

# Chromatography and Qualitative Analysis

The key areas of study in this topic are:

- Types of chromatography
- Tests for organic functional groups

By the end of this topic I should be able to:

	Start	End
Interpret one-way TLC chromatograms in terms of $R_f$ values		
Interpret gas chromatograms in terms of: <ul style="list-style-type: none"> <li>• retention times</li> <li>• the amounts and proportions of the components in a mixture.</li> </ul>		
Understand the processes and techniques needed to identify the following functional groups in an unknown compound: <ul style="list-style-type: none"> <li>• alkenes by reaction with bromine</li> <li>• haloalkanes by reaction with aqueous silver nitrate in ethanol</li> <li>• phenols by weak acidity but no reaction with <math>\text{CO}_3^{2-}</math></li> <li>• carbonyl compounds by reaction with 2,4-DNP</li> <li>• aldehydes by reaction with Tollens' reagent</li> <li>• primary and secondary alcohols and aldehydes by reaction with acidified dichromate</li> <li>• carboxylic acids by reaction with <math>\text{CO}_3^{2-}</math></li> </ul>		

In all topic areas you should be able to demonstrate and apply your knowledge and understanding.

