


S1. ${ }^{1}$ H NMR of Compound $\mathbf{3}$



S2. ${ }^{13} \mathrm{C}$ NMR of Compound 3




S3. ${ }^{1} \mathrm{H}$ NMR of Compound 4a



S4. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 a}$


$\stackrel{\perp}{\infty}$



S5. ${ }^{1} \mathrm{H}$ NMR of Compound 4b


S6. ${ }^{13} \mathrm{C}$ NMR of Compound 4b



S7. ${ }^{1} \mathrm{H}$ NMR of Compound $\mathbf{4 c}$



S8. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 c}$

$\stackrel{m}{m}$
$\stackrel{\circ}{\sim}$
$\stackrel{9}{9} \stackrel{m}{9}$








S10. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 d}$


S11. ${ }^{1}$ H NMR of Compound 4 e





S12. ${ }^{13} \mathrm{C}$ NMR of Compound 4 e



S13. ${ }^{1} \mathrm{H}$ NMR of Compound $\mathbf{4 f}$




S14. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 f}$
$\pm \infty$






S15. ${ }^{1} \mathrm{H}$ NMR of Compound $\mathbf{4 g}$

##  




S16. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 g}$



S17. ${ }^{1} \mathrm{H}$ NMR of Compound 4h



S18. ${ }^{13} \mathrm{C}$ NMR of Compound 4 h



S19. ${ }^{1}$ H NMR of Compound $\mathbf{4 i}$




S20. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 i}$



S21. ${ }^{1} \mathrm{H}$ NMR of Compound $\mathbf{4 j}$




S22. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 j}$

## $\infty$ <br> ก̣̂




S23. ${ }^{1} \mathrm{H}$ NMR of Compound $\mathbf{4 k}$
 が




S24. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 k}$



S25. ${ }^{1} \mathrm{H}$ NMR of Compound 41




S26. ${ }^{13} \mathrm{C}$ NMR of Compound 41



S27. ${ }^{1}$ H NMR of Compound $\mathbf{4 m}$



S28. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 m}$




S29. ${ }^{1} \mathrm{H}$ NMR of Compound $\mathbf{4 n}$





S30. ${ }^{13} \mathrm{C}$ NMR of Compound $\mathbf{4 n}$

## $\omega_{\infty}^{\infty}$ <br> $\stackrel{\infty}{\stackrel{ }{\circ}}$ <br> 




S31. ${ }^{1} \mathrm{H}$ NMR of Compound 40






S32. ${ }^{13} \mathrm{C}$ NMR of Compound 40

