

## Supporting information

### **Design and Synthesis of 3-( $\beta$ -D-Glucopyranosyl)-4-amino/4-guanidino Pyrazole Derivatives and Analysis of their Glycogen Phosphorylase Inhibitory Potential**

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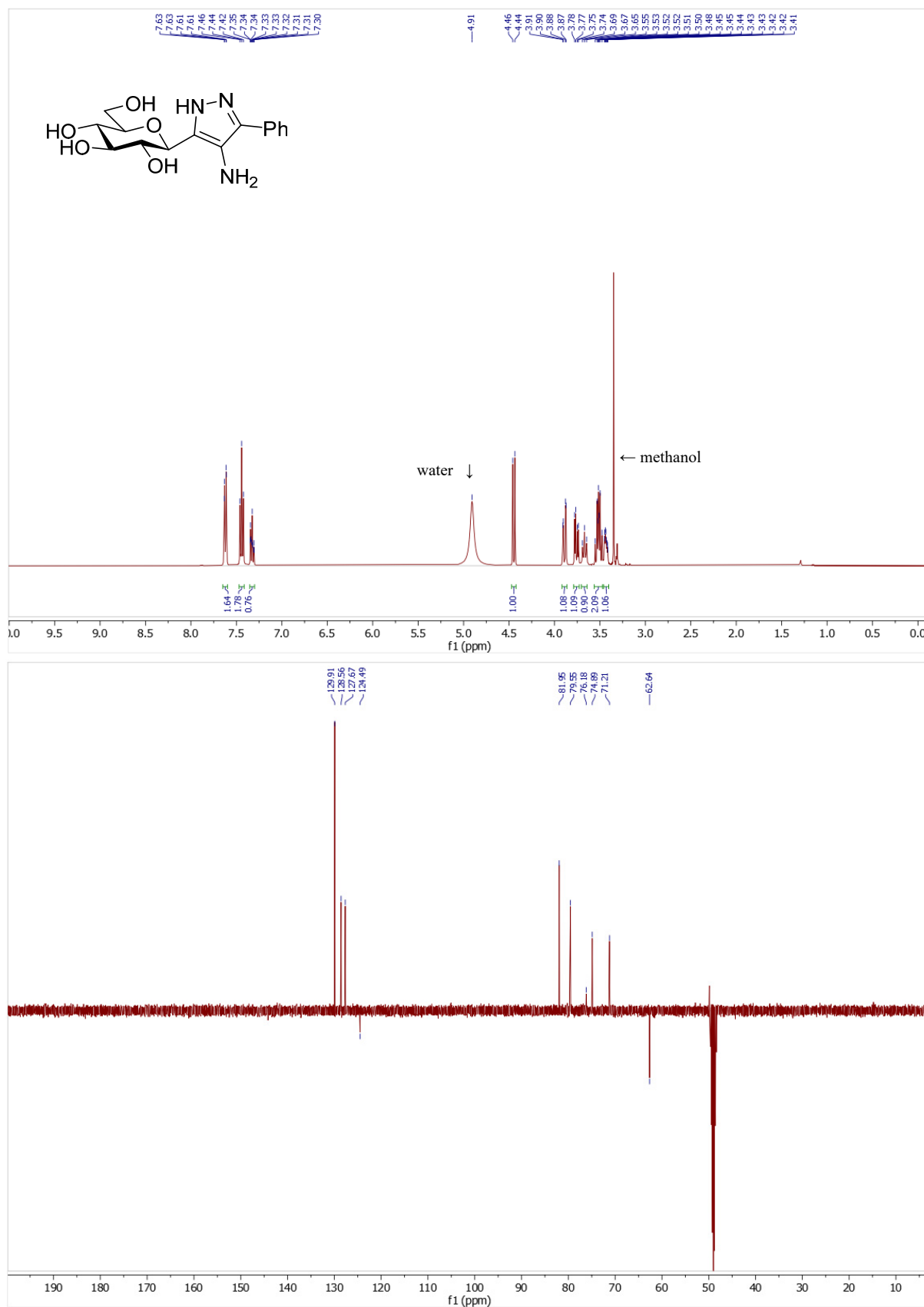
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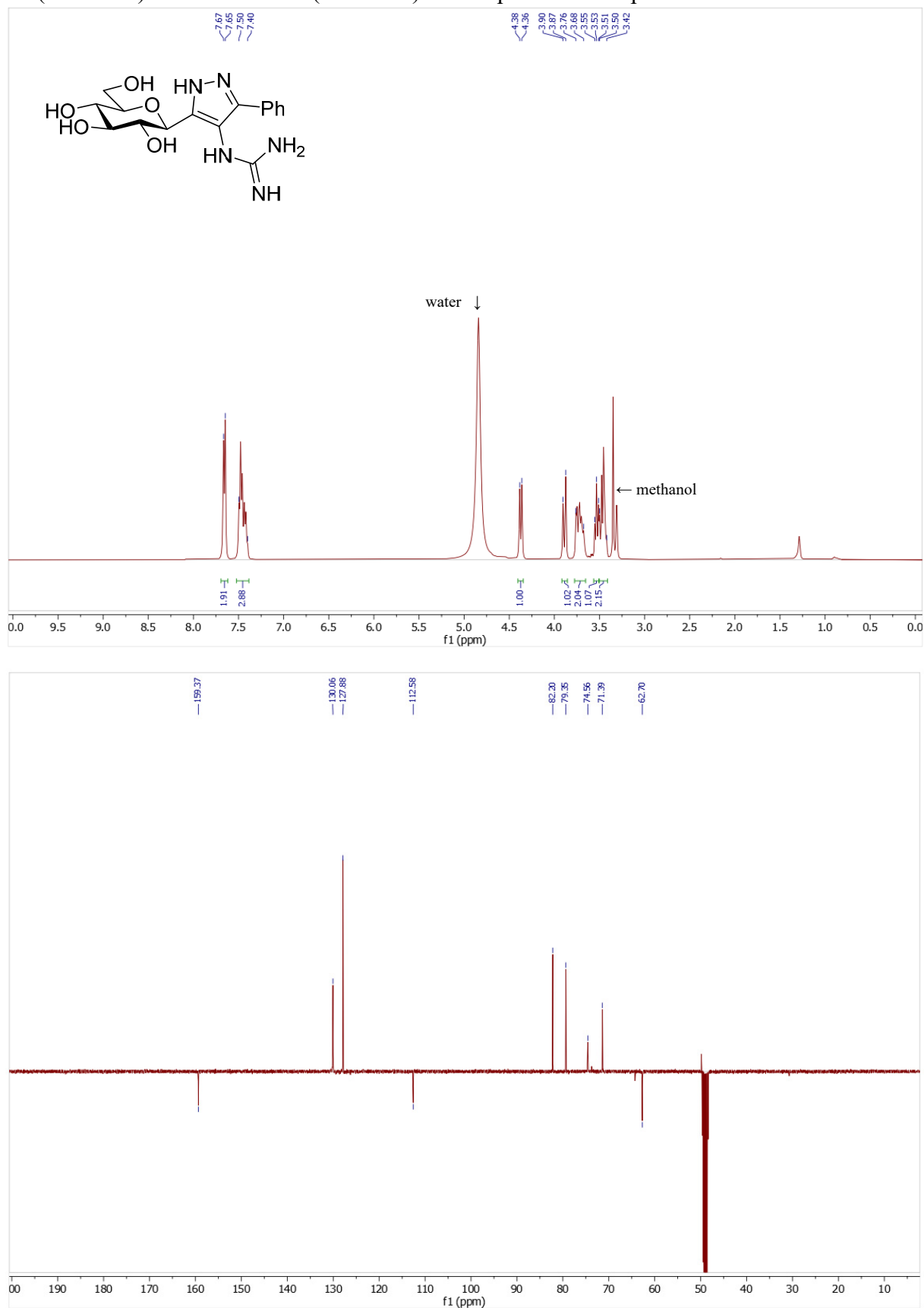
tel: +3652512900 ext. 22348 (LS), email: [somsak.laszlo@science.unideb.hu](mailto:somsak.laszlo@science.unideb.hu)

## Copies of the $^1\text{H}$ and $^{13}\text{C}$ J-MOD NMR spectra

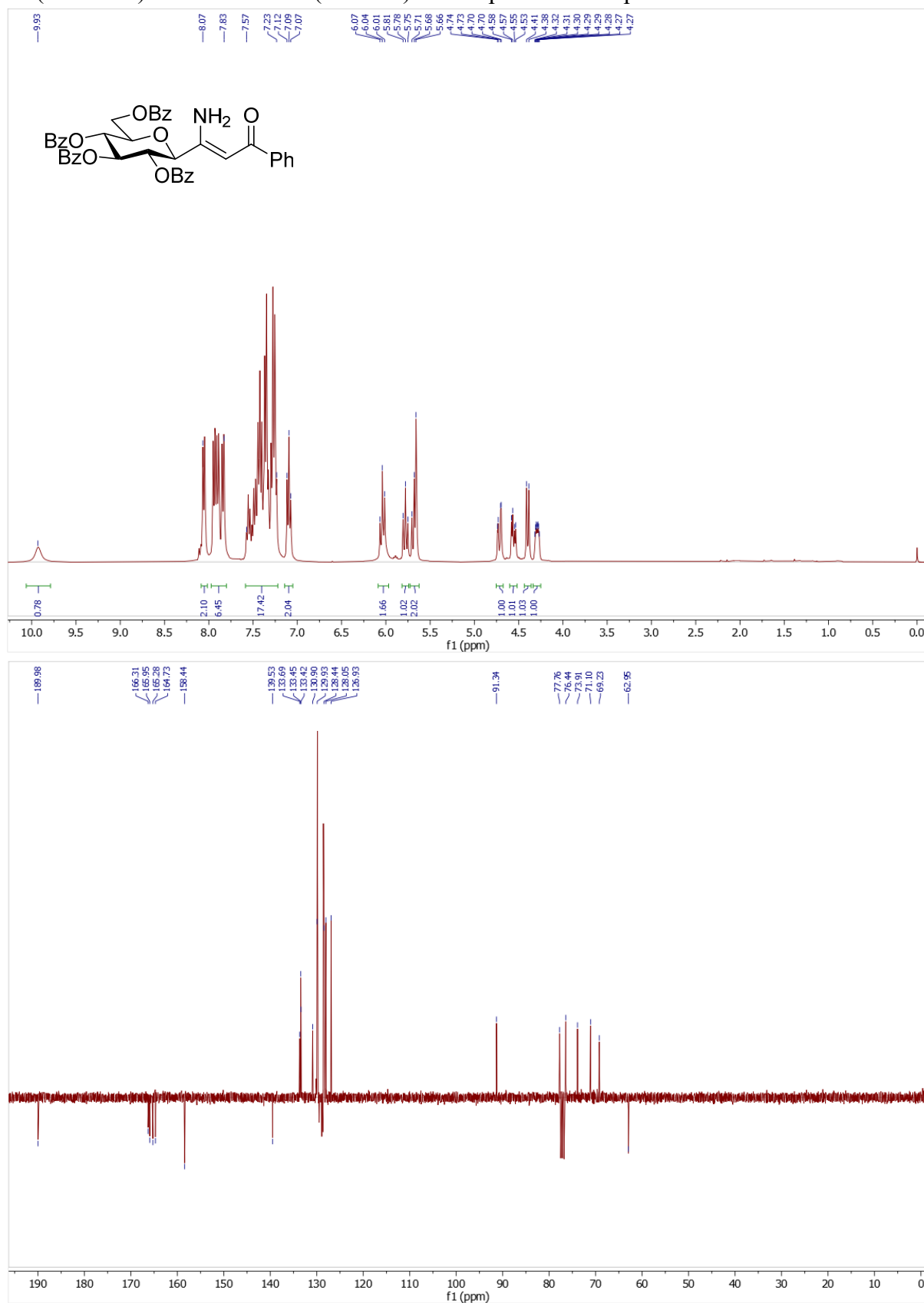
$^1\text{H}$  (400 MHz) and  $^{13}\text{C}$  J-MOD (100 MHz) NMR spectra of compound **3** in  $\text{CD}_3\text{OD}$



$^1\text{H}$  (400 MHz) and  $^{13}\text{C}$  J-MOD (100 MHz) NMR spectra of compound **4** in  $\text{CD}_3\text{OD}$



$^1\text{H}$  (360 MHz) and  $^{13}\text{C}$  J-MOD (90 MHz) NMR spectra of compound **6** in  $\text{CDCl}_3$



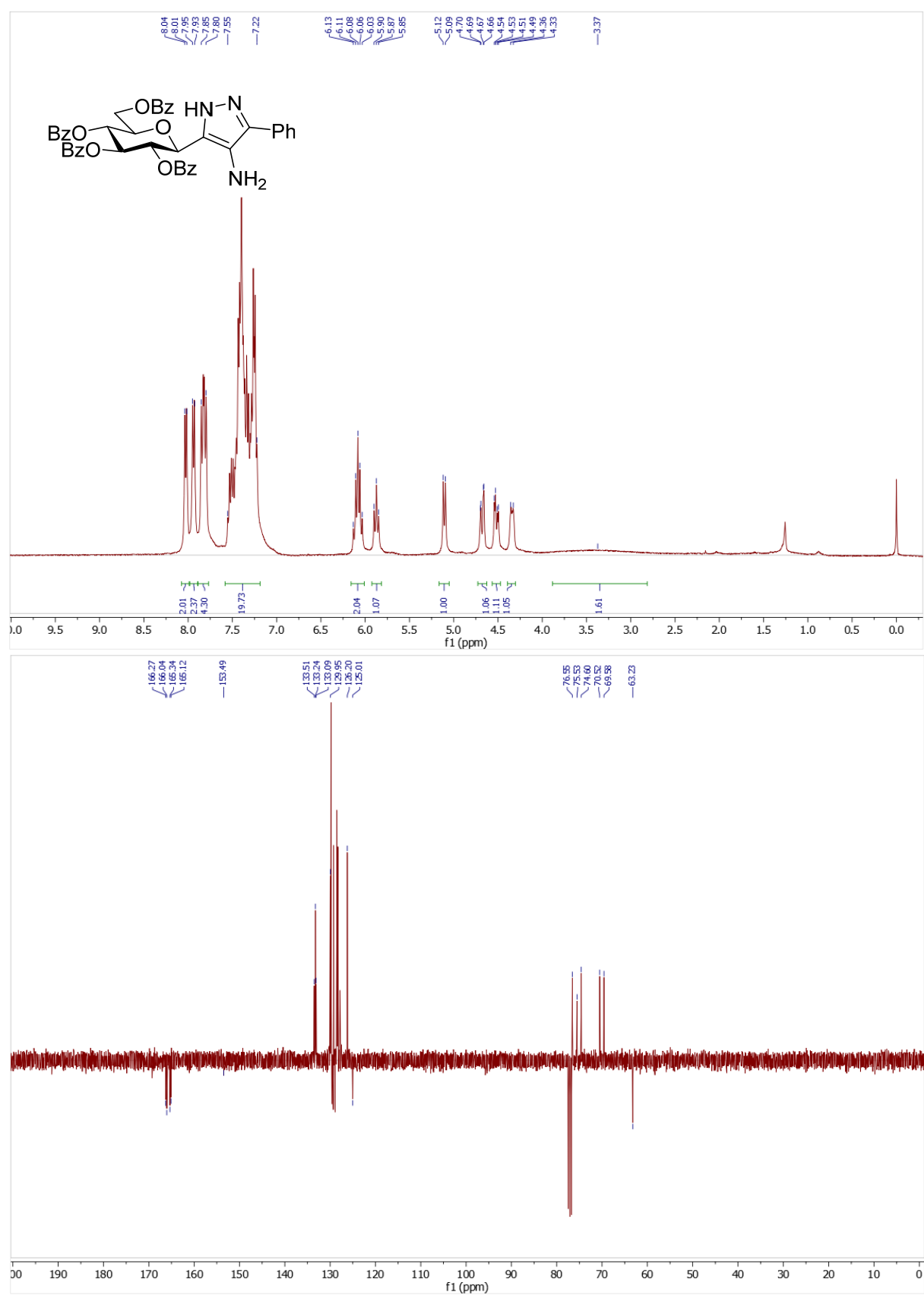
The figure displays the chemical structure and two NMR spectra of a substituted furanose derivative. The chemical structure is a furanose ring with a benzoyl (Bz) group at C2, a benzoyloxymethyl (OBz) group at C3, and a 2-oxo-2-phenylvinyl group at C4. The 1H NMR spectrum (top) shows peaks in the aromatic region (6.60-8.11 ppm), a vinyl region (4.72-5.77 ppm), and a sugar region (3.42-4.82 ppm). The 13C NMR spectrum (bottom) shows peaks from 62.88 to 190.85 ppm, including carbonyl, sugar, and aromatic signals.

**Chemical Structure:** A furanose ring substituted with a benzoyl (Bz) group at C2, a benzoyloxymethyl (OBz) group at C3, and a 2-oxo-2-phenylvinyl group at C4.

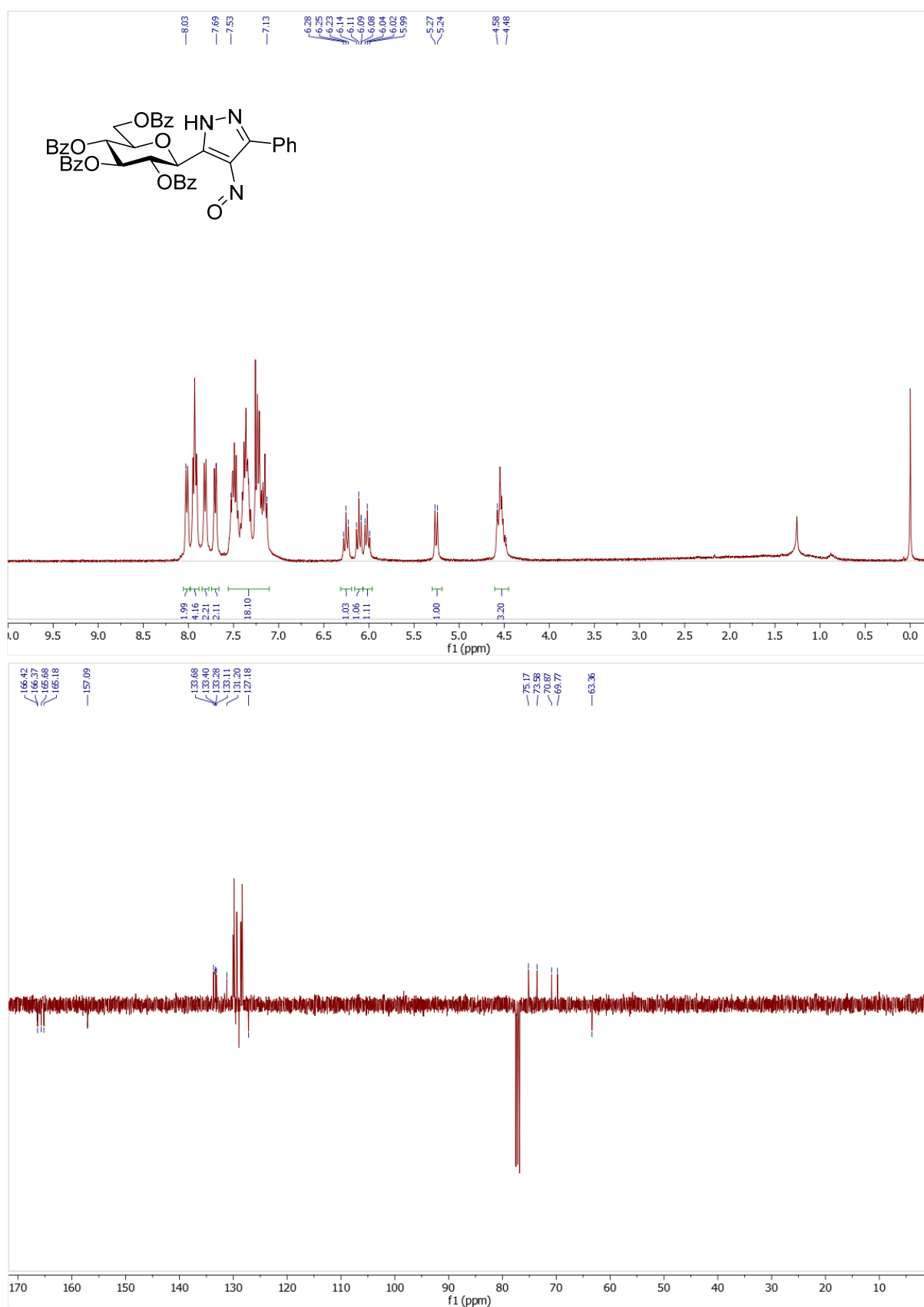
**<sup>1</sup>H NMR Spectrum (Top):** The x-axis is labeled f1 (ppm) and ranges from 0 to 15.55. The spectrum shows several multiplets in the aromatic region (6.60-8.11 ppm), a multiplet in the vinyl region (4.72-5.77 ppm), and a multiplet in the sugar region (3.42-4.82 ppm). Integration values are provided below the peaks: 0.54, 1.73, 3.94, 2.73, 18.42, 0.99, 1.00, 1.95, 1.13, 1.26, 1.12, 1.09.

**<sup>13</sup>C NMR Spectrum (Bottom):** The x-axis is labeled f1 (ppm) and ranges from 10 to 190.85. The spectrum shows several sharp peaks in the aromatic region (127.35-134.12 ppm), a peak at 93.91 ppm, a peak at 62.88 ppm, and a peak at 190.85 ppm. Integration values are provided below the peaks: 190.85, 183.59, 166.29, 165.90, 165.34, 165.28, 134.12, 133.66, 133.59, 133.36, 132.83, 129.99, 127.35, 93.91, 79.05, 76.35, 73.99, 70.76, 69.40, 62.88.

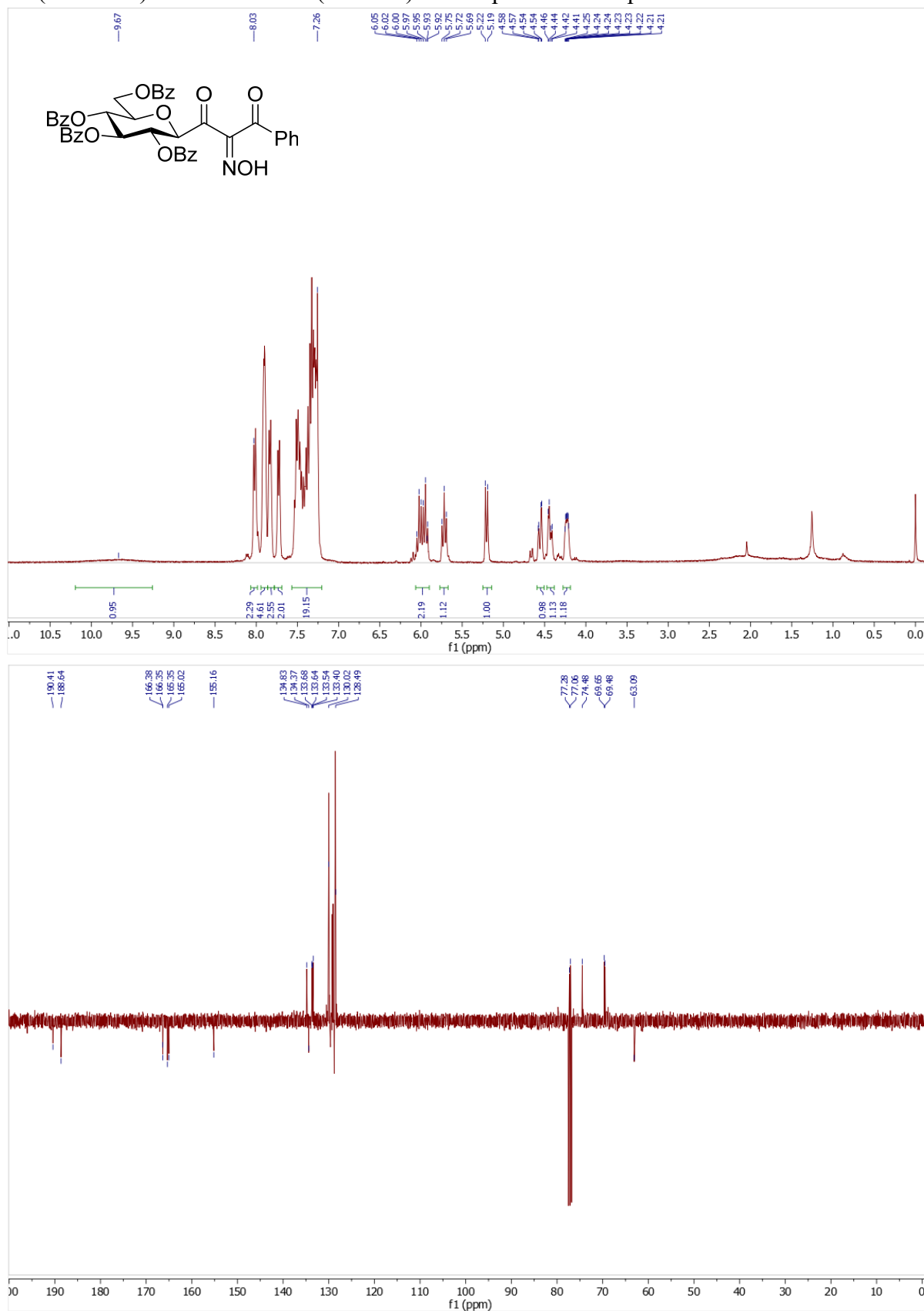
$^1\text{H}$  (360 MHz) and  $^{13}\text{C}$  J-MOD (90 MHz) NMR spectra of compound **8** in  $\text{CDCl}_3$



$^1\text{H}$  (360 MHz) and  $^{13}\text{C}$  J-MOD (90 MHz) NMR spectra of compound **9** in  $\text{CDCl}_3$



$^1\text{H}$  (360 MHz) and  $^{13}\text{C}$  J-MOD (90 MHz) NMR spectra of compound **10** in  $\text{CDCl}_3$





$^1\text{H}$  (360 MHz) and  $^{13}\text{C}$  J-MOD (90 MHz) NMR spectra of compound **11** in  $\text{CDCl}_3$

