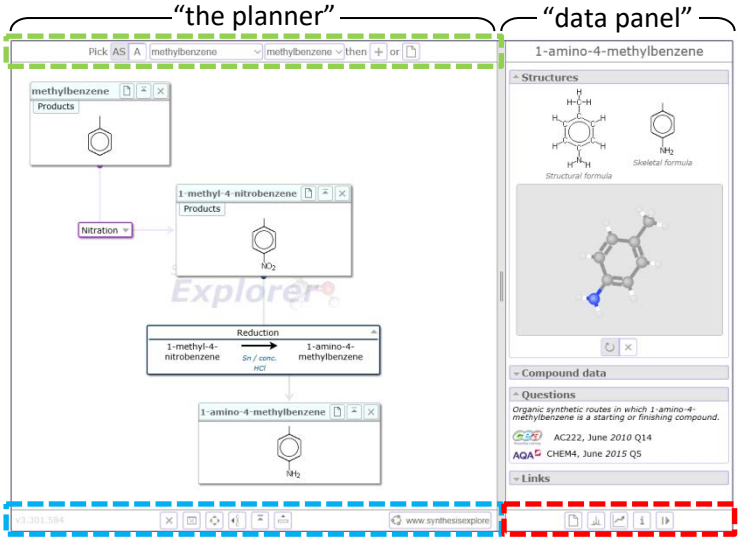
Synthesis Explorer – An Introduction

Synthesis Explorer (*SE*) helps students study key organic chemistry reactions in order to understand and plan synthetic routes.

SE is split into two main sections:

- Use "the planner" for displaying compounds and planning synthetic routes.
- Use "the data panel" for displaying compound data, spectra and trends.



Add compounds *via* the interactive controls at the top of the planner (highlighted in green).

Once added, drag compounds into position to create more intuitive on-screen routes.

Manipulate compounds in the planner using the global controls below the planner (highlighted in blue). Quickly remove unattached ☒ or all × compounds; toggle between structural ⬡, skeletal ⟡ or no structures ▔; or quickly hide all visible reaction information ⏏.

View compound data 🗋, spectra 📊 or trends 📈 from the controls below the data panel (red). Hide the data panel ⏵ to concentrate on the synthetic route or make it larger for displaying spectra. This is especially useful when illustrating reaction schemes involving a change in functional group given the increased requirements for using and understanding spectra in current post-16 specifications.

Compounds and Reactions

SE includes most organic compounds likely to be encountered at A-Level and most of the synthetic routes[1] found in UK A-Level exam papers from 2010 onwards with reaction classifications, conditions and reagents.

Compound Data

Physical data includes 2d and 3d structures, melting and boiling temperatures, M_r and density. If more than one compound is loaded, trends 📈 can also be plotted.

Spectra

Where available, ^{1}H and ^{13}C NMR, IR and MS spectra 📊 are included.

API

Embed *SE* into lesson plans by adding a simple link to your web page. Share a URL with ease using a quick link box 🔗 www.synthe. More details are on the website[2].

[1] That is, routes with two or more reactions that form stable products as opposed to some reaction intermediate.

[2] http://www.synthesisexplorer.co.uk/#API