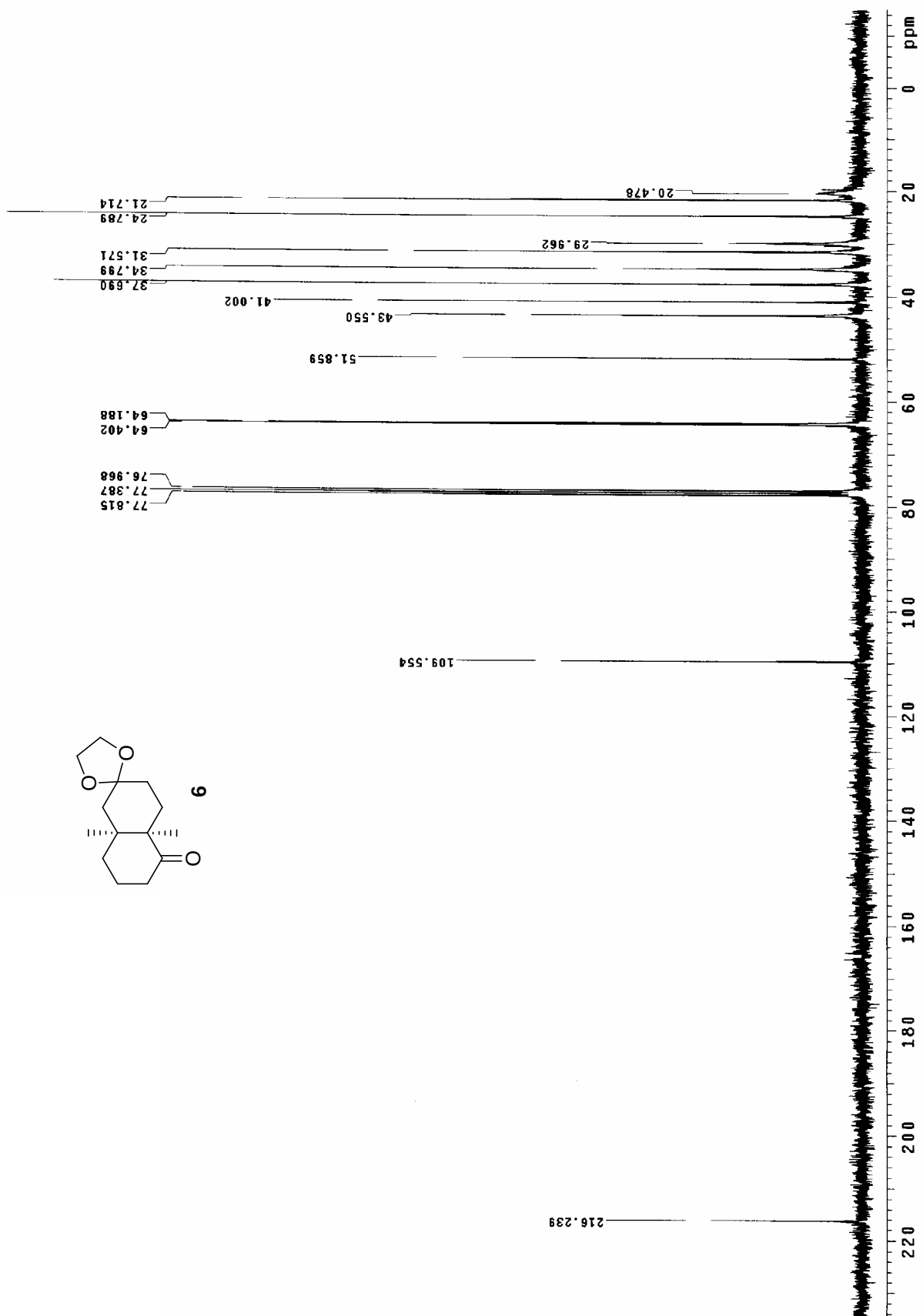


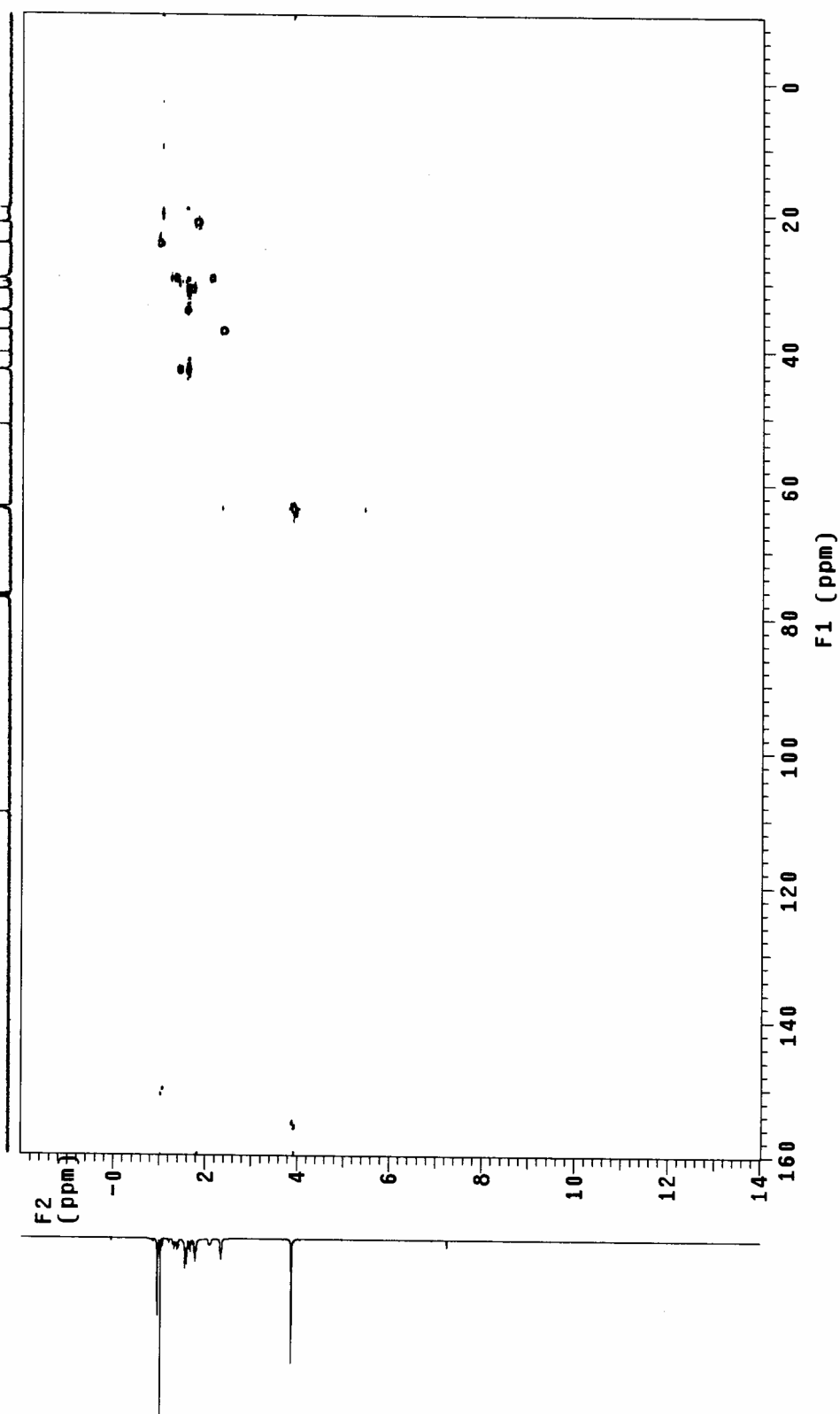
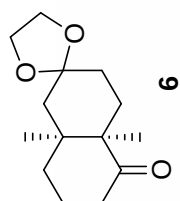


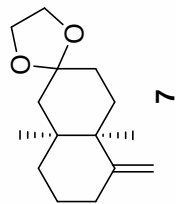
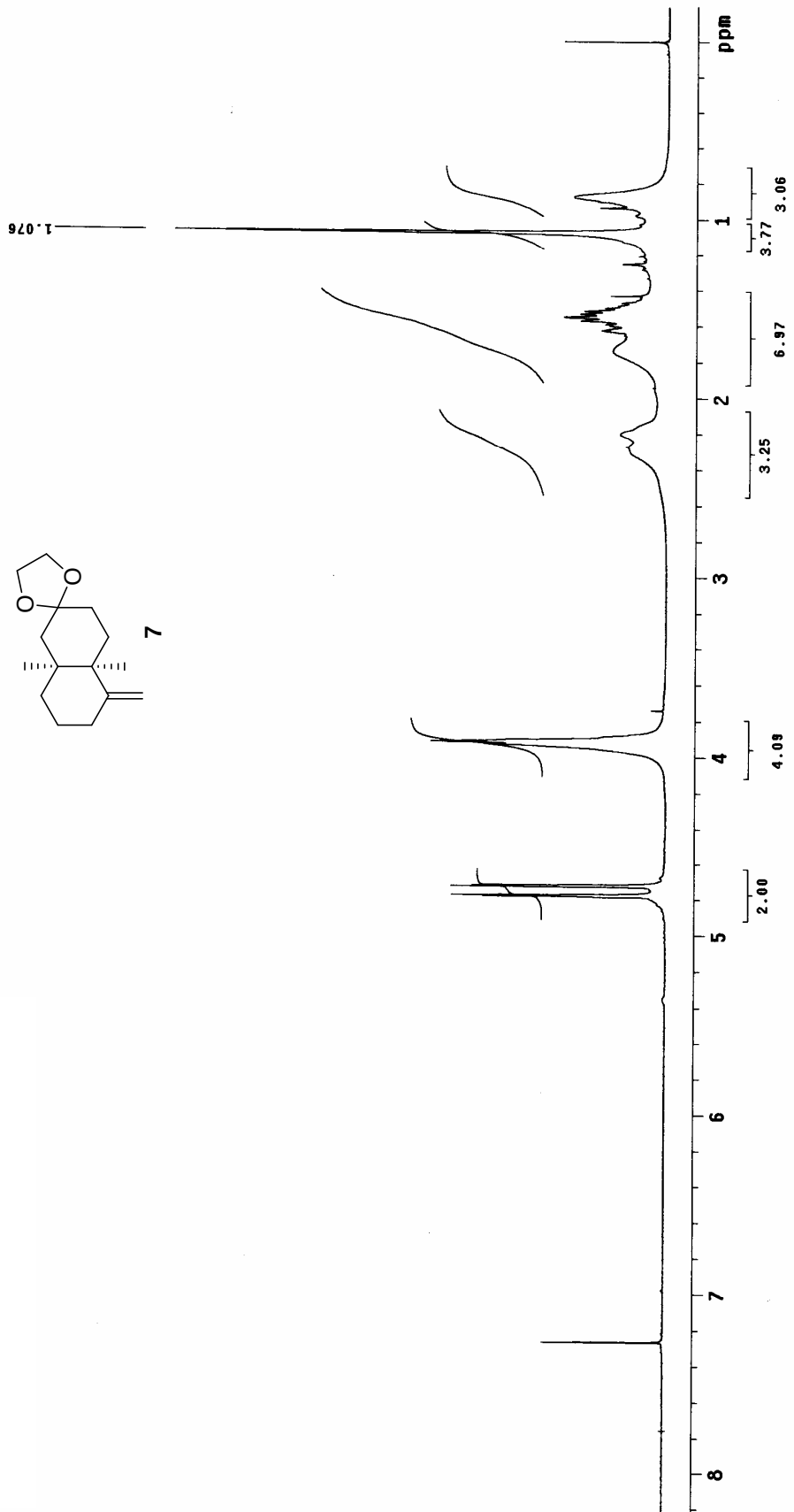


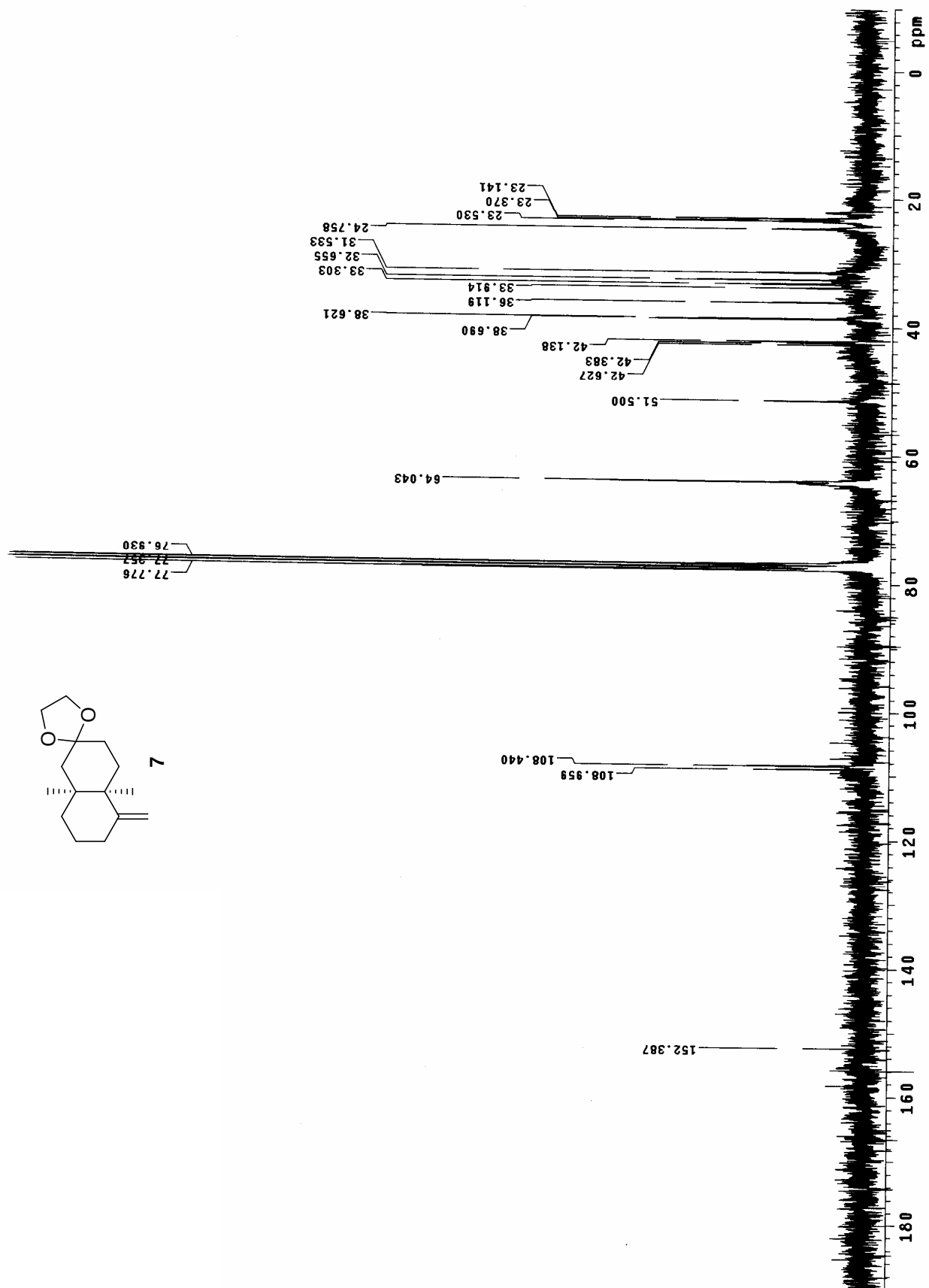


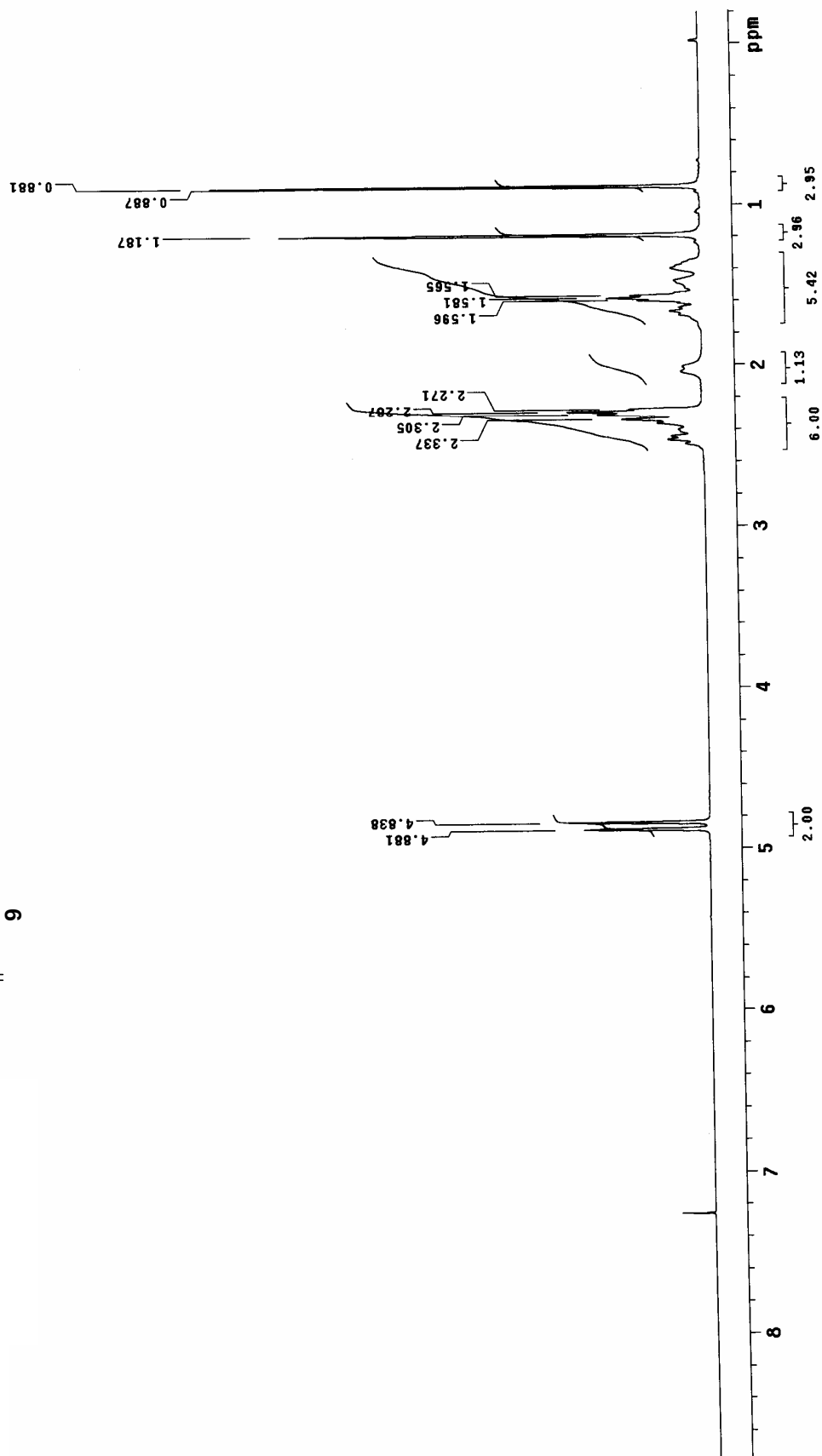
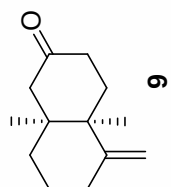


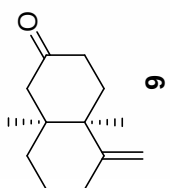
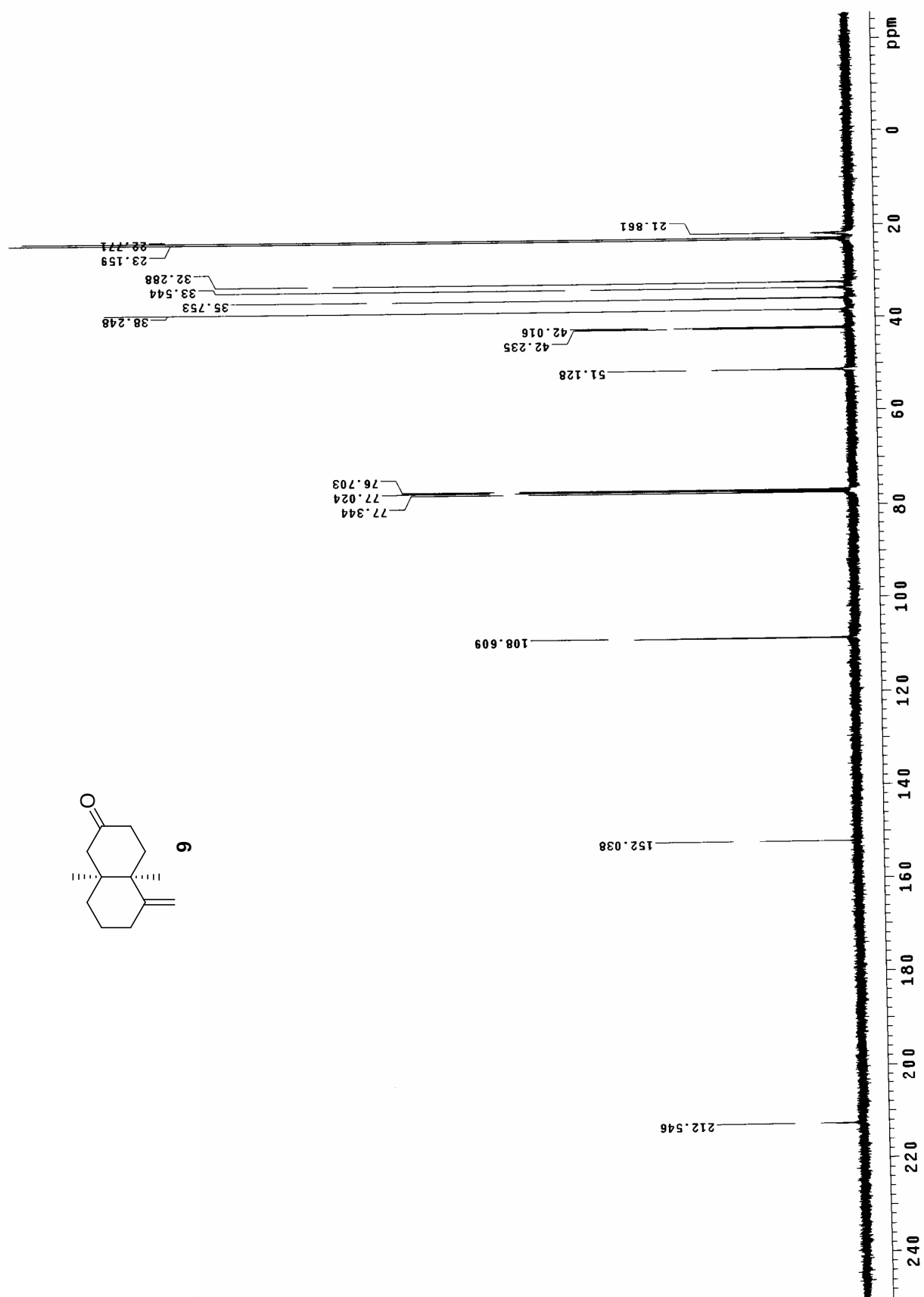


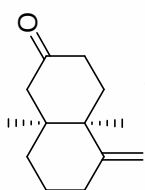












9

