

## Supporting Information

### Microwave assisted synthesis of novel purine nucleosides as selective cholinesterase inhibitors

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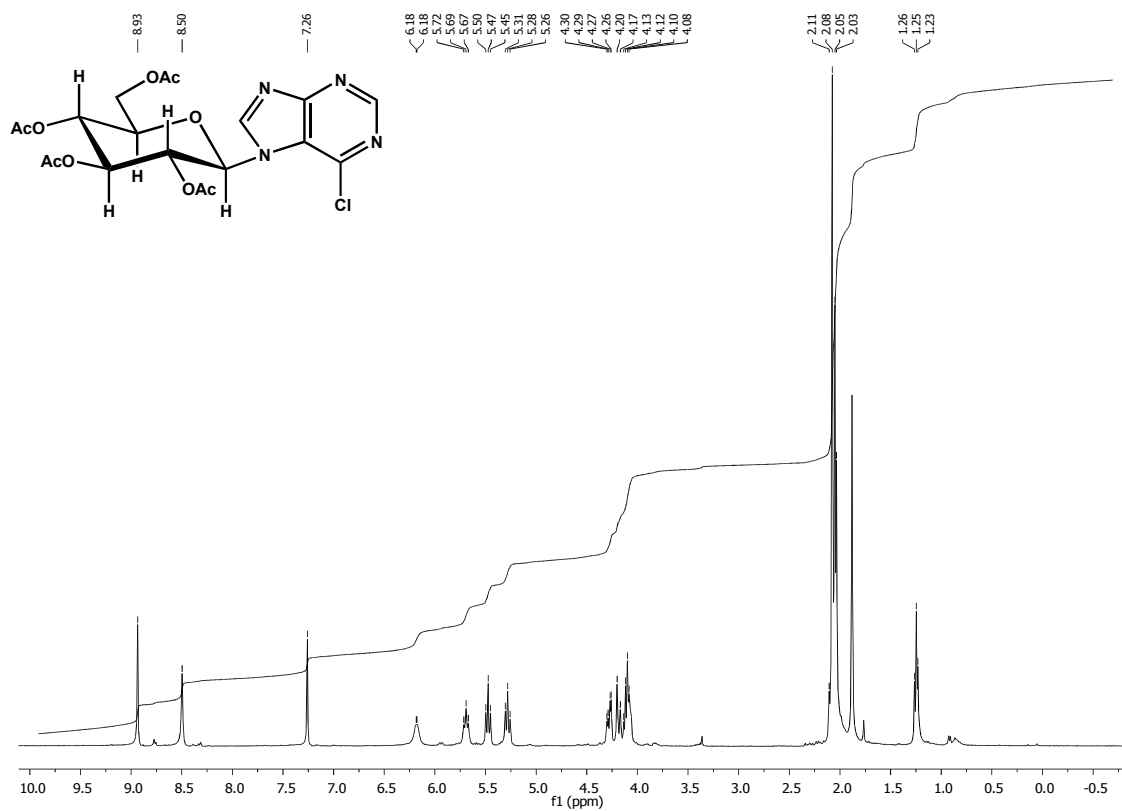
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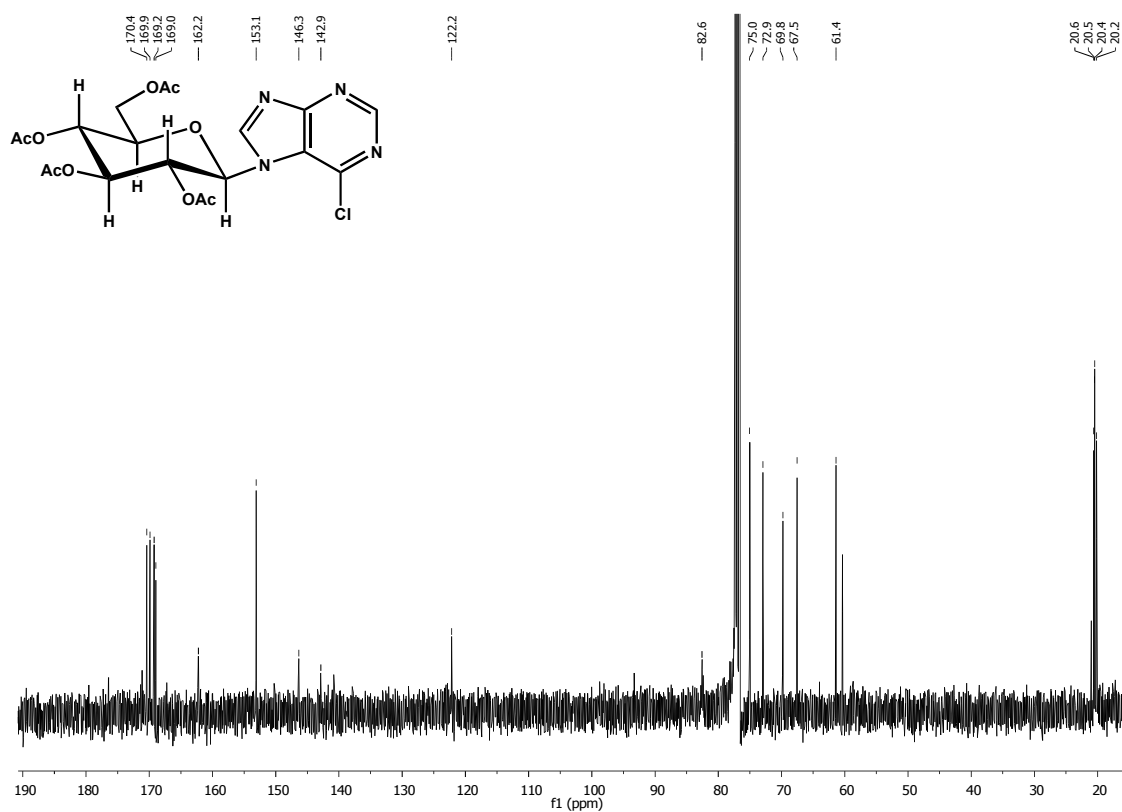
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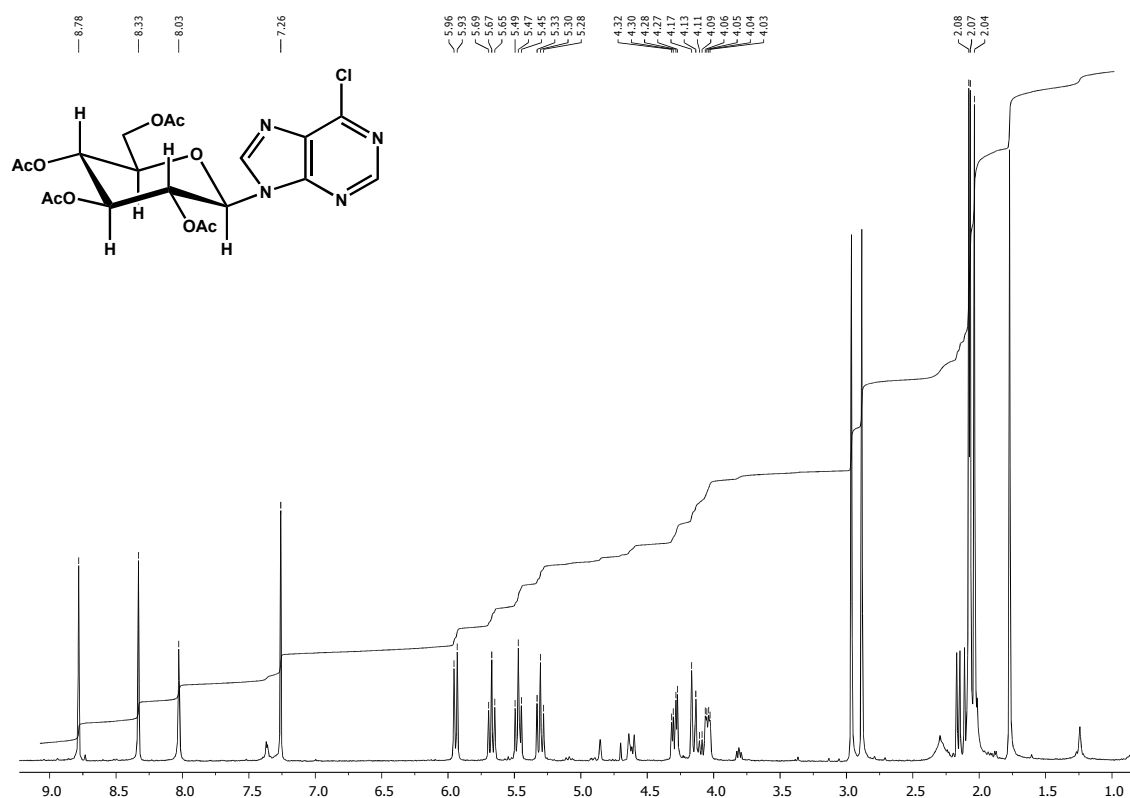
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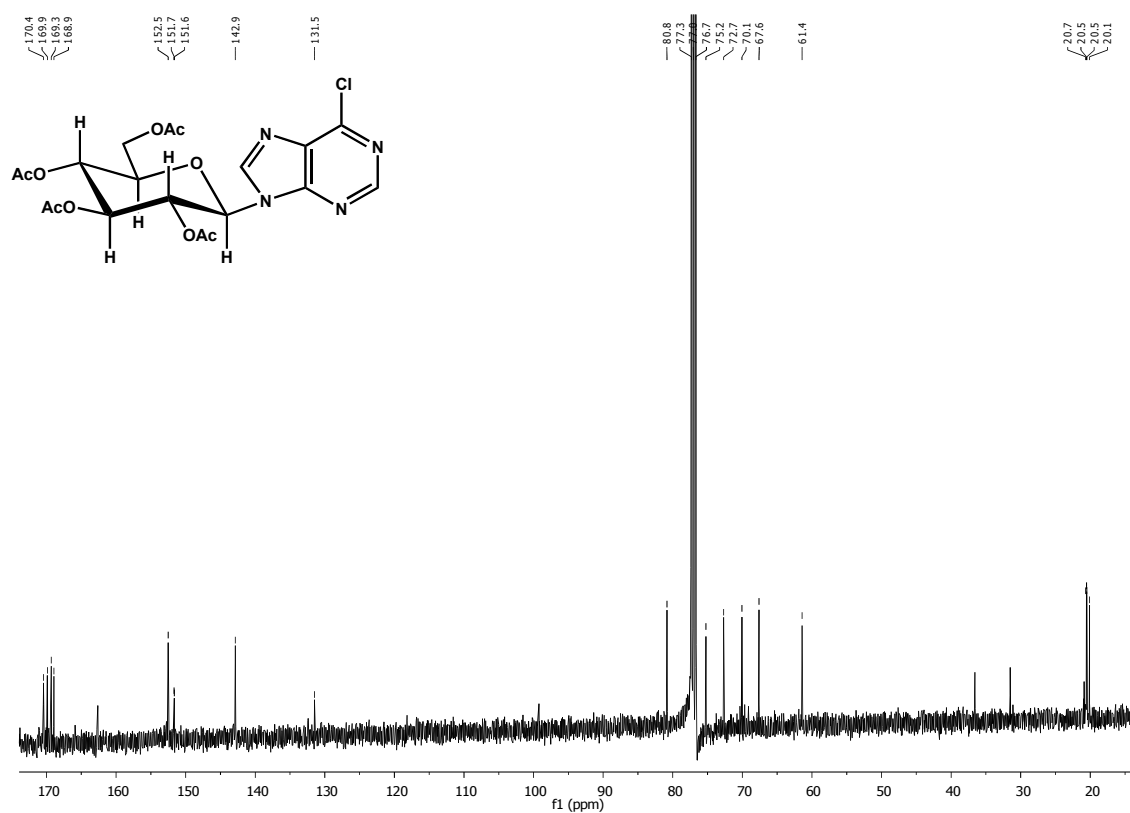
**Figure S1.** <sup>1</sup>H NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-acetyl-β-D-glucopyranosyl)purine (1)



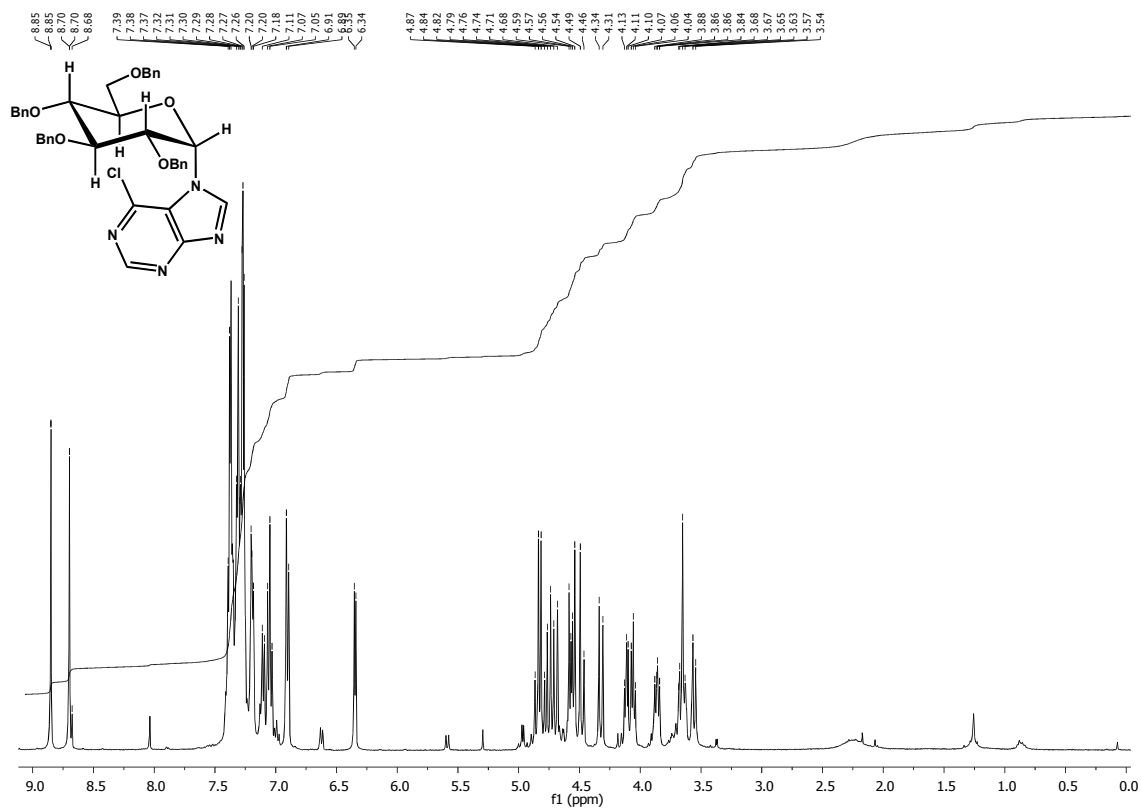
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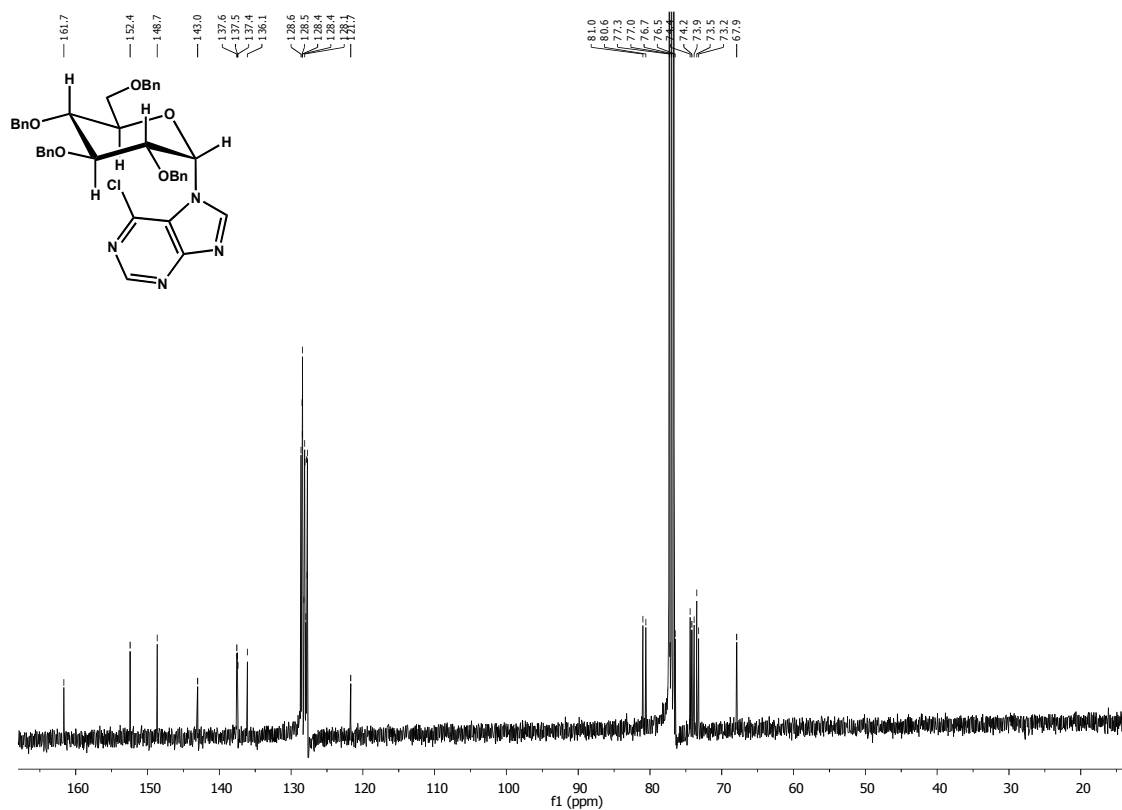
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**Figure S4.**  $^{13}\text{C}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-acetyl- $\beta$ -D-glucopyranosyl)purine (**2**)



**Figure S5.**  $^1\text{H}$  NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-glucopyranosyl)purine (**3**)



**Figure S6.**  $^{13}\text{C}$  NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-glucopyranosyl)purine (**3**)

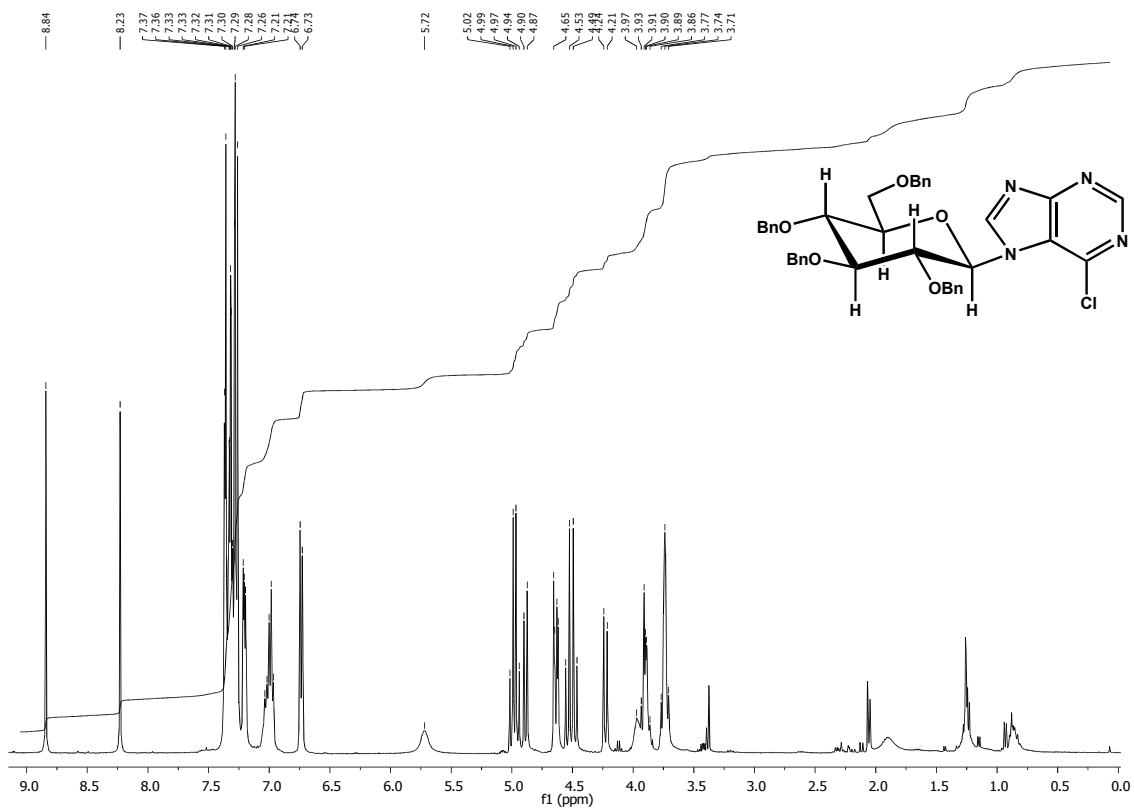


Figure S7. <sup>1</sup>H NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (4)

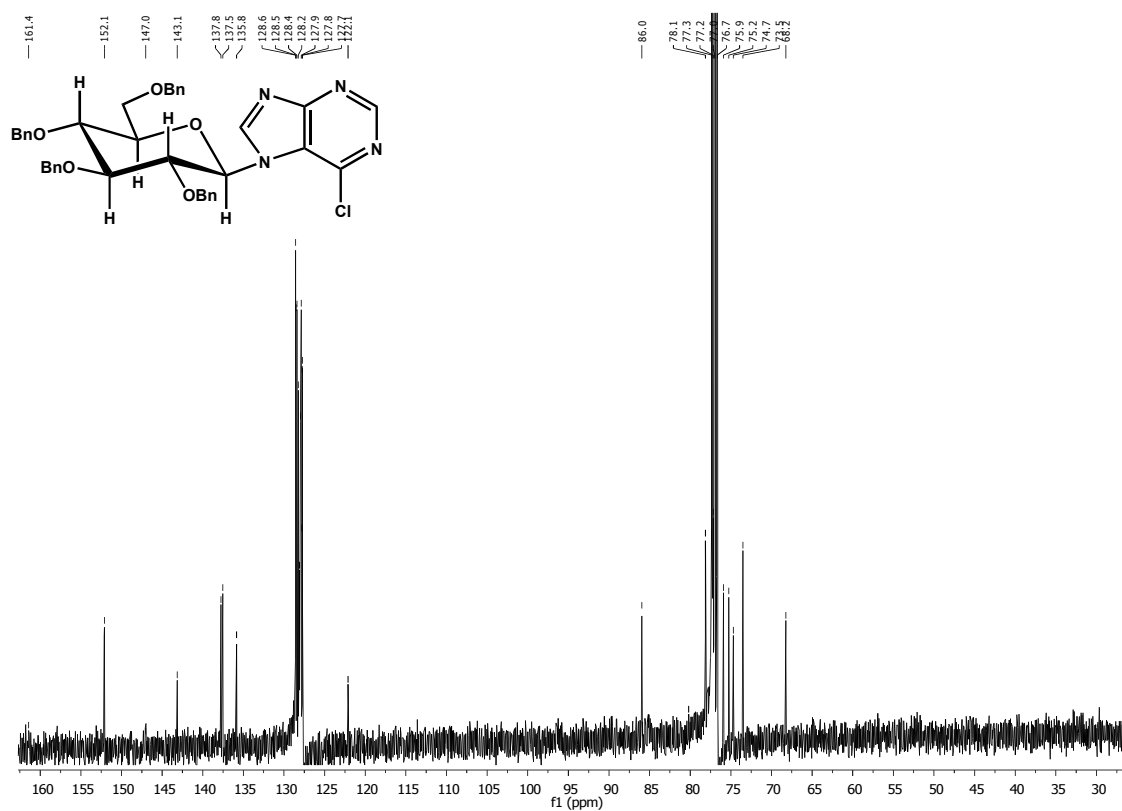
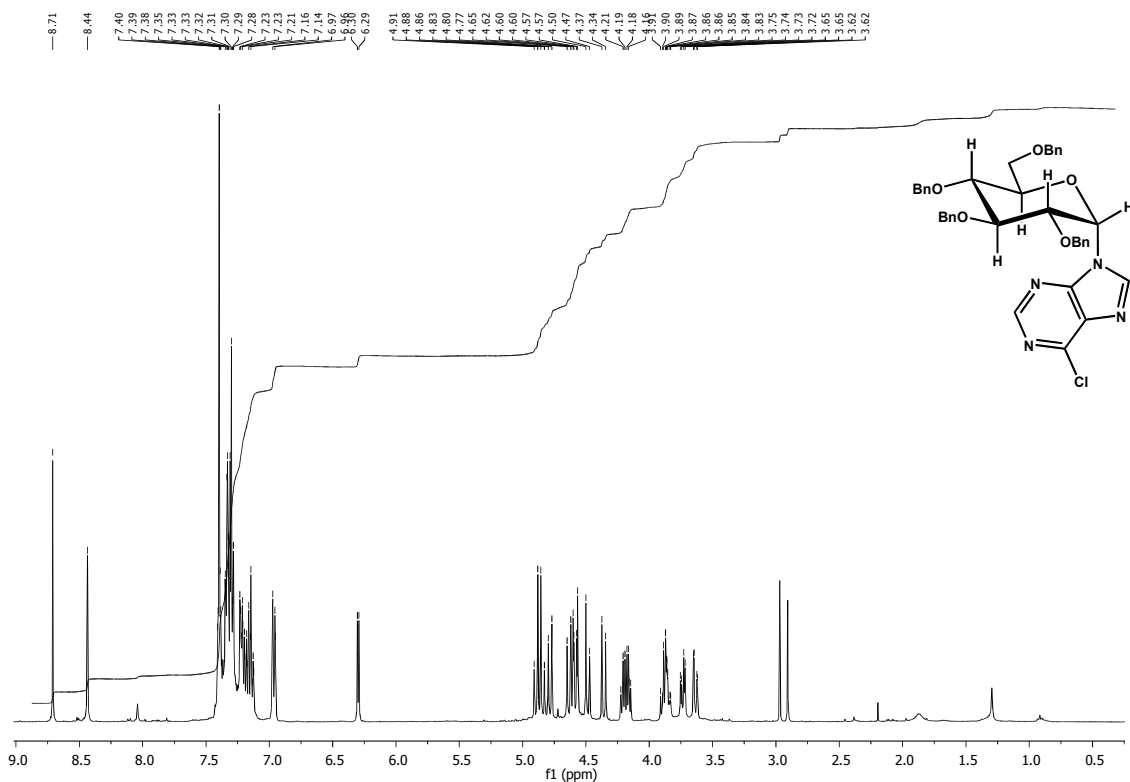
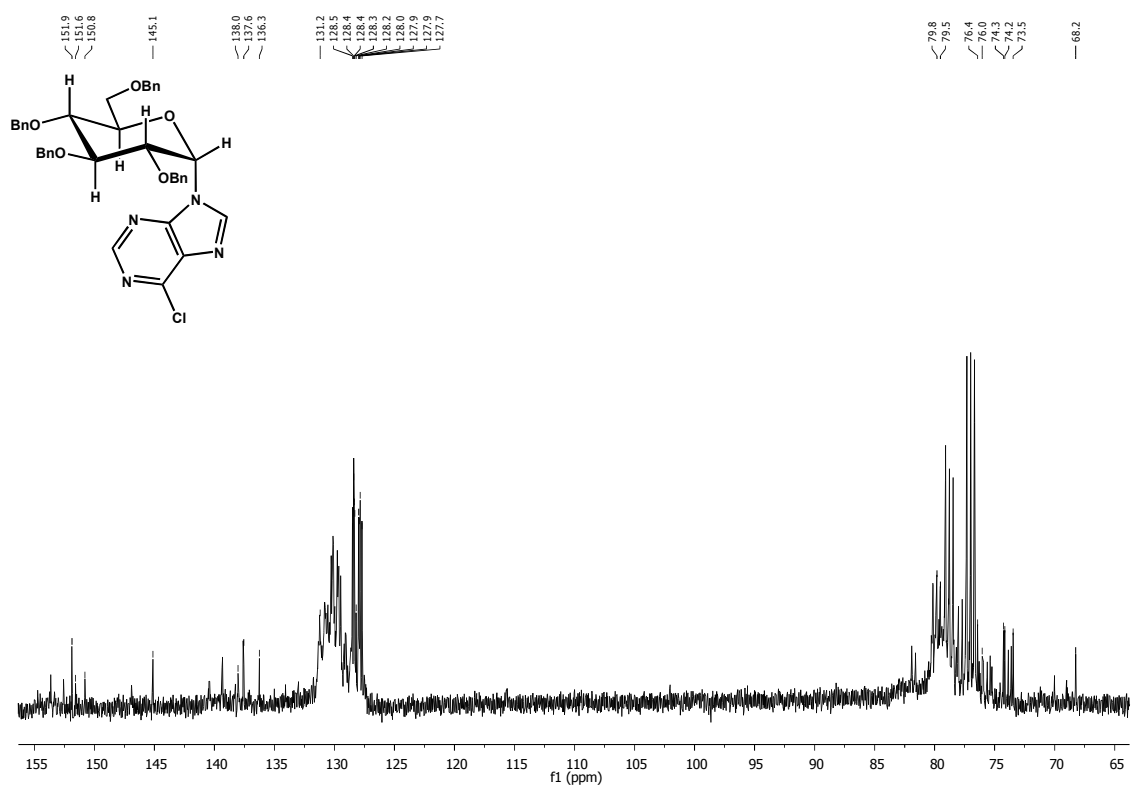


Figure S8. <sup>13</sup>C NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (4)



**Figure S9.**  $^1\text{H}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-glucopyranosyl)purine (5)



**Figure S10.**  $^{13}\text{C}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-glucopyranosyl)purine (5)



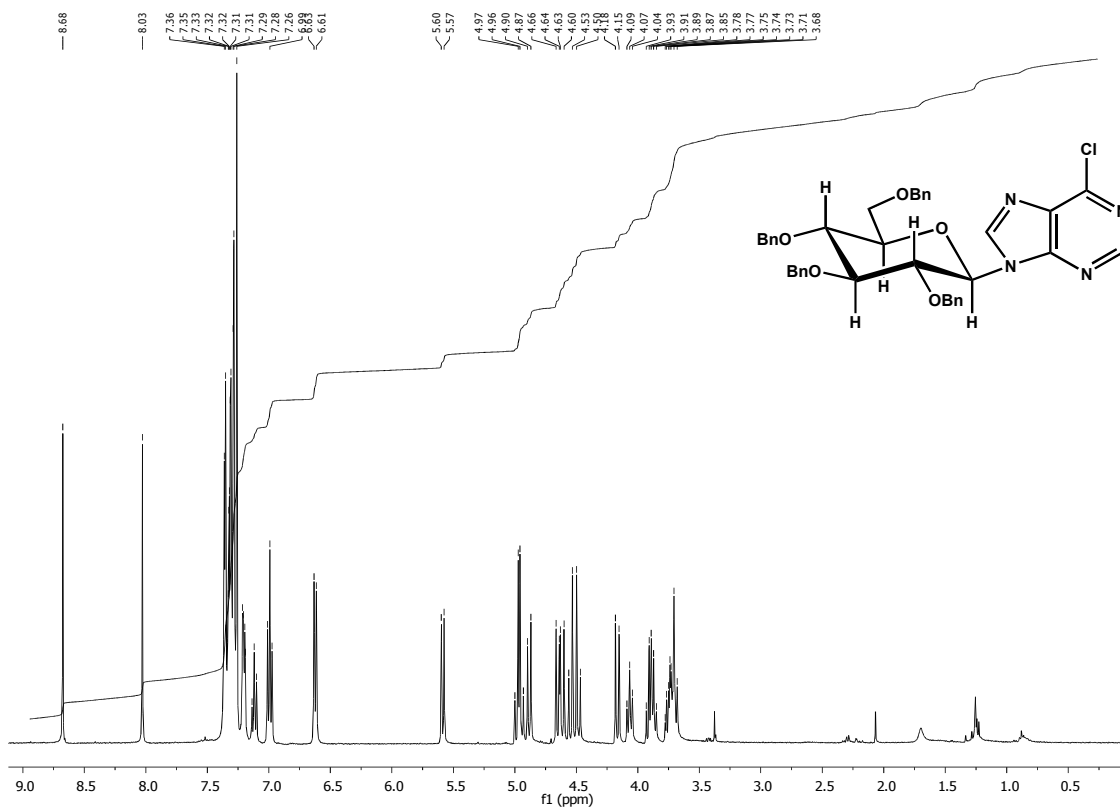


Figure S11. <sup>1</sup>H NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (6)

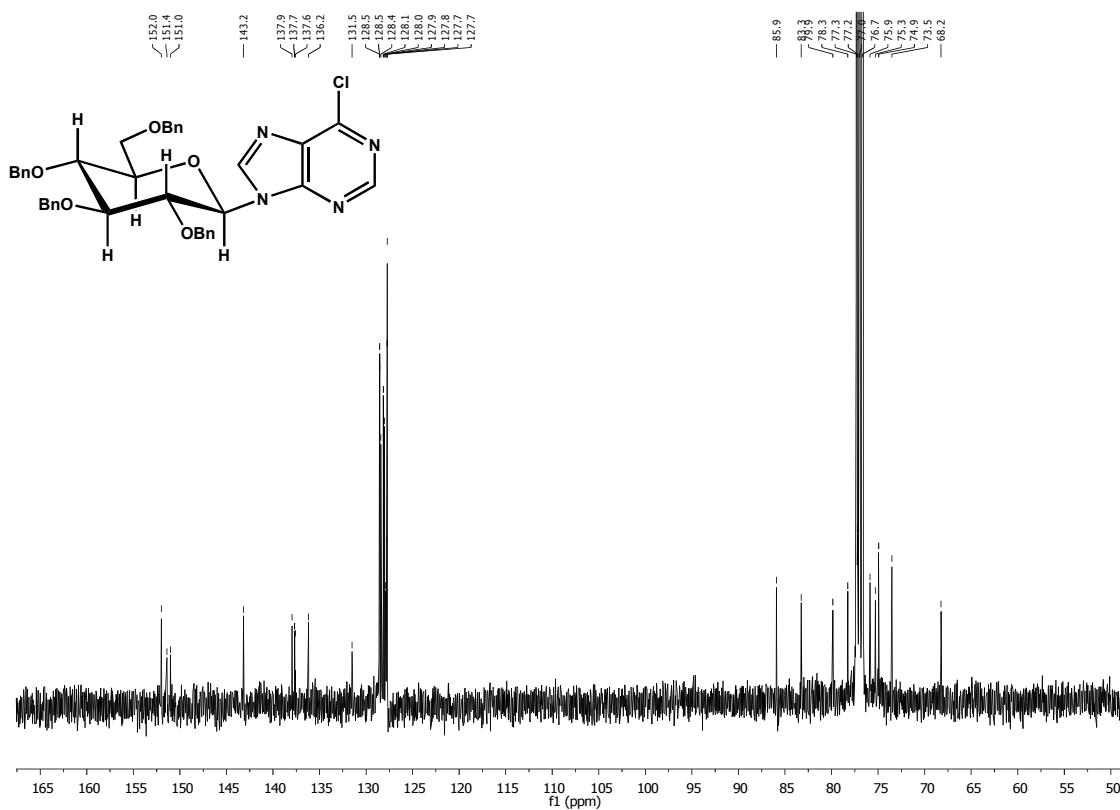


Figure S12. <sup>13</sup>C NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (6)

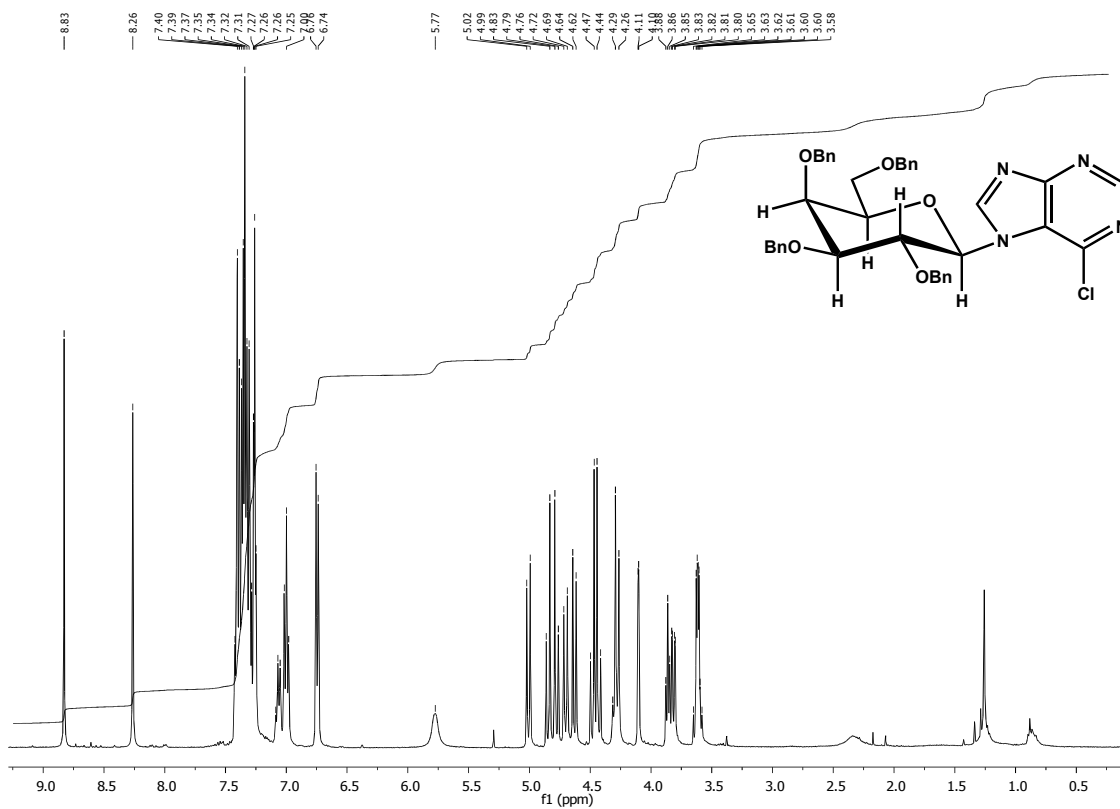


Figure S13.  $^1\text{H}$  NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\beta$ -D-galactopyranosyl)purine (7)

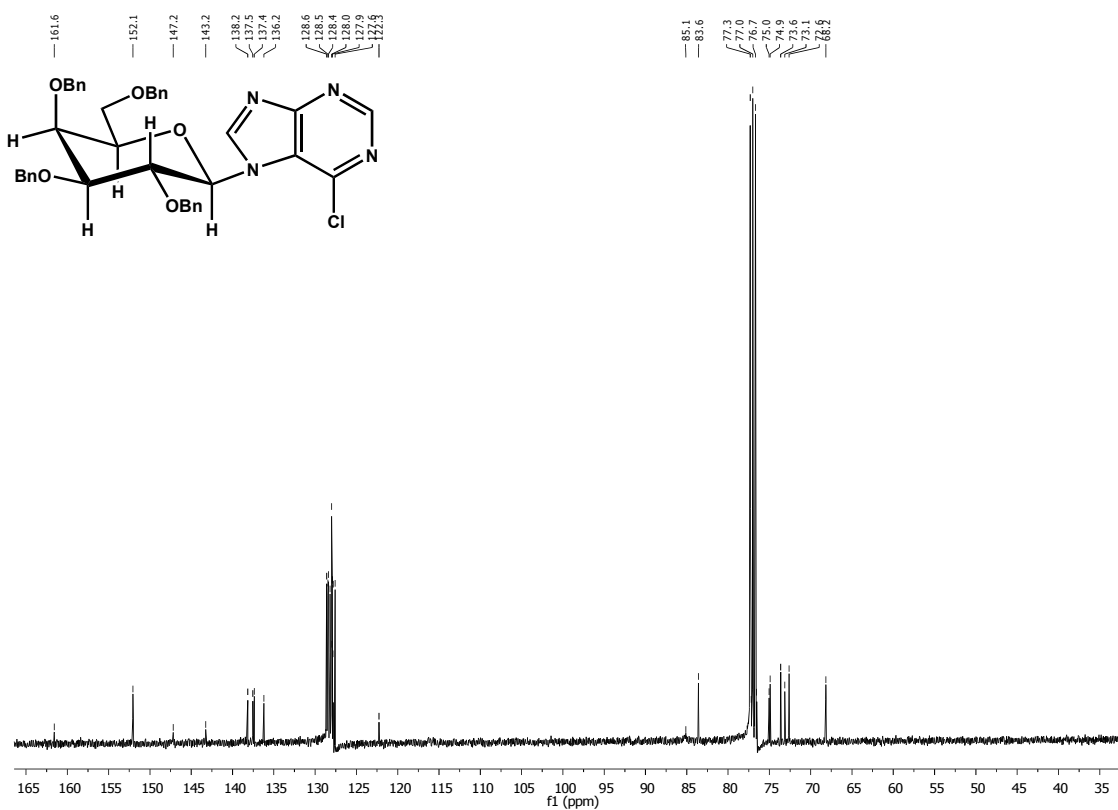
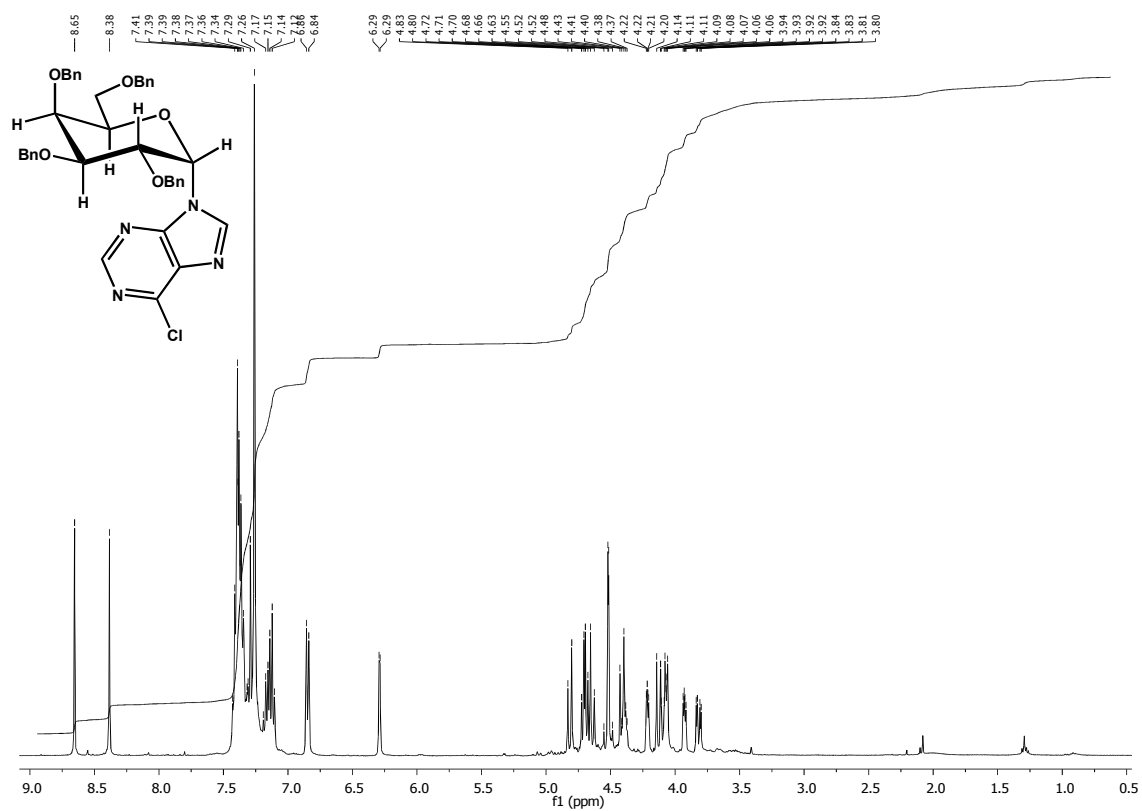
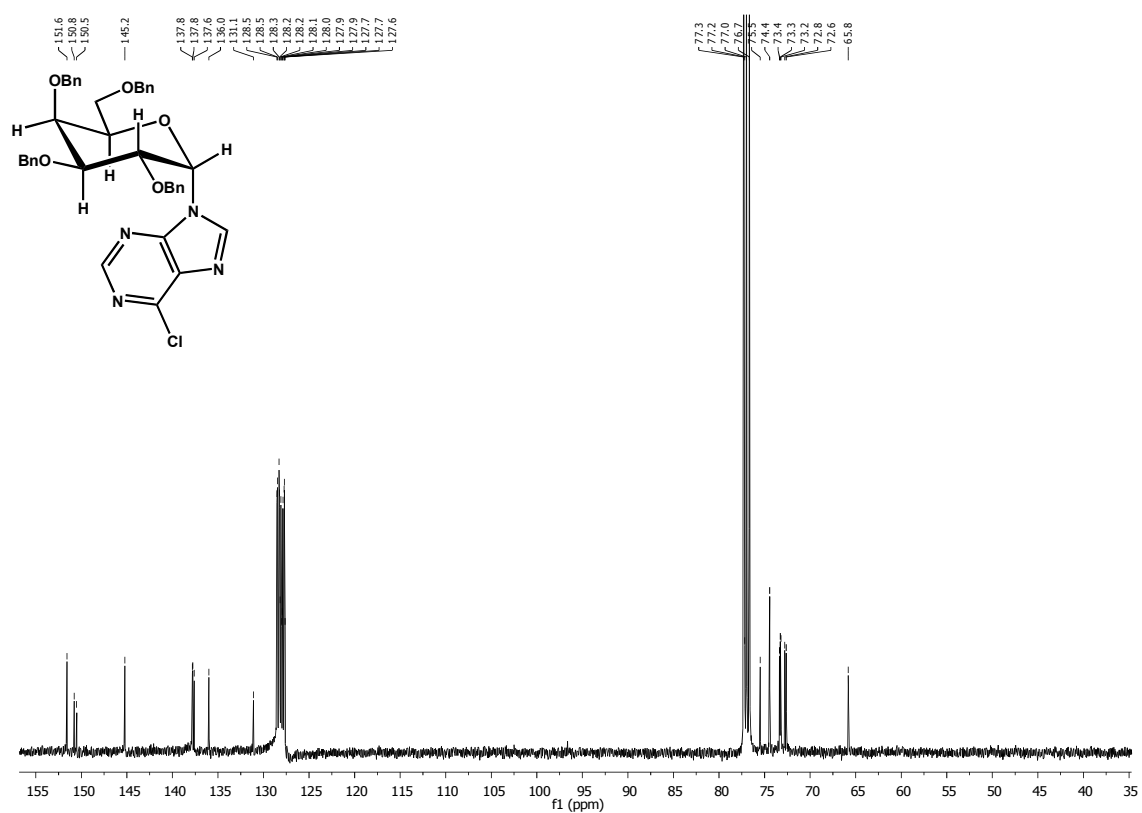


Figure S14.  $^{13}\text{C}$  NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\beta$ -D-galactopyranosyl)purine (7)



**Figure S15.**  $^1\text{H}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-galactopyranosyl)purine (**8**)



**Figure S16.**  $^{13}\text{C}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-galactopyranosyl)purine (**8**)

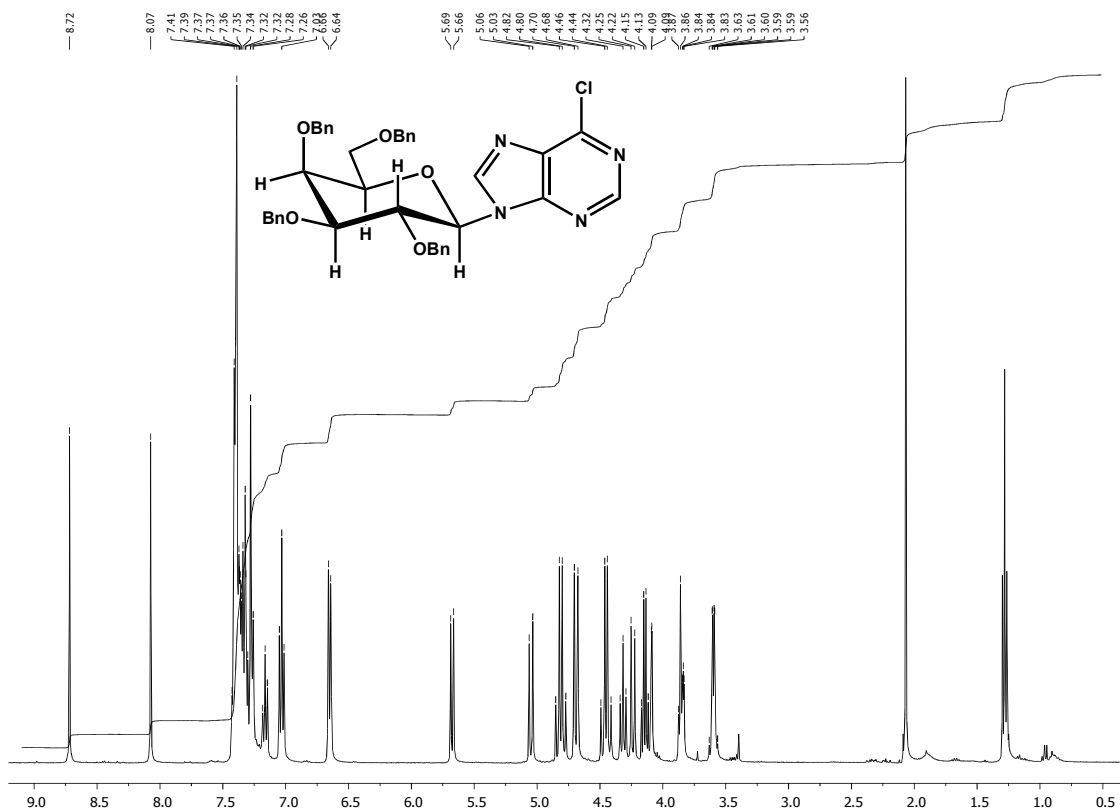


Figure S17. <sup>1</sup>H NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-galactopyranosyl)purine (9)

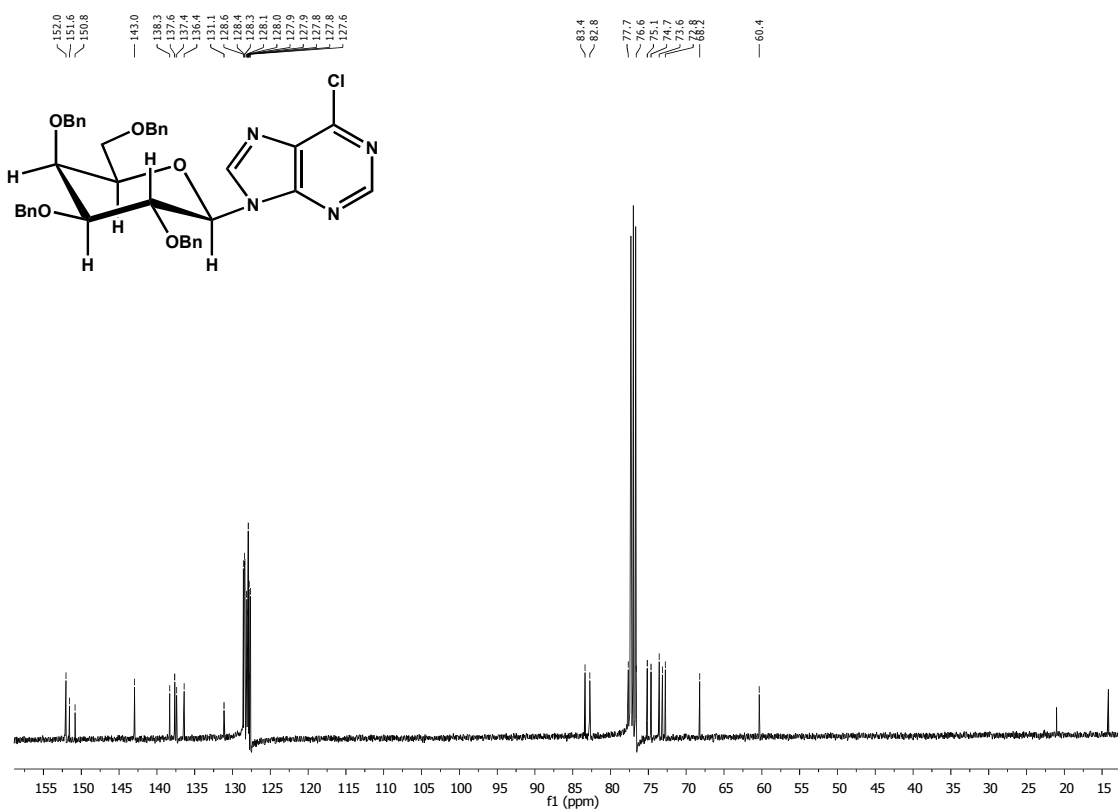
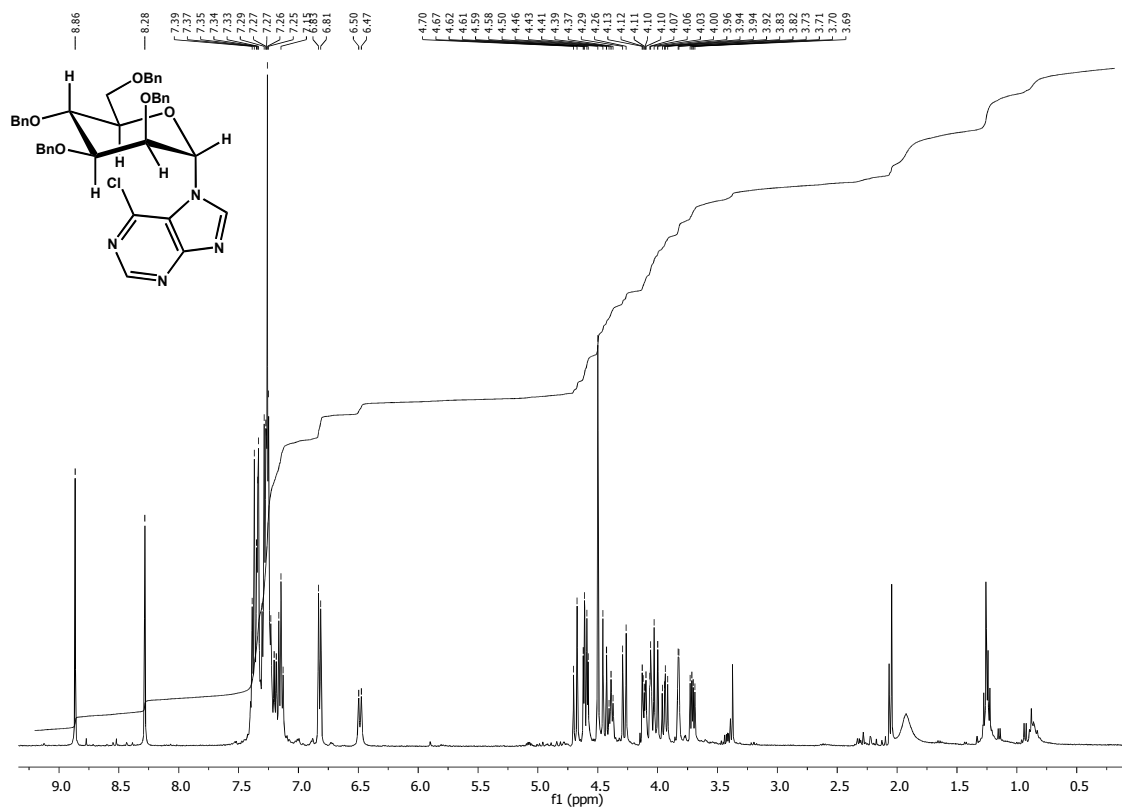
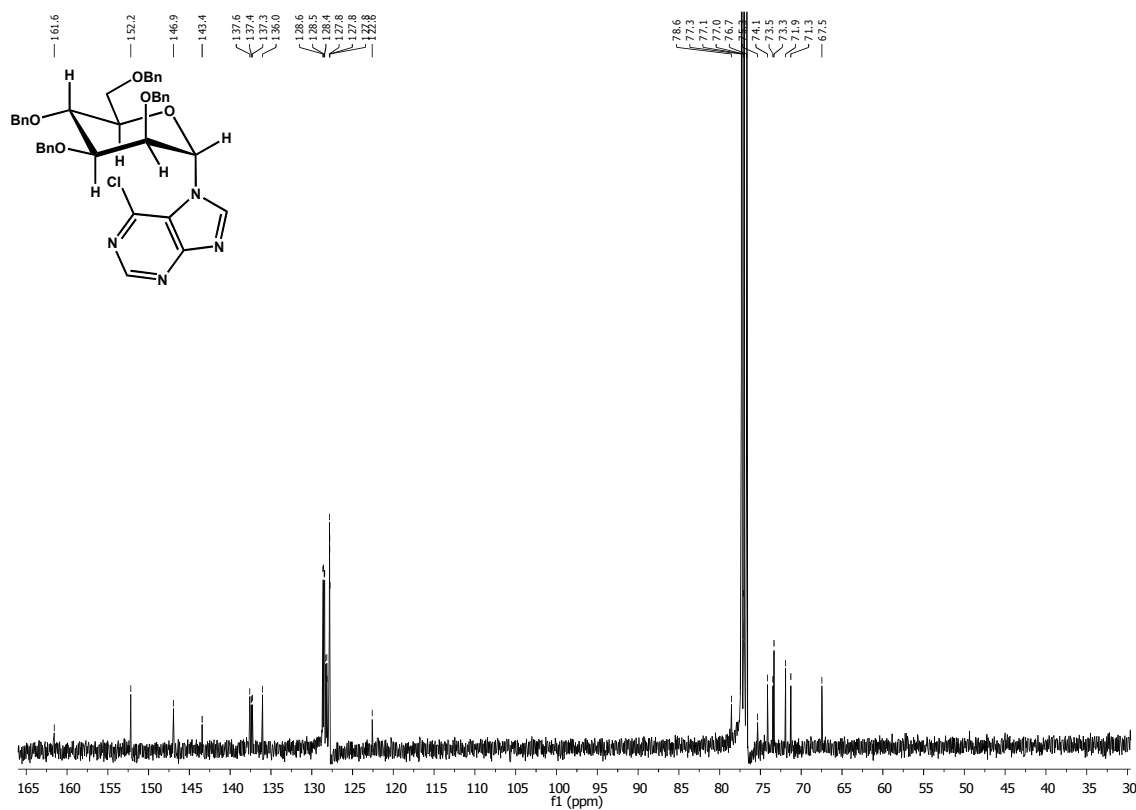


Figure S18. <sup>13</sup>C NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-galactopyranosyl)purine (9)



**Figure S19.**  $^1\text{H}$  NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-mannopyranosyl)purine (**10**)



**Figure S20.**  $^{13}\text{C}$  NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-mannopyranosyl)purine (**10**)

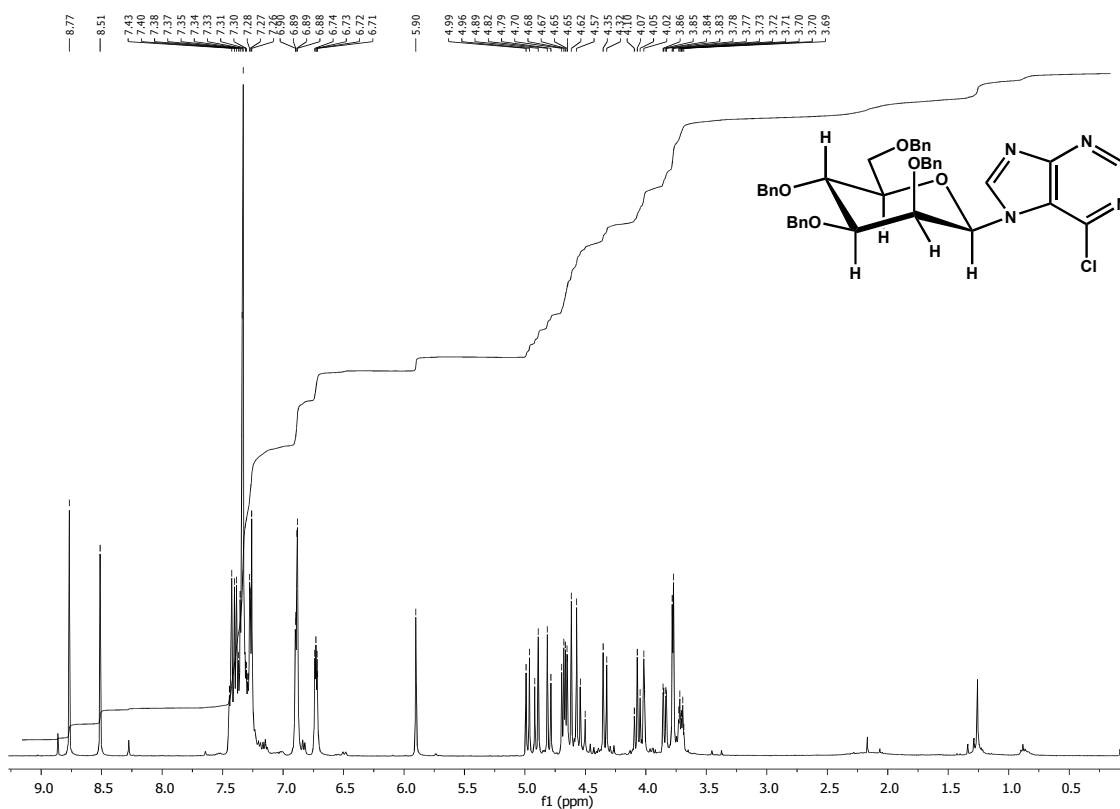


Figure S21. <sup>1</sup>H NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-mannopyranosyl)purine (11)

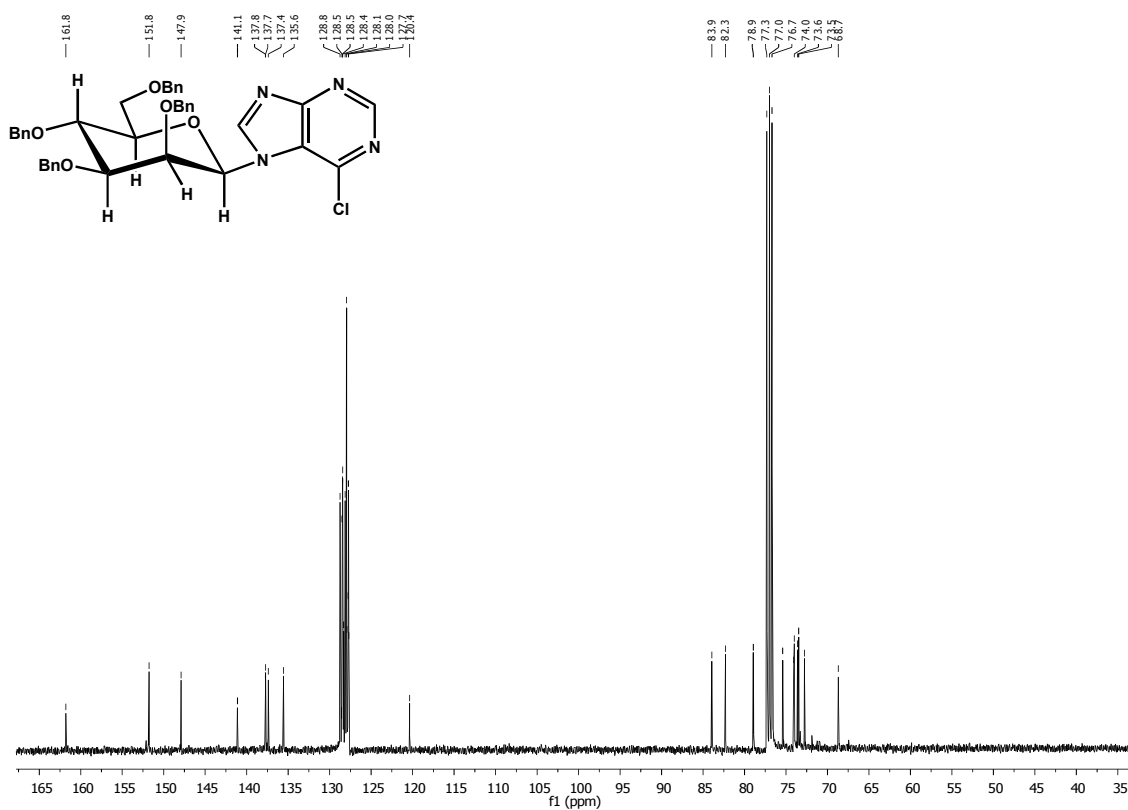
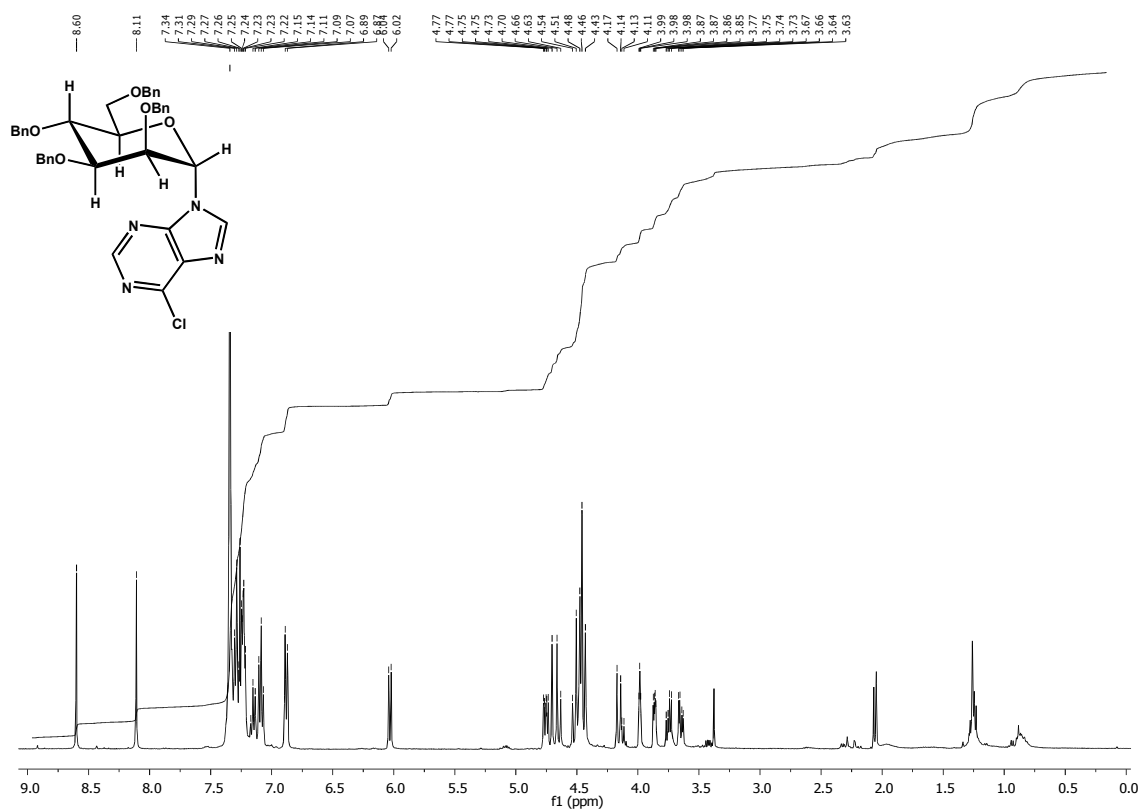
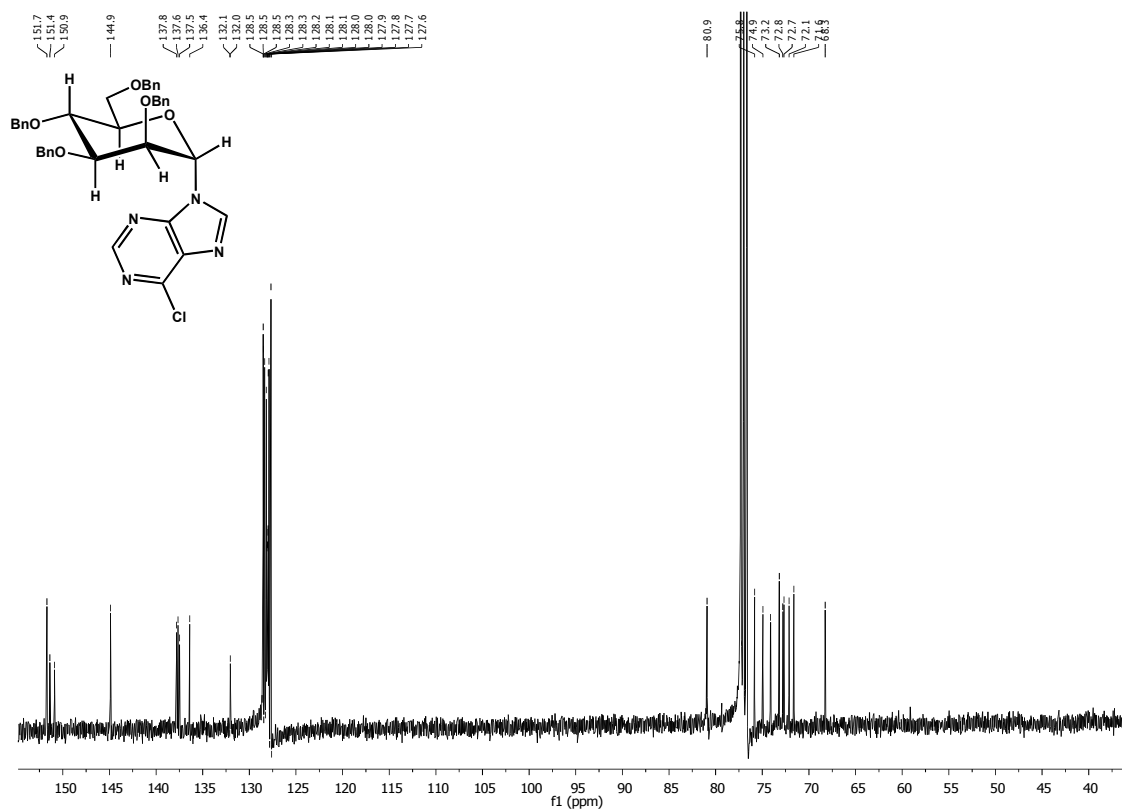


Figure S22. <sup>13</sup>C NMR spectrum of 6-Chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-mannopyranosyl)purine (11)



**Figure S23.**  $^1\text{H}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-mannopyranosyl)purine (12)



**Figure S24.**  $^{13}\text{C}$  NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-mannopyranosyl)purine (12)

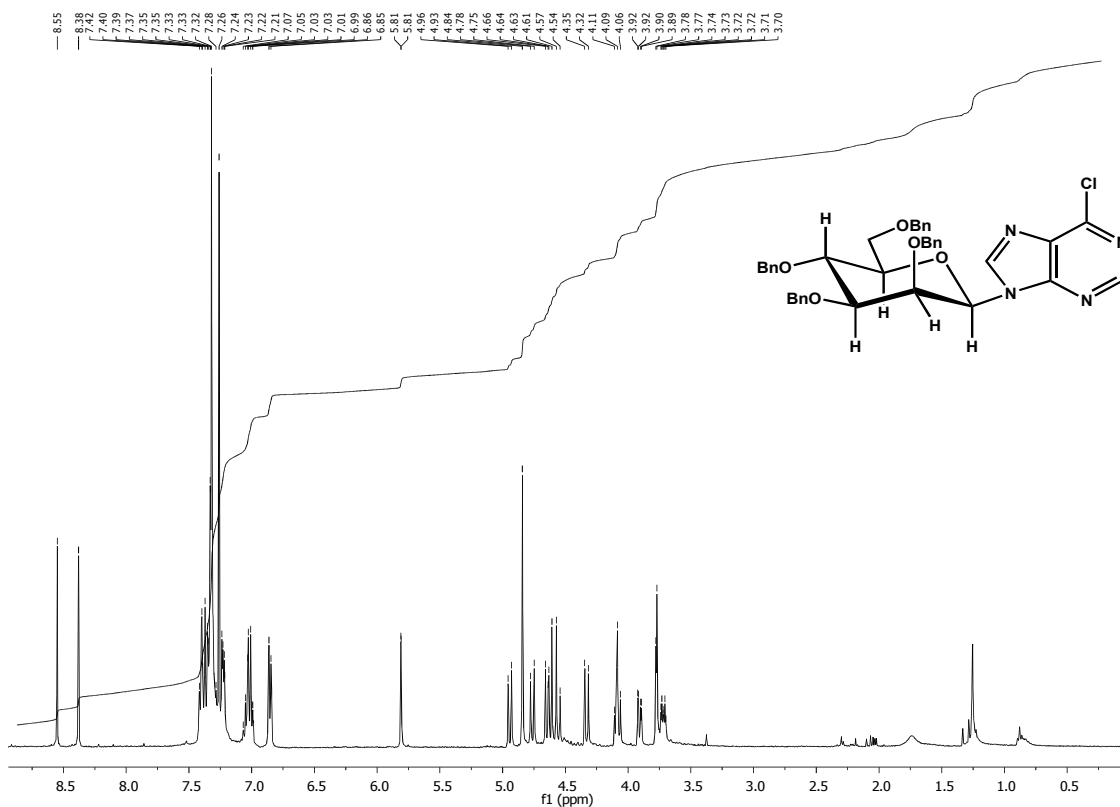


Figure S25. <sup>1</sup>H NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-mannopyranosyl)purine (13)

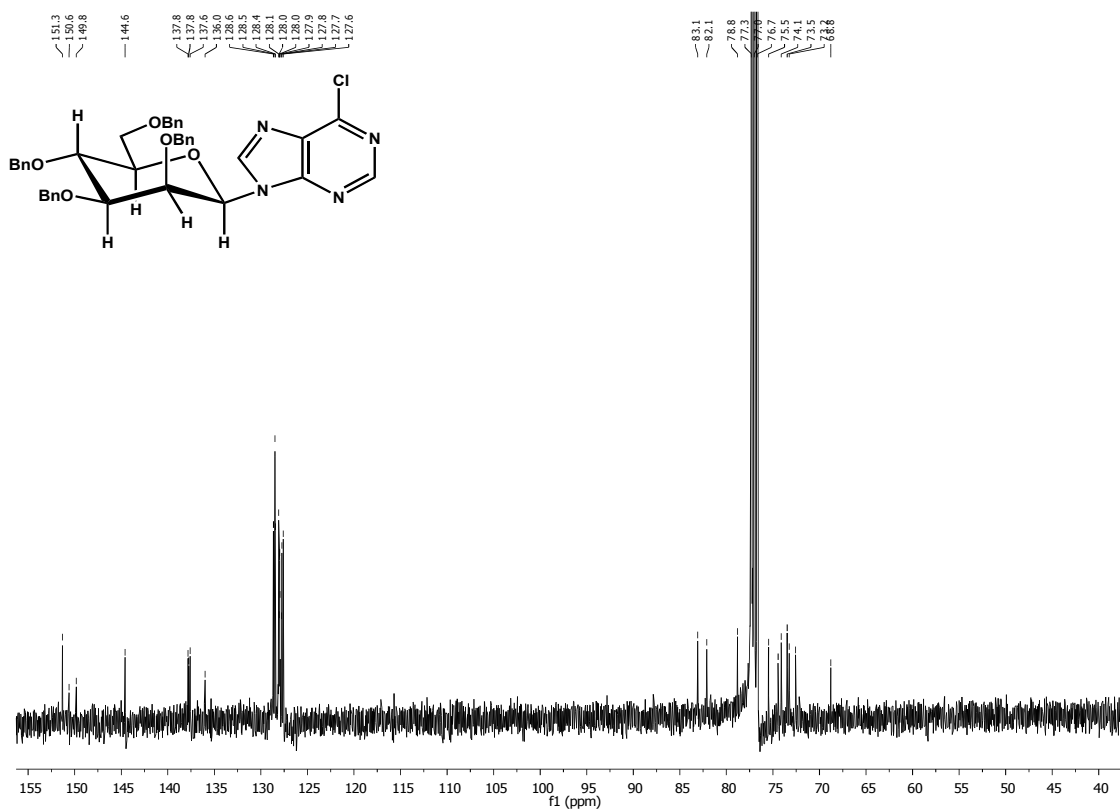


Figure S26. <sup>13</sup>C NMR spectrum of 6-Chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-mannopyranosyl)purine (13)



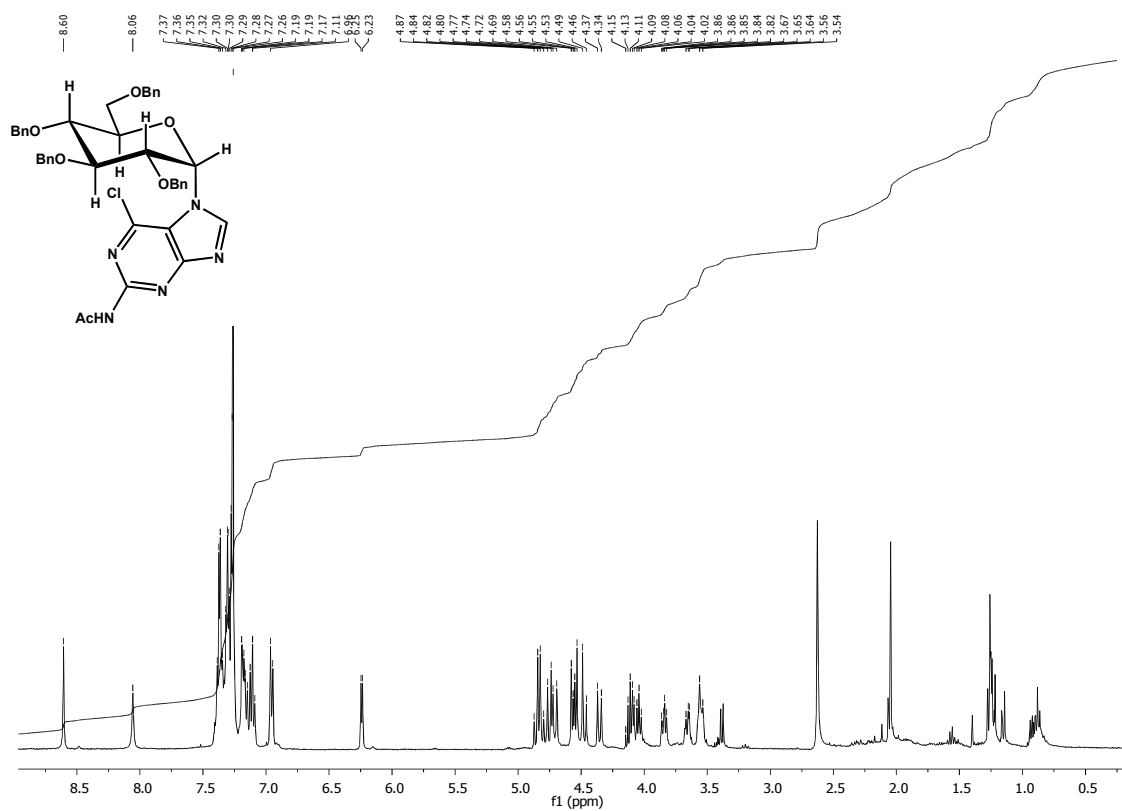


Figure S27.  $^1\text{H}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-glucopyranosyl)purine (14)

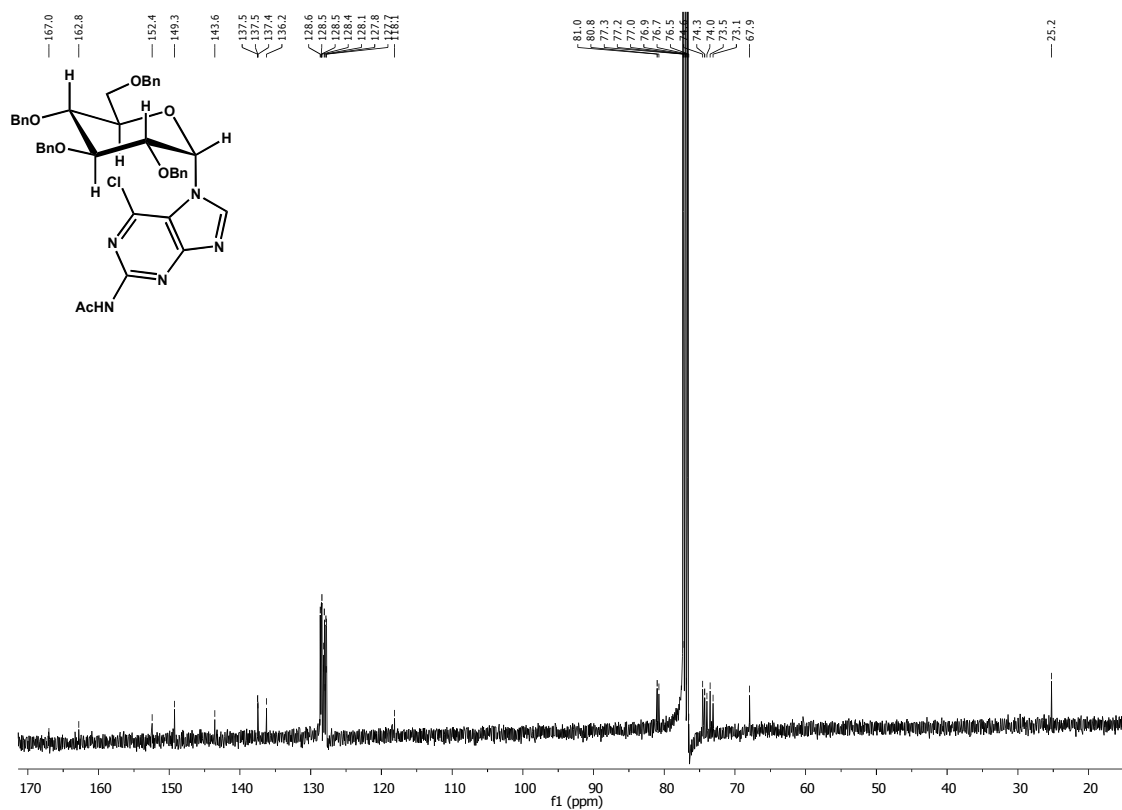
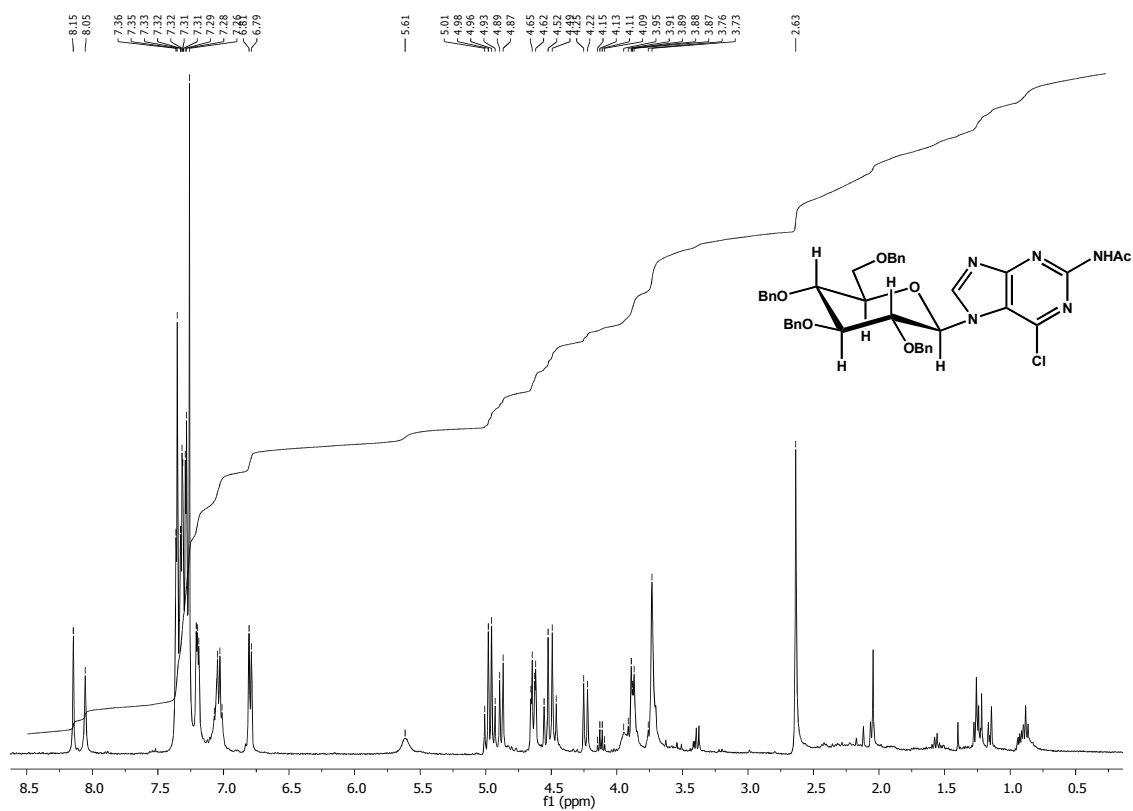
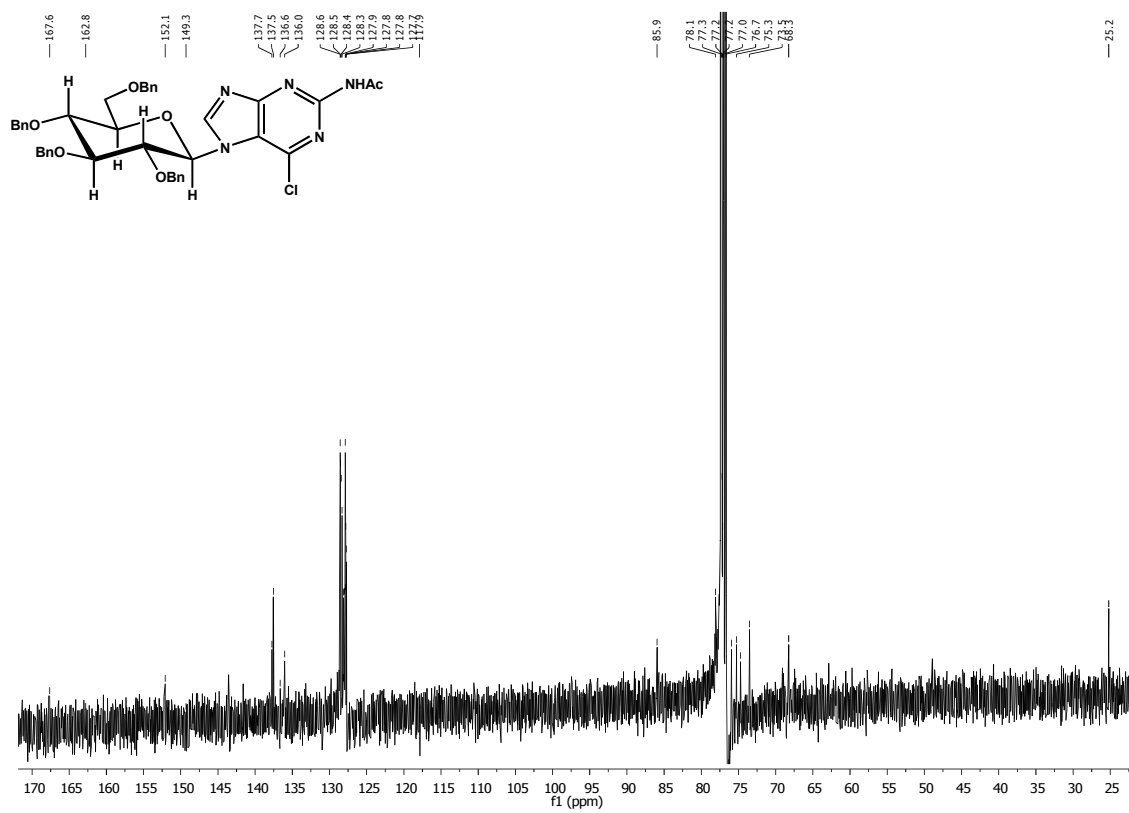


Figure S28.  $^{13}\text{C}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-glucopyranosyl)purine (14)



**Figure S29.** <sup>1</sup>H NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (15)



**Figure S30.** <sup>13</sup>C NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (15)

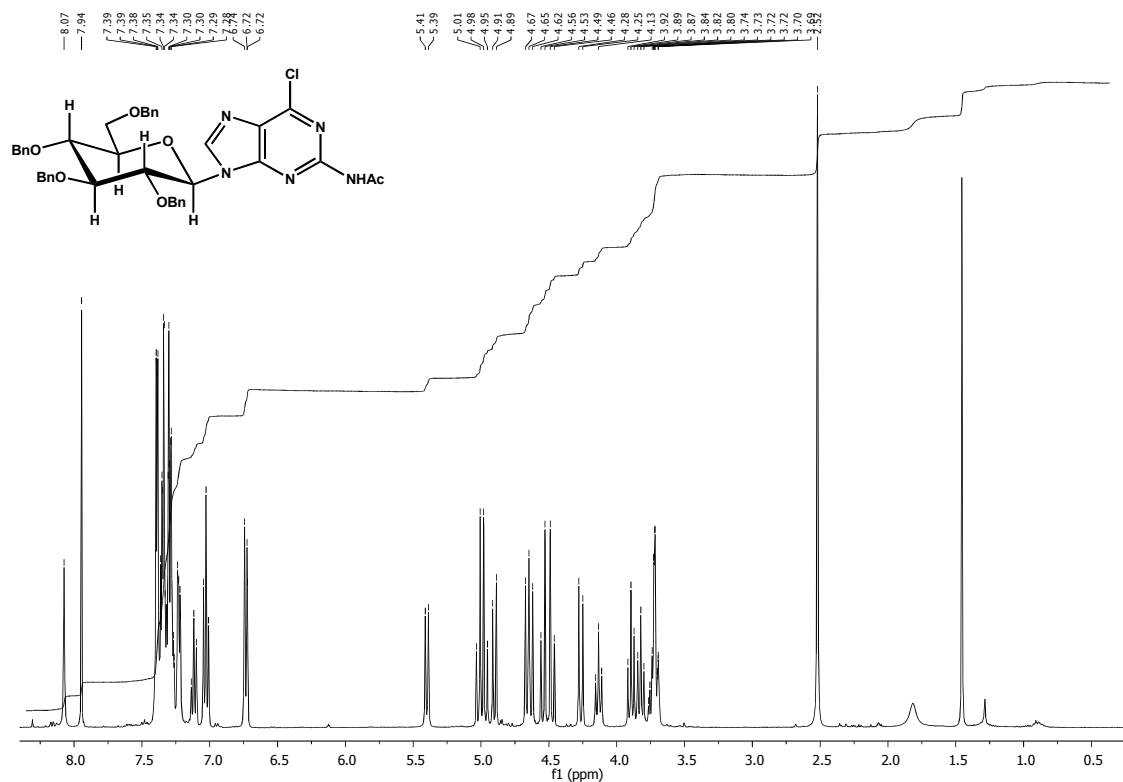


Figure S31. <sup>1</sup>H NMR spectrum of 2-(Acetylamino)-6-chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (16)

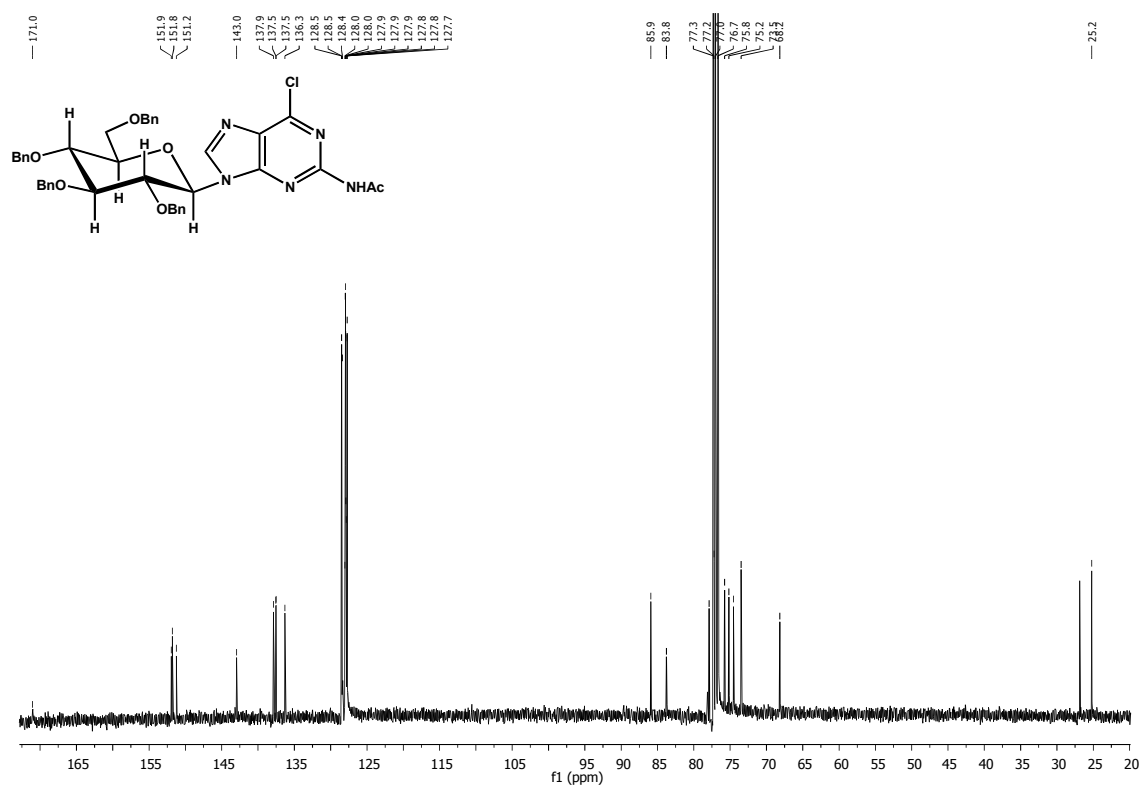
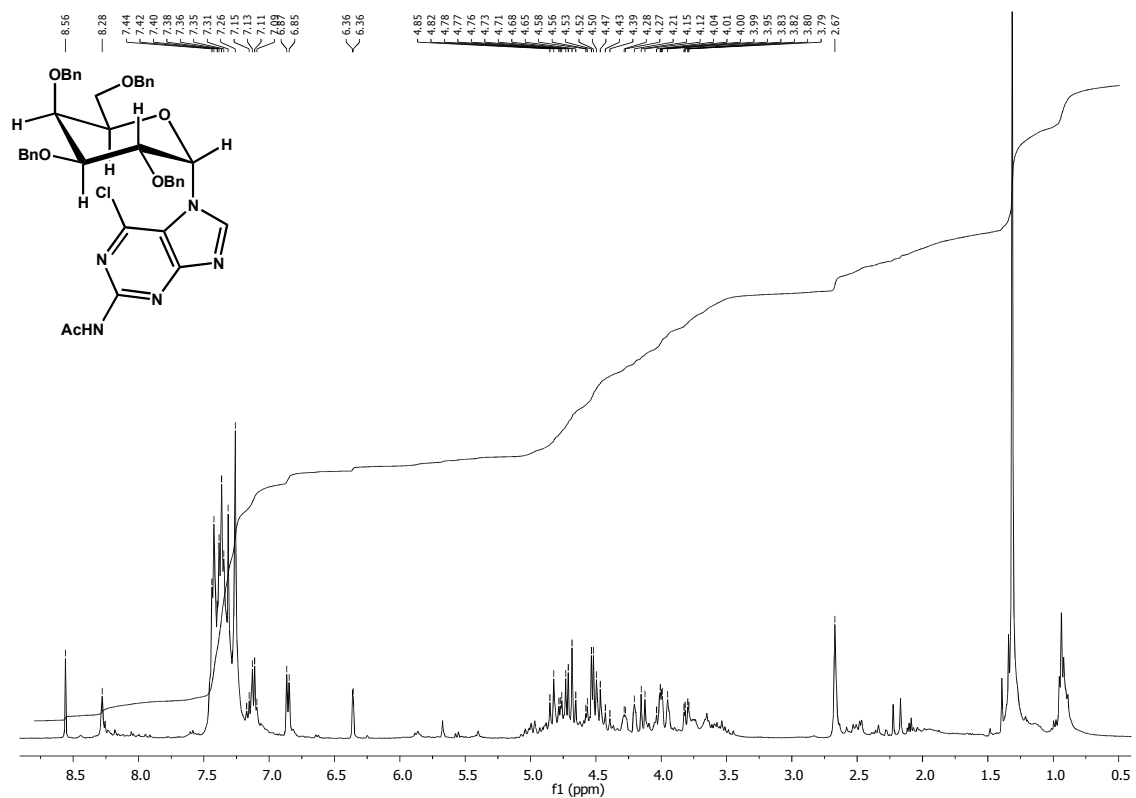
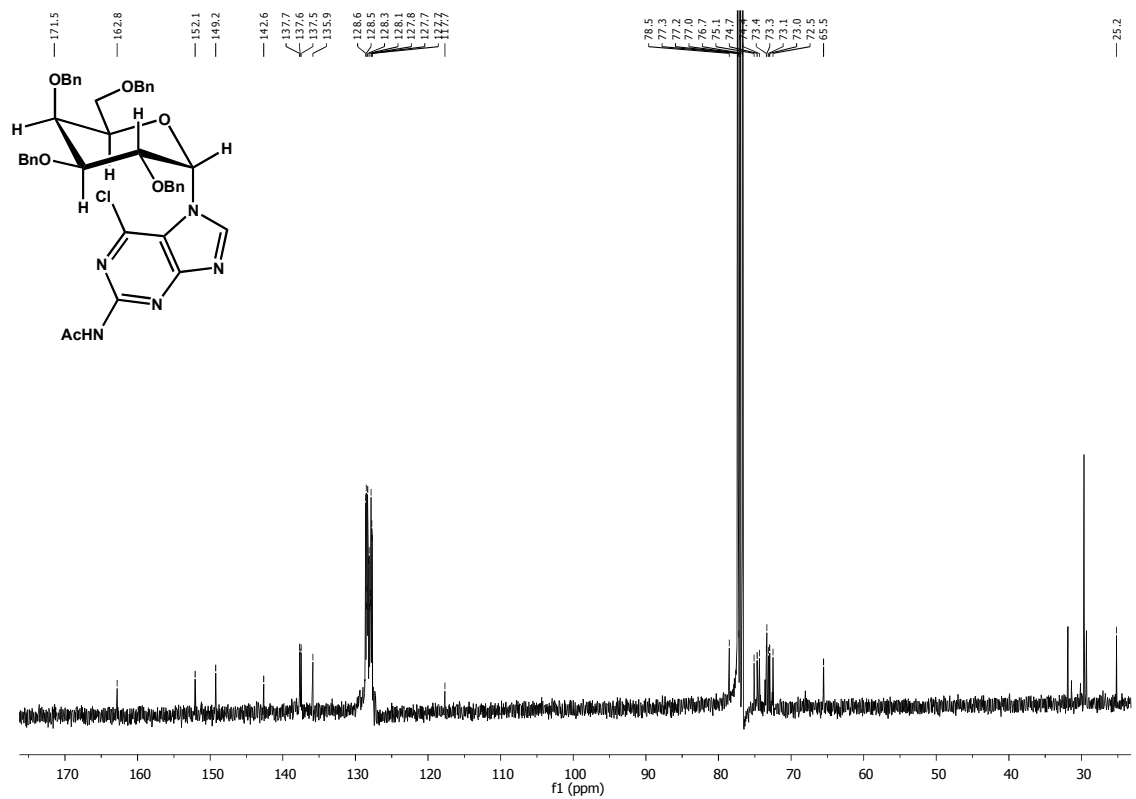


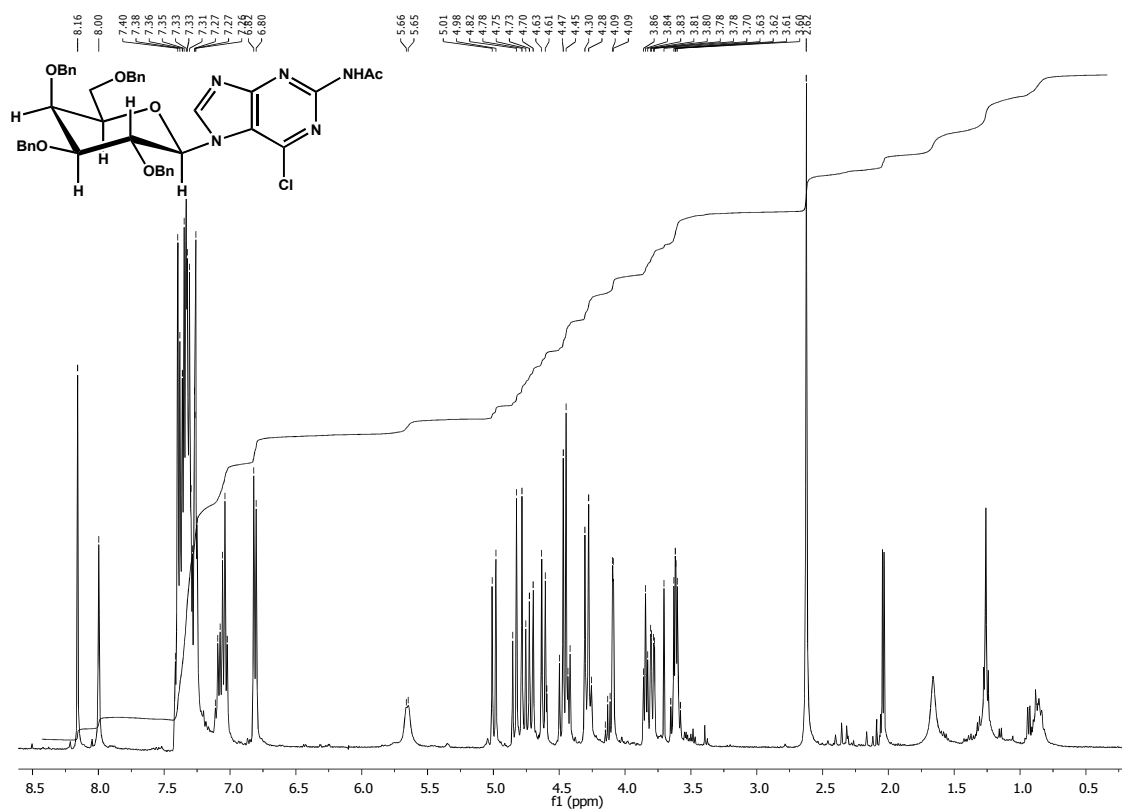
Figure S32. <sup>13</sup>C NMR spectrum of 2-(Acetylamino)-6-chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-glucopyranosyl)purine (16)



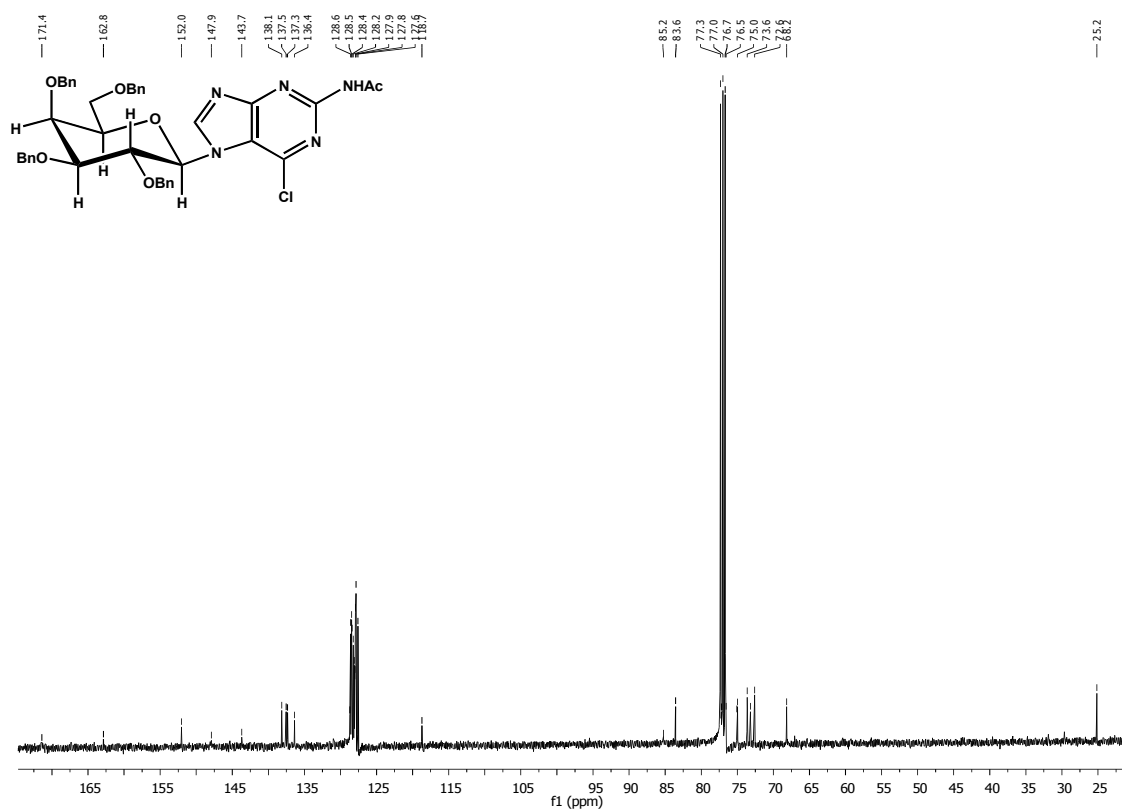
**Figure S33.**  $^1\text{H}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-galactopyranosyl)purine (17)



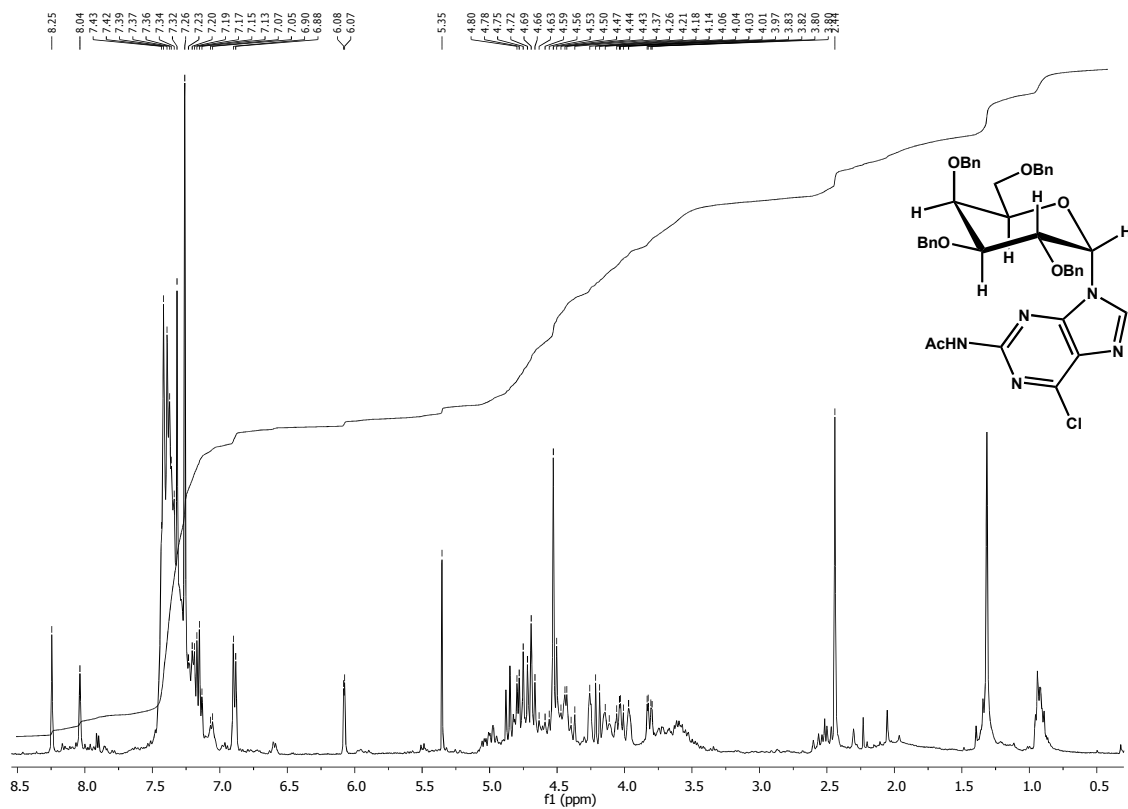
**Figure S34.**  $^{13}\text{C}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-galactopyranosyl)purine (17)



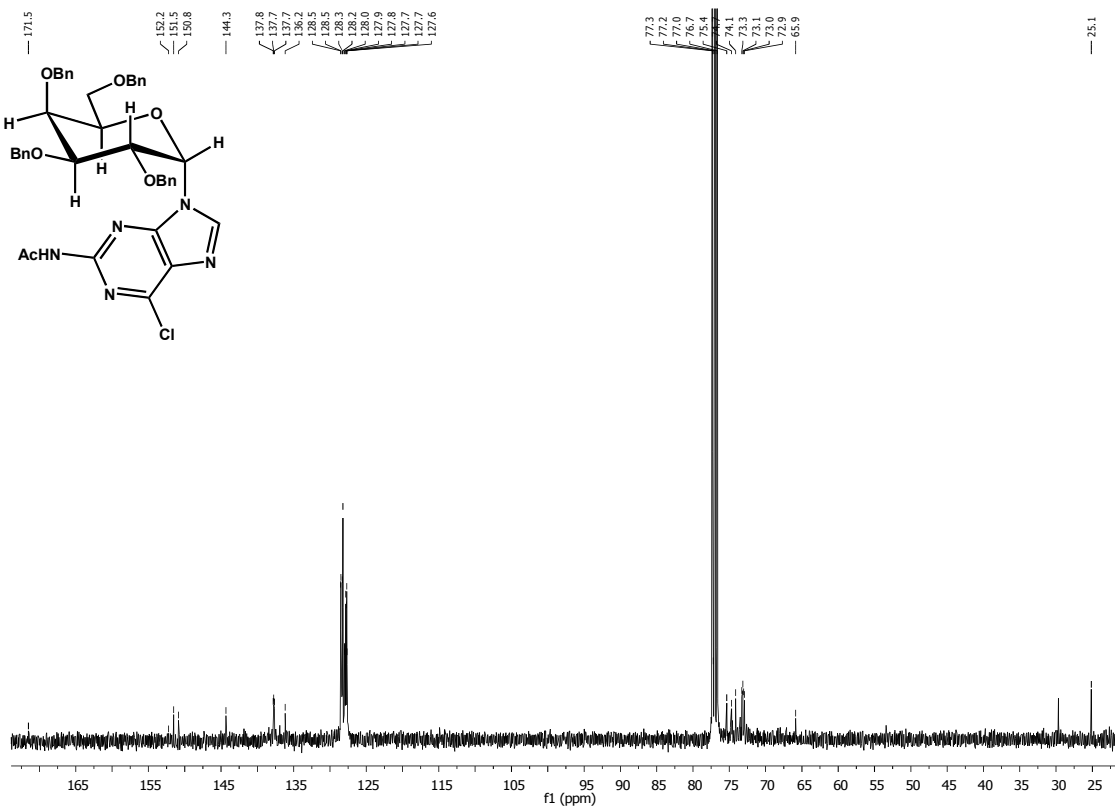
**Figure S35.**  $^1\text{H}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\beta$ -D-galactopyranosyl)purine (18)



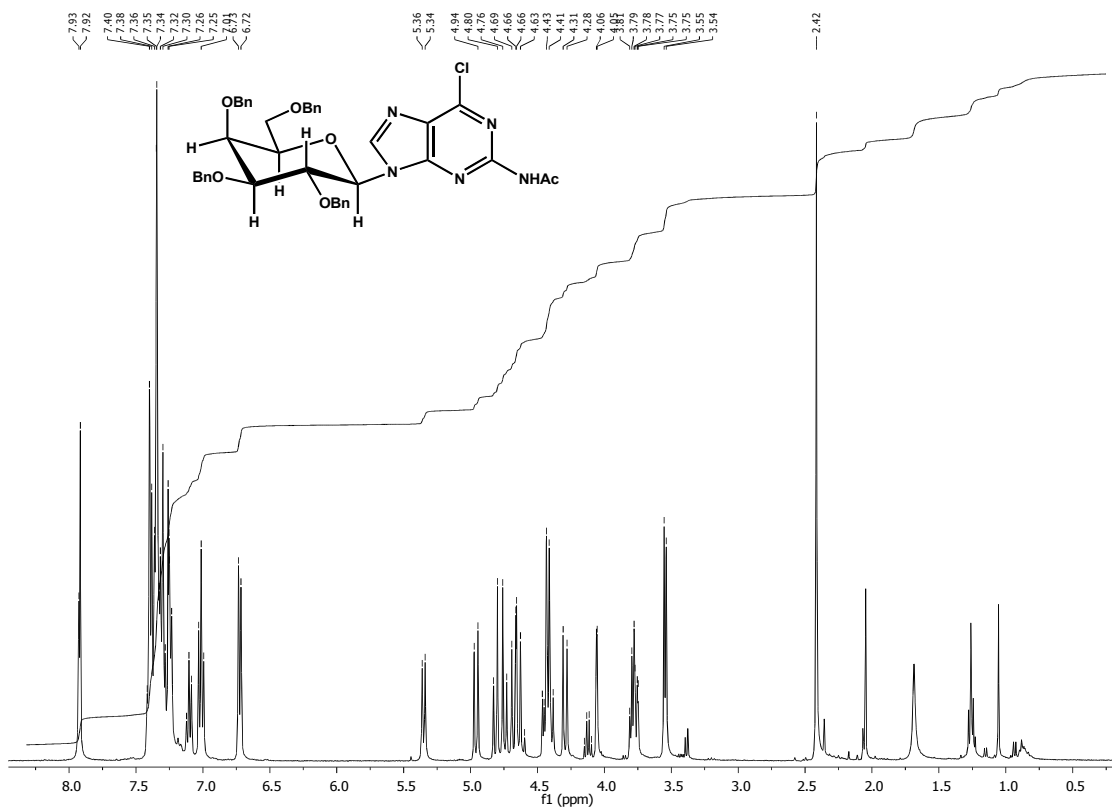
**Figure S36.**  $^{13}\text{C}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\beta$ -D-galactopyranosyl)purine (18)



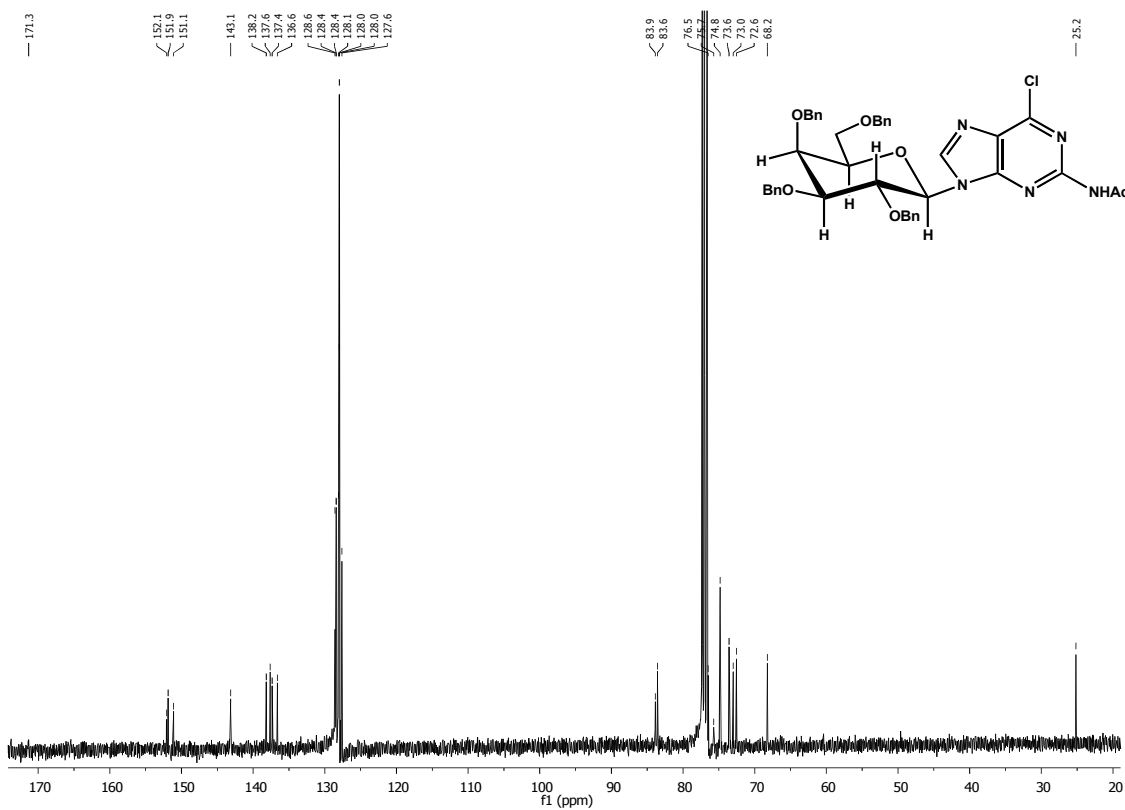
**Figure S37.**  $^1\text{H}$  NMR spectrum of 2-(Acetylamino)-6-chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-galactopyranosyl)purine (19)



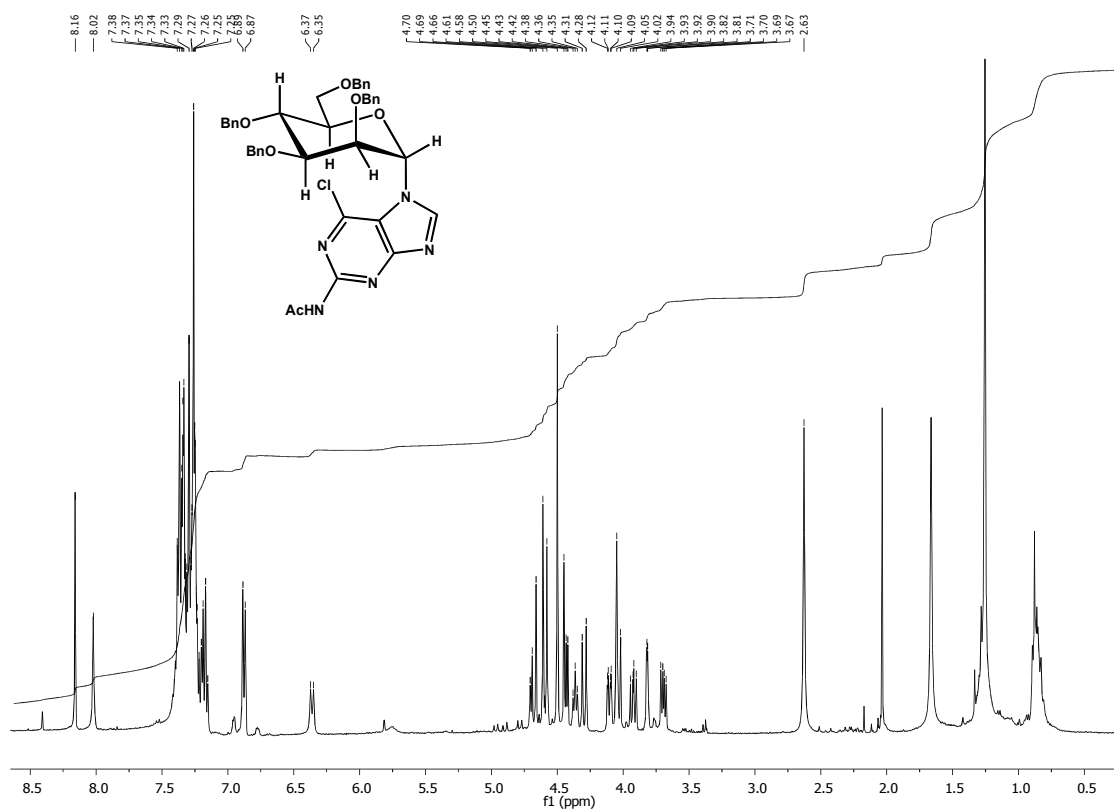
**Figure S38.**  $^{13}\text{C}$  NMR spectrum of 2-(Acetylamino)-6-chloro-9-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-galactopyranosyl)purine (19)



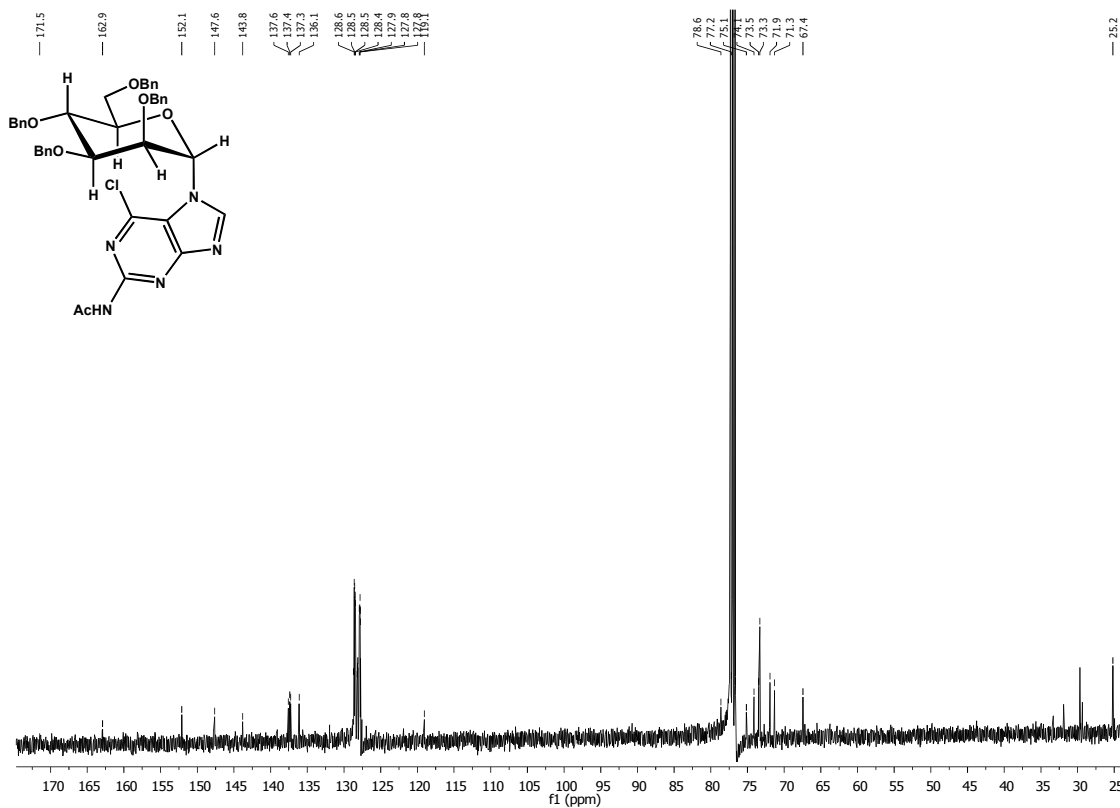
**Figure S39.** <sup>1</sup>H NMR spectrum of 2-(Acetylamino)-6-chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-galactopyranosyl)purine (20)



**Figure S40.** <sup>13</sup>C NMR spectrum of 2-(Acetylamino)-6-chloro-9-(2,3,4,6-tetra-*O*-benzyl-β-D-galactopyranosyl)purine (20)

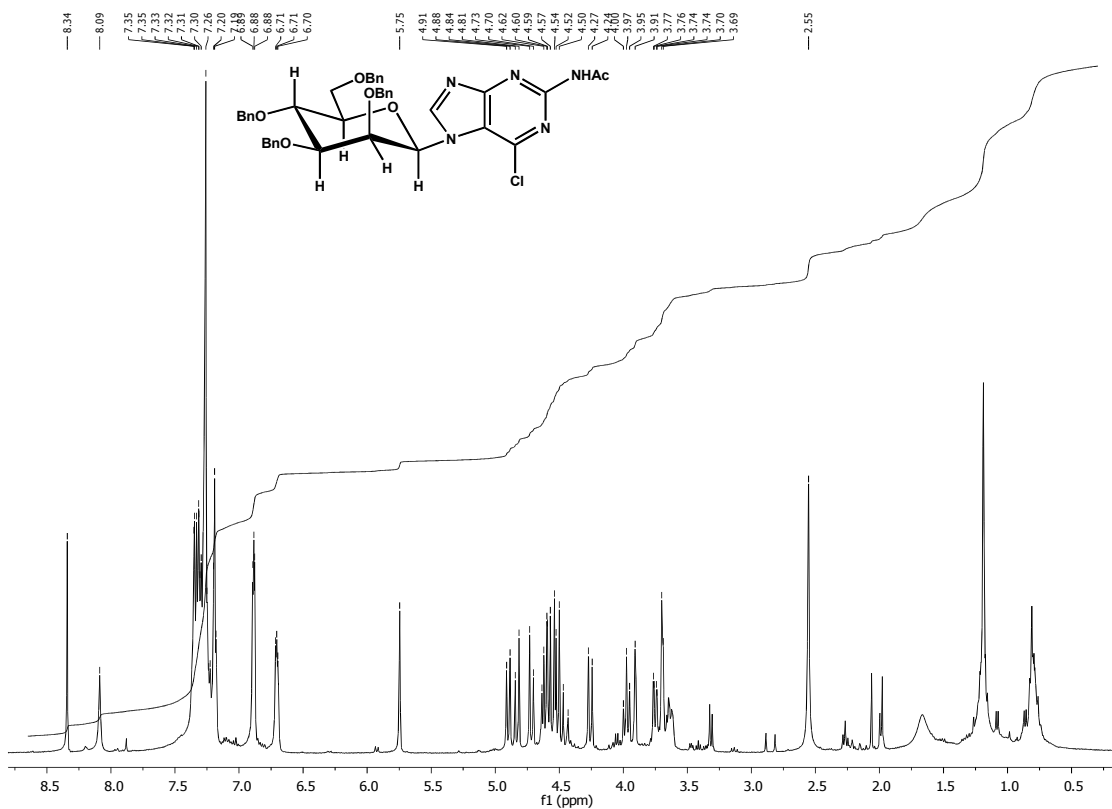


**Figure S41.**  $^1\text{H}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-mannopyranosyl)purine (**21**)

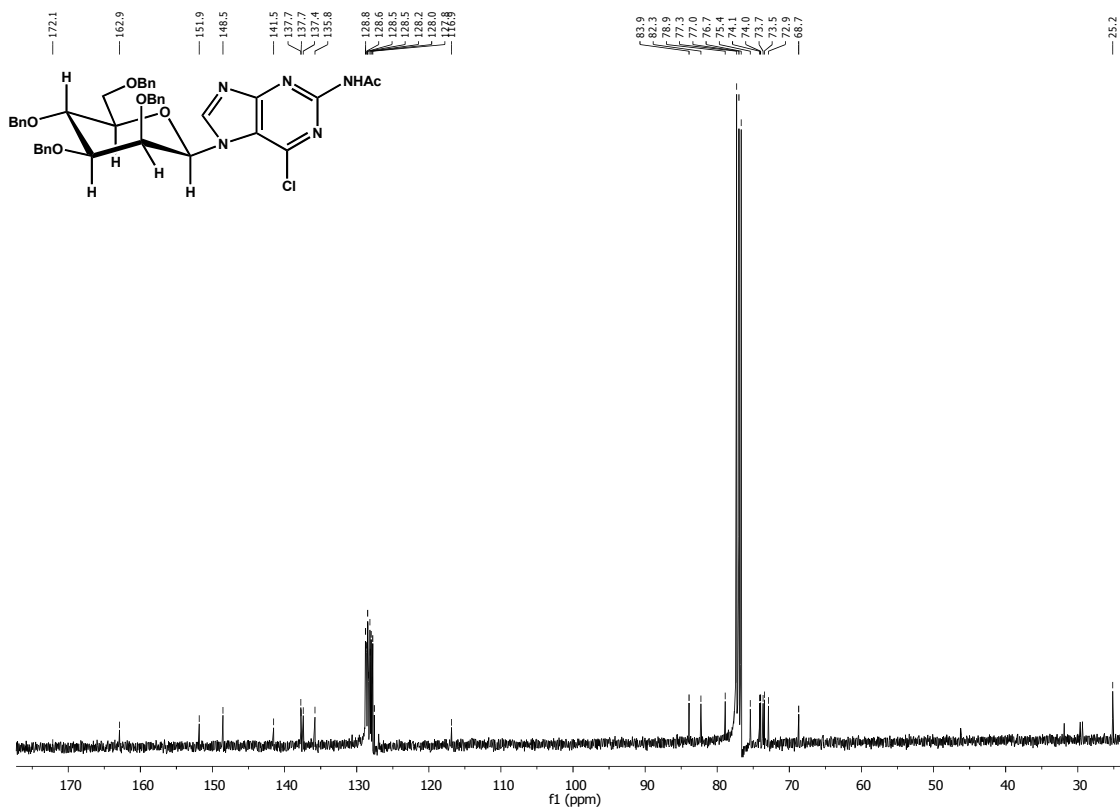


**Figure S42.**  $^{13}\text{C}$  NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl- $\alpha$ -D-mannopyranosyl)purine (**21**)





**Figure S43.** <sup>1</sup>H NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-mannopyranosyl)purine (22)



**Figure S44.** <sup>13</sup>C NMR spectrum of 2-(Acetylamino)-6-chloro-7-(2,3,4,6-tetra-*O*-benzyl-β-D-mannopyranosyl)purine (22)



