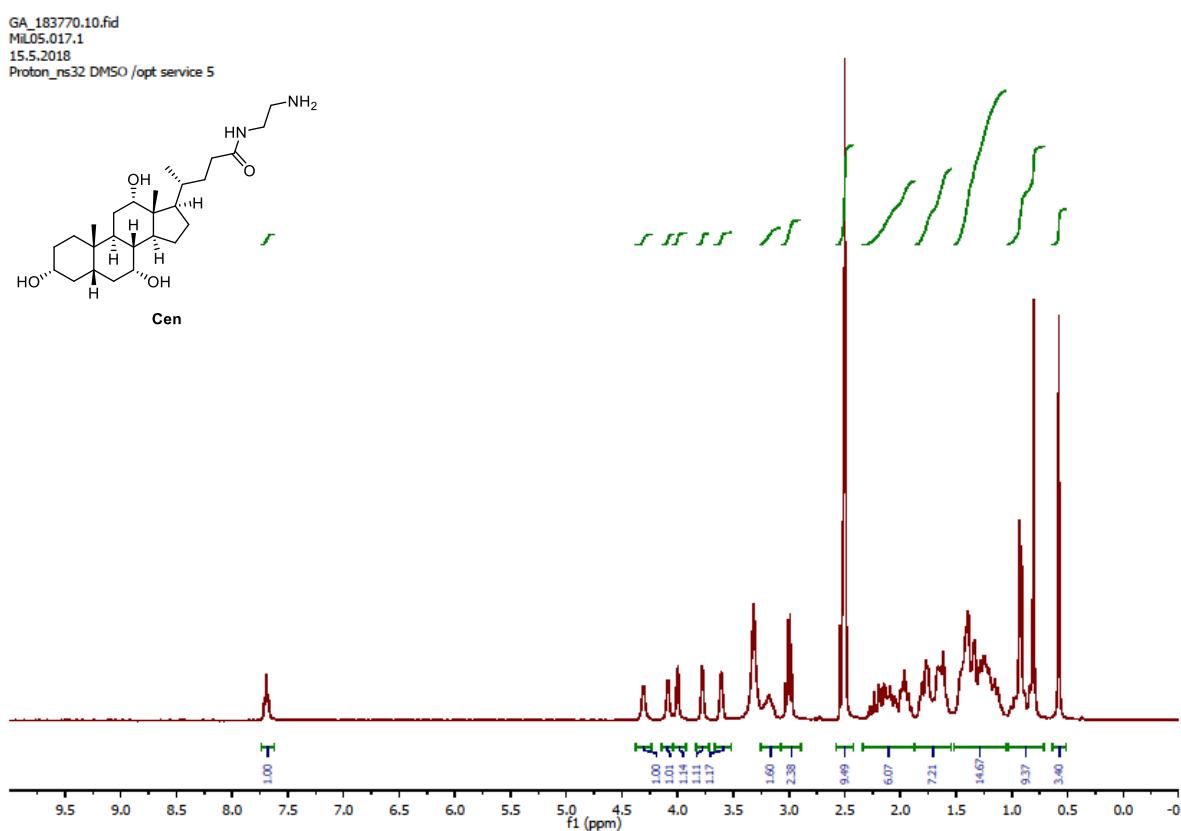
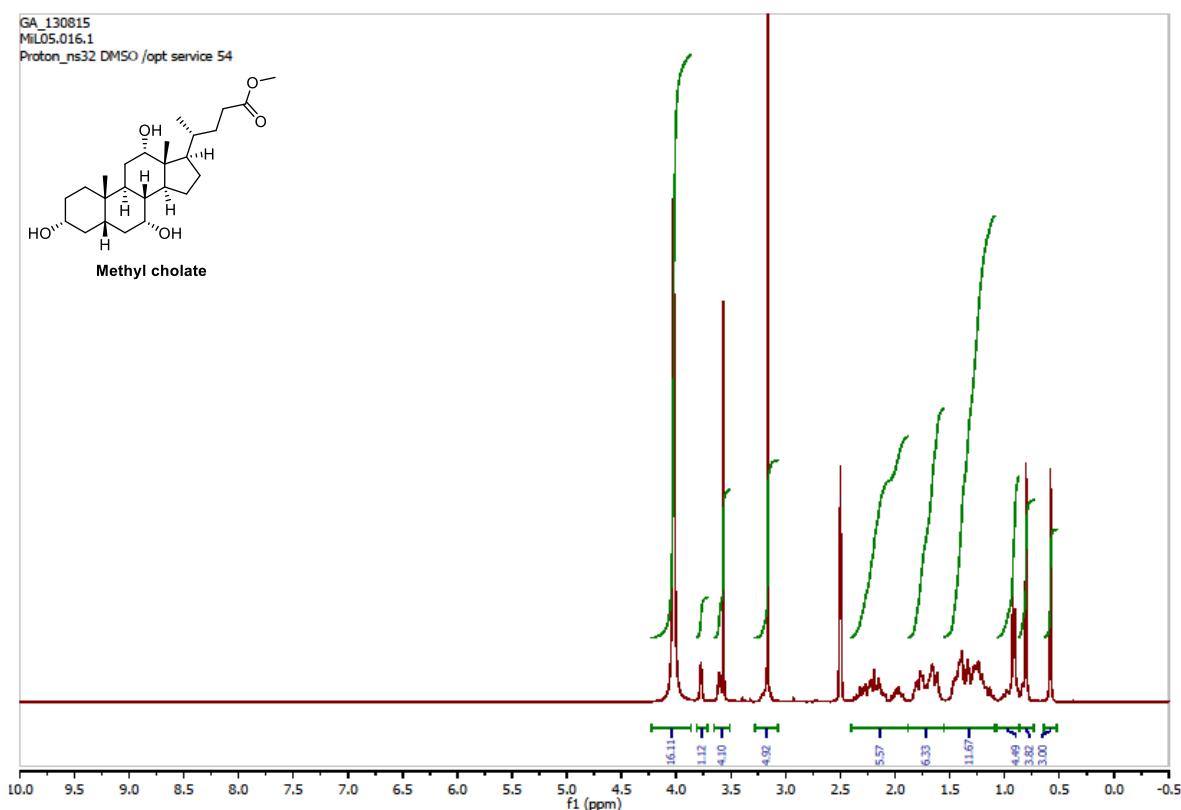
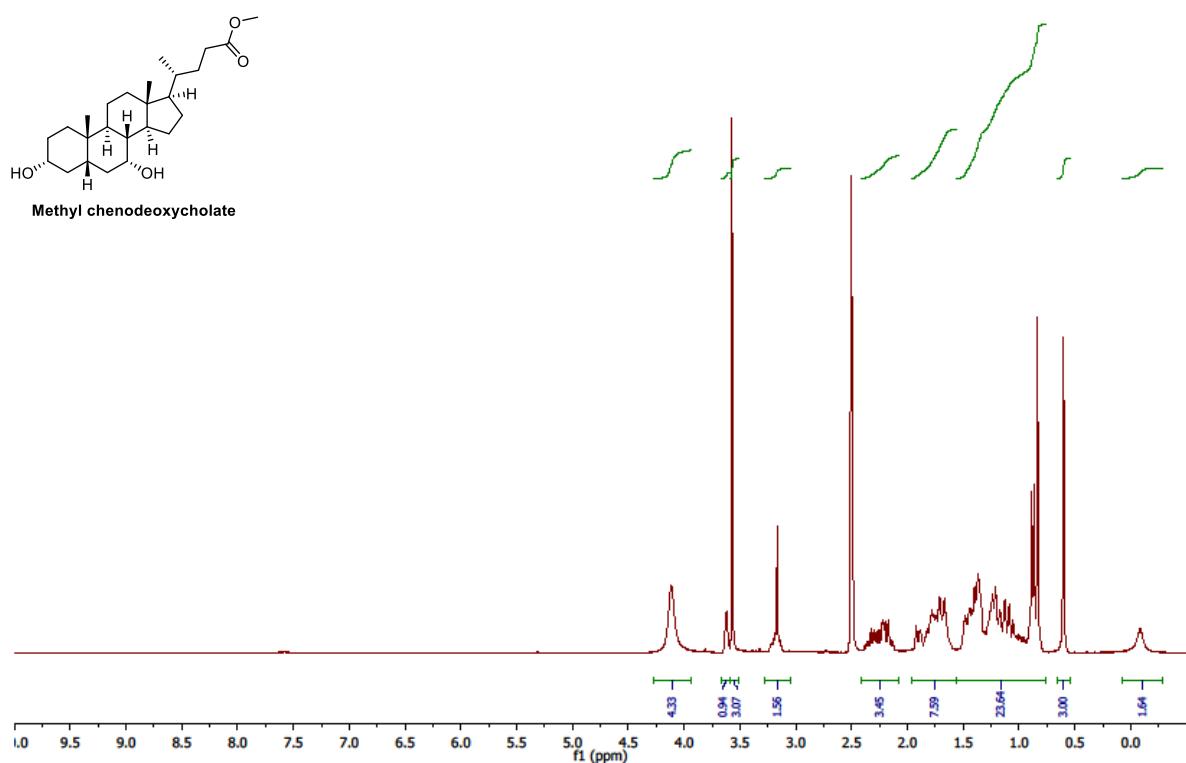


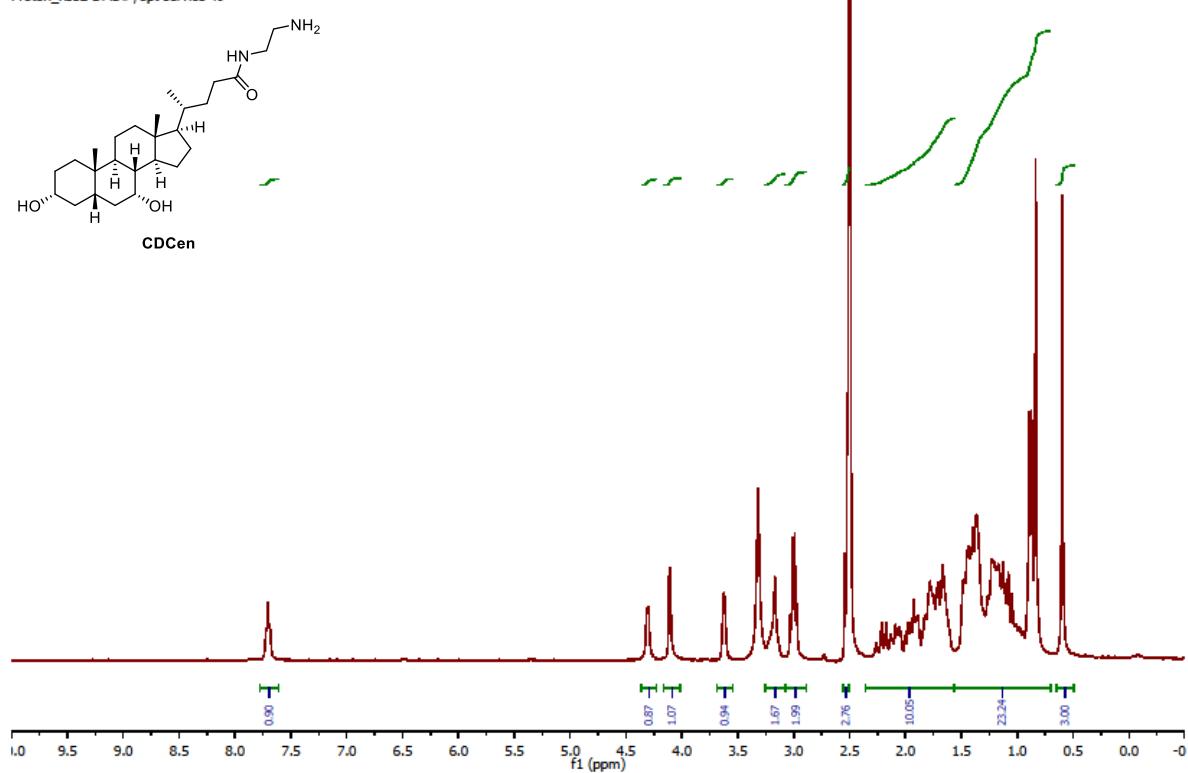
**1.  $^1\text{H}$ ,  $^{13}\text{C}$  and  $^{19}\text{F}$  NMR spectra of synthetic intermediates and final compounds**

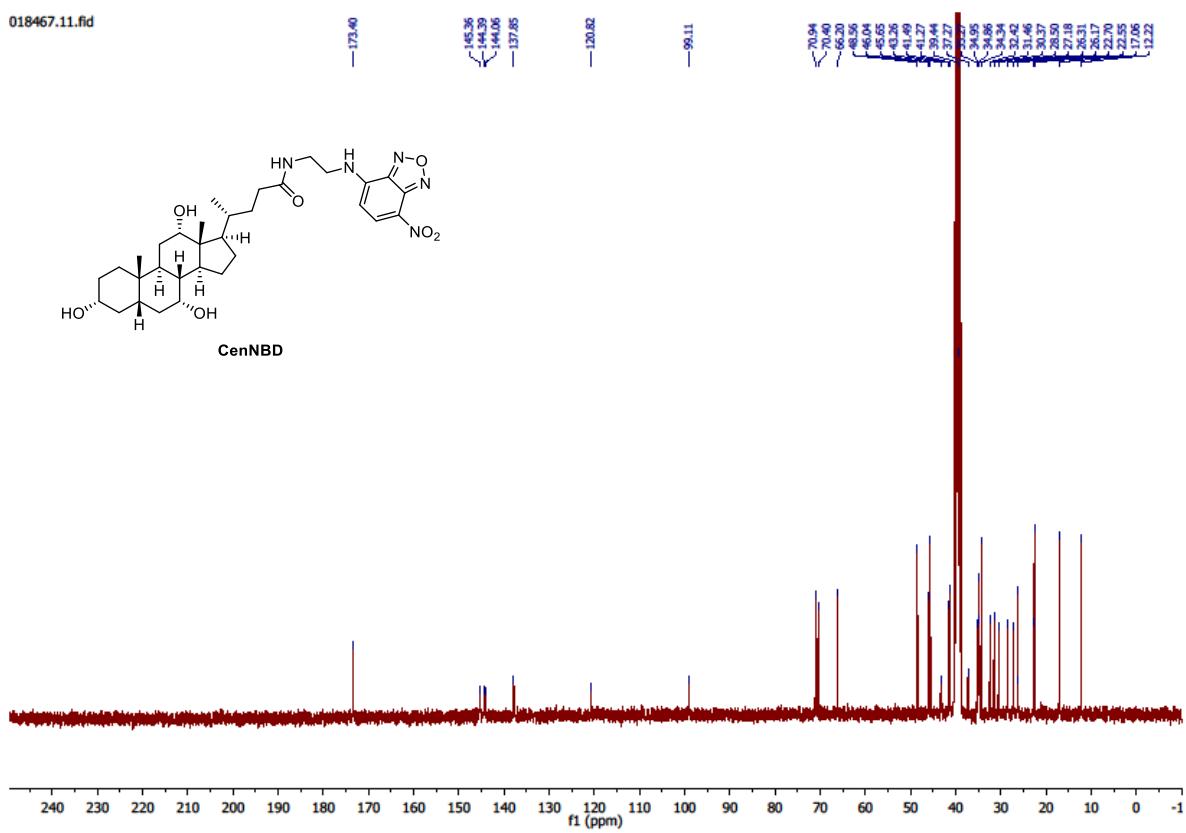
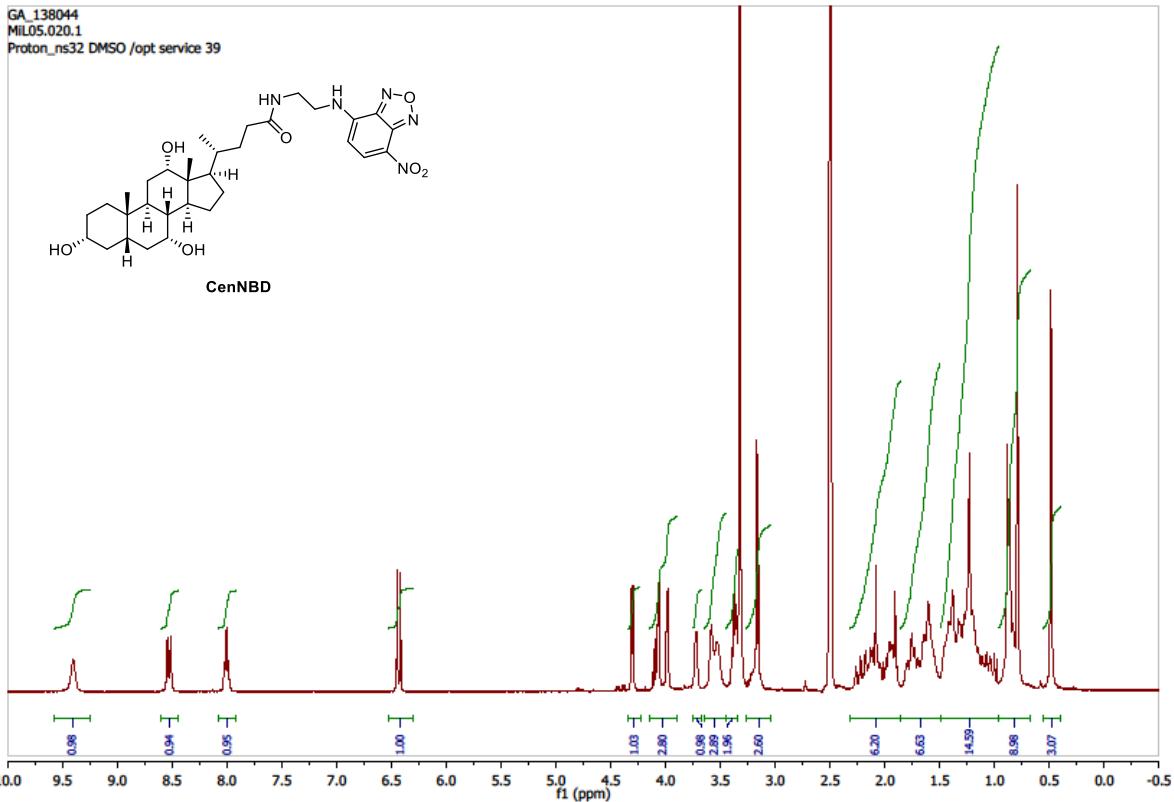


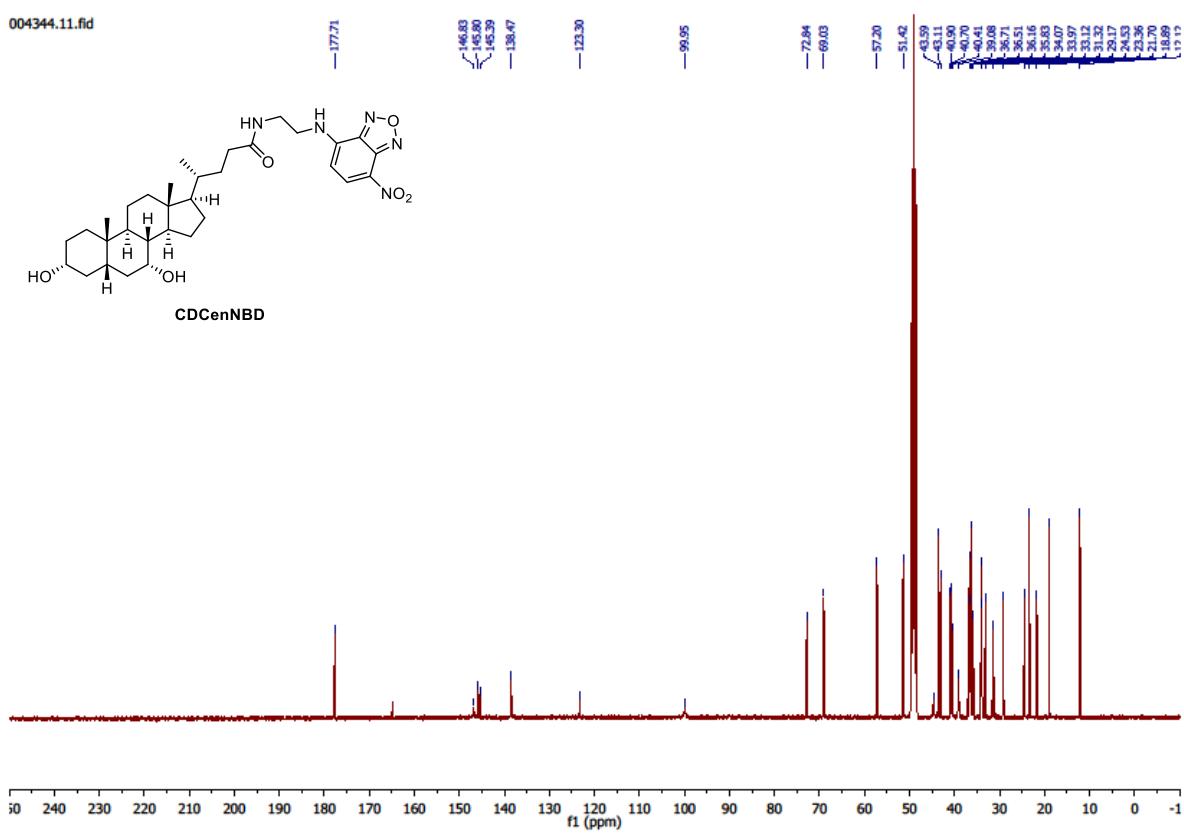
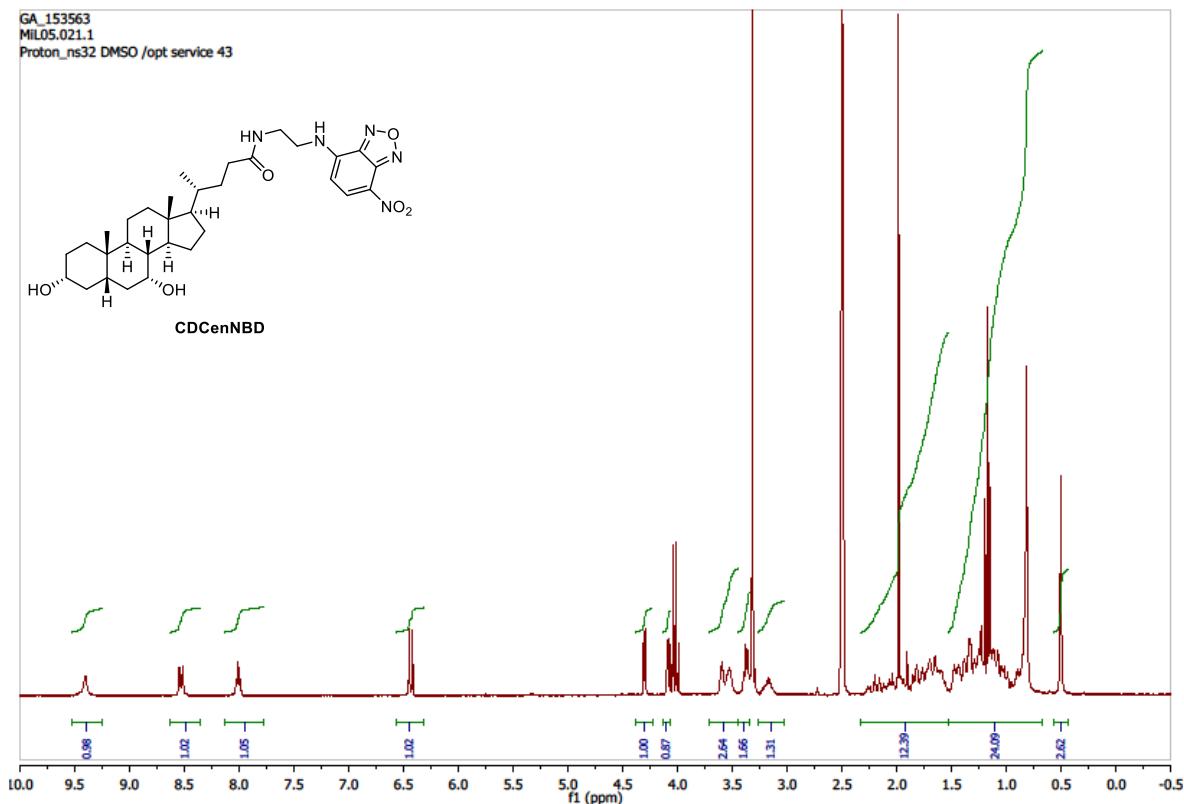
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Proton\_ns32 DMSO /opt service 51



GA\_193802.10.fid  
MiLO5.028.1  
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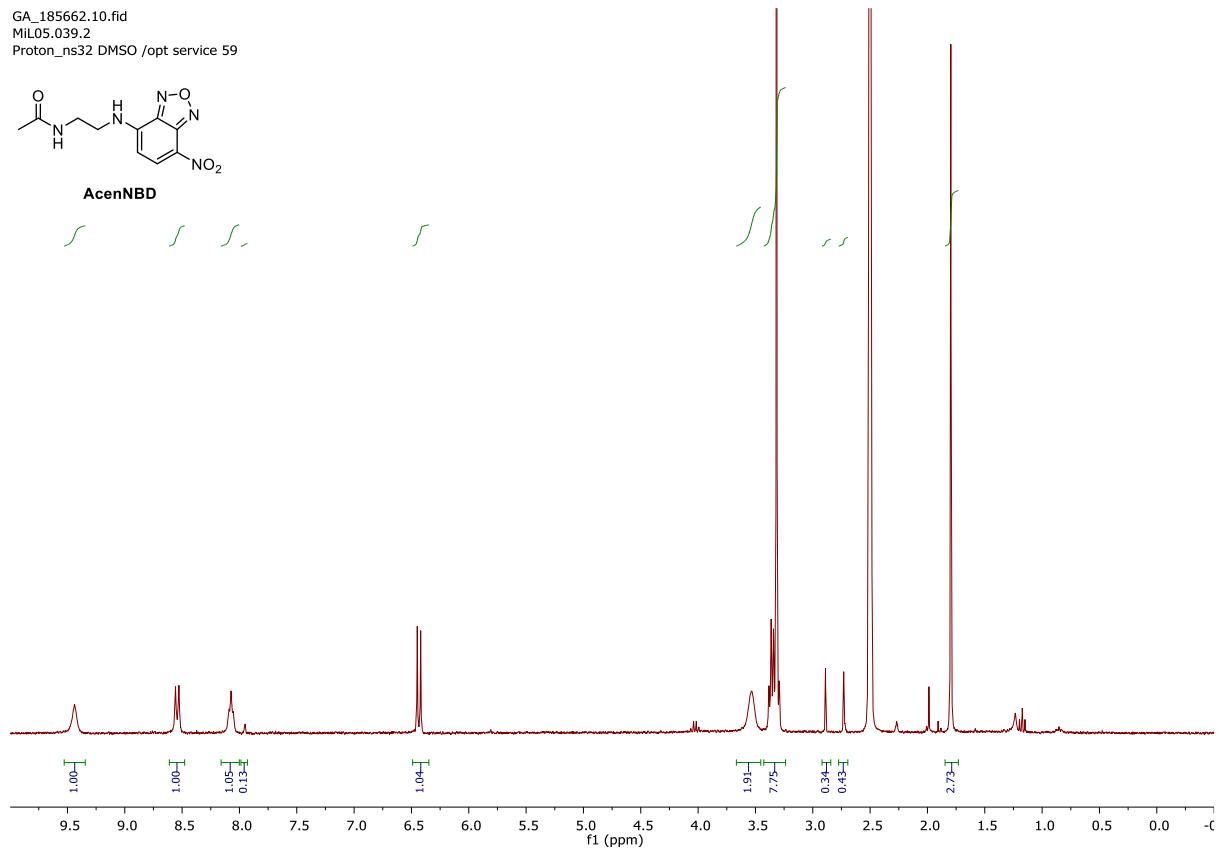




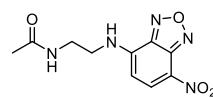
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MiL05.039.2  
Proton ns32 DMSO /opt service 59



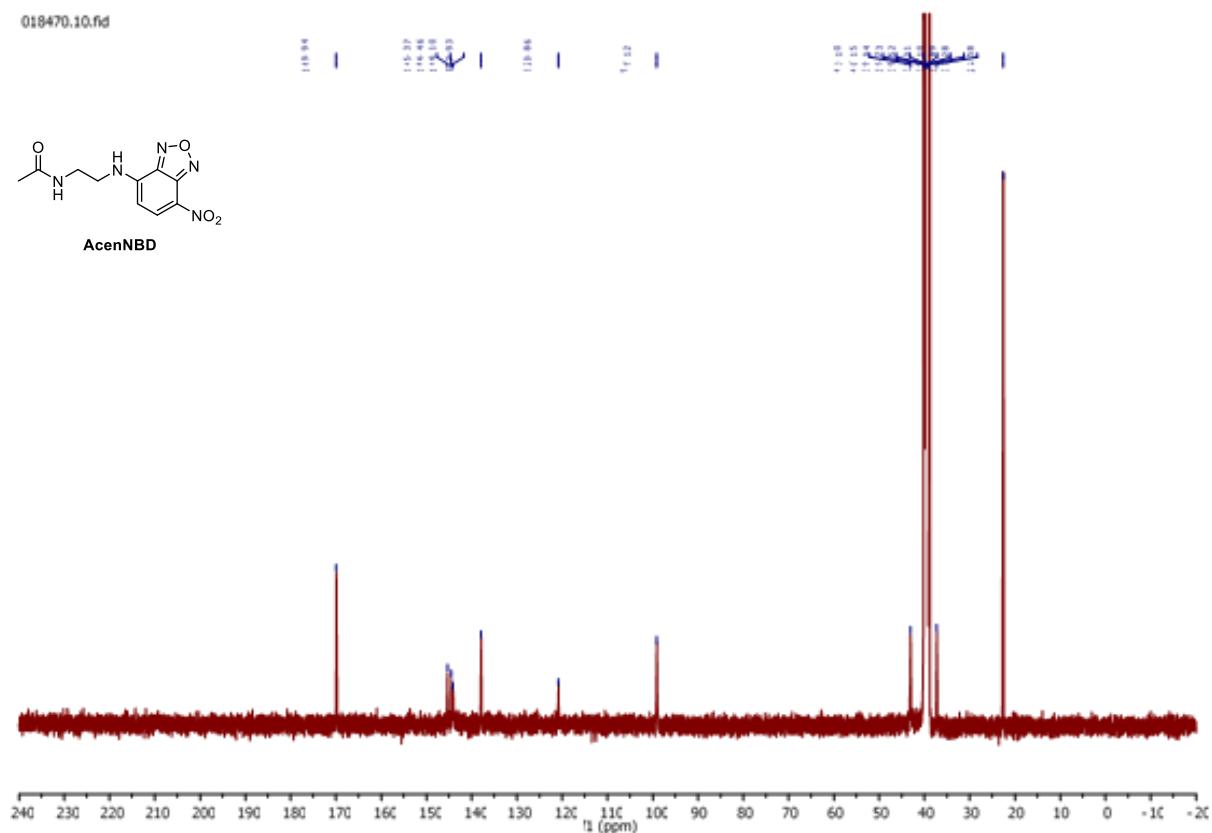
AcenNBD



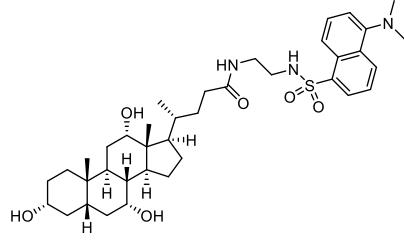
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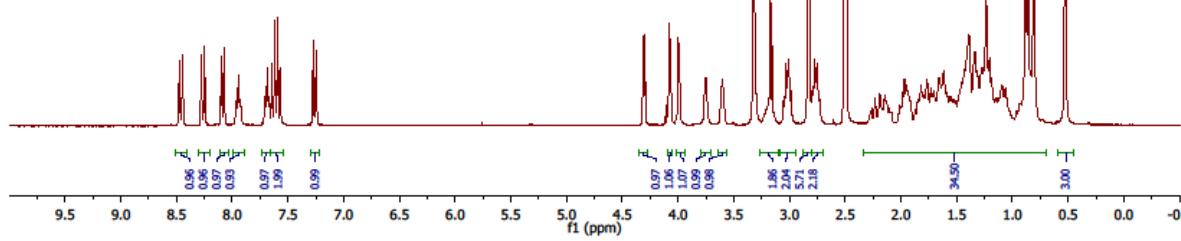
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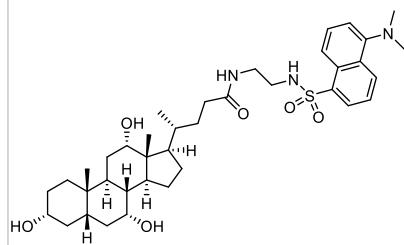
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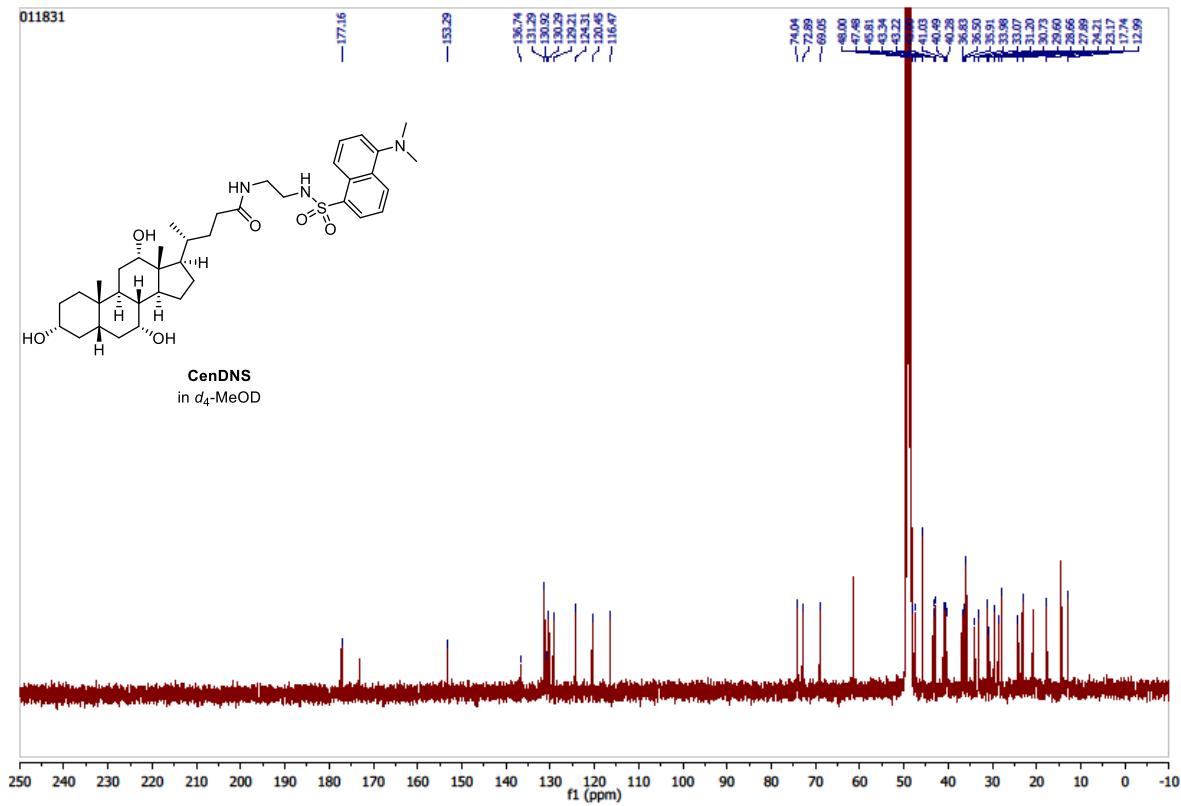
CenDNS

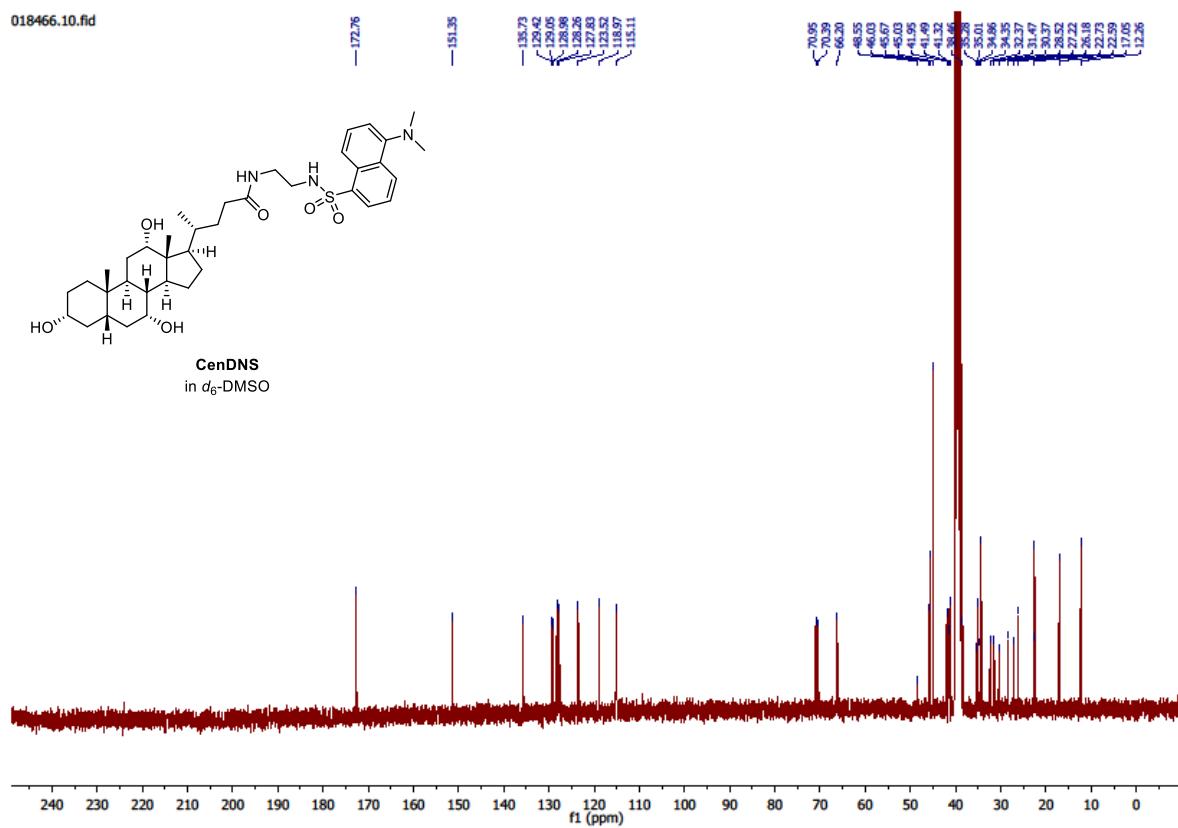


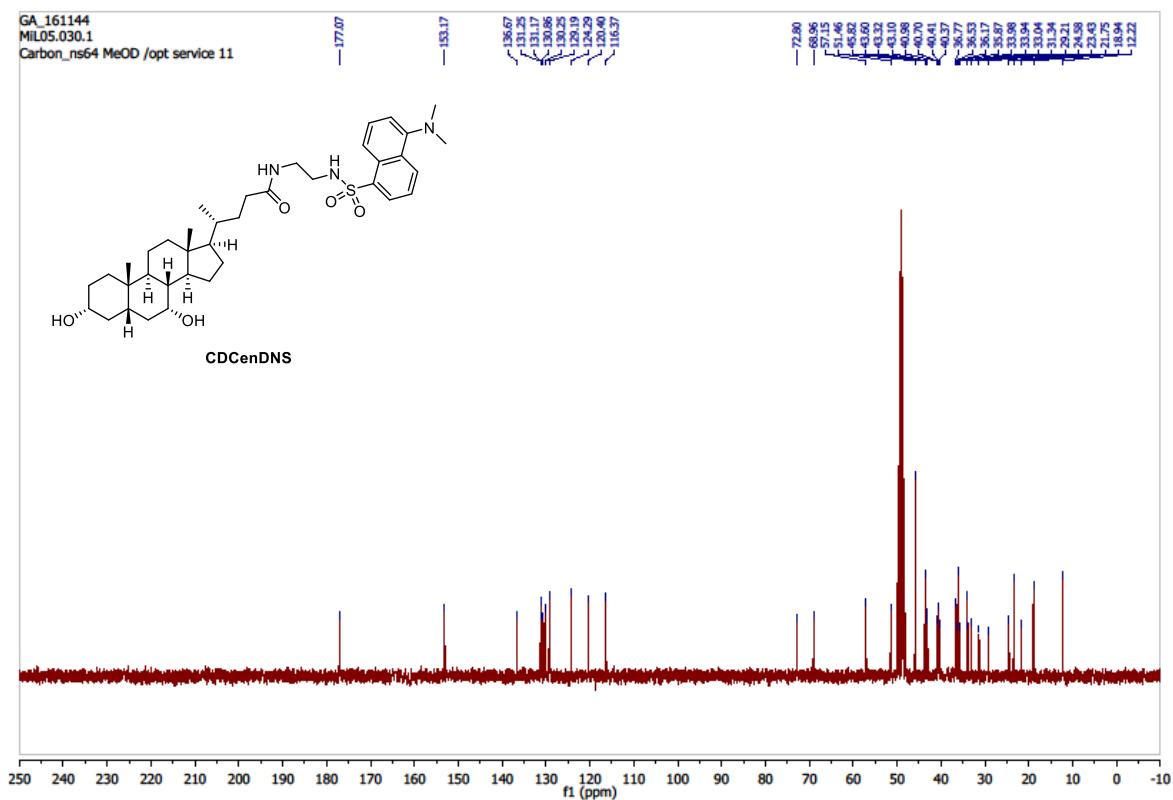
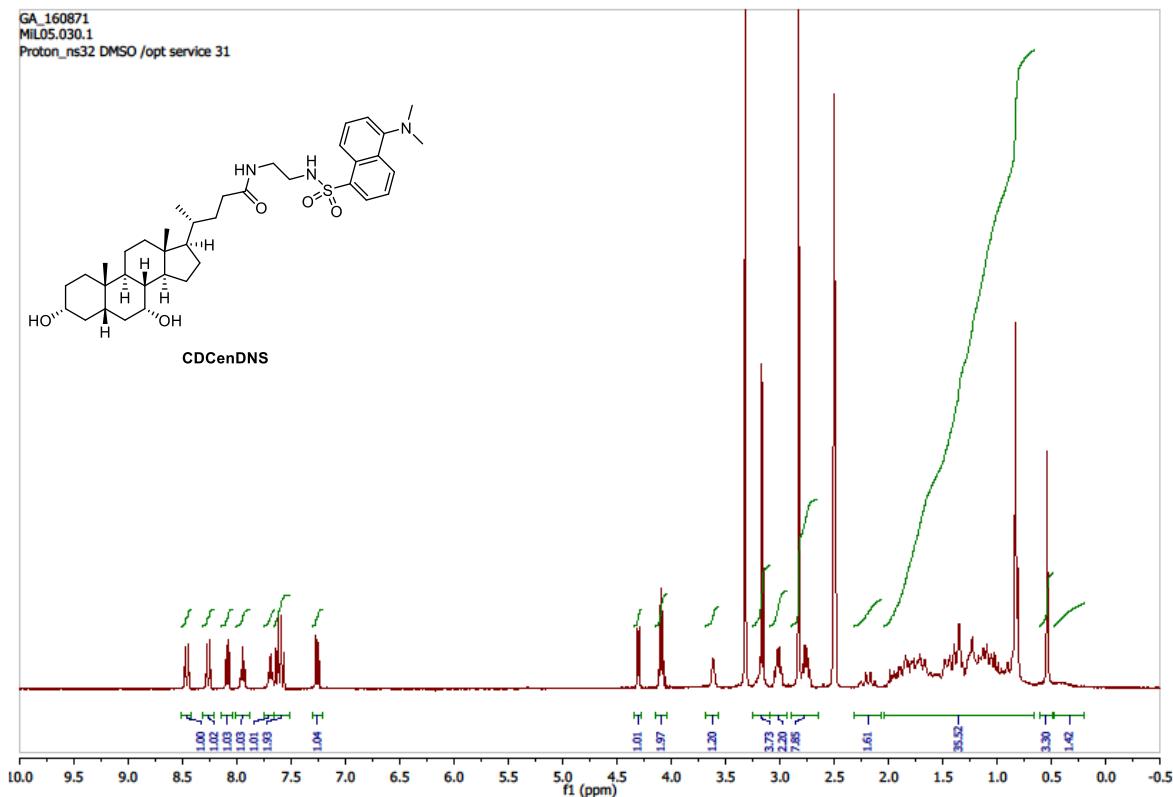
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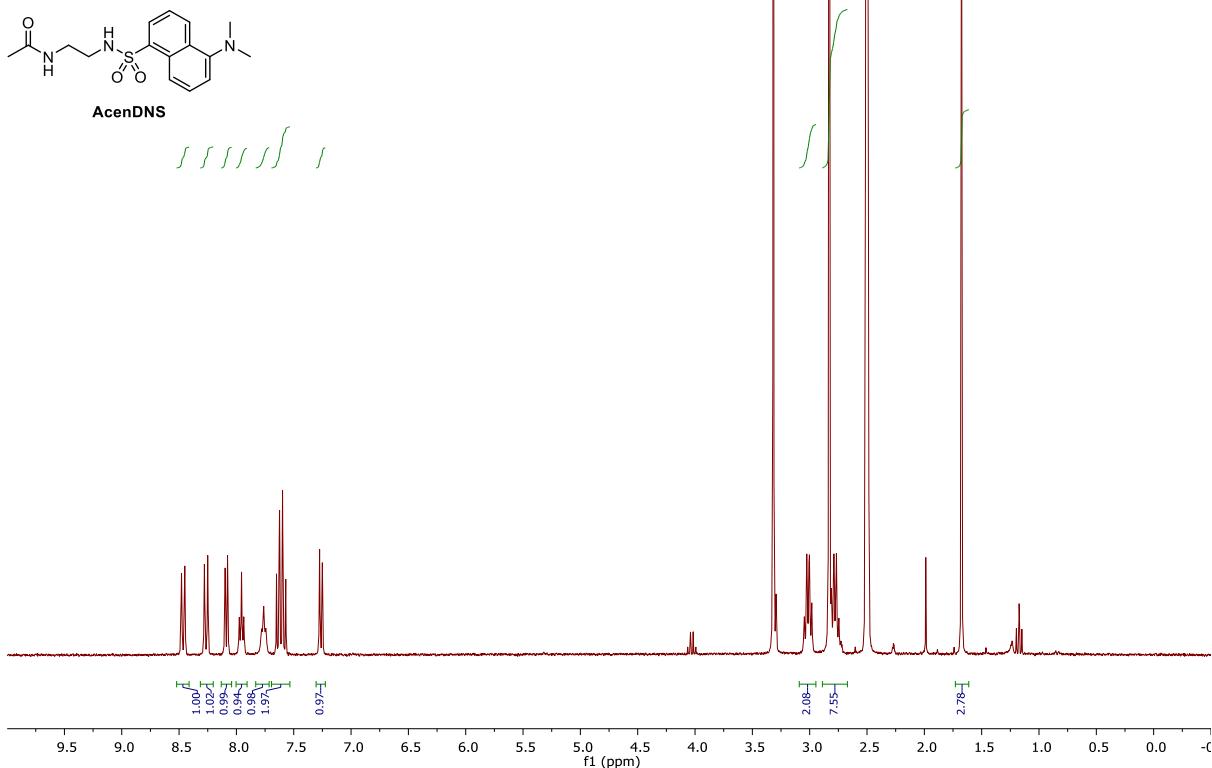
CenDNS  
in  $d_4$ -MeOD



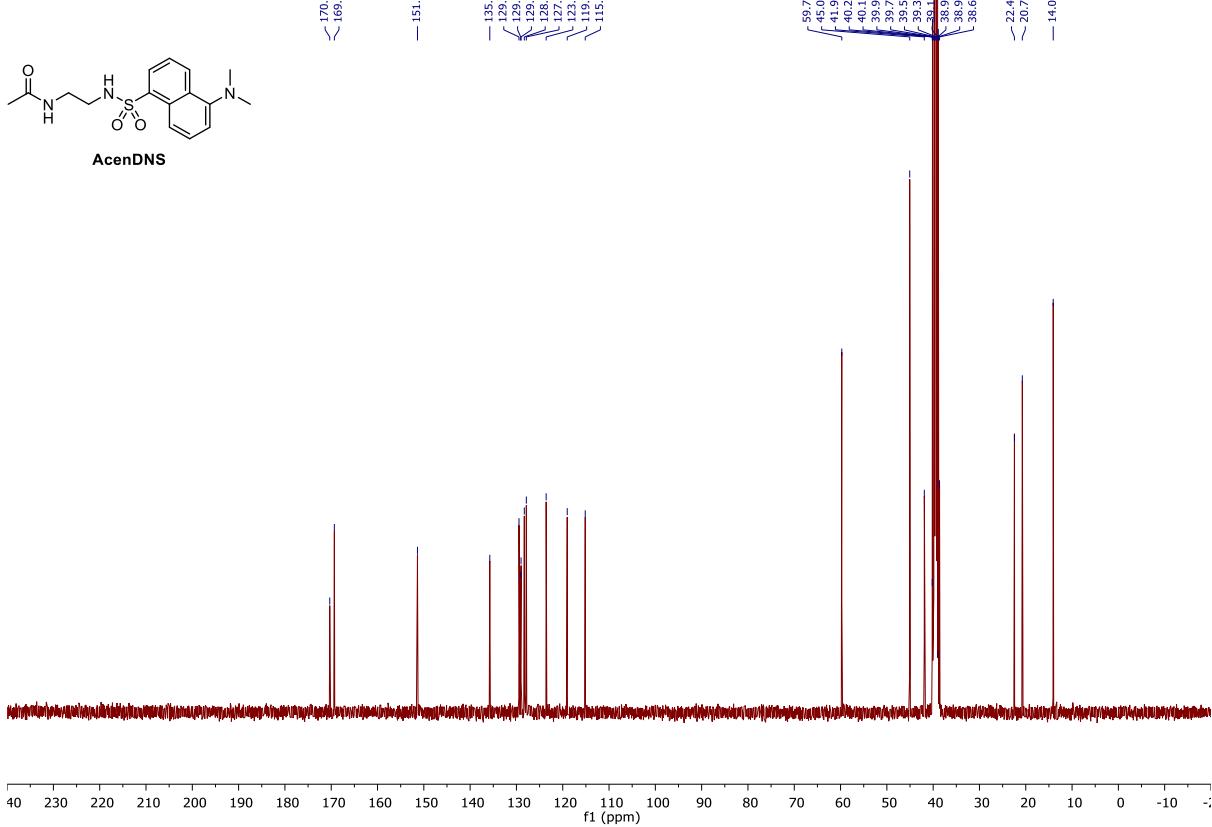




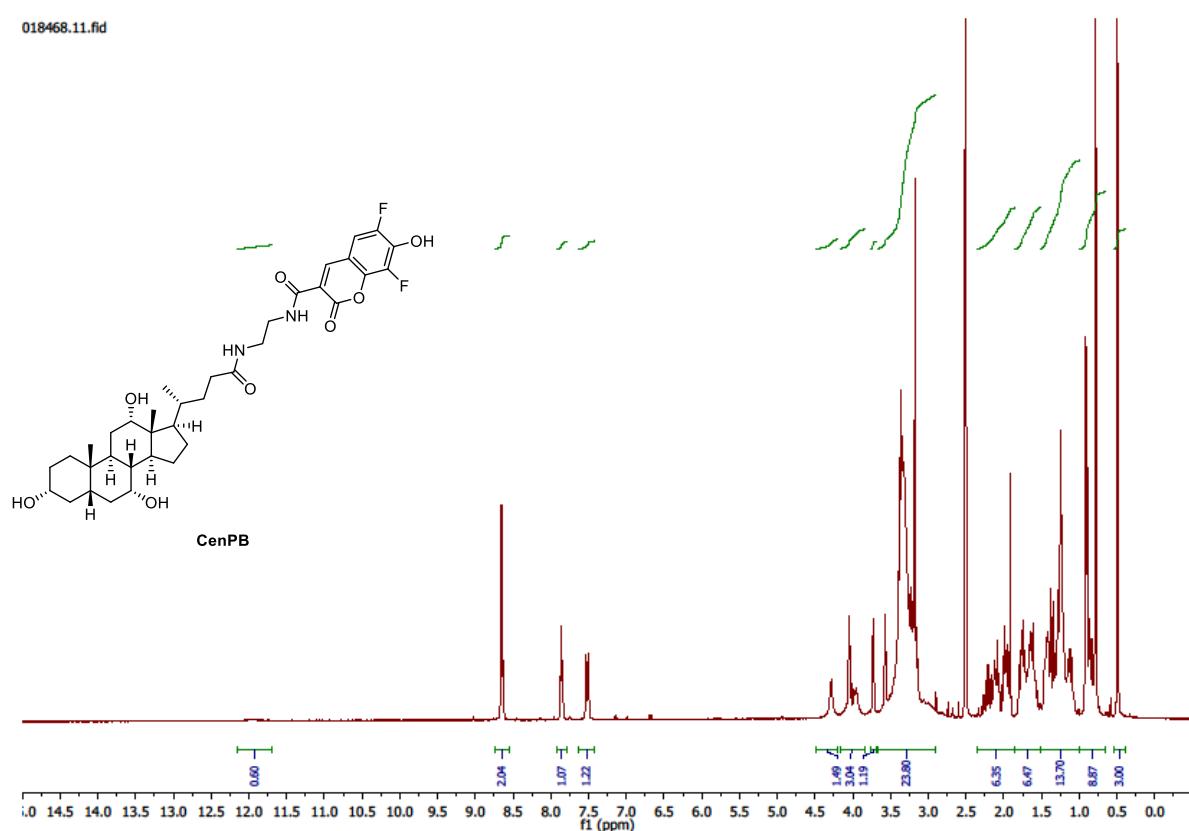
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Proton\_ns32 DMSO /opt service 60



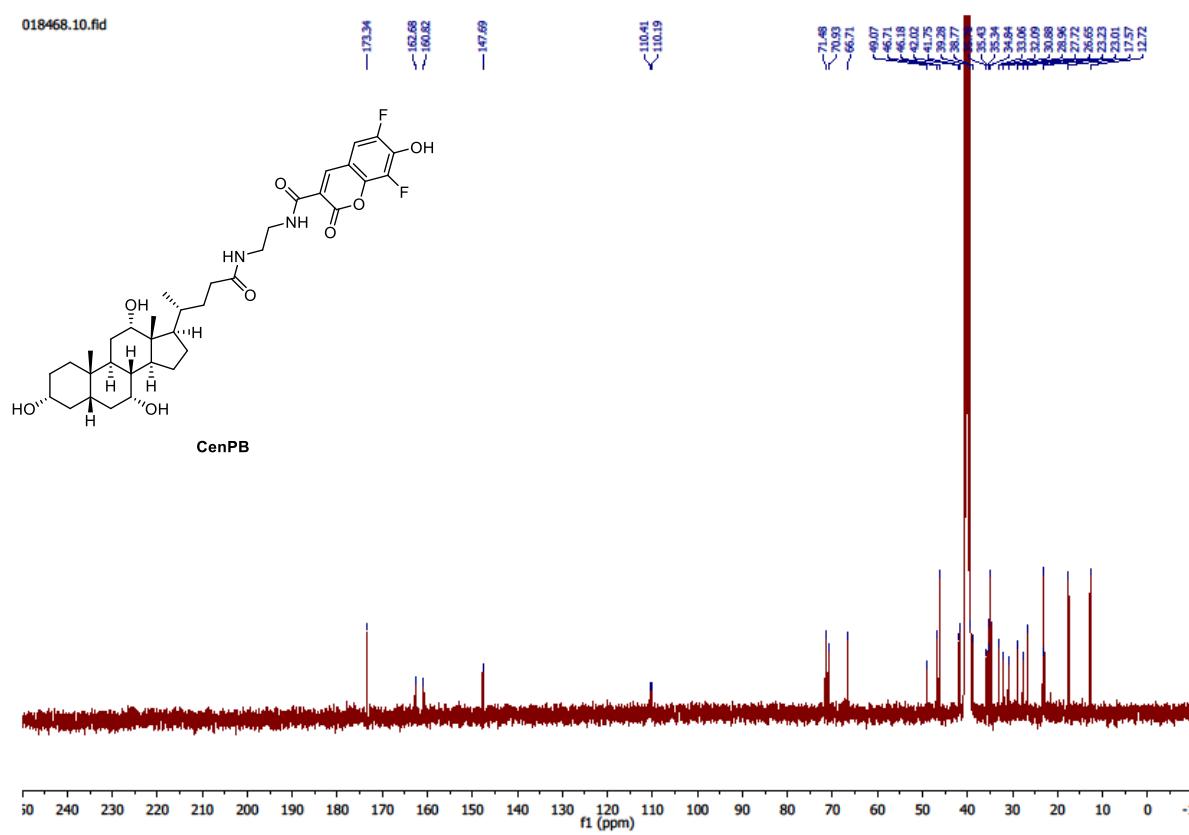
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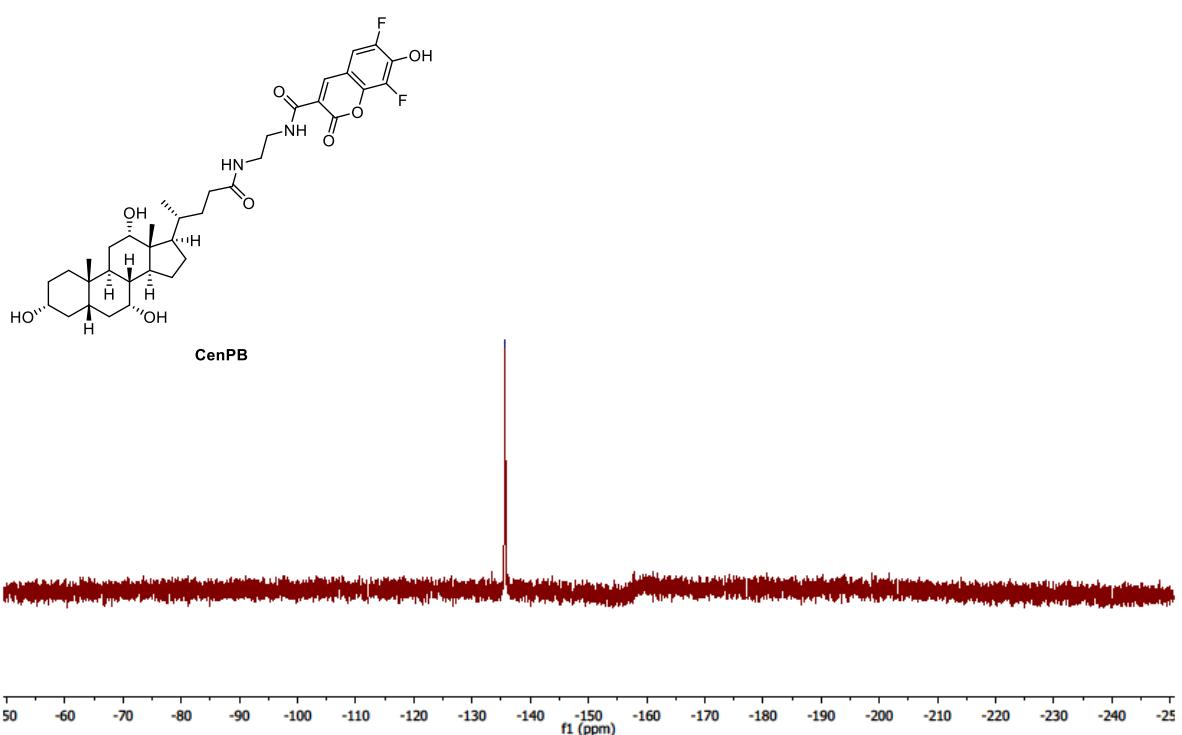
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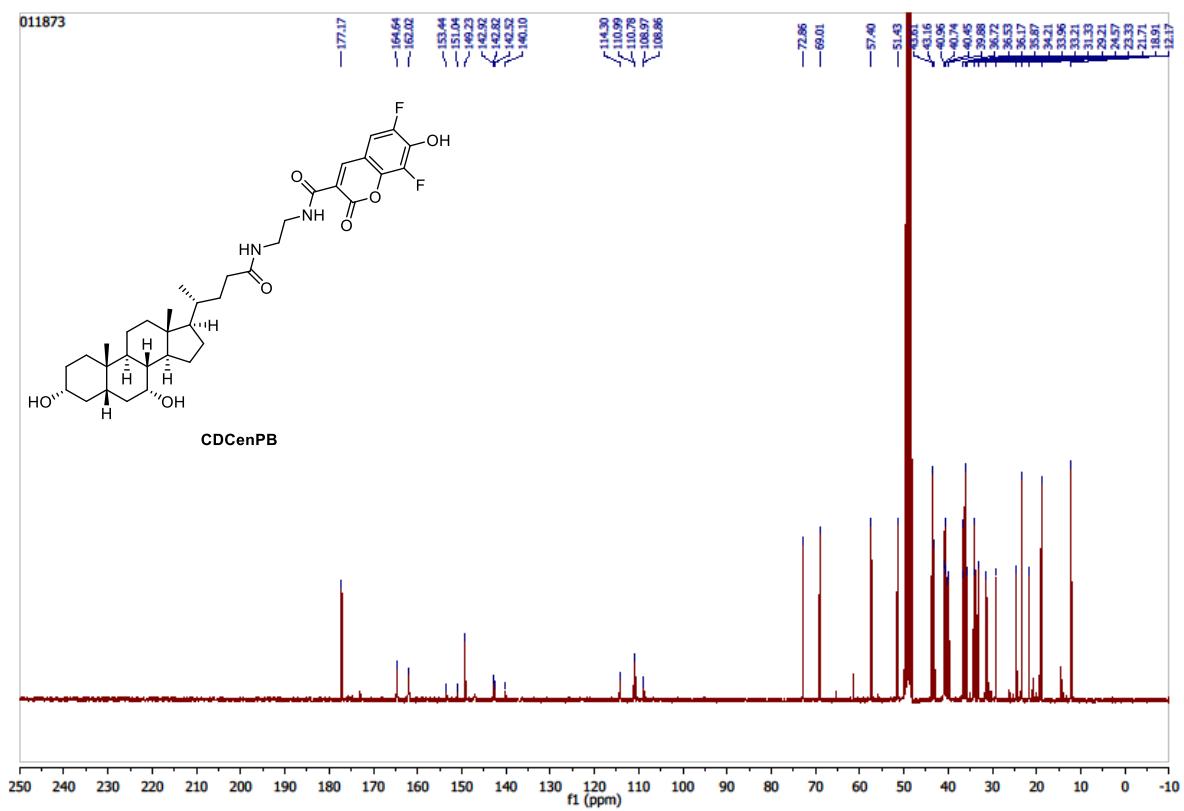
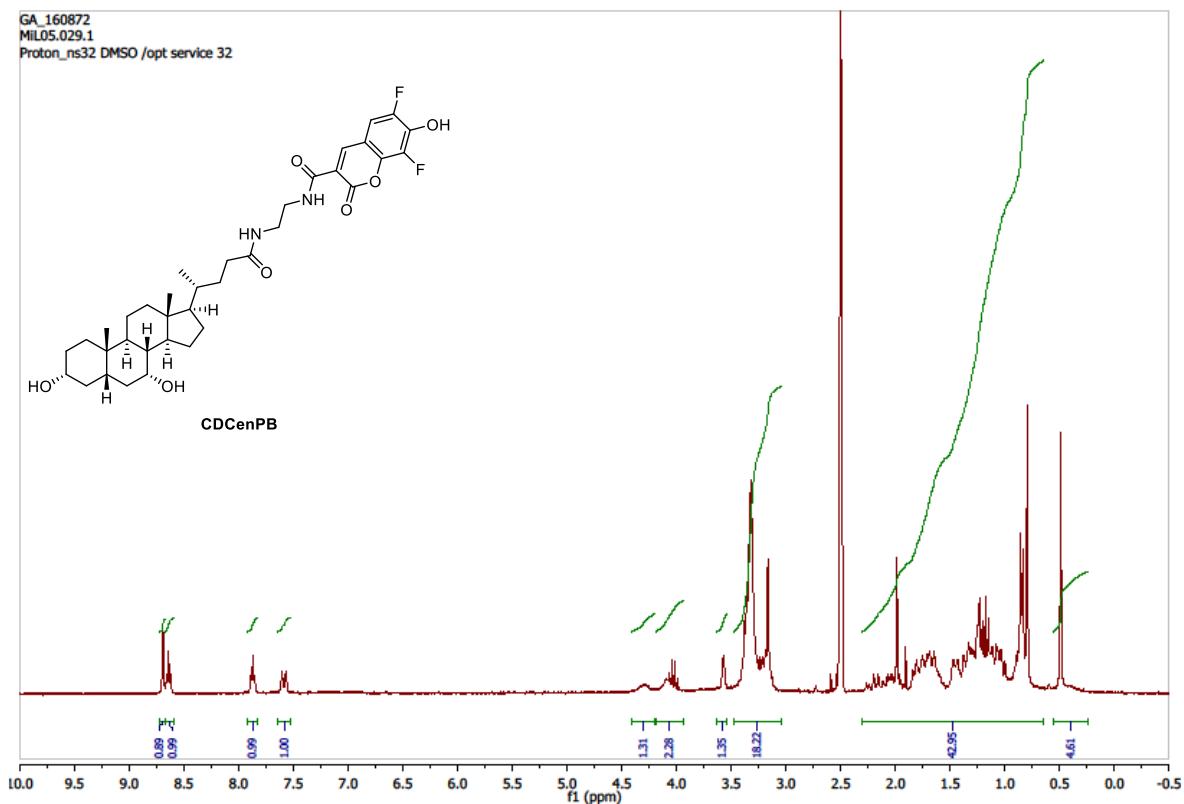


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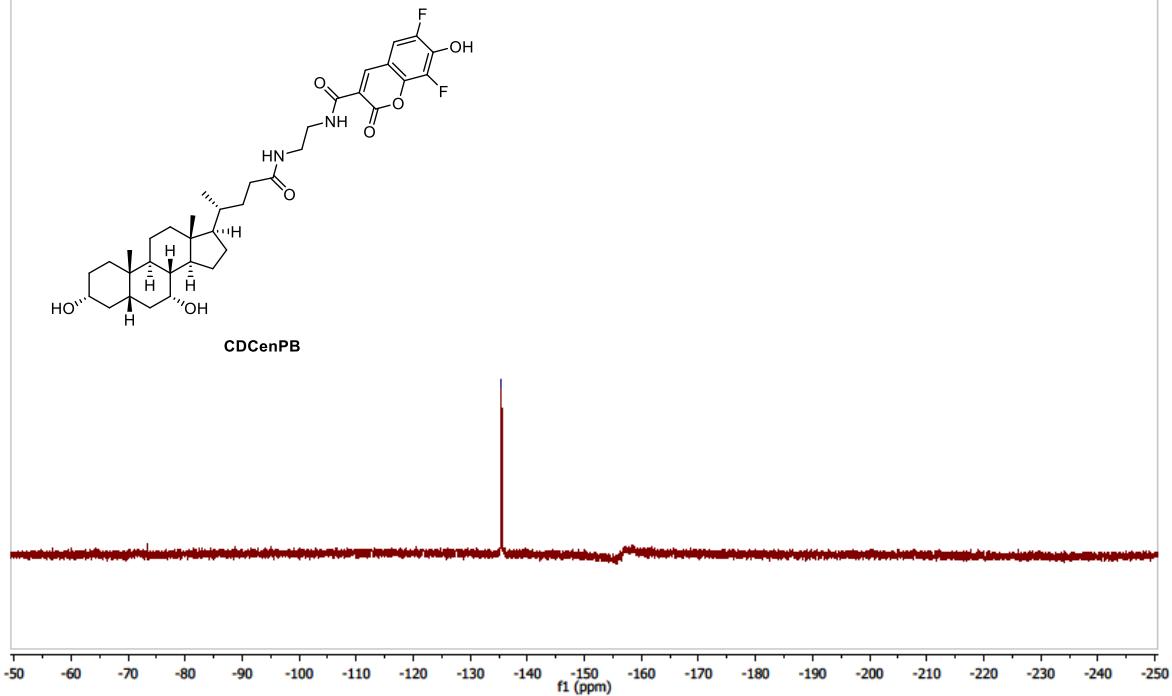


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Flourine\_ns128 DMSO /opt service 55

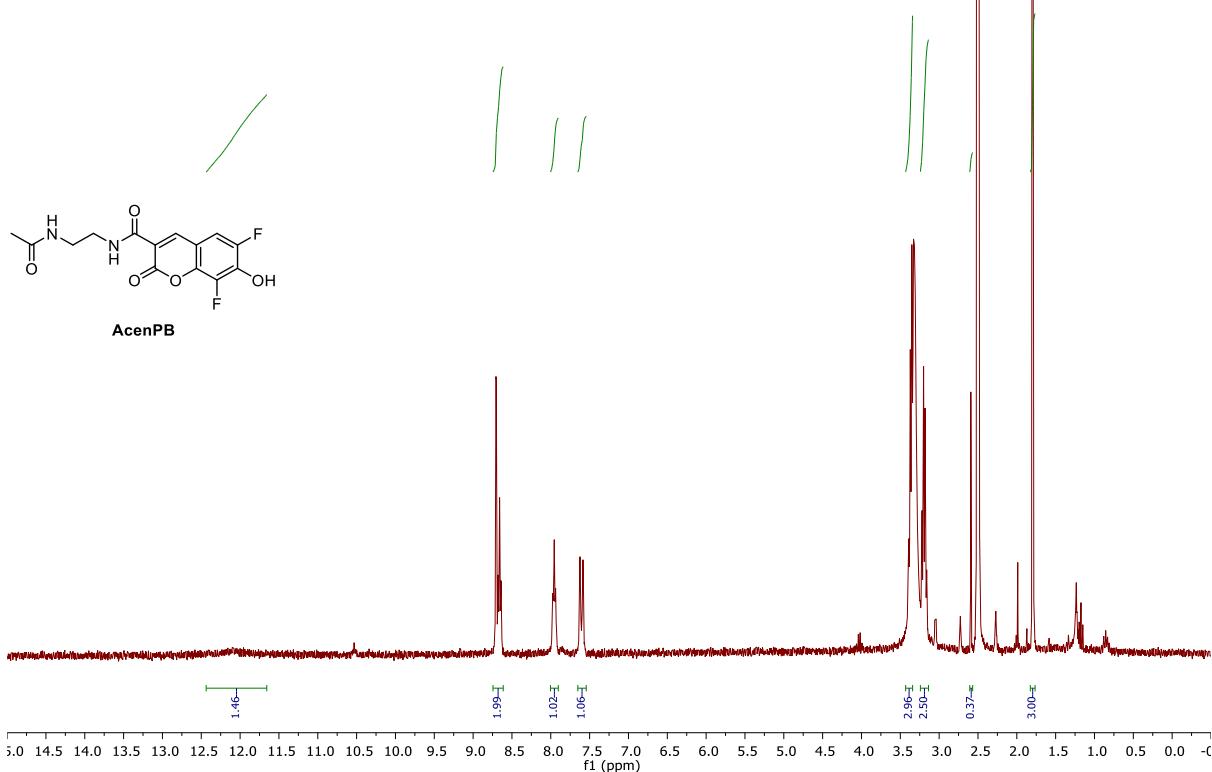




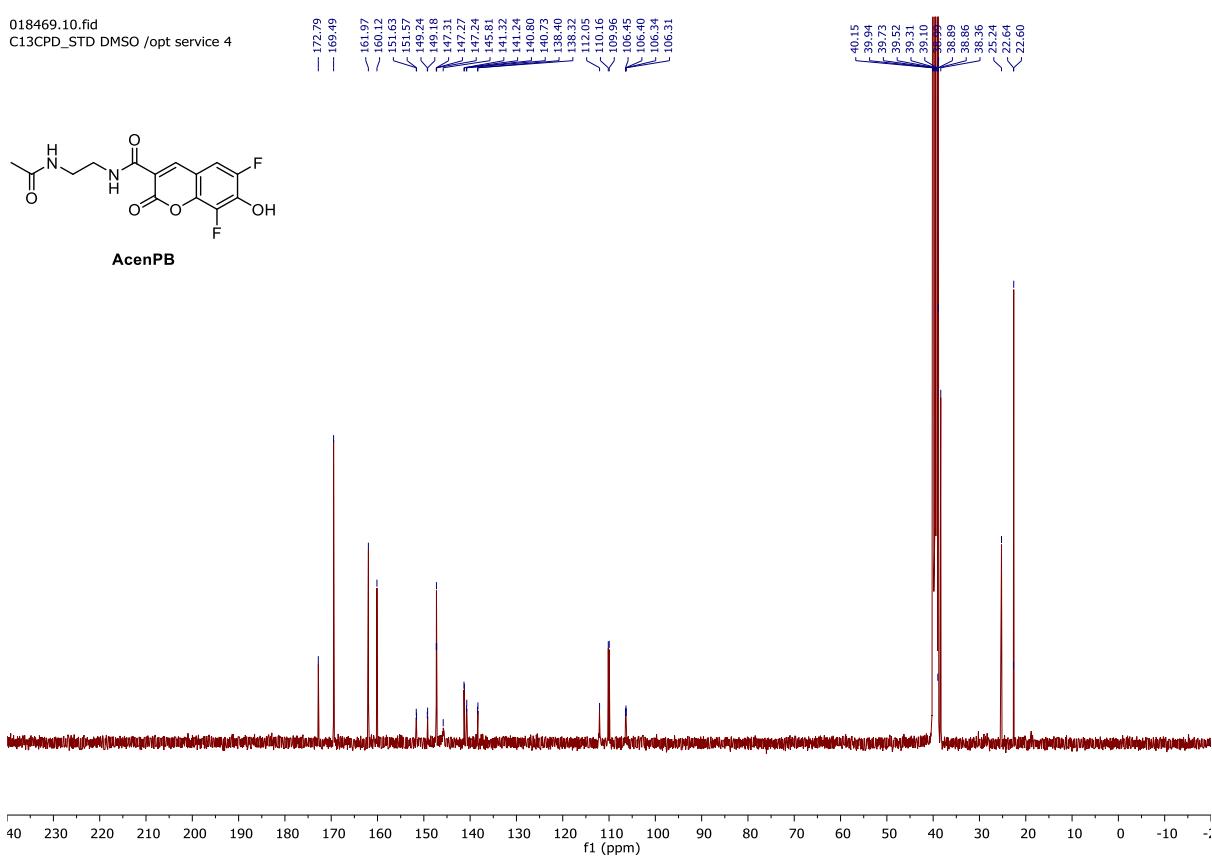
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Flourine\_ns128 DMSO /opt service 32



GA\_185407.10.fid  
MIL05.038.1  
Proton\_ns32 DMSO /opt service 18

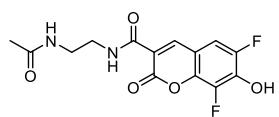


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C13CPD\_STD DMSO /opt service 4

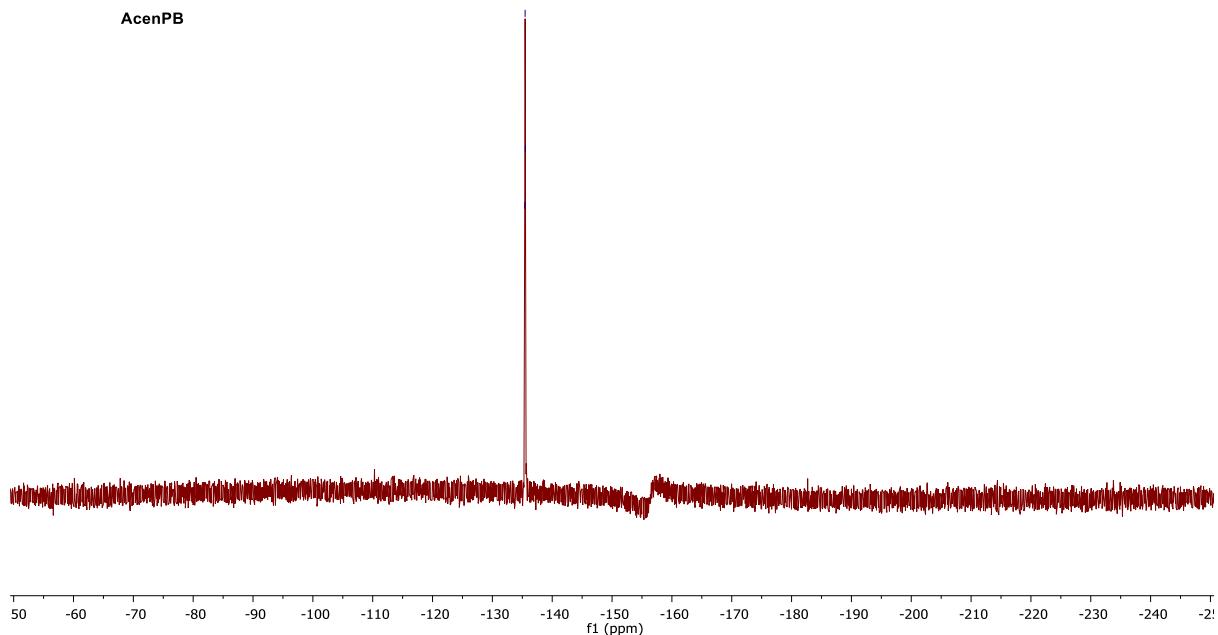


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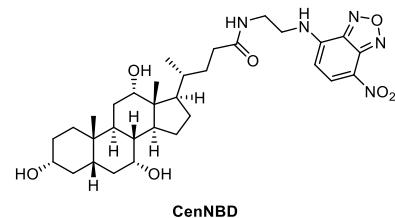
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-135.52



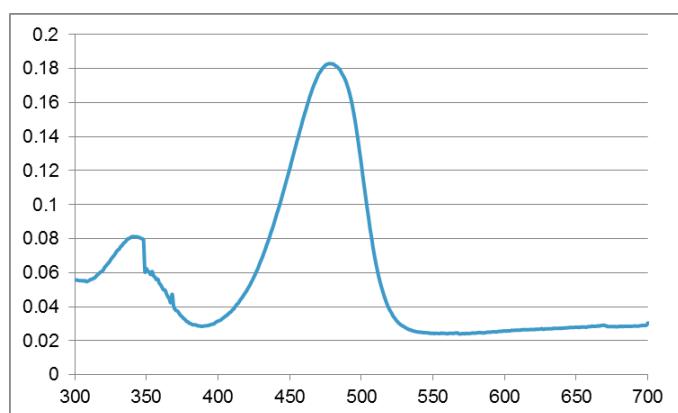
**AcenPB**



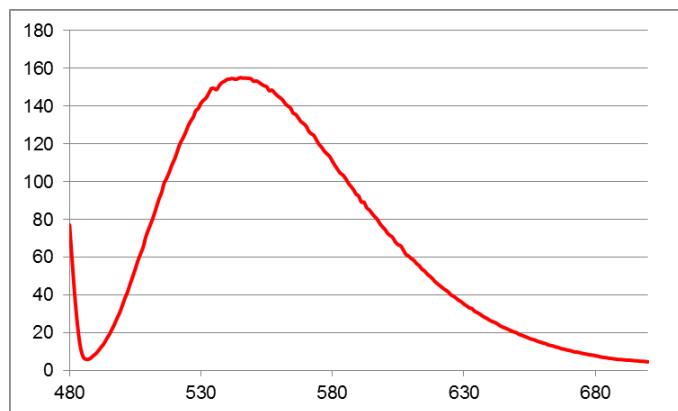
**2. UV-Vis absorption and fluorescence emission spectra of bile salt tracers**



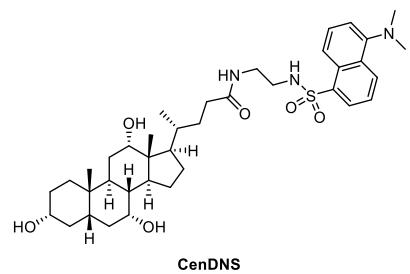
**A**



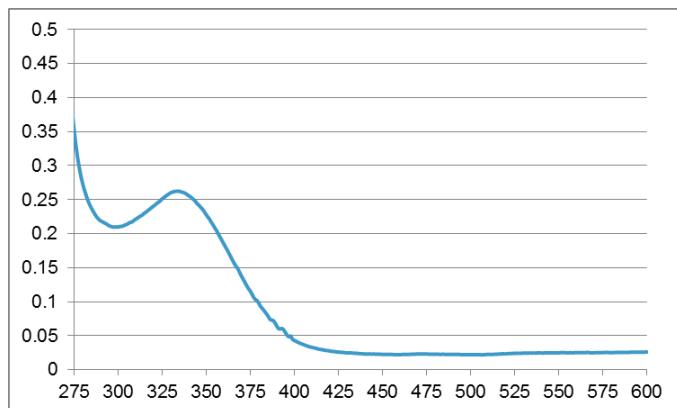
**B**



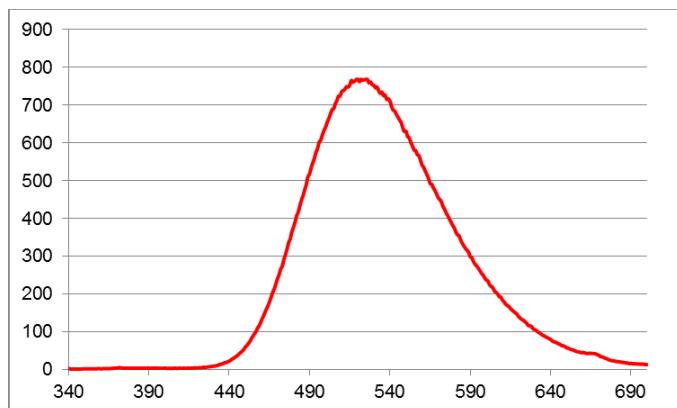
**Figure S1.** (A) Absorption spectrum of **CenNBD** (PBS buffer + 1% DMSO),  $\lambda_{\text{max}} \text{ abs} = 478 \text{ nm}$ . (B) Fluorescence emission spectrum of **CenNBD** (PBS buffer + 1% DMSO,  $\lambda_{\text{ex}} = 478 \text{ nm}$ ),  $\lambda_{\text{max}} \text{ em} = 545 \text{ nm}$ .



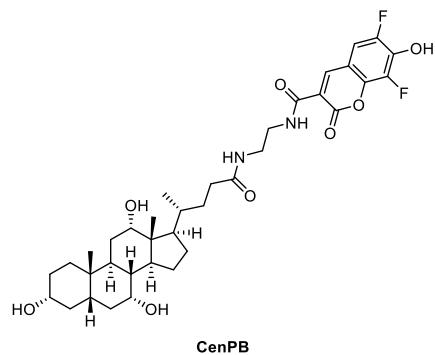
**A**



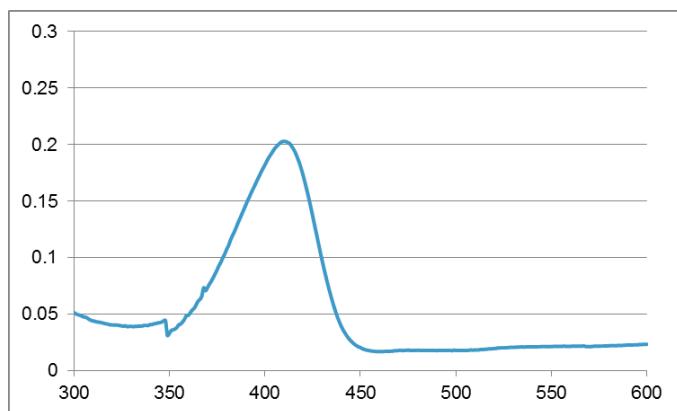
**B**



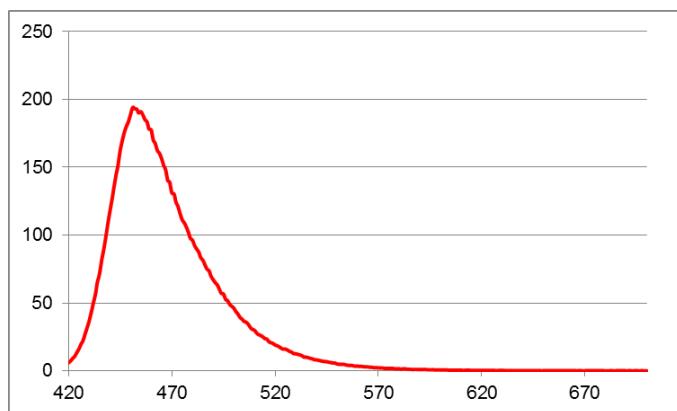
**Figure S2.** (A) Absorption spectrum of **CenDNS** (MeOH + 1% DMSO),  $\lambda_{\text{max}} \text{ abs} = 334 \text{ nm}$ . (B) Fluorescence emission spectrum of **CenDNS** (MeOH + 1% DMSO,  $\lambda_{\text{ex}} = 334 \text{ nm}$ ),  $\lambda_{\text{max}} \text{ em} = 520 \text{ nm}$ .



**A**



**B**



**Figure S3.** (A) Absorption spectrum of **CenPB** (PBS buffer + 1% DMSO),  $\lambda_{\max} \text{ abs} = 410 \text{ nm}$ . (B) Fluorescence emission spectrum of **CenPB** (PBS Buffer + 1% DMSO,  $\lambda_{\text{ex}} = 410 \text{ nm}$ ),  $\lambda_{\max} \text{ em} = 451 \text{ nm}$ .