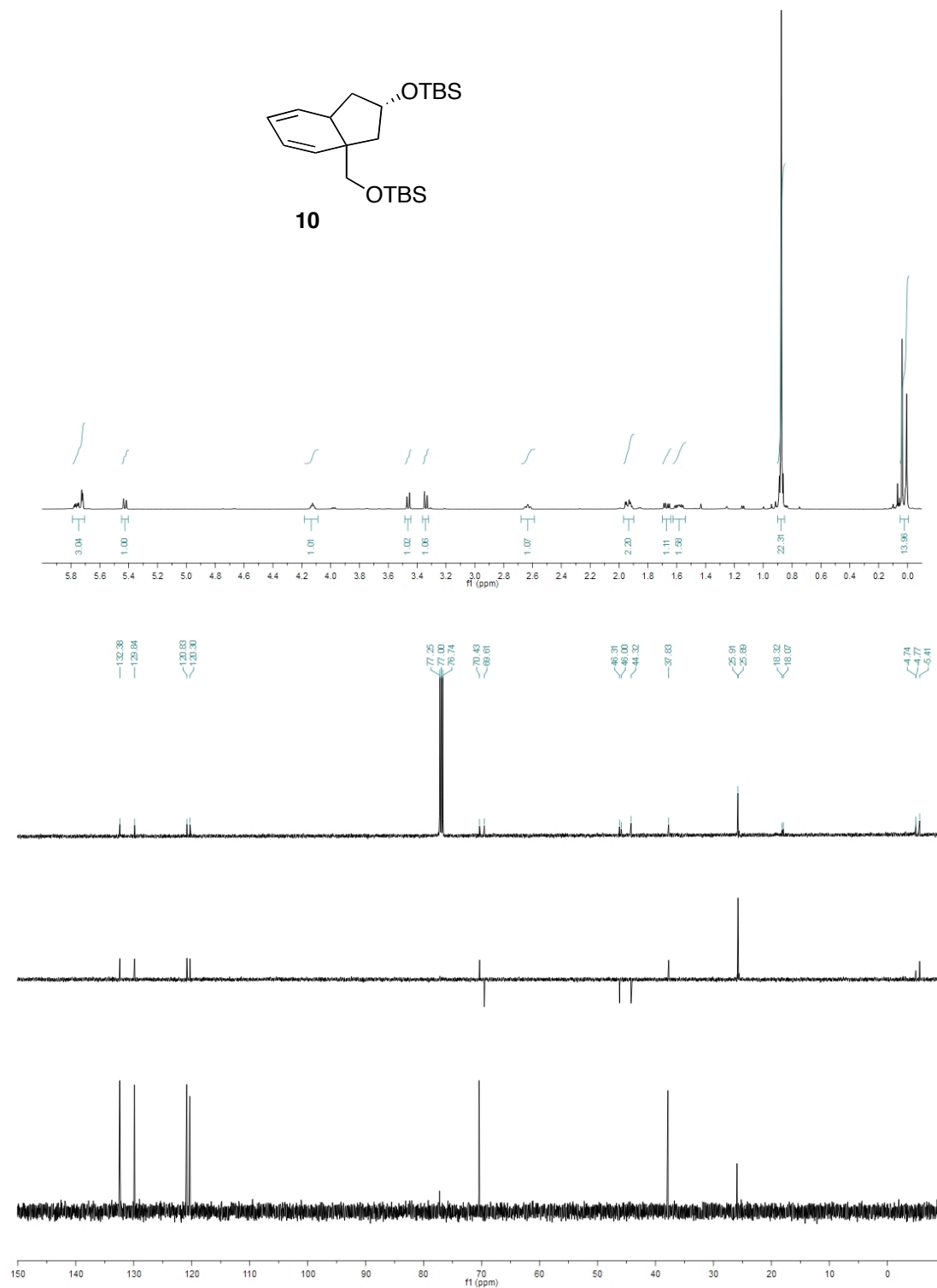


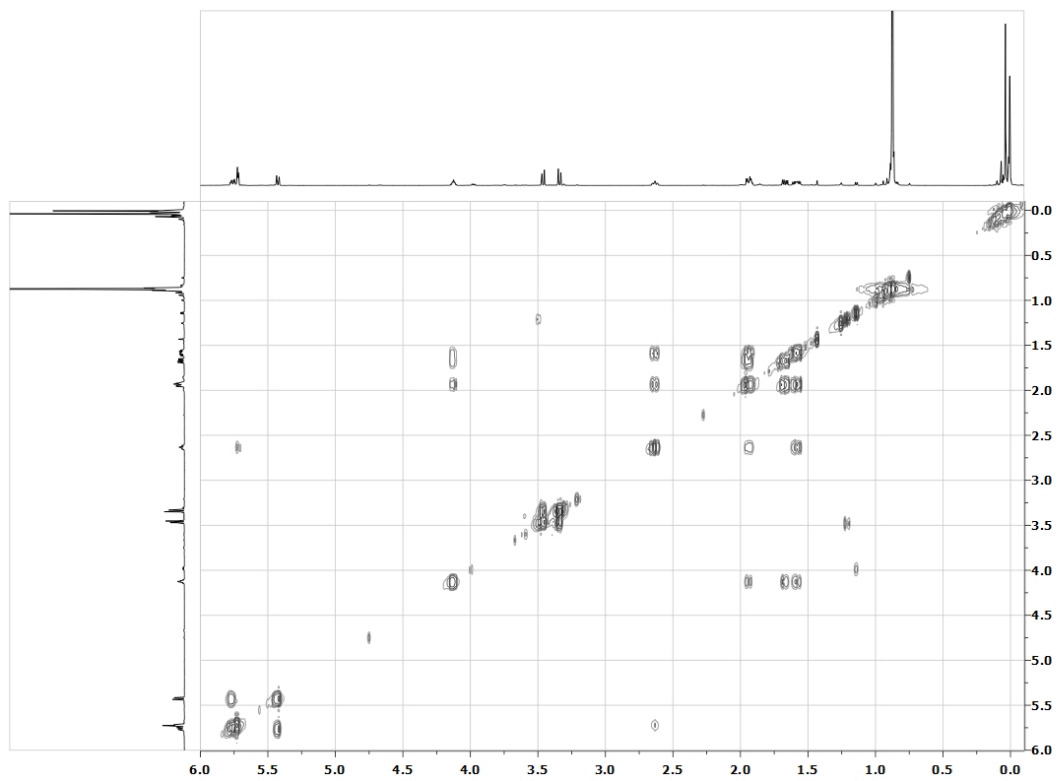
# Studies towards the total synthesis of lycoposerramine A. Synthesis of a model for the tetracyclic core

Mark C. Elliott and James S. Paine

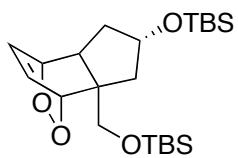
*tert*-Butyl(((2*RS*,3*aSR*,7*aSR*)-2-(*tert*-butyldimethylsilyloxy)-2,3,3*a*,7*a*-tetrahydro-1*H*-inden-3*a*-yl)methoxy)dimethylsilane (**10**)



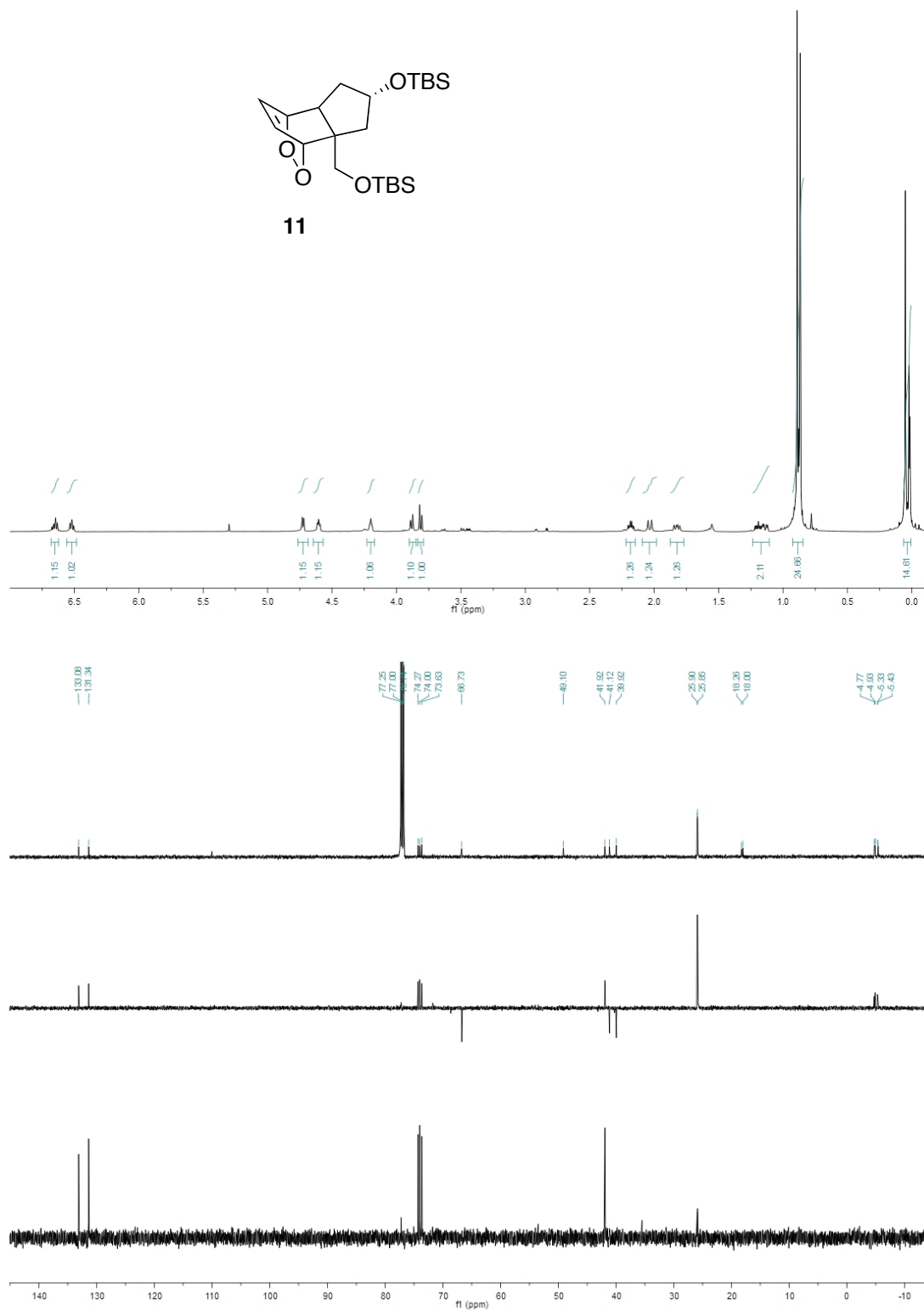
# $^1\text{H}$ - $^1\text{H}$ COSY NMR Spectrum



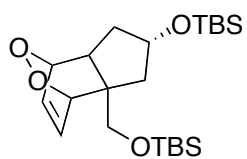
# Endoperoxide 11



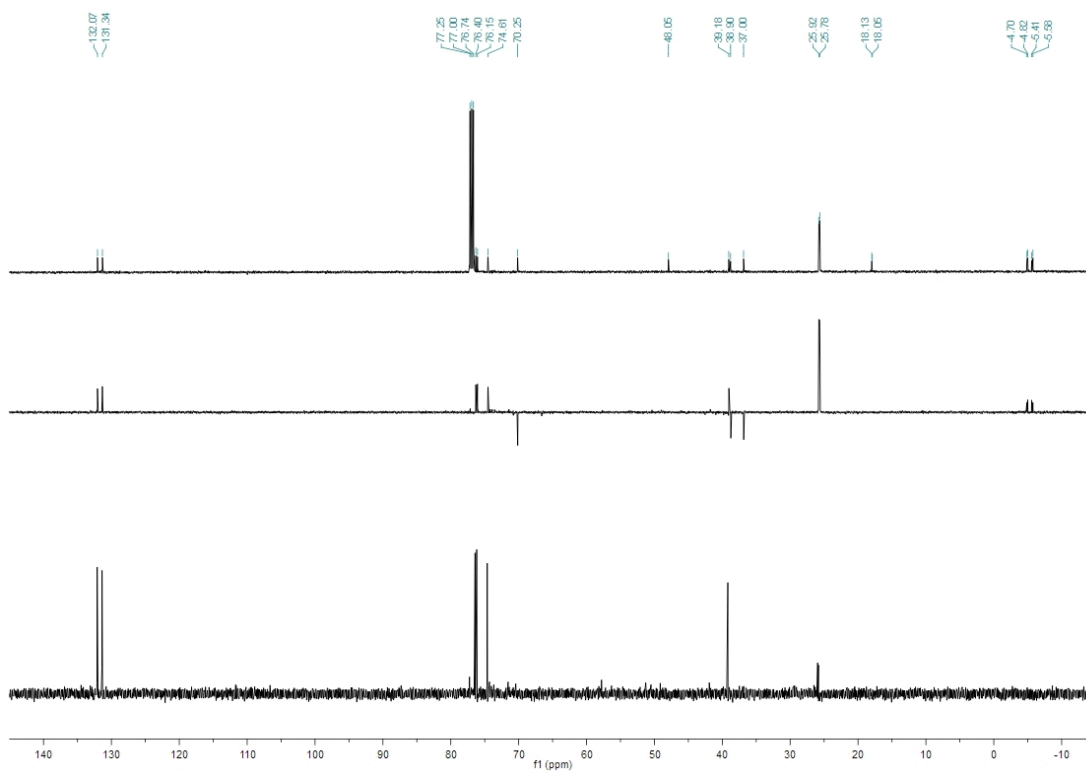
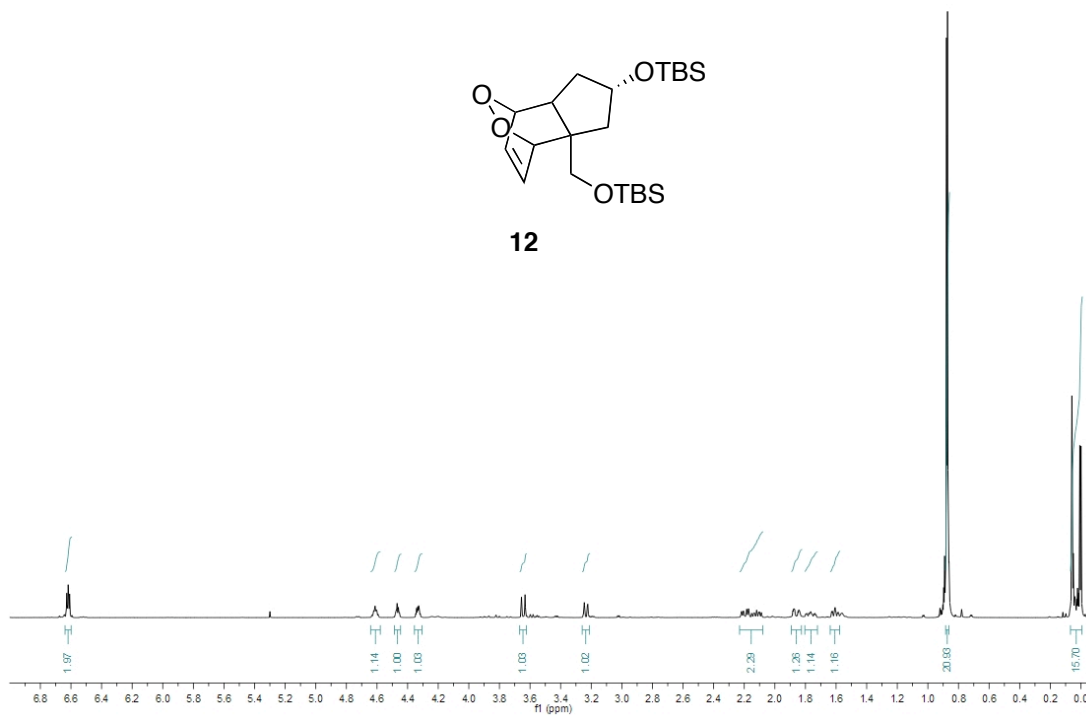
11



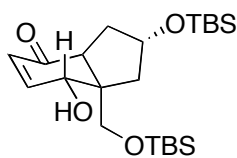
# Endoperoxide 12



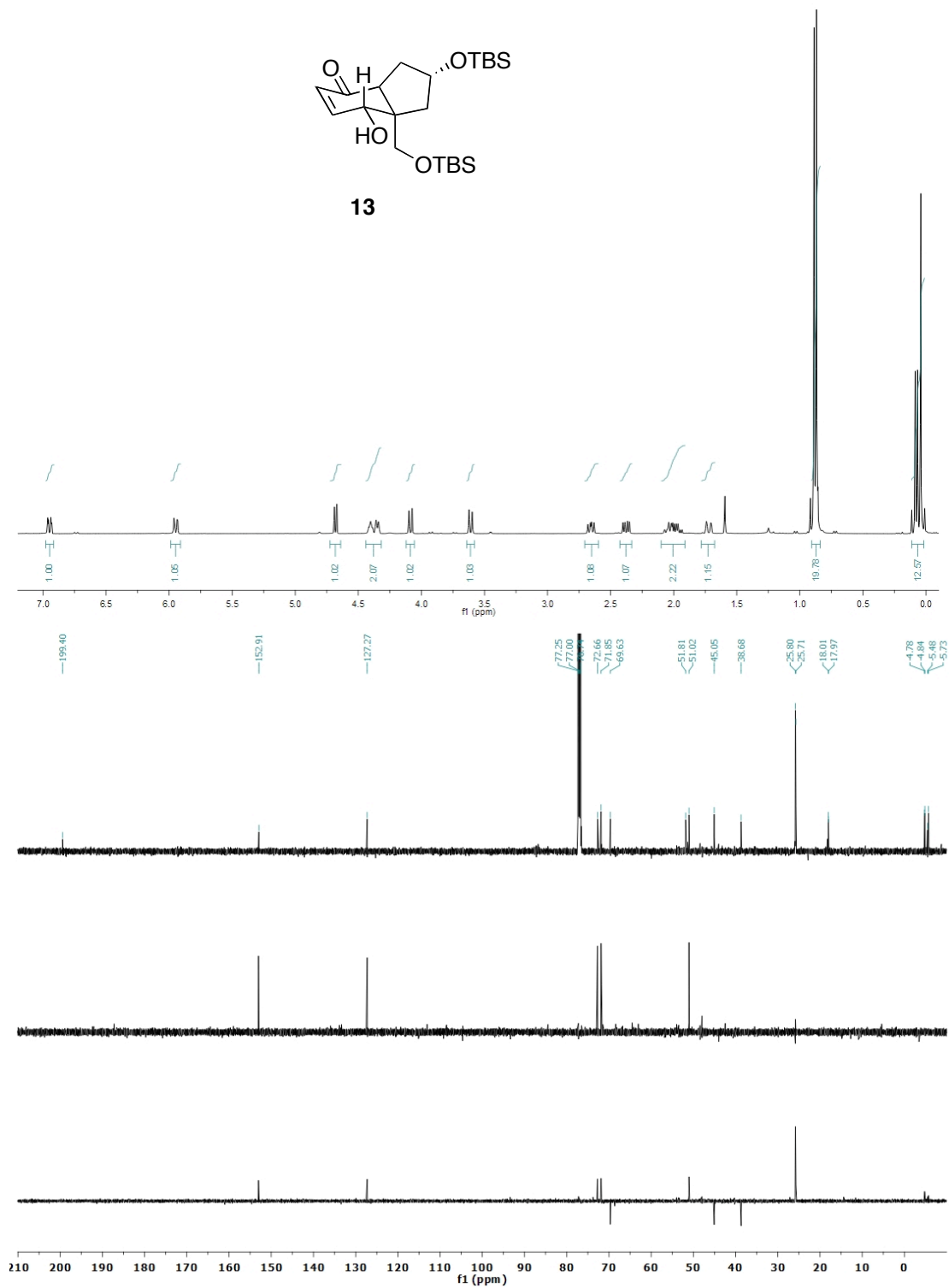
12



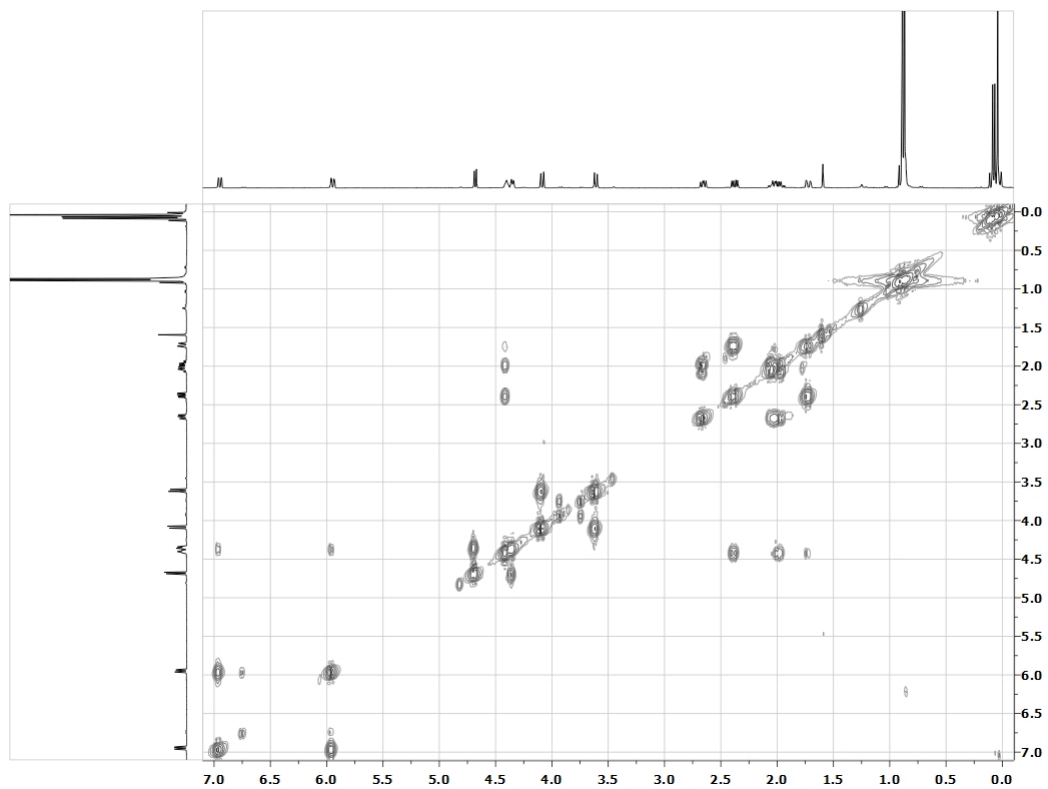
**(2*RS*,3*aRS*,7*SR*,7*aSR*)-2-(*tert*-Butyldimethylsilyloxy)-7*a*-((*tert*-butyldimethylsilyloxy)methyl)-7-hydroxy-3,3*a*,7,7*a*-tetrahydro-1*H*-inden-4(2*H*)-one (13)**



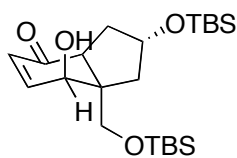
**13**



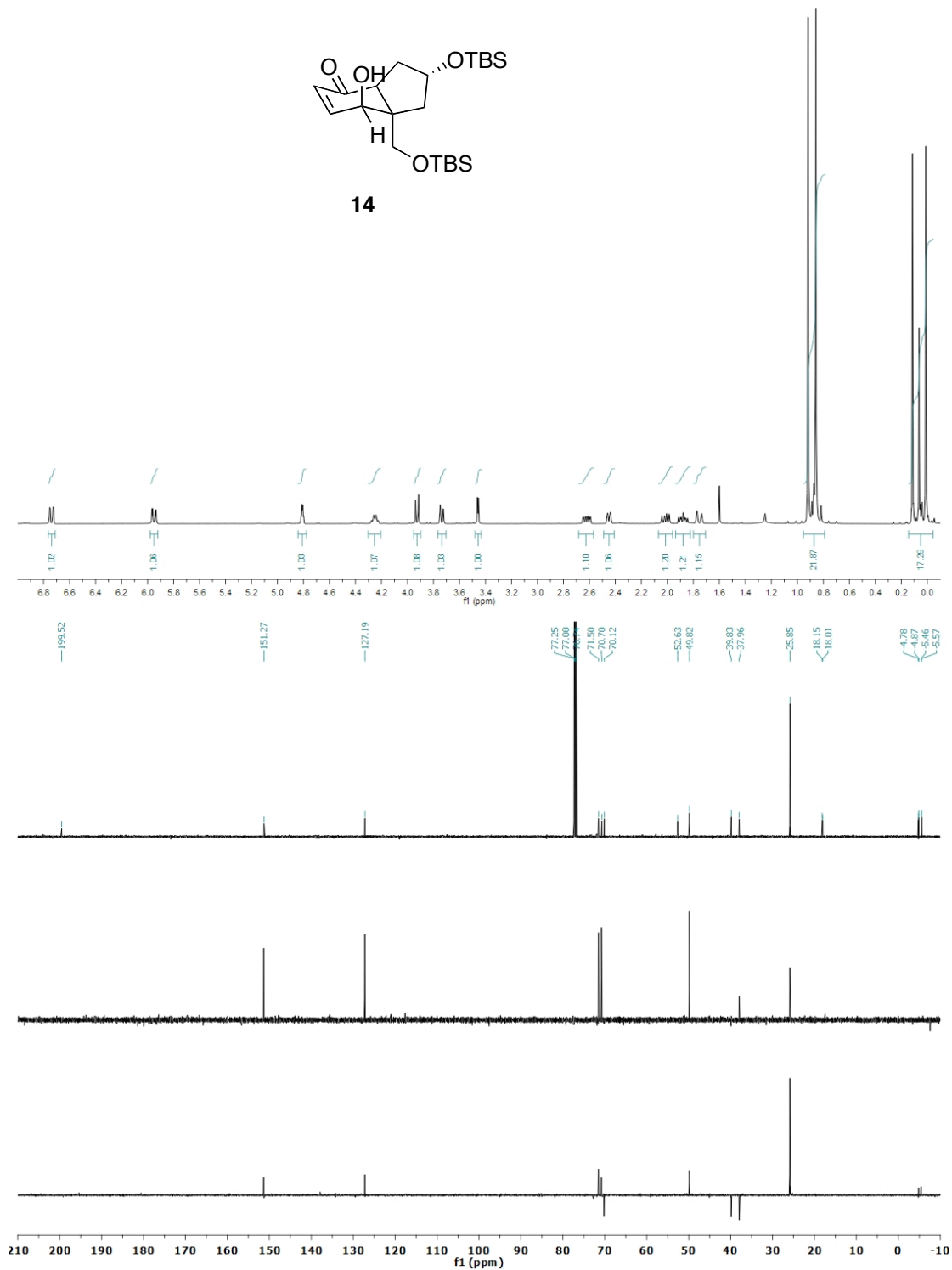
# $^1\text{H}$ - $^1\text{H}$ COSY NMR Spectrum



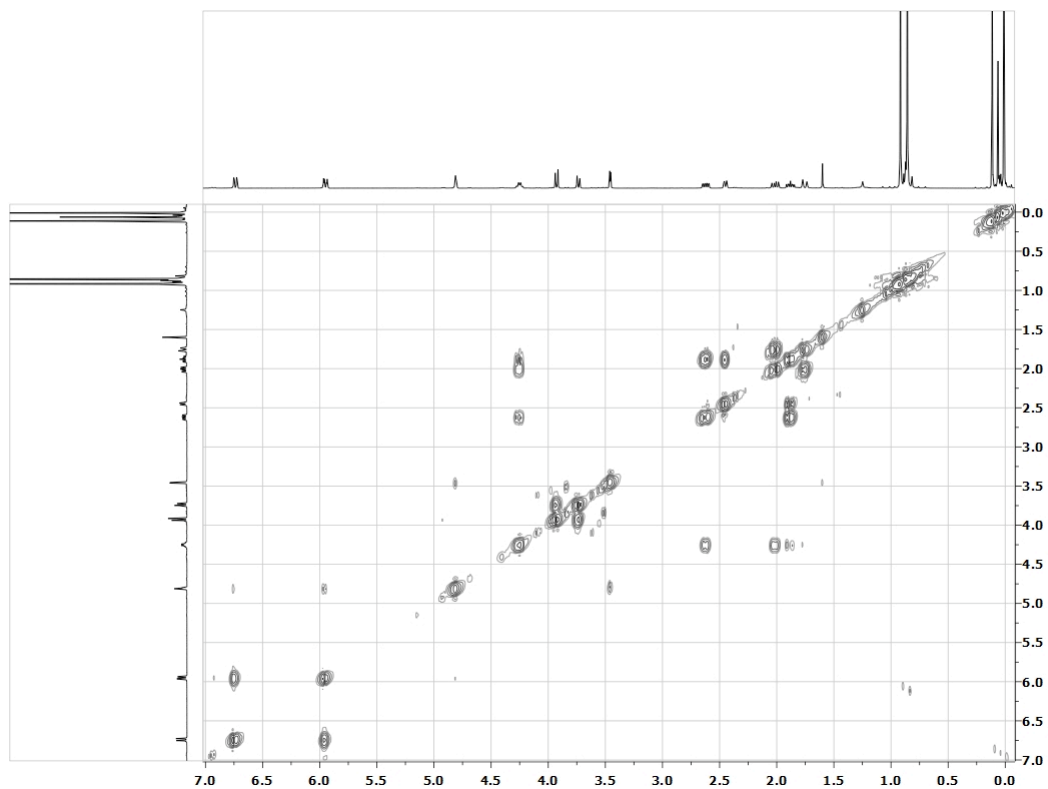
**(2*RS*,3*aRS*,7*RS*,7*aSR*)-2-(*tert*-butyldimethylsilyloxy)-7*a*-((*tert*-butyldimethylsilyloxy)methyl)-7-hydroxy-3,3*a*,7,7*a*-tetrahydro-1*H*-inden-4(2*H*)-one (14)**



**14**

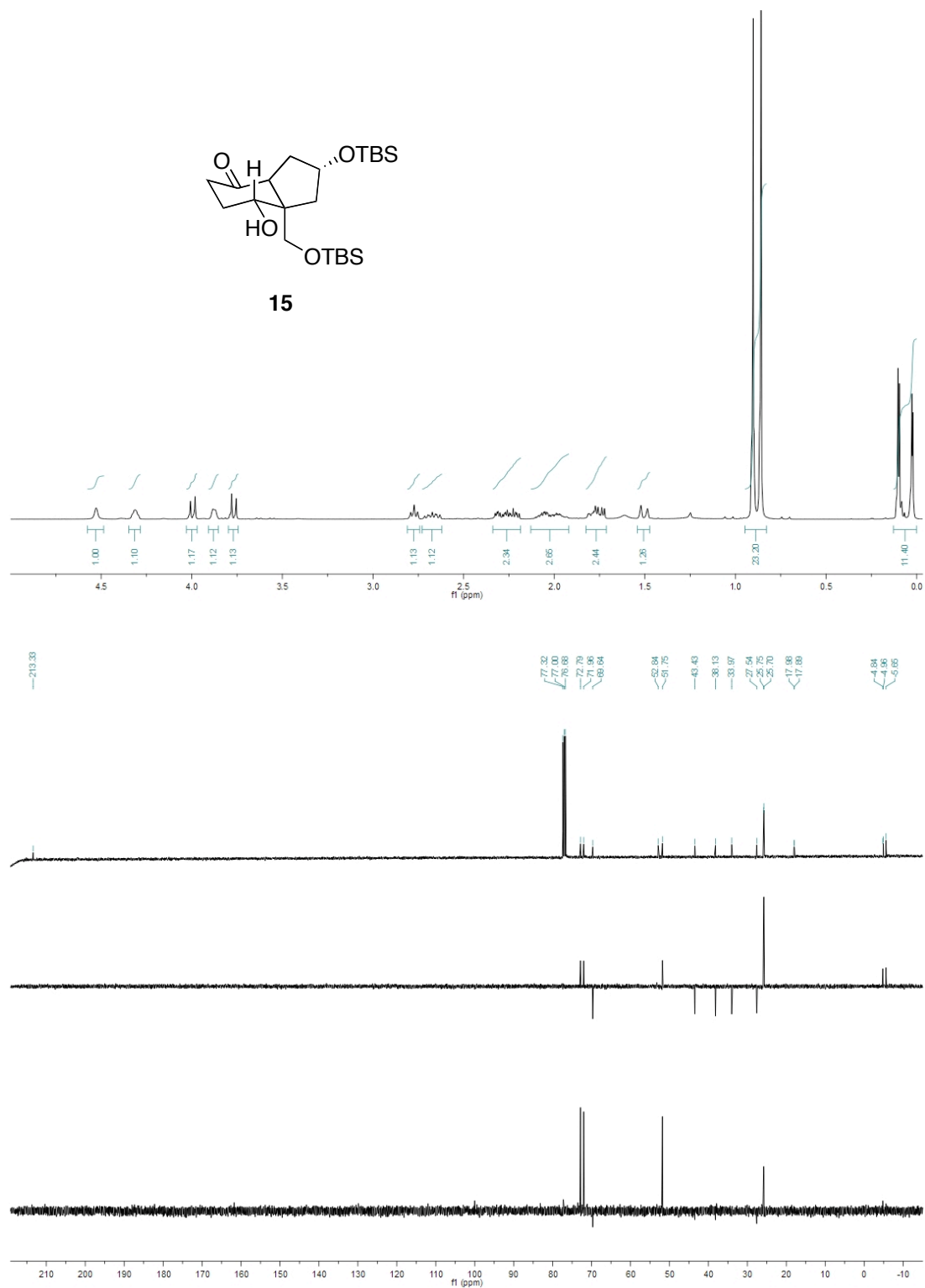


# $^1\text{H}$ - $^1\text{H}$ COSY NMR Spectrum

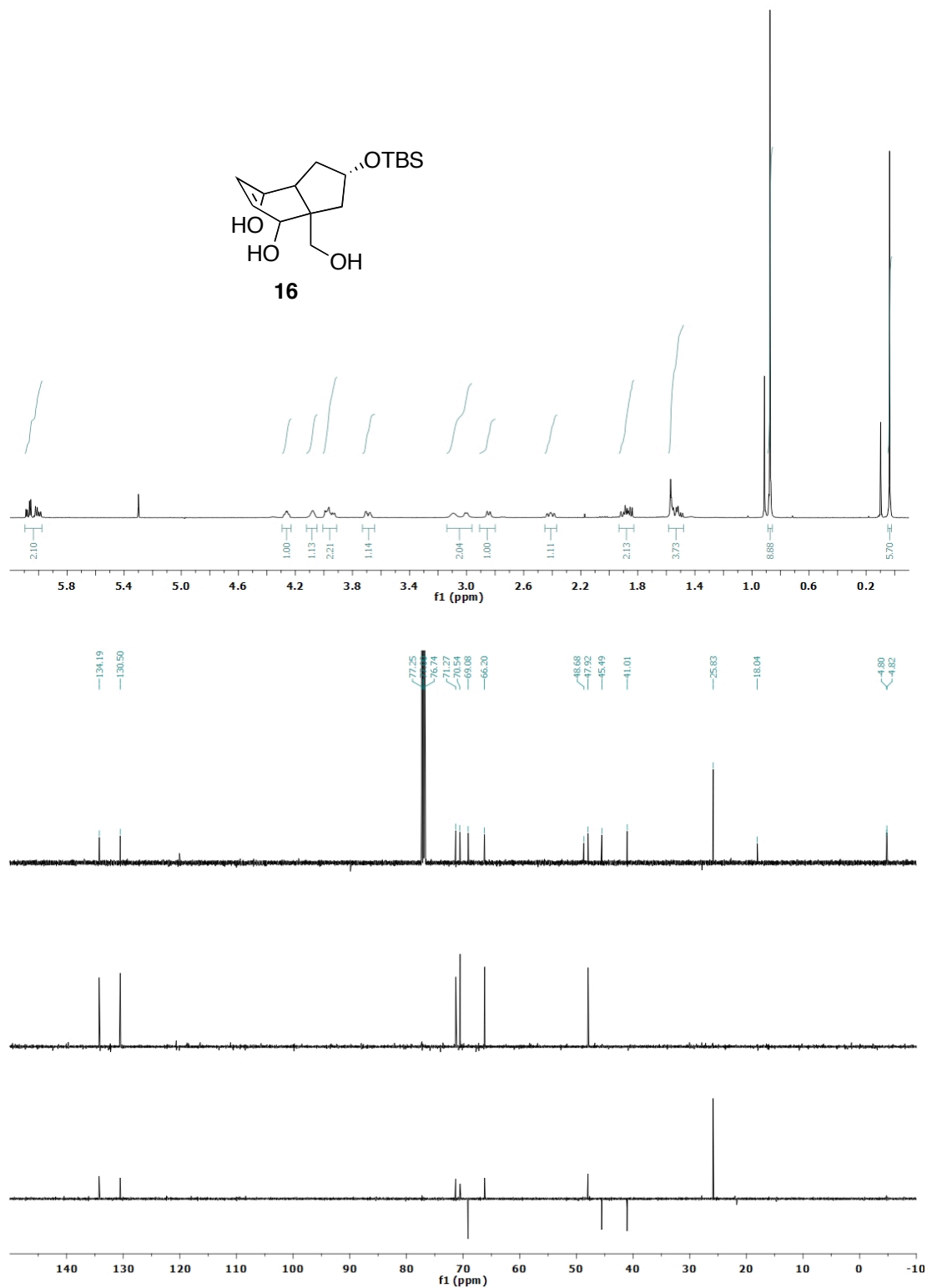




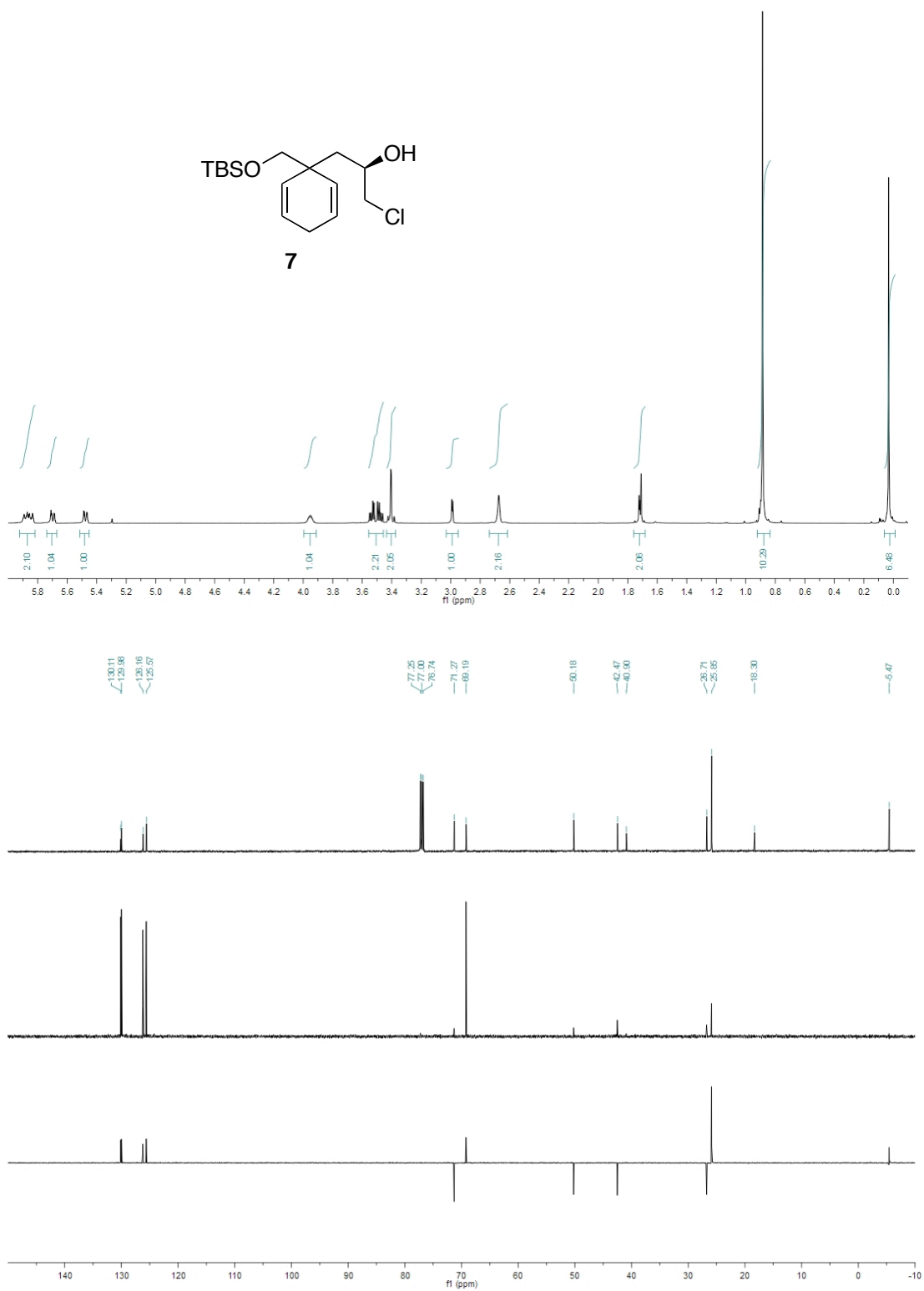
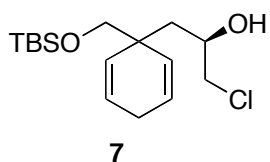
**(2SR,3aRS,7SR,7aSR)-2-(*tert*-Butyldimethylsilyloxy)-3a-((*tert*-butyldimethylsilyloxy)methyl)-7-hydroxyhexahydro-1*H*-inden-4(2*H*)-one (15)**



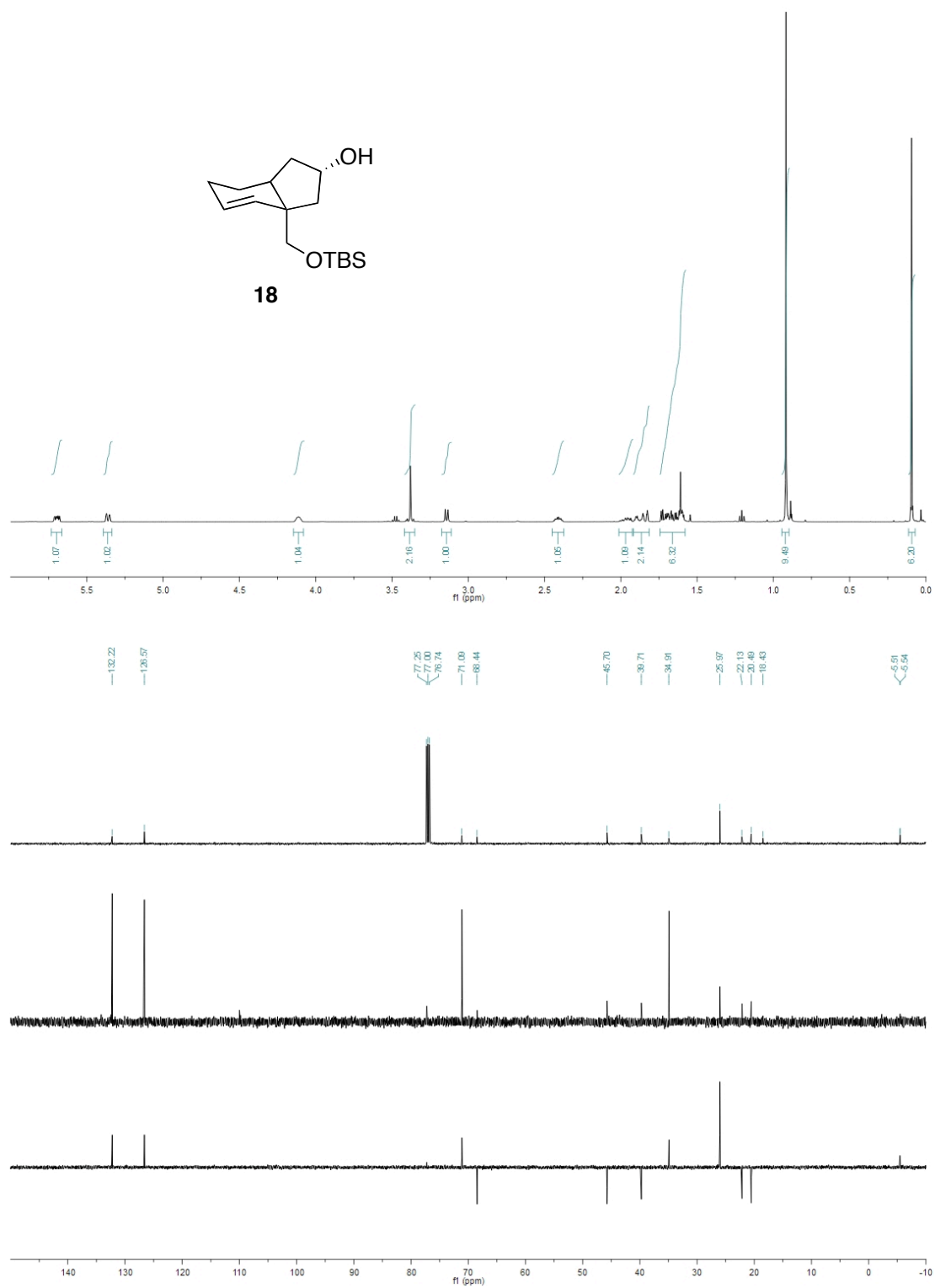
**(2*RS*,3*aSR*,4*SR*,7*RS*,7*aRS*)-2-(*tert*-Butyldimethylsilyloxy)-3*a*-(hydroxymethyl)-2,3,3*a*,4,7,7*a*-hexahydro-1*H*-indene-4,7-diol (**16**)**



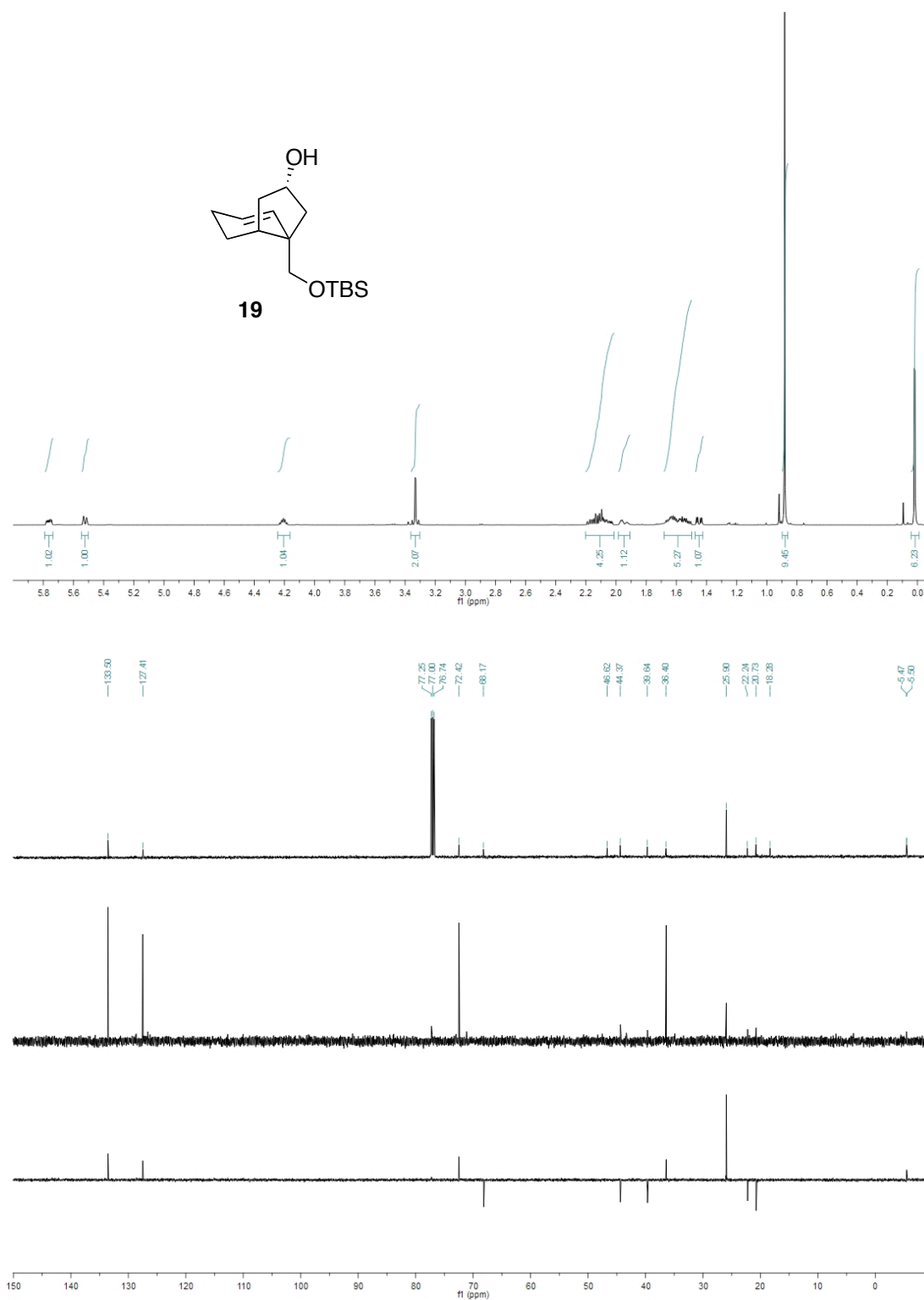
**(*RS*)-1-(1-((*tert*-Butyldimethylsilyloxy)methyl)cyclohexa-2,5-dienyl)-3-chloropropan-2-ol (7)**



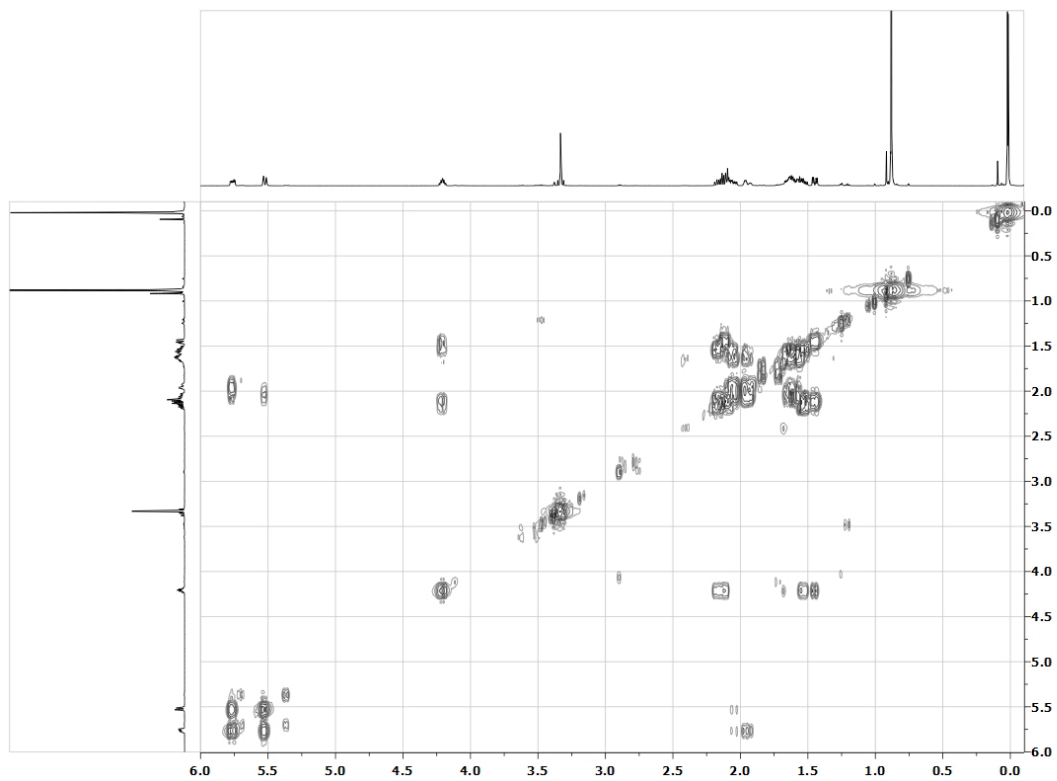
**(2*RS*,3*aRS*,7*aRS*)-7a-((*tert*-Butyldimethylsilyloxy)methyl)-2,3,3*a*,4,5,7*a*-hexahydro-1*H*-inden-2-ol (18)**



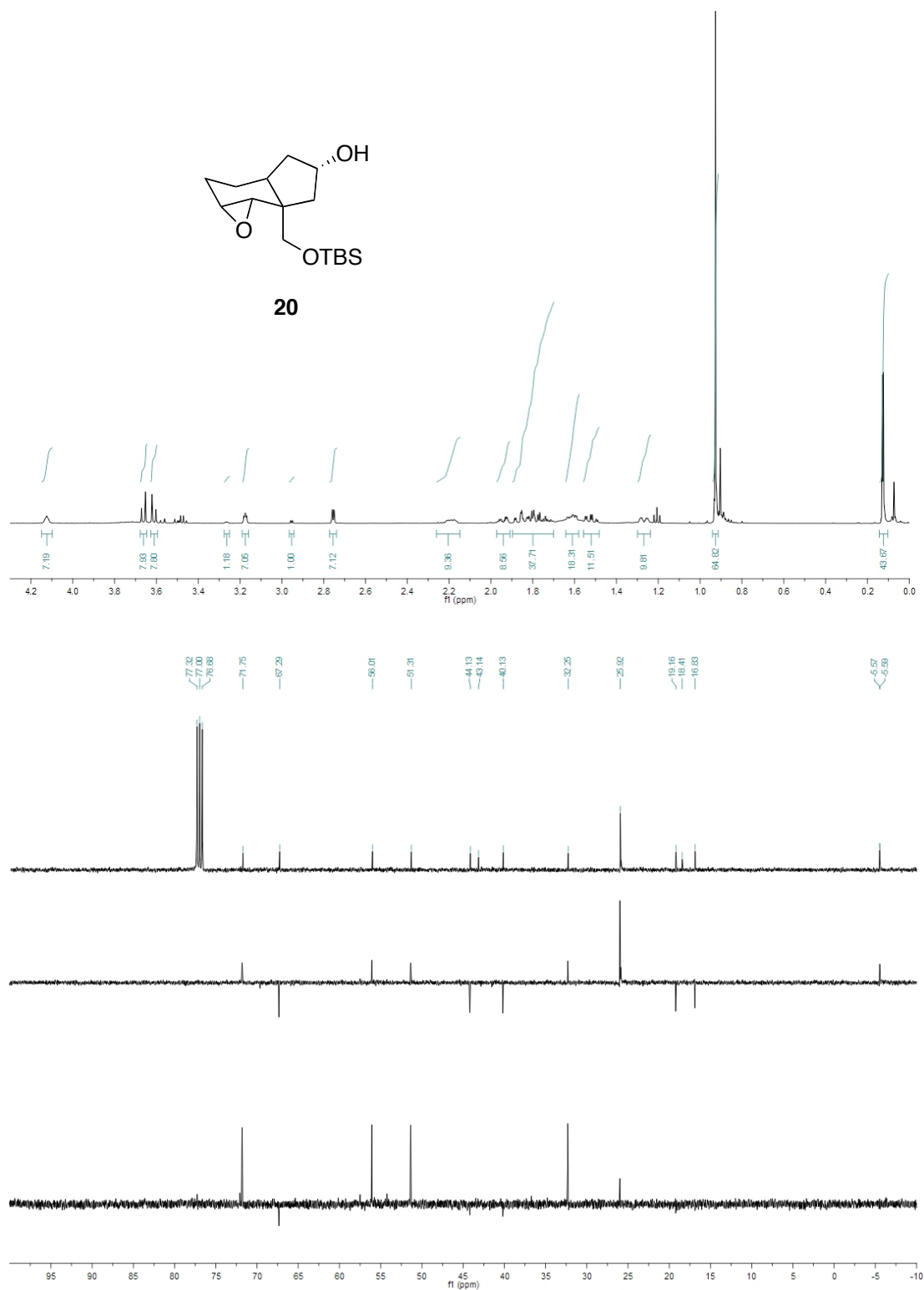
**(2*SR*,3*aRS*,7*aRS*)-7a-((*tert*-butyldimethylsilyloxy)methyl)-2,3,3*a*,4,5,7*a*-hexahydro-1*H*-inden-2-ol (19)**



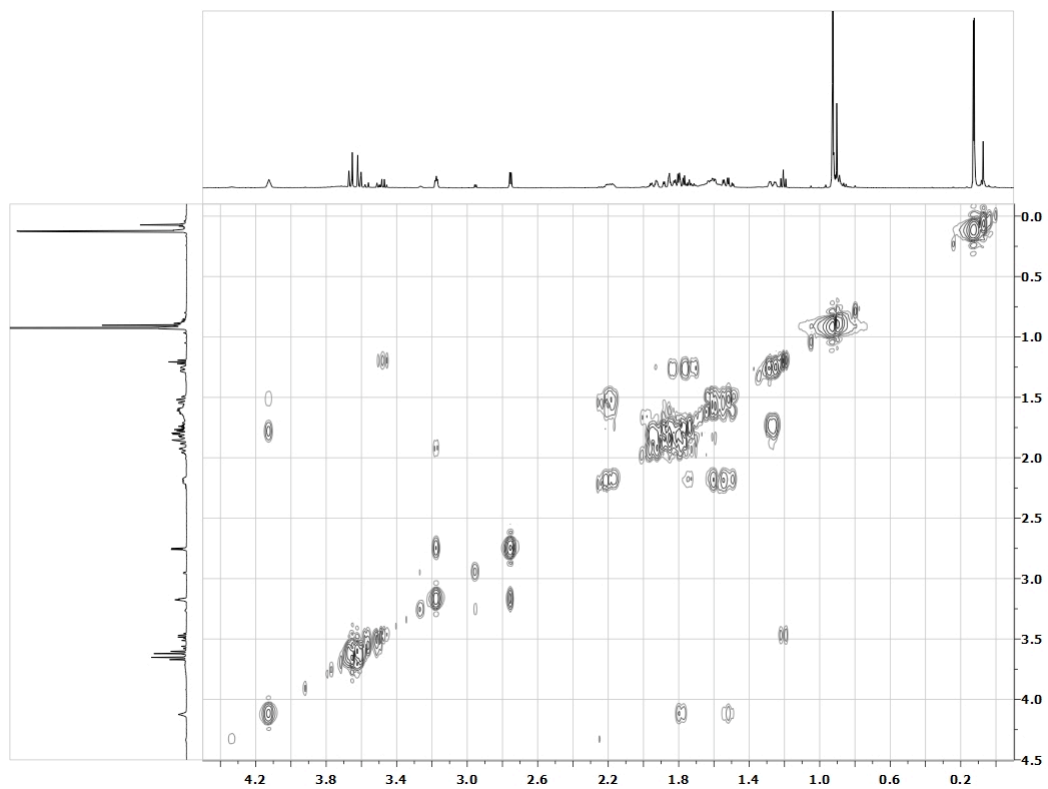
# $^1\text{H}$ - $^1\text{H}$ COSY NMR Spectrum



**(1a*SR*,3a*RS*,5*RS*,6a*SR*,6b*RS*)-6a-((*tert*-Butyldimethylsilyloxy)methyl)octahydro-1a*H*-indeno[4,5-*b*]oxiren-5-ol (20)**

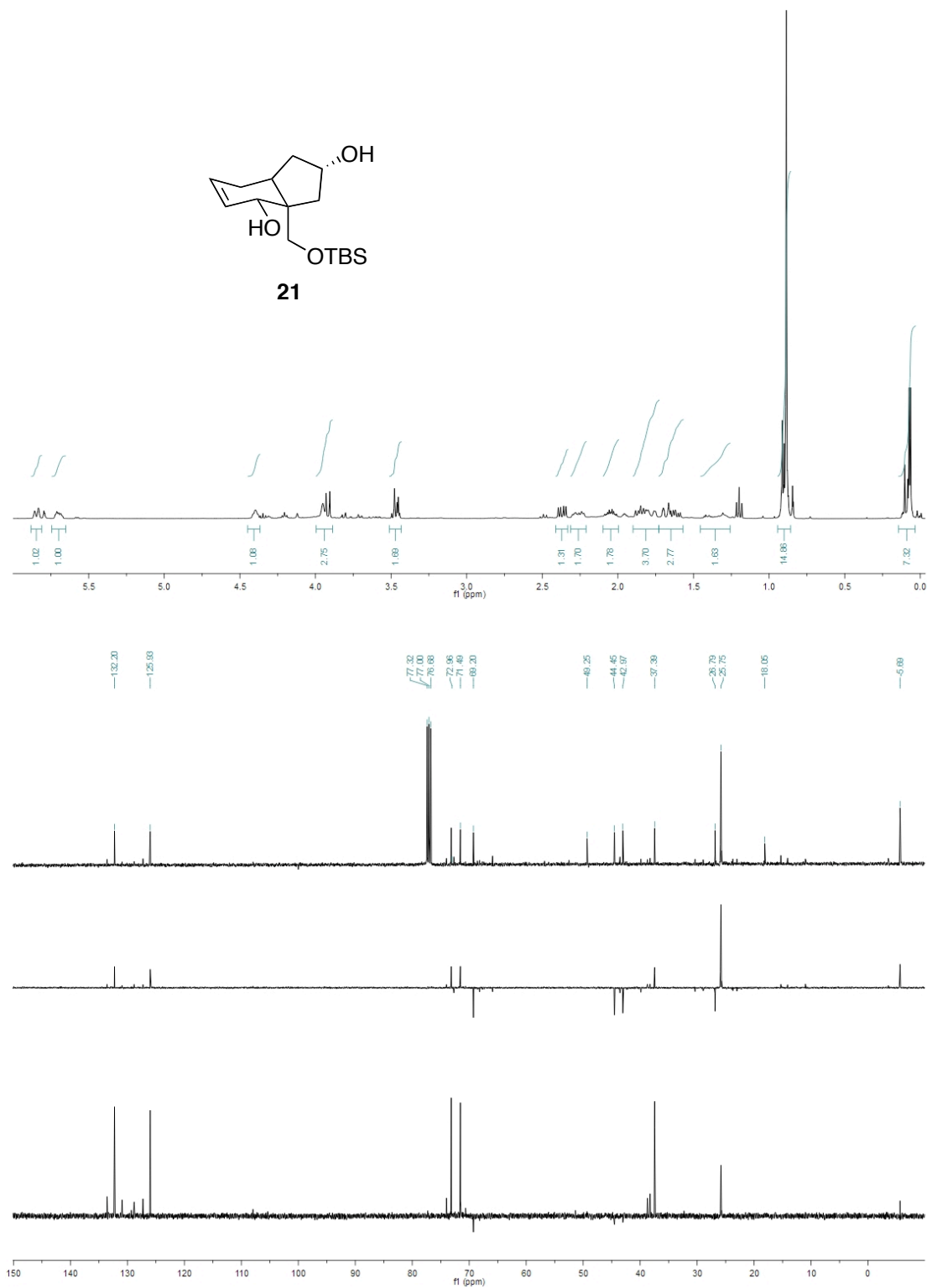
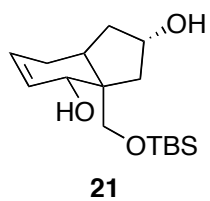


# $^1\text{H}$ - $^1\text{H}$ COSY NMR Spectrum

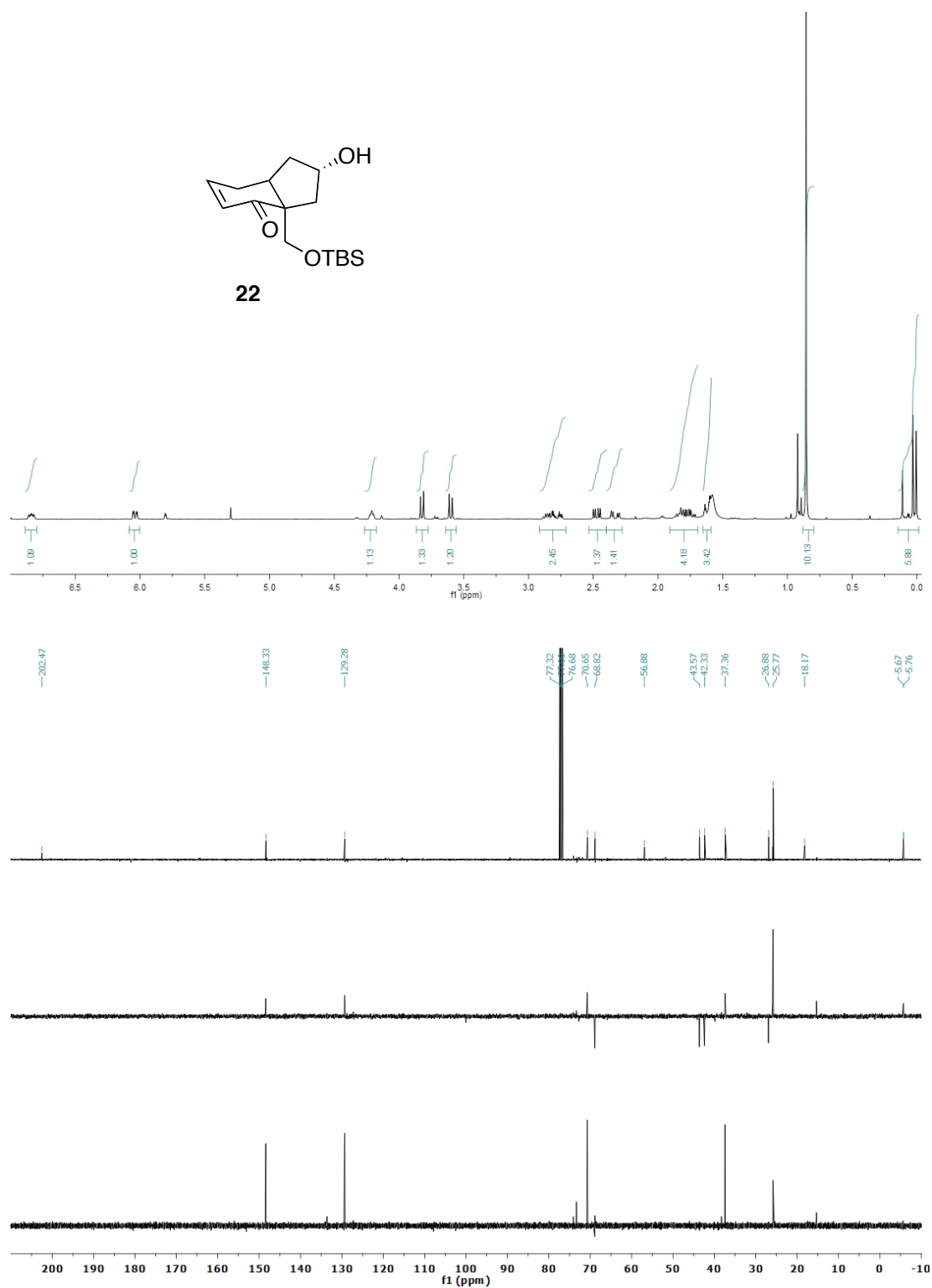
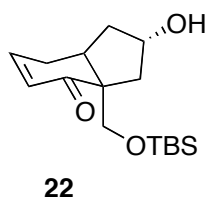




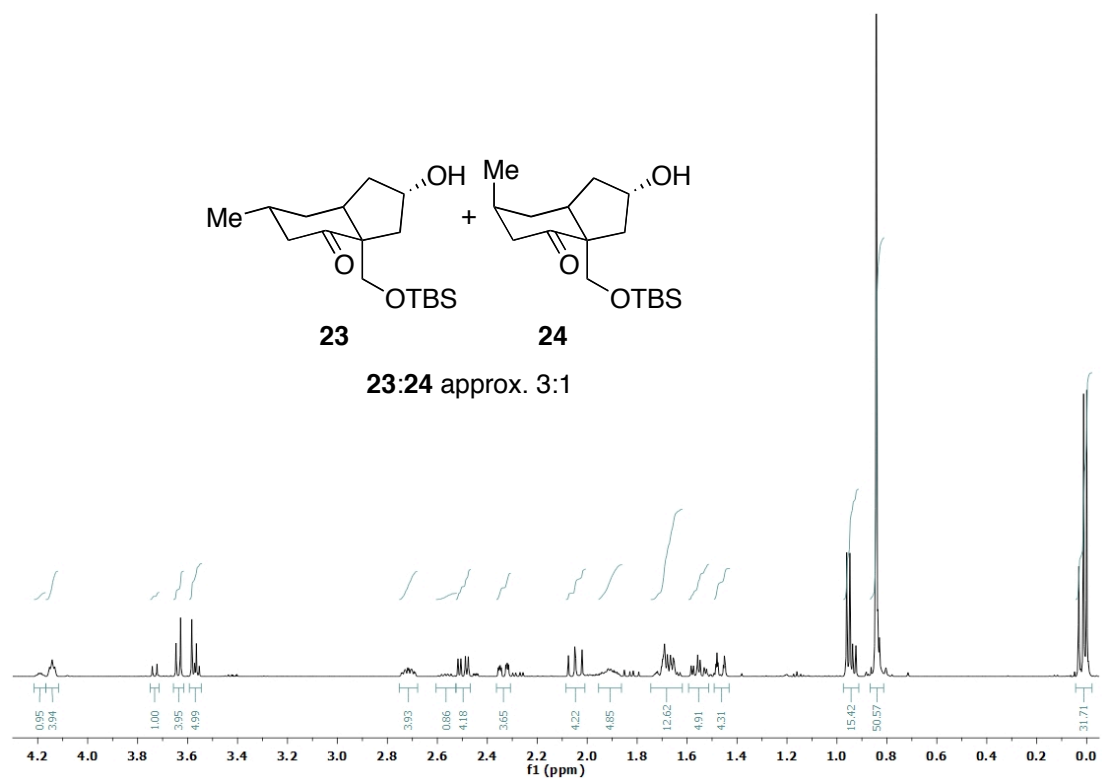
**(2*RS*,3*aSR*,4*SR*,7*aRS*)-3a-((*tert*-Butyldimethylsilyloxy)methyl)-2,3,3a,4,7,7a-hexahydro-1*H*-indene-2,4-diol (21)**



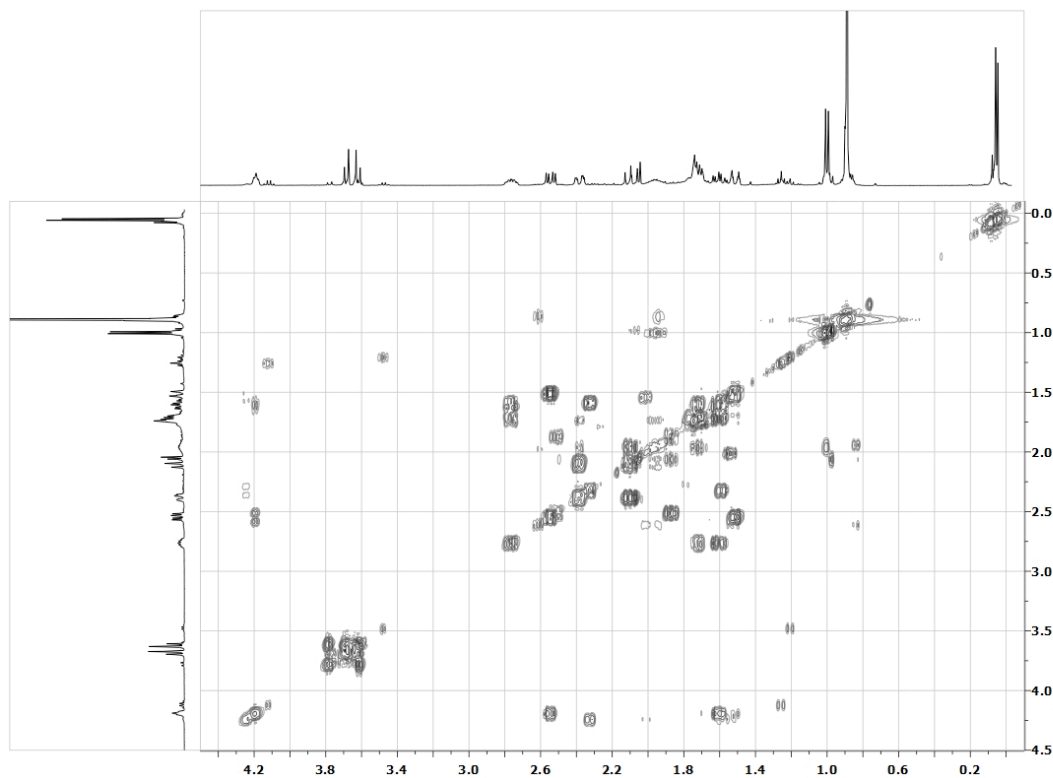
**(2*RS*,3*aSR*,7*aRS*)-3a-((*tert*-Butyldimethylsilyloxy)methyl)-2-hydroxy-3,3*a*,7,7*a*-tetrahydro-1*H*-inden-4(2*H*)-one (22)**



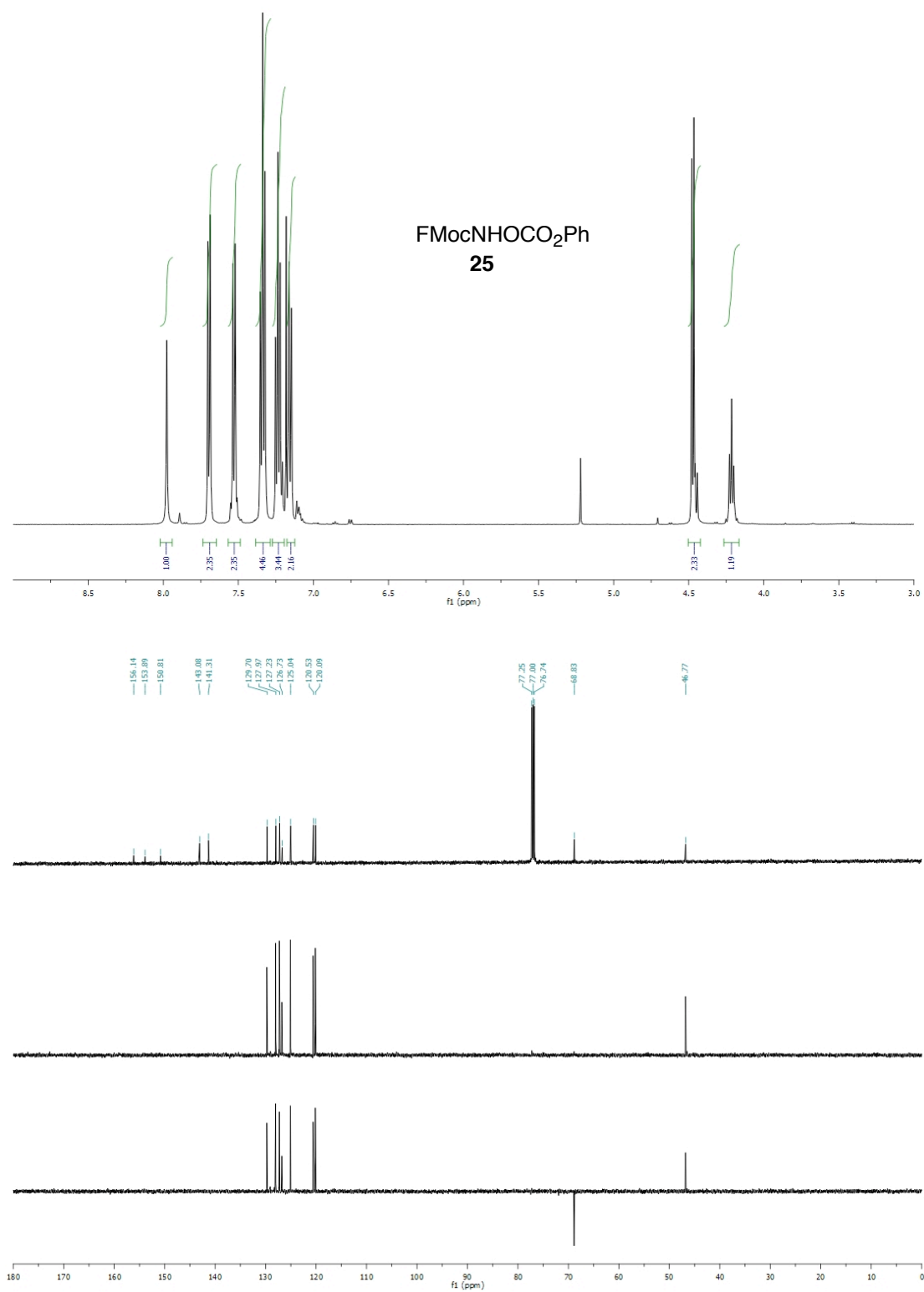
**(2*RS*,3*aSR*,6*SR*,7*aRS*)-3a-((*tert*-Butyldimethylsilyloxy)methyl)-2-hydroxy-6-methylhexahydro-1*H*-inden-4(2*H*)-one (23) and (2*RS*,3*aSR*,6*RS*,7*aRS*)-3a-((*tert*-butyldimethylsilyloxy)methyl)-2-hydroxy-6-methylhexahydro-1*H*-inden-4(2*H*)-one (24)**



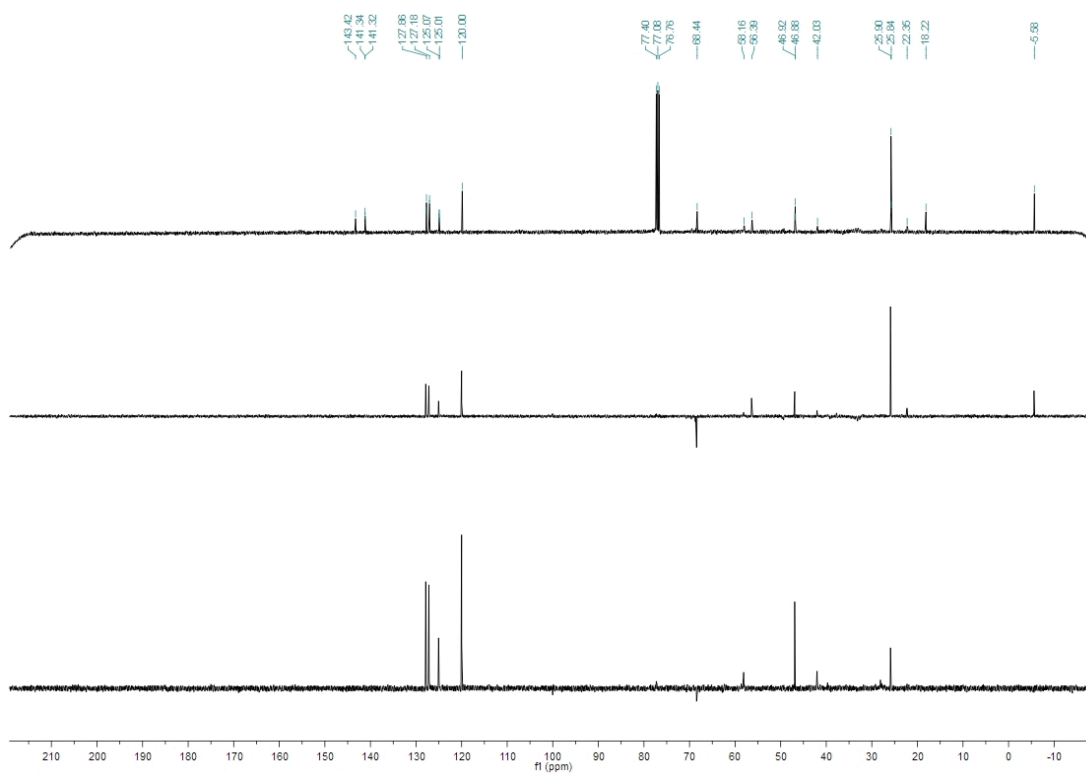
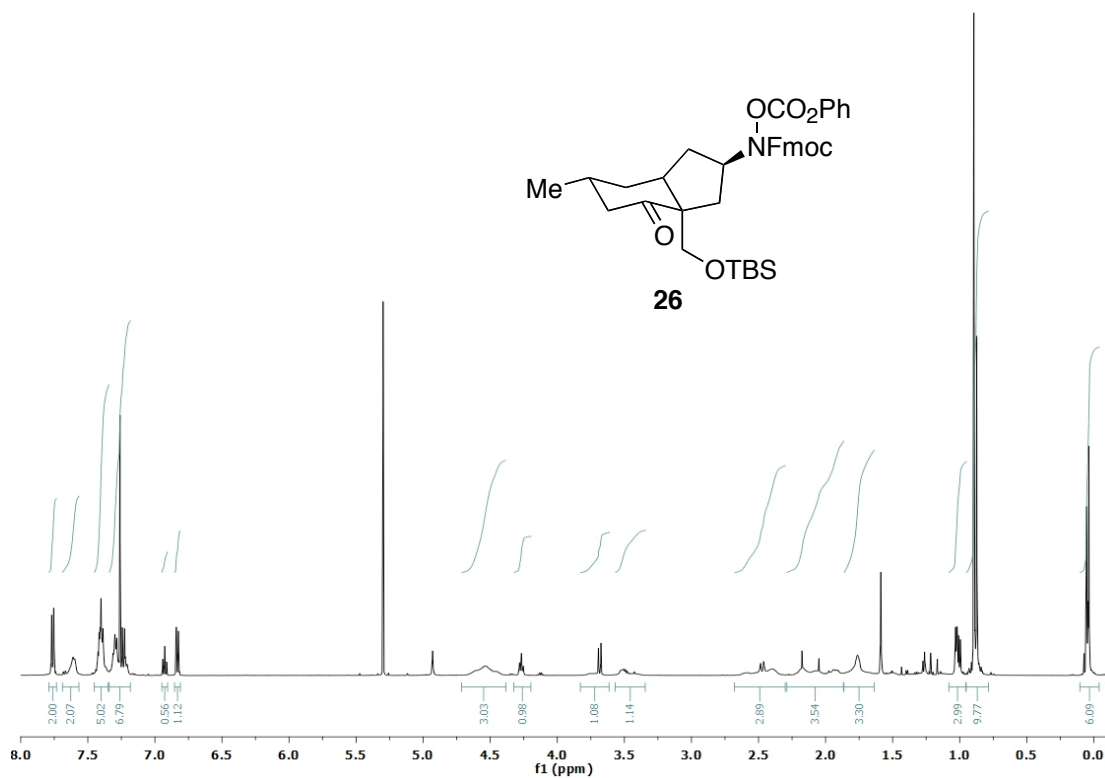
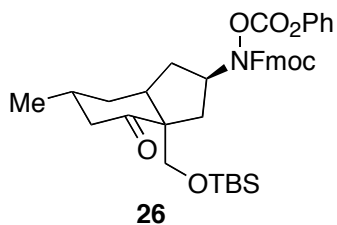
**<sup>1</sup>H-<sup>1</sup>H COSY NMR Spectrum**



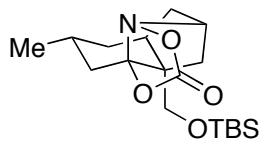
**(9H-Fluoren-9-yl)methyl phenoxycarbonyloxycarbamate (25)**



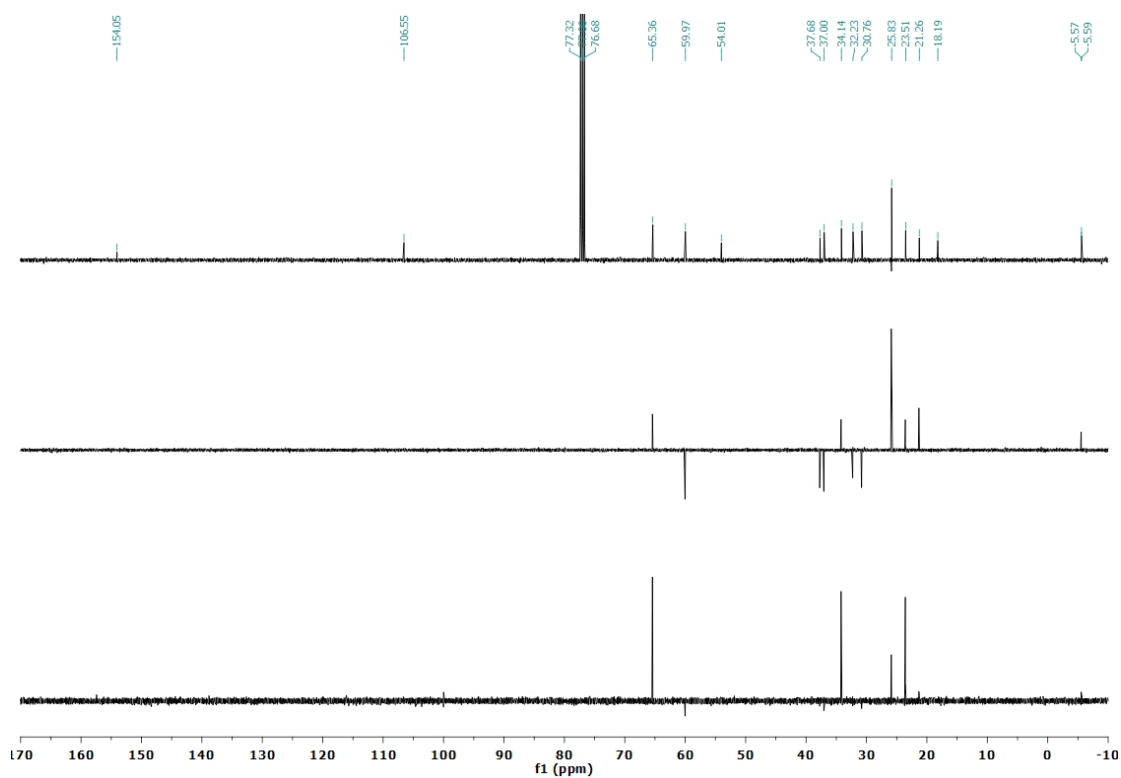
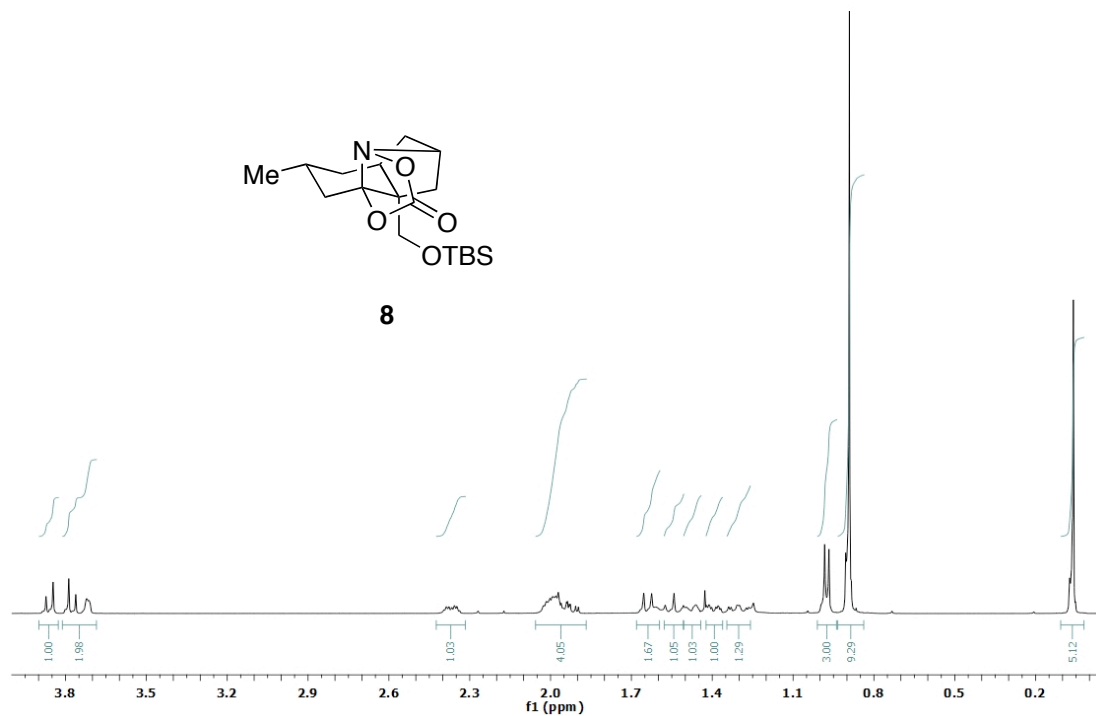
**(9H-Fluoren-9-yl)methyl (2SR,3aSR,6SR,7aRS)-3a-((tert-butyltrimethylsilyloxy)methyl)-6-methyl-4-oxooctahydro-1H-inden-2-yl(phenoxy-carbonyloxy)carbamate (26)**



# Carbonate 8



**8**



# $^1\text{H}$ - $^1\text{H}$ COSY NMR Spectrum

