

## ✓ Personal statement

Chemistry is at the forefront of research and I would love to be a part of a subject that is set to be one of the most important over the coming decades. I am very excited by chemistry and hope to do a Master's degree, preferably with a year abroad, allowing me to conduct research at university as well as living in a different culture. I would then like to use this knowledge and experience to work in science after I graduate.

My interest in chemistry was sparked during my GCSEs and deepened in Sixth Form. In year 12 I particularly liked the organic module. I was surprised when I reacted carboxylic acids with alcohols to produce esters with such pungent smells compared to those of the reactants. This year I enjoyed learning that esters are synthesised in industry using other reactants, including phenols and acyl chlorides, to increase the yield. I love reading journals like 'Chemistry Review' and the RSC Chemnet publication, 'The Mole', as they show how chemistry influences our daily lives. For instance, I read how modern techniques were used to identify salicylic acid in Victorian medicines and how this molecule led to the development of aspirin.

My first exposure to science and engineering in industry was when I completed a week's work experience at Airbus Defence and Space in Stevenage. This placement opened my mind as to what a career in science could be like. I observed scientists investigating problems affecting their current projects. I particularly enjoyed looking at how they developed quartz crystals to keep track of time in space. This July I attended a spectroscopy course at the University of Oxford. Here I saw NMR machines and mass spectrometers for the first time. I was fascinated by how these instruments work and how useful they are in analysing new substances to help modern society. On the course we had to deduce the shape and structure of unknown compounds based on their NMR and mass spectra allowing me to use my mathematical problem solving skills and also expanding my understanding of analytical chemistry.

I have been attending IOP lectures at the University of Hertfordshire since the start of secondary school. These have been on a broad range of topics, my favourite being on Antarctica. It described the effects on organisms living in the polar region and how they are unable to undergo internal reactions at the same rate as those in warmer environments. This results in them evolving more slowly. The talk demonstrated to me how all life on Earth relies on chemistry.

For over a year now I have also been working as a lifeguard. As chlorine is essential for maintaining pool hygiene I took the opportunity to ask my manager to show me how chemicals are controlled in the plant room. The responsibility of being a lifeguard has increased my self-confidence and I have had to be reliable and committed. My teamwork and communication

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skills have improved as we have to train in situations with limited time where our actions are under close scrutiny. I was a member of the Scouting community for over 6 years and completed numerous expeditions and camps. I often led patrols, improving my ability to work in and lead a group. I also enjoy extra-curricular activities such as working toward Grade 8 piano and riding my unicycle. I have invested a lot of time into learning these skills demonstrating that I can manage time well and I persevere when I find something difficult. These personal skills are essential for a chemistry degree where I would need to work with others, follow procedures methodically and have confidence to present my findings. Combined with my fascination for the basic principles of chemistry I hope they will serve me well for a degree and career in chemistry.

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