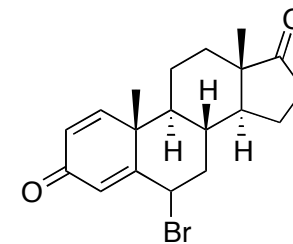
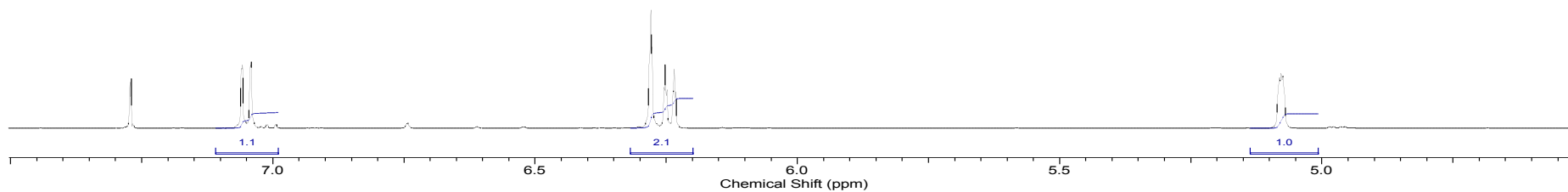


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-bromo-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

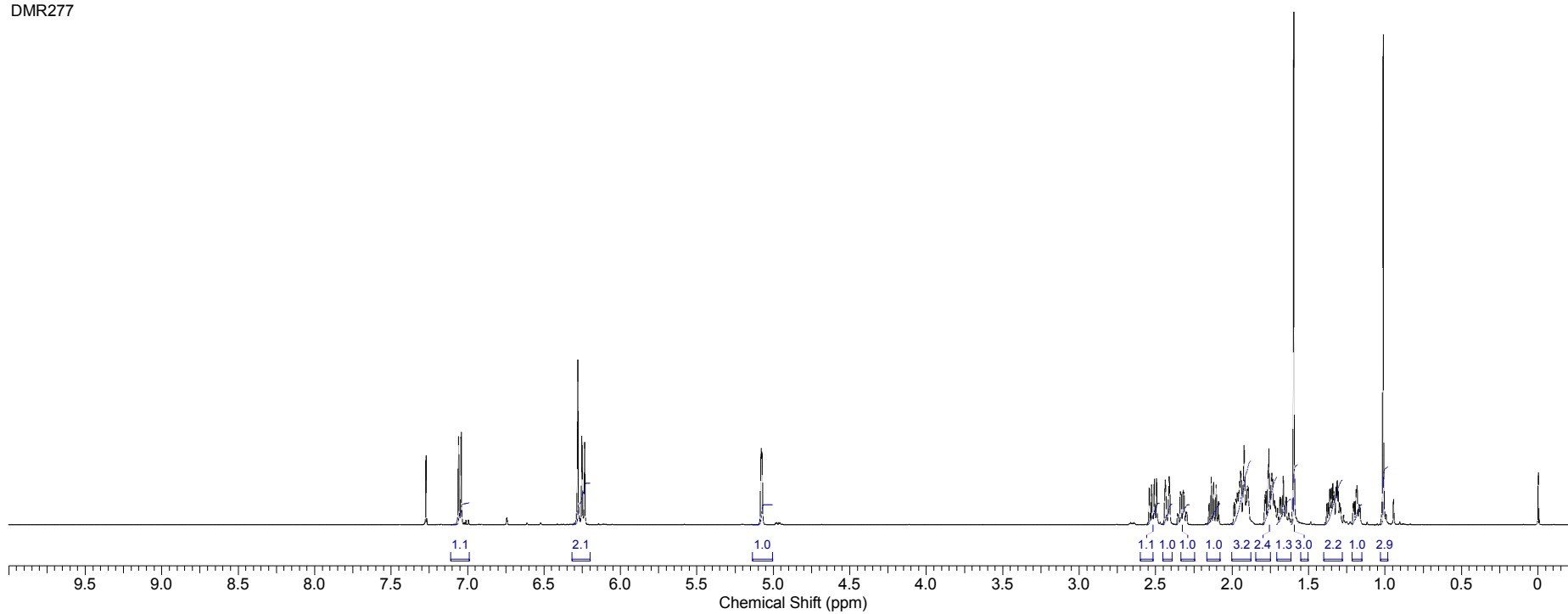
Scheme1-Int 1



DMR277

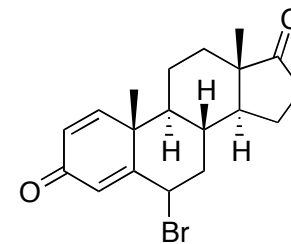


DMR277

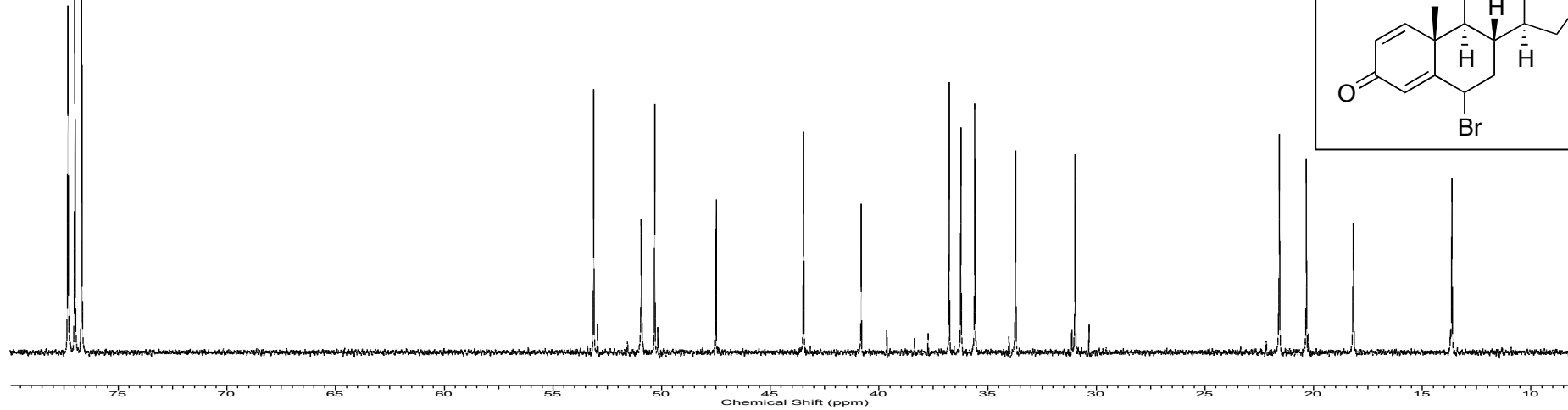


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-bromo-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

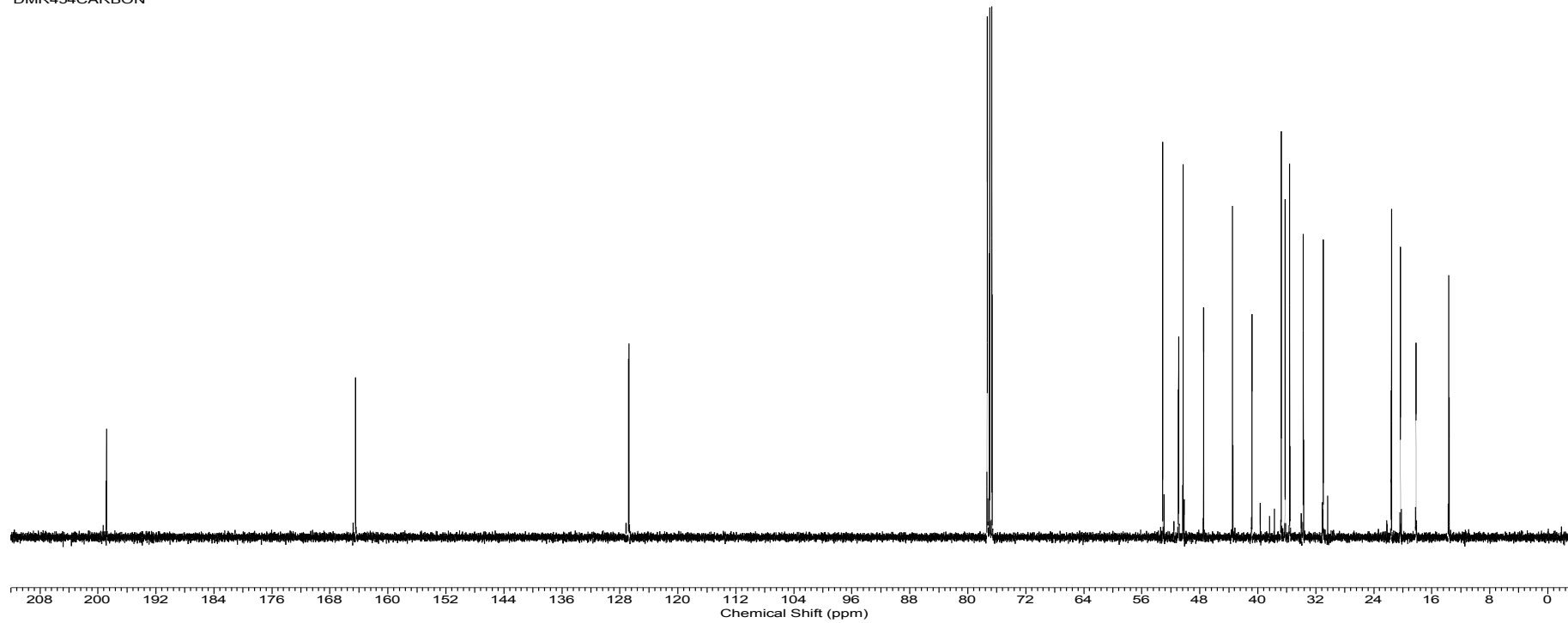
Scheme1-Int 1



DMR454CARBON

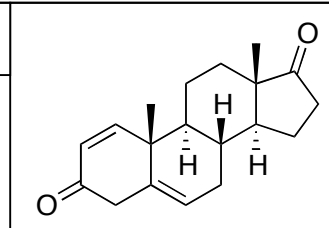


DMR454CARBON

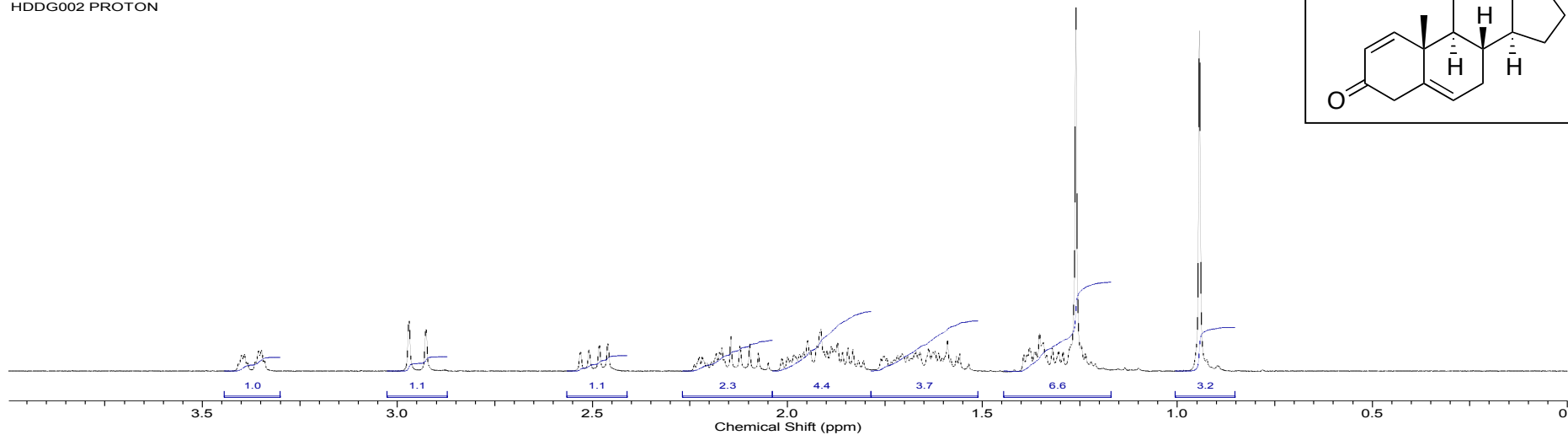


(8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(4*H*)-dione

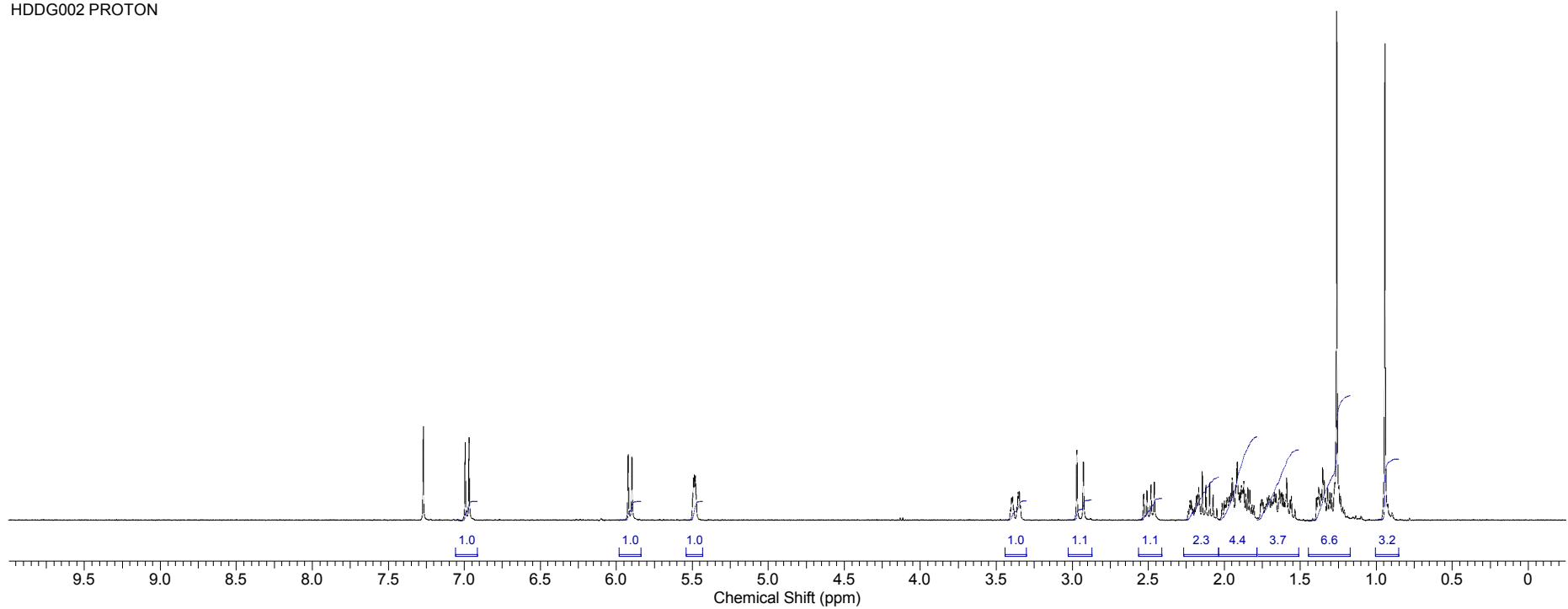
Scheme1-Int 2



HDDG002 PROTON

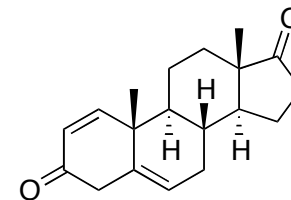


HDDG002 PROTON

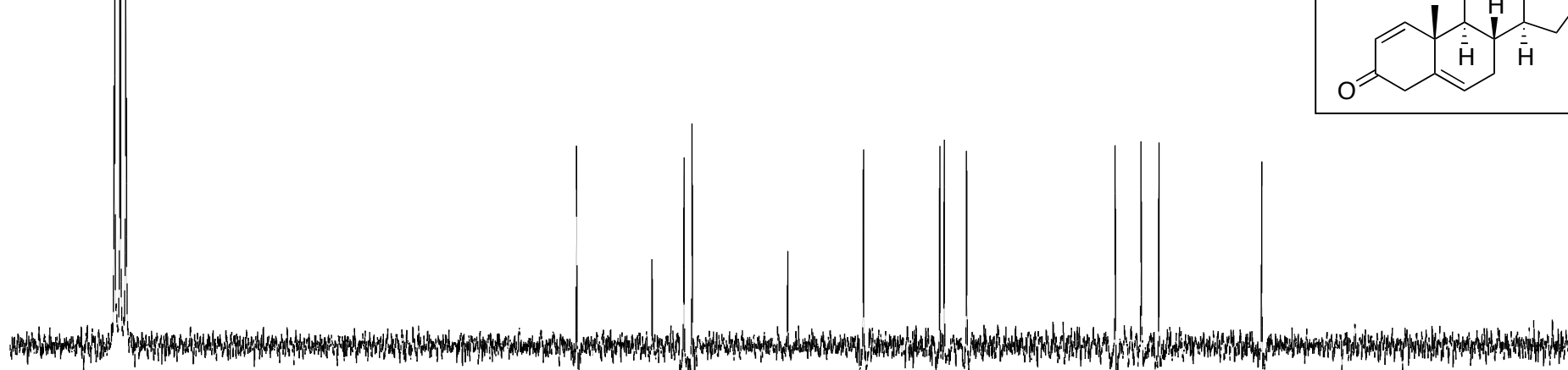


(8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[*a*]phenanthrene-3,17(4*H*)-dione

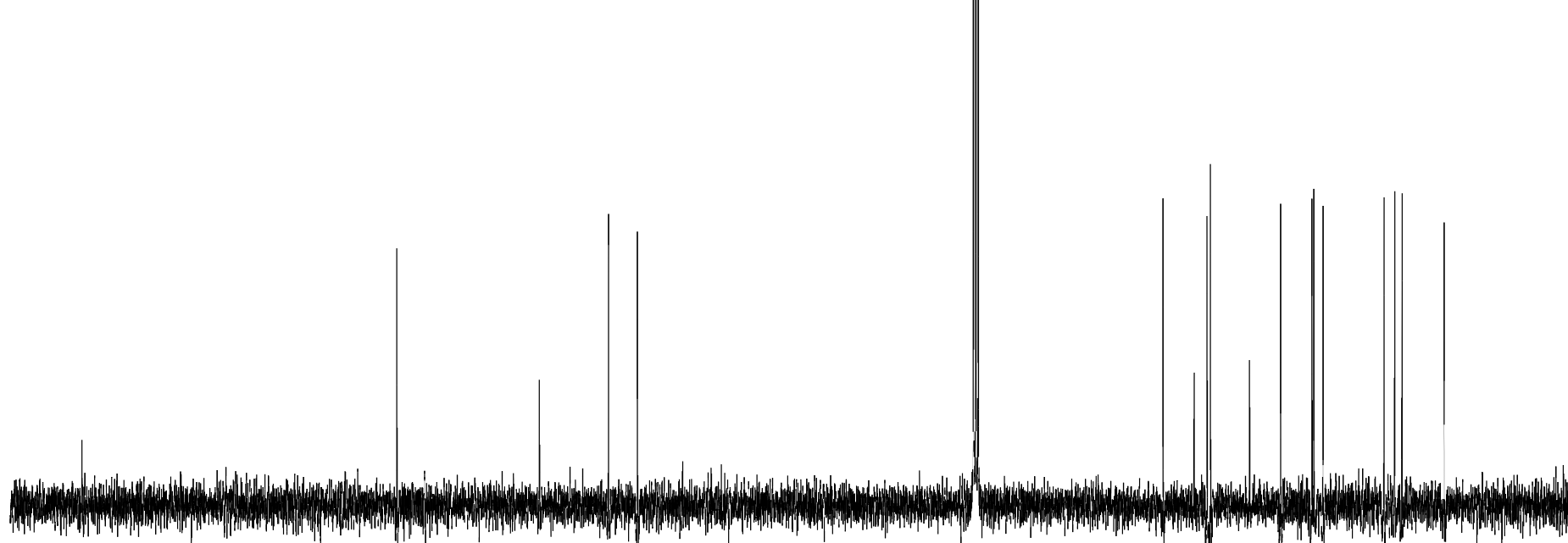
Scheme 1-Int 2



HDDG002 CARBON



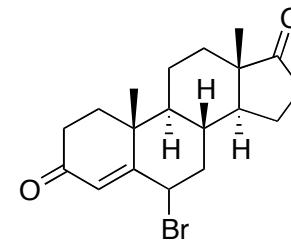
HDDG002 CARBON



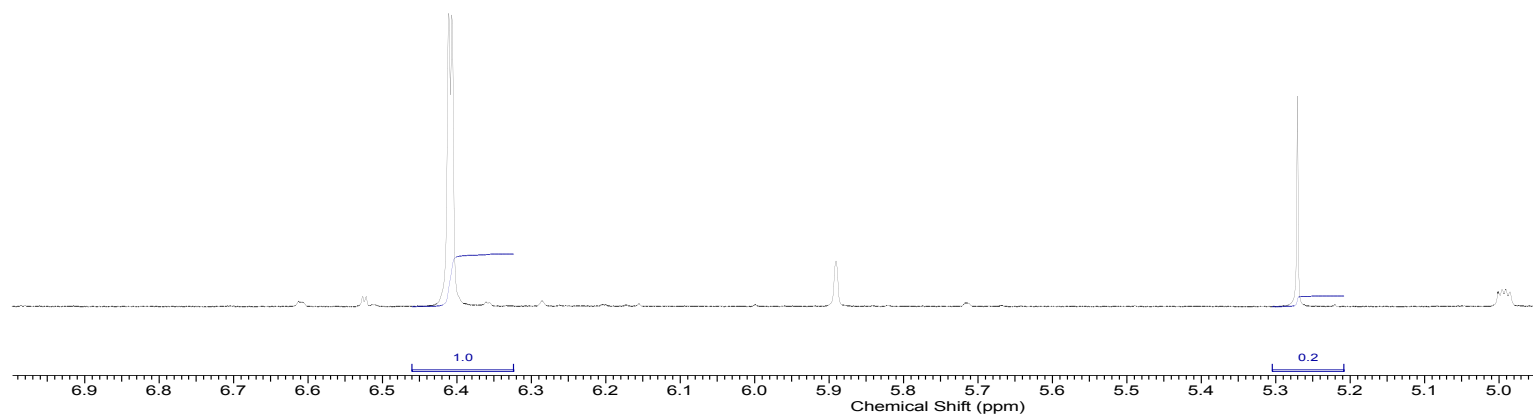
200 192 184 176 168 160 152 144 136 128 120 112 104 96 88 80 72 64 56 48 40 32 24 16 8 0
Chemical Shift (ppm)

(6*S*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-bromo-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

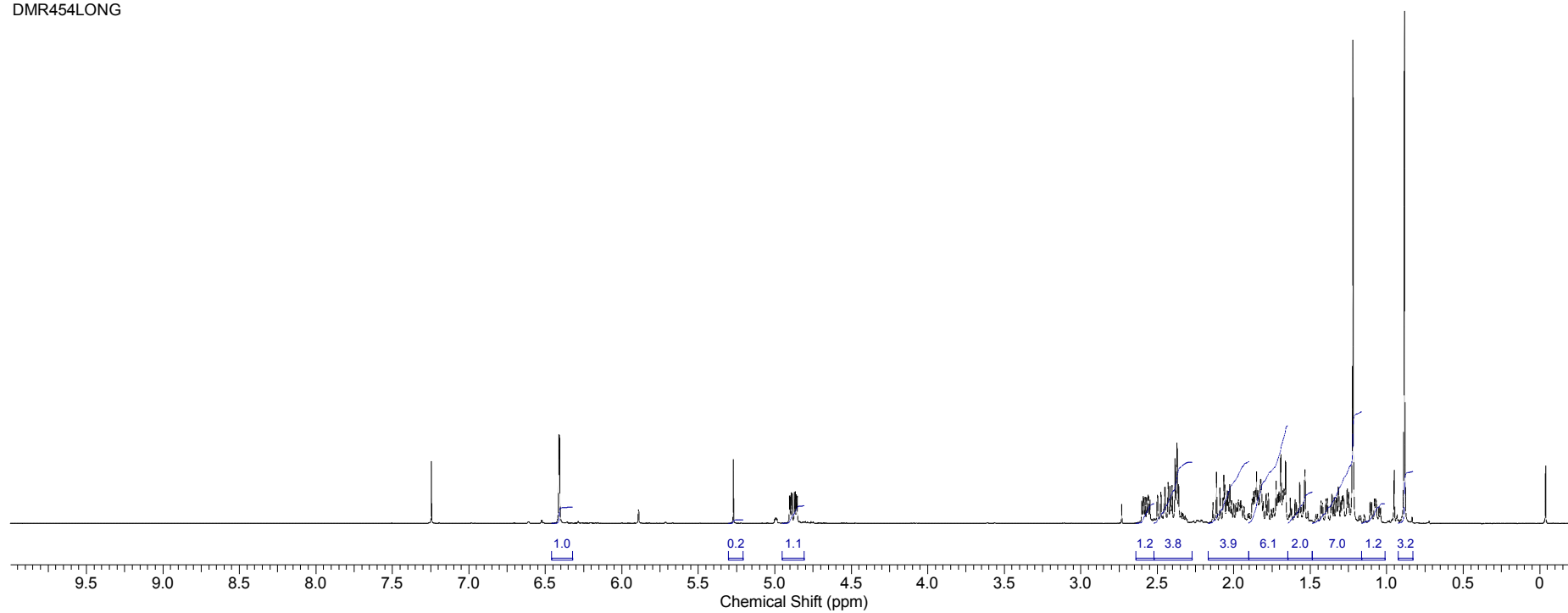
Scheme 1-Int 3



DMR454LONG

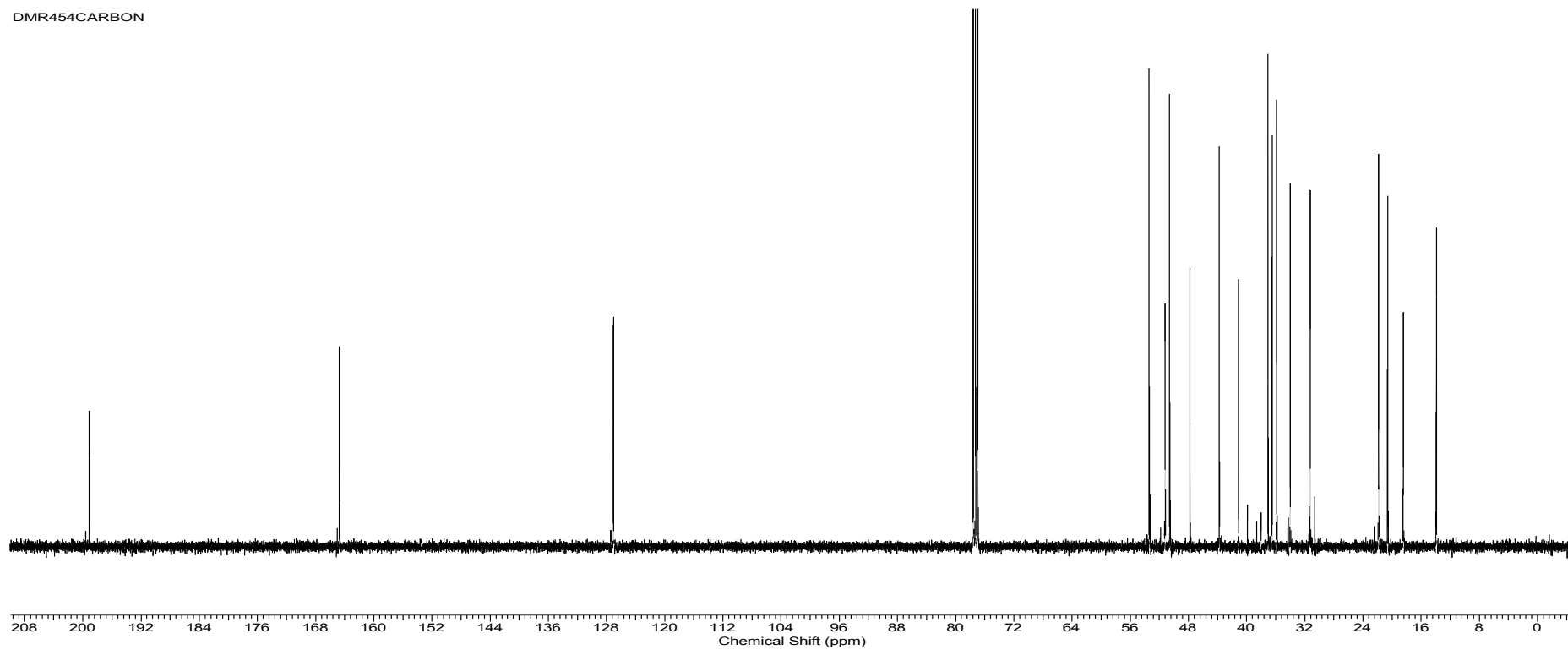
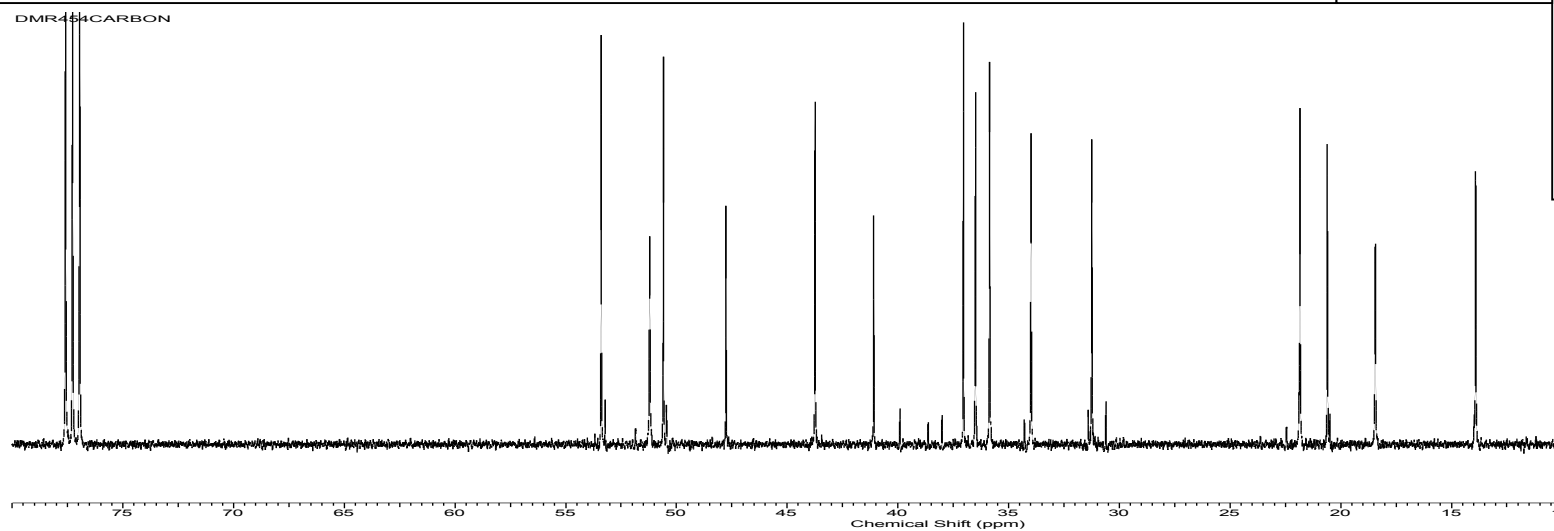
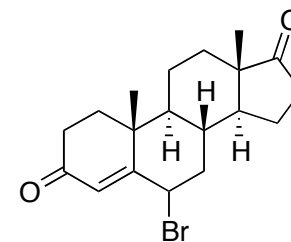


DMR454LONG



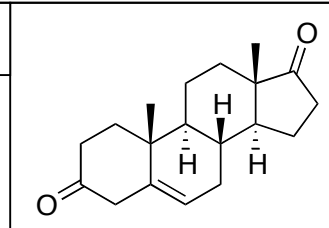
(6*S*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-bromo-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

Scheme 1-Int 3

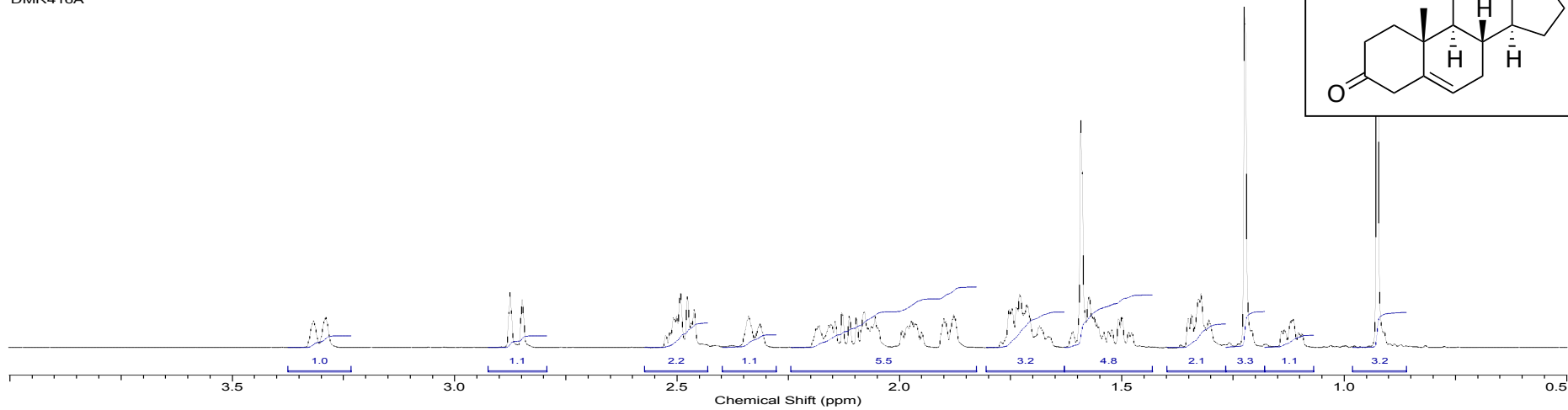


(8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[*a*]phenanthrene-3,17(2*H*,4*H*)-dione

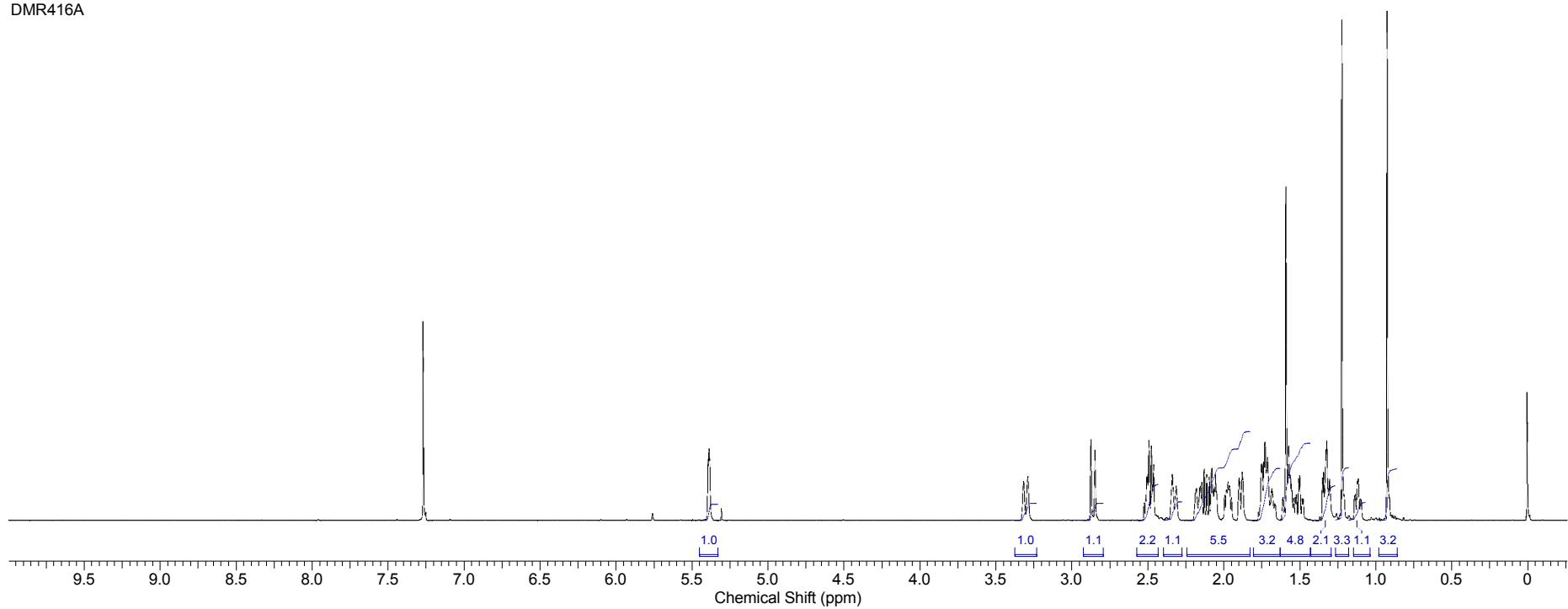
Scheme 1-Int 4



DMR416A

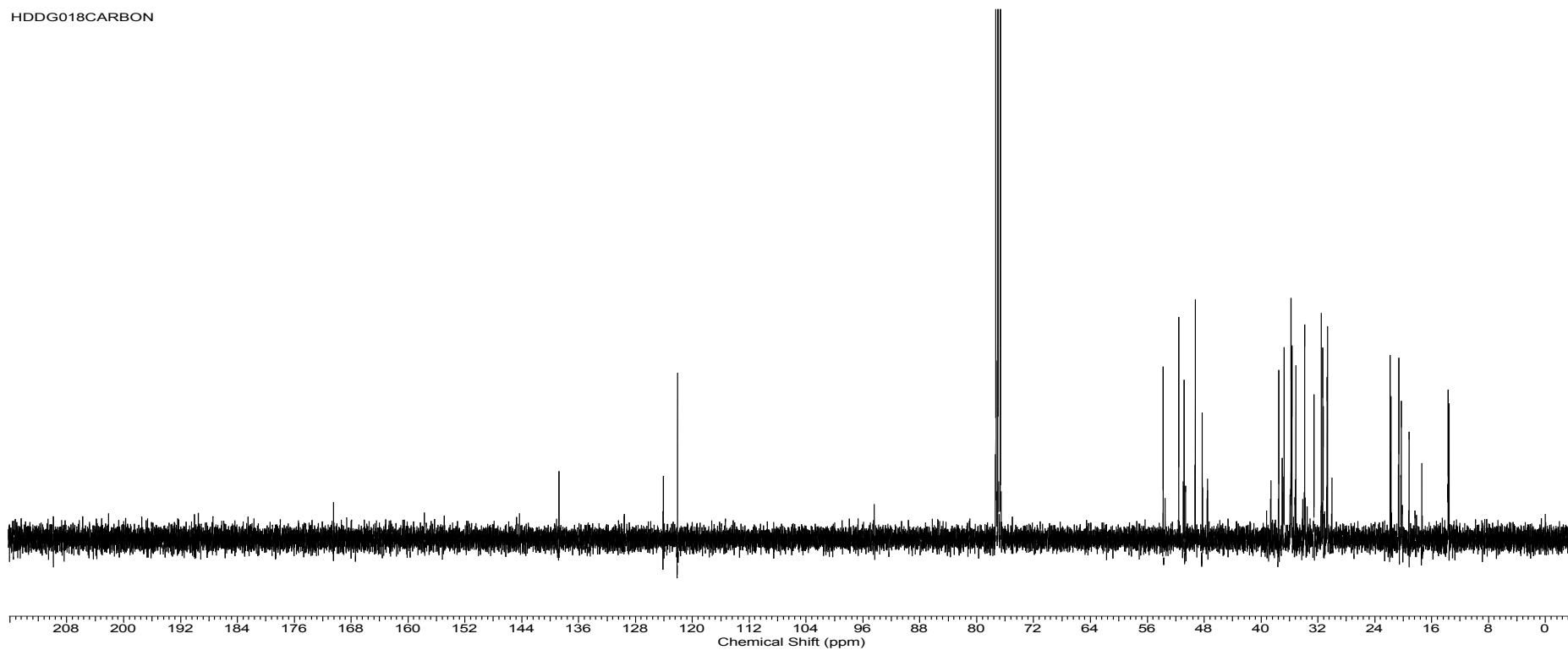
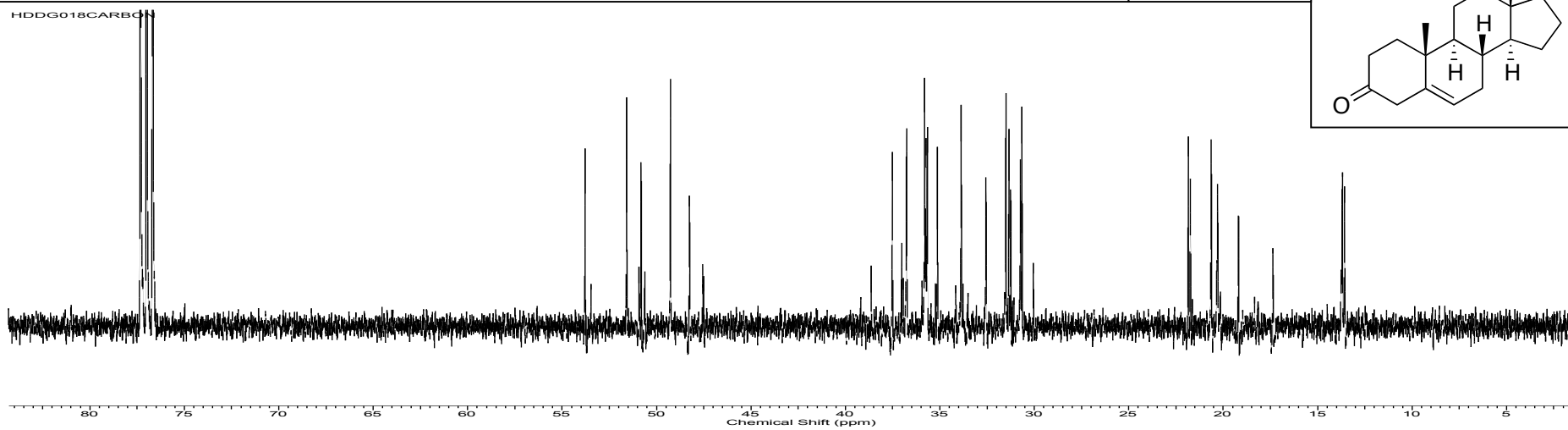
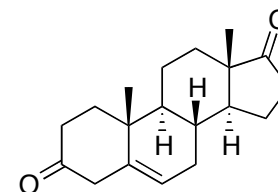


DMR416A



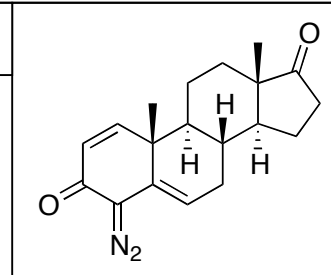
(8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[*a*]phenanthrene-3,17(2*H*,4*H*)-dione

Scheme 1-Int 4

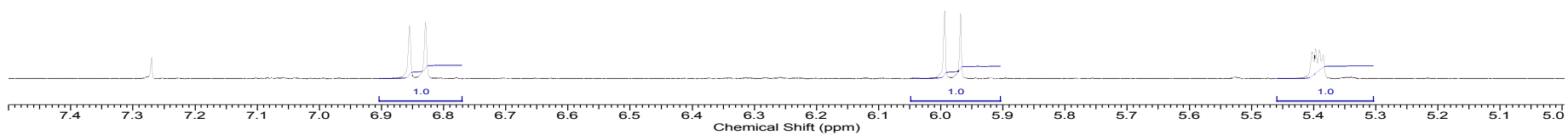


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-diazo-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[*a*]phenanthrene-3,17(4*H*)-dione

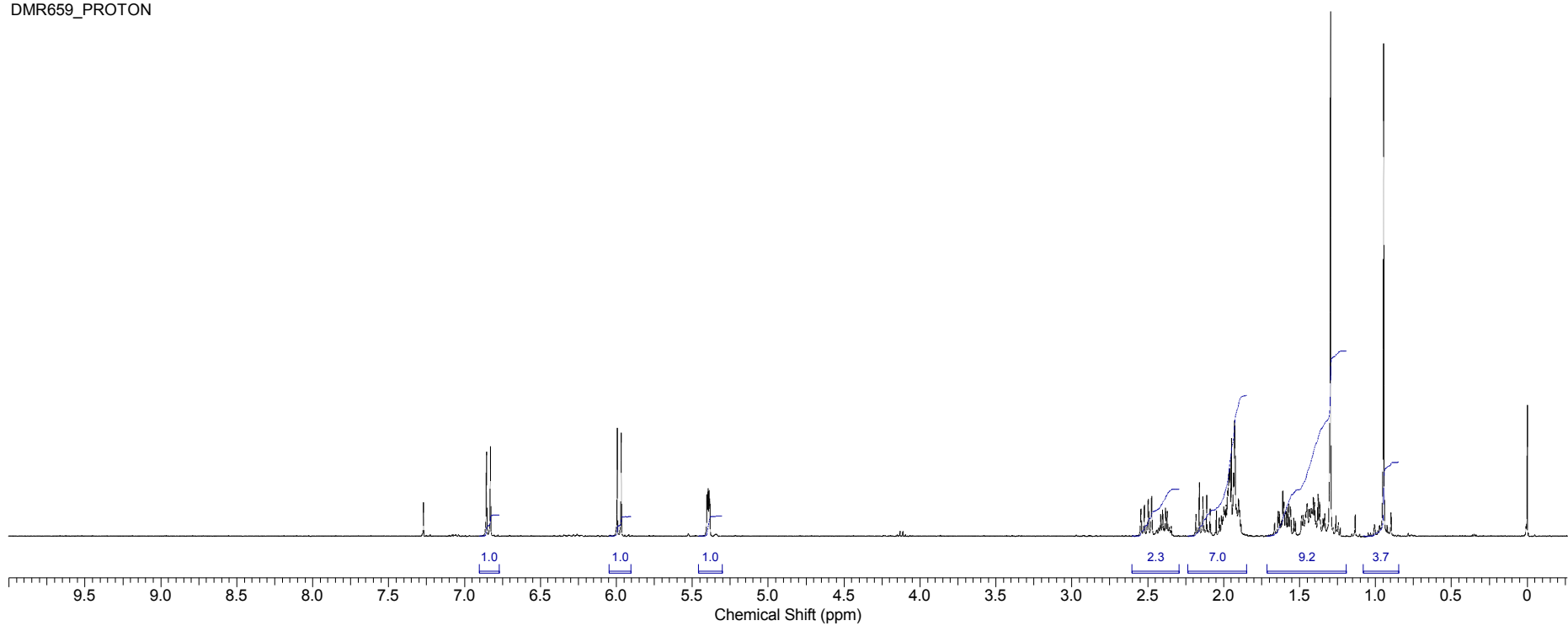
2



DMR659_PROTON

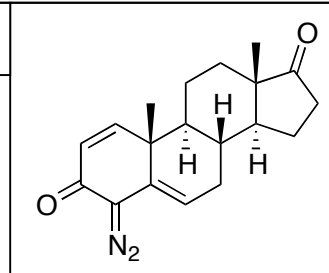


DMR659_PROTON

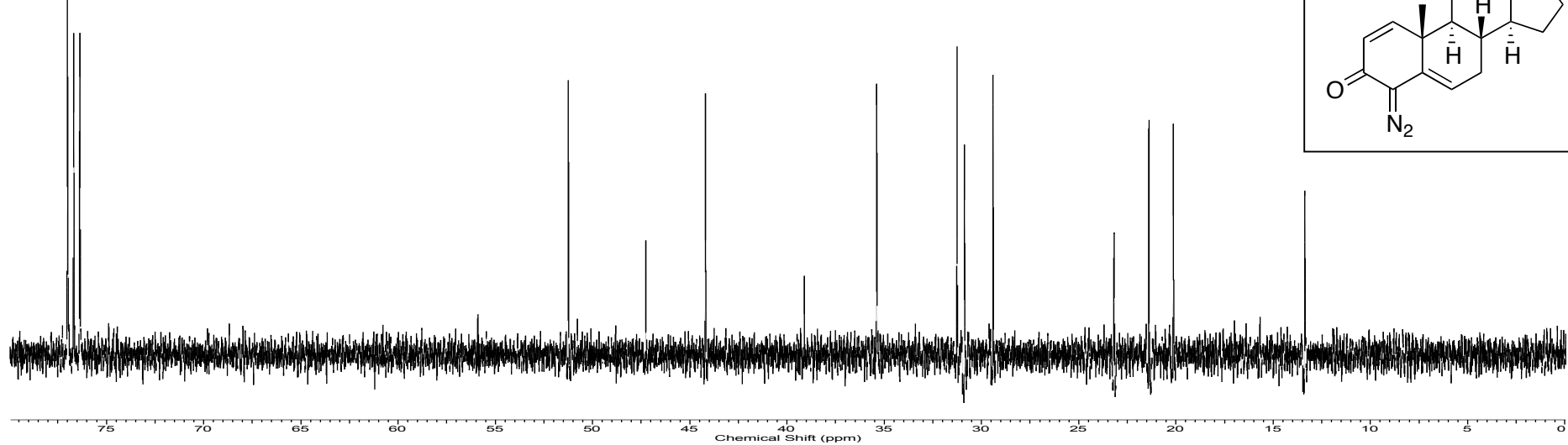


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-diazo-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[*a*]phenanthrene-3,17(4*H*)-dione

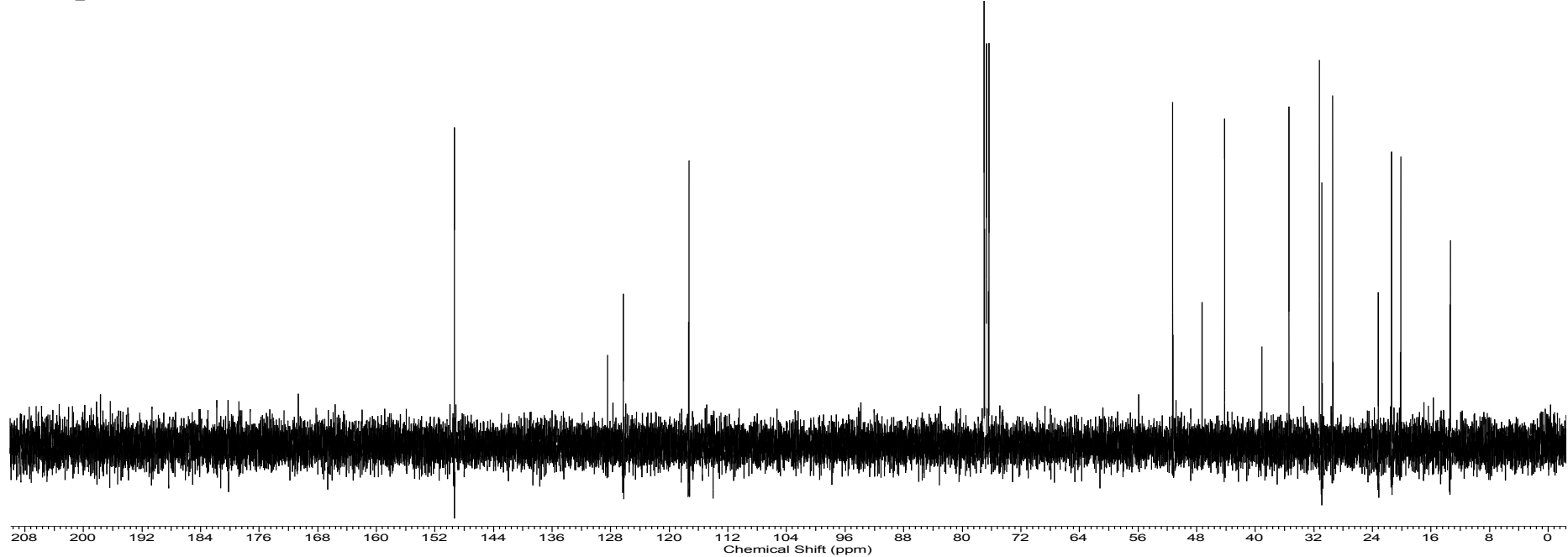
2



DMR659_CARBON

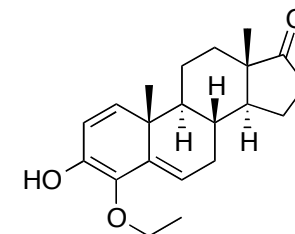


DMR659_CARBON

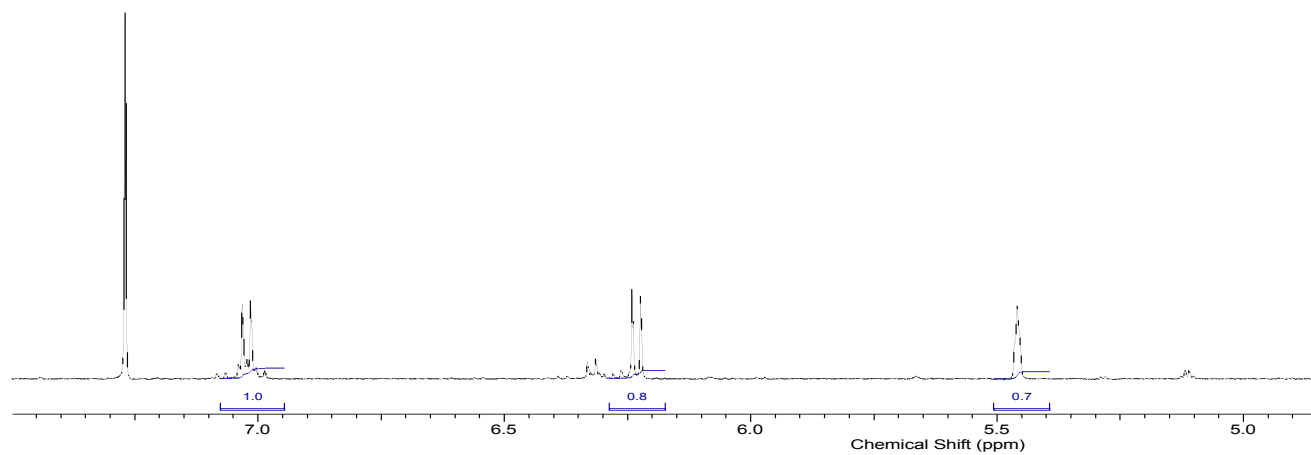


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-ethoxy-3-hydroxy-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-7*H*-cyclopenta[α]phenanthren-17(8*H*)-one

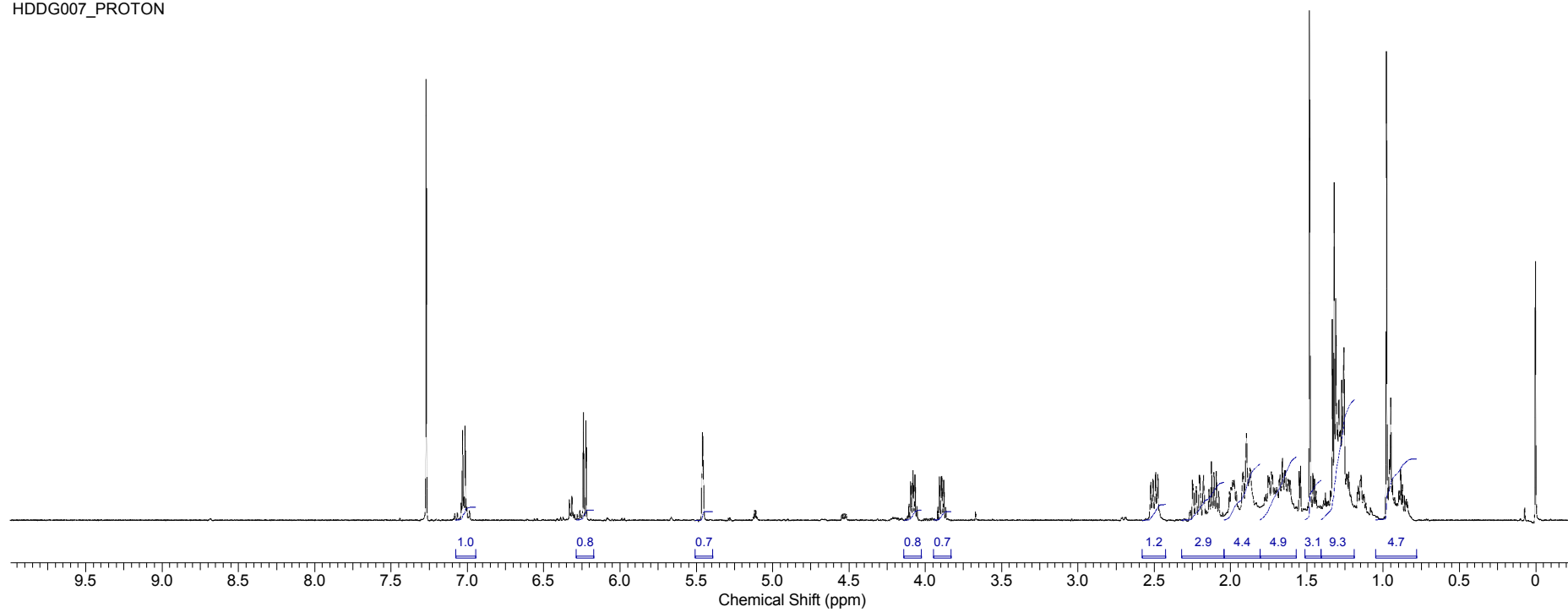
5a



HDDG007_PROTON

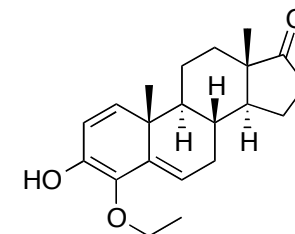


HDDG007_PROTON

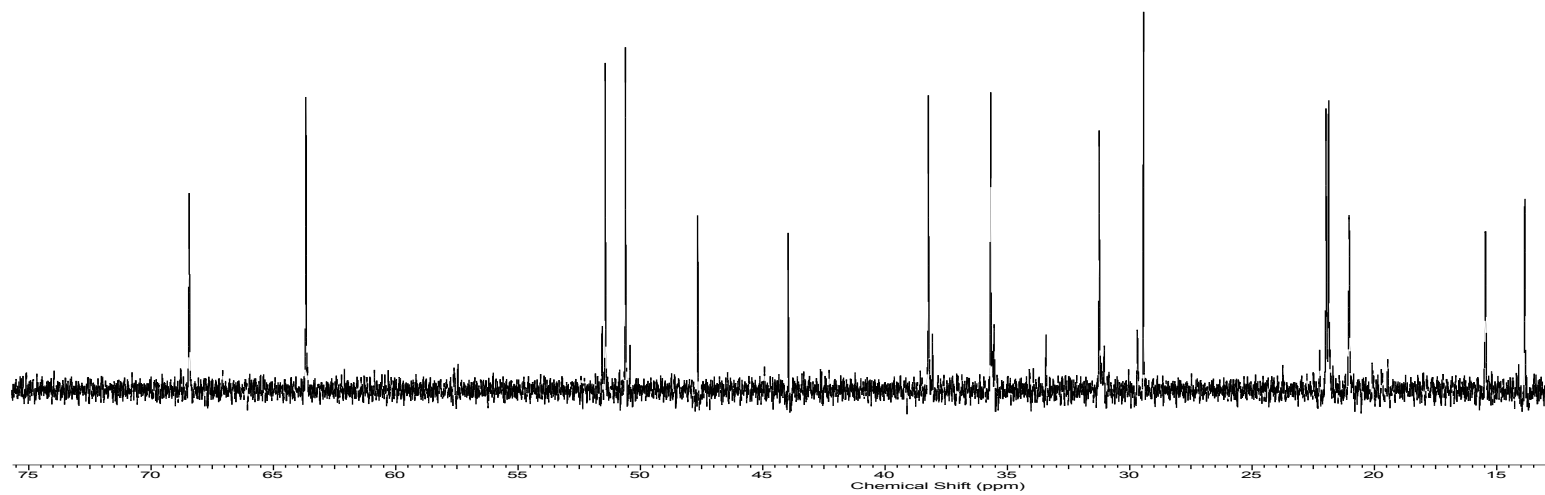


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-ethoxy-3-hydroxy-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-7*H*-cyclopenta[α]phenanthren-17(8*H*)-one

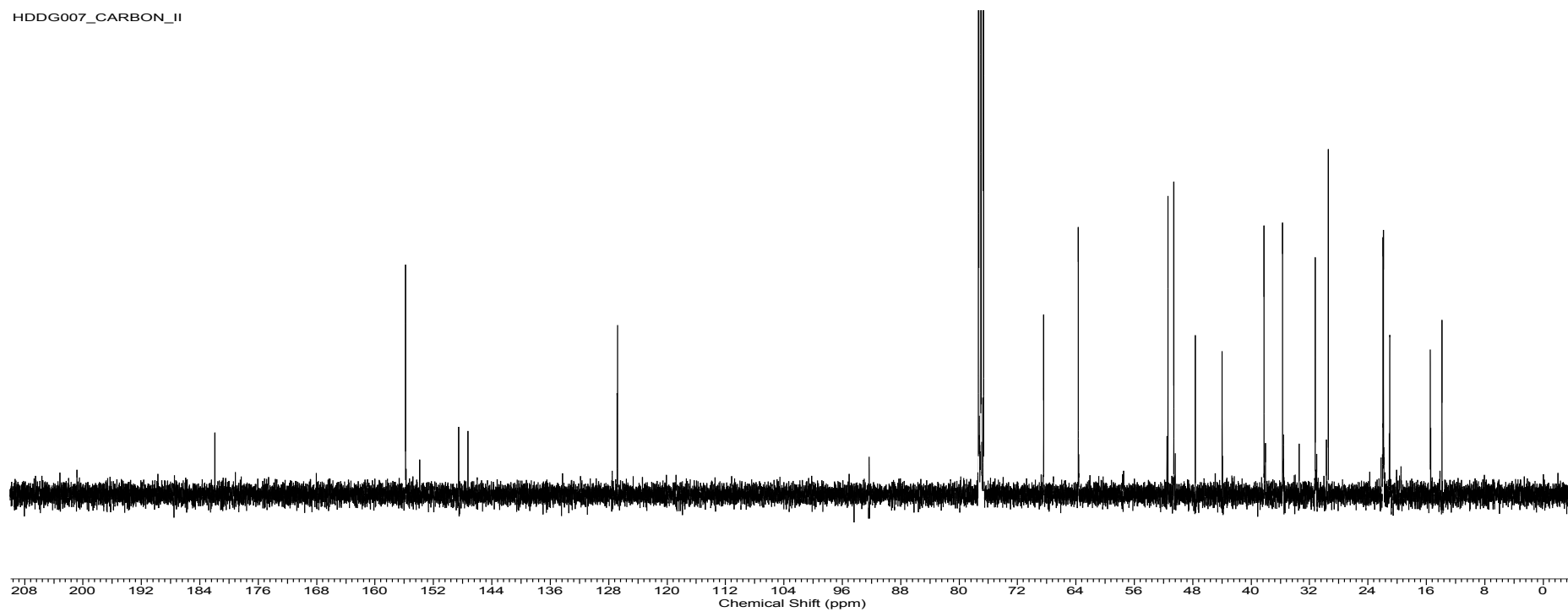
5a



HDDG007_CARBON_I

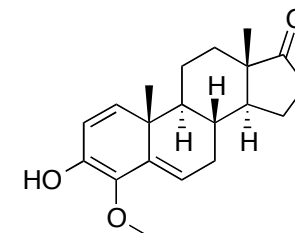


HDDG007_CARBON_II

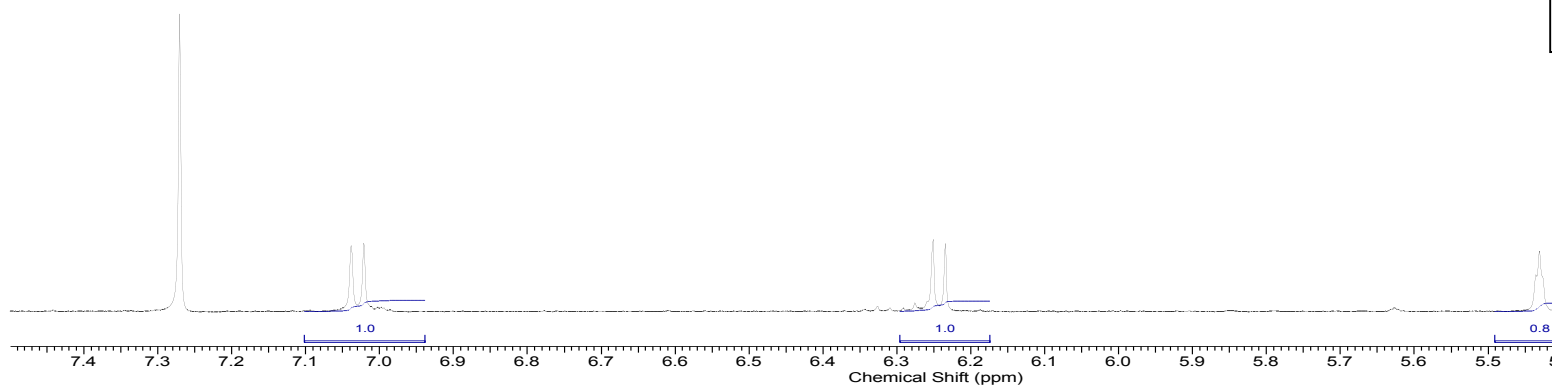


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-4-methoxy-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-7*H*-cyclopenta[α]phenanthren-17(8*H*)-one

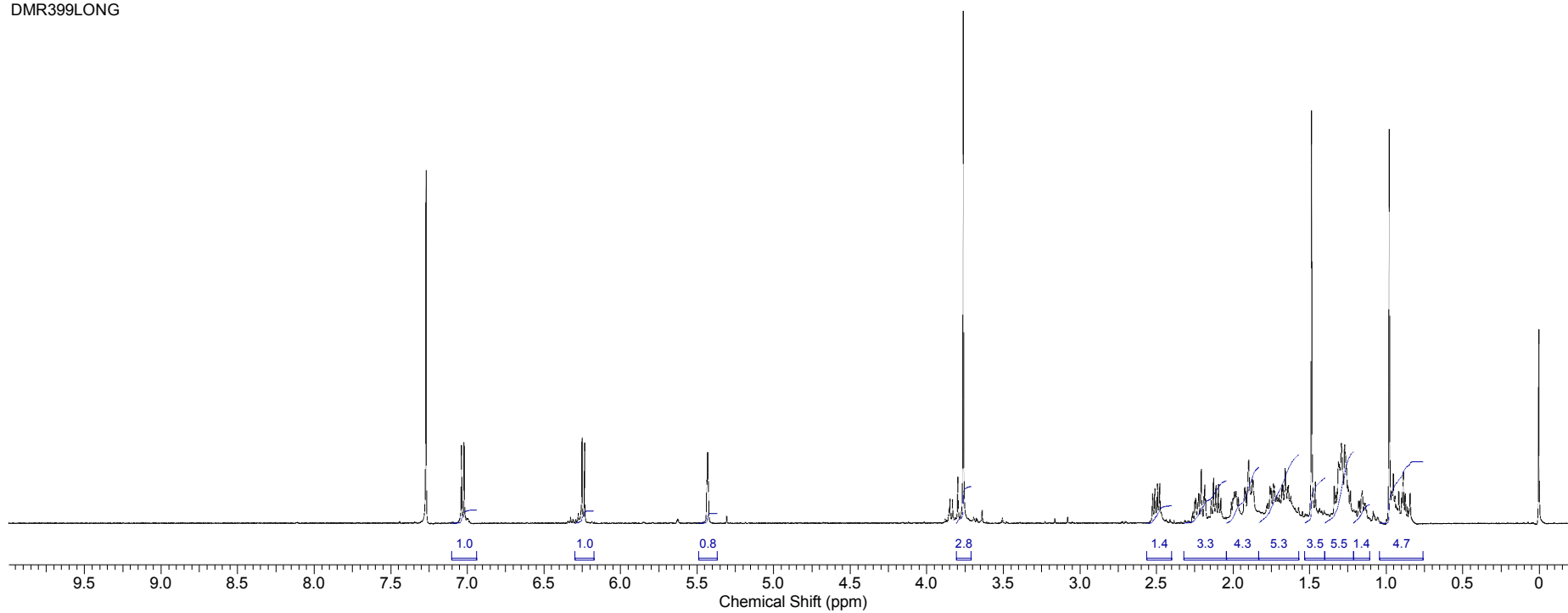
5b



DMR399LONG

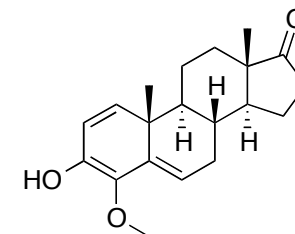


DMR399LONG

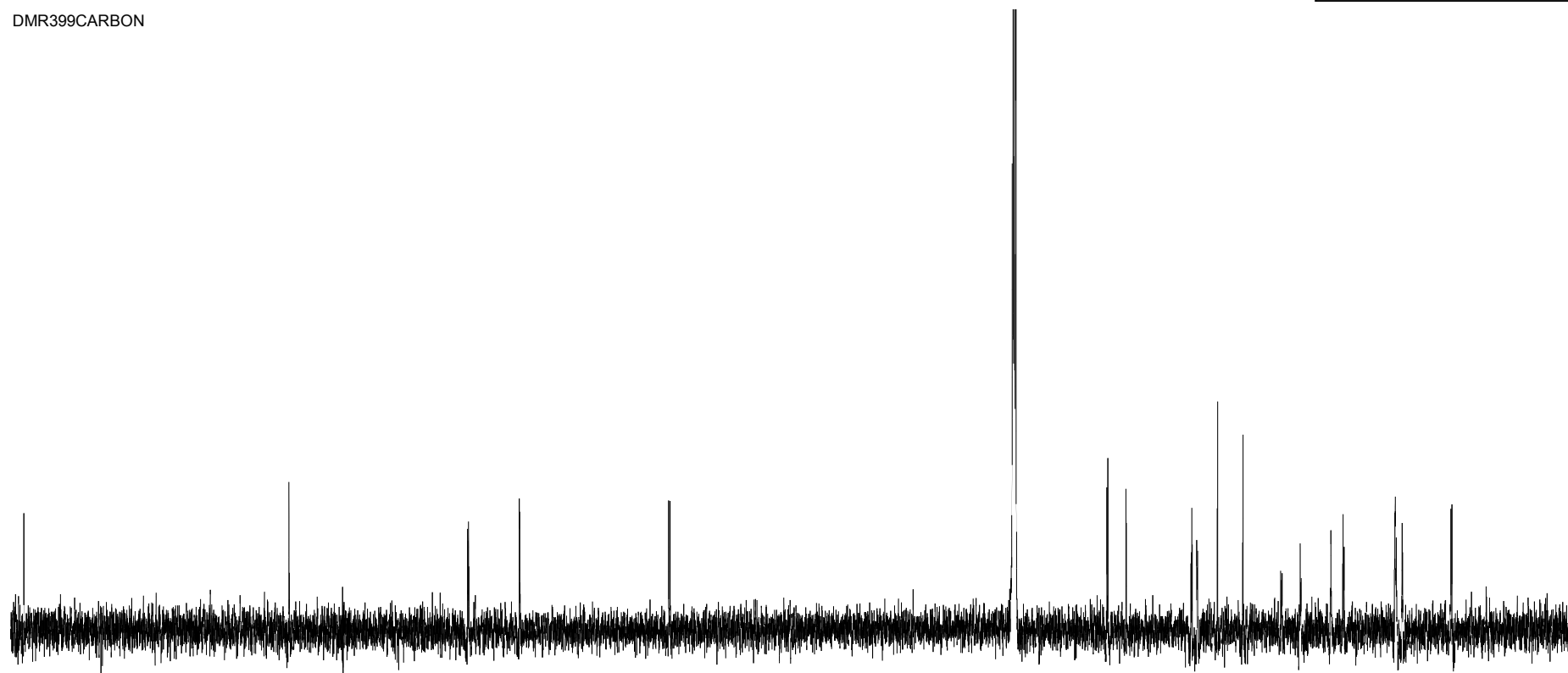


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-4-methoxy-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-7*H*-cyclopenta[α]phenanthren-17(8*H*)-one

5b



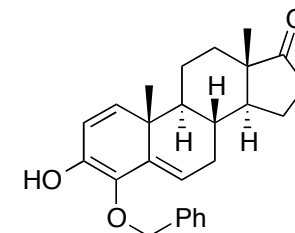
DMR399CARBON



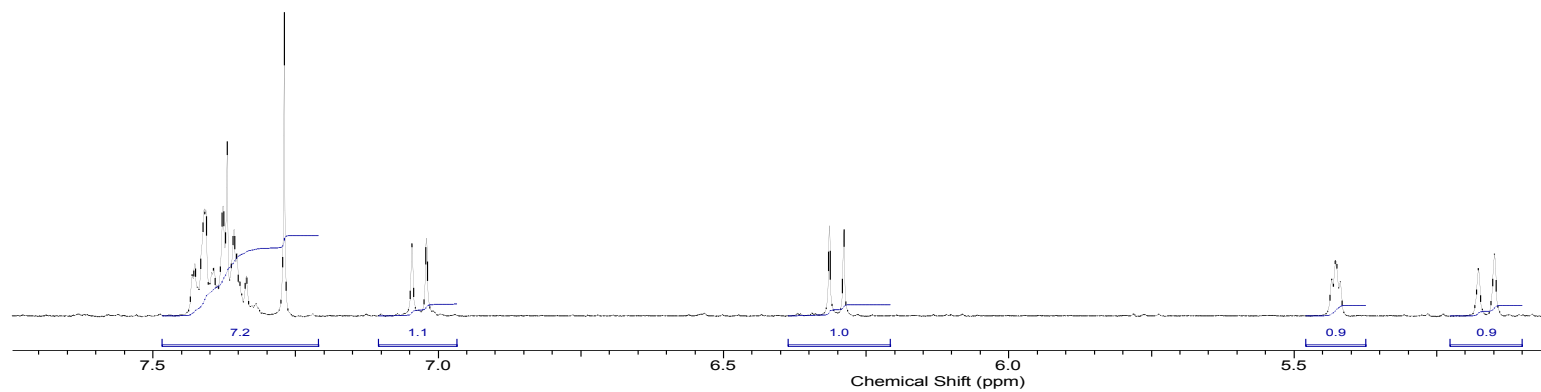
216 208 200 192 184 176 168 160 152 144 136 128 120 112 104 96 88 80 72 64 56 48 40 32 24 16 8 0
Chemical Shift (ppm)

(8*R*,9*S*,10*R*,13*S*,14*S*)-4-(benzyloxy)-3-hydroxy-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-7*H*-cyclopenta[*a*]phenanthren-17(8*H*)-one

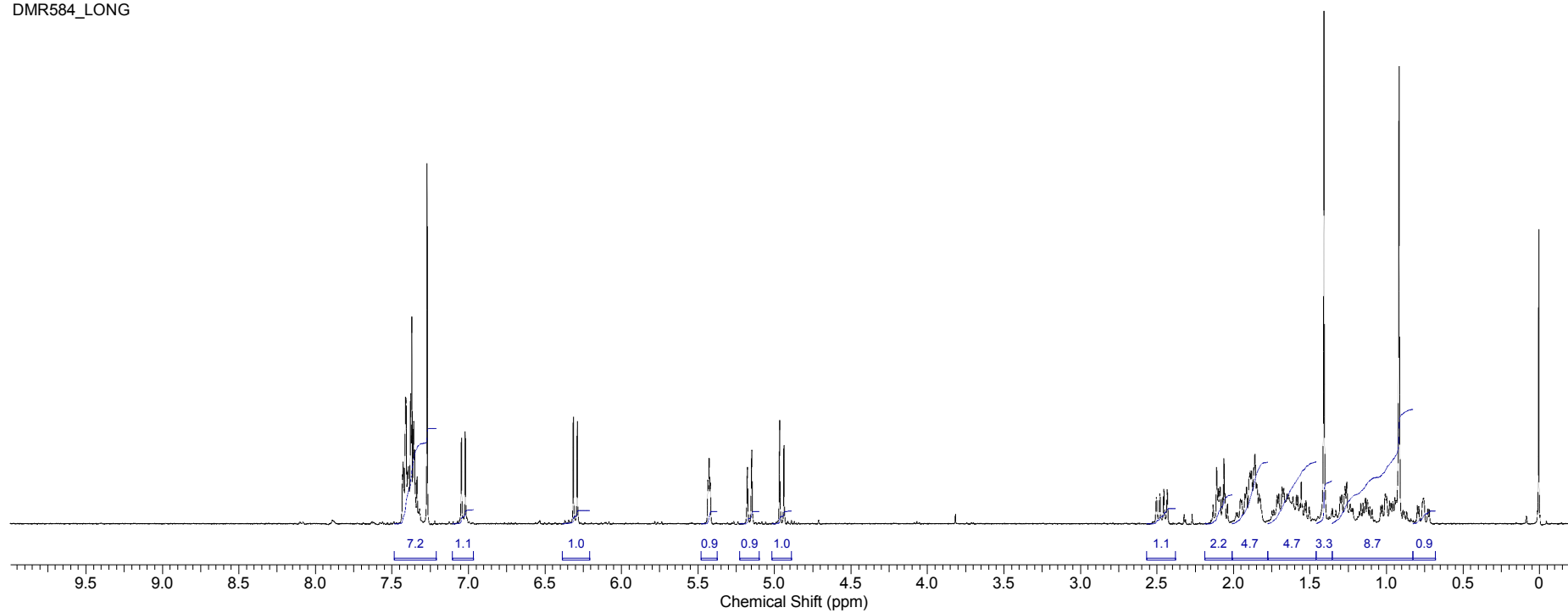
5c



DMR584_LONG

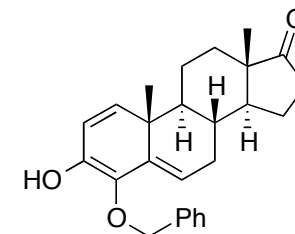


DMR584_LONG

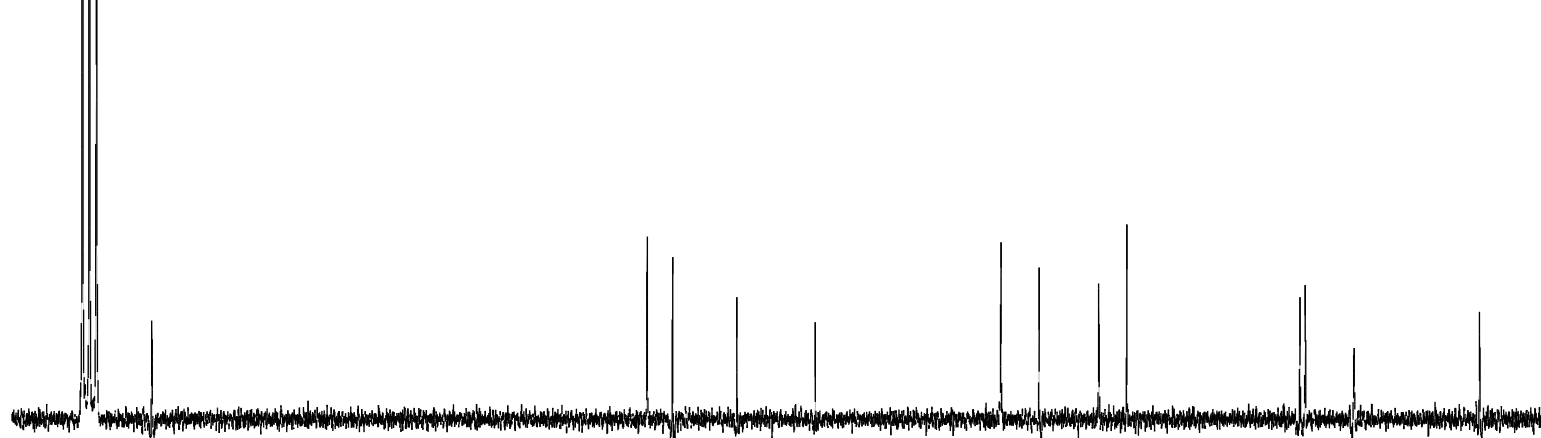


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-(benzyloxy)-3-hydroxy-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-7*H*-cyclopenta[*a*]phenanthren-17(8*H*)-one

5c

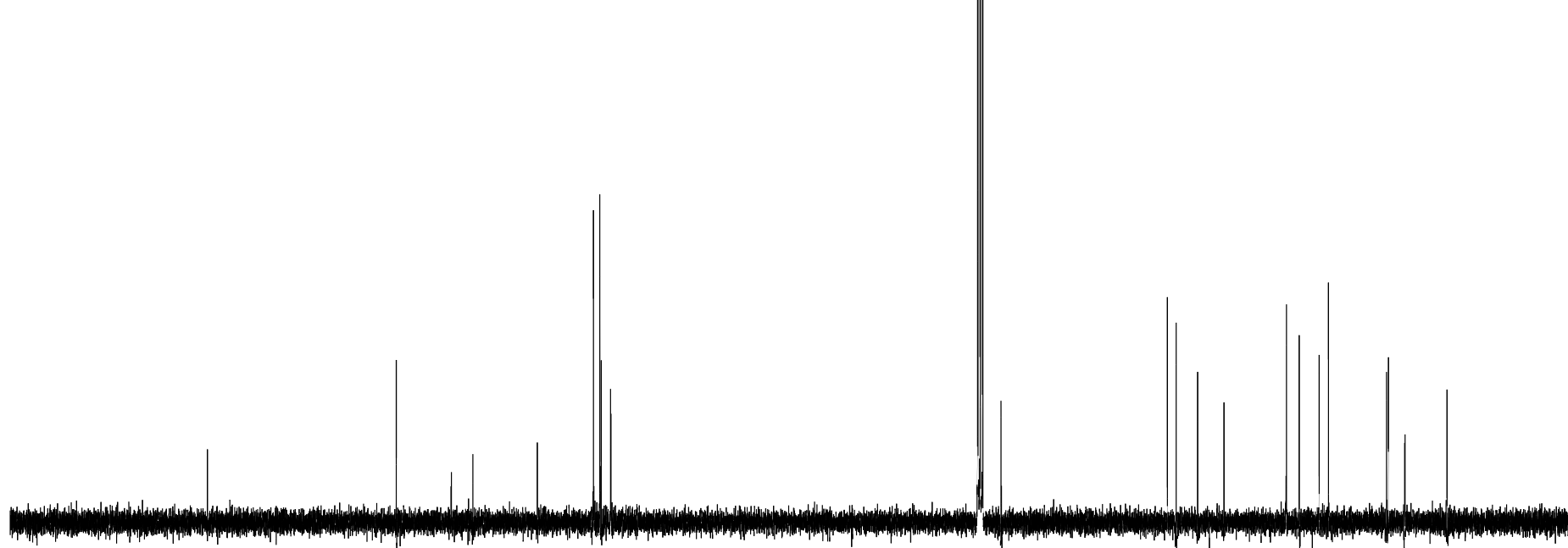


DMR584CARBON



Chemical Shift (ppm)

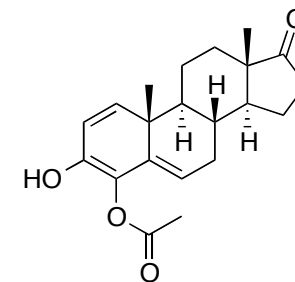
DMR584CARBON



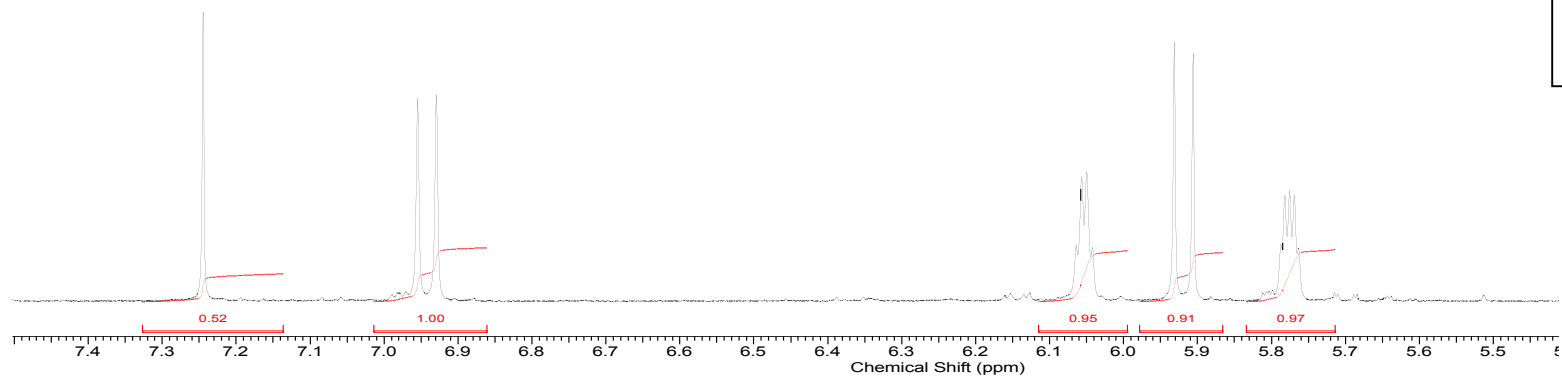
Chemical Shift (ppm)

(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-10,13-dimethyl-17-oxo-8,9,10,11,12,13,14,15,16,17-decahydro-7*H*-cyclopenta[α]phenanthren-4-yl acetate

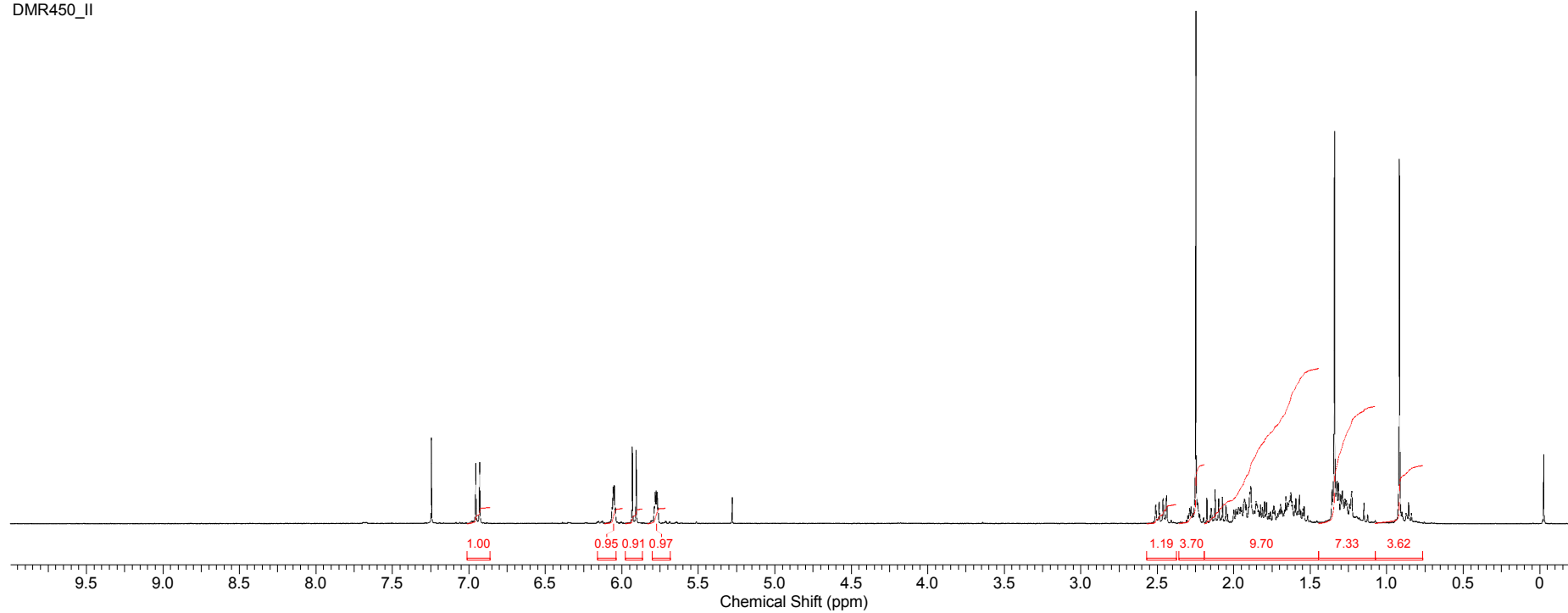
5d



DMR450_II

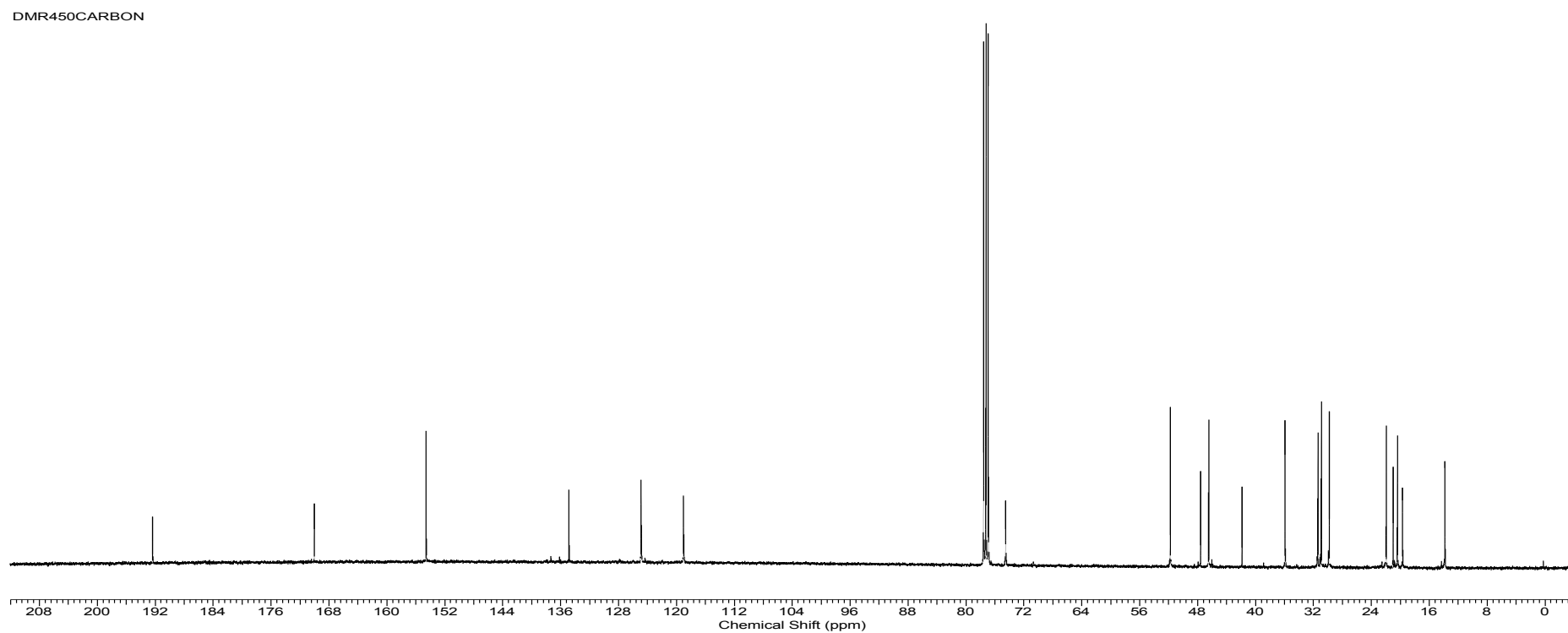
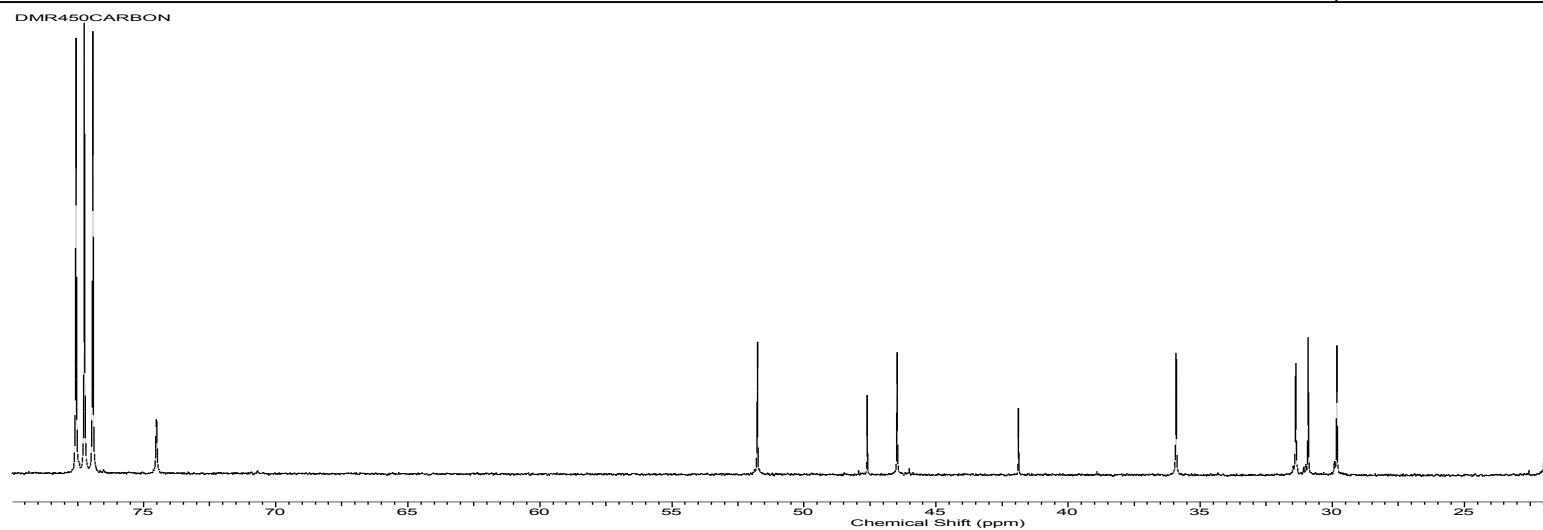
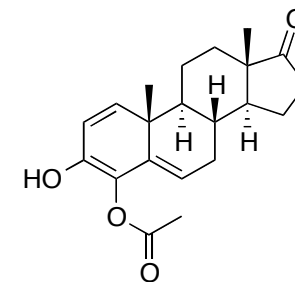


DMR450_II



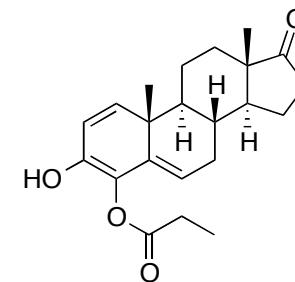
(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-10,13-dimethyl-17-oxo-8,9,10,11,12,13,14,15,16,17-decahydro-7*H*-cyclopenta[α]phenanthren-4-yl acetate

5d

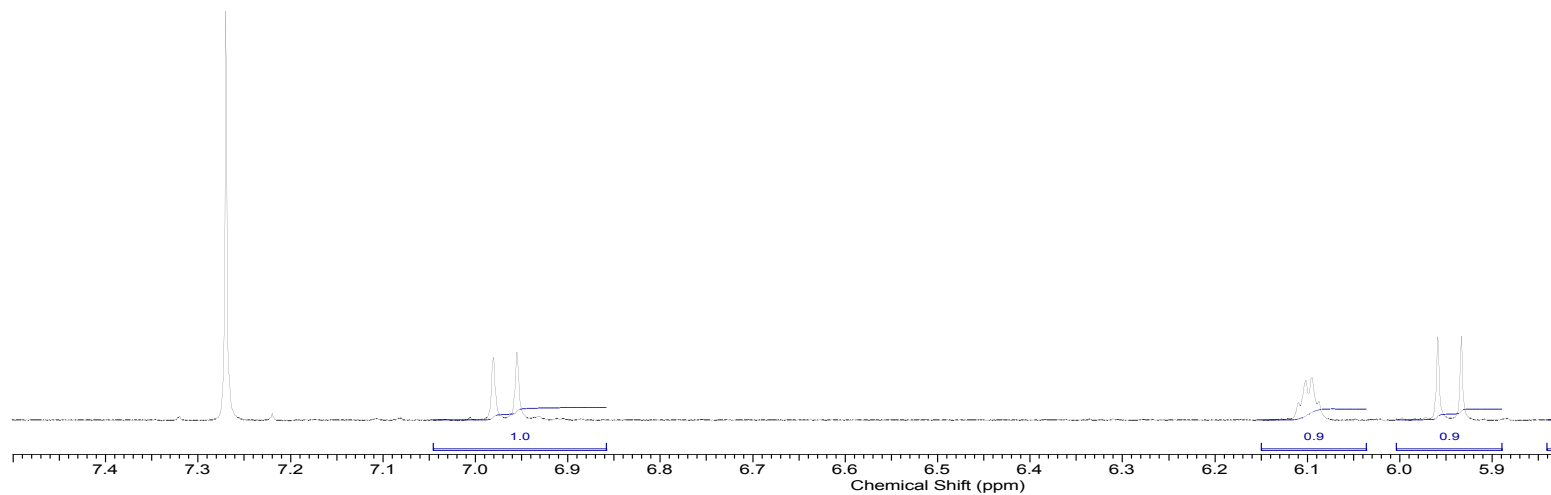


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-10,13-dimethyl-17-oxo-8,9,10,11,12,13,14,15,16,17-decahydro-7*H*-cyclopenta[α]phenanthren-4-yl propionate

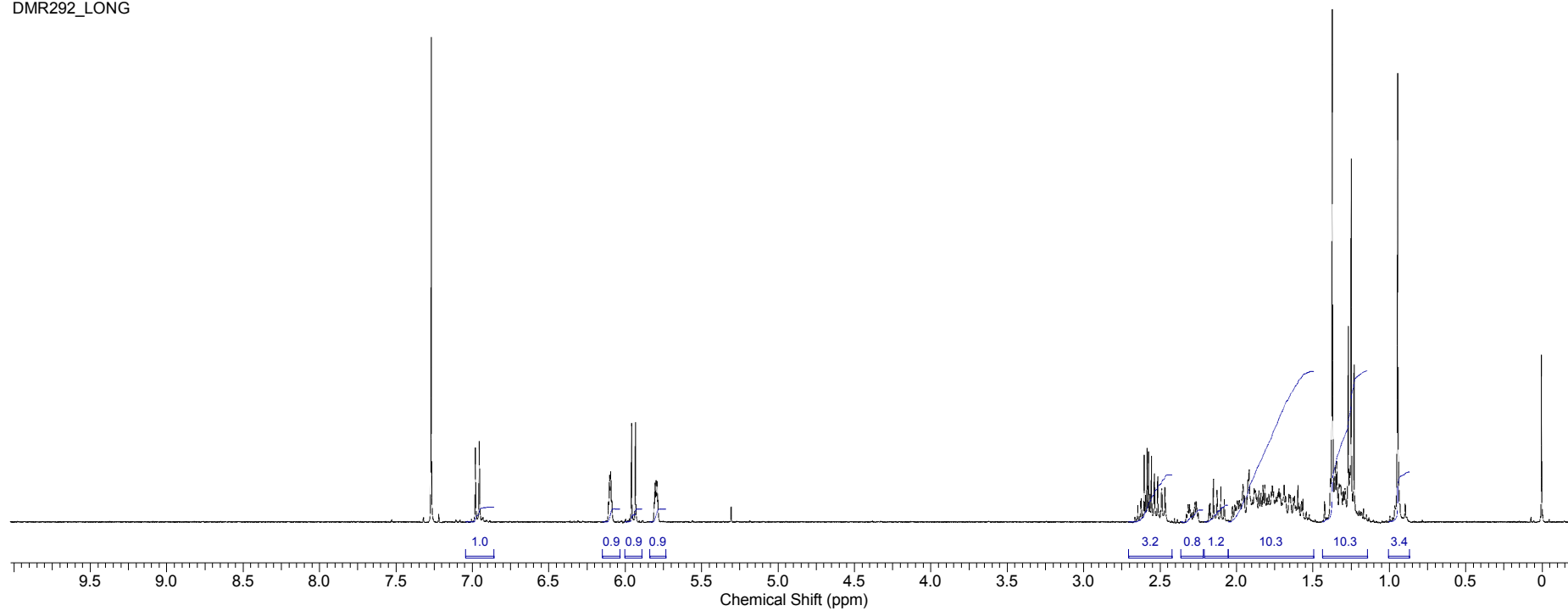
5e



DMR292_LONG

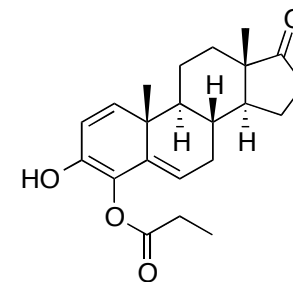


DMR292_LONG

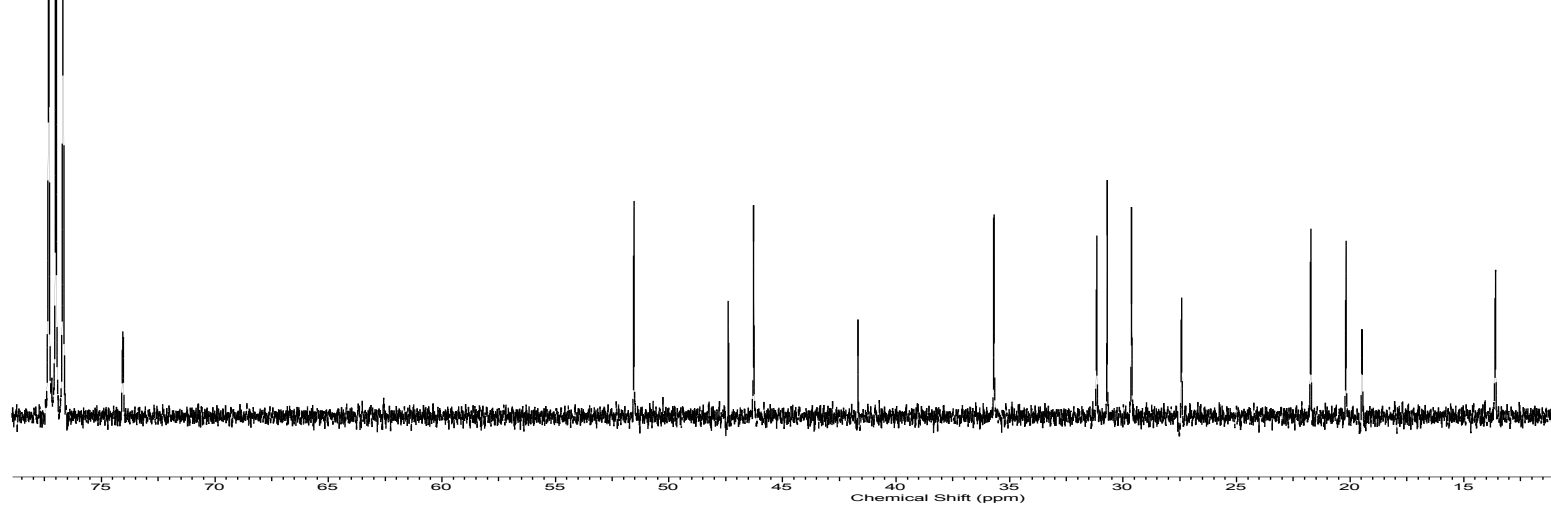


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-10,13-dimethyl-17-oxo-8,9,10,11,12,13,14,15,16,17-decahydro-7*H*-cyclopenta[*a*]phenanthren-4-yl propionate

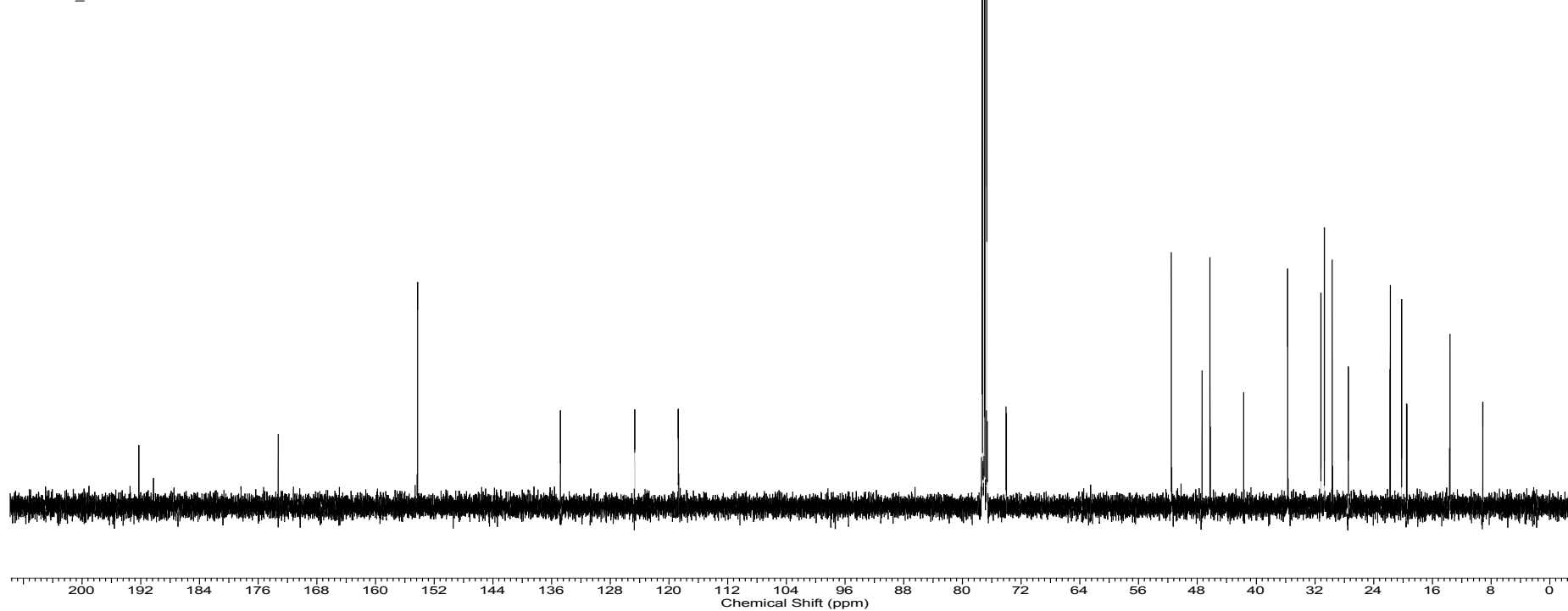
5e



DMR292_CARBON

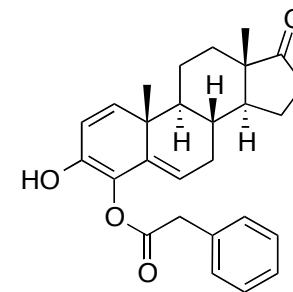


DMR292_CARBON

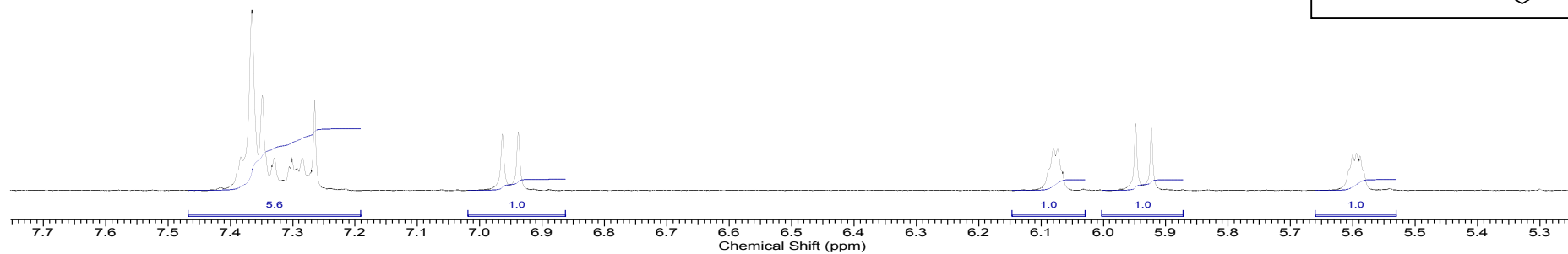


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-10,13-dimethyl-17-oxo-8,9,10,11,12,13,14,15,16,17-decahydro-7*H*-cyclopenta[α]phenanthren-4-yl 2-phenylacetate

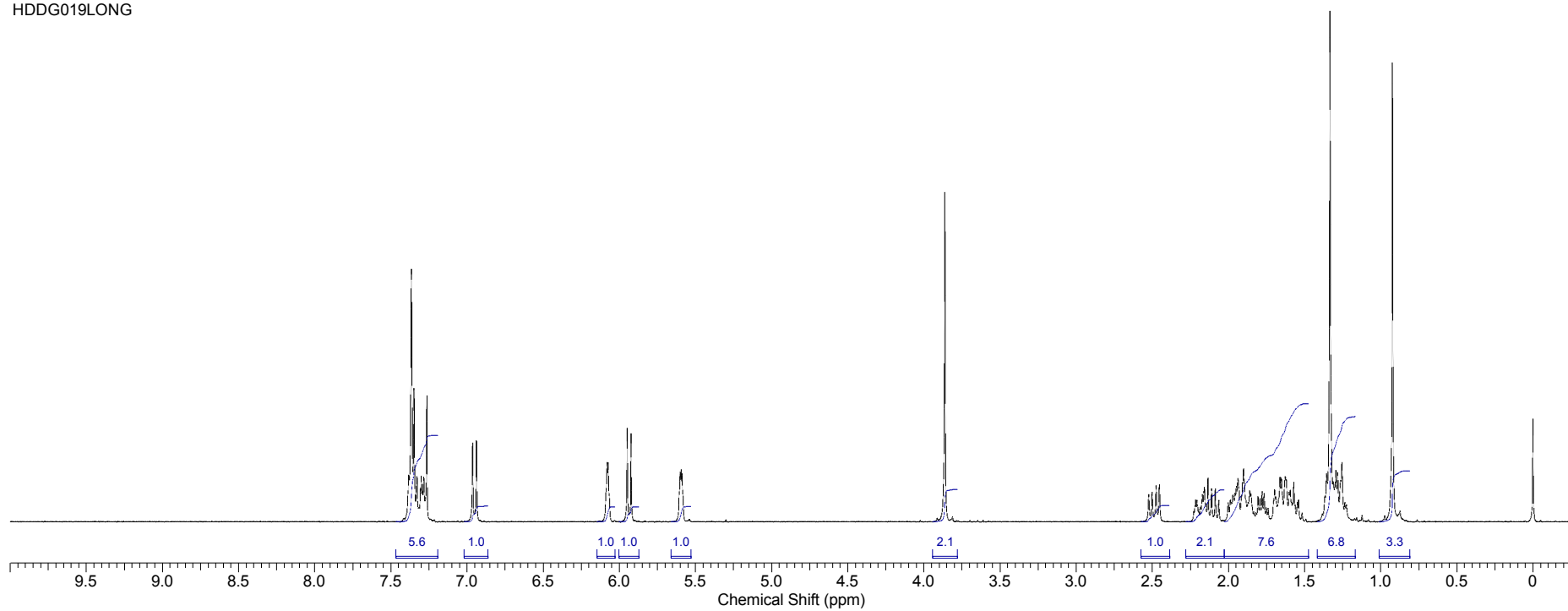
5f



HDDG019LONG

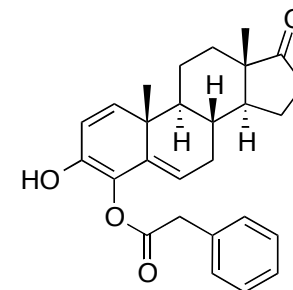


HDDG019LONG

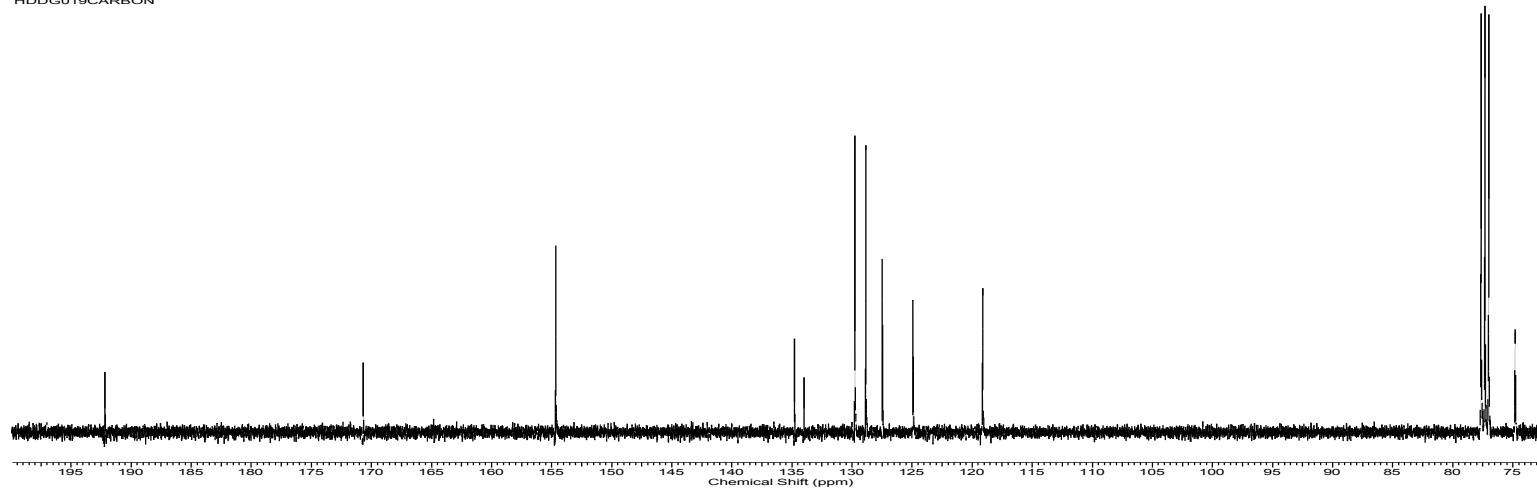


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-10,13-dimethyl-17-oxo-8,9,10,11,12,13,14,15,16,17-decahydro-7*H*-cyclopenta[α]phenanthren-4-yl 2-phenylacetate

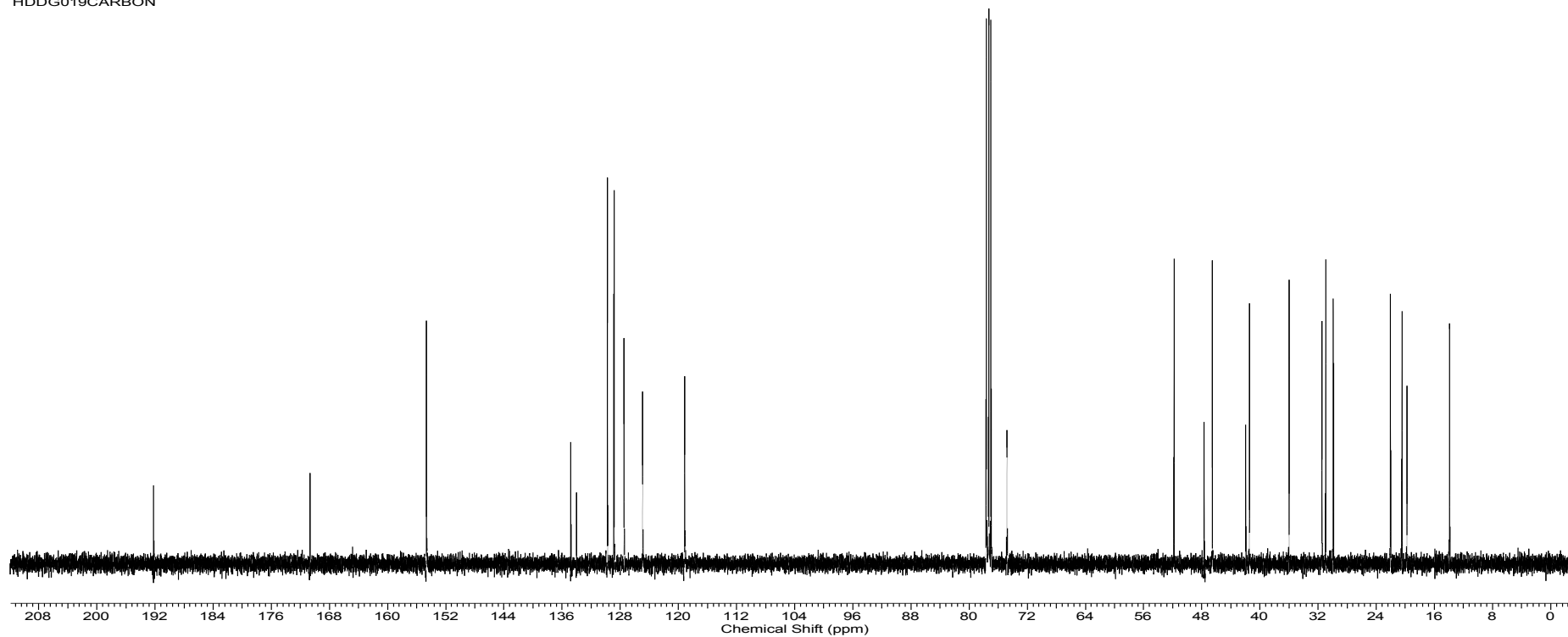
5f



HDDG019CARBON

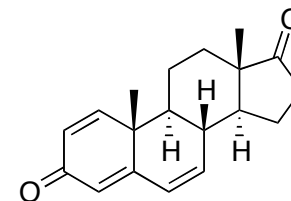


HDDG019CARBON

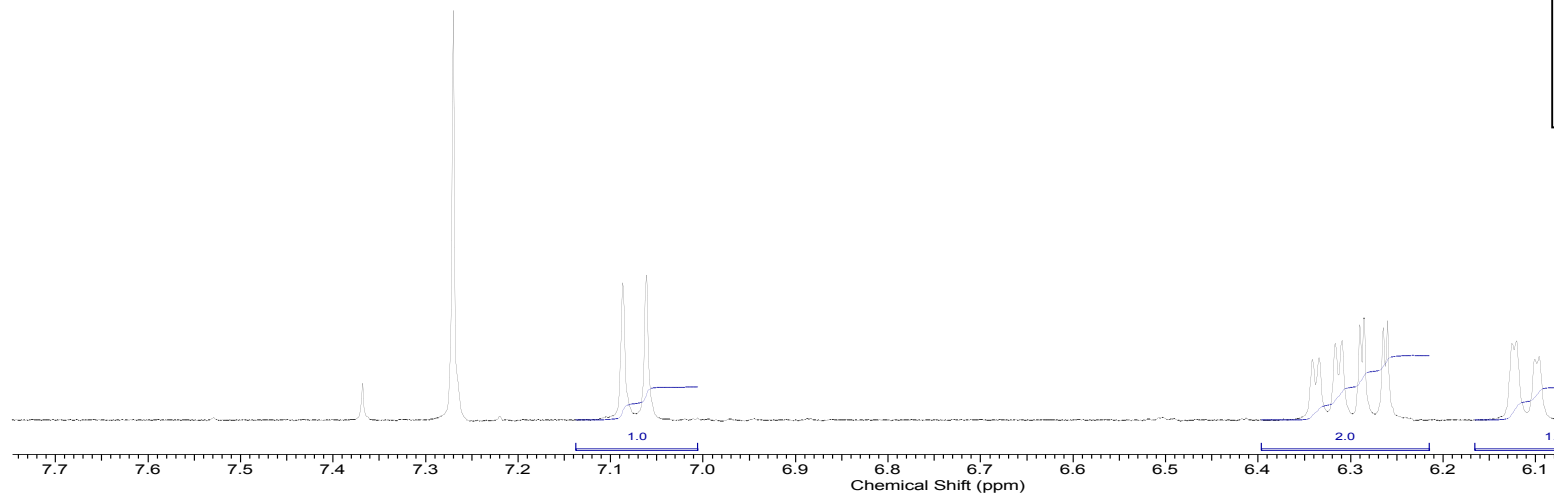


(8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-3*H*-cyclopenta[α]phenanthrene-3,17(8*H*)-dione

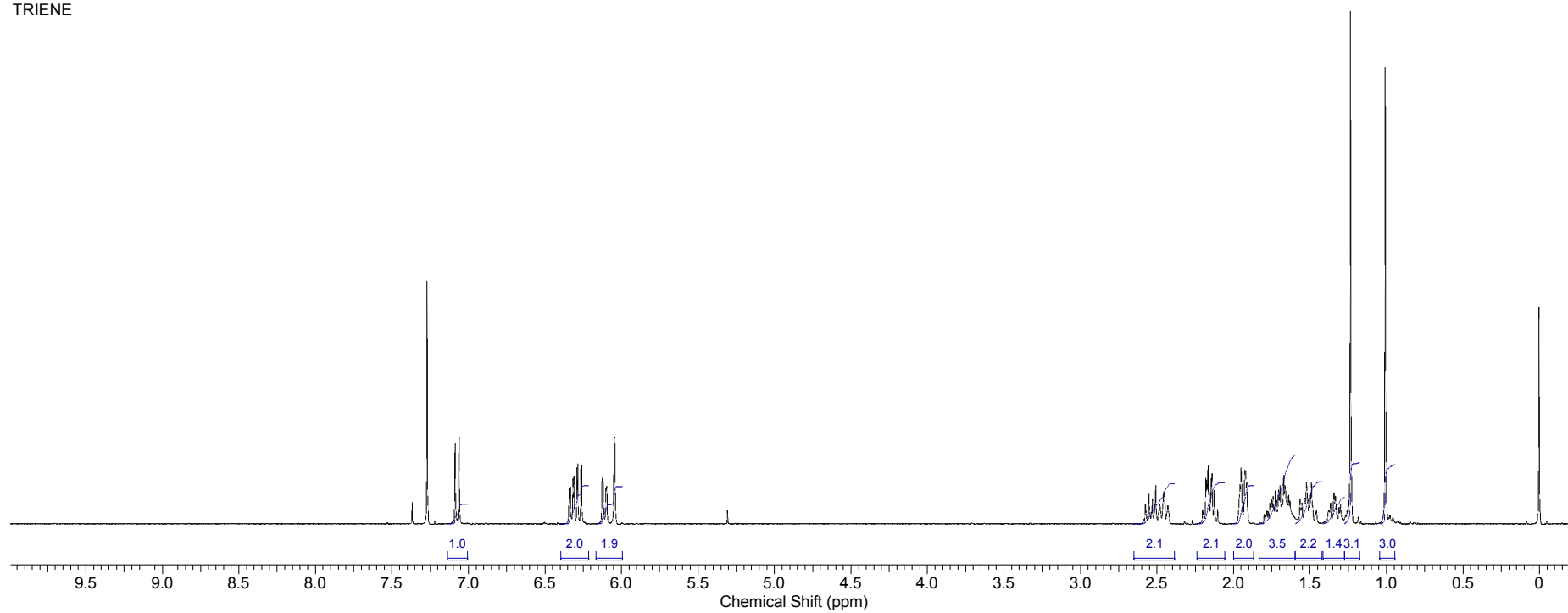
6



TRIENE

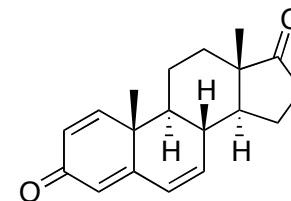


TRIENE

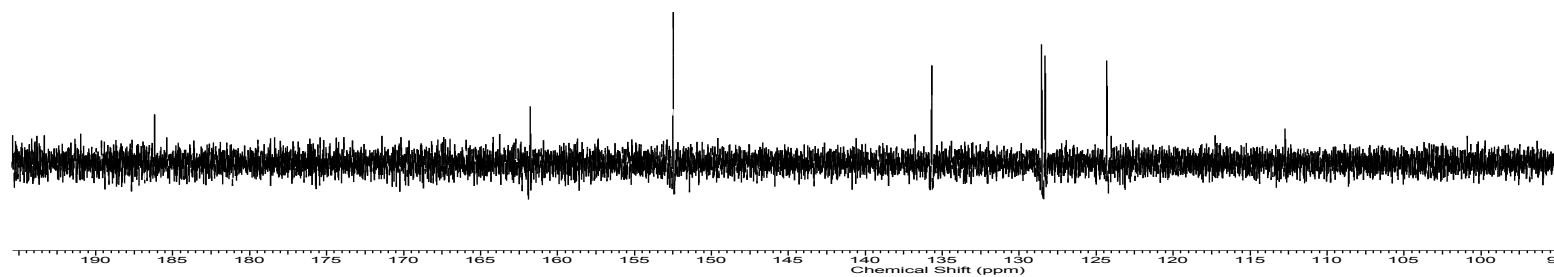


(8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-9,10,11,12,13,14,15,16-octahydro-3*H*-cyclopenta[α]phenanthrene-3,17(8*H*)-dione

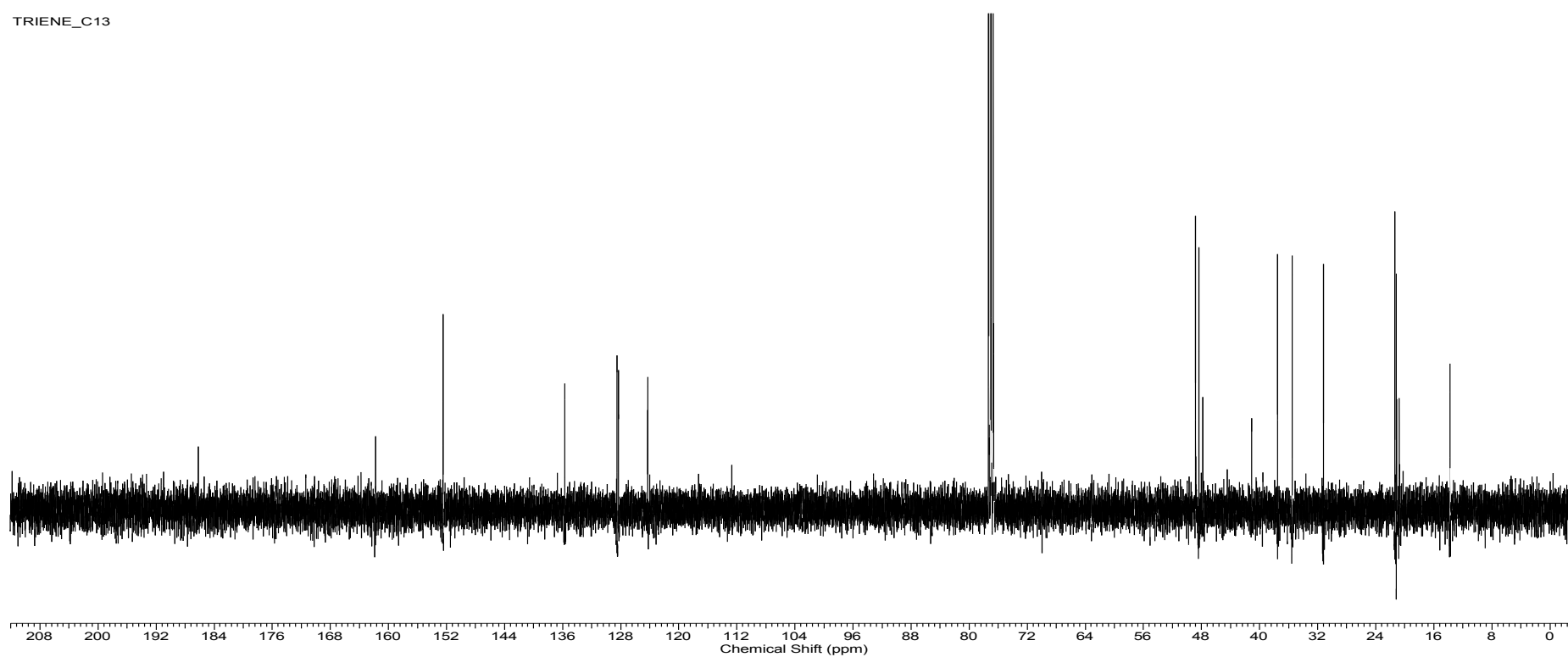
6



TRIENE_C13

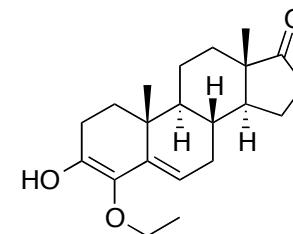


TRIENE_C13

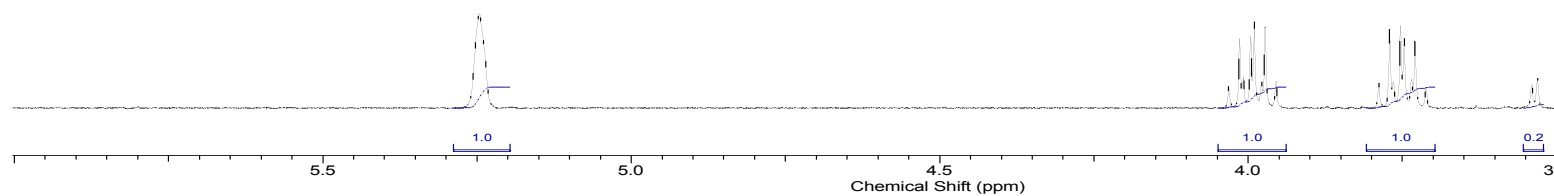


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-ethoxy-3-hydroxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthren-17(2*H*)-one

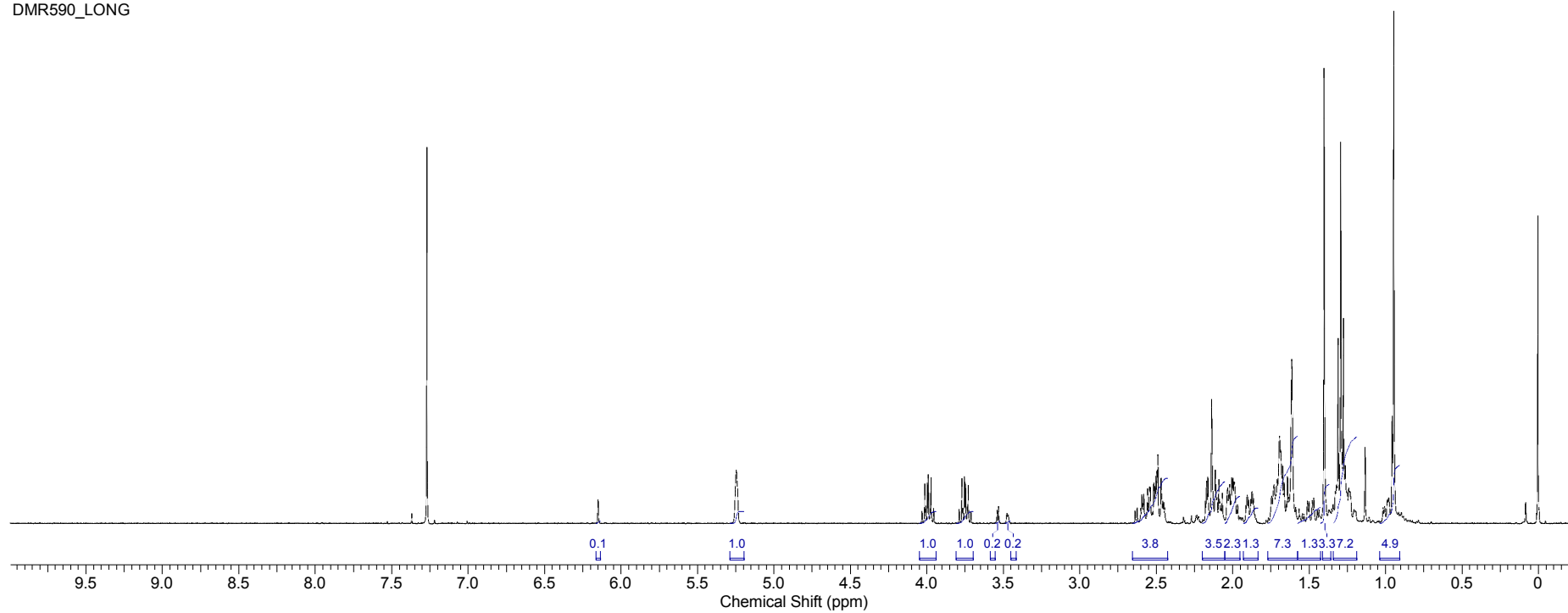
7a



DMR590_LONG

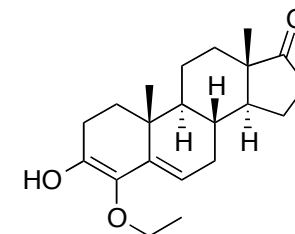


DMR590_LONG

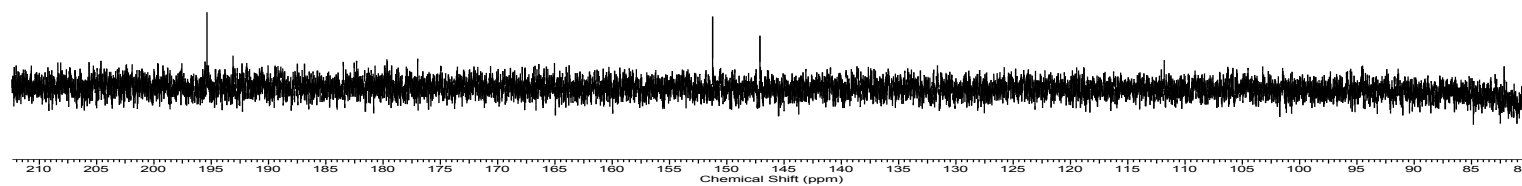


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-ethoxy-3-hydroxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthren-17(2*H*)-one

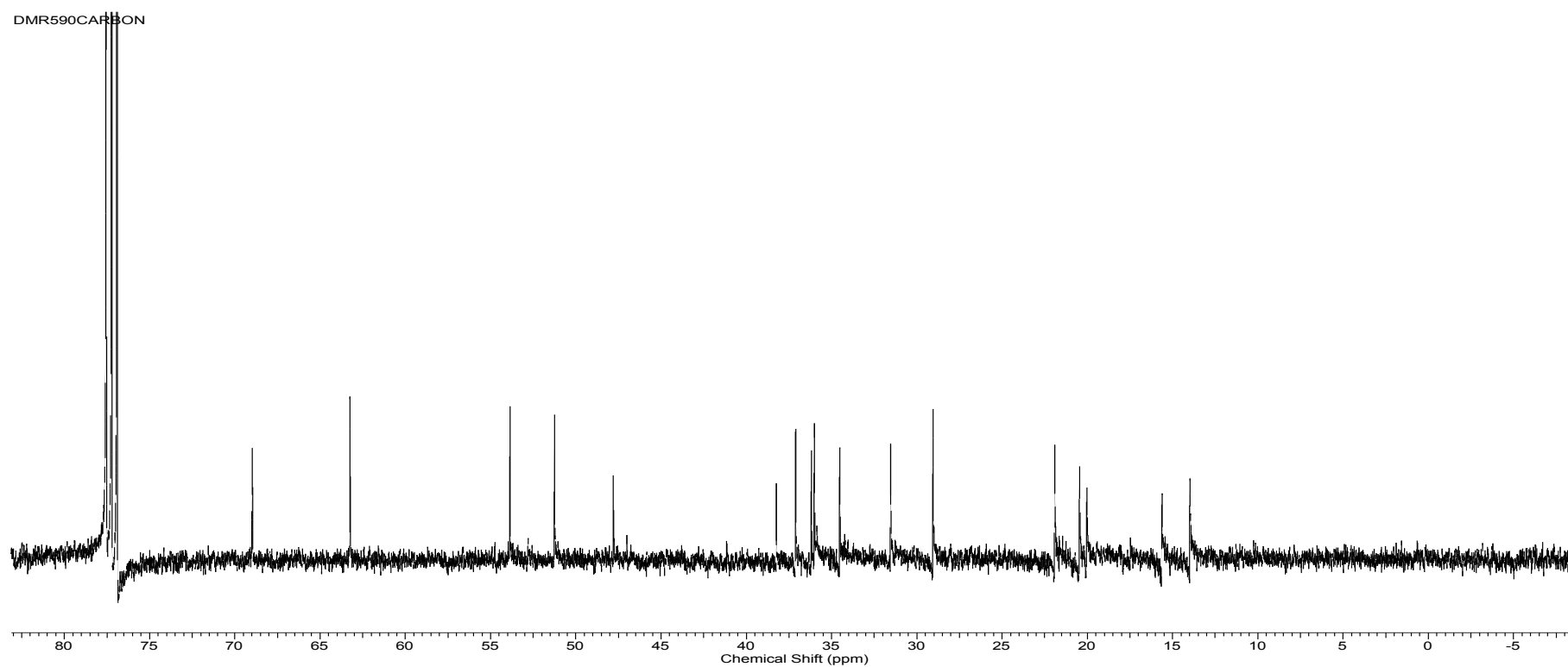
7a



DMR590CARBON

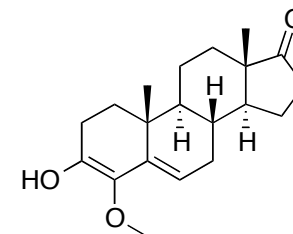


DMR590CARBON

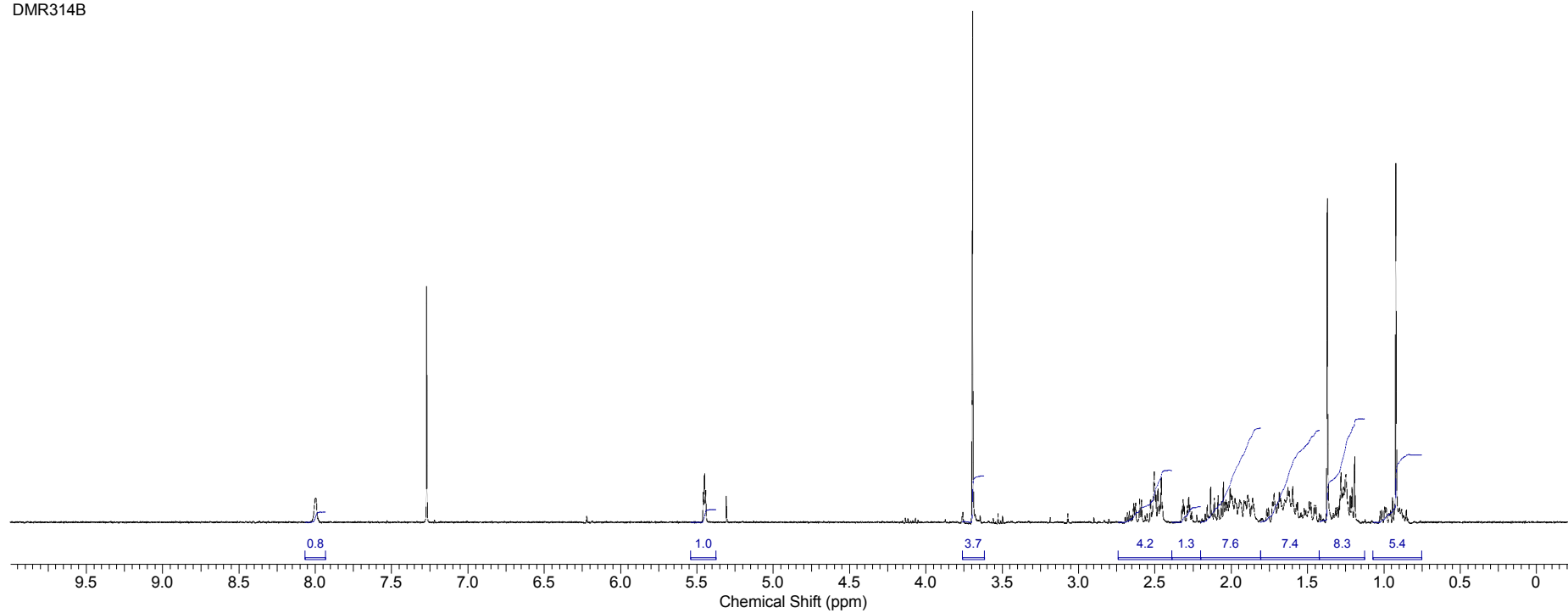


(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-4-methoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthren-17(2*H*)-one

7b

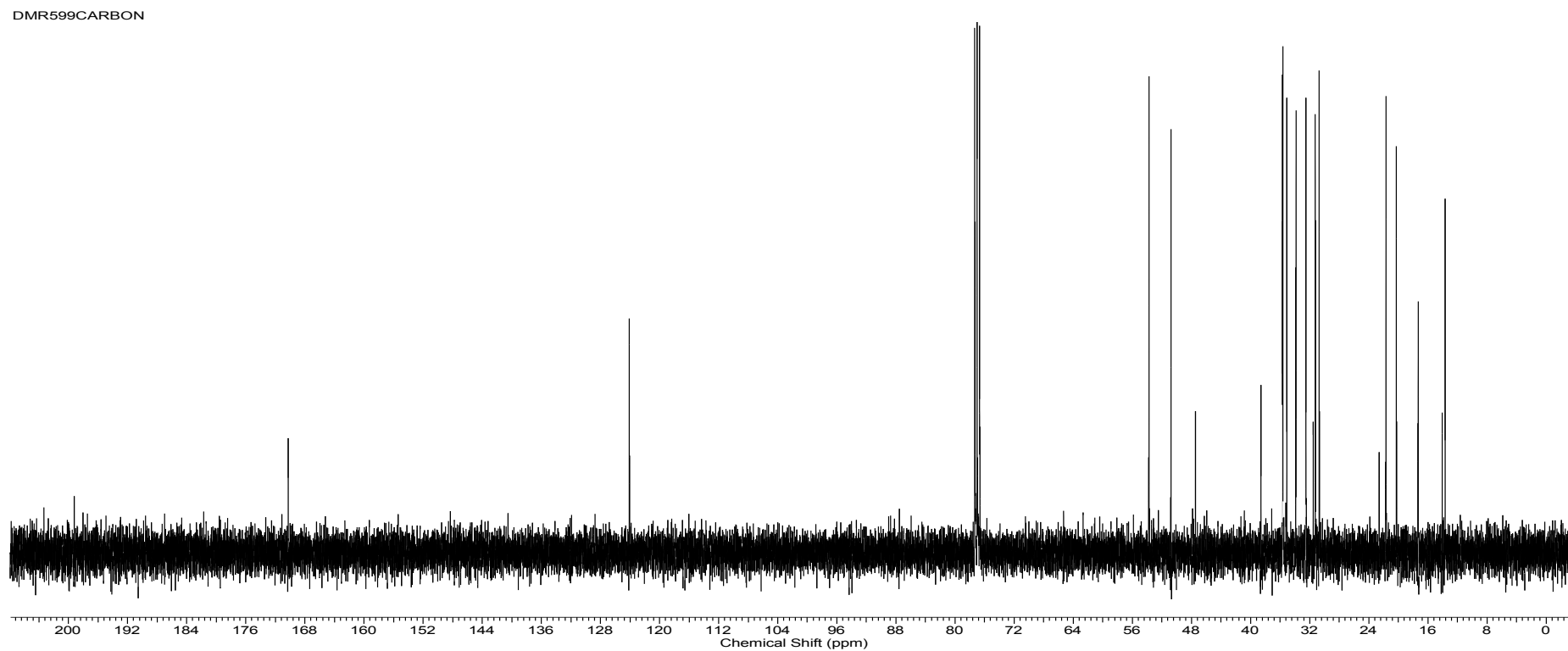
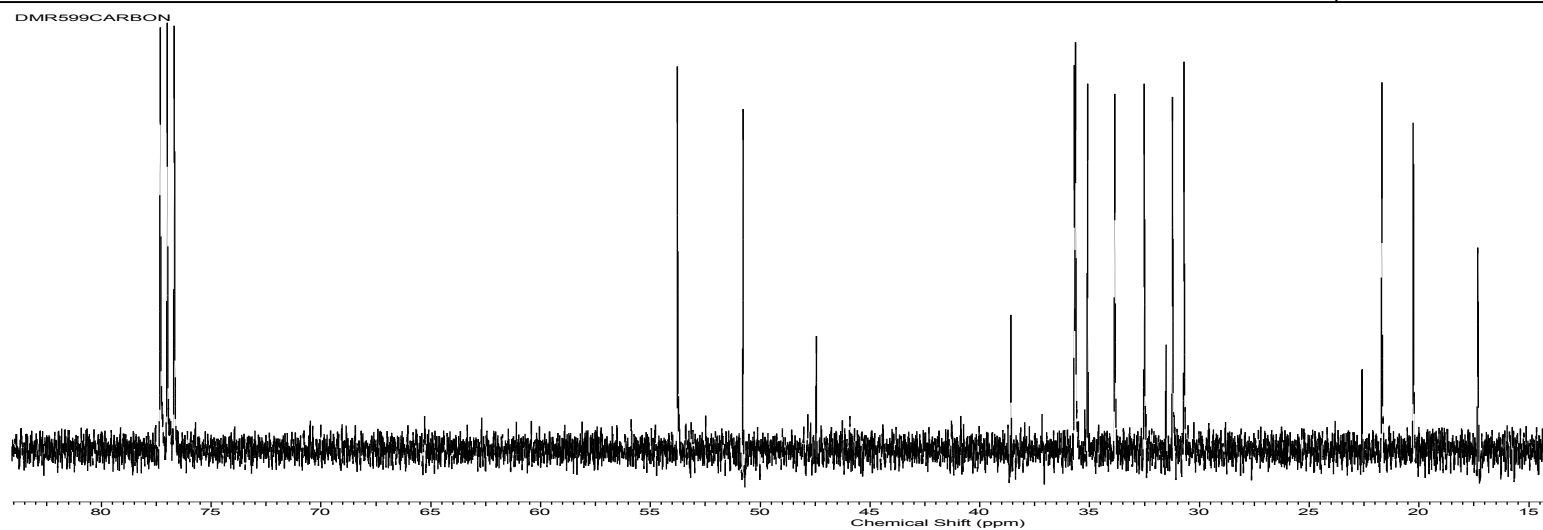
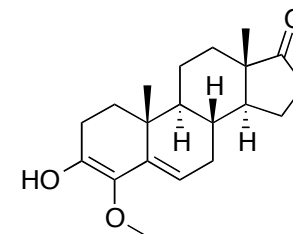


DMR314B



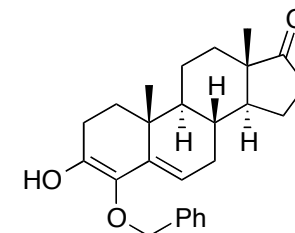
(8*R*,9*S*,10*R*,13*S*,14*S*)-3-hydroxy-4-methoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthren-17(2*H*)-one

7b

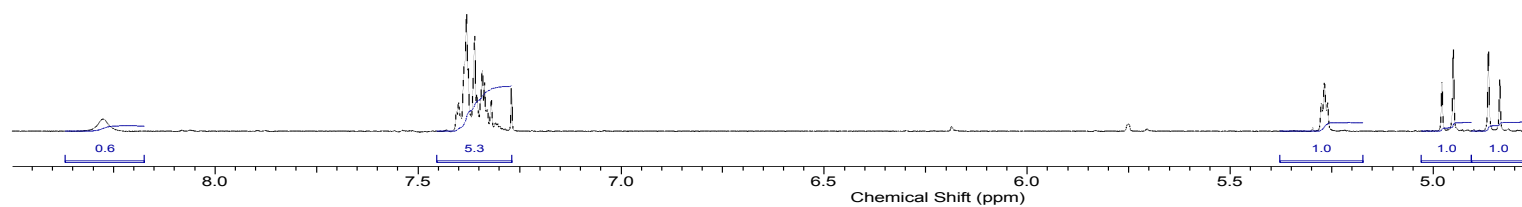


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-(benzyloxy)-3-hydroxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[*a*]phenanthren-17(2*H*)-one

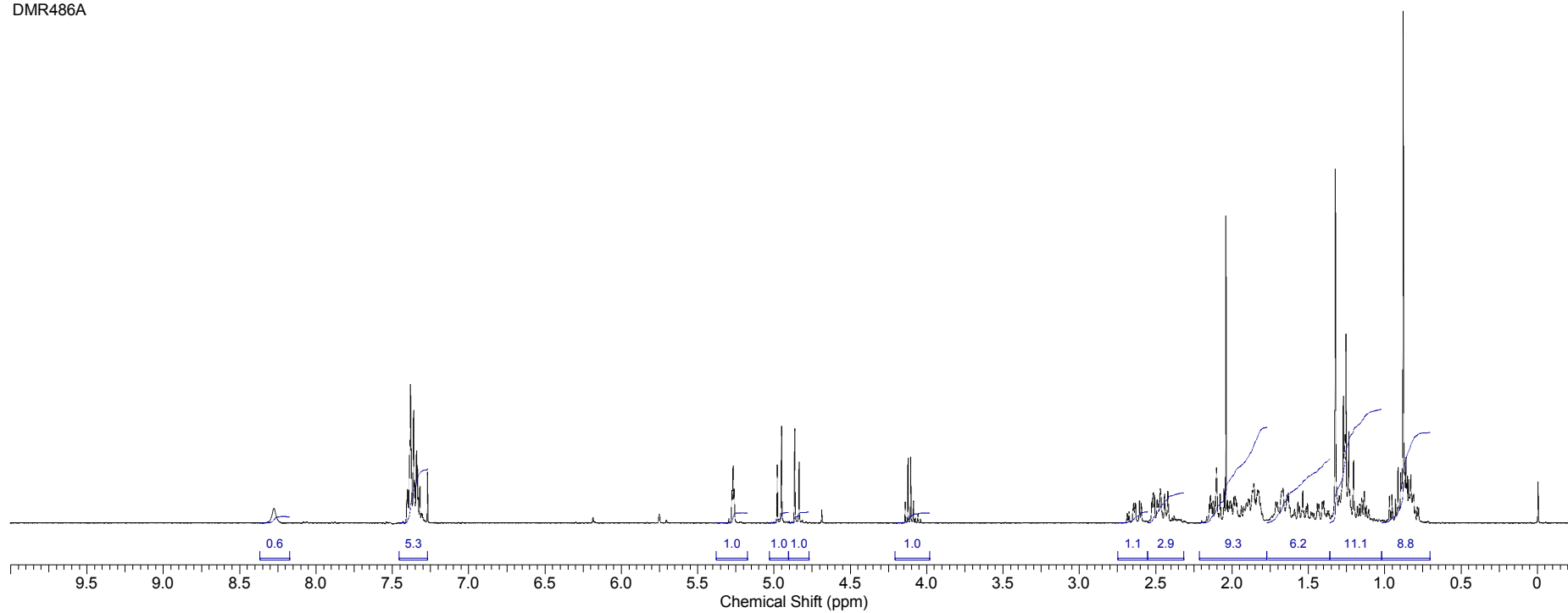
7c



DMR486A

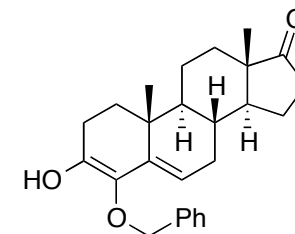


DMR486A

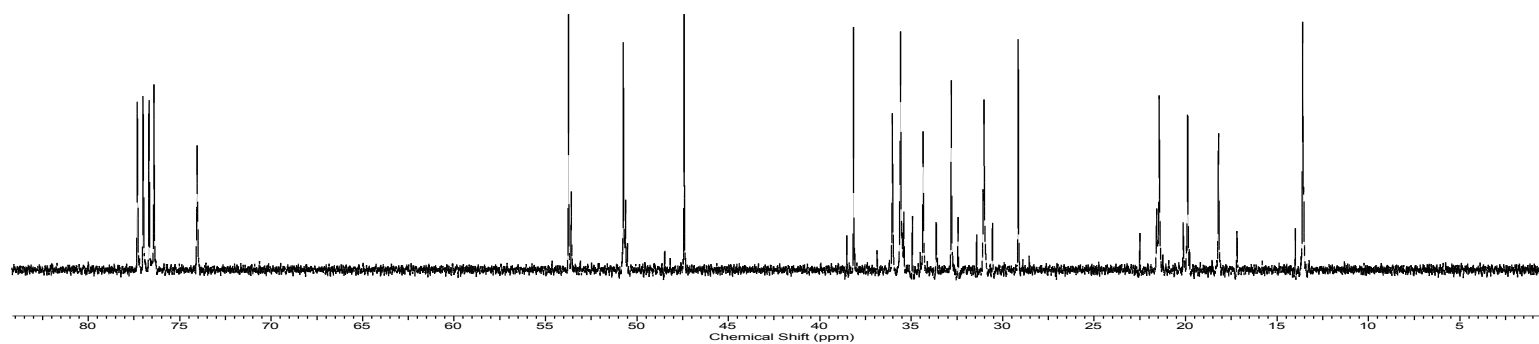


(8*R*,9*S*,10*R*,13*S*,14*S*)-4-(benzyloxy)-3-hydroxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthren-17(2*H*)-one

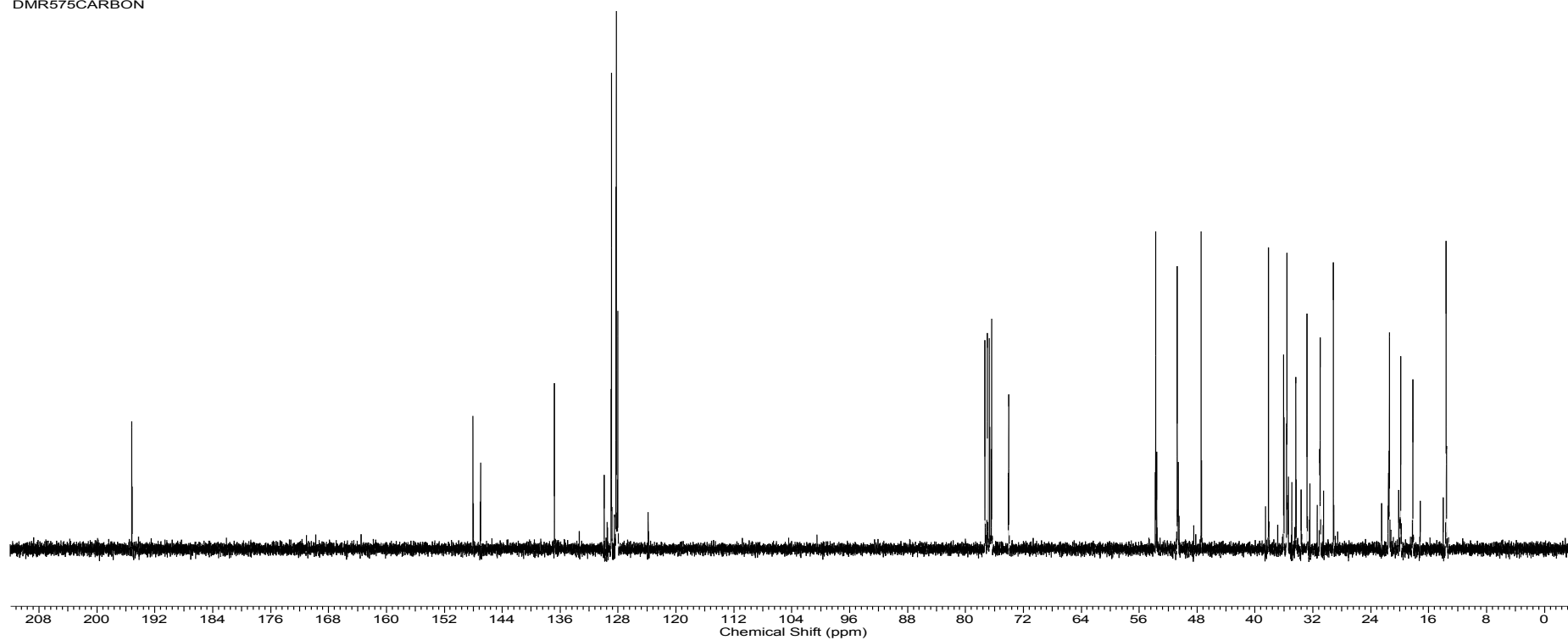
7c



DMR575CARBON

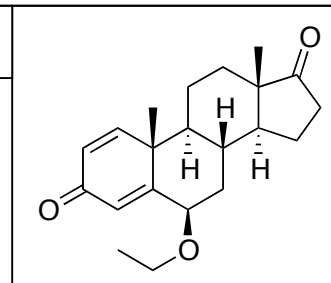


DMR575CARBON

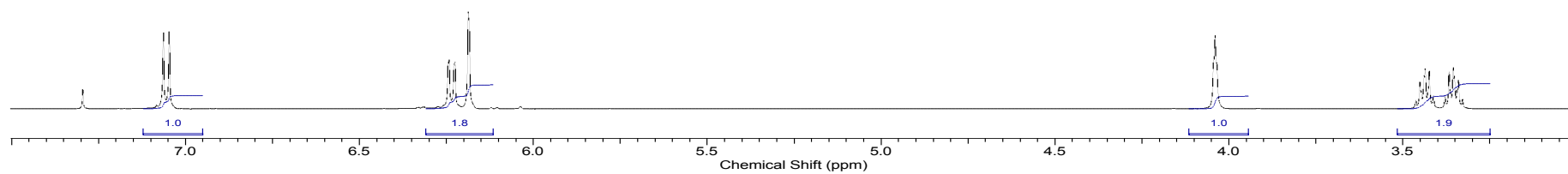


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-ethoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

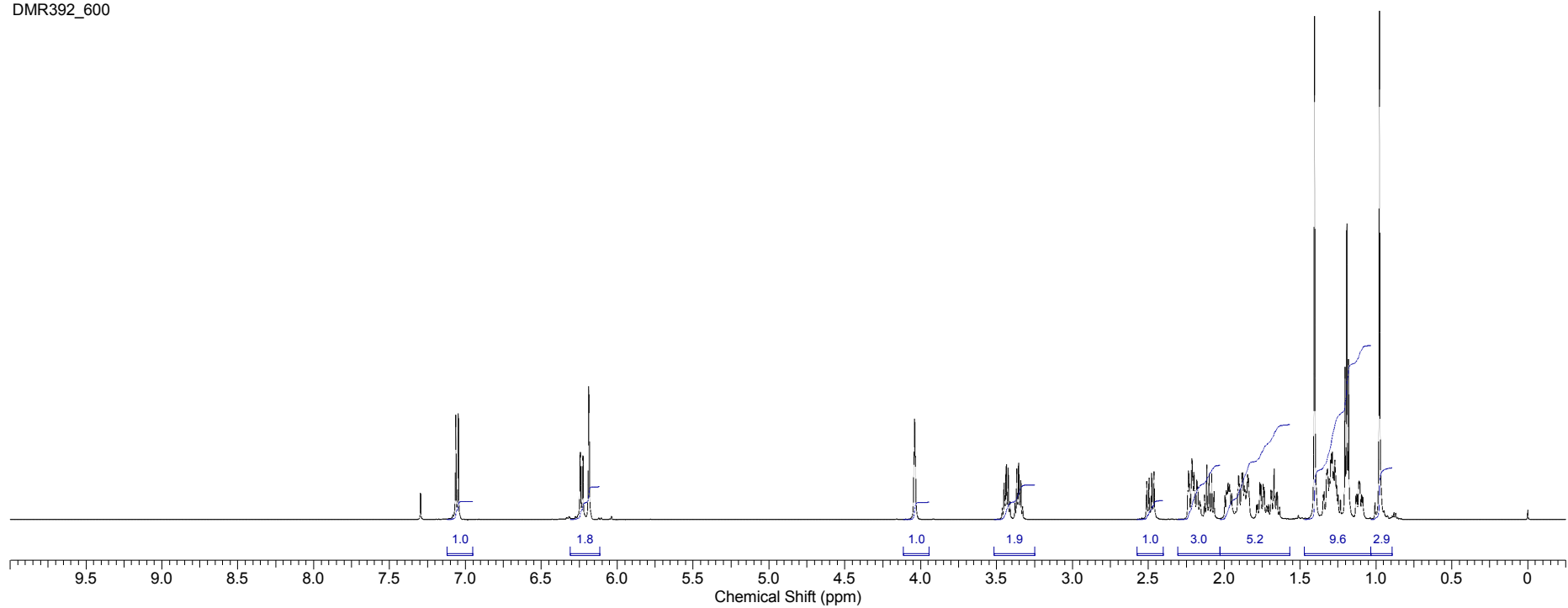
8a



DMR392_600

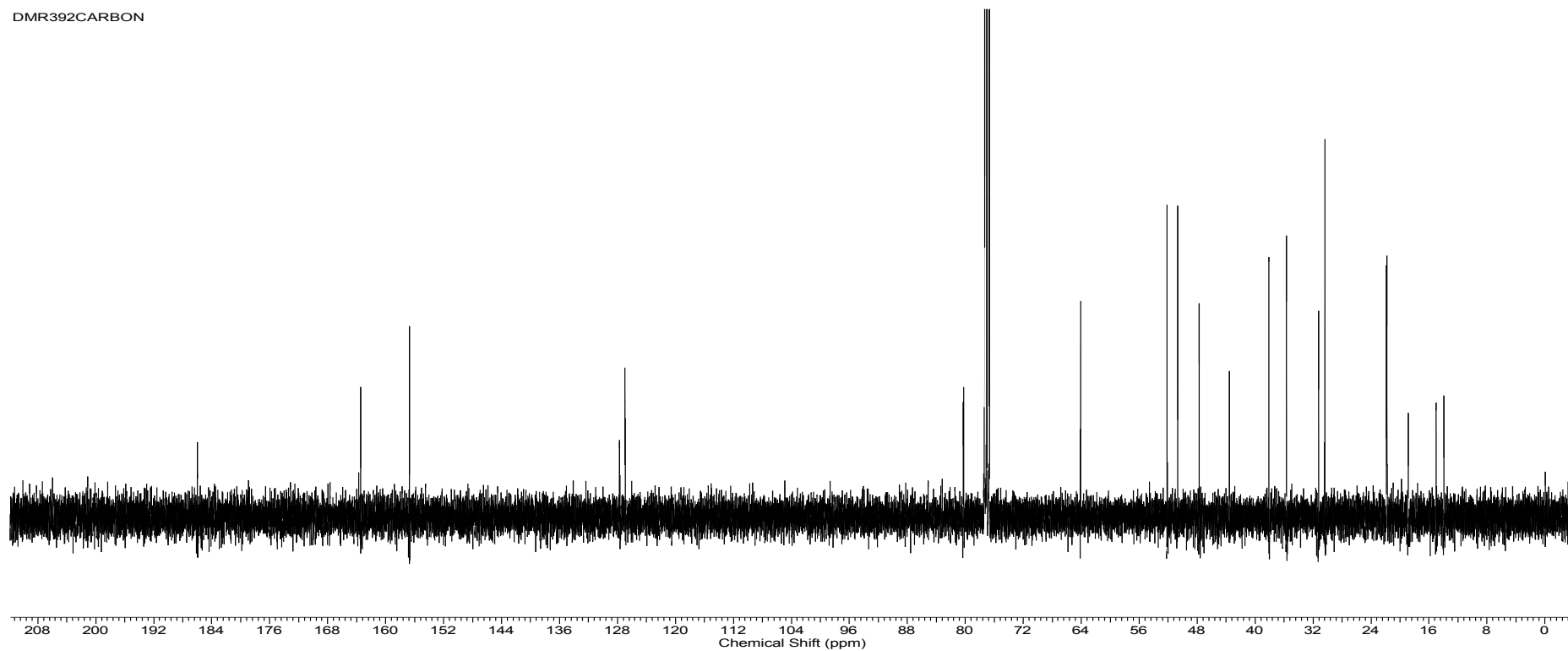
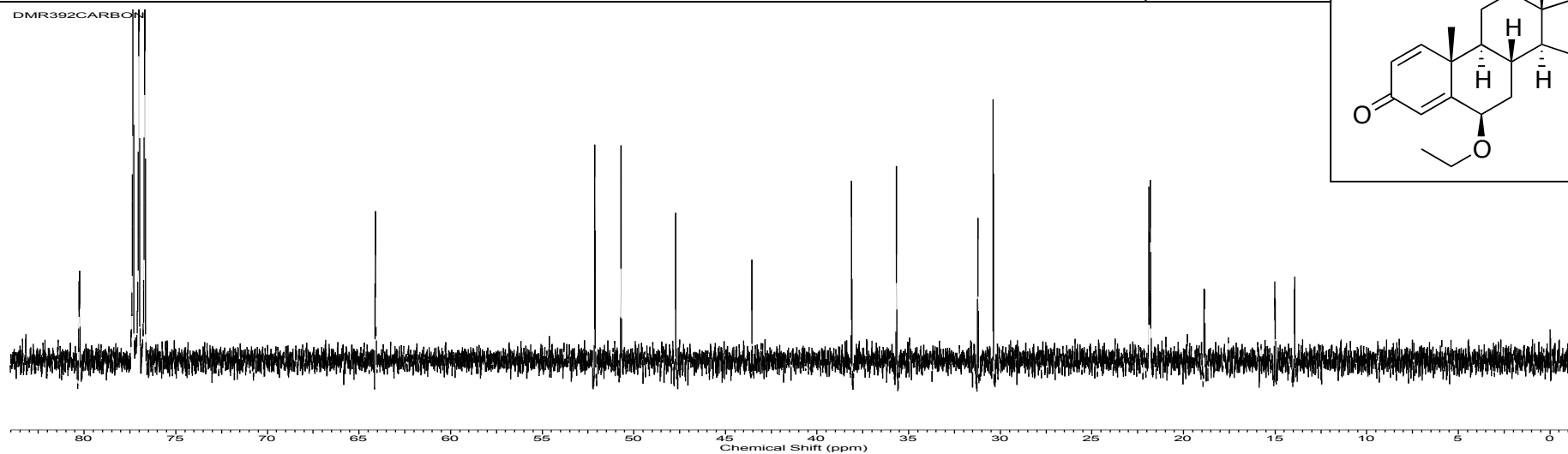
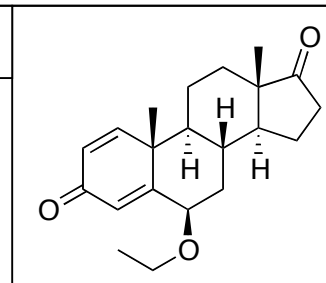


DMR392_600



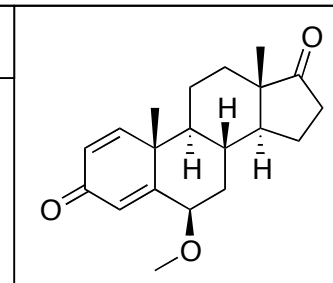
(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-ethoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

8a

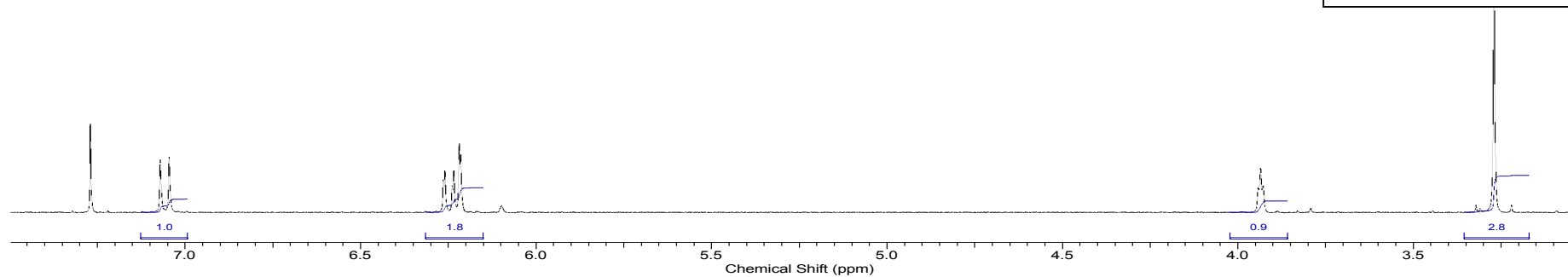


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-methoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

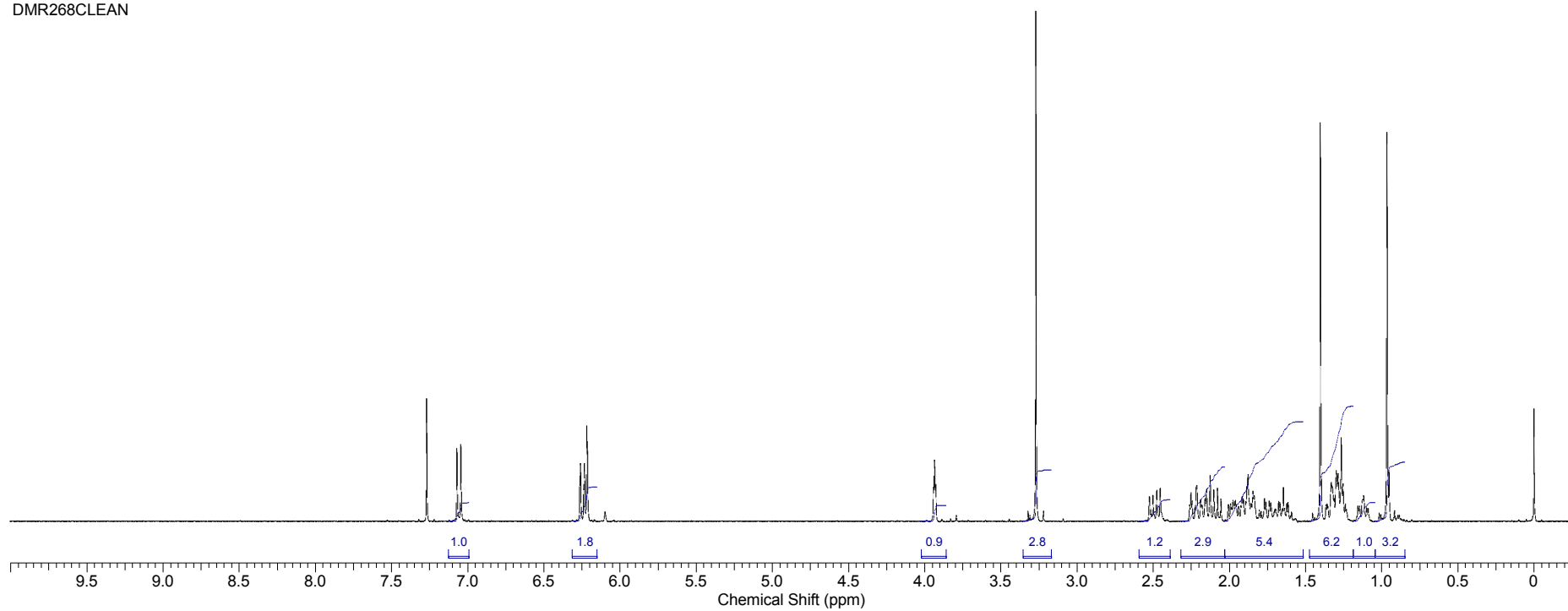
8b



DMR268CLEAN

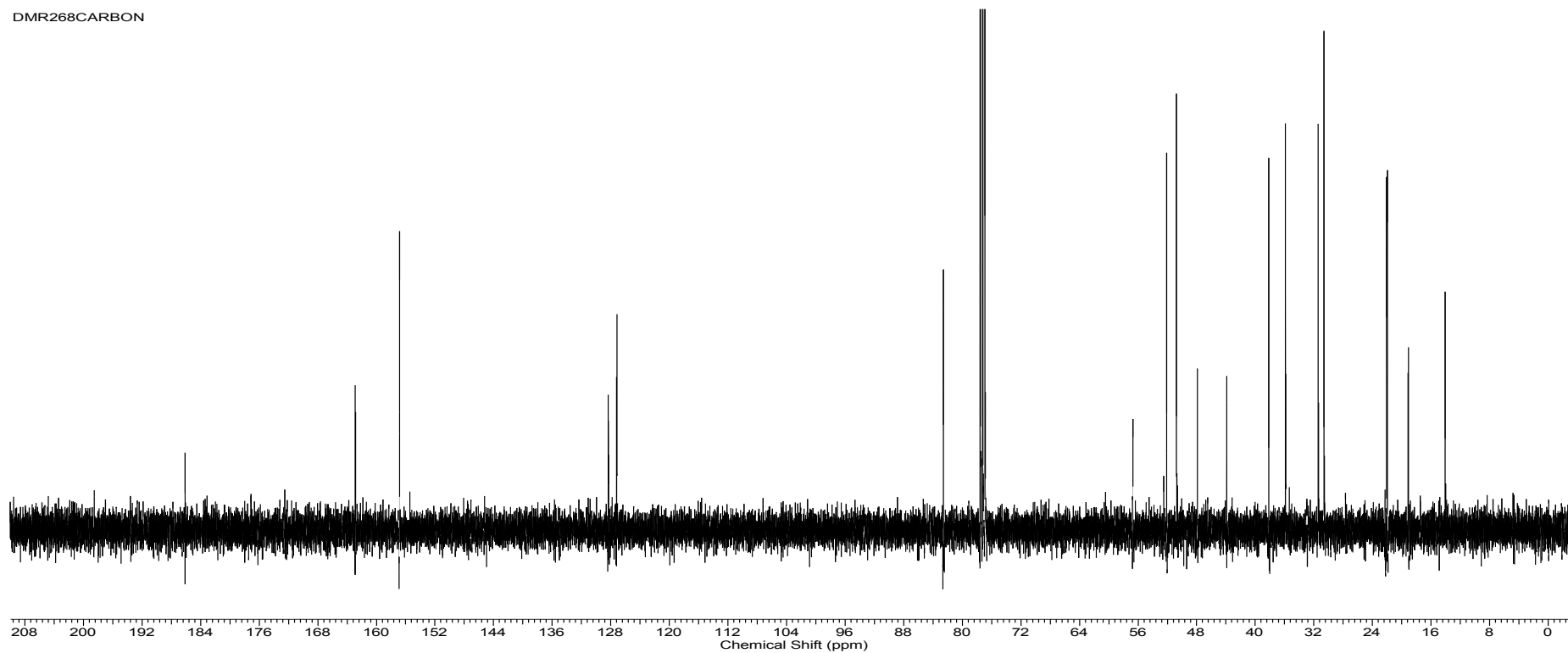
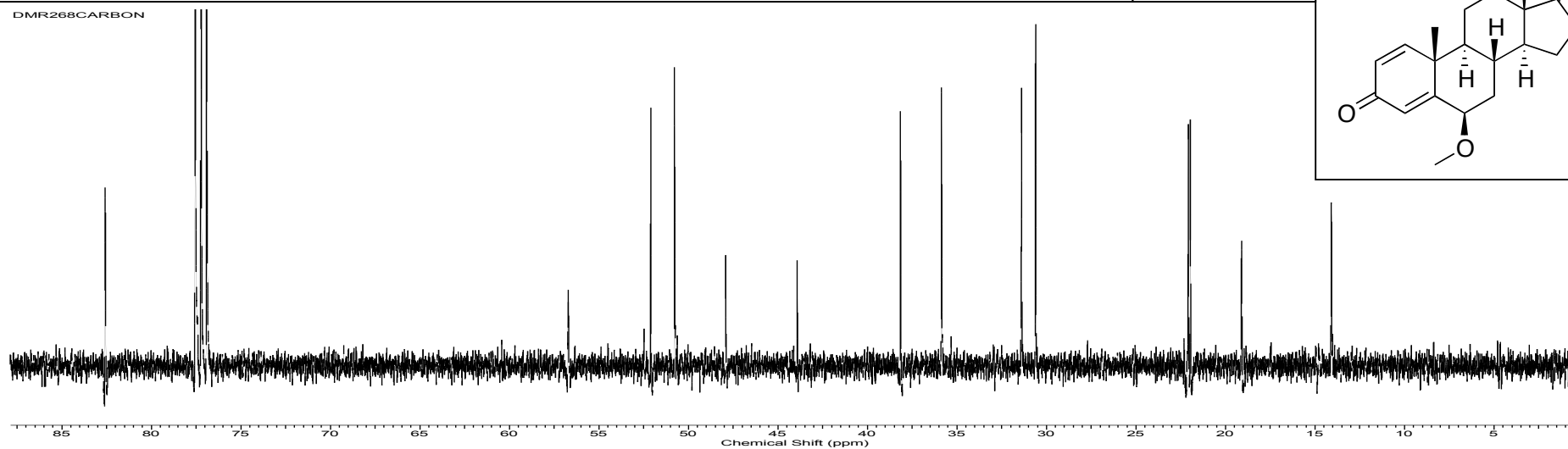
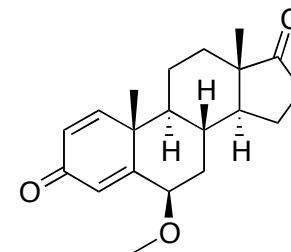


DMR268CLEAN



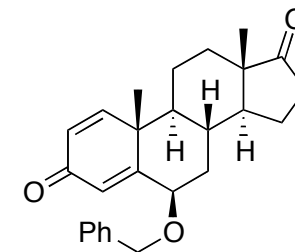
(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-methoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

8b

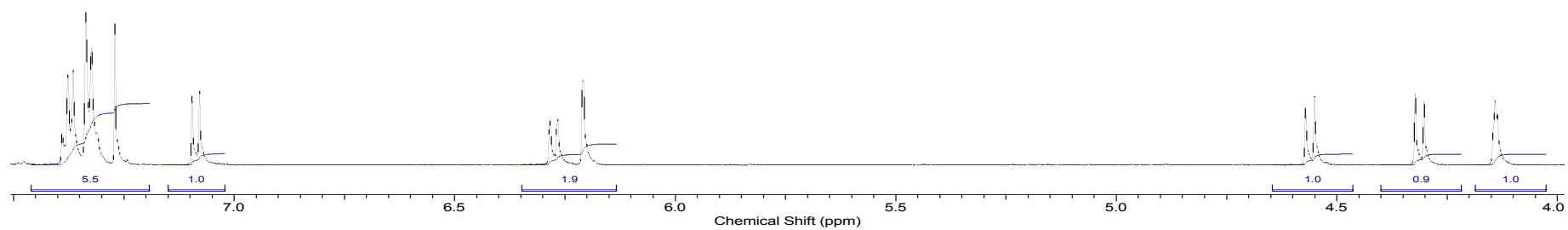


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(benzyloxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

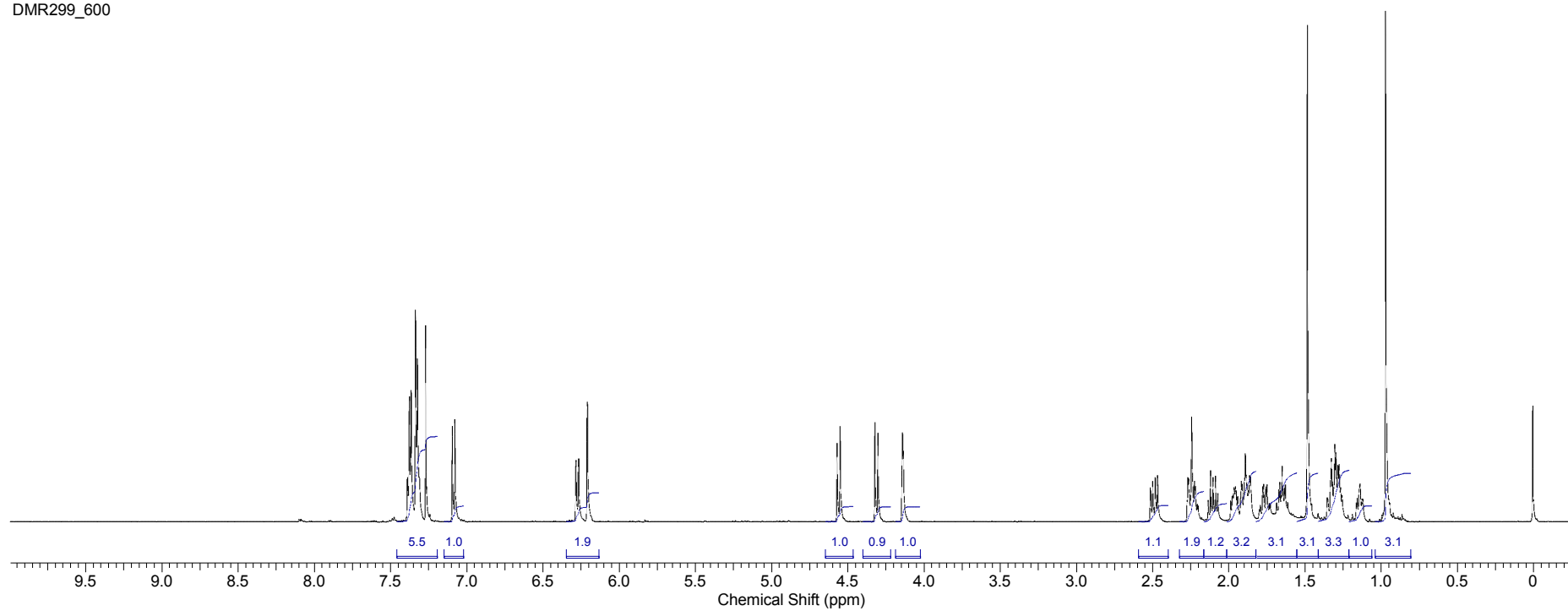
8c



DMR299_600

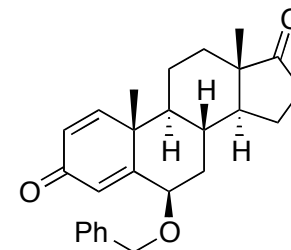


DMR299_600

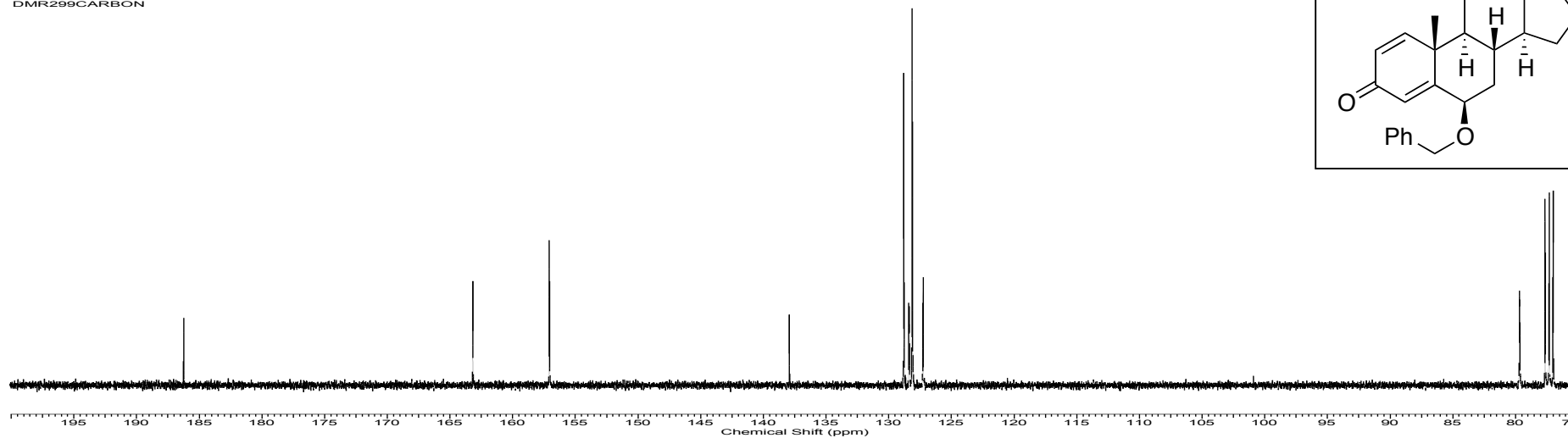


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(benzyloxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

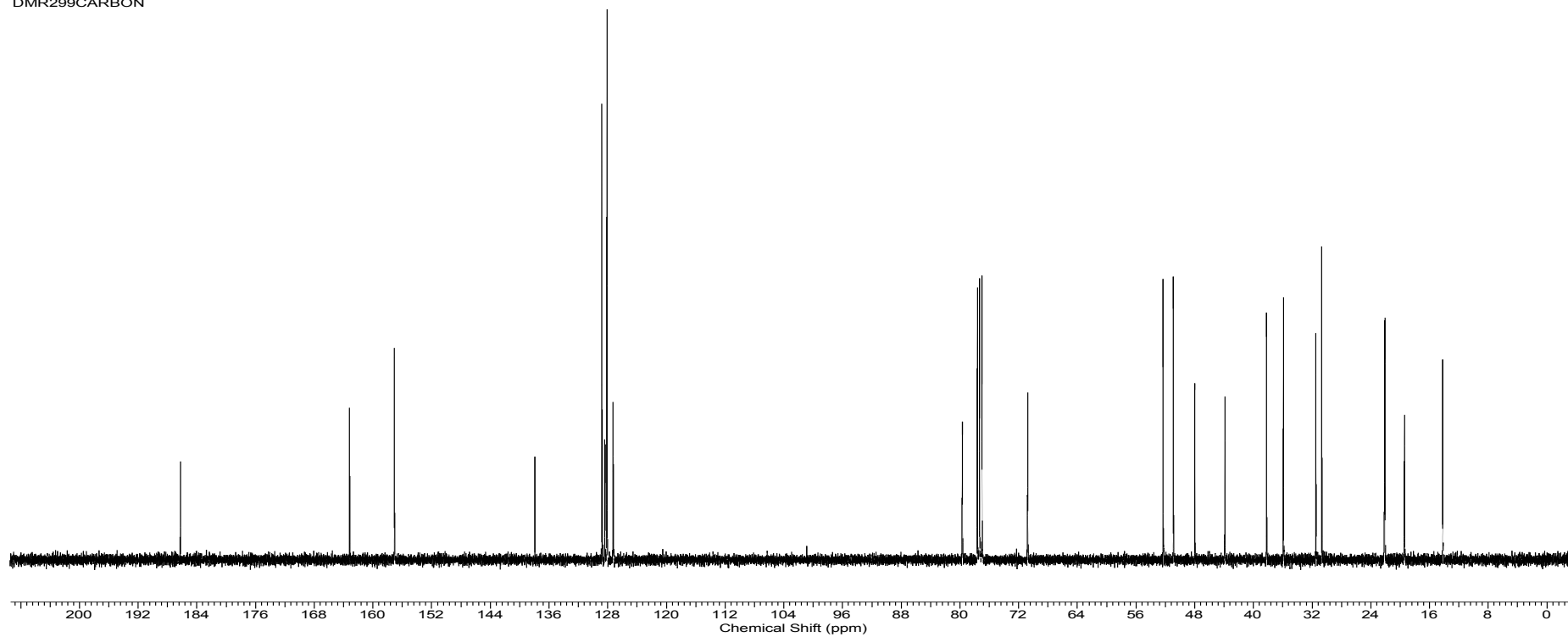
8c



DMR299CARBON

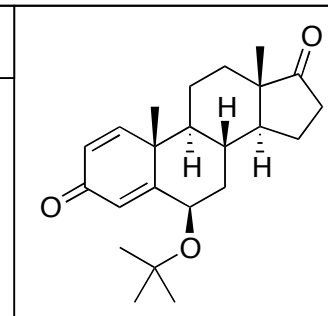


DMR299CARBON

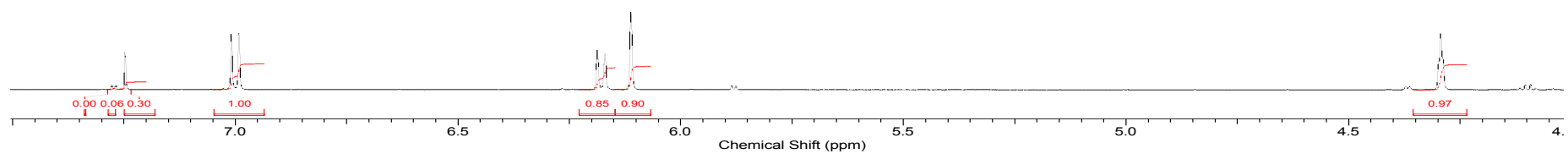


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(*tert*-butoxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

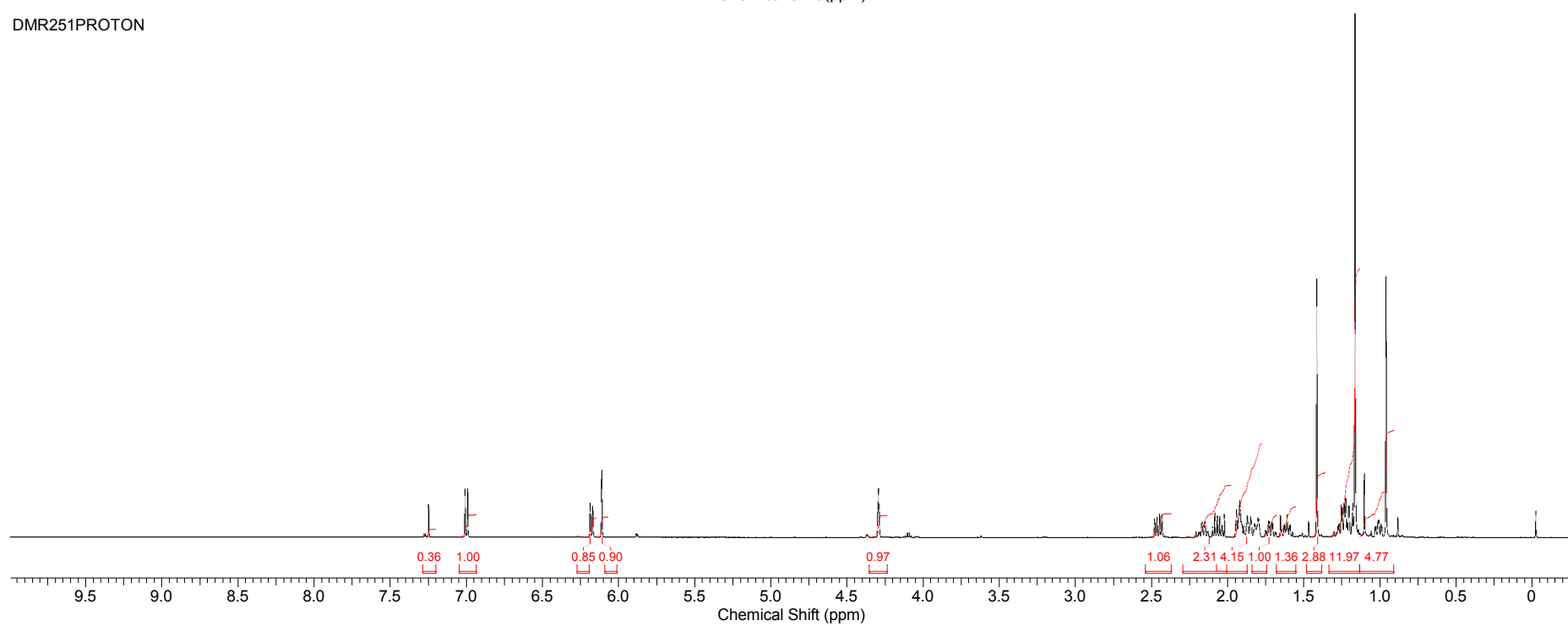
8d



DMR251PROTON

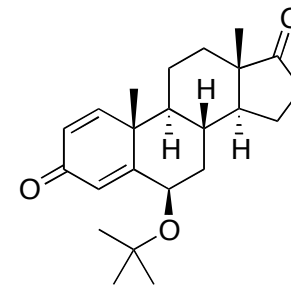


DMR251PROTON

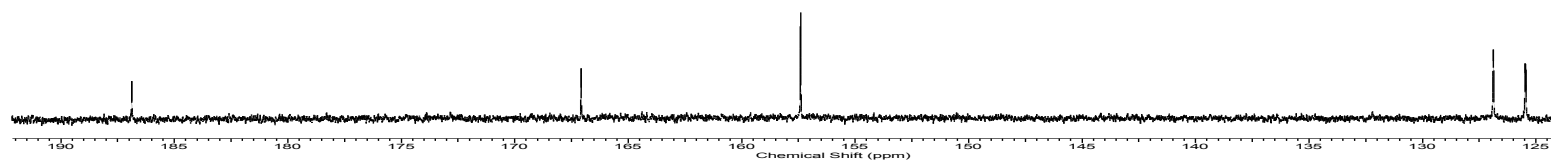


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(*tert*-butoxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-3*H*-cyclopenta[α]phenanthrene-3,17(6*H*)-dione

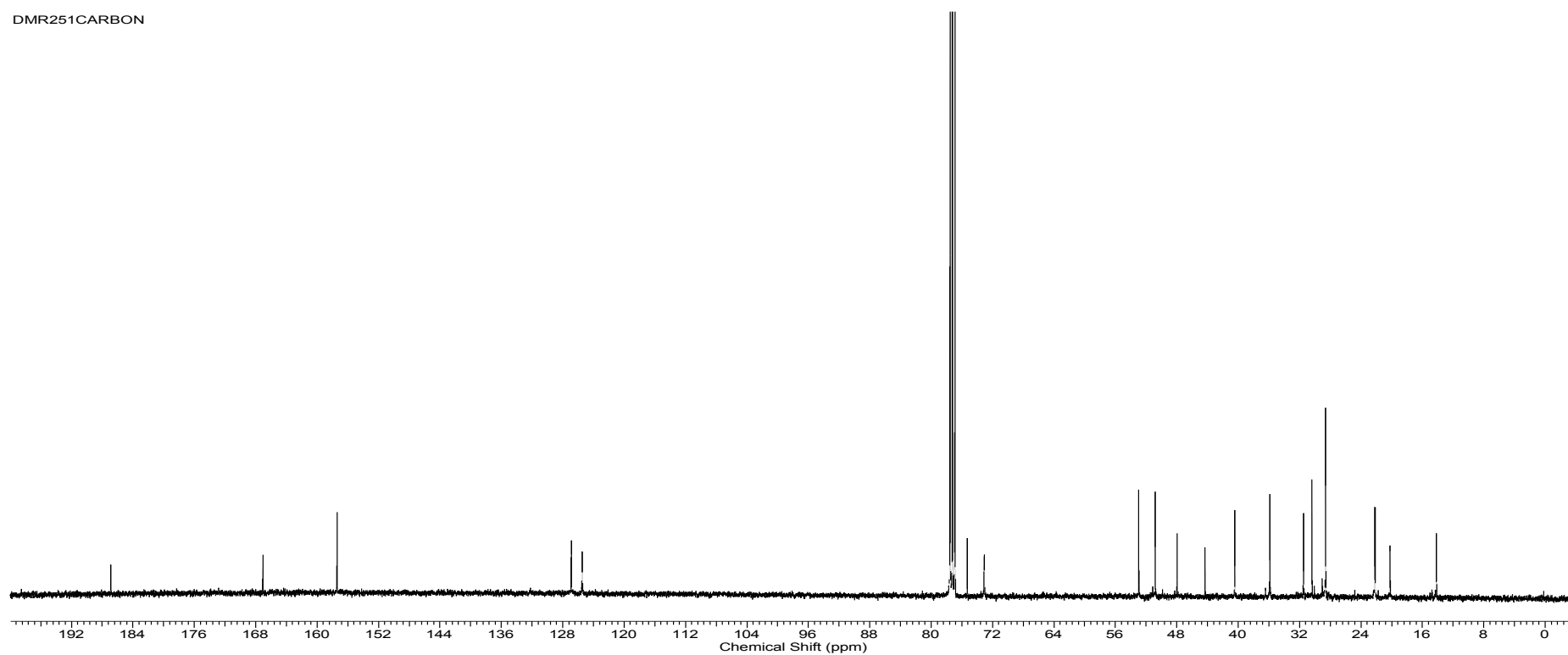
8d



DMR251CARBON

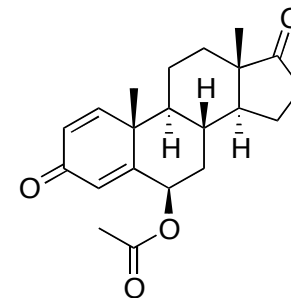


DMR251CARBON

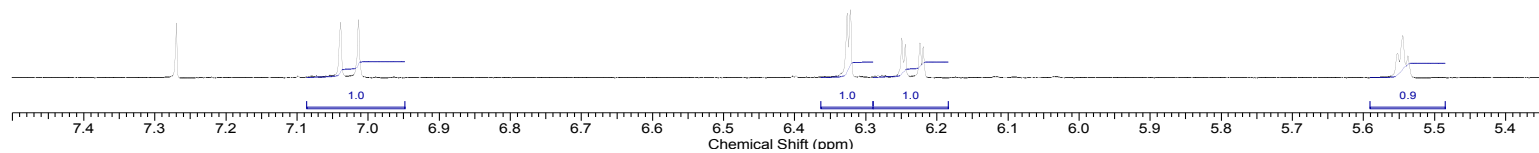


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-3,17-dioxo-6,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-3*H*-cyclopenta[*a*]phenanthren-6-yl acetate

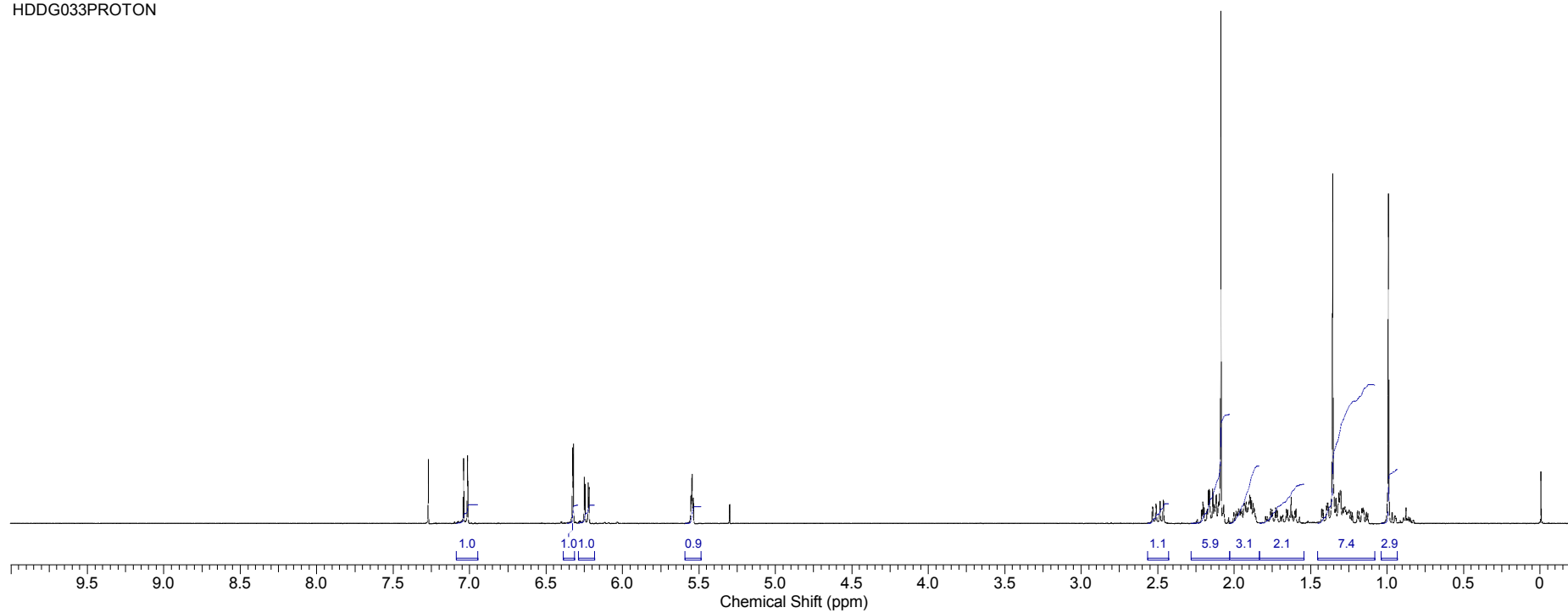
8e



HDDG033PROTON

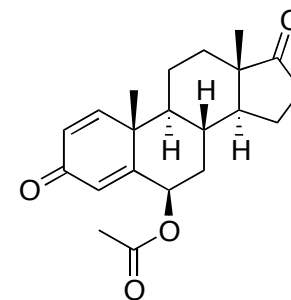


HDDG033PROTON

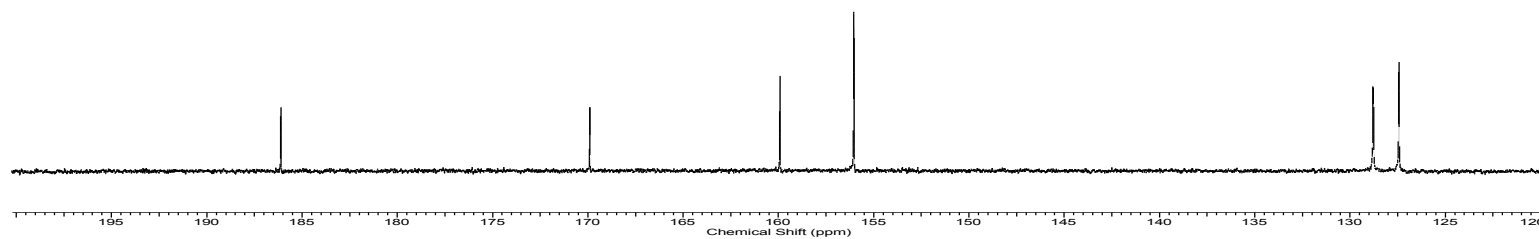


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-3,17-dioxo-6,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-3*H*-cyclopenta[*a*]phenanthren-6-yl acetate

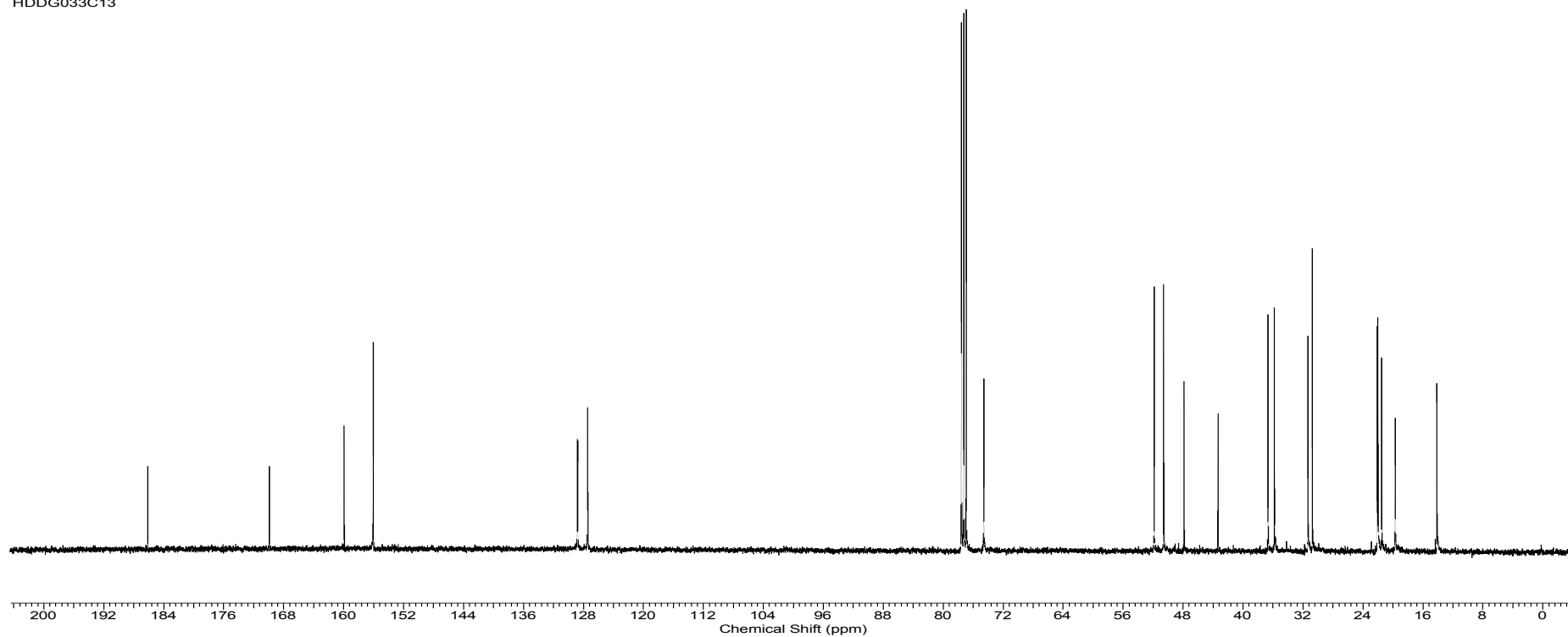
8e



HDDG033C13

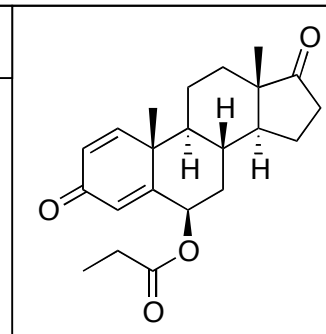


HDDG033C13

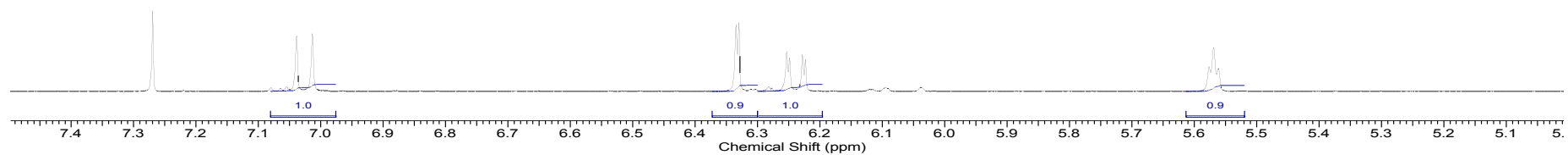


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-3,17-dioxo-6,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-3*H*-cyclopenta[*a*]phenanthren-6-yl propionate

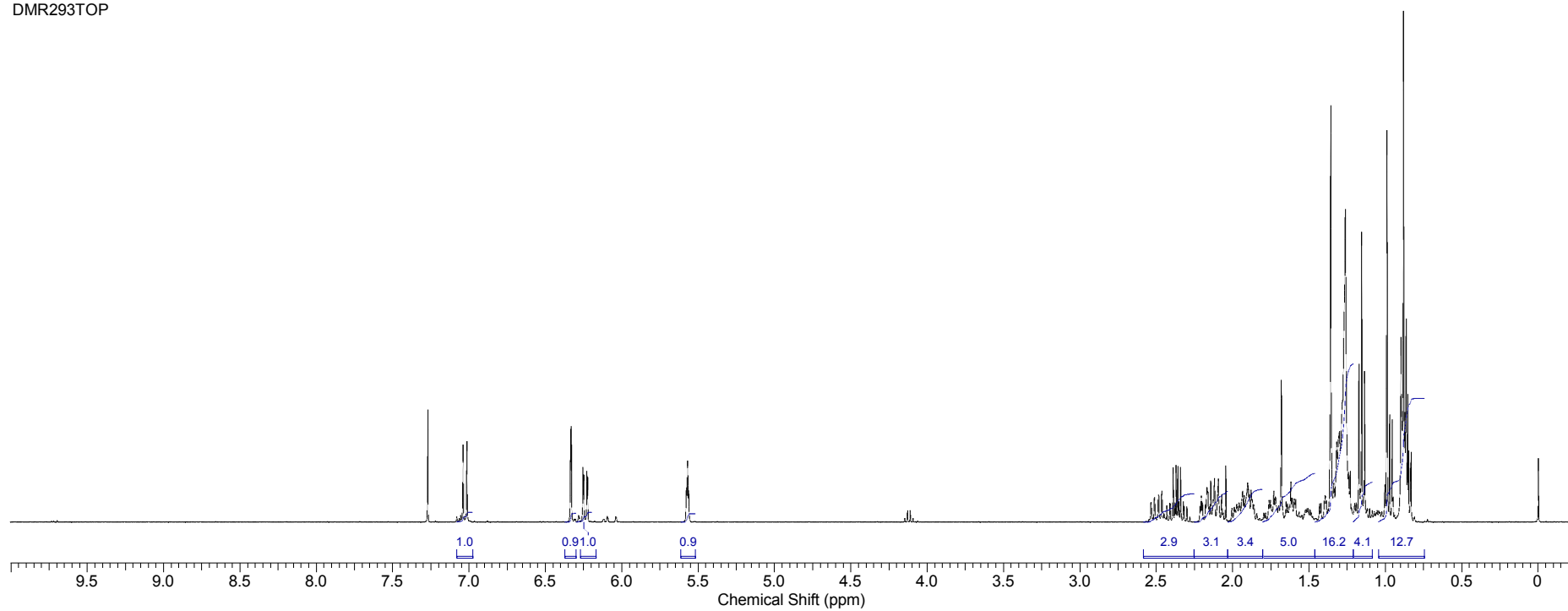
8f



DMR293TOP

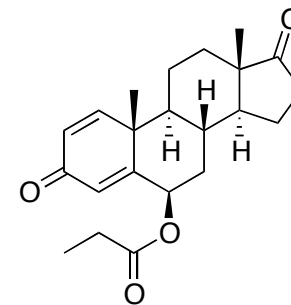


DMR293TOP

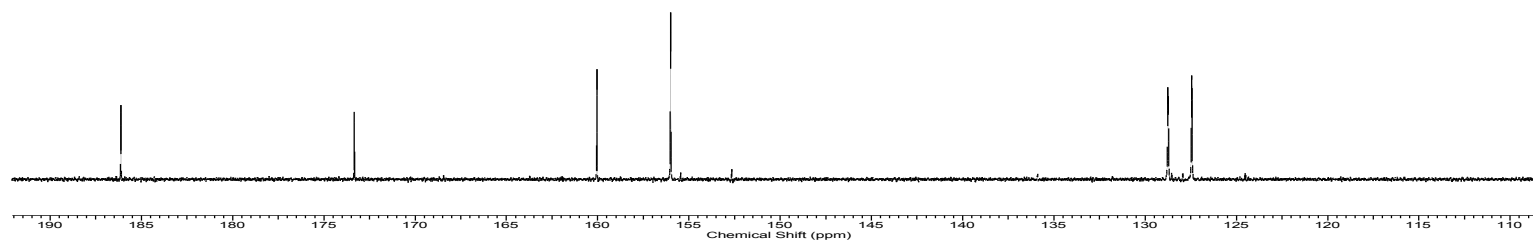


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-3,17-dioxo-6,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-3*H*-cyclopenta[*a*]phenanthren-6-yl propionate

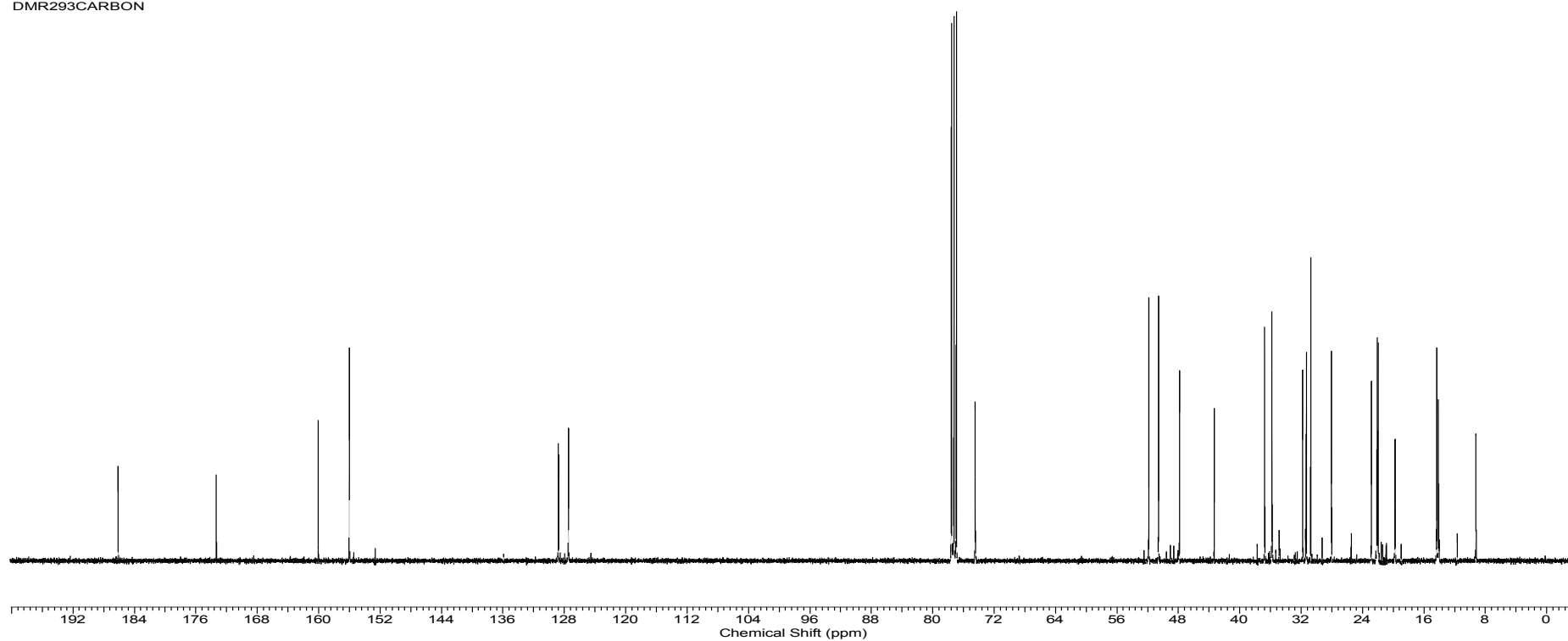
8f



DMR293CARBON

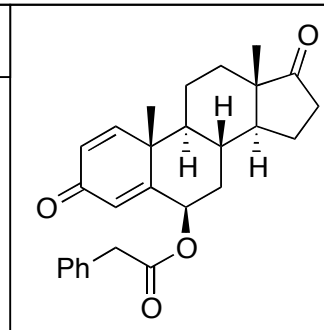


DMR293CARBON

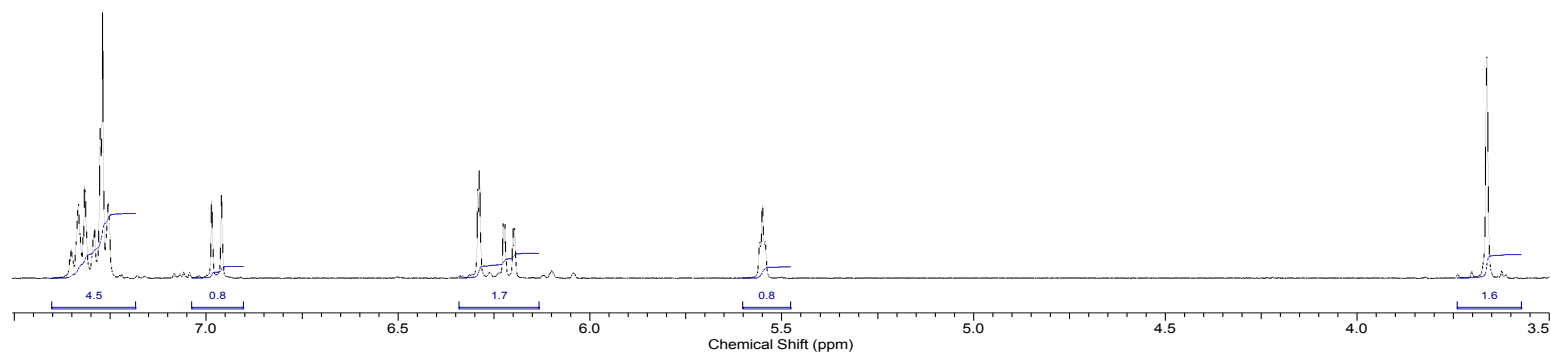


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-3,17-dioxo-6,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-3*H*-cyclopenta[*a*]phenanthren-6-yl 2-phenylacetate

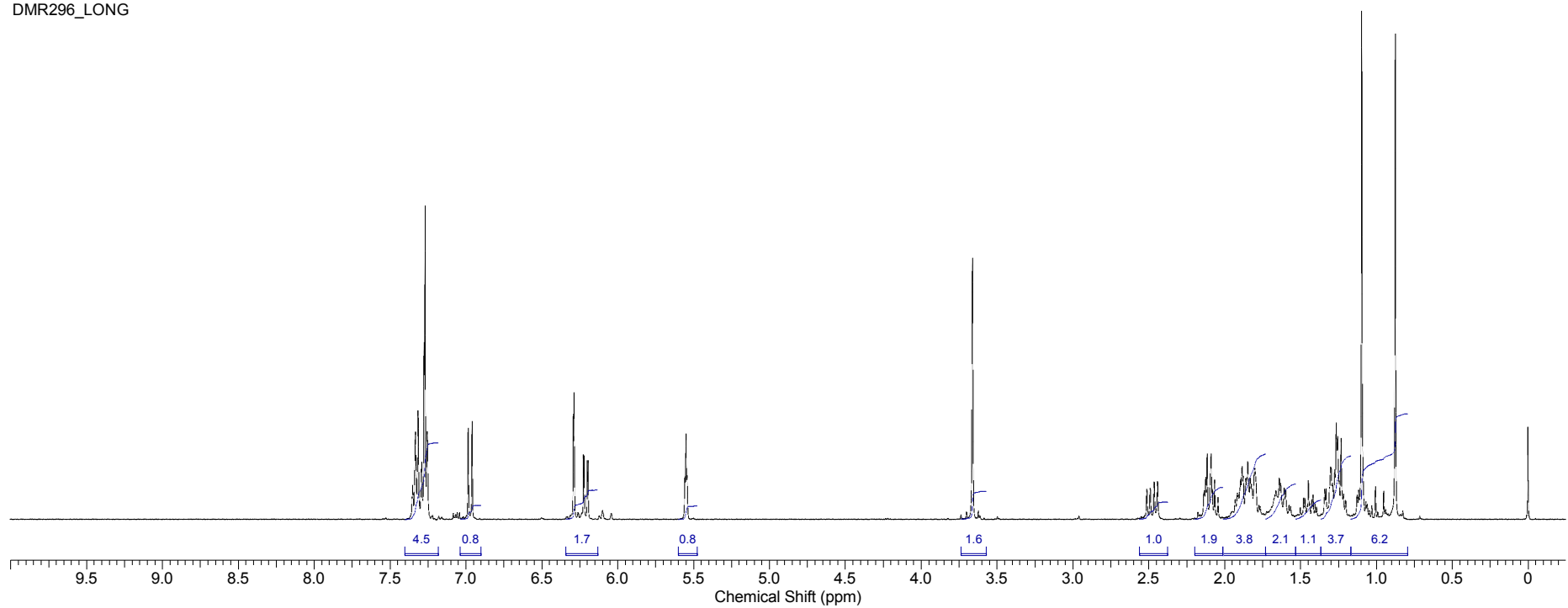
8g



DMR296_LONG

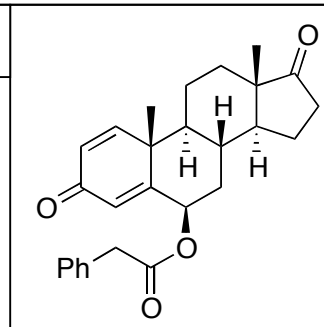


DMR296_LONG

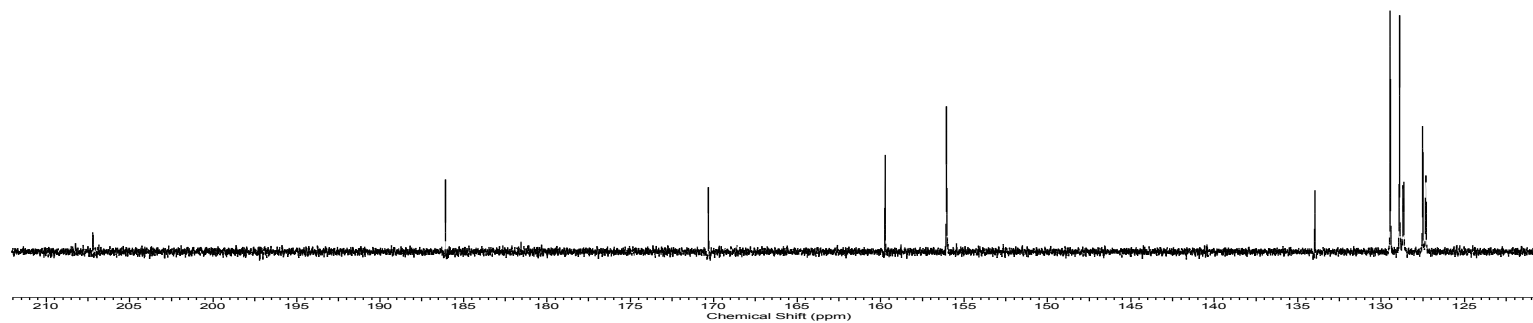


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-10,13-dimethyl-3,17-dioxo-6,7,8,9,10,11,12,13,14,15,16,17-dodecahydro-3*H*-cyclopenta[α]phenanthren-6-yl 2-phenylacetate

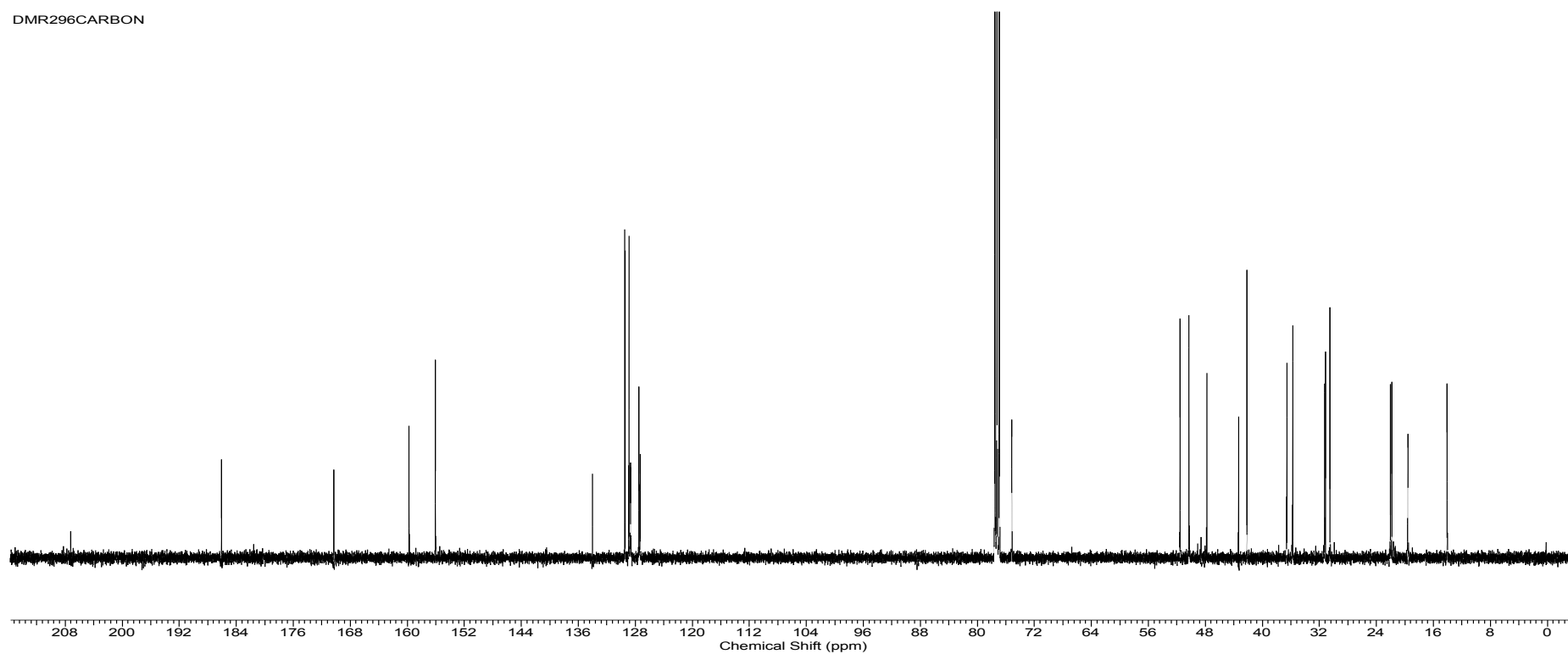
8g



DMR296CARBON

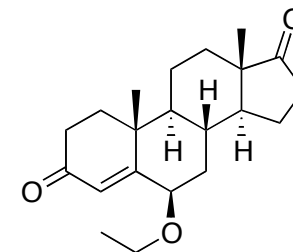


DMR296CARBON

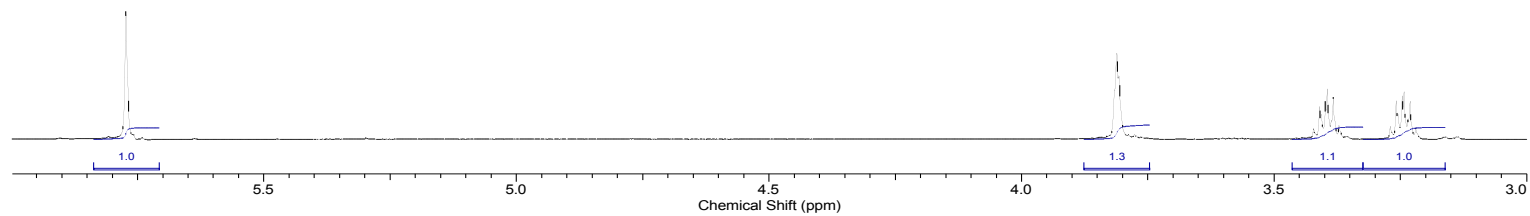


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-ethoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

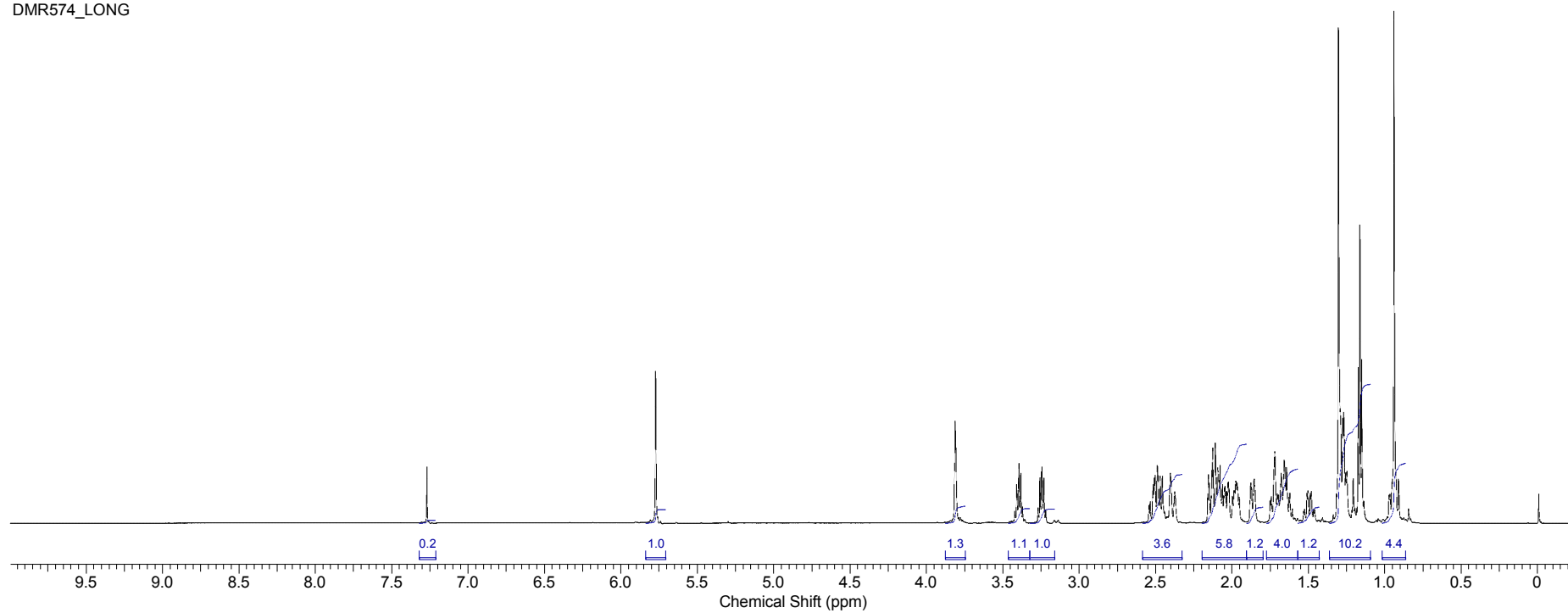
9a



DMR574_LONG

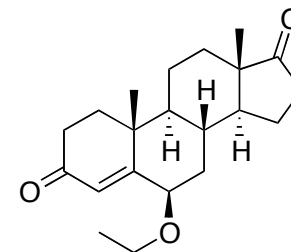


DMR574_LONG

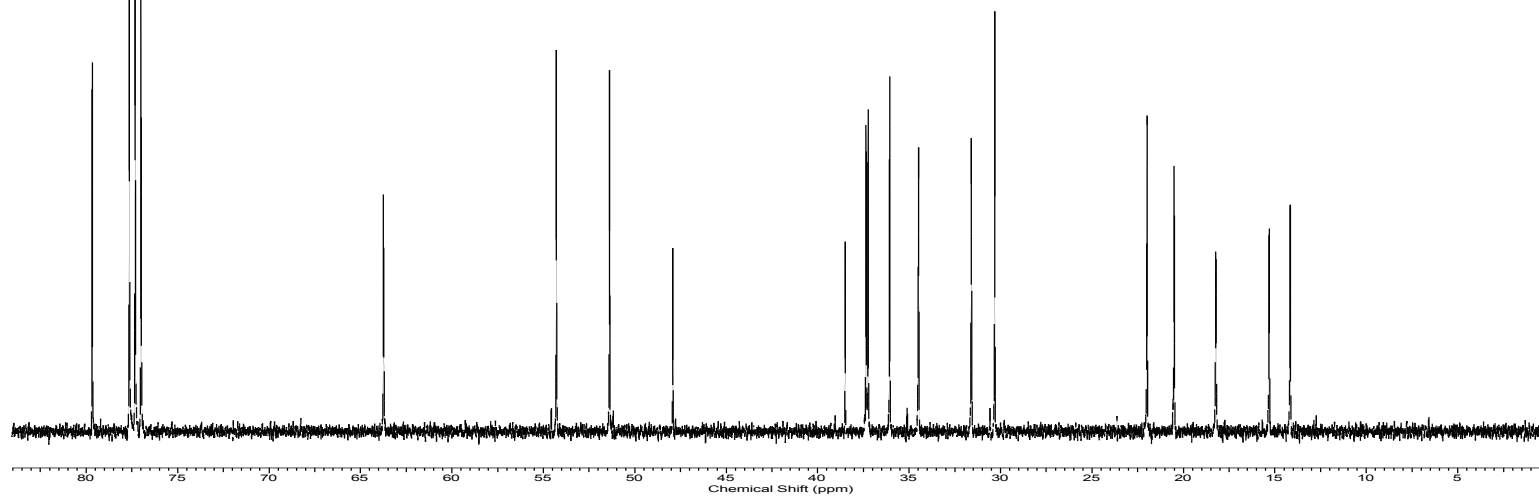


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-ethoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

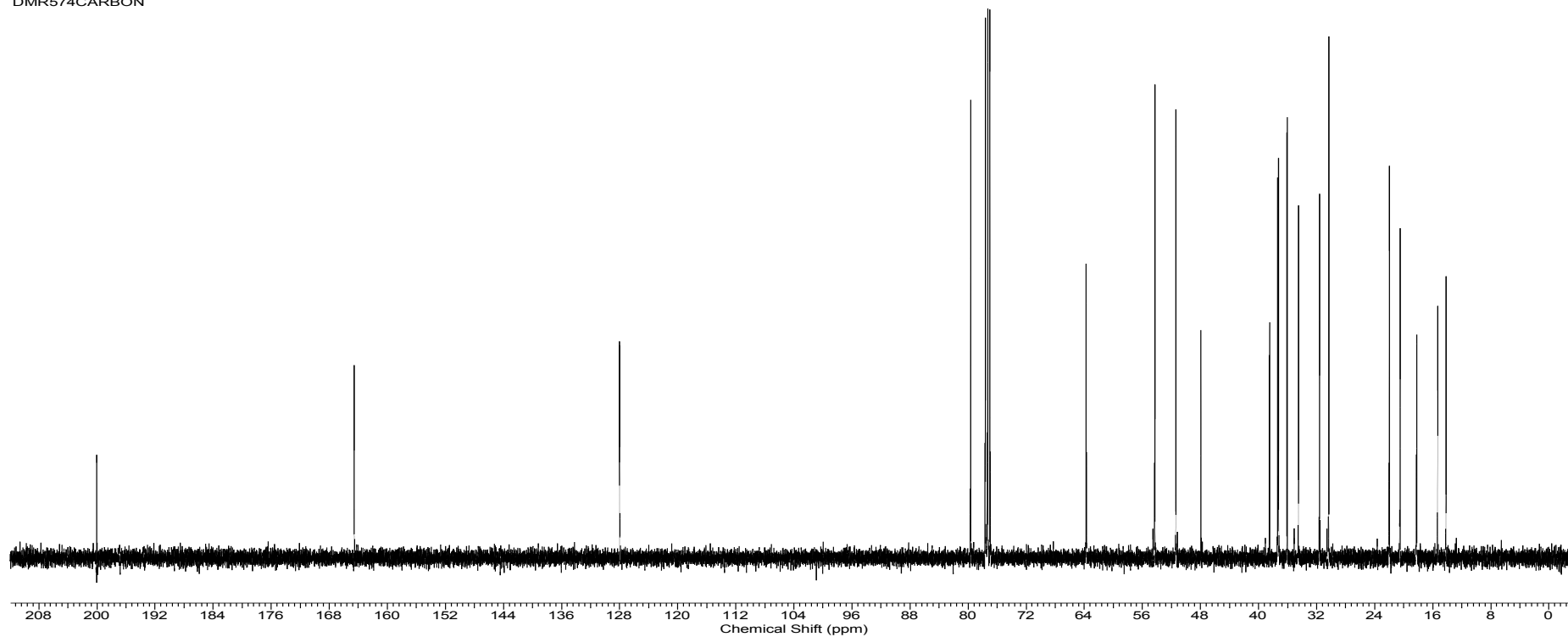
9a



DMR574CARBON

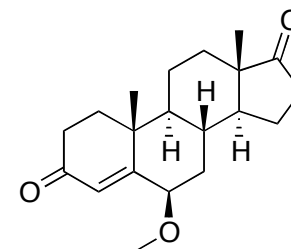


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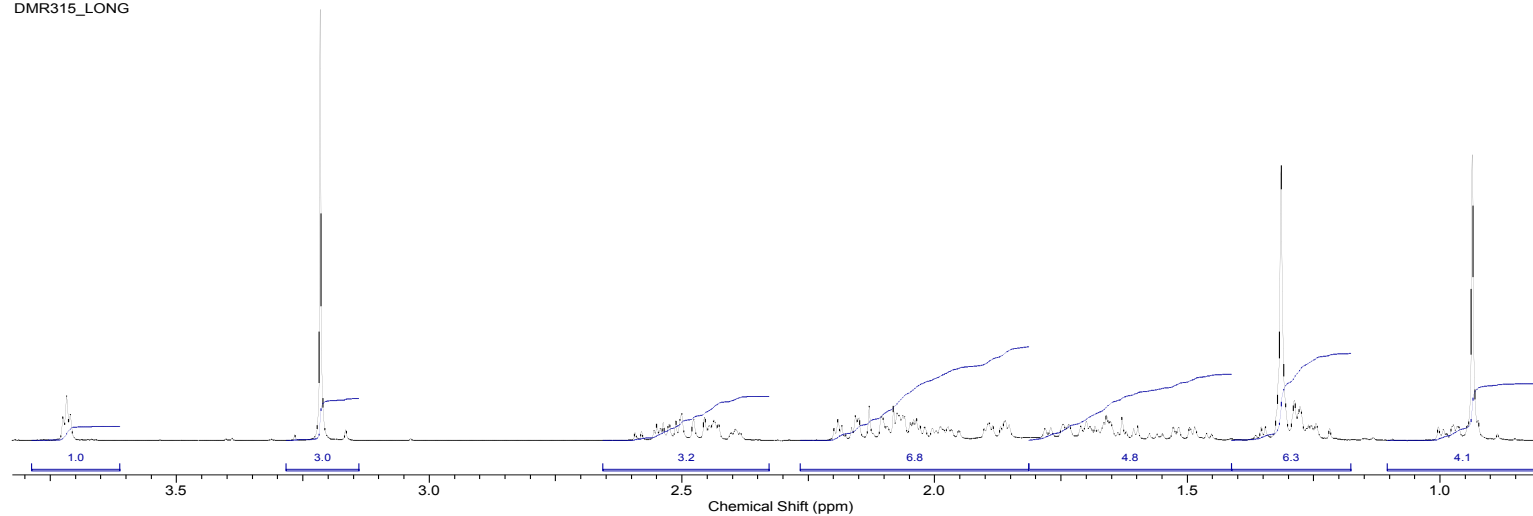


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-methoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

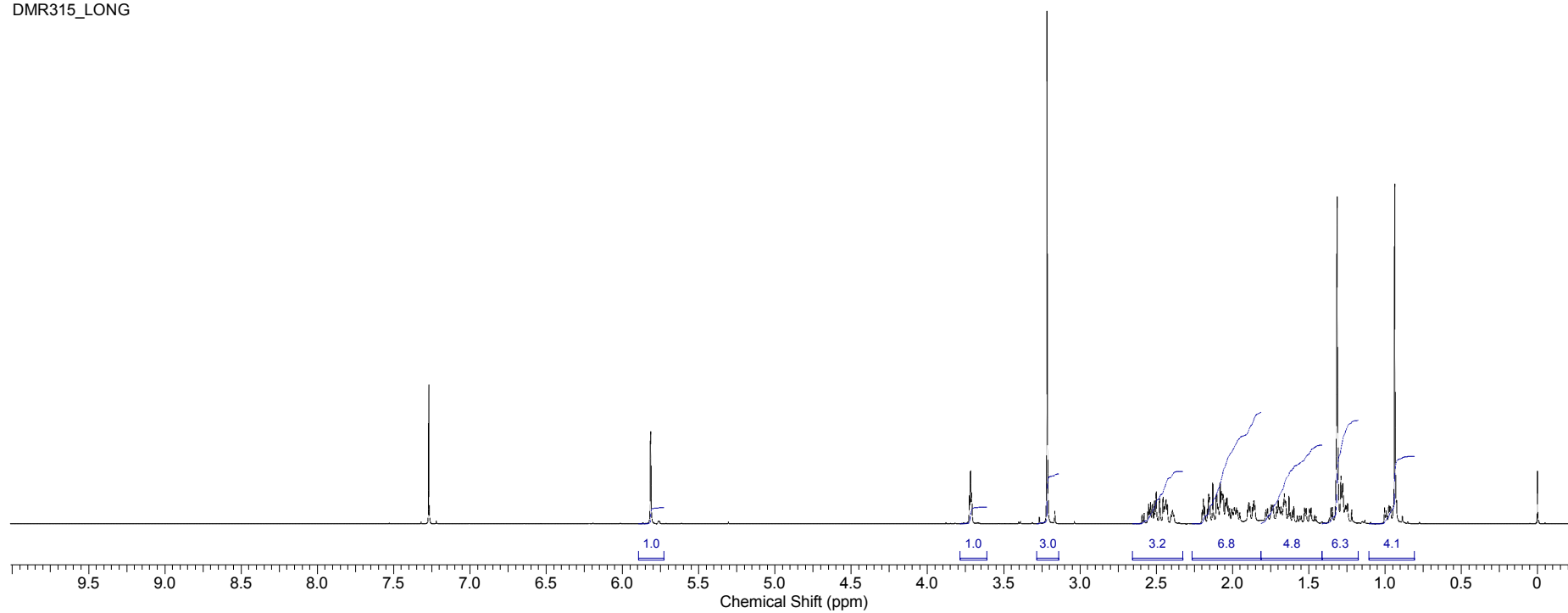
9b



DMR315_LONG

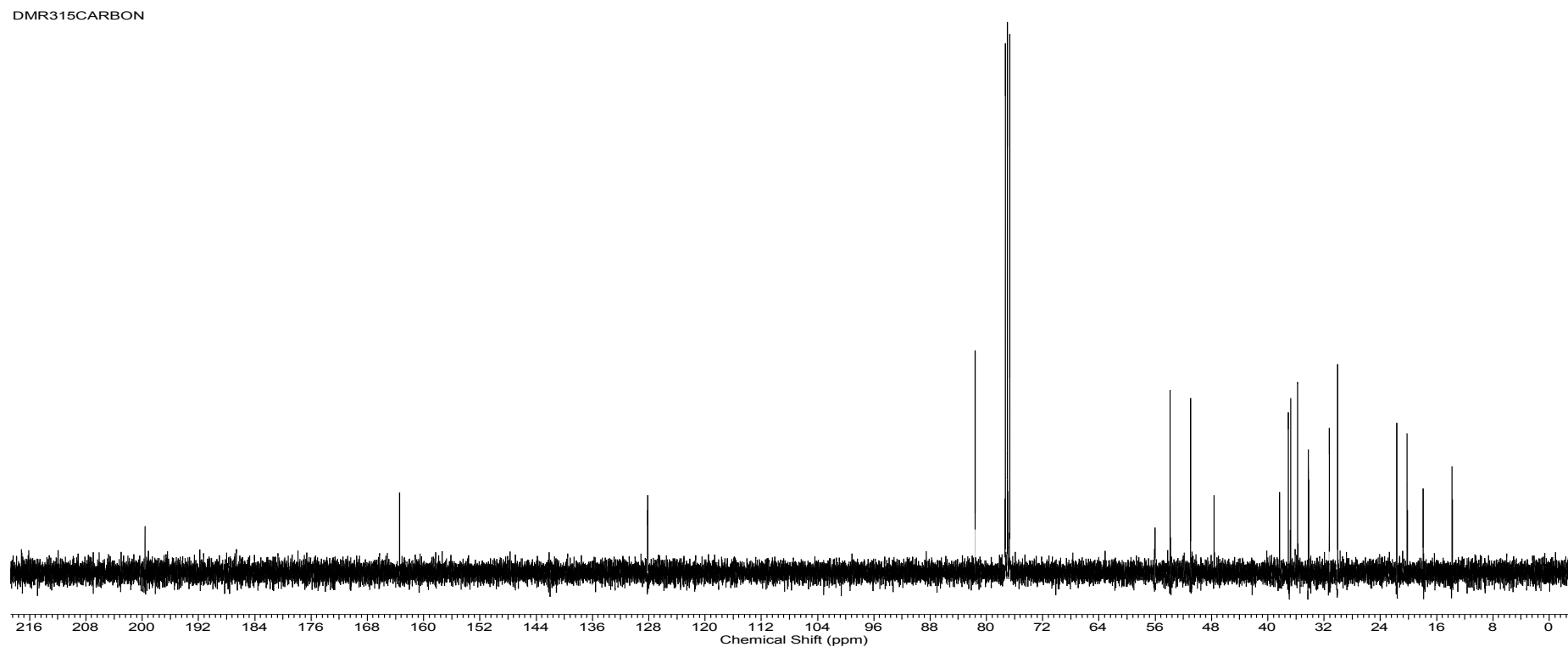
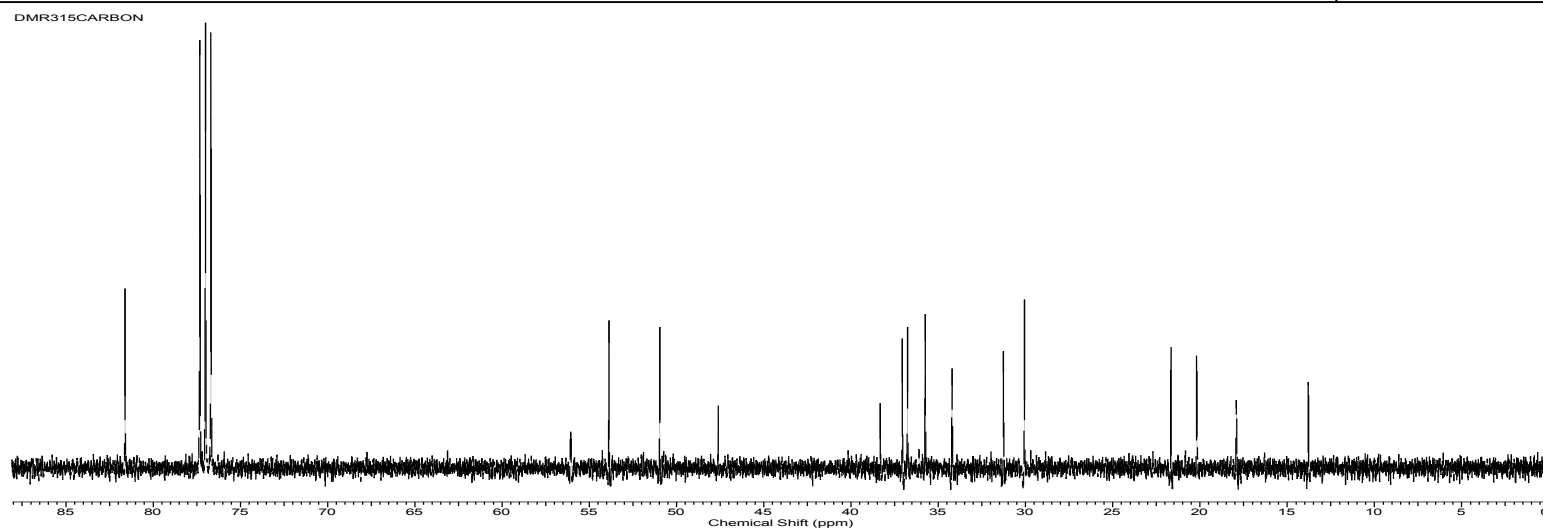
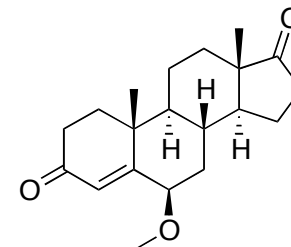


DMR315_LONG



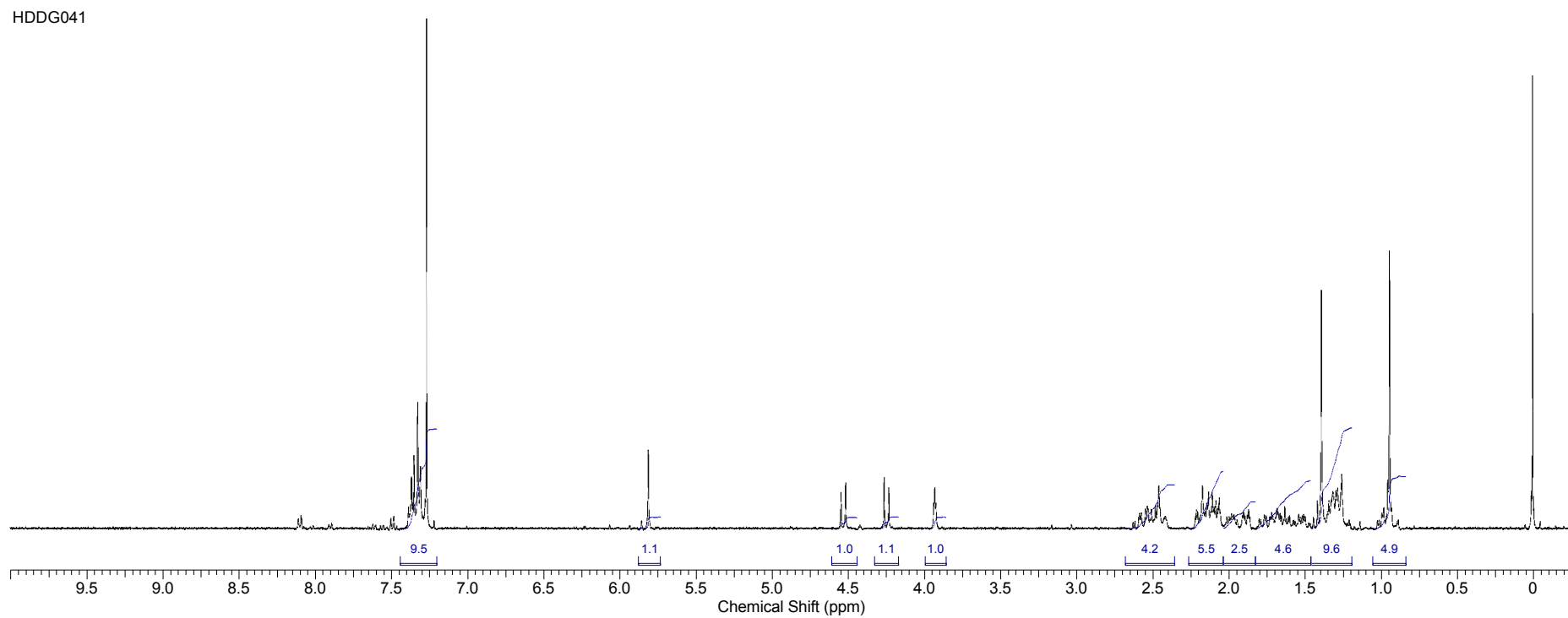
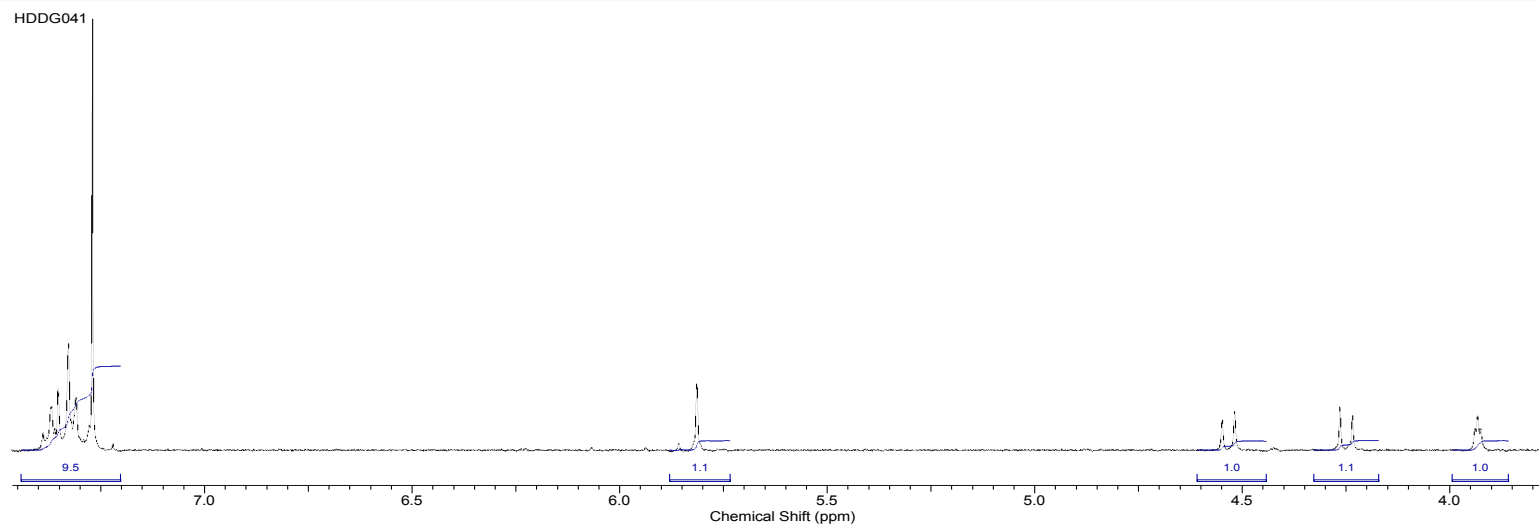
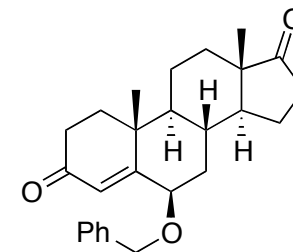
(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-methoxy-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

9b



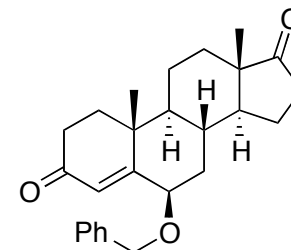
(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(benzyloxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

9c

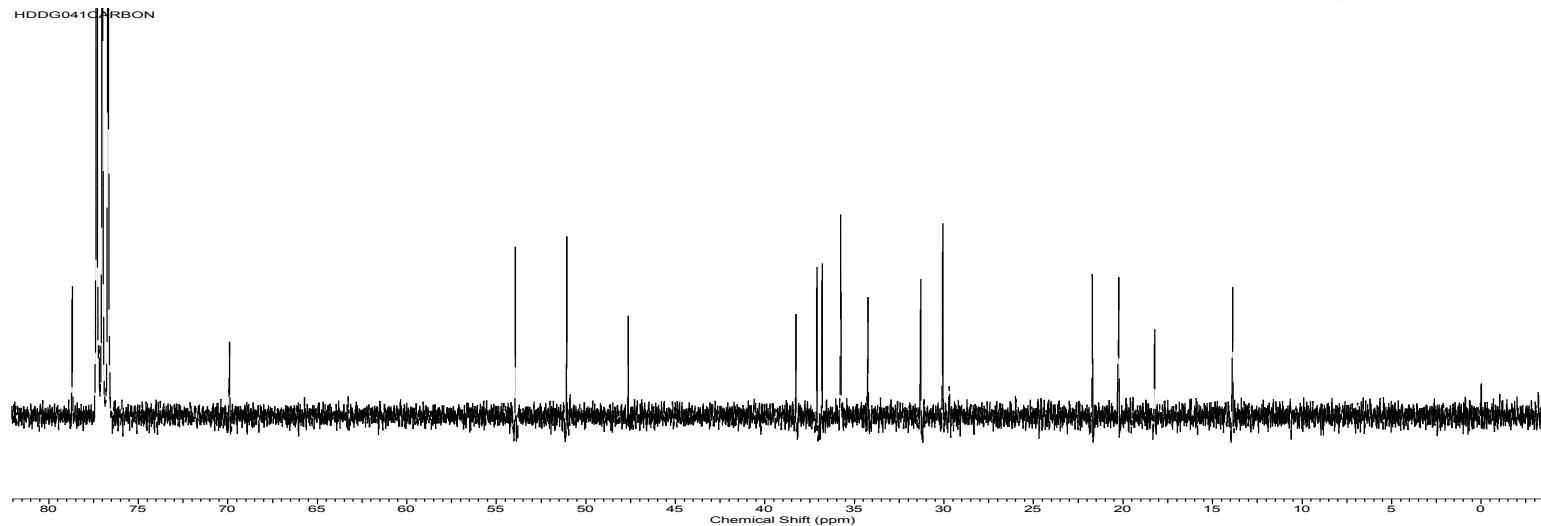


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(benzyloxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

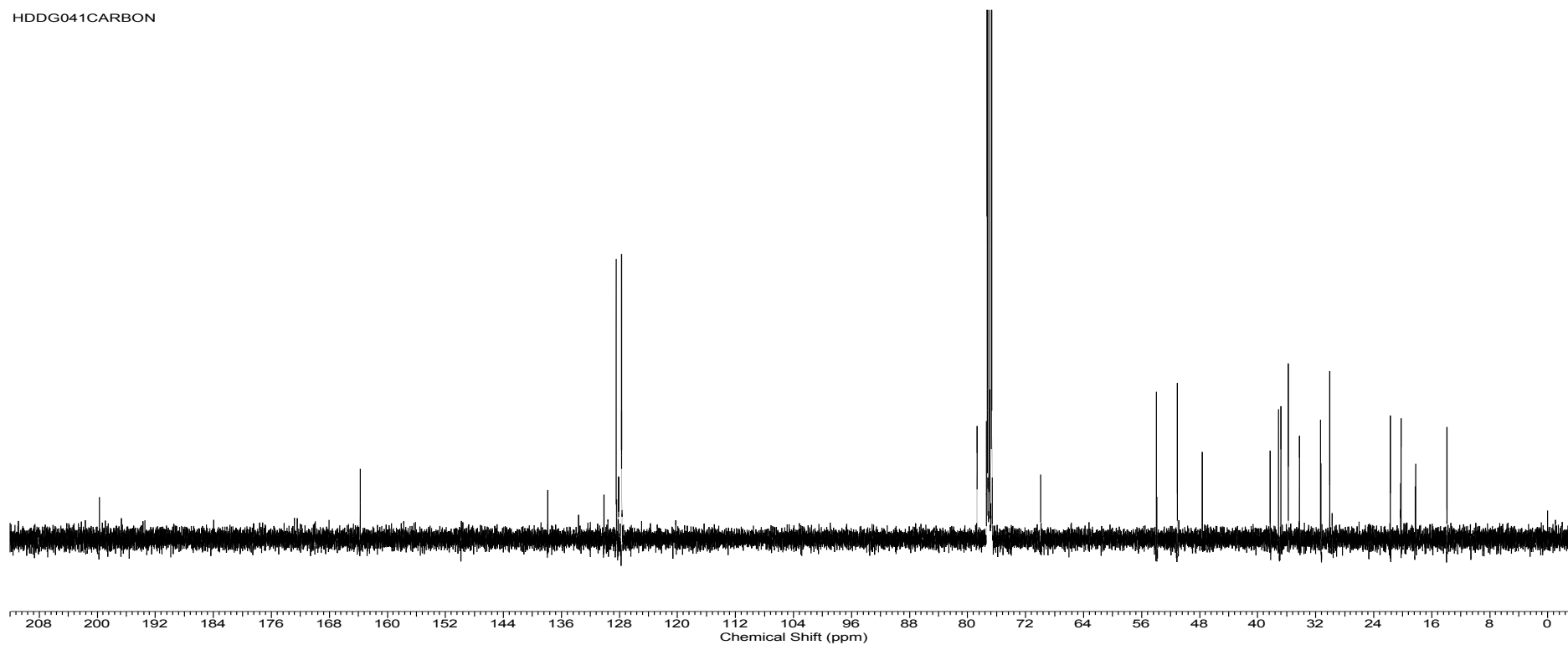
9c



HDDG041CARBON

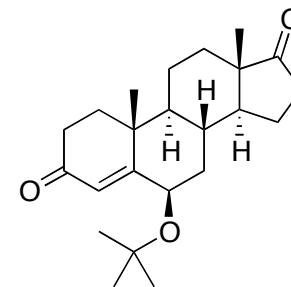


HDDG041CARBON

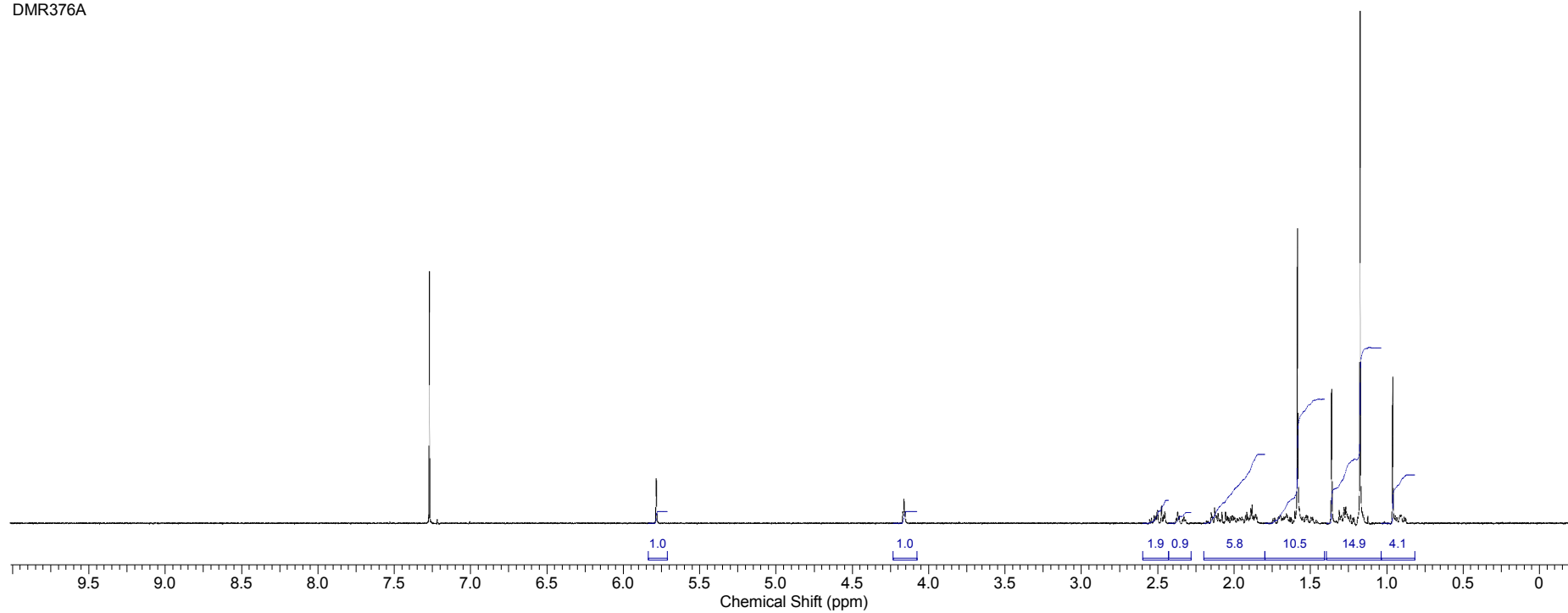


(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(*tert*-butoxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

9d



DMR376A



(6*R*,8*R*,9*S*,10*R*,13*S*,14*S*)-6-(*tert*-butoxy)-10,13-dimethyl-7,8,9,10,11,12,13,14,15,16-decahydro-1*H*-cyclopenta[α]phenanthrene-3,17(2*H*,6*H*)-dione

9d

