

Supporting Information

Synthesis of an Alkynyl Methylglyoxal Probe to Investigate Non-enzymatic Histone Glycation

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Figure S1. Competition treatment of AlkMGO (**2b**) and MGO to 293T cells. The cells were co-treated with 0.25 mM AlkMGO and gradient MGO, and the histones were extracted and analyzed by in-gel fluorescence imaging and CCB-staining.

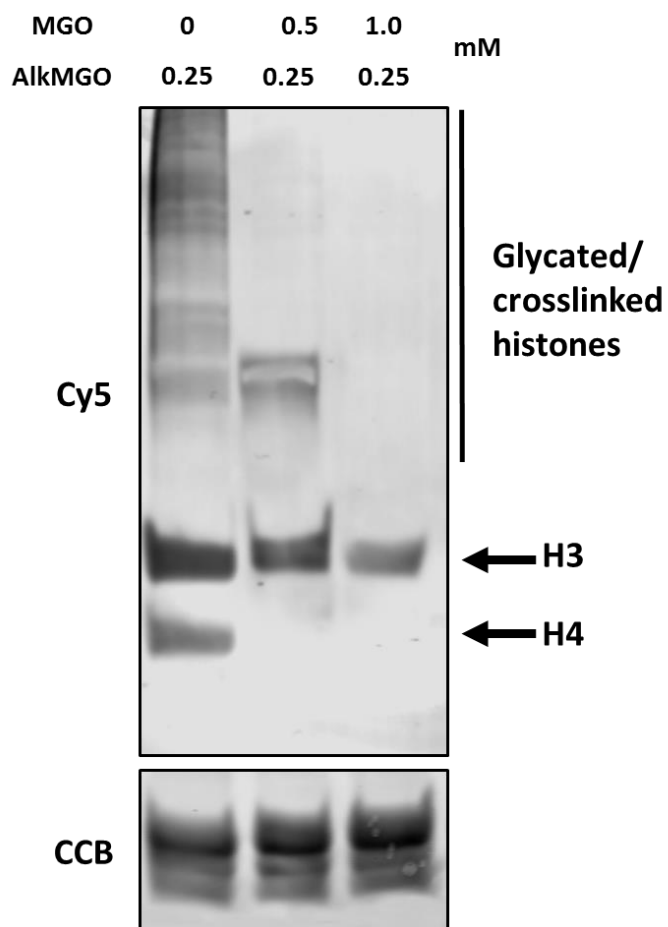


Figure S2. Impacts of AlkMGO-glycation on other essential histone post-translational modifications. The same samples were used as in Figure 2A, and the histones were extracted and analyzed by western blot with the indicated antibodies illustrating that essential histone post-translational modifications can be influenced by AlkMGO-glycation.

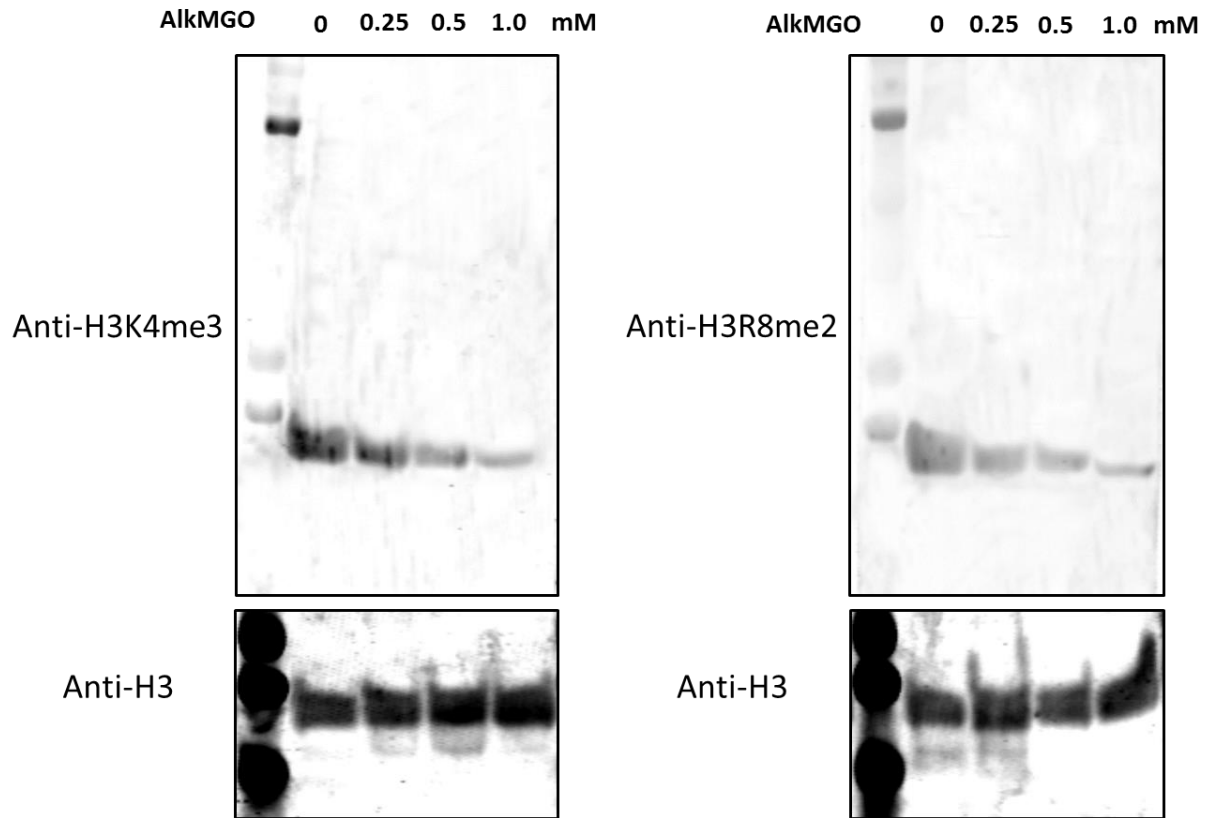
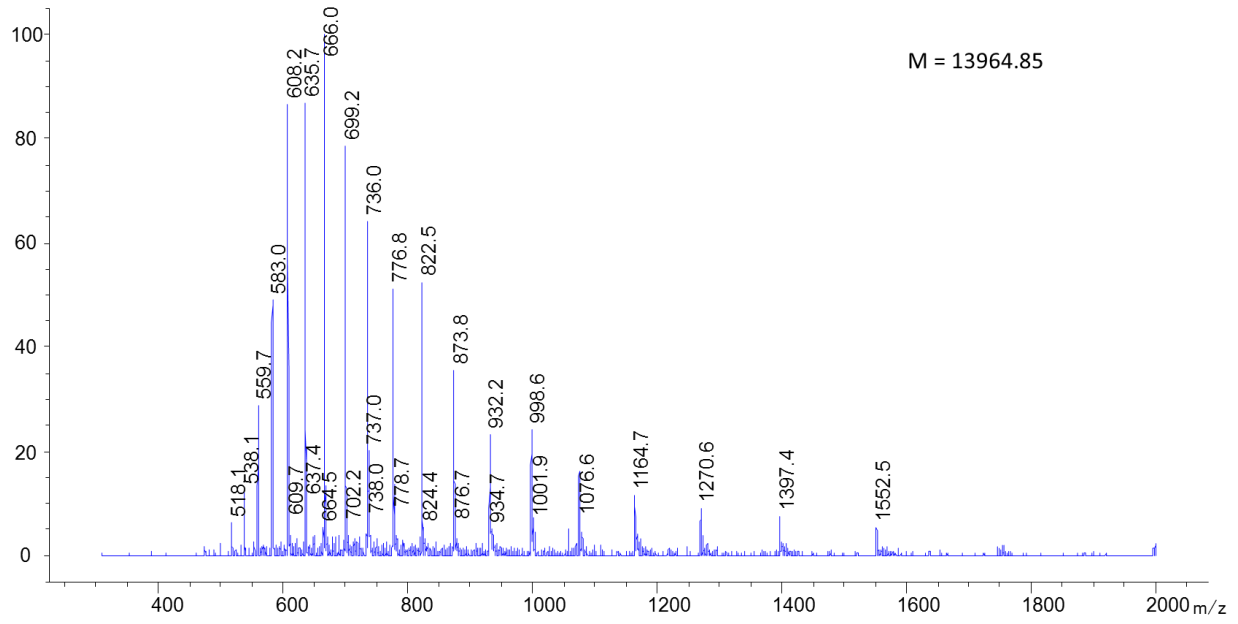
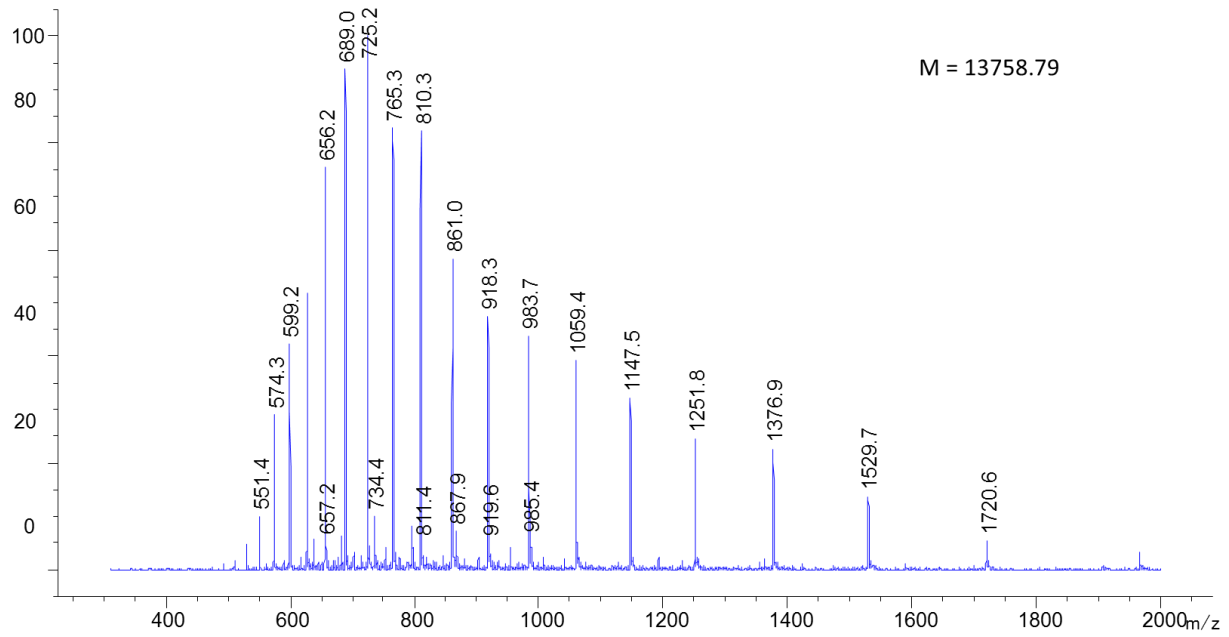


Figure S3. LC-ESI-MS analysis of recombinant histones. MS after deconvolution of (A) H2A (M=13964.85 Da), (B) H2B (M=13758.79 Da), (C) H3 (M=15256.95 Da) and (D) H4 (M=11236.80 Da).

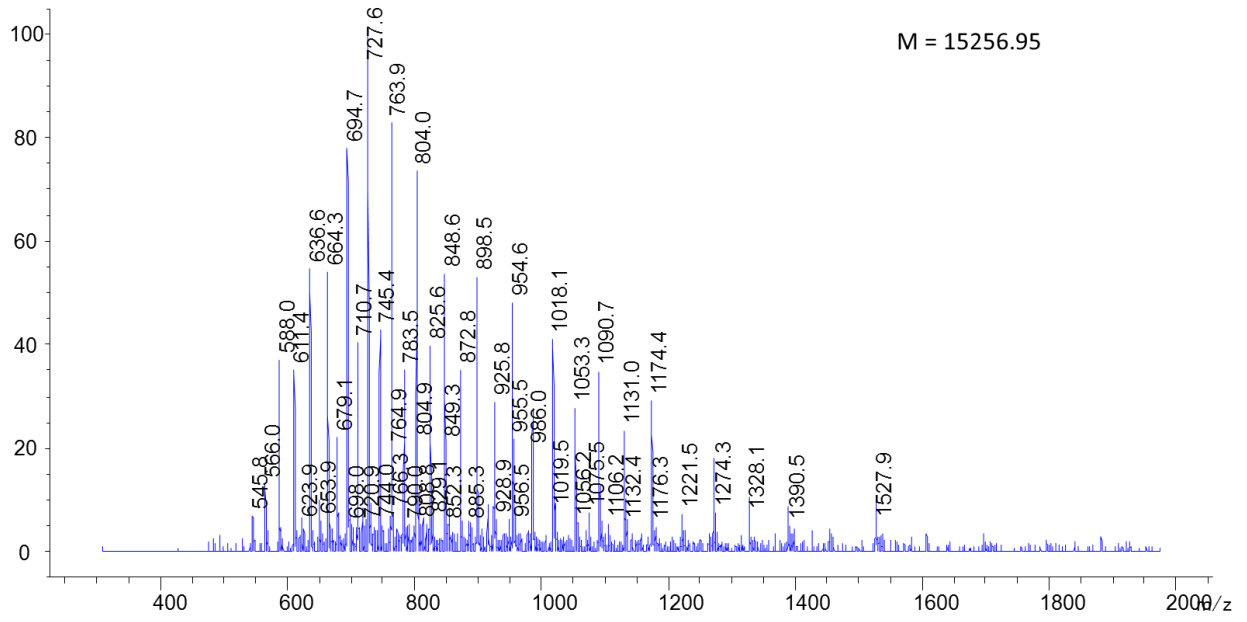
A



B



C



D

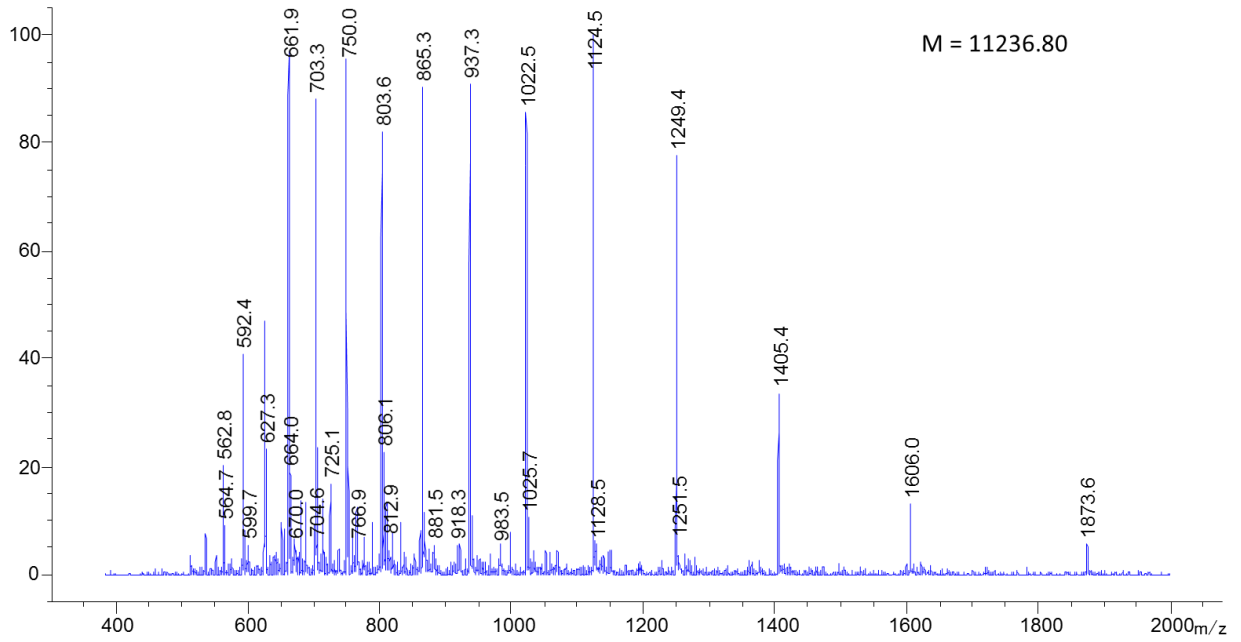


Figure S4. Full gels and uncropped immunoblots.

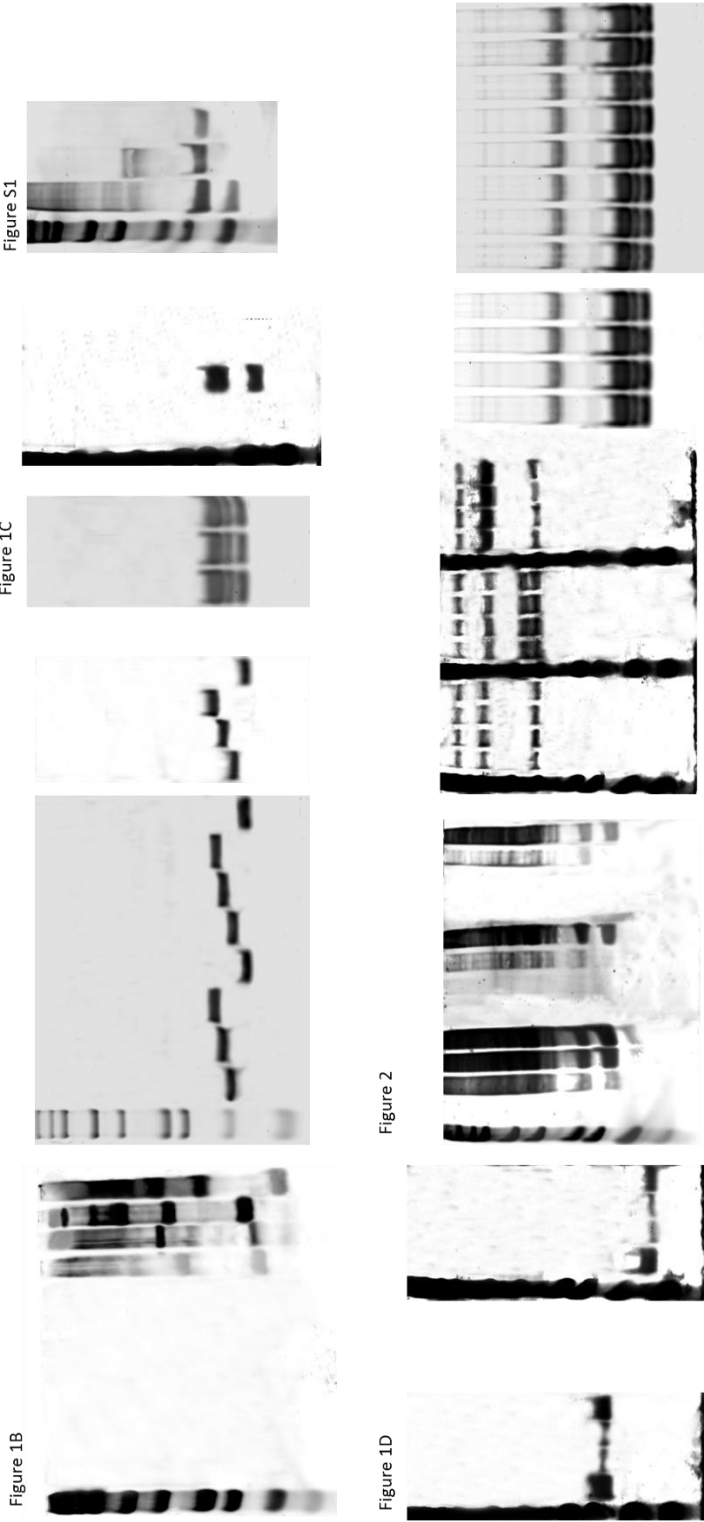
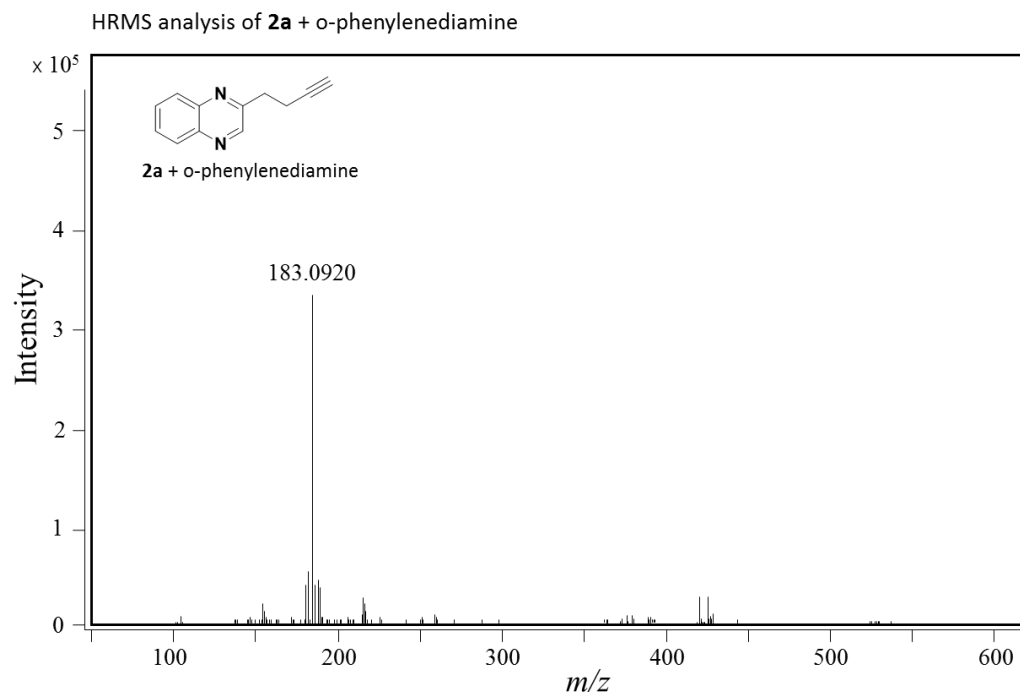
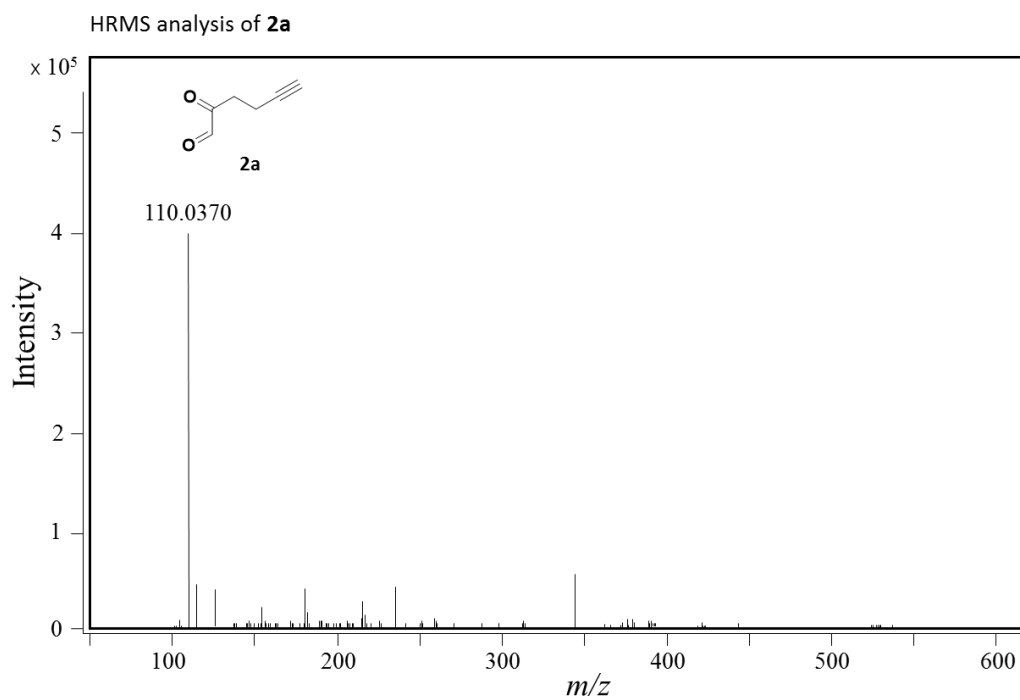


Figure S5. HRMS analyses of **2a** and **2b**.



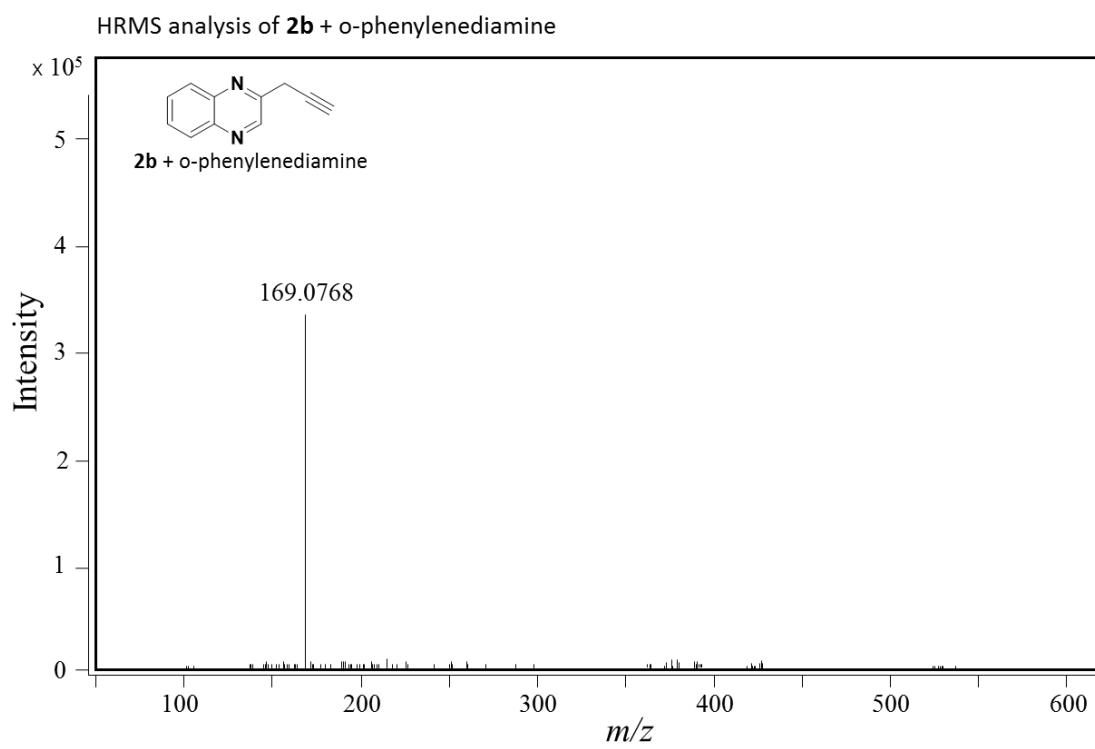
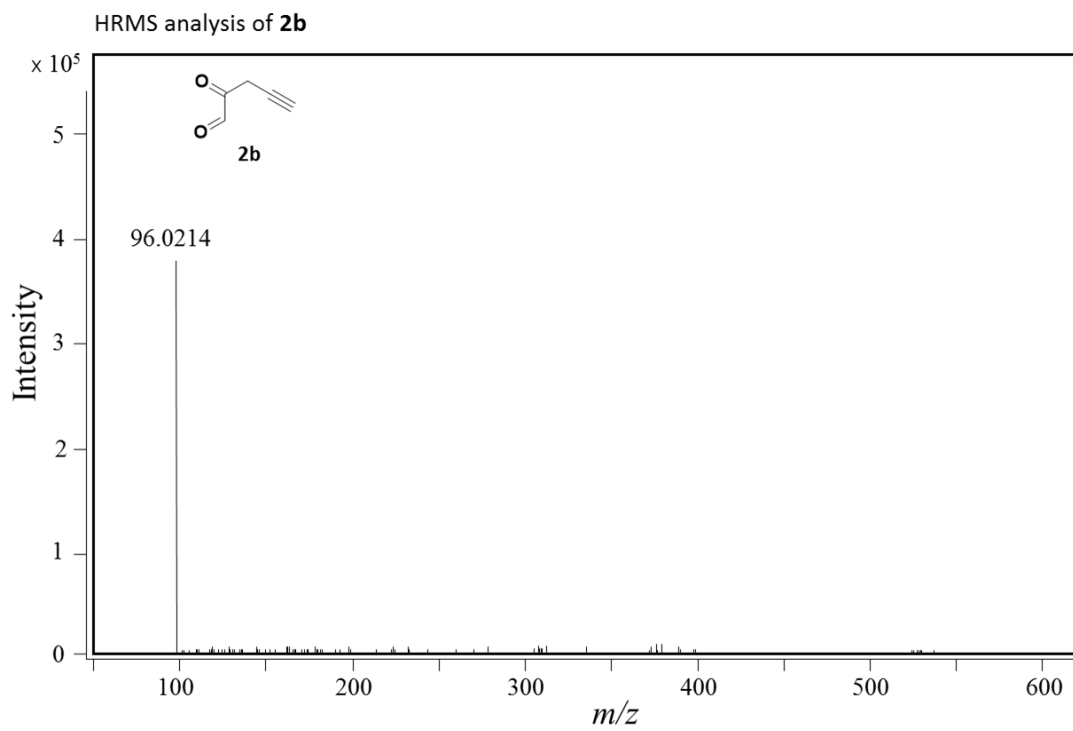
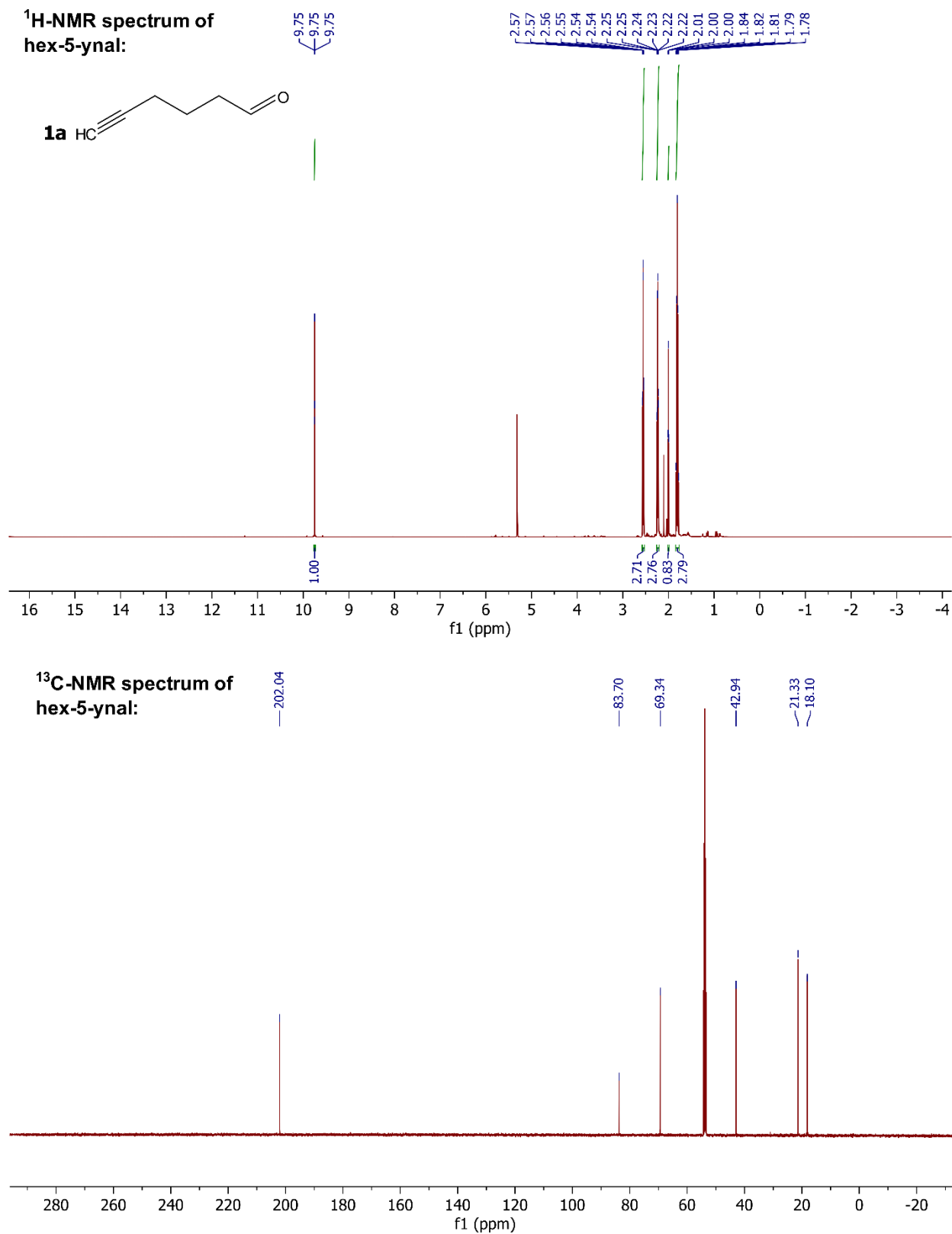
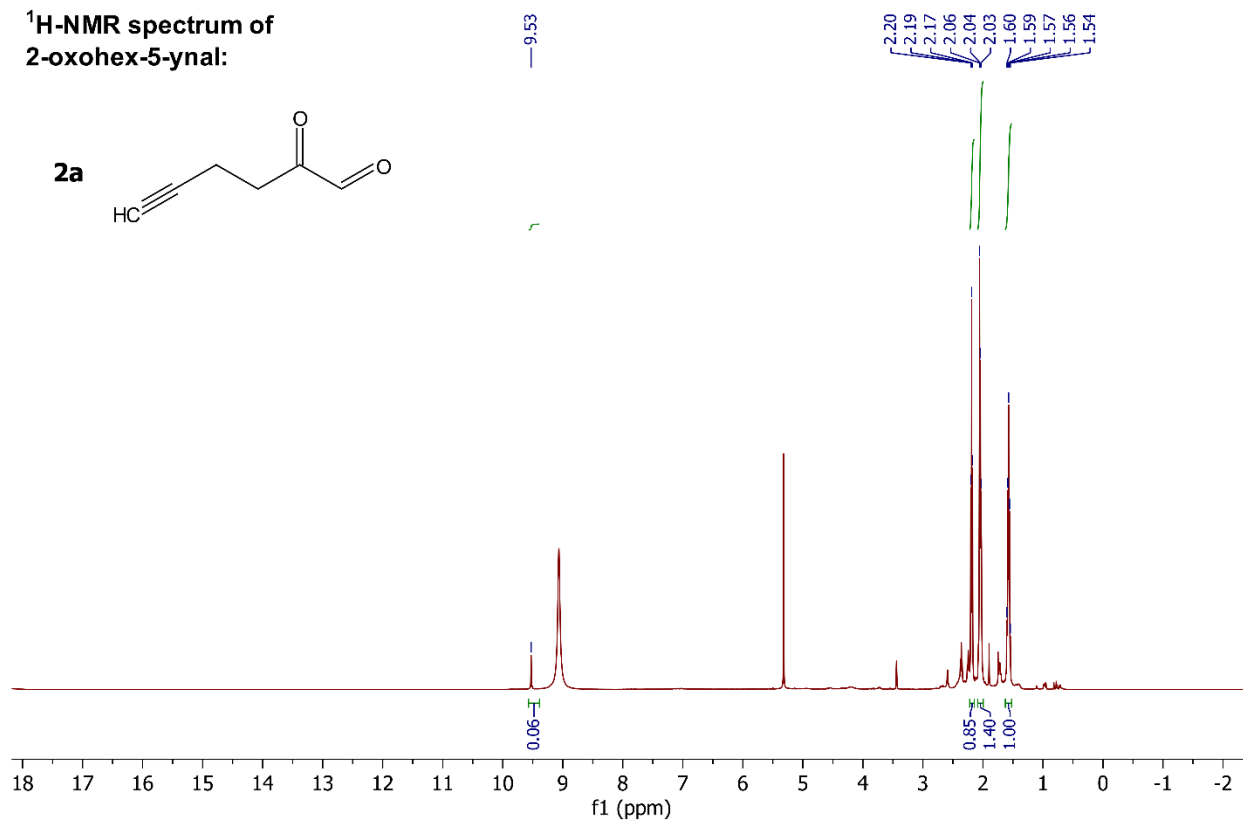
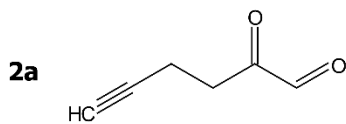


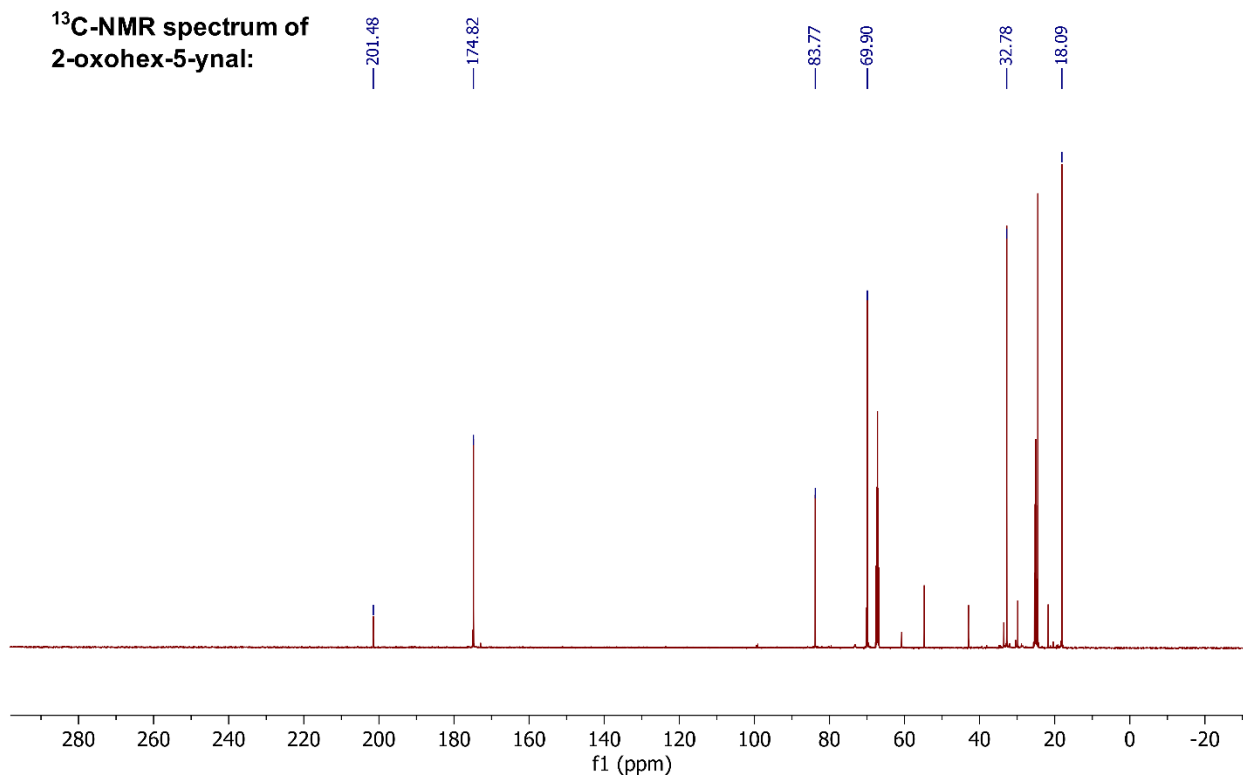
Figure S6. ^1H and ^{13}C NMR analyses of the compounds synthesized in this study.



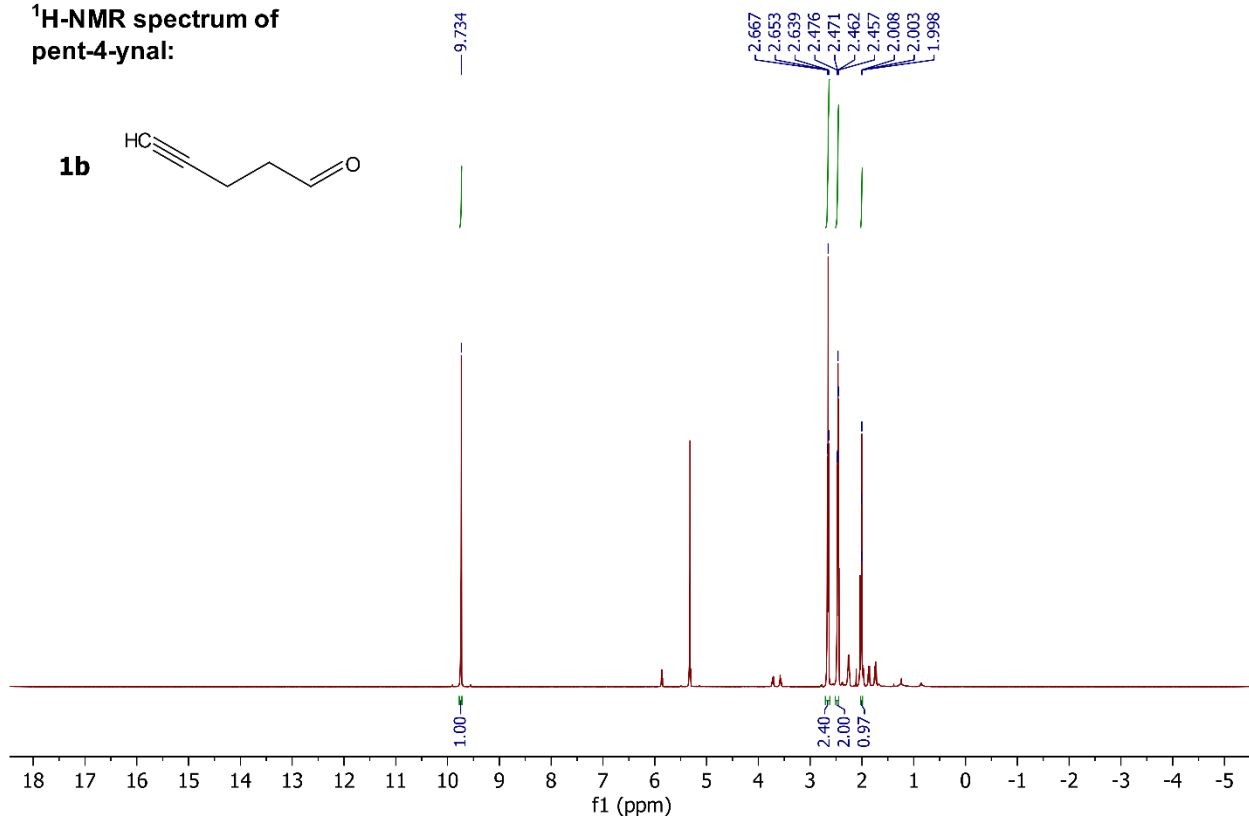
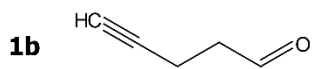
**¹H-NMR spectrum of
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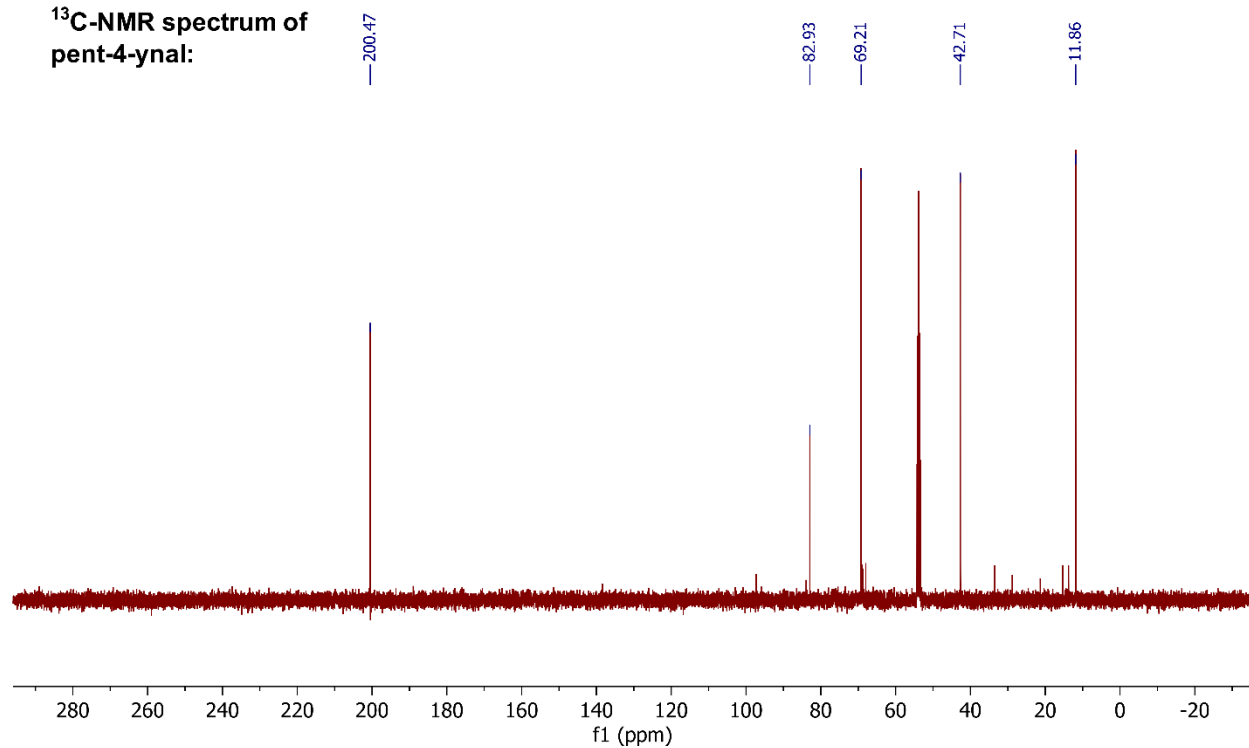
**¹³C-NMR spectrum of
2-oxohex-5-ynal:**



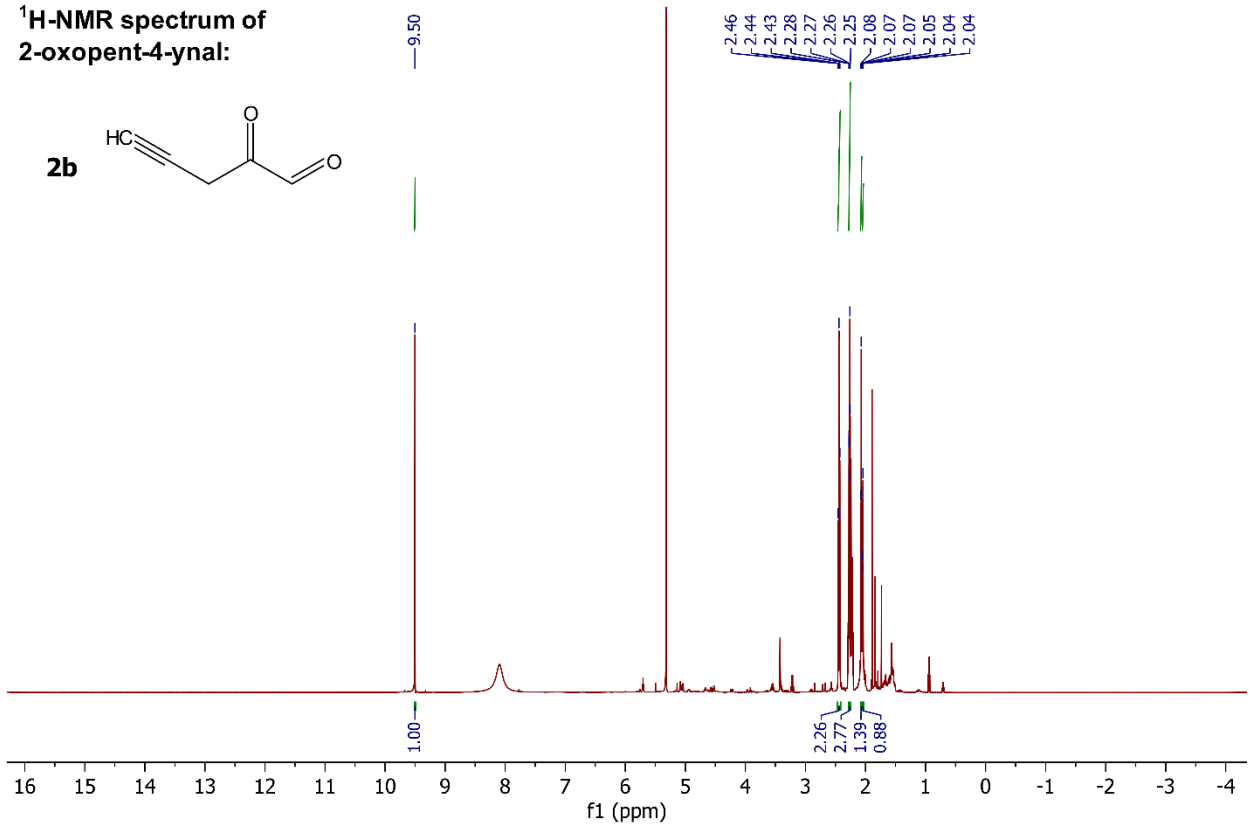
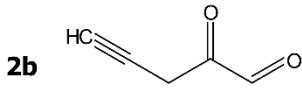
¹H-NMR spectrum of pent-4-ynal:



¹³C-NMR spectrum of pent-4-ynal:



¹H-NMR spectrum of 2-oxopent-4-ynal:



¹³C-NMR spectrum of 2-oxopent-4-ynal:

