

# Notes on Thesis Corrections

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## General

I have made some stylistic changes to the thesis (specifically, the formatting of the title page and chapter titles). Ralph asked about Oxford formatting guidelines. I am unaware of Oxford having specific thesis format guidelines, and haven't been able to find any guidance on this, so I am assuming that my thesis format is acceptable.

Spaces were added to citations.

In the corrected thesis, corrections which aren't simply typo fixes are in red.

## Corrections by page

Page 3 – Specified that only nuclei with odd numbers of protons and/or neutrons possess spin.

Page 3 – Mentioned molecular rotation as an additional source of angular momentum.

Page 3 – Equation 1.1: Squared the reduced Planck constant.

Page 3 – Replaced “with non-zero spin” with “with spin”.

Page 4 – Table 1.1: Updated caption to include source of gyromagnetic ratios.

Page 4 – Replaced “which are spin-0” with “which do not possess spin”.

Page 5 – Figure 1.1: Mentioned the sign of  $\gamma$  for each nucleus in the caption.

Page 6 – Mentioned that the high temperature approximation is applied in arriving at Equation 1.8. See also Footnote ‡.

Page 7 – Re-worded description of RF pulse. See also Footnote ||.

Page 7 – Equation 1.13: Corrected the expressions for  $\tilde{\mathbf{i}}$  and  $\tilde{\mathbf{j}}$ .

Page 8 – Included a more detailed qualitative description of relaxation.

Page 10 – Explicitly mentioned the presence of a vacuum chamber.

Page 10 – Included solid-state NMR as an area that requires very high field strengths.

Page 11 – “inhomogeneities” → “small inhomogeneities”.

Page 11 – A few extra details about the probe.

Page 11 – “is sent to” → “travels to”.

Page 12 – Replace “sweep width” with “spectral width”. This has been done in numerous places in the thesis.

Page 12 – Equation 1.18b: Correct equation label.

Page 67 – Figure 3.1: Replaced landscape figure with portrait version. Included a description of the different peak colours in the caption.

Page 70 – Figure 3.2: Replaced landscape figure with portrait version. Added structure of andrographolide.

Page 73 – Figure 3.3: Added structure of cyclosporin, and edited the caption accordingly.

Page 78 – Figure 3.4: Tweaked the relative widths of pulses and gradients.

Page 87 – Figure 3.5: Edited panel d; changed the aspect ratio and viewing angle.

Page 88 – Figure 3.6: Replaced landscape figure with portrait version. Added structure of andrographolide.

Page 90 – Figure 3.7: Added structures of valine, threonine and major anomeric forms of glucose.

Page 114 – Figure 4.6: Added structure of strychnine.

Page 116 – Figure 4.7: Added structure of quinine.

Page 118 – Figure 4.8: Added structure of camphor.

Page 119 – Figure 4.9: Replaced landscape figure with portrait version. Added structure of dexamethaone.

Page 121 – Figure 4.10: Added structure of estradiol.