June 2025

St Hilda's College
UNIVERSITY OF OXFORD

Preparatory Reading for Chemistry

I was glad to hear you have been offered a place to come to St Hilda's to read Chemistry.

I'm sure you will be busy in the months approaching the start of your degree, but I hope you might be able to do some reading in the summer vacation. Books which you could find helpful as a supplement to your current texts and which will still be useful for you at Oxford are:

- *Why Chemical Reactions Happen,* J. Keeler and P. Wothers, Oxford University Press.

- *Periodicity and the s- and p- block elements,* N.C. Norman, Oxford Chemistry Primers No. 51, Oxford Science Publications. You might find the early parts of chapters 2, 3, 6 and 7 particularly helpful.

- *Foundations of Organic Chemistry,* M. Hornby and J. Peach, Oxford Chemistry Primers No. 40, Oxford Science Publications.

You might also find it interesting to look at the website: www.chemtube3d.com and to read the following popular science book as an introduction to the Quantum mechanics you will study as part of the Oxford Chemistry course*:*

- *In search of Schrödinger's cat (Quantum physics and reality*) J. Gribbin (Transworld Digital publishers).

You will find it very useful if you keep up your study of Mathematics. At this stage, it is best to concentrate on calculus, complex numbers, determinants and vectors. The recommended textbook for the first year course is *Foundation Mathematics for the Physical Sciences,* Riley and Hobson, Cambridge University Press. However, a useful book at this stage is:

- *Foundations of Science Mathematics,* D. S. Sivia and S. G. Rawlings, Oxford Chemistry Primers No. 77, Oxford Science Publications.

I suggest you might try working through some of the exercises given in this book. In addition, if you haven't studied Physics A-level it would be helpful for you to study the sections on classical mechanics and electrostatics in an AS or A-level textbook such as *A-Level Physics* by R. Muncaster.

If there is any further information you would like to have before you start your studies, please write to me at the college or email me (lorna.smith@chem.ox.ac.uk). I look forward to welcoming you to the college.

Yours sincerely,

Professor Lorna J. Smith