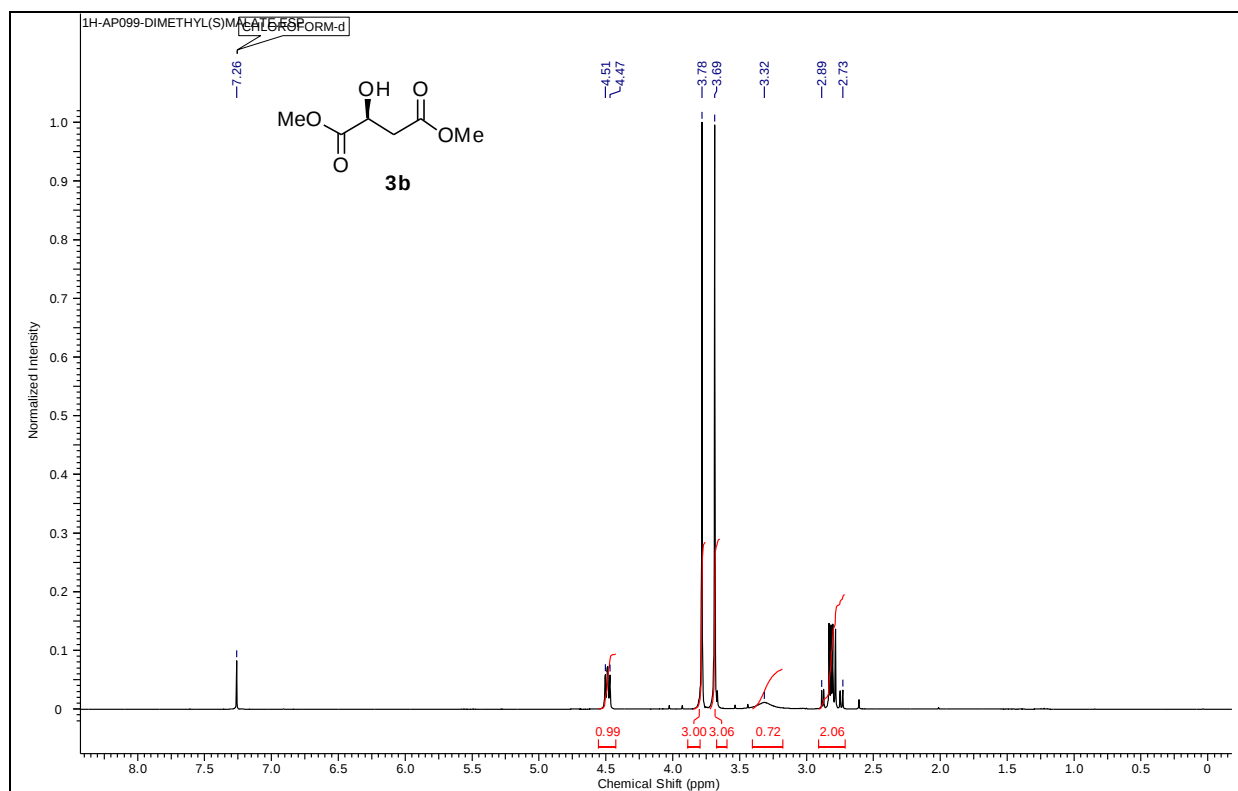
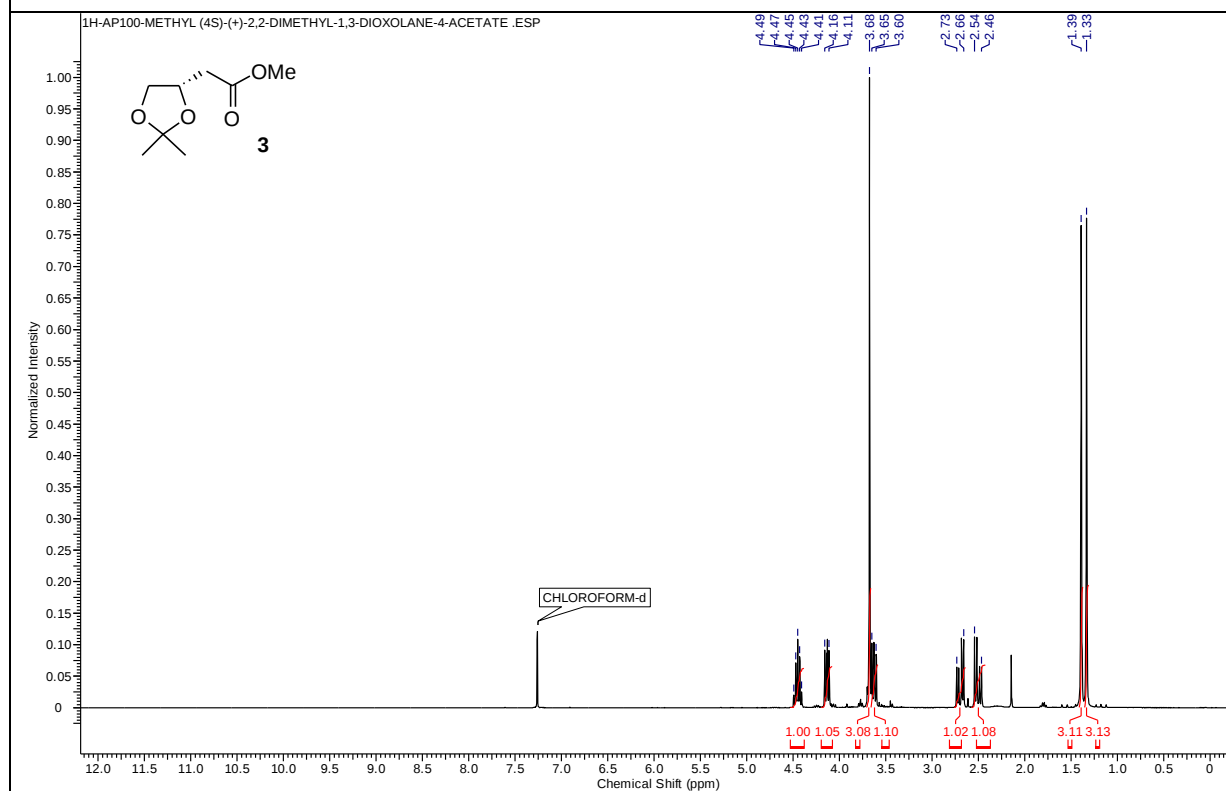


Supplementary Materials

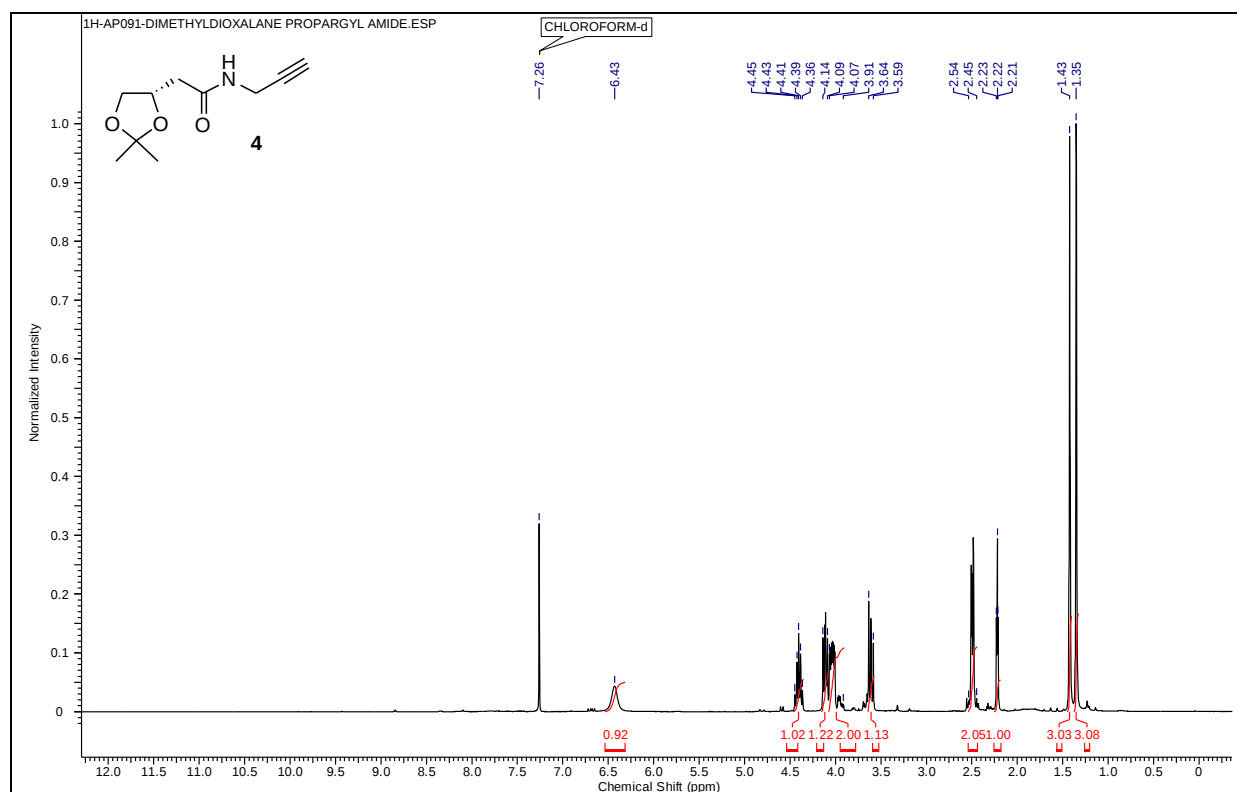
I. NMR Spectra



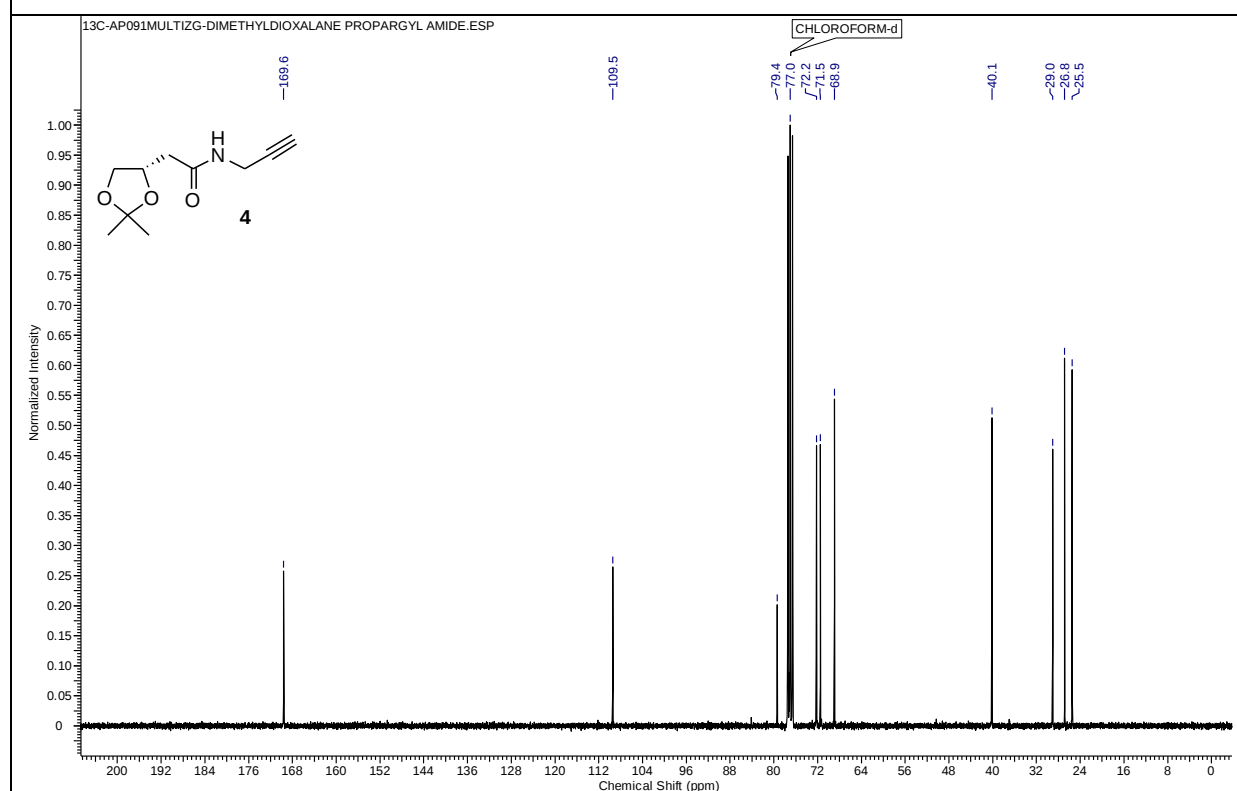
¹H-NMR spectrum of dimethyl (*S*)-malate **3b**



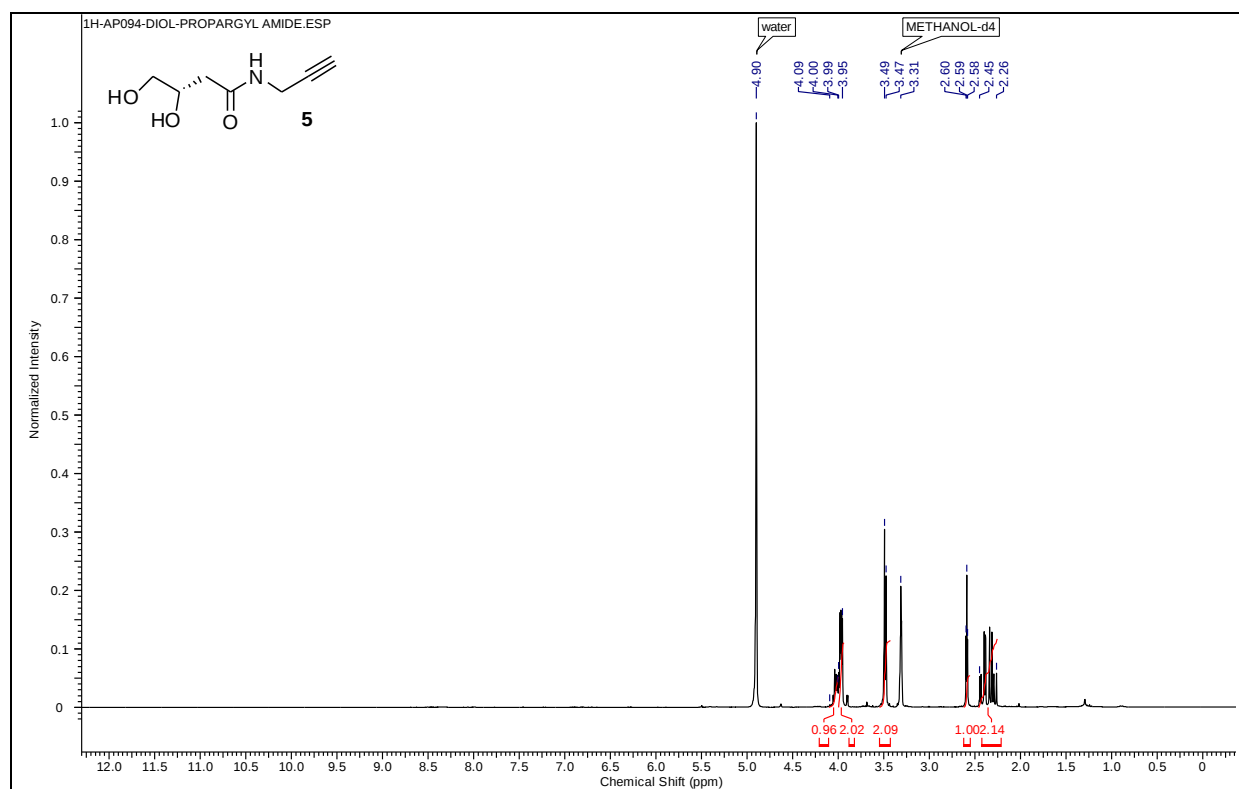
¹H-NMR spectrum of Methyl (4*S*)-(+)-2,2-dimethyl-1,3-dioxolane-4-acetate **3**



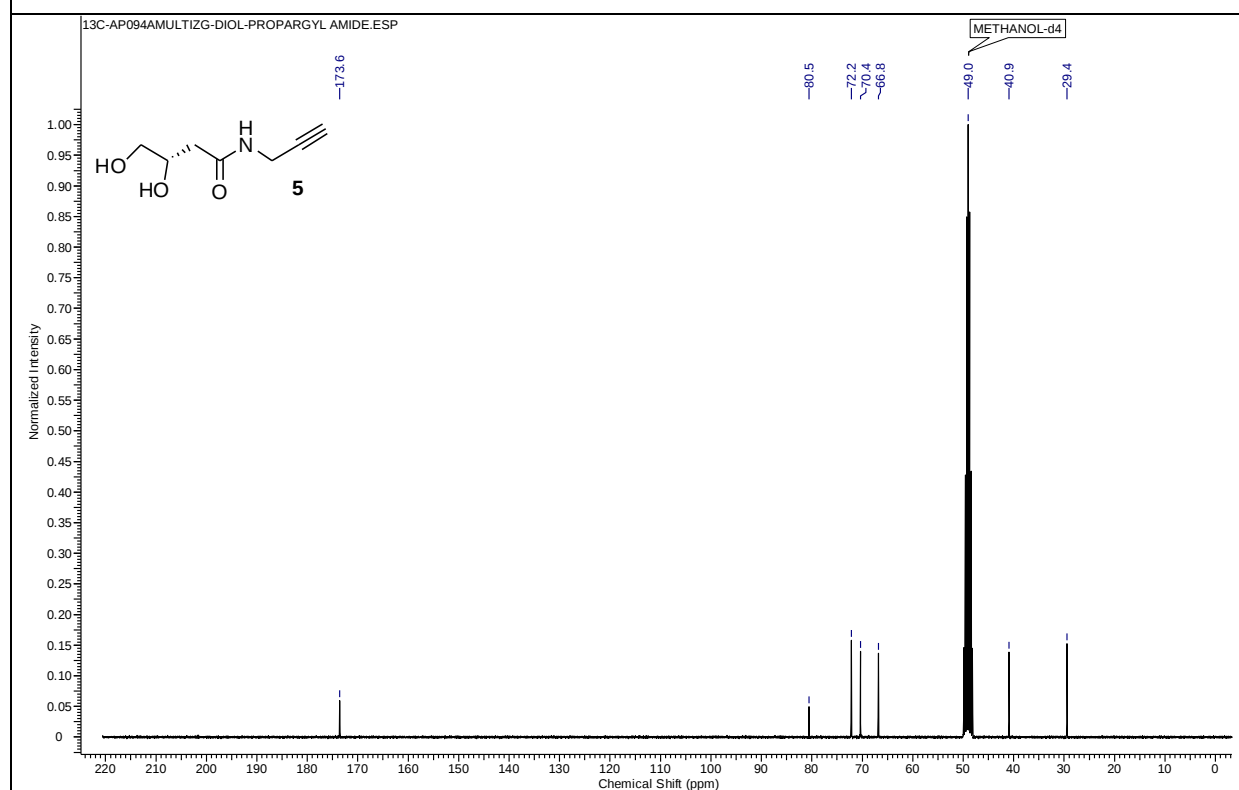
¹H-NMR spectrum of (S)-2-(2,2-dimethyl-1,3-dioxolan-4-yl)-N-(prop-2-ynyl)acetamide **4**



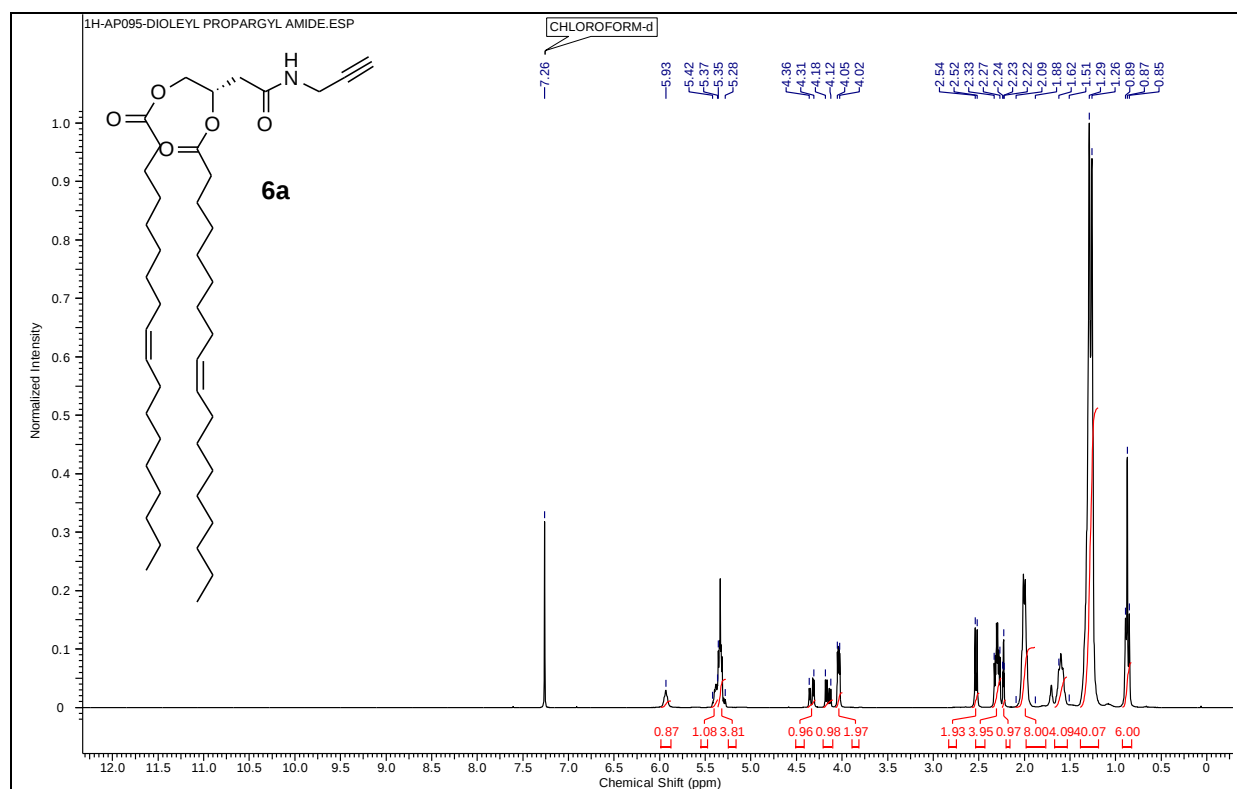
¹³C-NMR spectrum of (S)-2-(2,2-dimethyl-1,3-dioxolan-4-yl)-N-(prop-2-ynyl)acetamide **4**



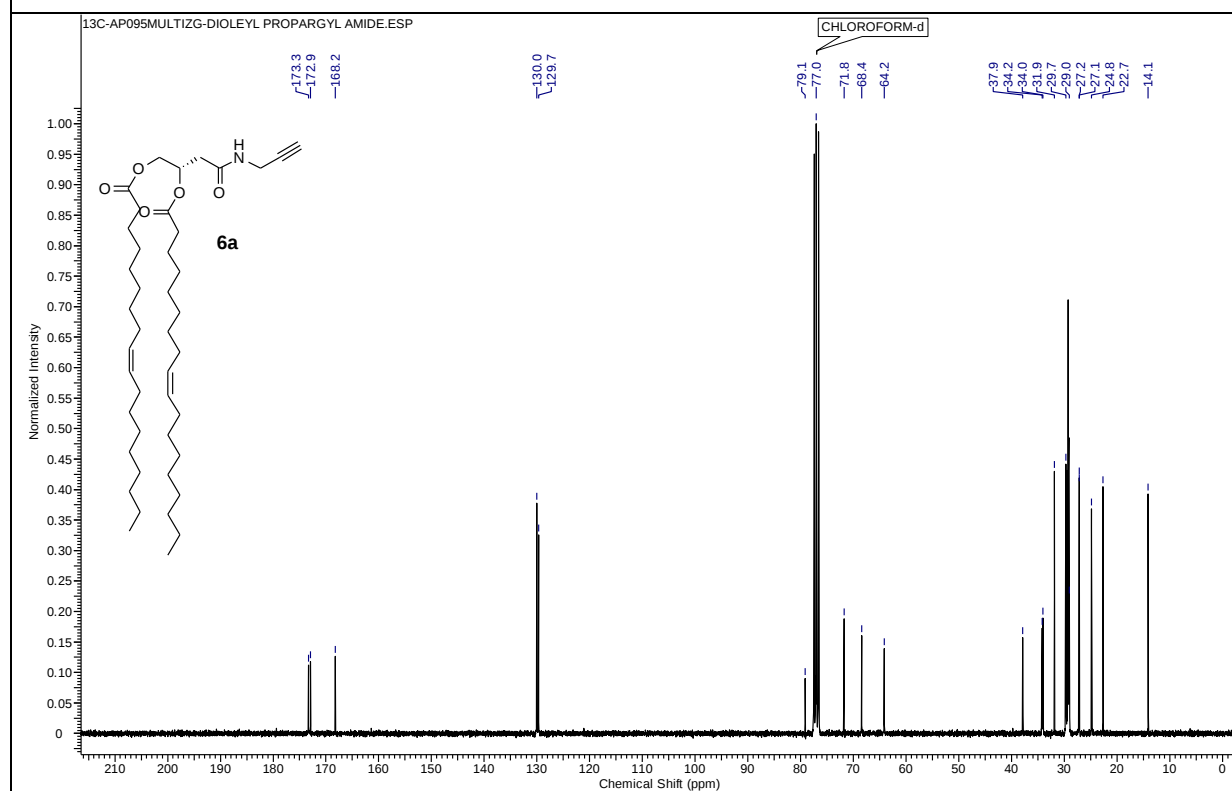
¹H-NMR spectrum of (S)-3,4-dihydroxy-N-(prop-2-ynyl)butanamide 5



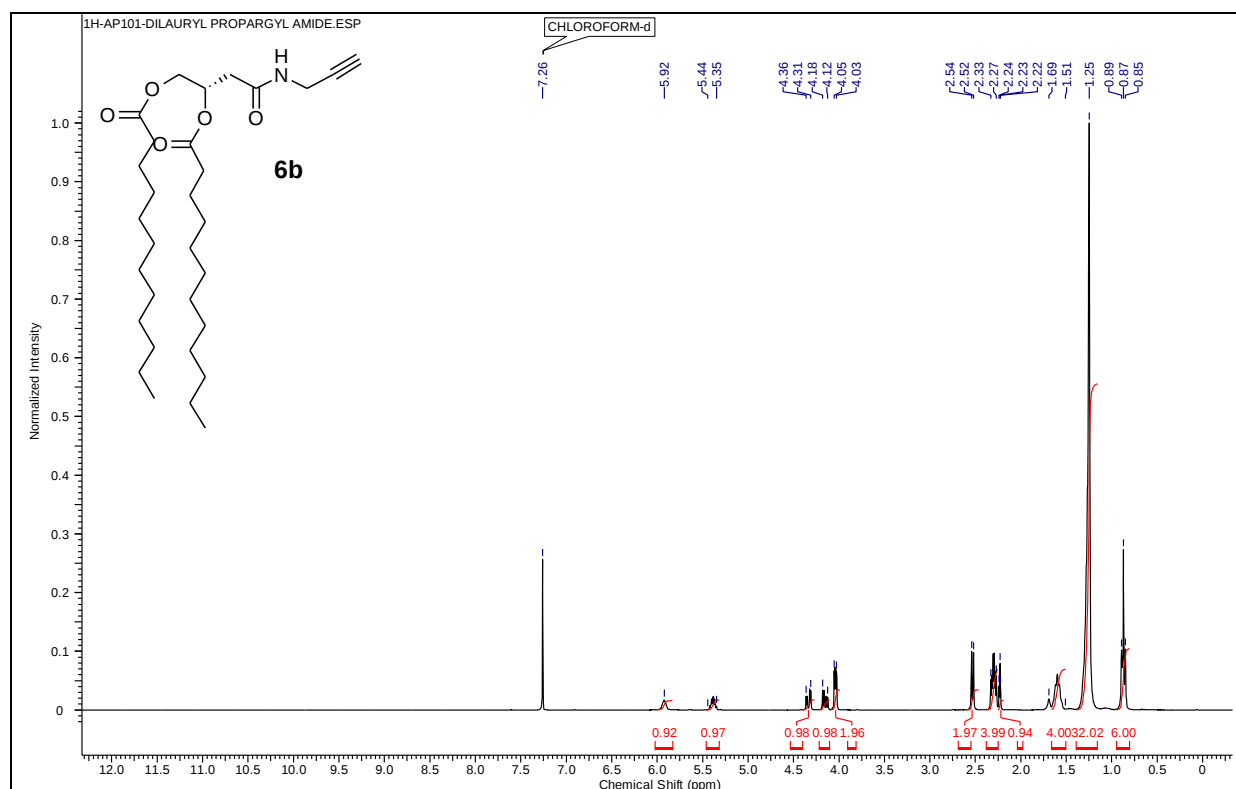
¹³C-NMR spectrum of (S)-3,4-dihydroxy-N-(prop-2-ynyl)butanamide 5



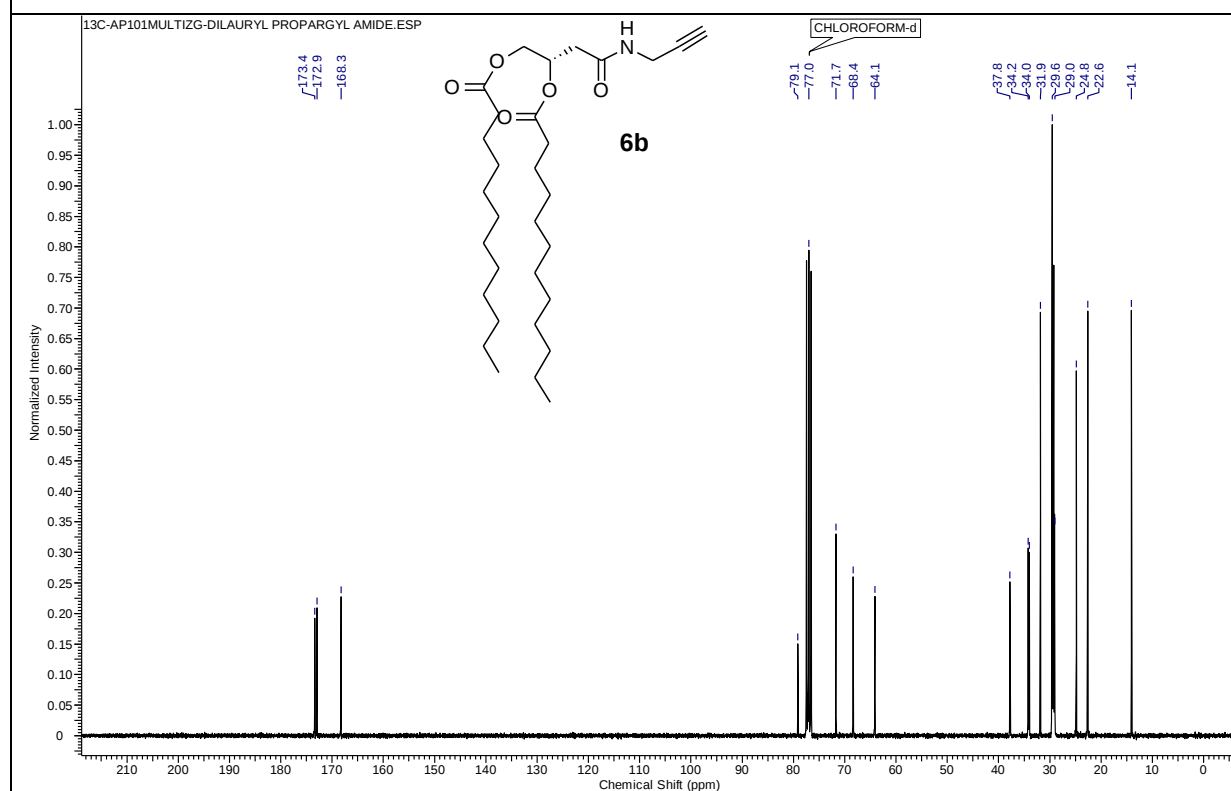
¹H-NMR spectrum of (Z)-((S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl) dioleate **6a**



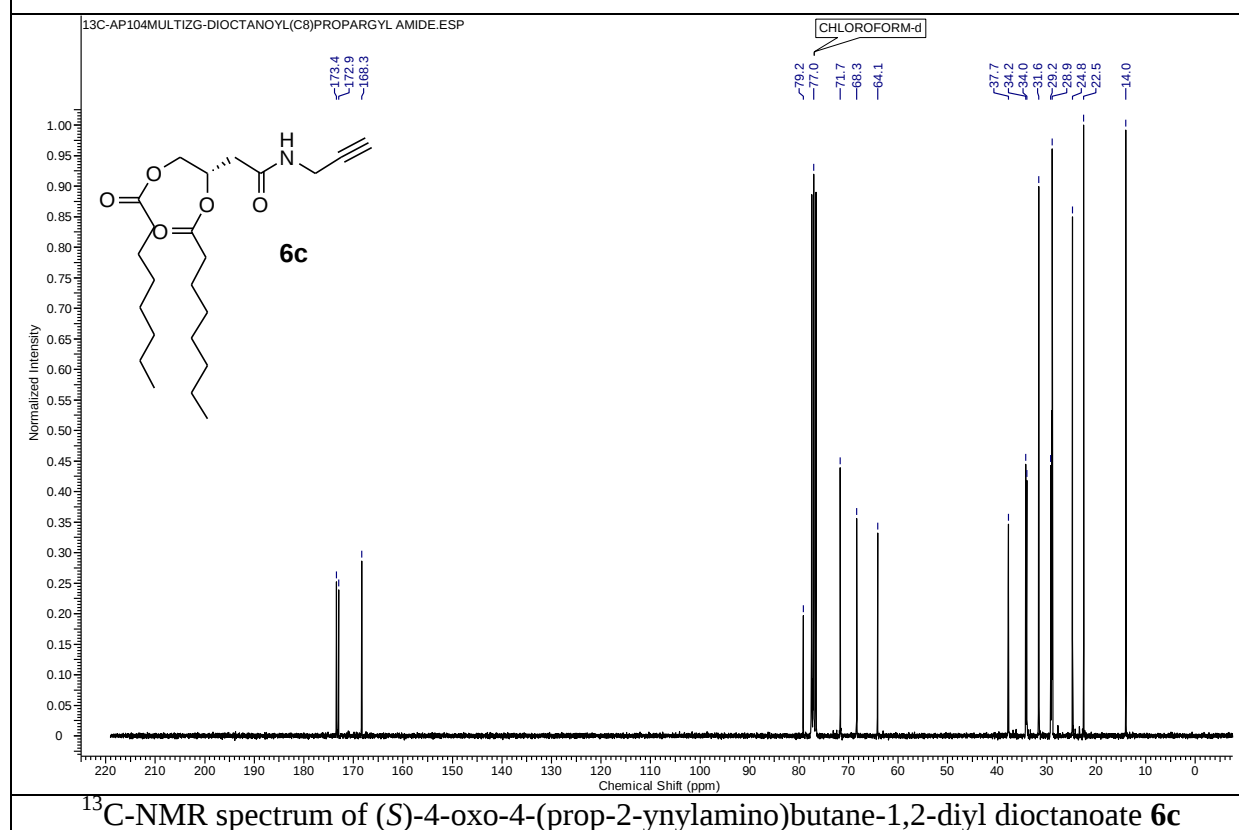
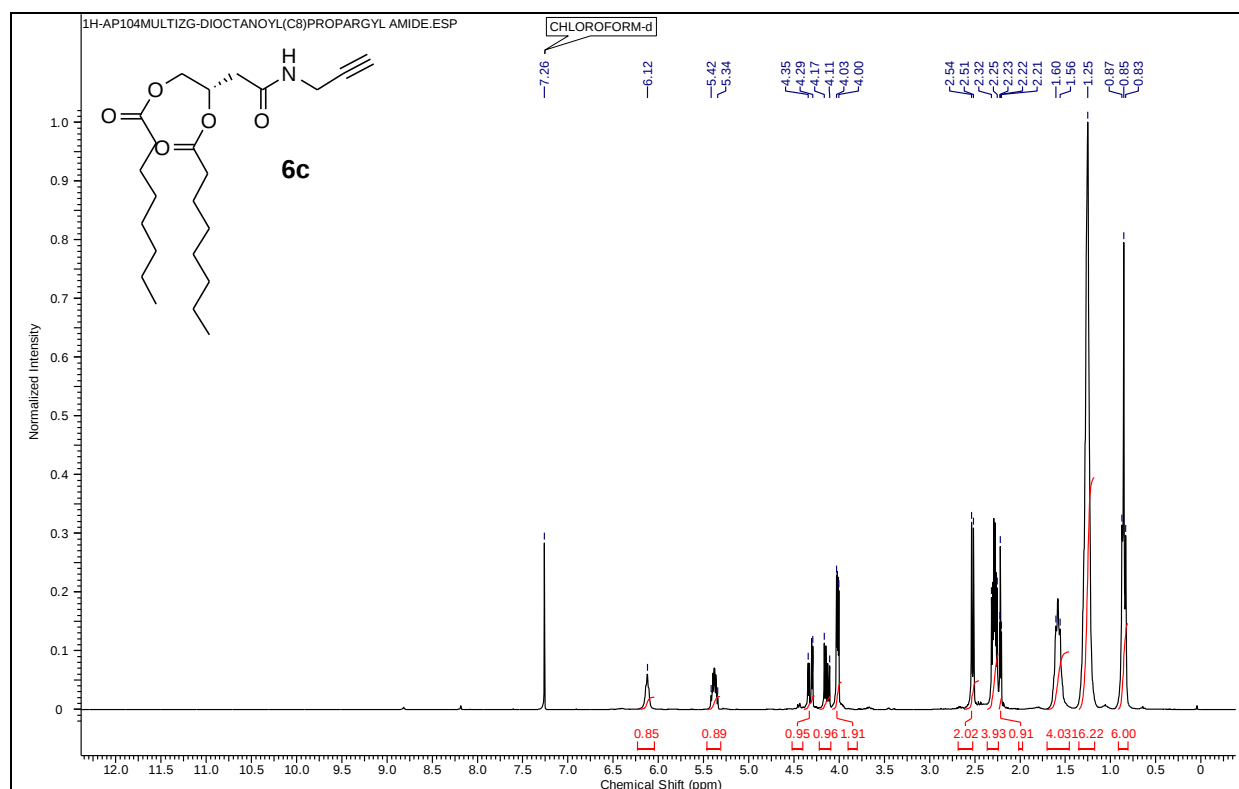
¹³C-NMR spectrum of (Z)-((S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl) dioleate **6a**

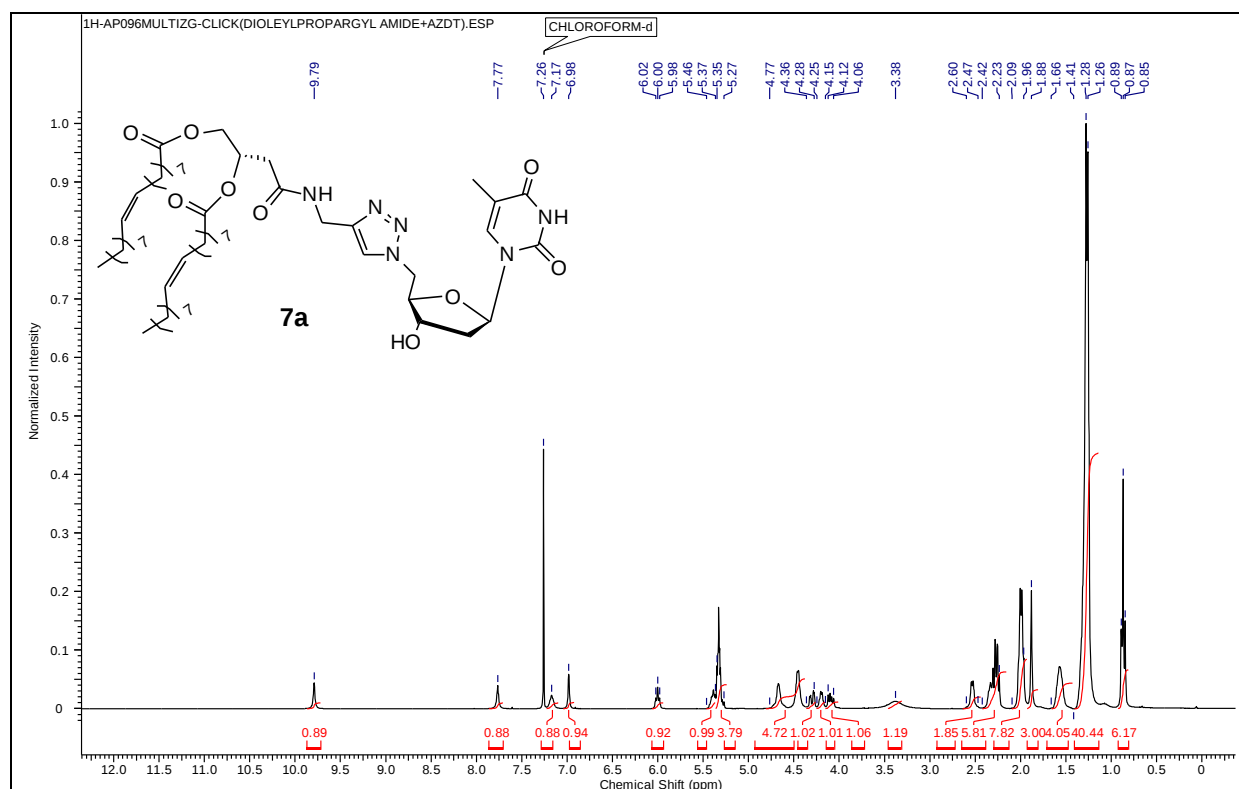


¹H-NMR spectrum of (S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl didodecanoate **6b**

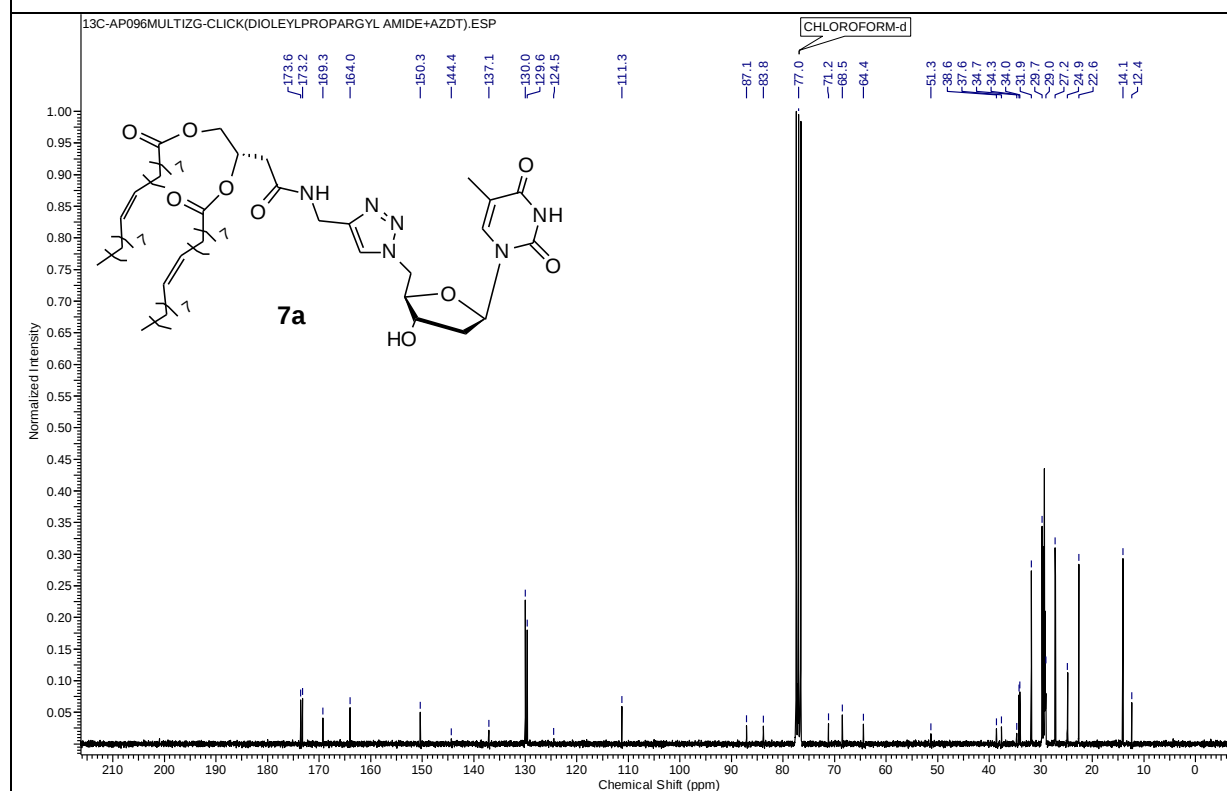


¹³C-NMR spectrum of (S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl didodecanoate **6b**

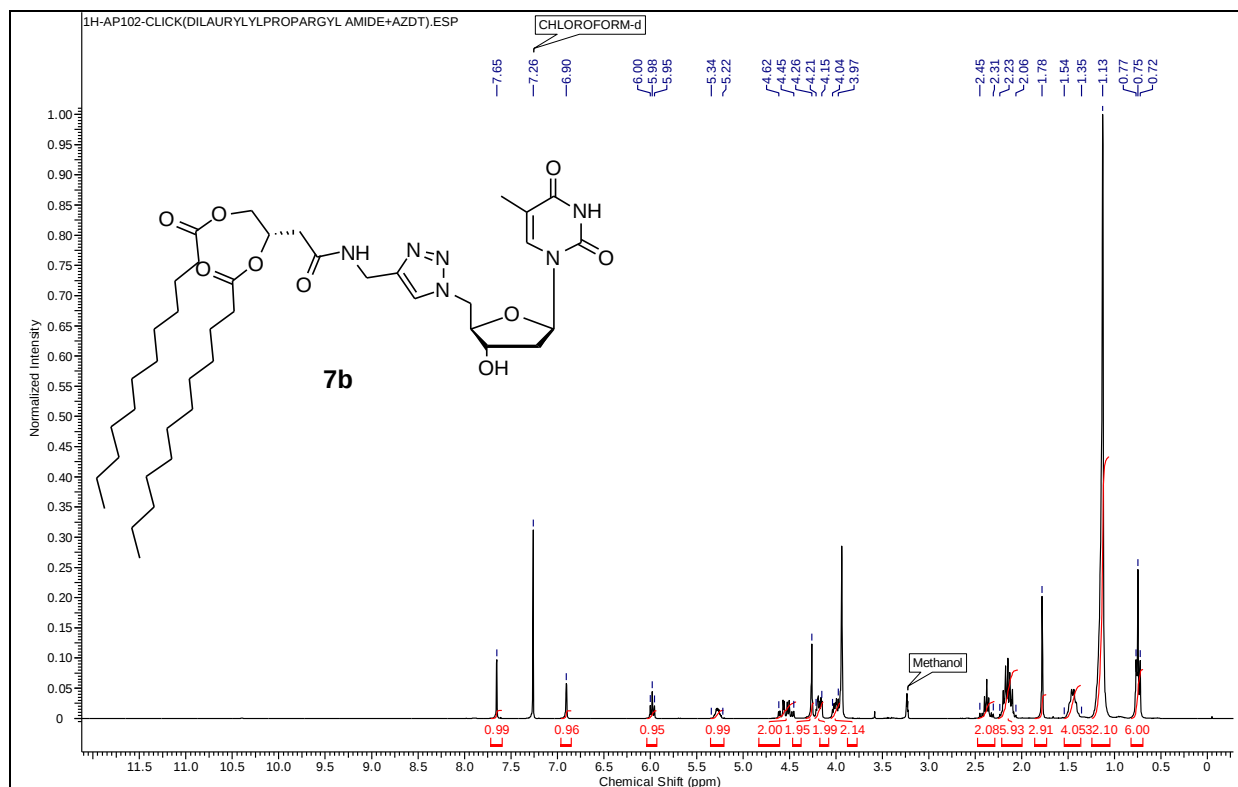




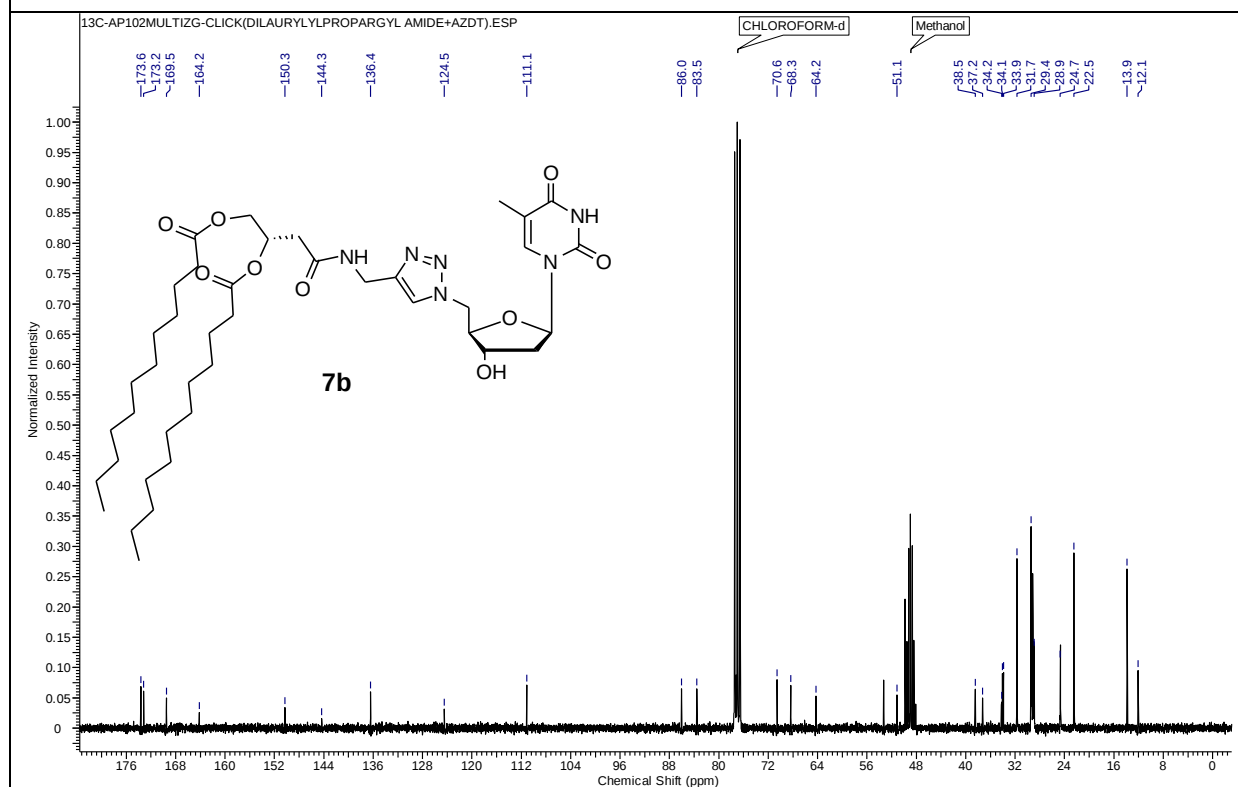
¹H-NMR spectrum of (Z)-((S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl) dioleate 7a



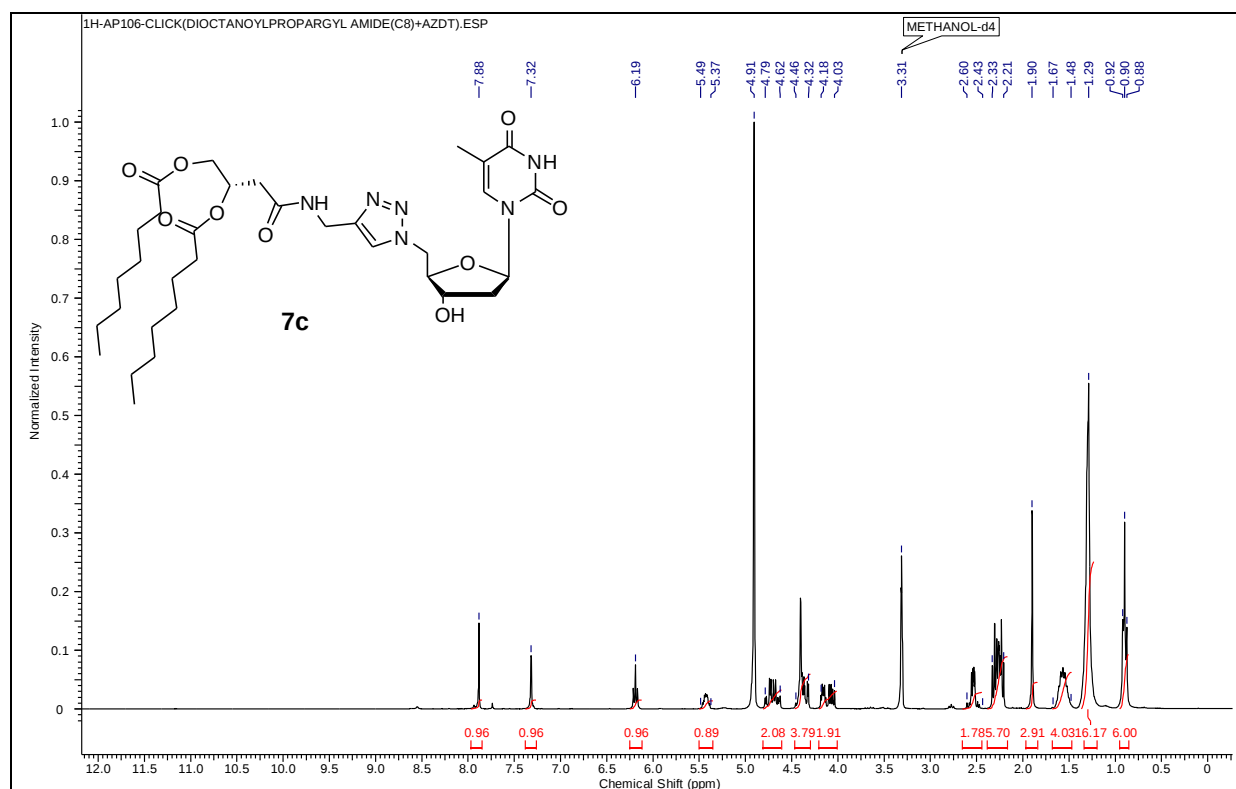
¹³C-NMR spectrum of (Z)-((S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl) dioleate 7a



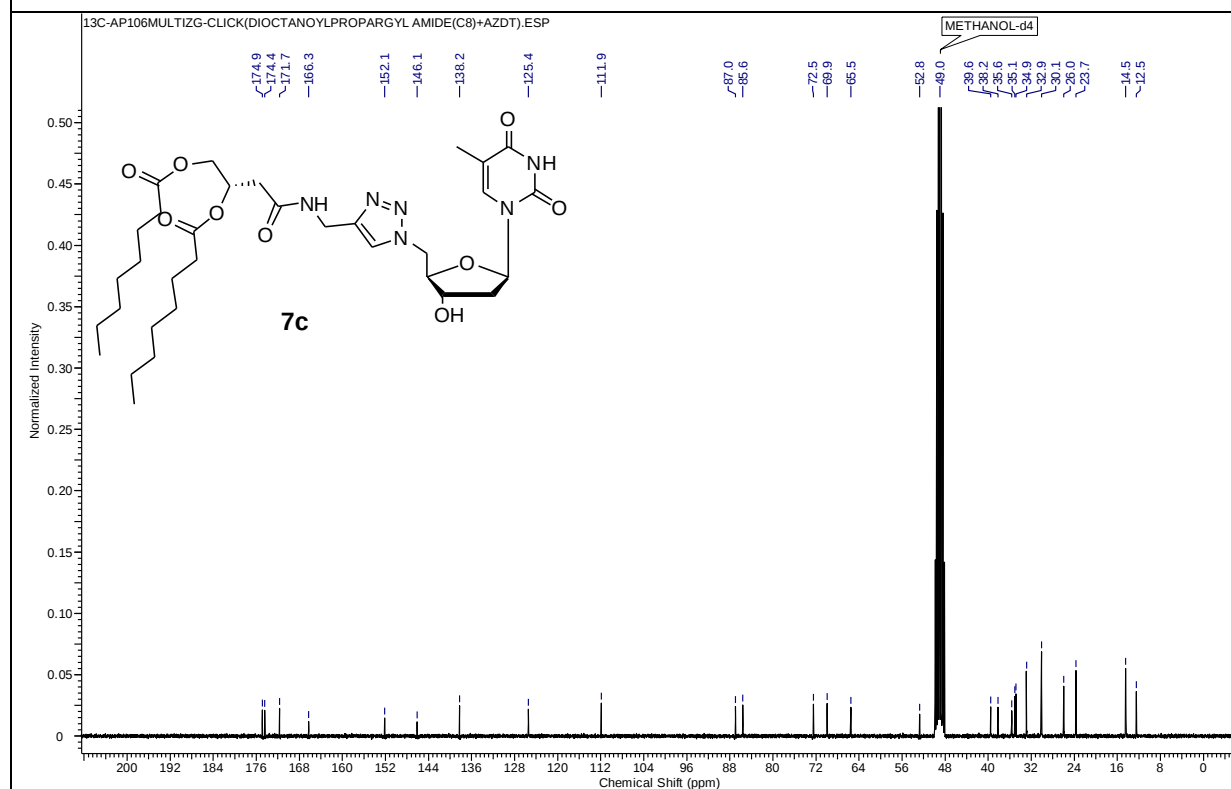
¹H-NMR spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **7b**



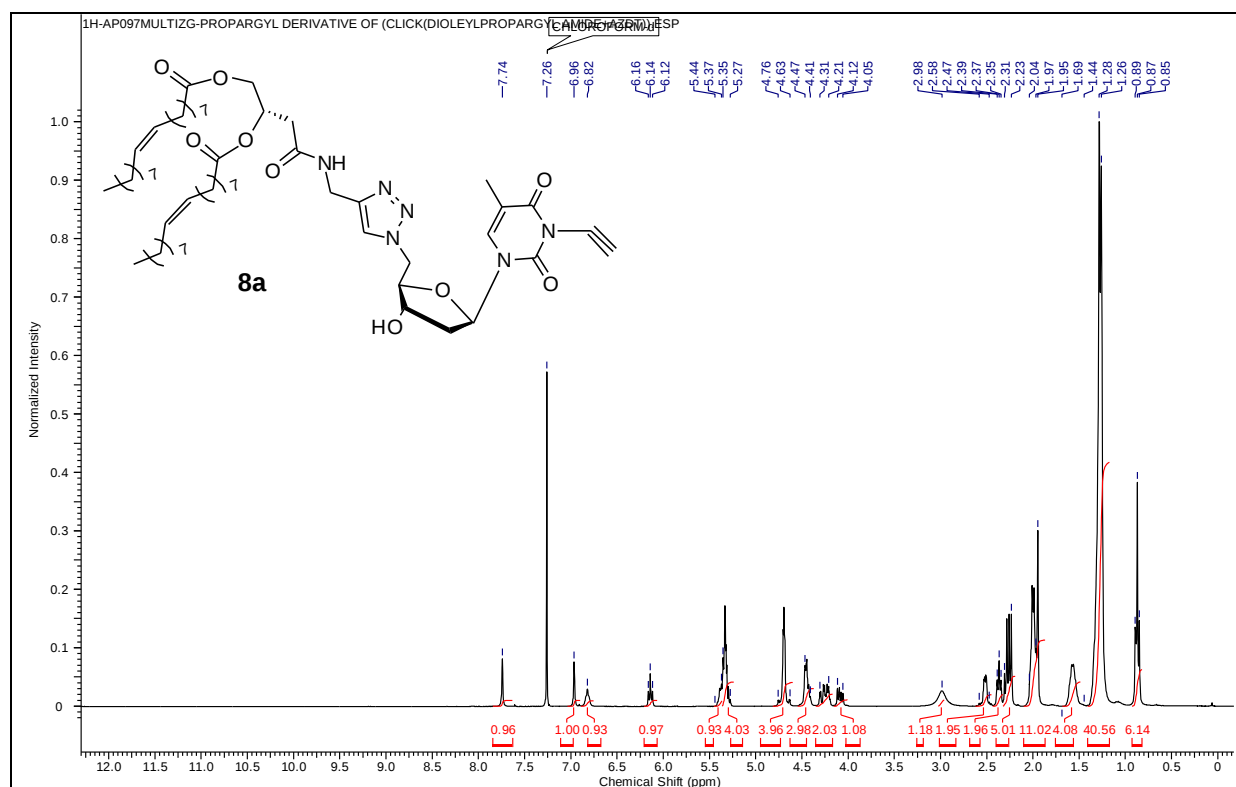
¹³C-NMR spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **7b**



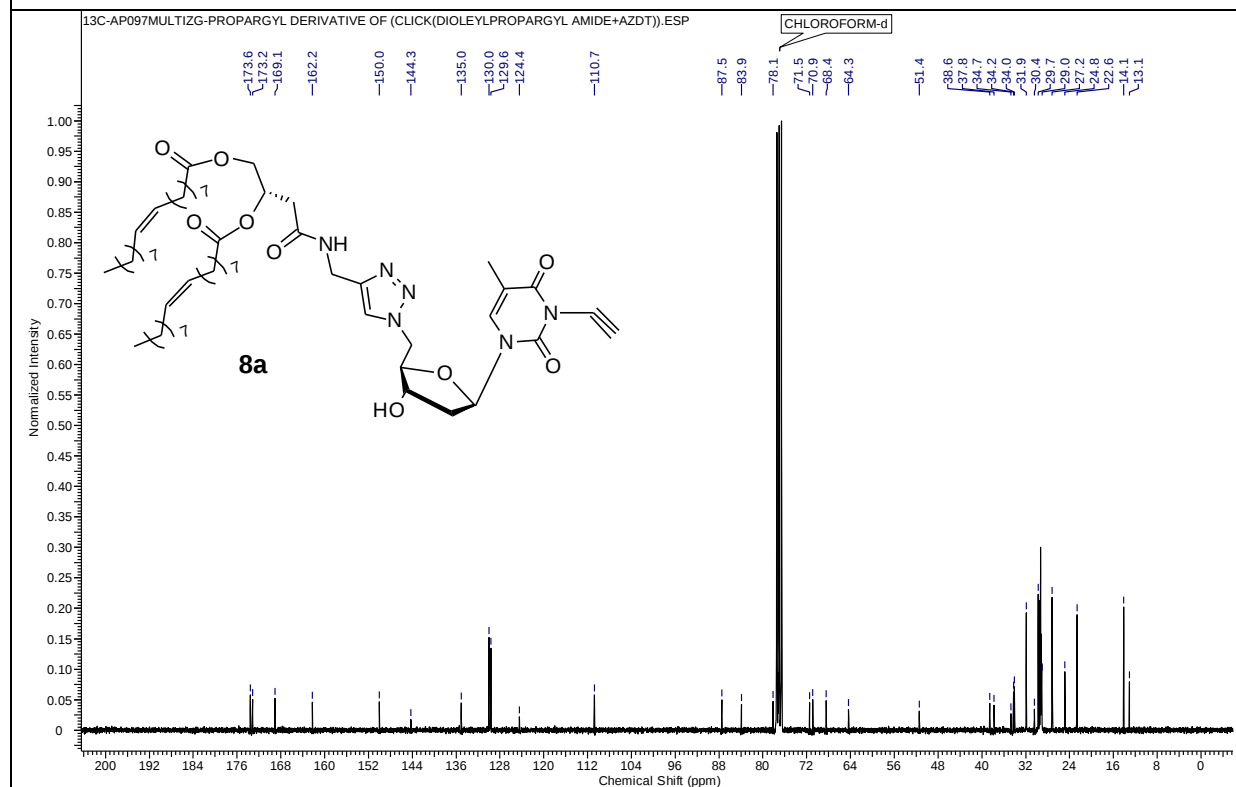
¹H-NMR spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **7c**



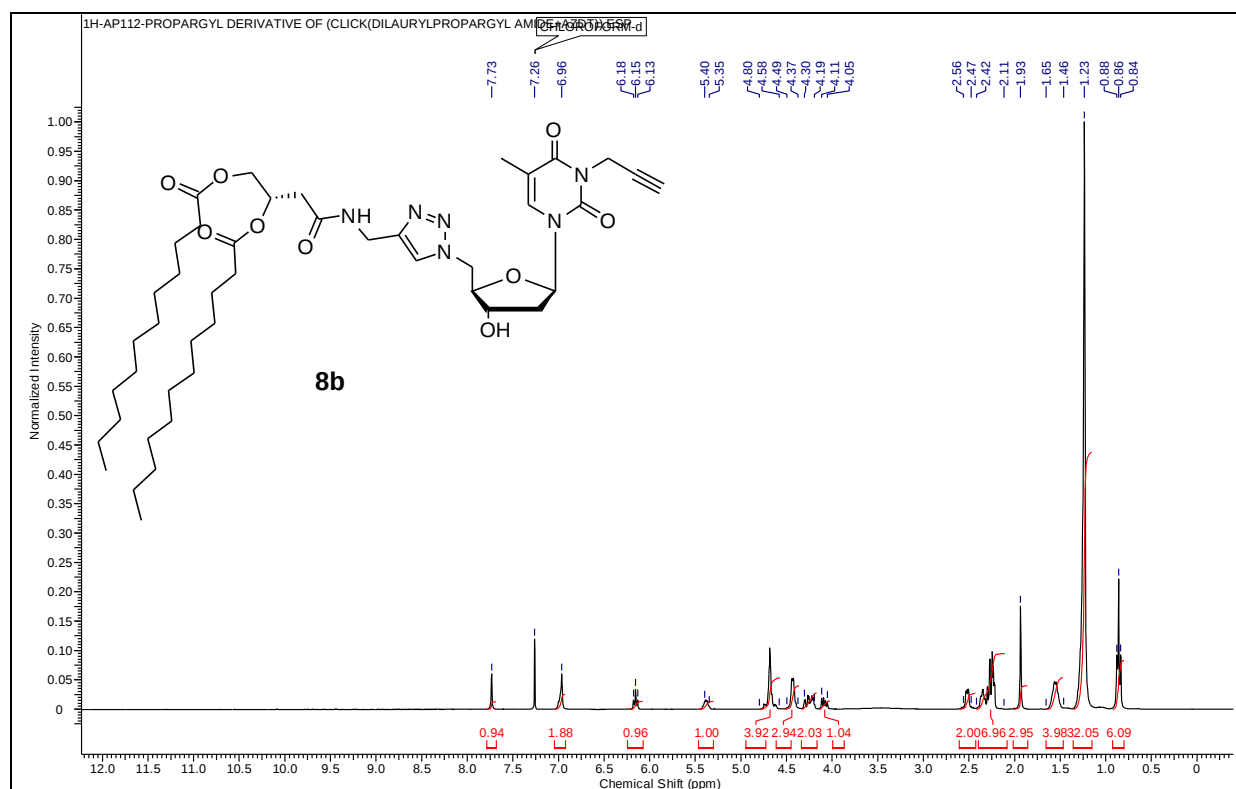
¹³C-NMR spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **7c**



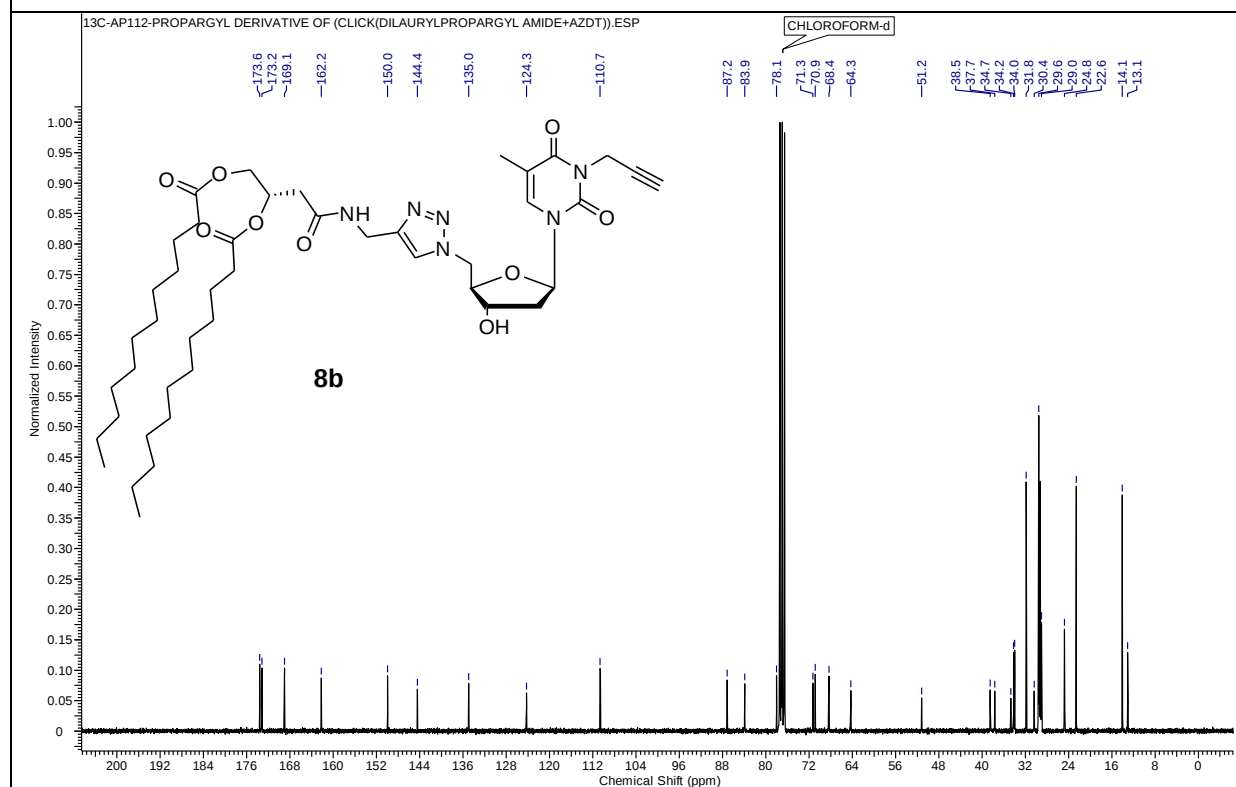
¹H-NMR spectrum of (Z)-((S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl) dioleate **8a**



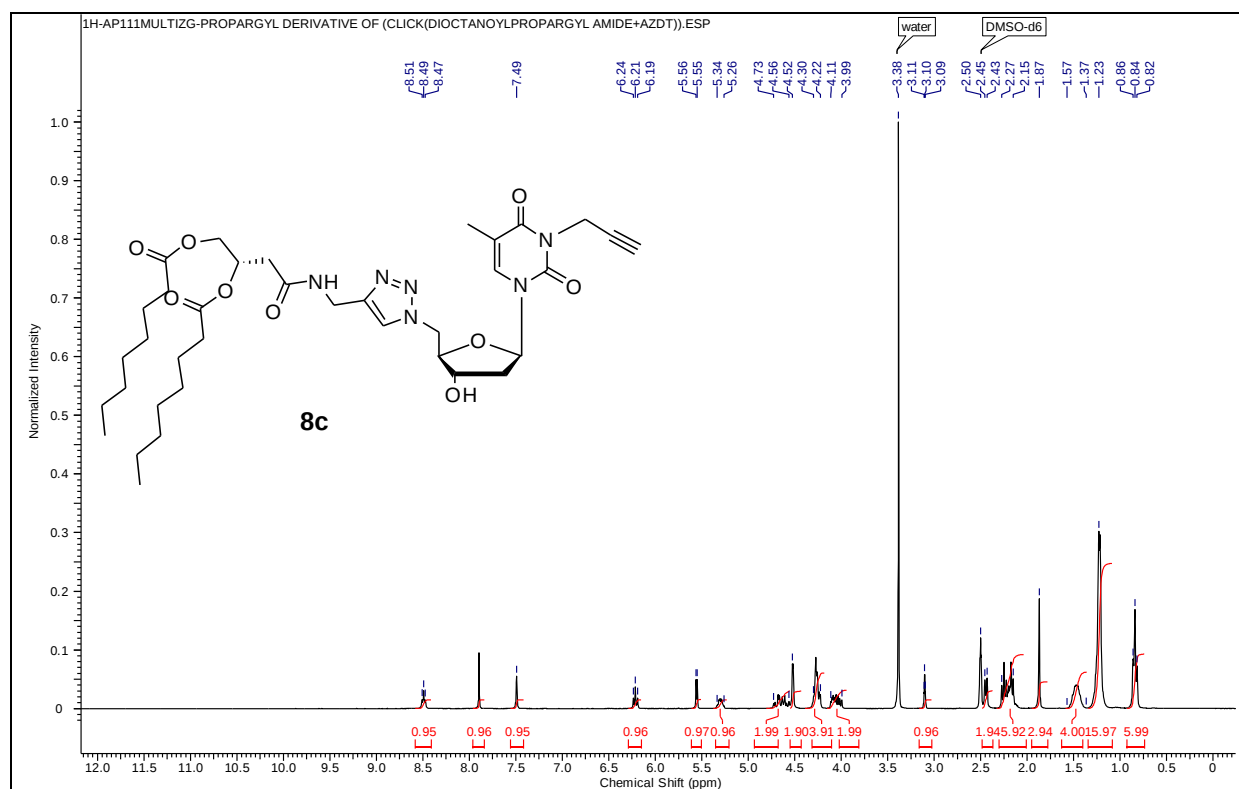
¹³C-NMR spectrum of (Z)-((S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl) dioleate **8a**



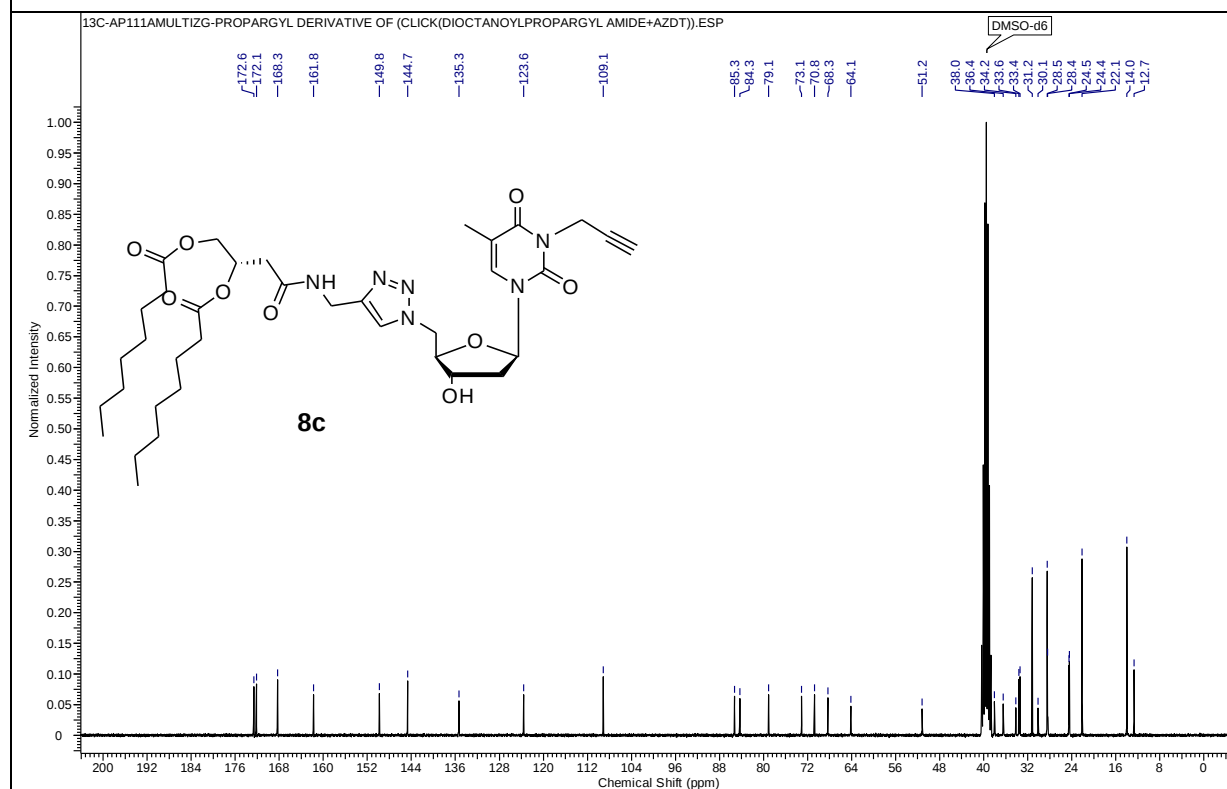
¹H-NMR spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **8b**



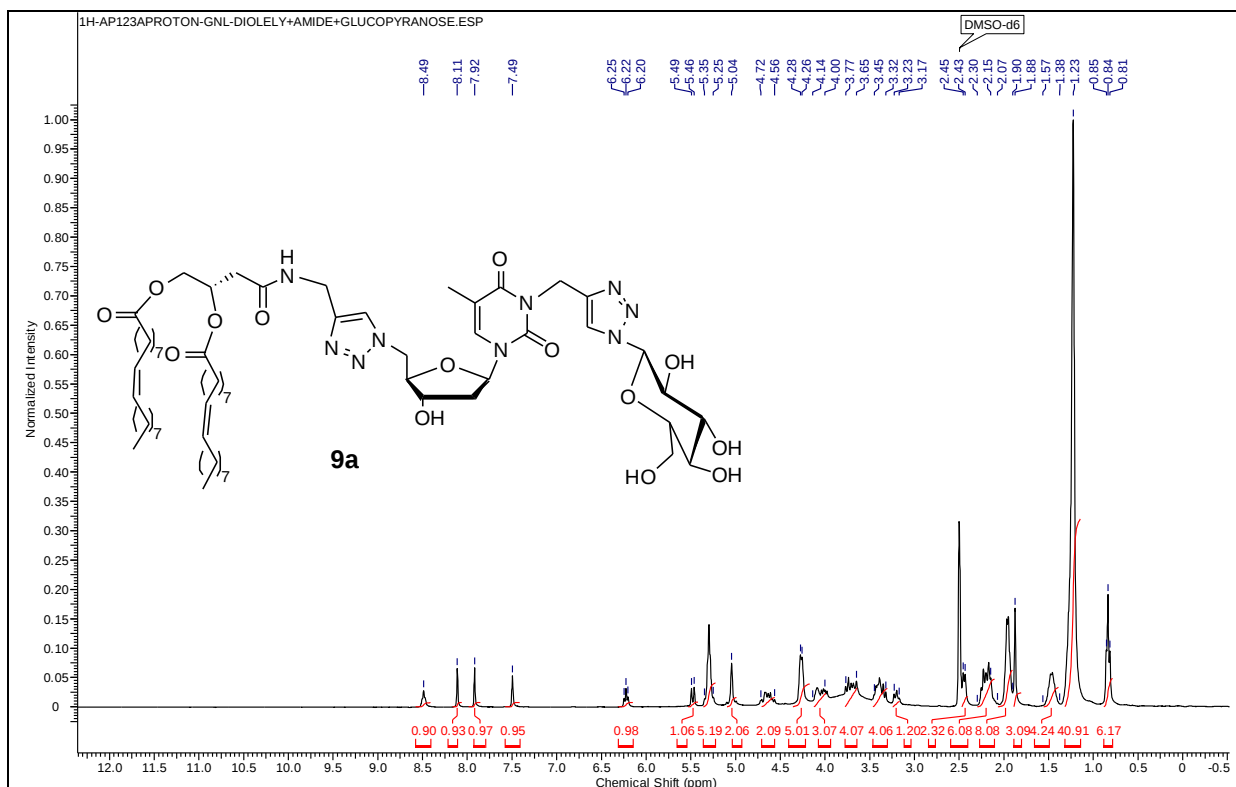
¹³C-NMR spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **8b**



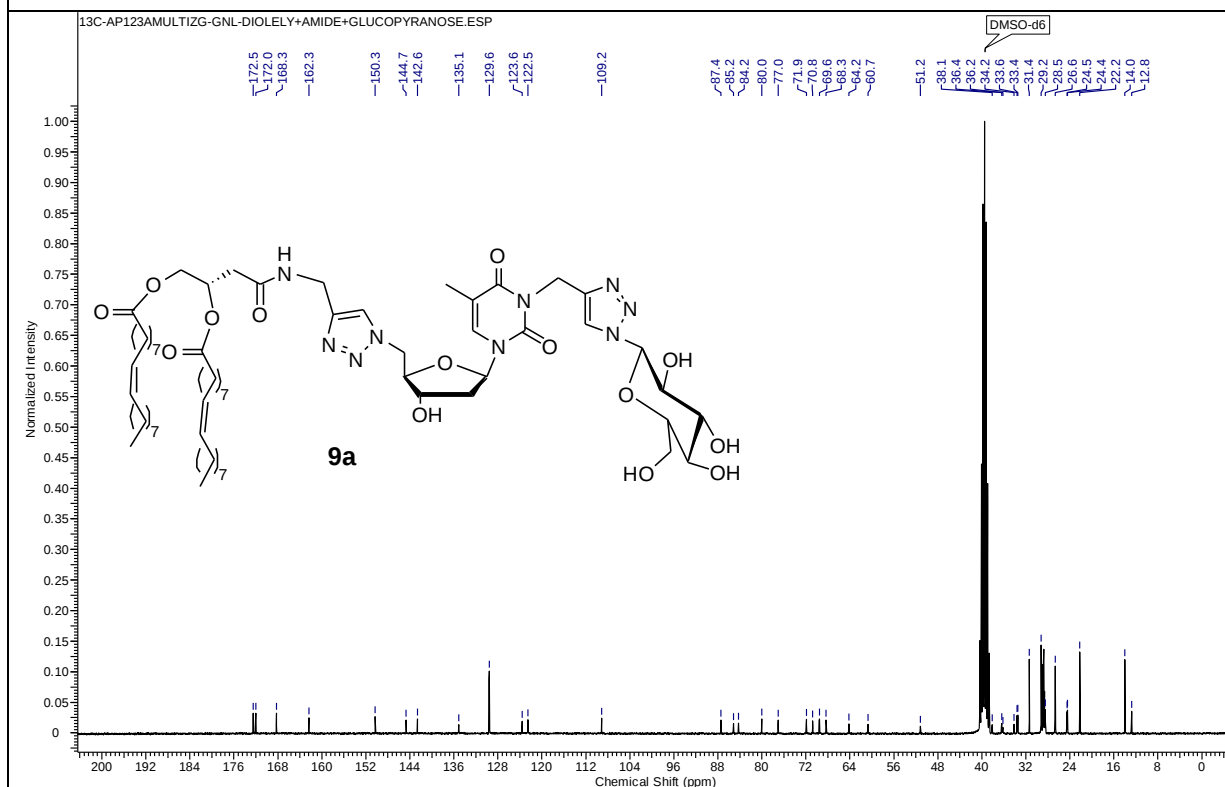
¹H-NMR spectrum of (*S*)-4-(1-(((2*R*,3*S*,5*R*)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **8c**



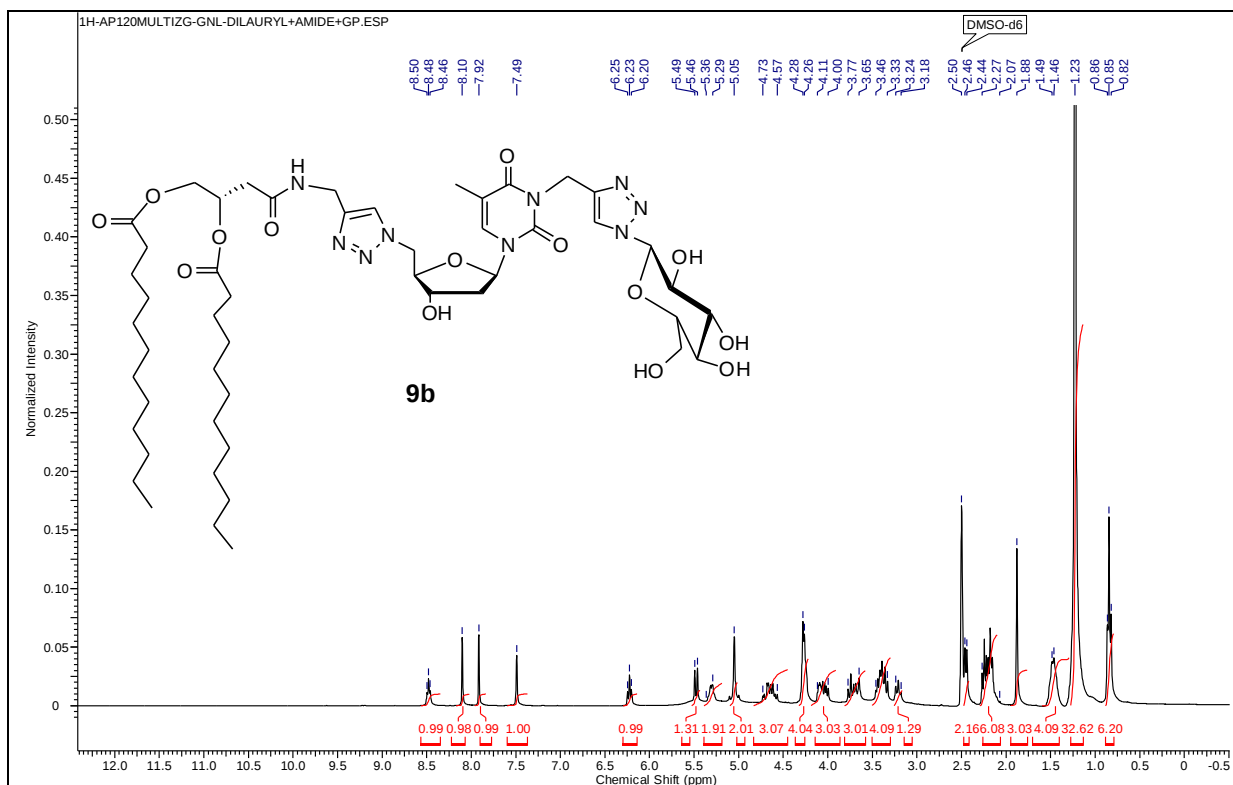
¹³C-NMR spectrum of (*S*)-4-(1-(((2*R*,3*S*,5*R*)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **8c**



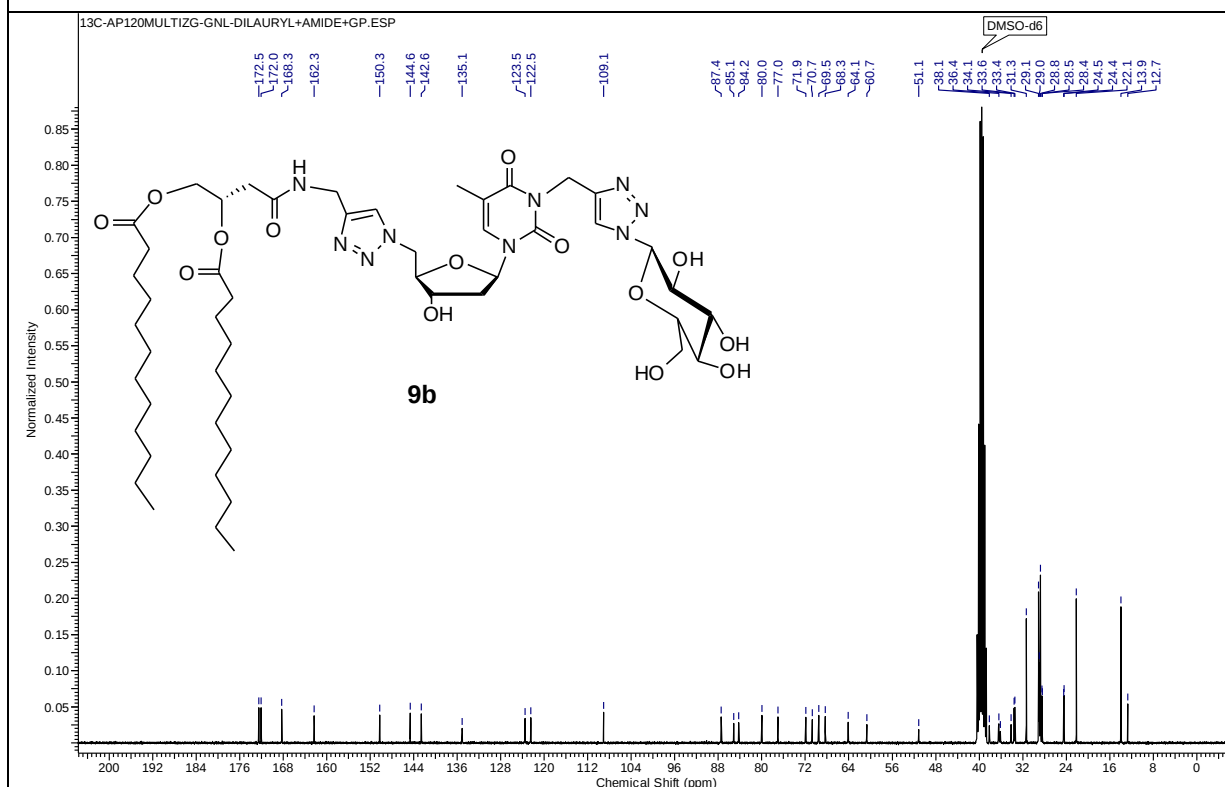
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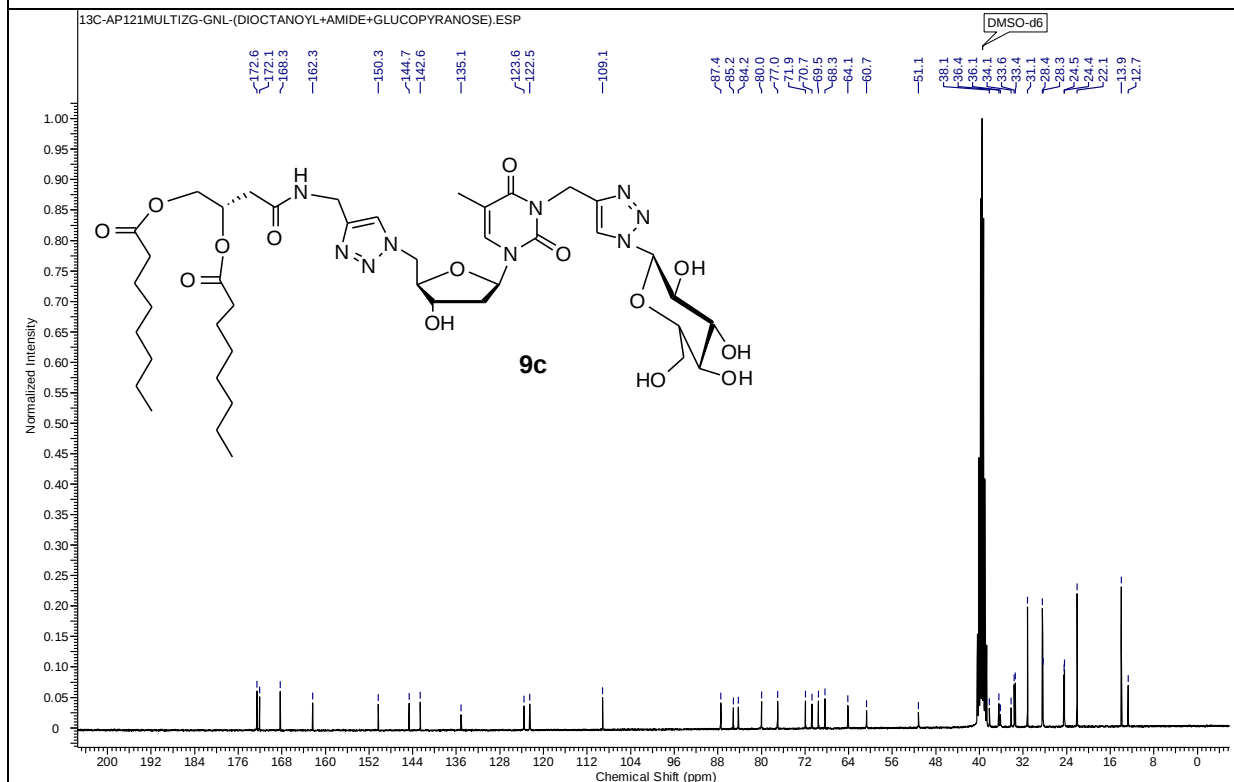
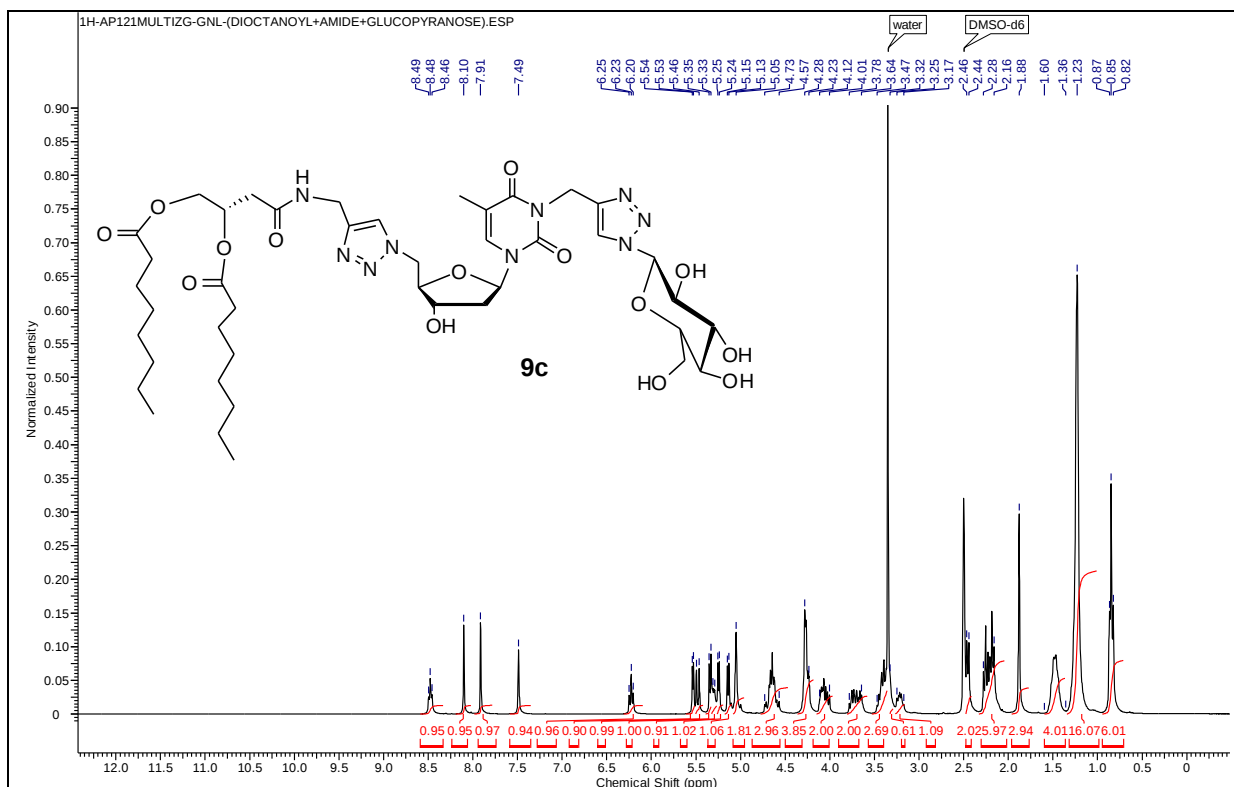
¹³C-NMR spectrum of (Z)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-((1-((2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2H-pyran-2-yl)-1H-1,2,3-triazol-4-yl)methyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioleate **9a**

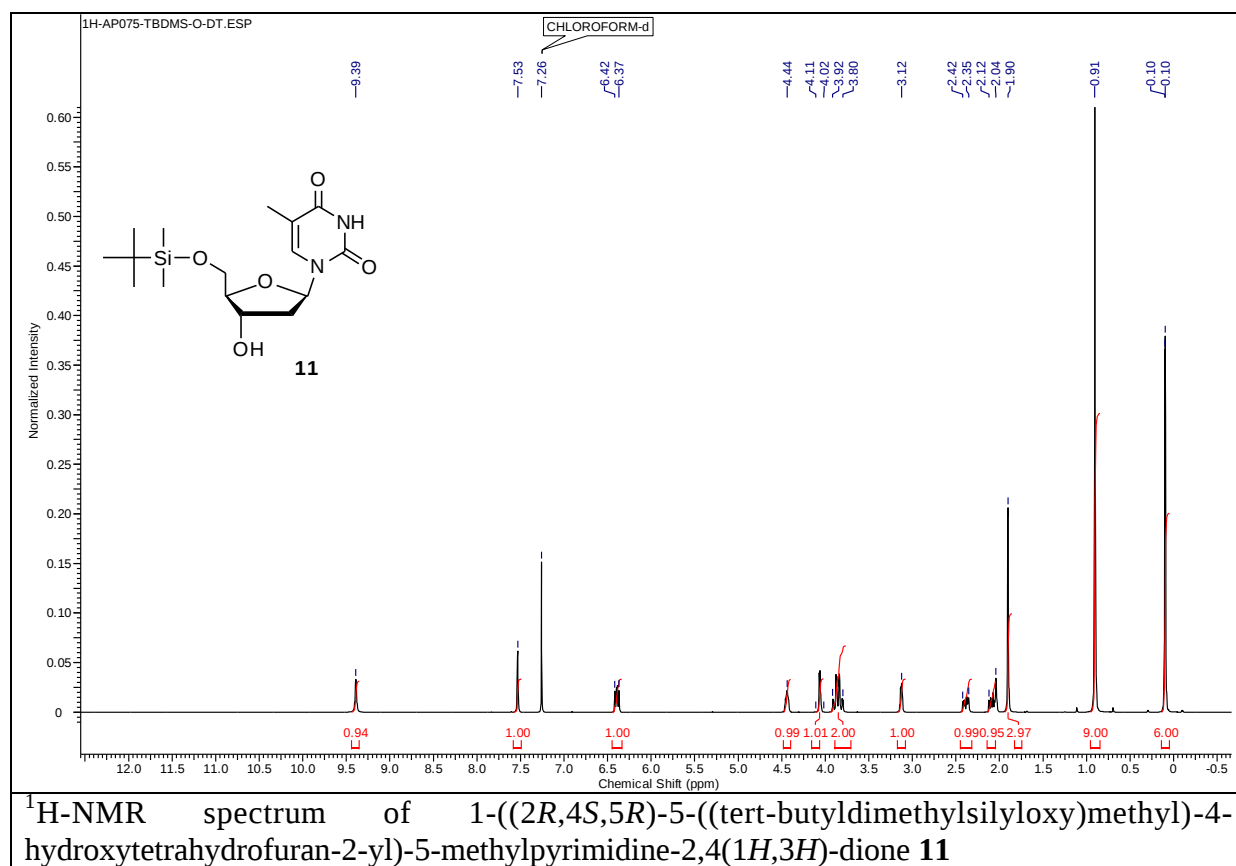


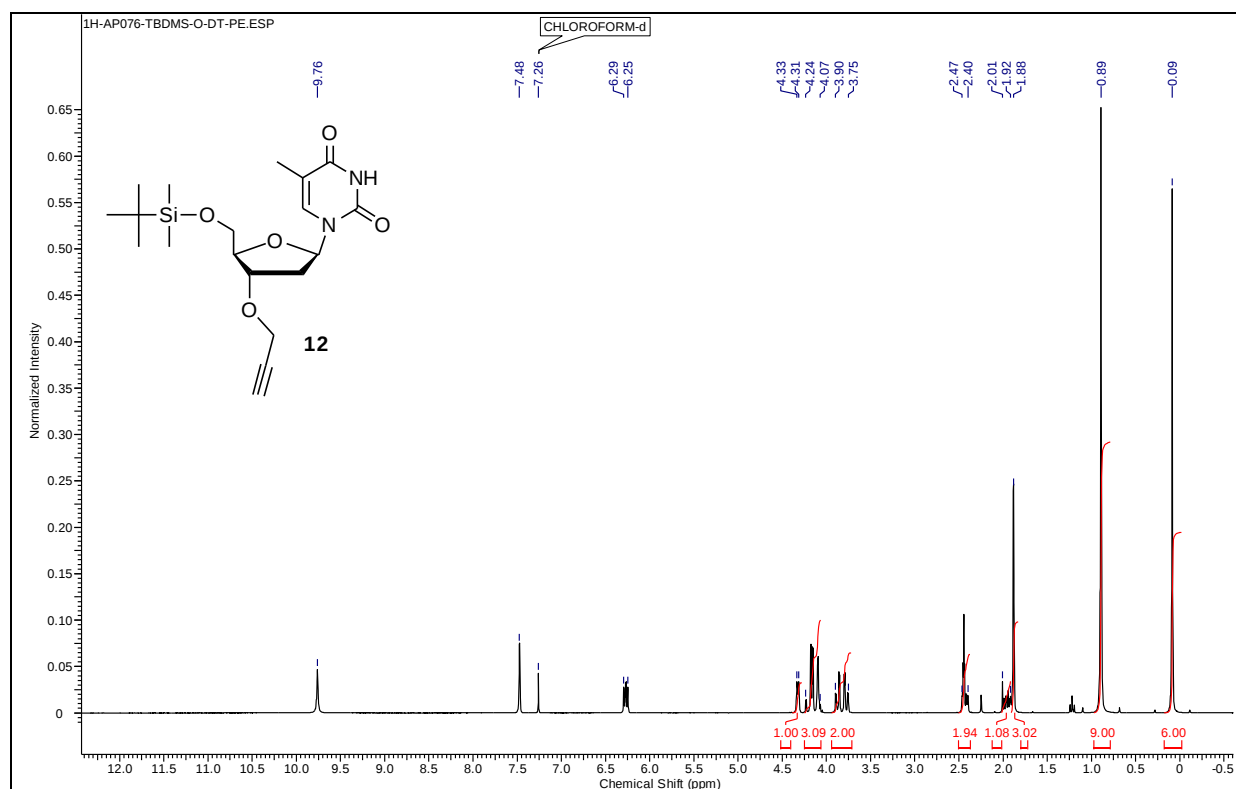
¹H-NMR spectrum of 4-(1-(((2*R*,3*S*,5*R*)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(((1-(((2*R*,3*R*,4*S*,5*S*,6*R*)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2*H*-pyran-2-yl)-1*H*-1,2,3-triazol-4-yl)methyl)-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **9b**



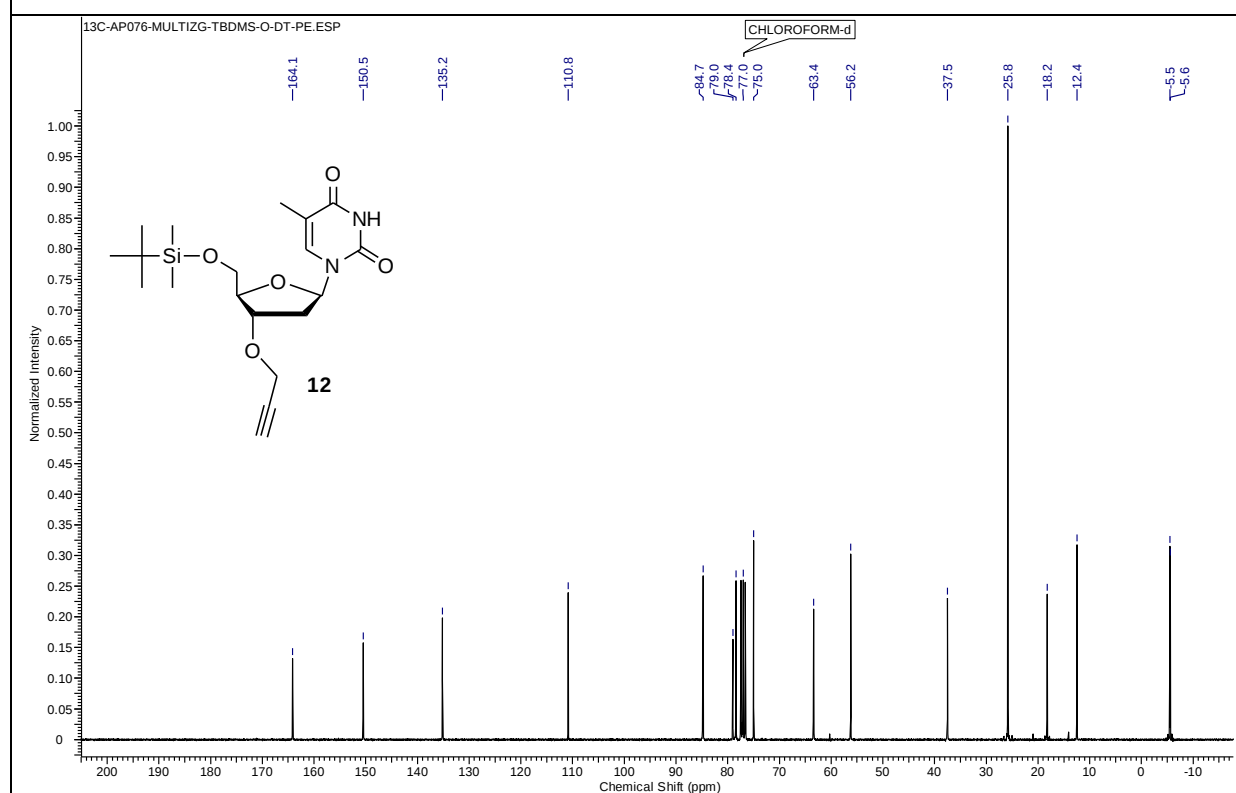
¹³C-NMR spectrum of 4-(1-(((2*R*,3*S*,5*R*)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(((1-(((2*R*,3*R*,4*S*,5*S*,6*R*)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2*H*-pyran-2-yl)-1*H*-1,2,3-triazol-4-yl)methyl)-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **9b**



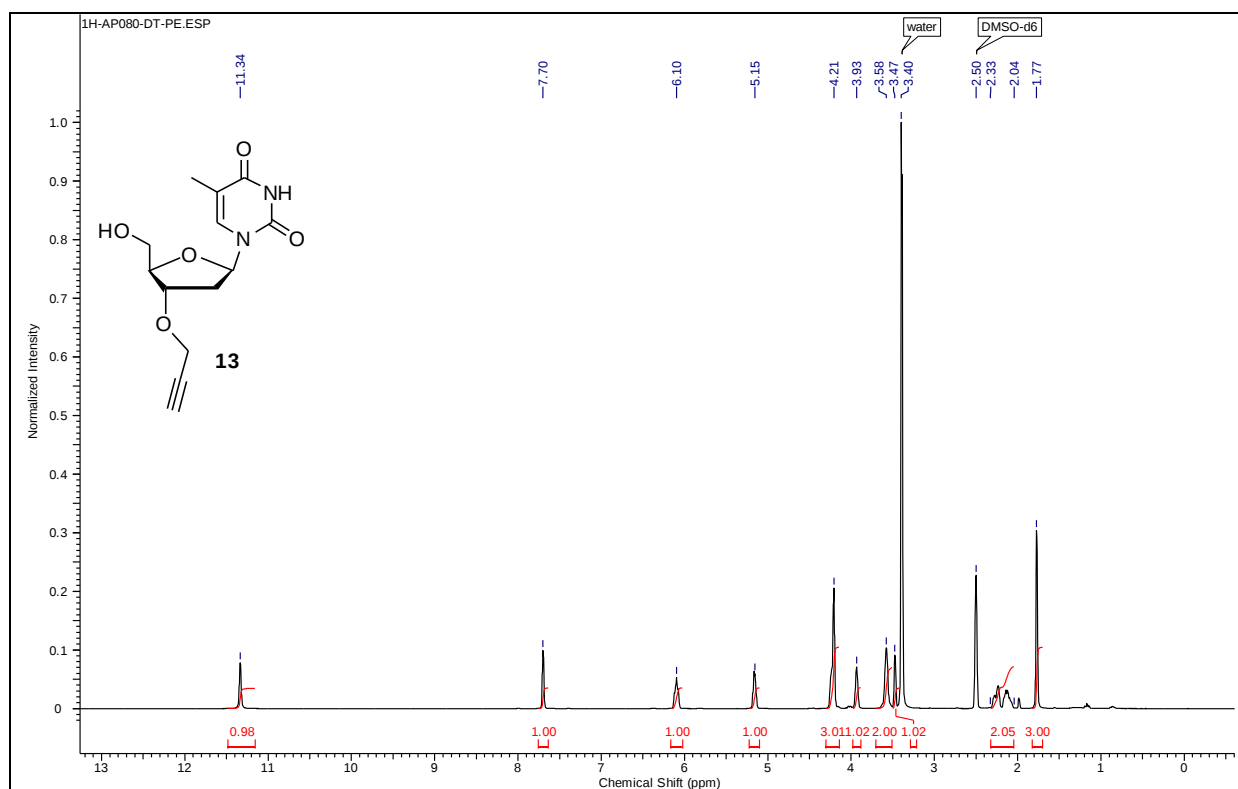




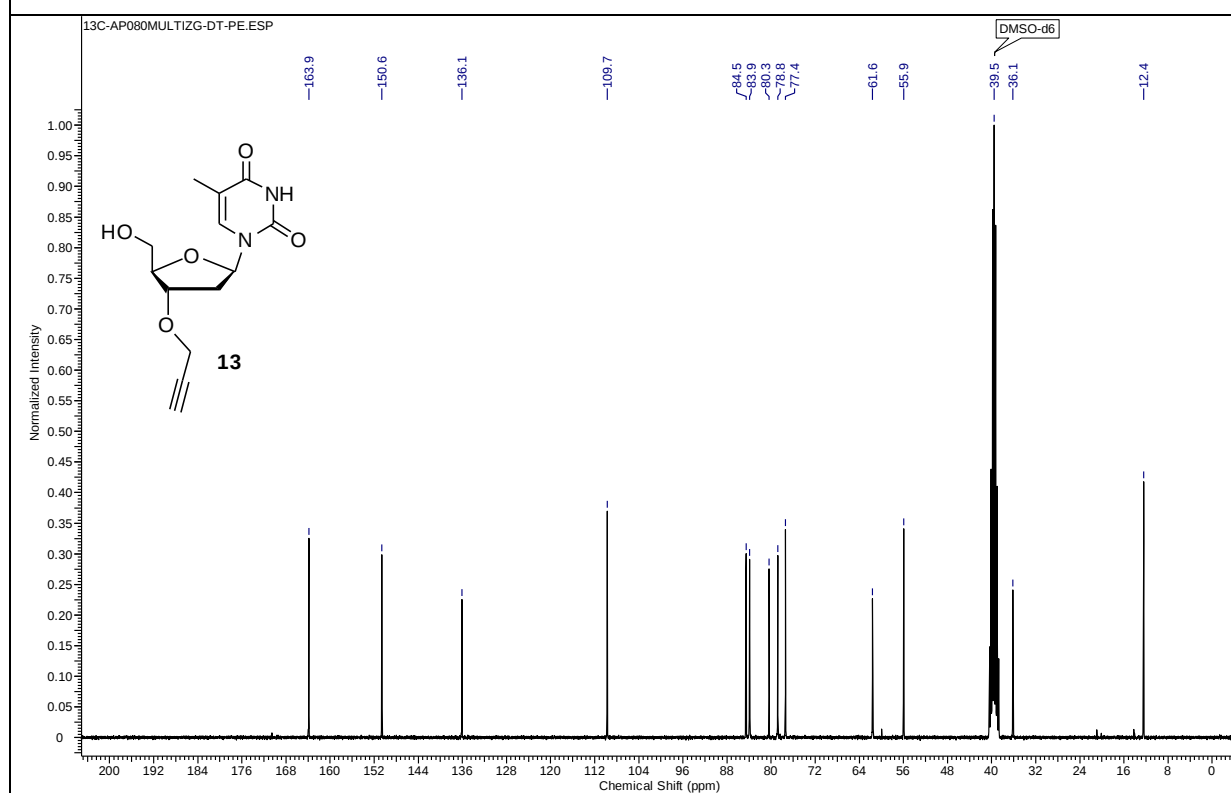
¹H-NMR spectrum of 1-((2*R*,4*S*,5*R*)-5-((tert-butyl dimethylsilyloxy)methyl)-4-(prop-2-ynyloxy)tetrahydrofuran-2-yl)-5-methylpyrimidine-2,4(1*H*,3*H*)-dione **12**



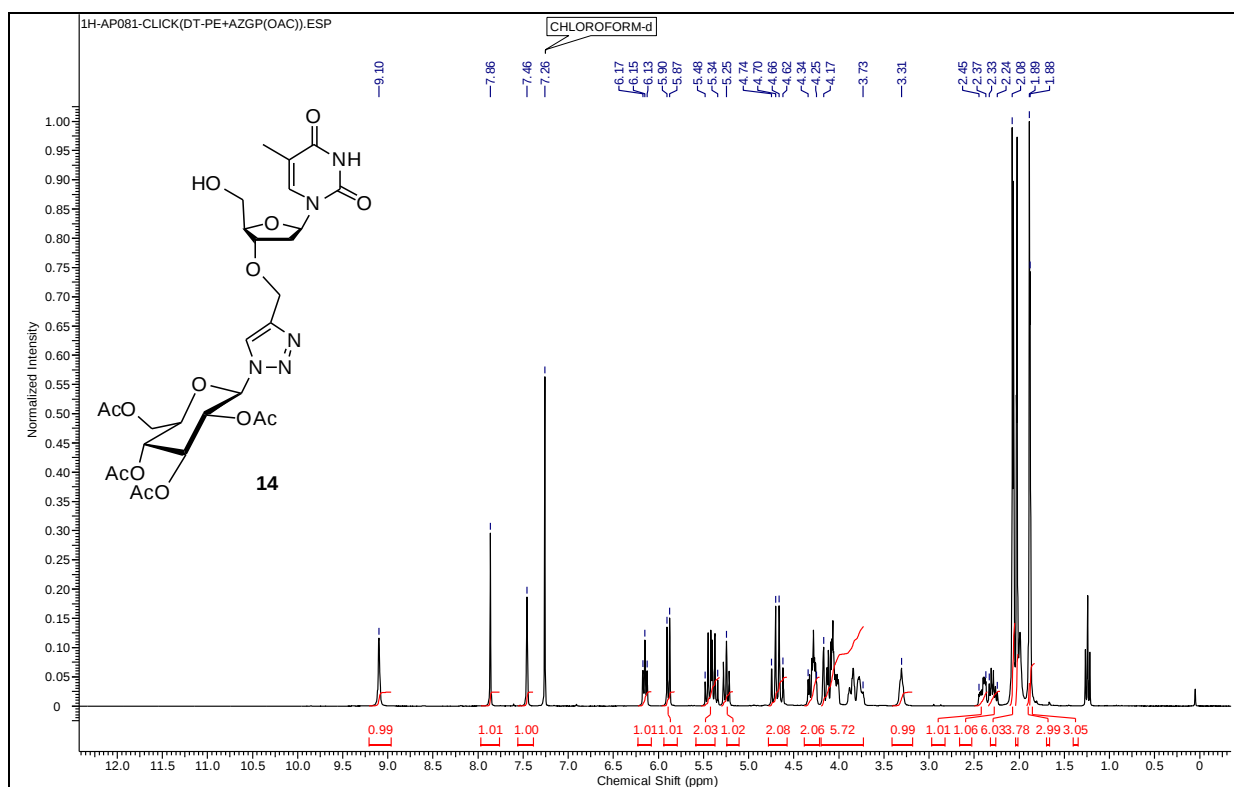
¹³C-NMR spectrum of 1-((2*R*,4*S*,5*R*)-5-((tert-butyl dimethylsilyloxy)methyl)-4-(prop-2-ynyloxy)tetrahydrofuran-2-yl)-5-methylpyrimidine-2,4(1*H*,3*H*)-dione **12**



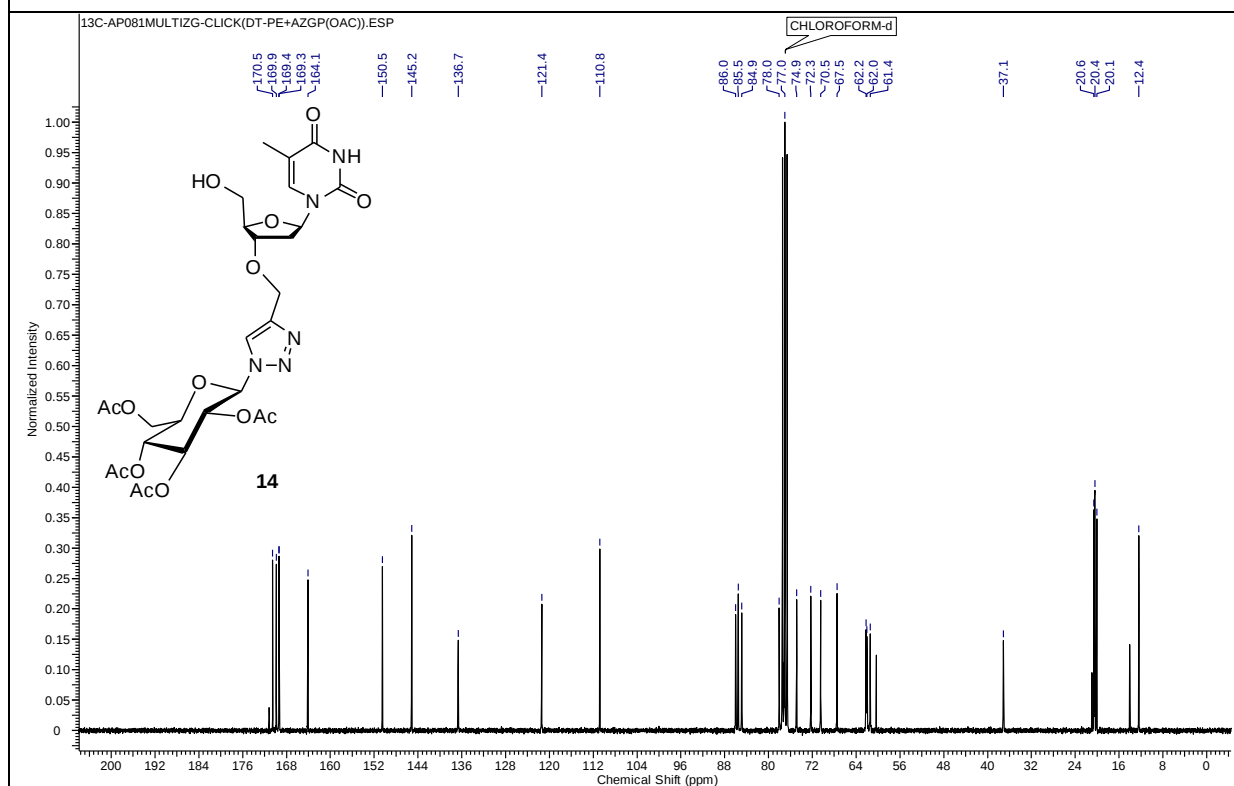
¹H-NMR spectrum of 1-((2R,4S,5R)-5-(hydroxymethyl)-4-(prop-2-ynyloxy)tetrahydrofuran-2-yl)-5-methylpyrimidine-2,4(1H,3H)-dione **13**



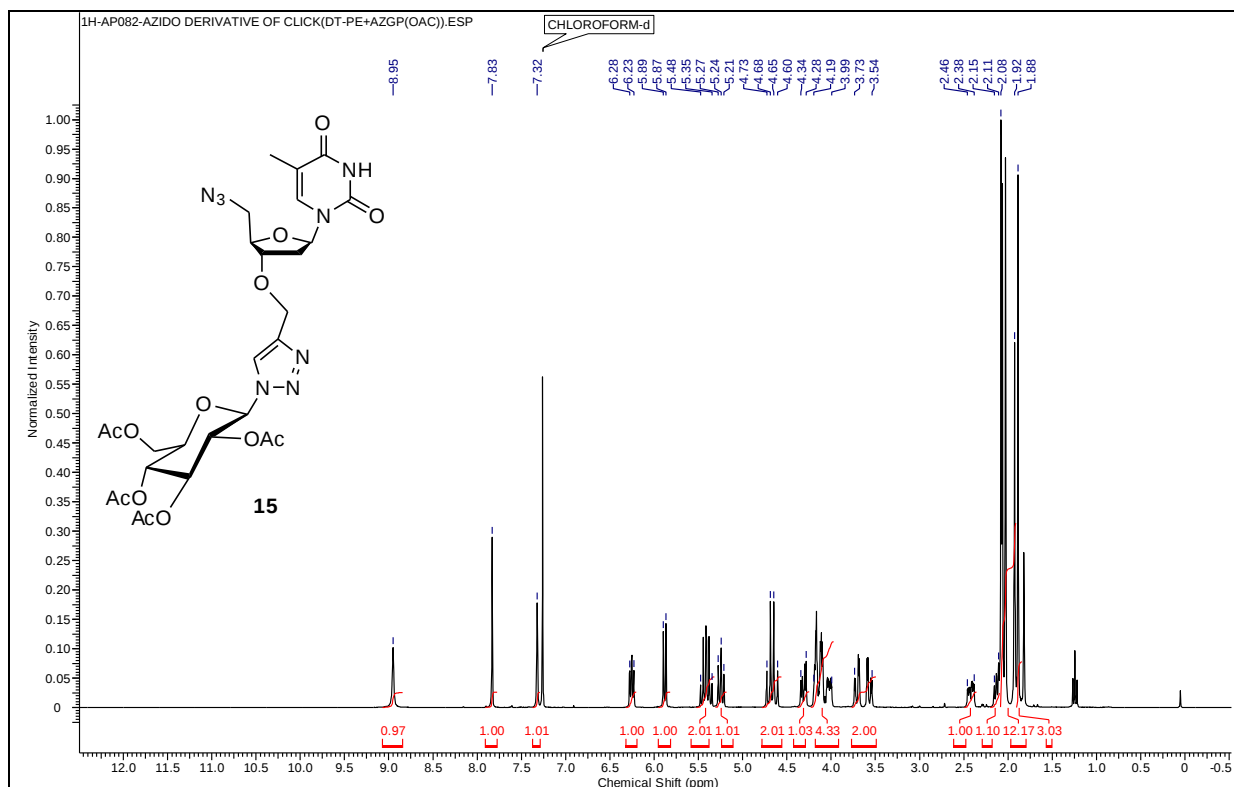
¹³C-NMR spectrum of 1-((2R,4S,5R)-5-(hydroxymethyl)-4-(prop-2-ynyloxy)tetrahydrofuran-2-yl)-5-methylpyrimidine-2,4(1H,3H)-dione **13**



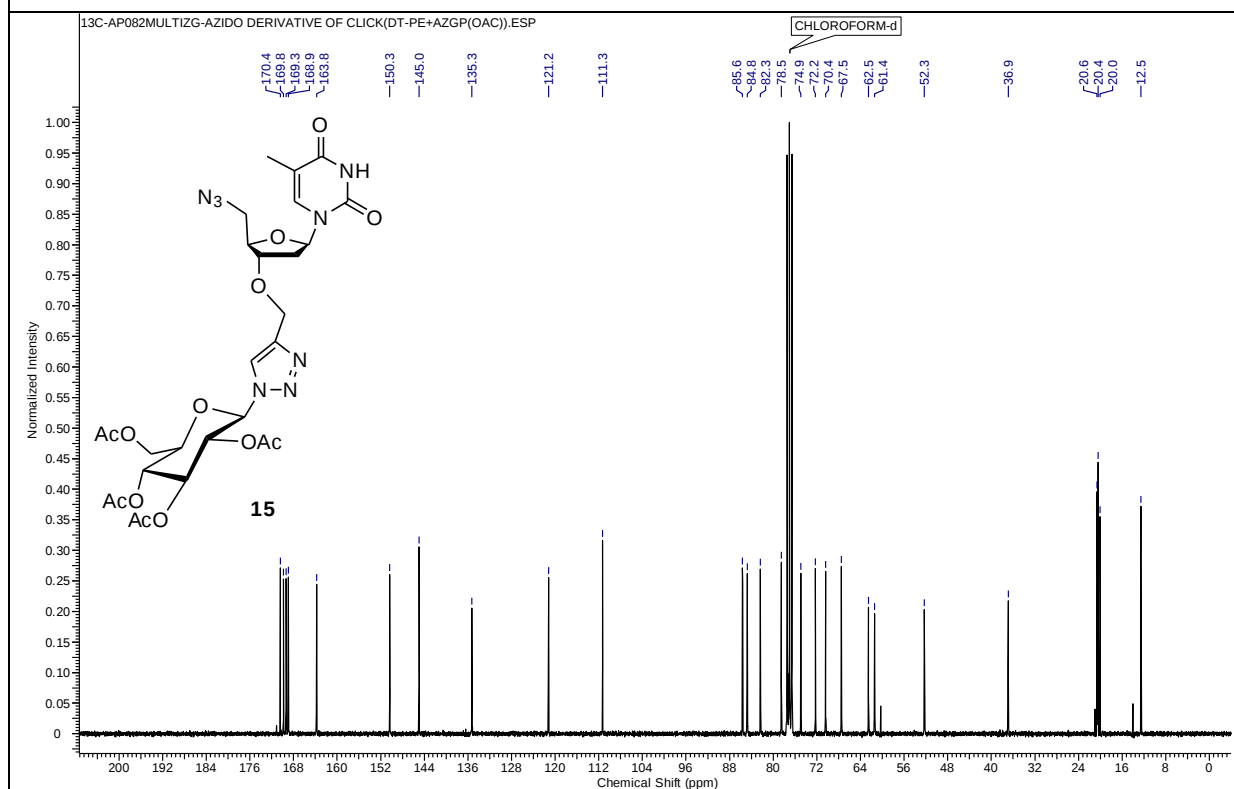
¹H-NMR spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(hydroxymethyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **14**



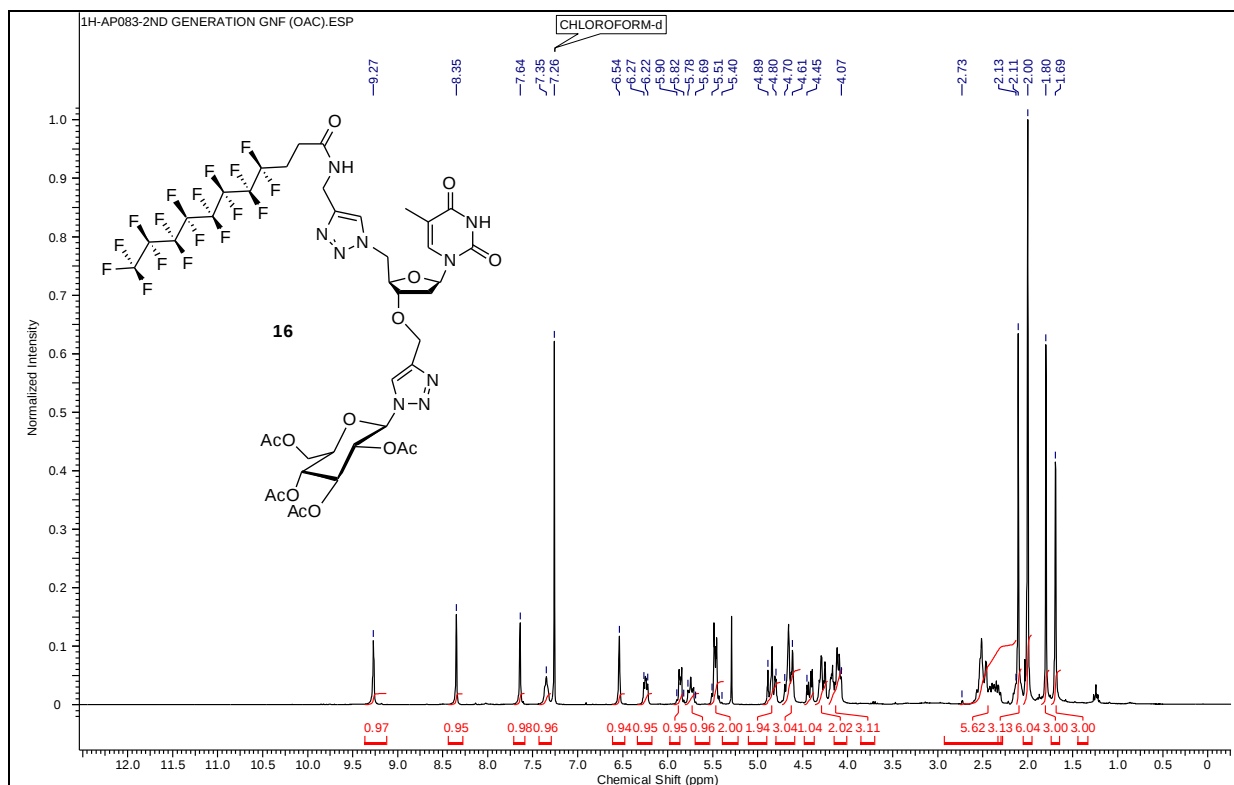
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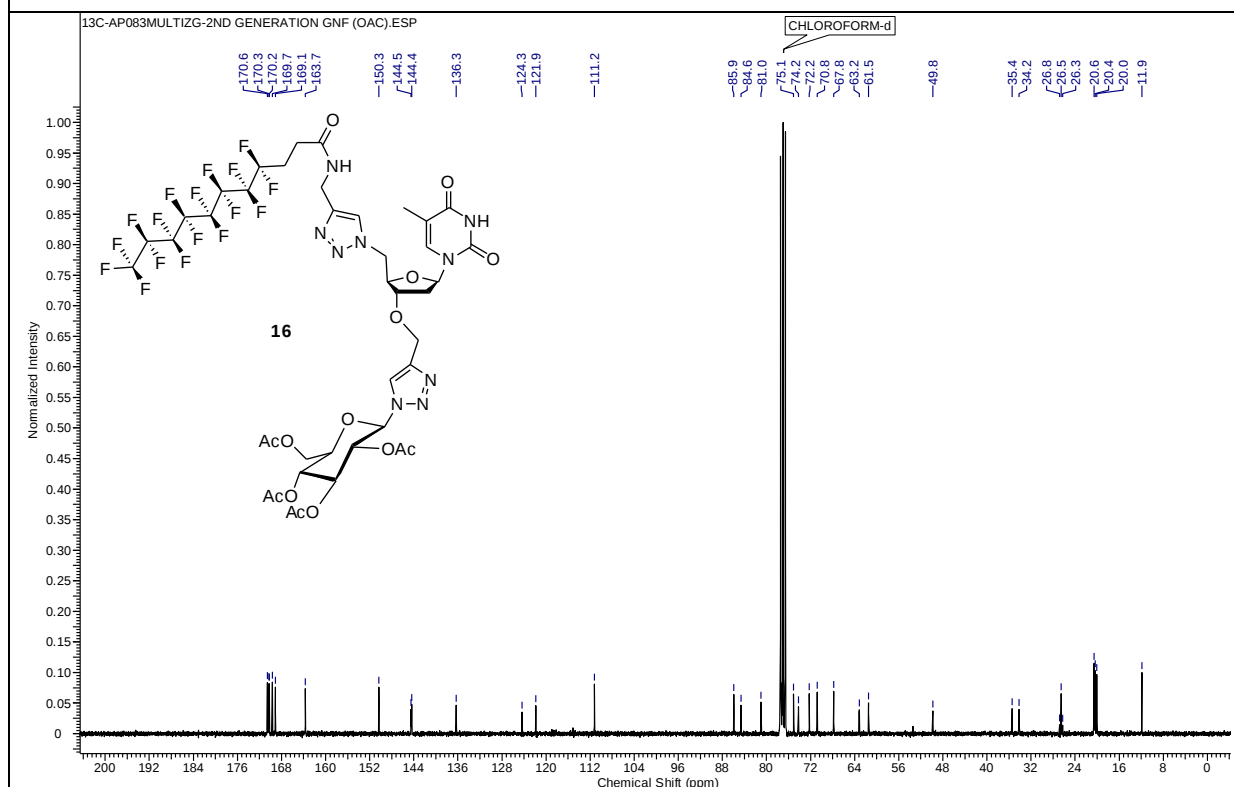
¹H-NMR spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(azidomethyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **15**



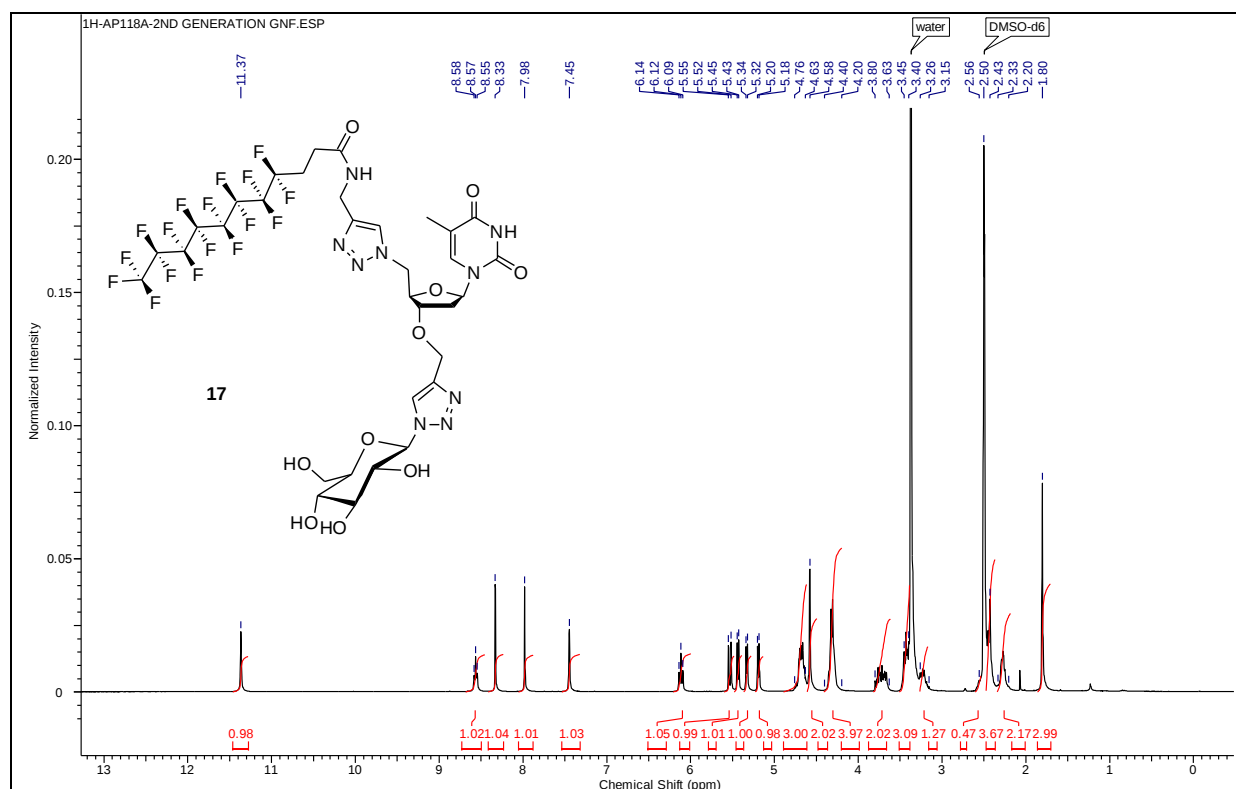
¹³C-NMR spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(azidomethyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **15**



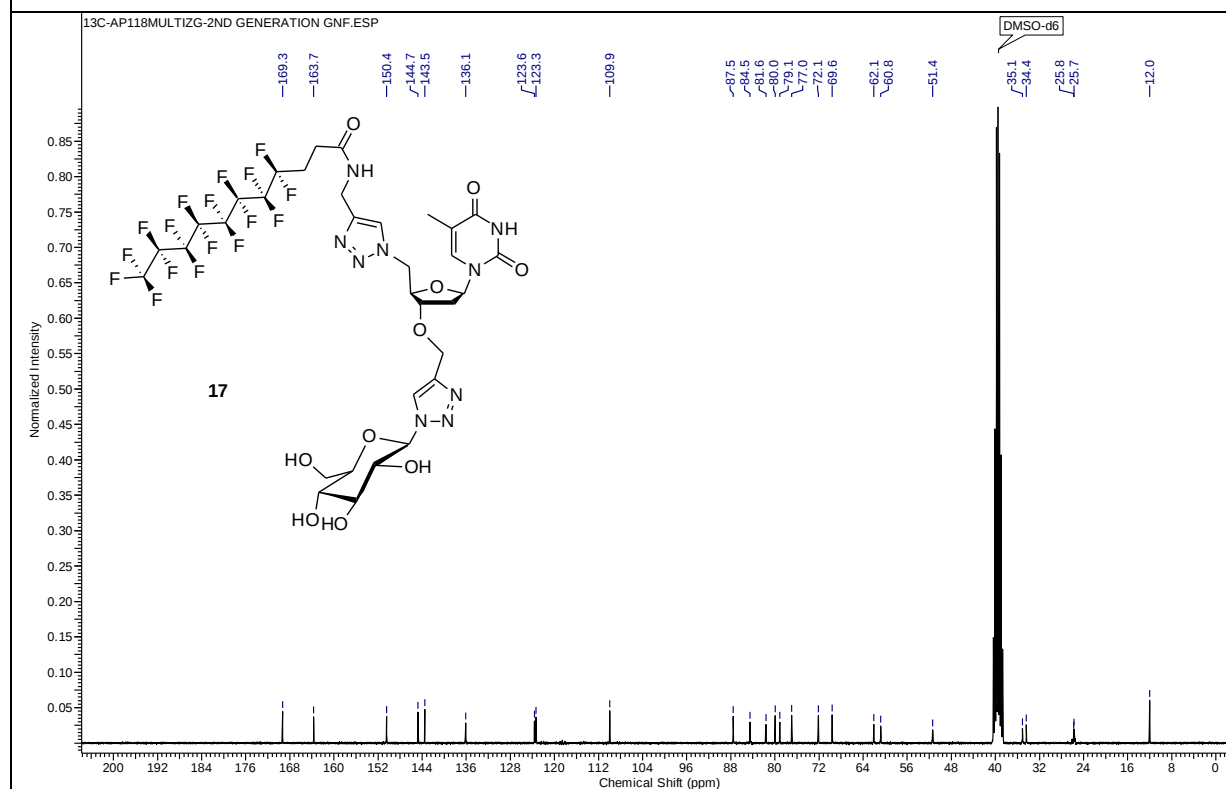
¹H-NMR spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(((4-((4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoroundecanamido)methyl)-1*H*-1,2,3-triazol-1-yl)methyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **16**



¹³C-NMR spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(((4-((4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoroundecanamido)methyl)-1*H*-1,2,3-triazol-1-yl)methyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **16**

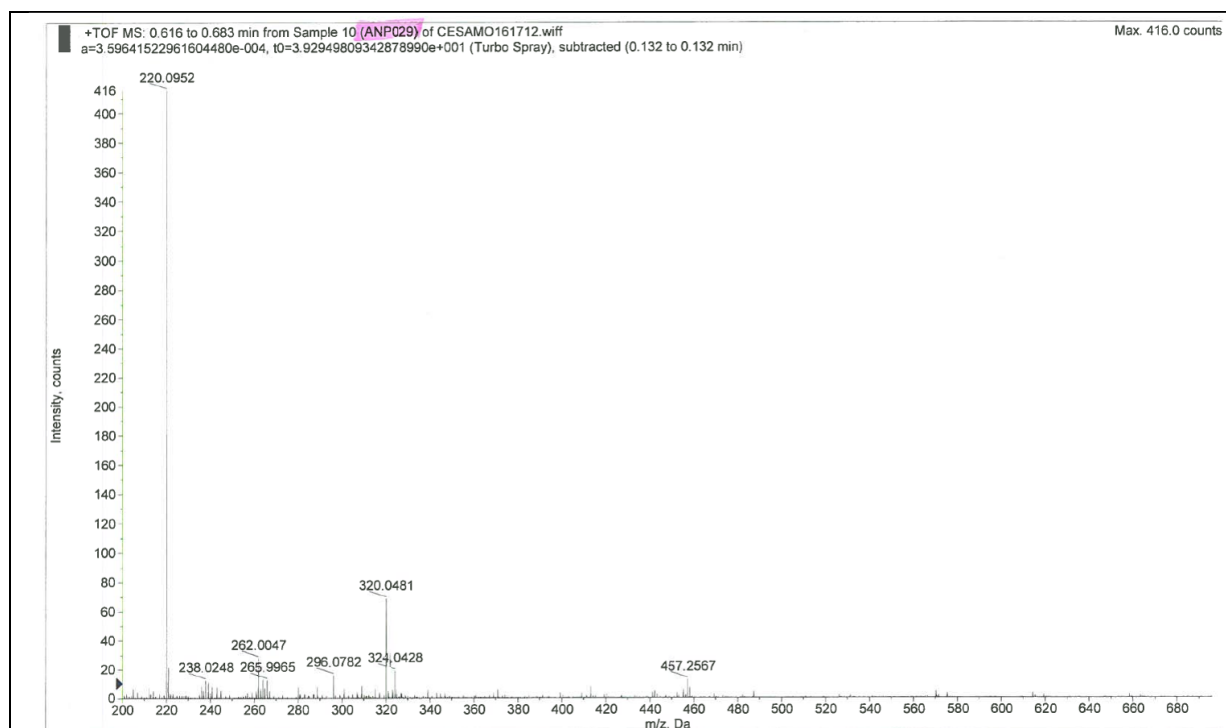


¹H-NMR spectrum of 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoro-N-((1-(((2R,3S,5R)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-3-((1-((2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2H-pyran-2-yl)-1H-1,2,3-triazol-4-yl)methoxy) tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-yl)methyl)undecanamide **17**

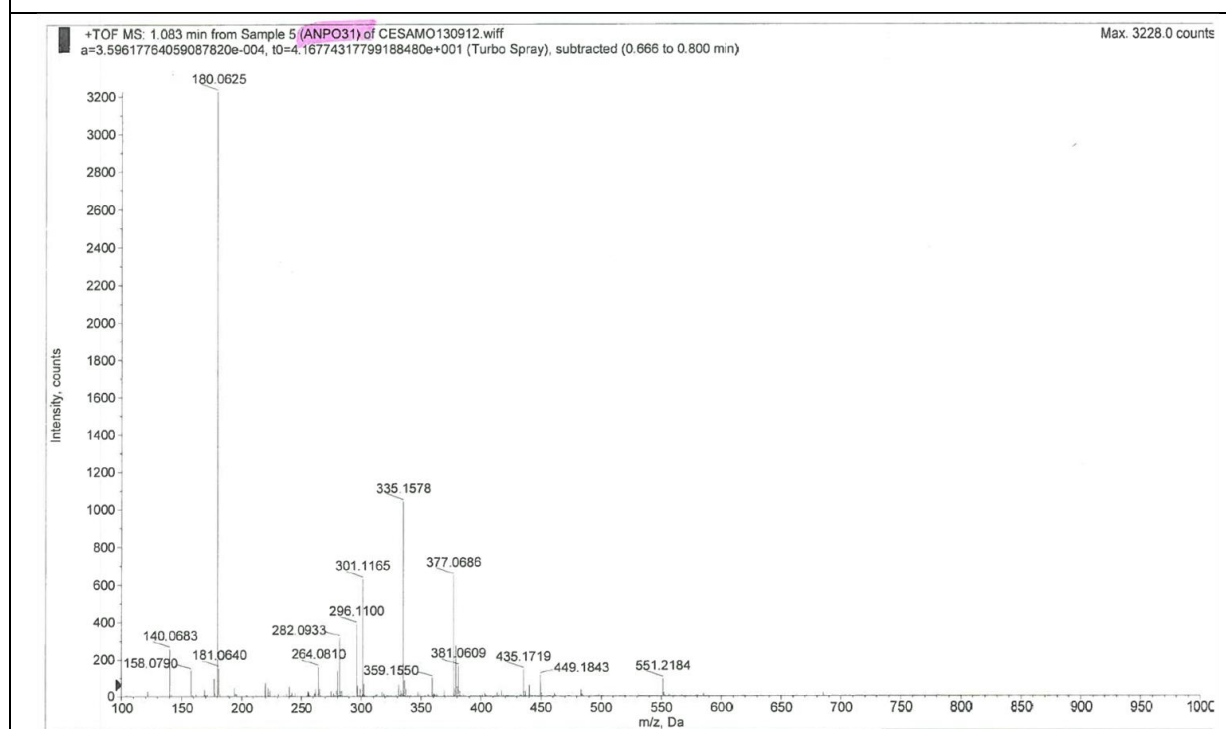


¹³C-NMR spectrum of 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoro-N-((1-(((2R,3S,5R)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)-3-((1-((2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2H-pyran-2-yl)-1H-1,2,3-triazol-4-yl)methoxy) tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-yl)methyl)undecanamide **17**

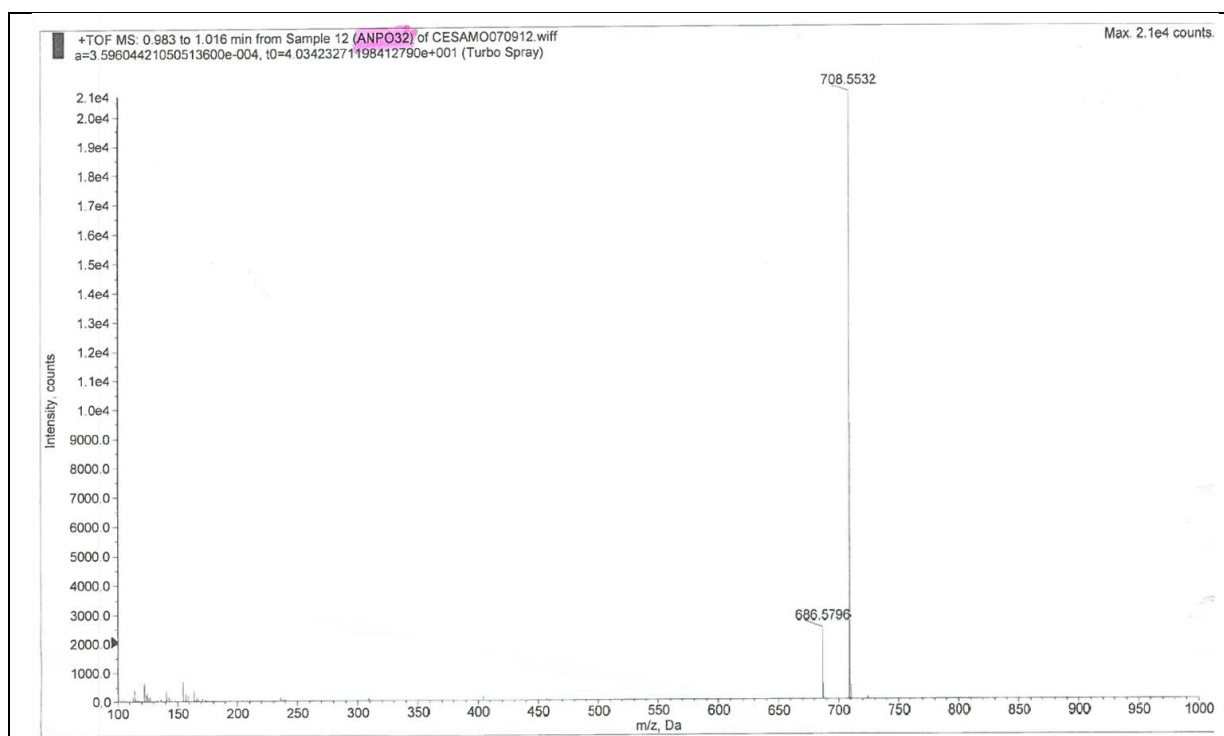
II. Mass Spectra (HR ESI-MS)



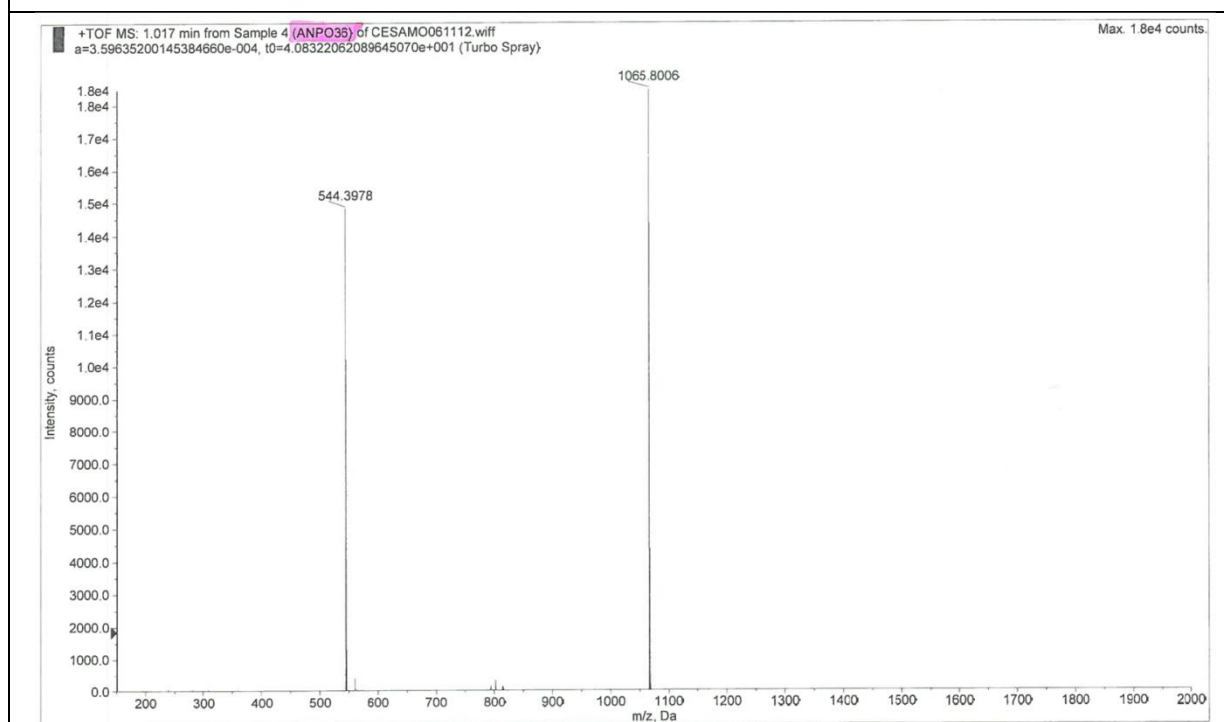
Mass spectrum of (S)-2-(2,2-dimethyl-1,3-dioxolan-4-yl)-N-(prop-2-ynyl)acetamide **4**



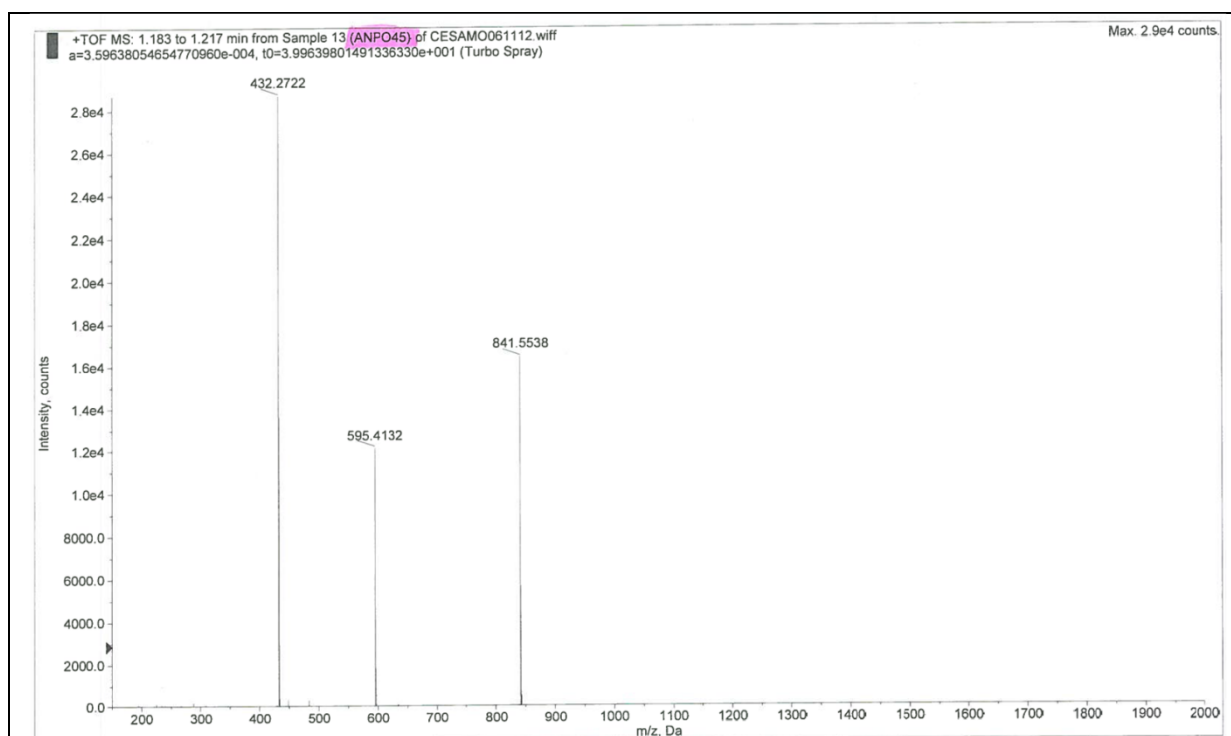
Mass spectrum of (S)-3,4-dihydroxy-N-(prop-2-ynyl)butanamide **5**



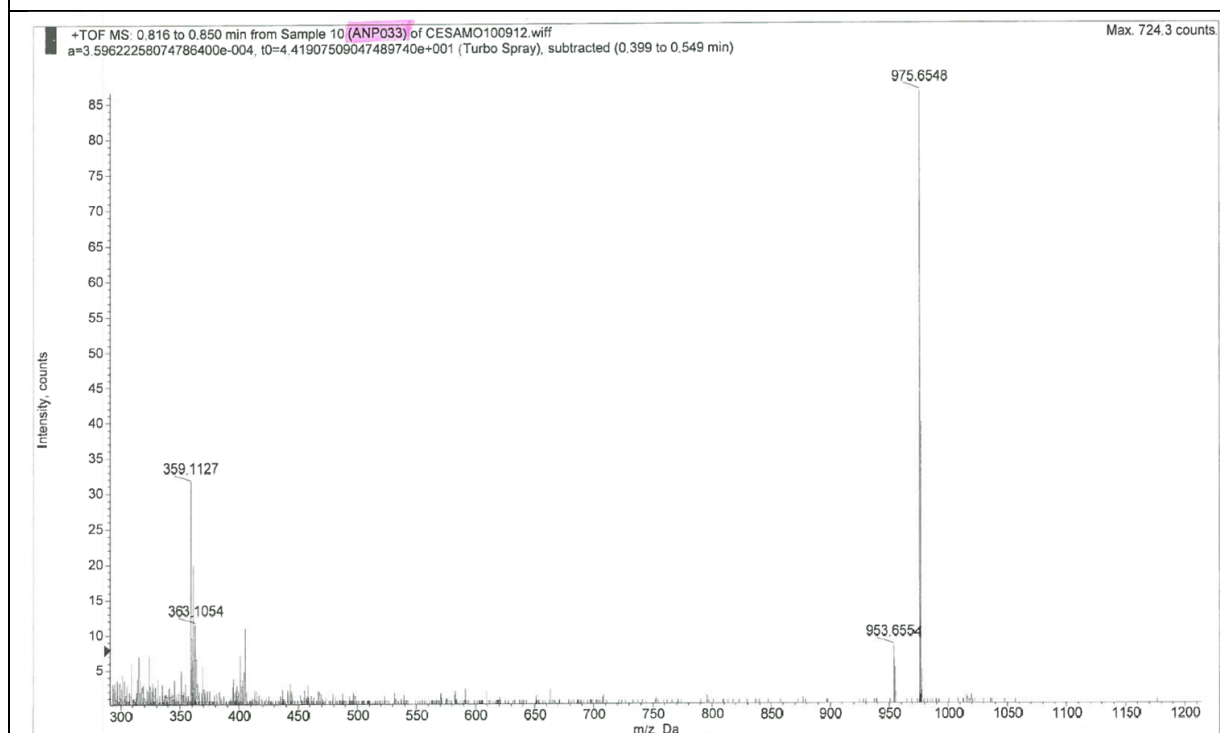
Mass spectrum of (Z)-((S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl) dioleate **6a**



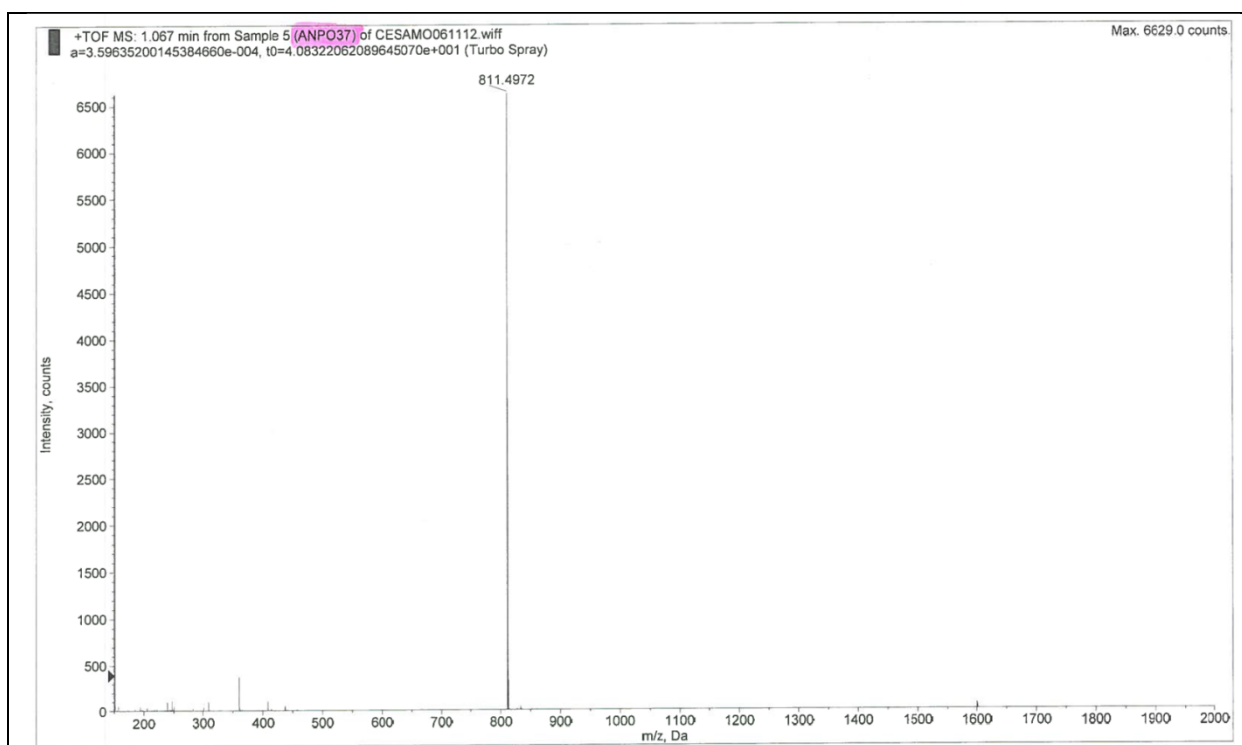
Mass spectrum of (S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl didodecanoate **6b**



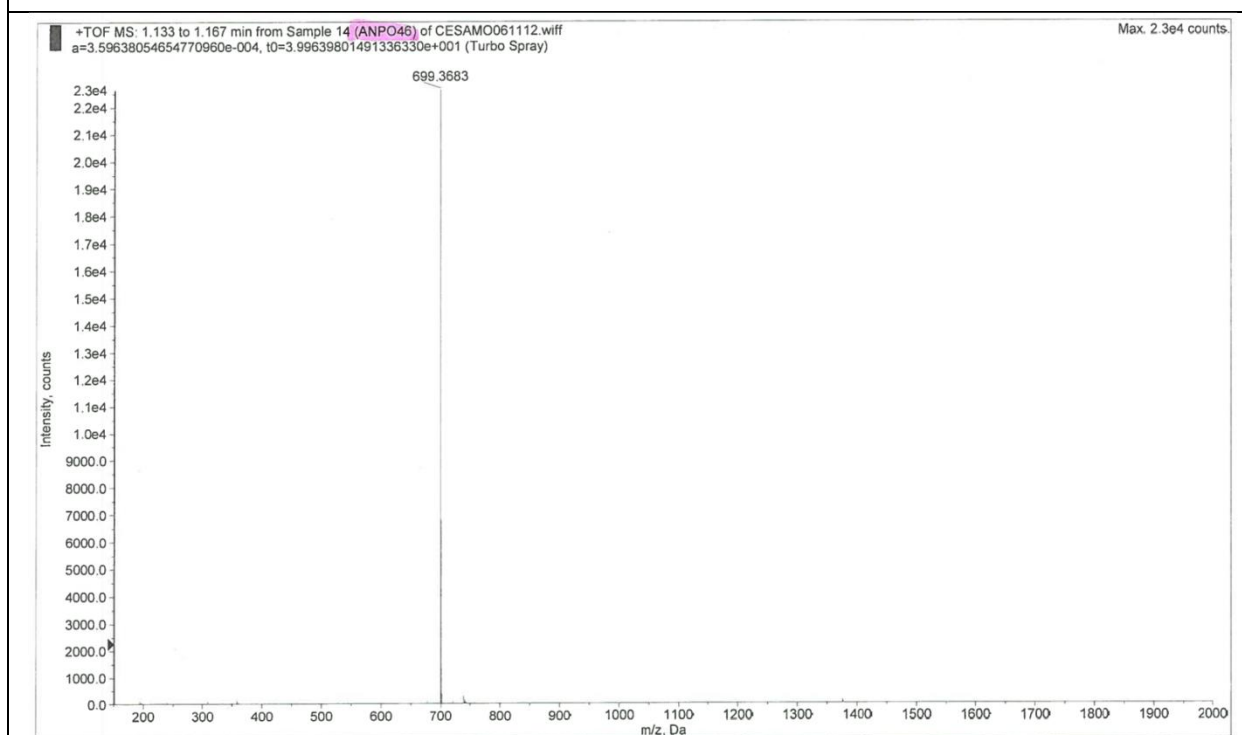
Mass spectrum of (S)-4-oxo-4-(prop-2-ynylamino)butane-1,2-diyl dioctanoate **6c**



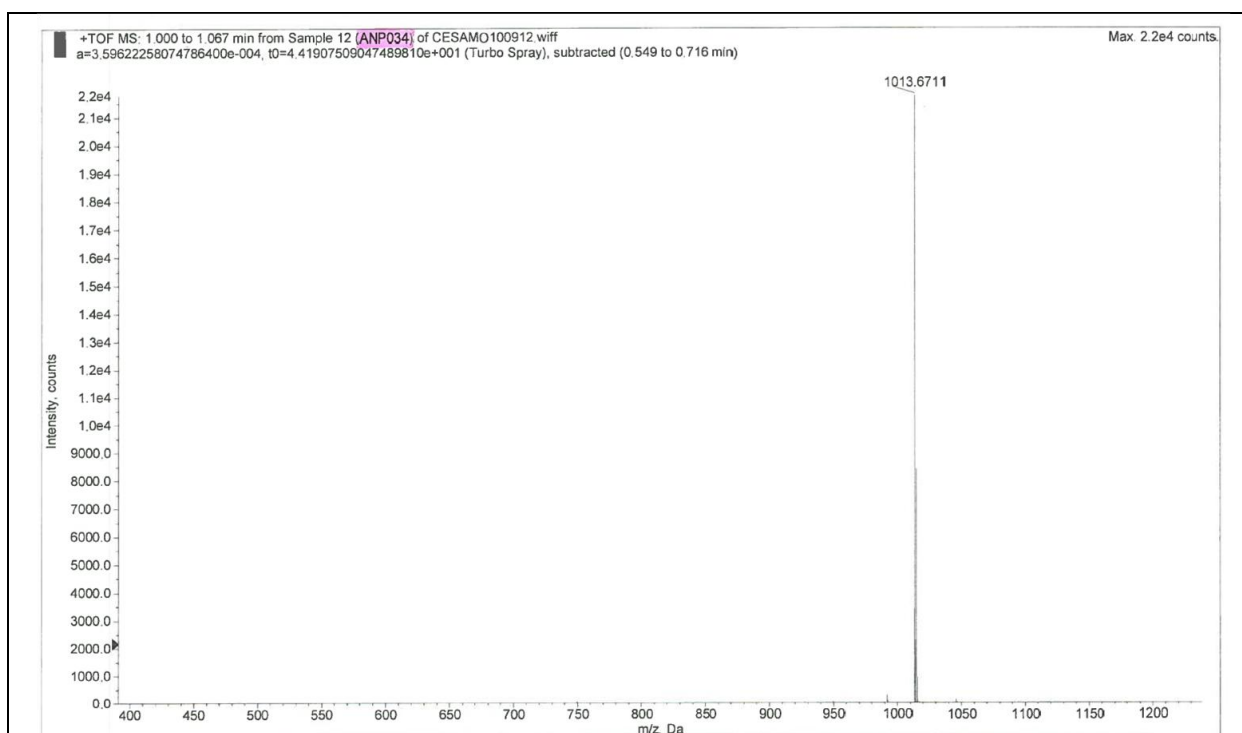
Mass spectrum of (Z)-((S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl) dioleate **7a**



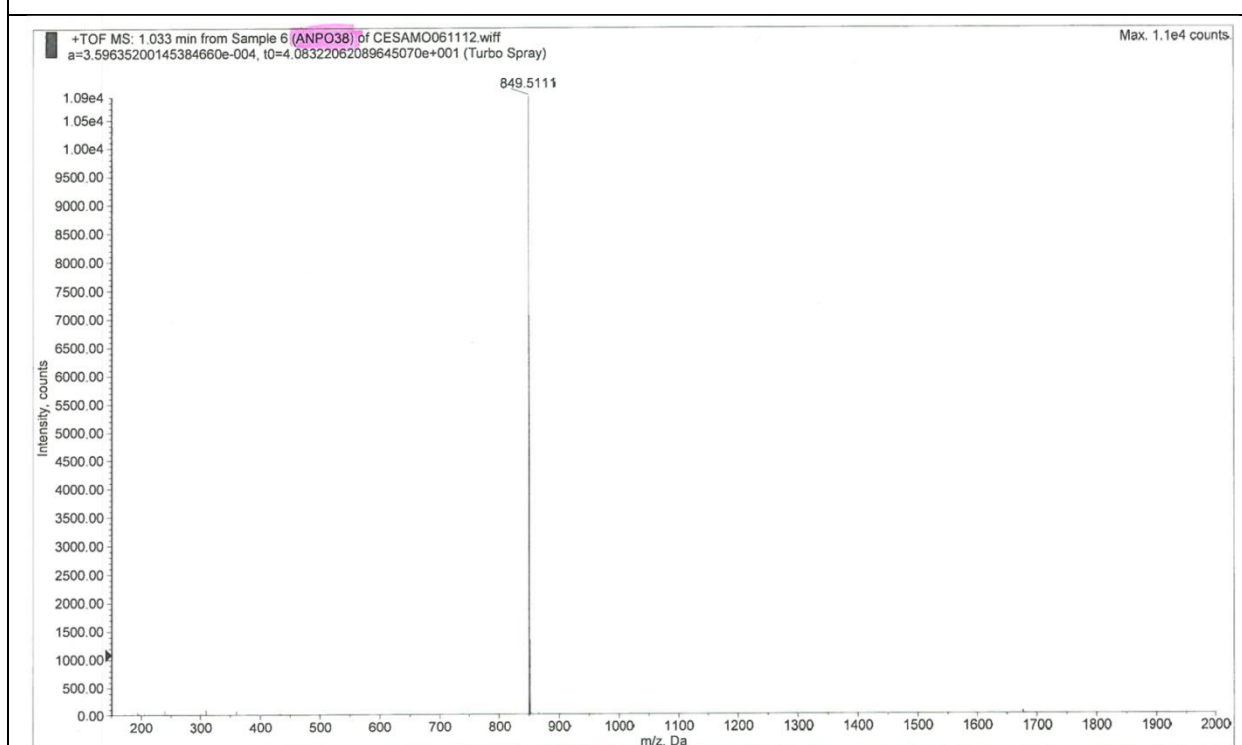
Mass spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **7b**



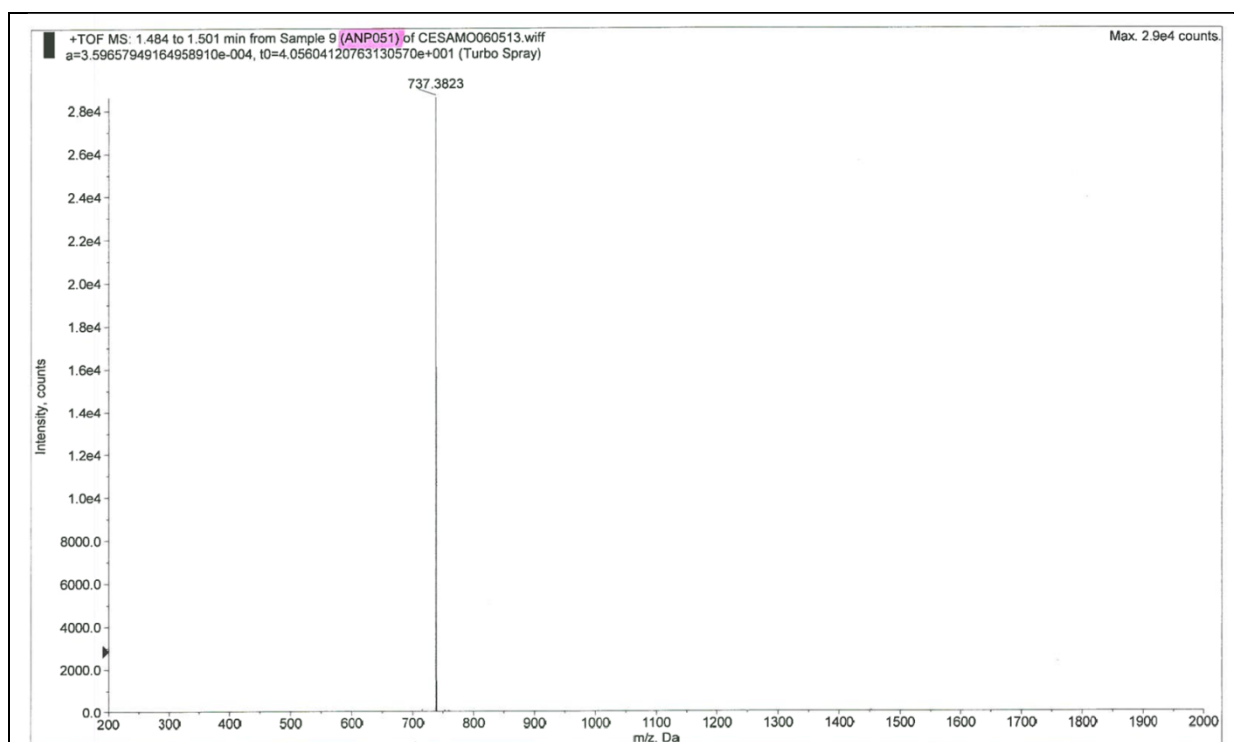
Mass spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **7c**



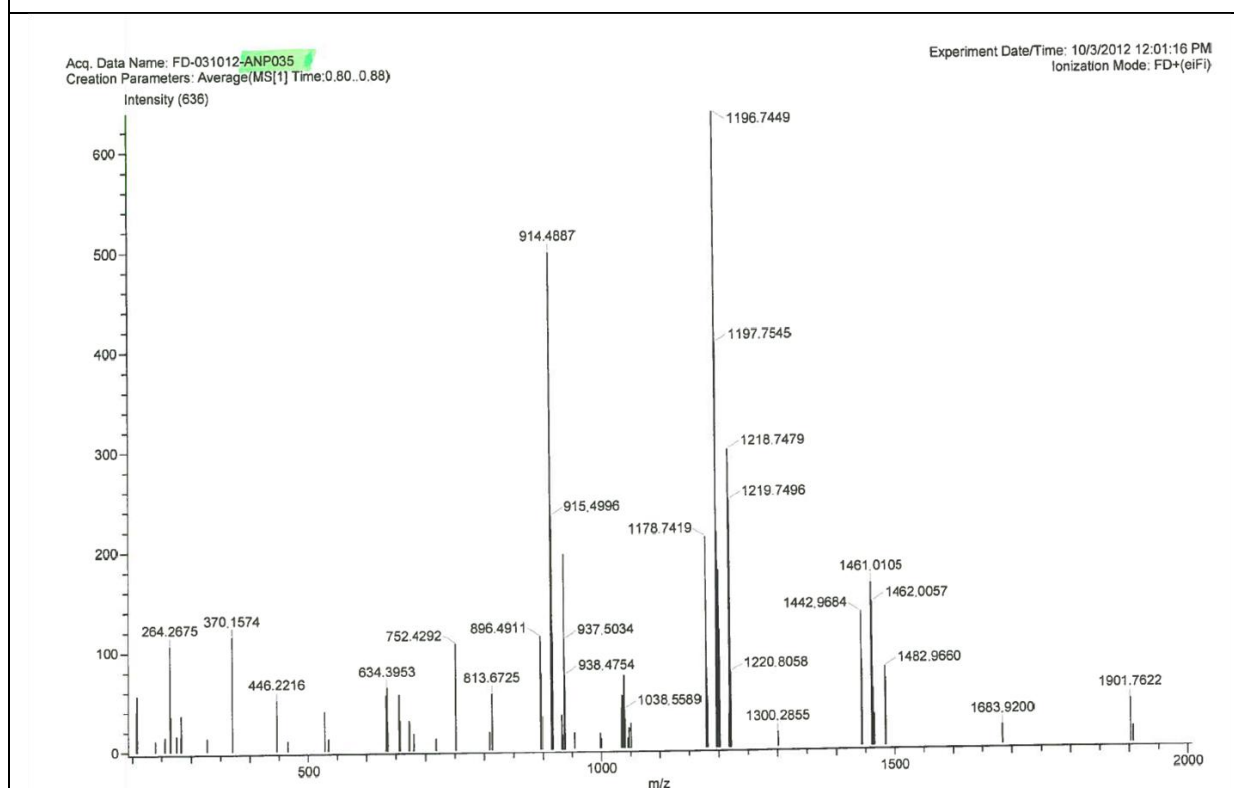
Mass spectrum of (Z)-((S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl) dioleate **8a**



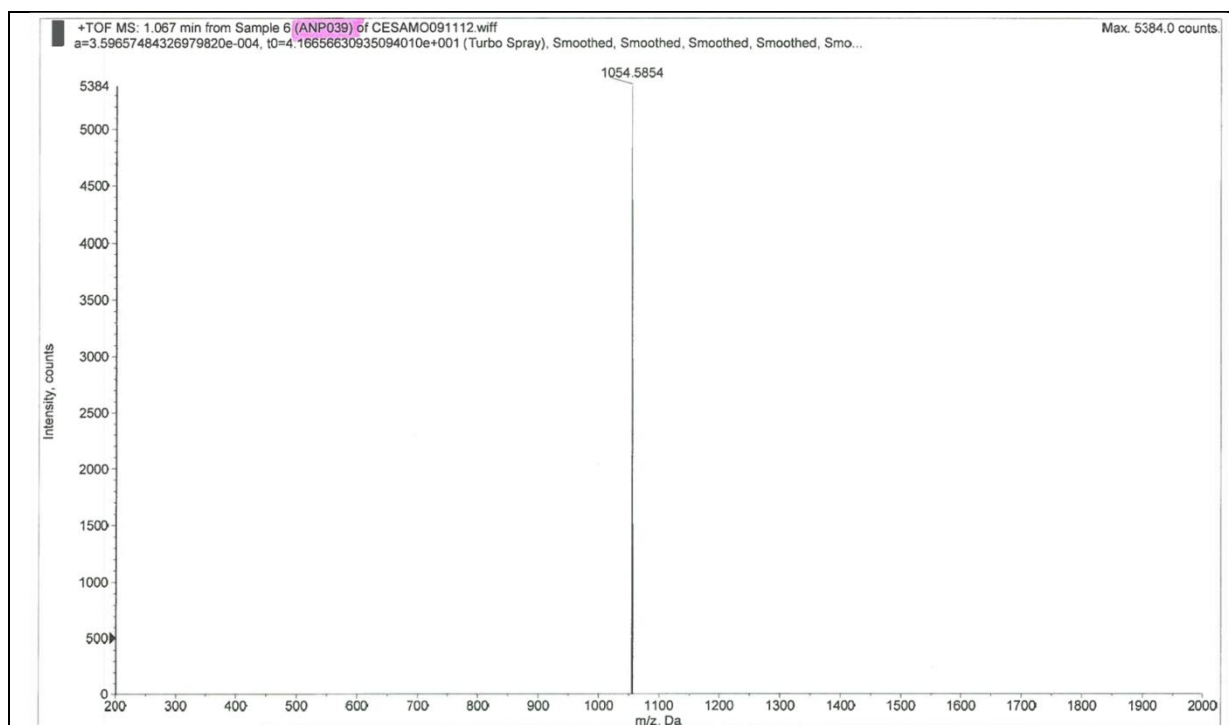
Mass spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **8b**



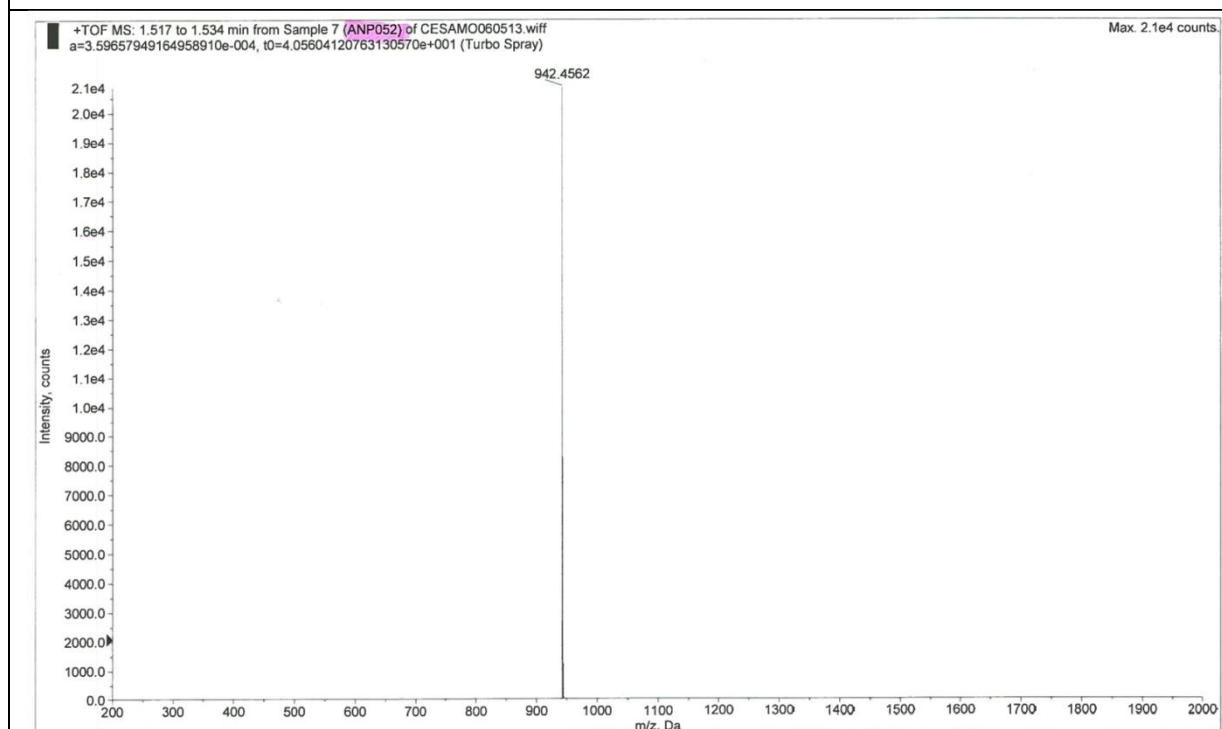
Mass spectrum of (S)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(prop-2-ynyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **8c**



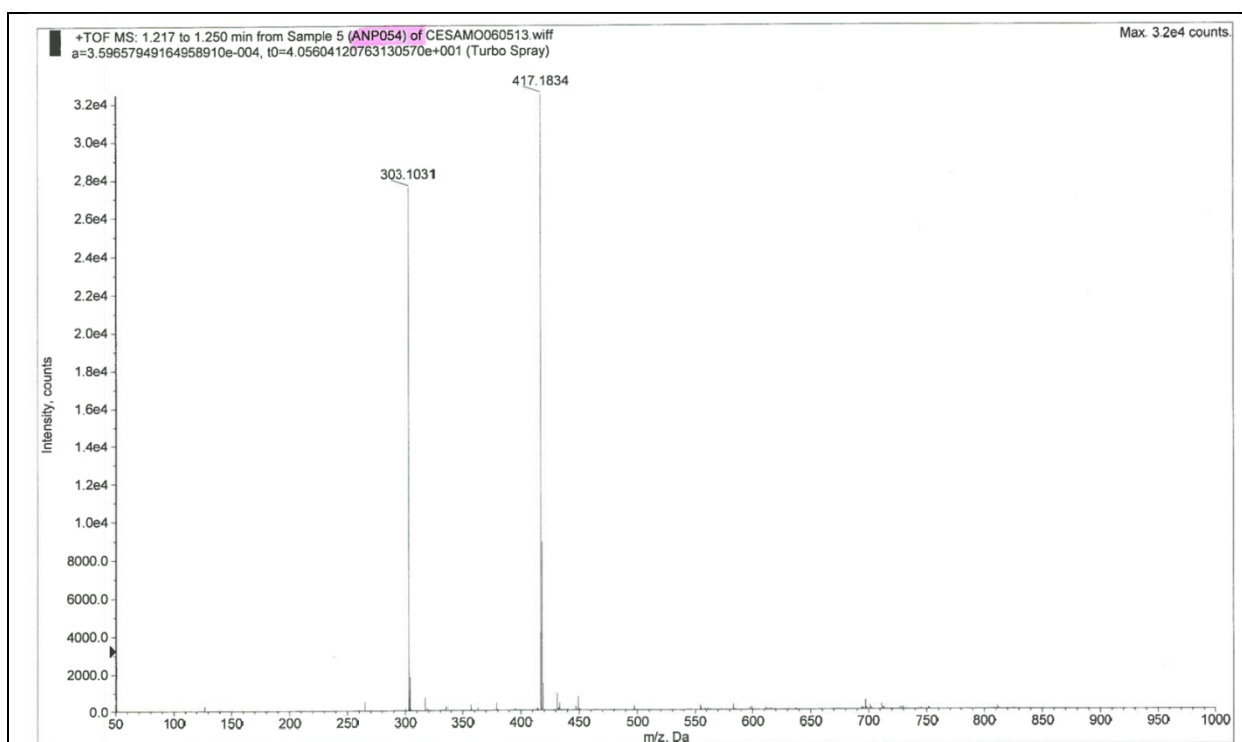
Mass spectrum of (Z)-4-(1-(((2R,3S,5R)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-(((2R,3R,4S,5S,6R)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2H-pyran-2-yl)-1H-1,2,3-triazol-4-yl)methyl)-3,4-dihydropyrimidin-1(2H)-yl)tetrahydrofuran-2-yl)methyl)-1H-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioleate **9a**



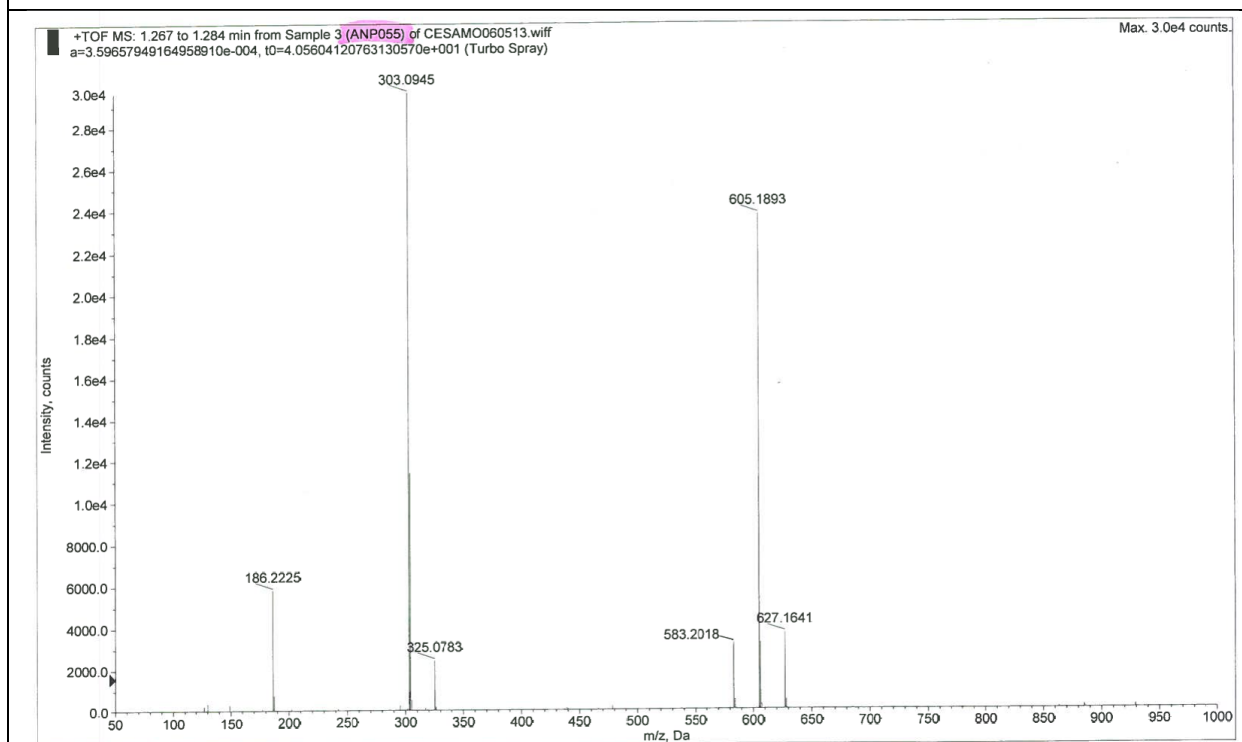
Mass spectrum of 4-(1-(((2*R*,3*S*,5*R*)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-((1-((2*R*,3*R*,4*S*,5*S*,6*R*)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2*H*-pyran-2-yl)-1*H*-1,2,3-triazol-4-yl)methyl)-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl didodecanoate **9b**



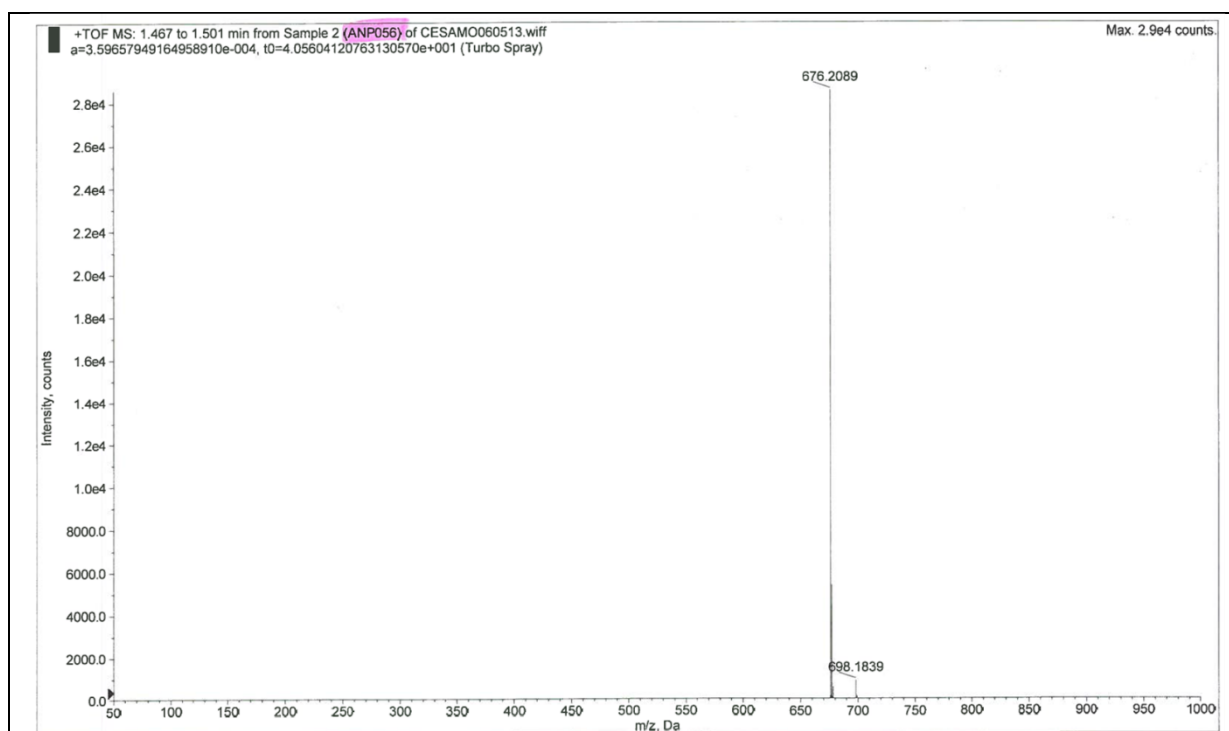
Mass spectrum of 4-(1-(((2*R*,3*S*,5*R*)-3-hydroxy-5-(5-methyl-2,4-dioxo-3-((1-((2*R*,3*R*,4*S*,5*S*,6*R*)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2*H*-pyran-2-yl)-1*H*-1,2,3-triazol-4-yl)methyl)-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-ylamino)-4-oxobutane-1,2-diyl dioctanoate **9c**



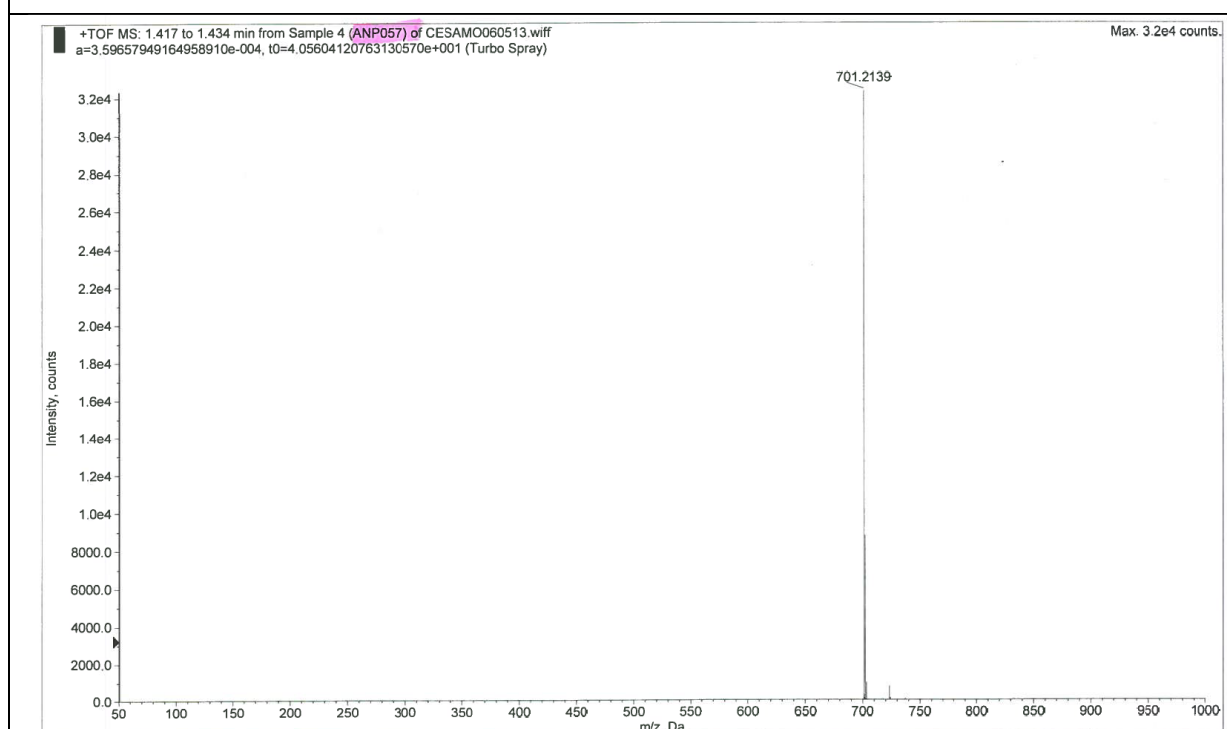
Mass spectrum of 1-((2*R*,4*S*,5*R*)-5-((tert-butyldimethylsilyloxy)methyl)-4-(prop-2-ynyloxy) tetrahydrofuran-2-yl)-5-methylpyrimidine-2,4(1*H*,3*H*)-dione **12**



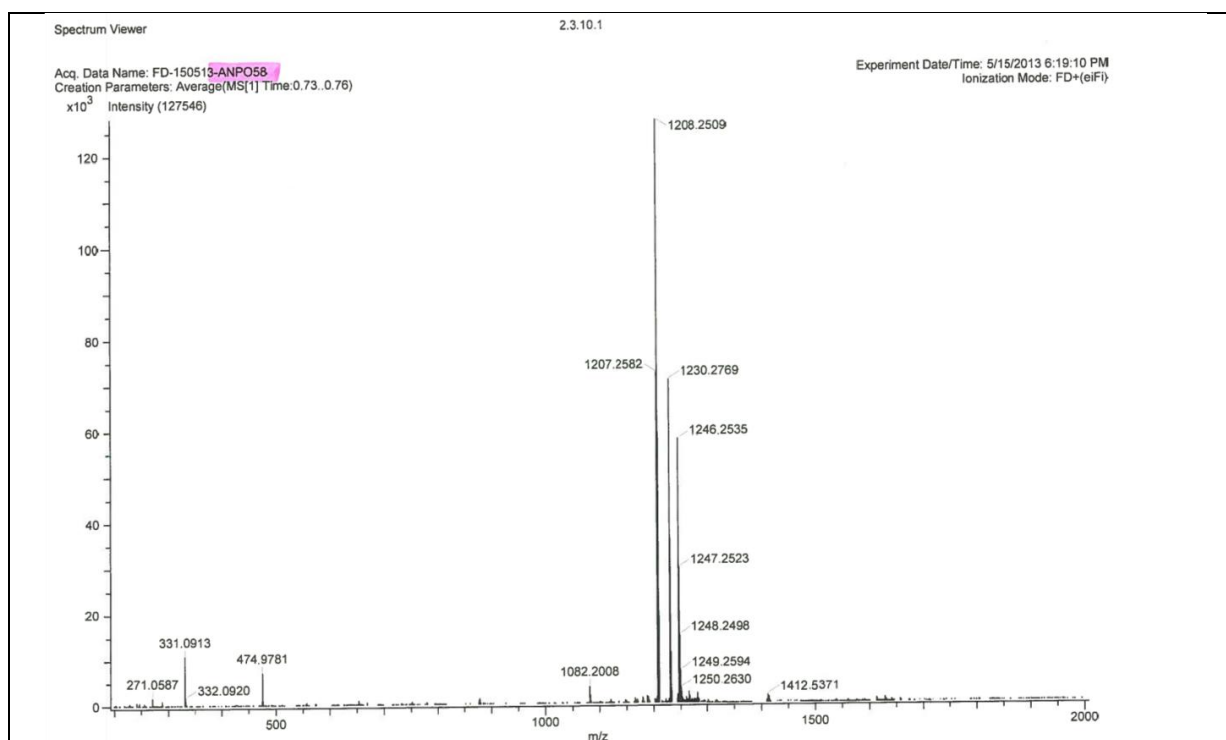
Mass spectrum of 1-((2*R*,4*S*,5*R*)-5-(hydroxymethyl)-4-(prop-2-ynyloxy)tetrahydrofuran-2-yl)-5-methylpyrimidine-2,4(1*H*,3*H*)-dione **13**



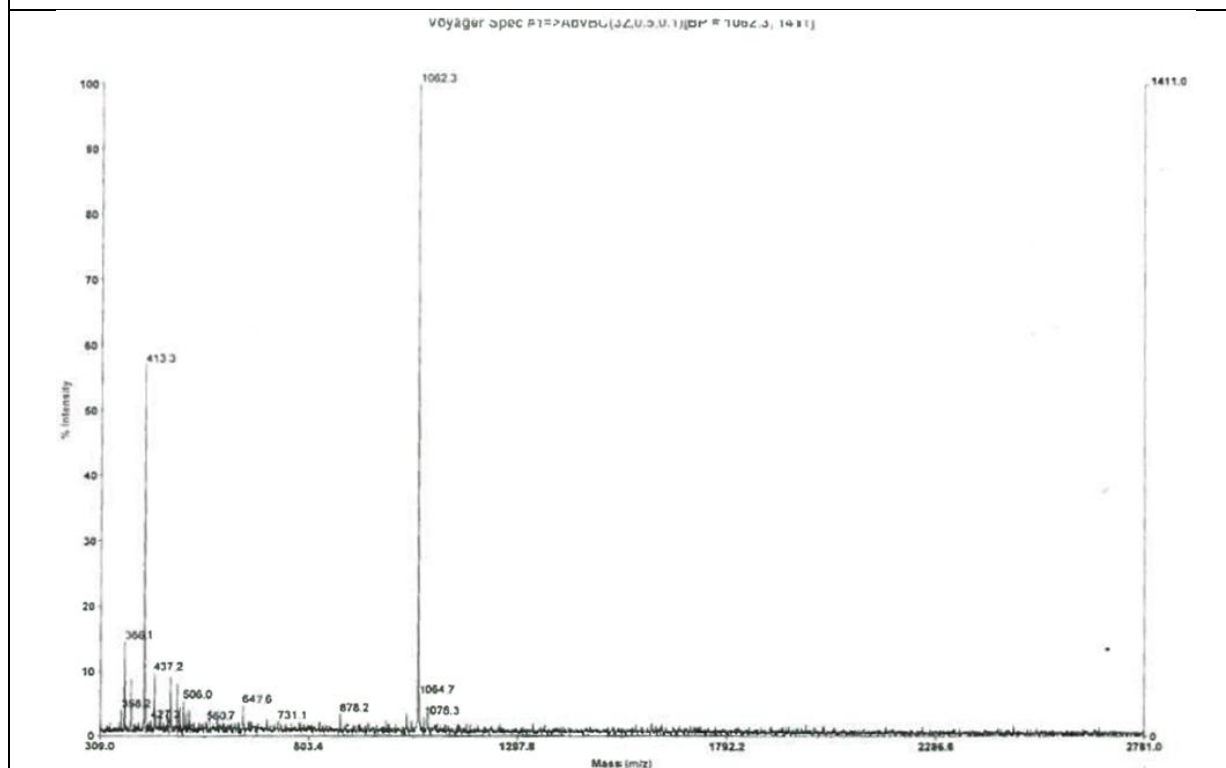
Mass spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(hydroxymethyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **14**



Mass spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-(azidomethyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **15**



Mass spectrum of (2*R*,3*R*,4*S*,5*R*,6*R*)-2-(acetoxymethyl)-6-(4-(((2*R*,3*S*,5*R*)-2-((4-((4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoroundecanamido)methyl)-1*H*-1,2,3-triazol-1-yl)methyl)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)tetrahydrofuran-3-yloxy)methyl)-1*H*-1,2,3-triazol-1-yl)tetrahydro-2*H*-pyran-3,4,5-triyl triacetate **16**



Mass spectrum of 4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,11-heptafluoro-*N*-((1-(((2*R*,3*S*,5*R*)-5-(5-methyl-2,4-dioxo-3,4-dihydropyrimidin-1(2*H*)-yl)-3-((1-((2*R*,3*R*,4*S*,5*S*,6*R*)-3,4,5-trihydroxy-6-(hydroxymethyl)tetrahydro-2*H*-pyran-2-yl)-1*H*-1,2,3-triazol-4-yl)methoxy)tetrahydrofuran-2-yl)methyl)-1*H*-1,2,3-triazol-4-yl)methyl)undecanamide **17**