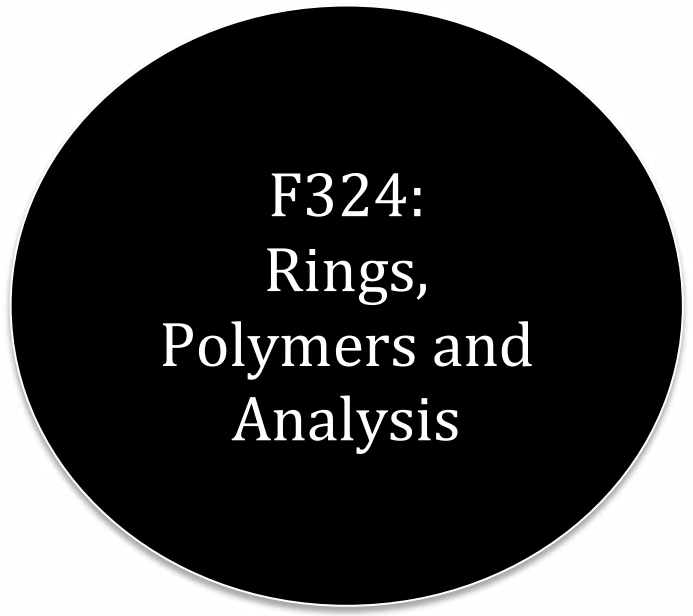
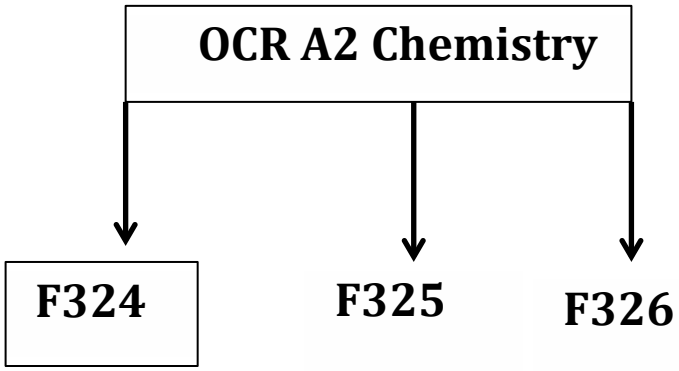
OCR Advanced GCE Chemistry A (H434)





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Unit F324: Rings, Polymers and Analysis	Paper code: F324 QP
1. Exam paper- Unit F324: *Rings, Polymers and Analysis* Wednesday 10th June 2015 – 1 hour 15 min	15 % of Advanced GCE Chemistry

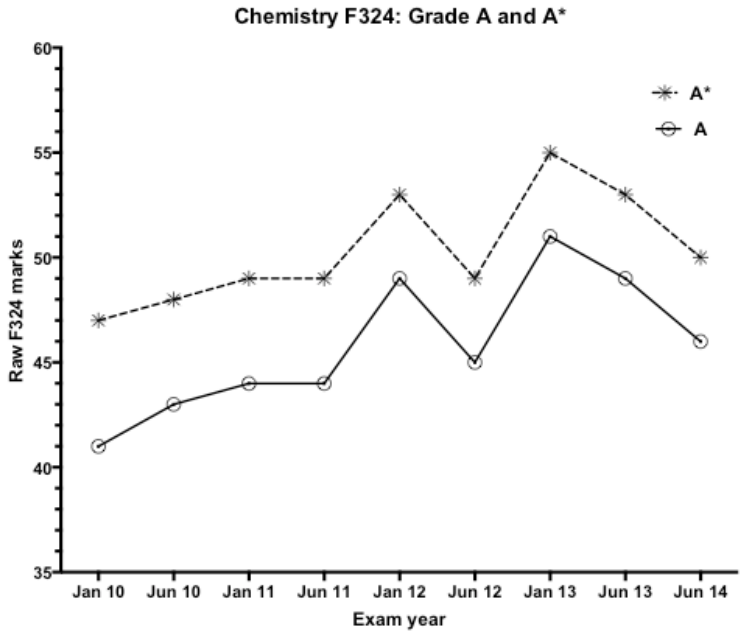
Overview of content

1. Module 1: Rings, Acids and Amines
2. Module 2: Polymers and Synthesis
3. Module 3: Analysis

Overview of assessment

1. The unit is assessed through a 1 hour and 15 min examination paper set and marked by OCR.
2. The total number of marks is 60.
3. Grades A*–E are available.
4. Grades assessment by year:

Year	Raw Marks to 90 % UMS - A*	Raw Marks to 80 % UMS grade 'A'
Jan 2010	48	43
Jun 2010	47	41
Jan 2011	49	44
Jun 2011	49	44
Jan 2012	53	49
Jun 2012	49	45
Jan 2013	55	51
Jun 2013	53	49
Jun 2014	50	46
Jun 2015	?	?

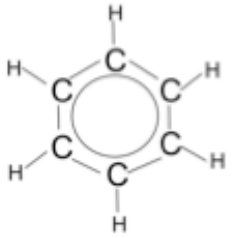


Overview of A2 Chemistry Unit 4

A2 unit F324: *Rings, Polymers and Analysis*

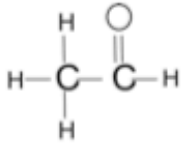
Module 1: *Rings, Acids and Amines*

Arenes

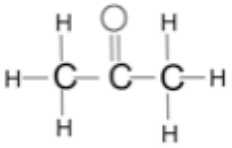


Delocalised model of benzene structure

Carbonyl compounds

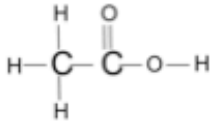


Aldehyde



Ketone

Carboxylic acids and esters



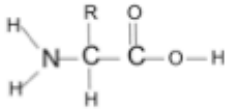
Carboxylic acid

Amines

Primary amine

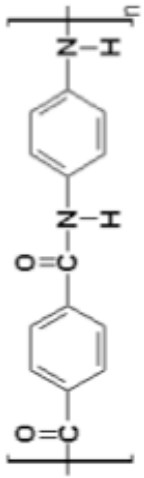
Module 2: Polymers and synthesis

Amino acids/ proteins



Amino Acid

Polymers



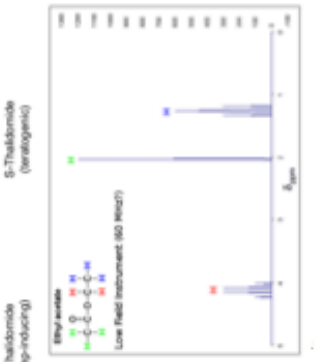
Kevlar

Synthesis

Thalidomide mirror images

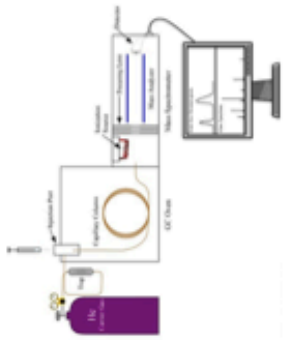
Module 3: Analysis

Spectroscopy



Nuclear Magnetic Resonance (NMR)

Chromatography



Gas chromatography-Mass spectrometry (GC-MS)

How BioChem Tuition prepares their students for F324: *Rings, Polymers and Analysis?*

BioChem Tuition has a three-pronged strategy to attack F324 that helps students to attain A or A*.

1. **Detailed F324 knowledge:** The students will study the specification of OCR F324 alongside extensive practice of examination style questions to help them remember and practice relevant material. Every student will receive a 'specification handbook covering the specification notes prepared by BioChem tutors along with examination style questions'.

Key features

- ✓ F324 specification notes.
- ✓ F324 examination style past examination questions.
- ✓ 1-2-1 help in understanding the examiner points.
- ✓ Revision notes and charts to aid revision nearer the exams.

2. **Practice OCR past examination papers (2001-2014):** All students will complete at least 14 years of OCR past exam papers. BioChem Tuition will provide all the past papers in printed form to the students. Candidates are required to complete past papers, which are checked and marked in light of the official examiner report and mark scheme in the presence of the student. Any mistakes will be followed up to ensure the mistakes are not repeated. The students will be shown how to maximise their marks by following our exam technique and also methods to improve comprehension for scientific questions.

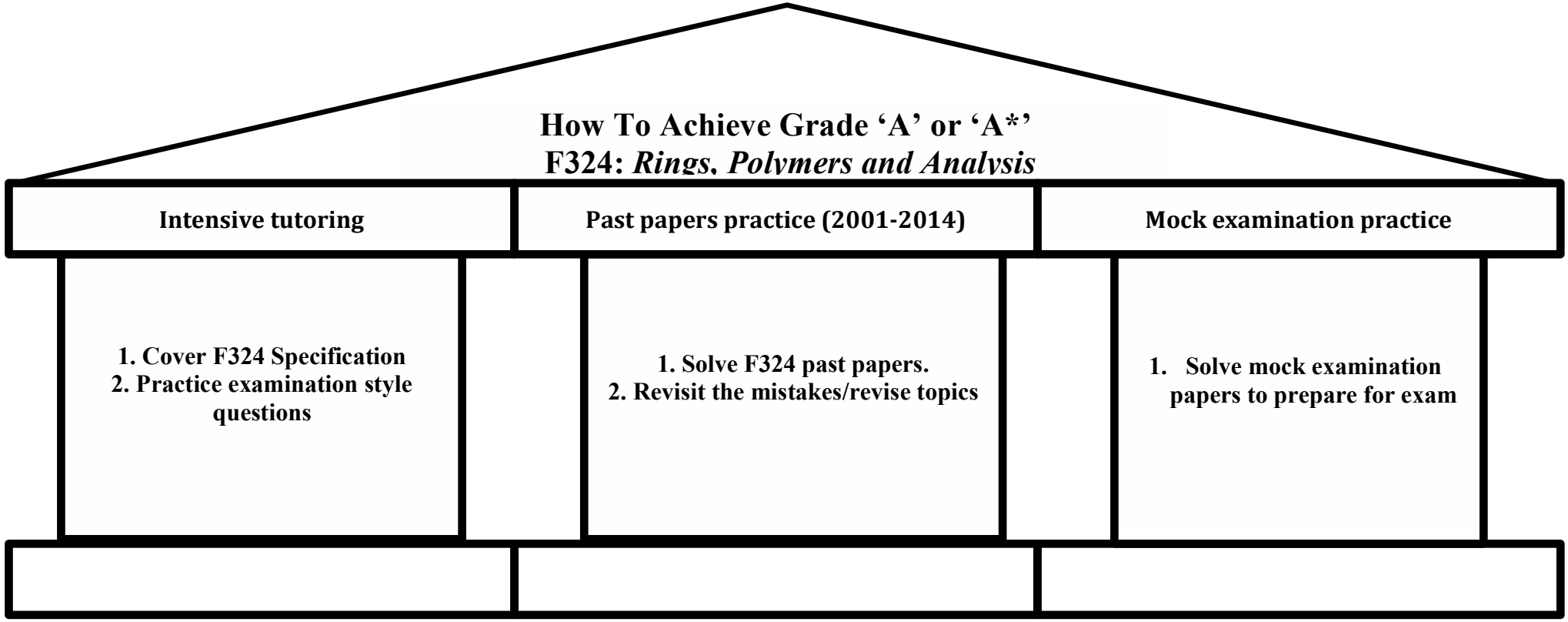
Key features

- ✓ 14 years of past examination papers practice.
- ✓ 1-2-1 help in understanding the exam technique.
- ✓ Revisit the mistakes and practice relevant questions to ensure the mistakes are not repeated.
- ✓ If student requires, past paper practice can be broadened by solving F324 style questions from exam boards AQA, CIE and Edexcel. The past papers booklets prepared by BioChem Tuition are available on request.

3. **Mock examination practice:** Mock examination practice to give student feedback on the likely grade achievable in the exams.

Key features

- ✓ Mock examination practice to simulate exam experience which will be marked, graded and feedback on mistakes provided.


How To Achieve Grade 'A' or 'A*'
F324: Rings, Polymers and Analysis
Intensive tutoring
Past papers practice (2001-2014)
Mock examination practice
1. Cover F324 Specification
2. Practice examination style questions
1. Solve F324 past papers.
2. Revisit the mistakes/revise topics
1. Solve mock examination papers to prepare for exam

F324 Tuition Plan

Tuition Plan for F324: Rings, Polymers and Analysis	
Stage 1: Specification Topics	**Tuition time**
Module 1: Rings, Acids and Amines	**5-6 hours**
1.1 Arenes • Structure of benzene. • Electrophilic substitution of arenes. • Phenols.	**1 hour**
1.2 Carbonyl compounds • Reactions of carbonyl compounds. • Characteristic test for carbonyl compounds.	
1.3 Carboxylic Acid and Esters • Properties of carboxylic acids. • Esters, triglycerides, unsaturated and saturated fats.	**1.5 hours**
1.4 Amines • Basicity of amines. • Preparation of amines. • Synthesis of azo dyes.	
• Practice of past examination style questions on Rings, Acids and Amines.	**3 hours**
Module 2: Polymers and Synthesis	**6 hours**
2.1 Amino Acids and Chirality • Amino Acids • Peptide formation and hydrolysis of proteins • Optical Isomerism	**2 hours**
2.2 Polyesters and Polyamides • Condensation polymers • Hydrolysis and degradable polymers	

2.3 Synthesis • Synthetic routes • Chirality in pharmaceutical synthesis	**1 hour**
• Practice past examination style questions on Polymers and Synthesis	**3 hours**
Module 3: Analysis	**8 hours**
3.1 Chromatography • Paper chromatography • Thin layer chromatography • Gas chromatography and mass spectrometry	**1 hour**
3.2 Spectroscopy • NMR (^{13}C and ^{1}H) spectroscopy • Combined techniques (infrared, mass spectrometry, ^{13}C and ^{1}H spectroscopy)	**3 hours**
• Practice of past examination style questions on NMR spectroscopy and combined spectral analysis	**4 hours**
Stage 2: Past paper practice	**10 hours**
• Practice of past examination papers from 2001 to 2014 relevant to **F324: Ring, Polymers and Analysis**. ✓ 14 years of past examination papers practice. ✓ 1-2-1 help in understanding the exam technique. ✓ Revisit the mistakes and practice relevant questions to ensure the mistakes are not repeated. ✓ Past paper practice can be extended by solving F324 style questions from other exam boards such as AQA, CIE and Edexcel.	**10 hours**

Stage 3: Mock examination practice	**4** hours
• Mock examination practice to simulate exam experience, which will be marked, graded and feedback on mistakes provided by BioChem Tutors.	4 hours